



ΠΑΡΑΡΤΗΜΑ ΠΡΩΤΟ
ΤΗΣ ΕΠΙΣΗΜΗΣ ΕΦΗΜΕΡΙΔΑΣ ΤΗΣ ΔΗΜΟΚΡΑΤΙΑΣ
 Αρ. 2063 της 11ης ΙΟΥΛΙΟΥ 1985
ΝΟΜΟΘΕΣΙΑ

Ο περί της Διεθνούς Συμβάσεως περί Ασφάλειας της Ανθρώπινης Ζωής στη Θάλασσα του 1974, του Πρωτοκόλλου αυτής του 1978 και των Αποφάσεων MSC1(XLV) και MSC2(XLV) του 1981 (Κυρωτικός) και περί Συναφών Θεμάτων Νόμος του 1985 εκδίδεται διά δημοσιεύσεως εις την επίσημον εφημερίδα της Κυπριακής Δημοκρατίας συμφώνως τω άρθρω 52 του Συντάγματος.

Αριθμός 77 του 1985

ΝΟΜΟΣ ΕΠΙΚΥΡΩΝ ΤΗ ΔΙΕΘΝΗ ΣΥΜΒΑΣΗ ΠΕΡΙ ΤΗΣ ΑΣΦΑΛΕΙΑΣ ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ ΣΤΗ ΘΑΛΑΣΣΑ ΤΟΥ 1974, ΤΟ ΠΡΩΤΟΚΟΛΛΟ ΑΥΤΗΣ ΤΟΥ 1978 ΚΑΙ ΤΙΣ ΤΡΟΠΟΠΟΙΗΣΕΙΣ ΑΥΤΩΝ ΜΕ ΤΙΣ ΑΠΟΦΑΣΕΙΣ MSC1 (XLV) ΚΑΙ MSC2(XLV) ΤΟΥ 1981 ΚΑΙ ΠΡΟΝΟΩΝ ΠΕΡΙ ΣΥΝΑΦΩΝ ΘΕΜΑΤΩΝ.

Προοίμιο.

ΕΠΕΙΔΗ την 1η Νοεμβρίου 1974 υπεγράφη στο Λονδίνο η Διεθνής Σύμβαση περί της Ασφάλειας της Ανθρώπινης Ζωής στη Θάλασσα, τη 17η Φεβρουαρίου 1978 υπεγράφη, επίσης στο Λονδίνο, Πρωτόκολλο προς βελτίωση και συμπλήρωση των προνοιών της κατά τα ανωτέρω Διεθνούς Συμβάσεως, τη δε 20ή Νοεμβρίου 1981 υπεγράφησαν, επίσης στο Λονδίνο, για περαιτέρω βελτίωση του επιπέδου ασφάλειας των πλοίων, οι υπό στοιχεία MSC1(XLV) και MSC2(XLV) Αποφάσεις της 45ης Συνόδου της Επιτροπής Ναυτικής Ασφάλειας του Διεθνούς Ναυτιλιακού Οργανισμού, που τέθησαν σε ισχύ διεθνώς την 1η Σεπτεμβρίου 1984,

ΚΑΙ ΕΠΕΙΔΗ στο άρθρο ΙΧ της Συμβάσεως και στο άρθρο IV του Πρωτοκόλλου προνοείται ότι θα επιτρέπεται σε Κράτος που δεν υπέγραψε αρχικά τη Σύμβαση και το Πρωτόκολλο, να προσχωρήσει εις αυτά, οποτεδήποτε μετά την έναρξη ισχύος της Συμβάσεως και του Πρωτοκόλλου, με την κατάθεση γραπτής δηλώσεως στο Διεθνή Ναυτιλιακό Οργανισμό,

ΚΑΙ ΕΠΕΙΔΗ η Κυβέρνηση της Δημοκρατίας με την υπ' αρ. 25.066 και ημερ. 18 Οκτωβρίου, 1984 απόφαση του Υπουργικού Συμβουλίου απεφάσισε να προσχωρήσει στη Σύμβαση και στο Πρωτόκολλο και να αποδεχθεί τις Αποφάσεις MSC1(XLV) και MSC2(XLV),

ΓΙΑ ΤΟΥΣ ΛΟΓΟΥΣ ΑΥΤΟΥΣ η Βουλή των Αντιπροσώπων ψηφίζει τα ακόλουθα:

Συνοπτικός
τίτλος.

1. Ο παρών Νόμος θα αναφέρεται ως ο περί της Διεθνούς Συμβάσεως περί Ασφάλειας της Ανθρώπινης Ζωής στη Θάλασσα του 1974, του Πρωτοκόλλου αυτής του 1978 και των Αποφάσεων MSC1(XLV) και MSC2(XLV) του 1981 (Κυρωτικός) και περί Συναφών Θεμάτων Νόμος του 1985.

Ερμηνεία.

2.—(1) Κατά την έννοια του παρόντος Νόμου:

«Αποφάσεις» σημαίνει τις τροποποιήσεις της Συμβάσεως και του Πρωτοκόλλου, που υπεγράφησαν στο Λονδίνο την 20ή Νοεμβρίου 1981 από την 45η Σύνοδο της Επιτροπής Ναυτικής Ασφάλειας του Διεθνούς Ναυτιλιακού Οργανισμού, ως Αποφάσεις MSC1(XLV) και MSC2(XLV).

«Δημοκρατία» σημαίνει την Κυπριακή Δημοκρατία.

«Πρωτόκολλο» σημαίνει το Πρωτόκολλο που αφορά στη Σύμβαση και υπεγράφη στο Λονδίνο τη 17η Φεβρουαρίου 1978, και περιλαμβάνει τα συνημμένα στο Πρωτόκολλο Παράρτημα, Κανονισμούς και Προσάρτημα.

«Σύμβαση» σημαίνει τη Διεθνή Σύμβαση περί Ασφάλειας της Ανθρώπινης Ζωής στη Θάλασσα, που υπεγράφη στο Λονδίνο την 1η Νοεμβρίου 1974 και περιλαμβάνει τα συνημμένα στη Σύμβαση Παράρτημα, Κανονισμούς και Προσάρτημα.

«Υπουργός» σημαίνει τον Υπουργό Συγκοινωνιών και Έργων.

(2) Όροι, που στον παρόντα Νόμο χρησιμοποιούνται χωρίς να καθορίζονται διαφορετικά, έχουν την έννοια που προσδίδουν στους ίδιους όρους η Σύμβαση, το Πρωτόκολλο και οι Αποφάσεις.

Κύρωση.

3.—(1) Με τον παρόντα Νόμο κυρώνονται η Σύμβαση, το Πρωτόκολλο και οι Αποφάσεις.

Πίνακας
Μέρος I
Μέρος II

(2) Τα κείμενα της Συμβάσεως, του Πρωτοκόλλου και των Αποφάσεων εκτίθενται σε πρωτότυπο στην αγγλική στο Μέρος I του Πίνακα και σε μετάφραση στην ελληνική στο Μέρος II του Πίνακα:

Νοείται ότι σε περίπτωση αντίθεσης μεταξύ του εις την αγγλική πρωτότυπου κειμένου και του εις την ελληνική μετάφραση κειμένου, κατασχέει το εις την αγγλική πρωτότυπο κείμενο.

Έκταση
εφαρμογής.

4. Η εφαρμογή του παρόντος Νόμου εκτείνεται επί πλοίων που υπάγονται στις πρόνοιες της Συμβάσεως, του Πρωτοκόλλου και των Αποφάσεων και των εις εκτέλεση αυτών Κανονισμών, Κυπριακών μεν οπουδήποτε ευρισκομένων, αλλοδαπών δε, εφ' όσον αυτά ευρίσκονται στα χωρικά ύδατα της Δημοκρατίας, ανεξάρτητα αν οι χώρες των οποίων φέρουν τη σημαία, μετέχουν ή μη στη Σύμβαση, το Πρωτόκολλο και τις Αποφάσεις.

Αρμόδια
Αρχή.

5. Αρμόδια Αρχή για την εφαρμογή των προνοιών του παρόντος Νόμου, της Συμβάσεως, του Πρωτοκόλλου και των Αποφάσεων και

των εις εκτέλεση αυτών Κανονισμών, για τη χορήγηση των επιτρεπομένων από τις πρόνοιες αυτές εξαιρέσεων και απαλλαγών, για τη βεβαίωση παραβάσεων και την επιβολή κυρώσεων, είναι ο Υπουργός και οι από τον Υπουργό ειδικά κατά περίπτωση εξουσιοδοτηθέντες.

Ισοδύναμες
ρυθμίσεις.

6. Με απόφαση του Υπουργού που δημοσιεύεται στην επίσημη εφημερίδα της Δημοκρατίας επιτρέπεται η έγκριση ισοδύναμων ρυθμίσεων, περί των οποίων προνοεί ο Κανονισμός 5(α) του Μέρους Α του Κεφαλαίου Ι της Συμβάσεως.

Απαγόρευση
απόπλου.

7.—(1) Απαγορεύεται, από της ενάρξεως της ισχύος του παρόντος Νόμου, ο απόπλους πλοίων Κυπριακών ή αλλοδαπών, που υπάγονται στις πρόνοιες του παρόντος Νόμου, εφ' όσον τα πλοία δεν πληρούν τους όρους τους οριζόμενους στη Σύμβαση, το Πρωτόκολλο και τις Αποφάσεις και τους εις εκτέλεση αυτών Κανονισμούς.

(2) Αν κατά την επιθεώρηση πλοίου η Αρμόδια Αρχή διαπιστώσει παράβαση των προνοιών του παρόντος Νόμου, της Συμβάσεως, του Πρωτοκόλλου, των Αποφάσεων και των εις εκτέλεση αυτών Κανονισμών, προβαίνει σε βεβαίωση της παραβάσεως, συντάσσει σχετική έκθεση, καλεί τον πλοίαρχο σε απολογία και απαγορεύει τον απόπλου του πλοίου μέχρις ότου αποκατασταθεί η αιτία που επηρεάζει την ικανότητα του προς ασφαλή πλου και, εφ' όσον συντρέχει περίπτωση, καταβληθεί χρηματική ποινή κατά τα οριζόμενα στο επόμενο άρθρο.

(3) Τα έξοδα επιθεώρησης του πλοίου για βεβαίωση της αποκαταστάσεως της ικανότητας του πλοίου προς ασφαλή πλου βαρύνουν το πλοίο και καταβάλλονται προ της άρσεως της απαγορεύσεως του απόπλου.

Παραβάσεις
και κυρώσεις.

8.—(1) Παράβαση των προνοιών του παρόντος Νόμου, της Συμβάσεως, του Πρωτοκόλλου, των Αποφάσεων και των εις εκτέλεση αυτών Κανονισμών τιμωρείται, ανεξάρτητα αν συντρέχει περίπτωση ποινικής ή πειθαρχικής ευθύνης δυνάμει άλλης νομικής πρόνοιας, με χρηματική ποινή από εκατόν μέχρι και πέντε χιλιάδων λιρών, ανάλογα με τη βαρύτητα της βεβαιουμένης παραβάσεως.

(2) Η χρηματική ποινή επιβάλλεται στον πλοιοκτήτη, ή στον έχοντα την εκμετάλλευση του πλοίου, ή στον πλοίαρχο, με αιτιολογημένη απόφαση της Αρμόδιας Αρχής που βεβαιώνει την παράβαση. Το ύψος της κατά περίπτωση επιβαλλόμενης ποινής θα καθορίζεται ενδεικτικά σε οδηγίες του Υπουργού, στις οποίες θα περιέχονται οι βασικές παραβάσεις μαζί με τις αναλογούσες χρηματικές ποινές, χωρίς τούτο να περιορίζει, μέσα στα πλαίσια των οδηγιών, τη διακριτική ευχέρεια της Αρμόδιας Αρχής που βεβαιώνει τη συγκεκριμένη παράβαση να αποφασίζει ελεύθερα, με βάση τα κατά περίπτωση πραγματικά περιστατικά.

(3) Η Αρμόδια Αρχή κοινοποιεί στον πλοίαρχο την περί επιβολής χρηματικής ποινής απόφασή της και δεν επιτρέπει άρση της κατά το προηγούμενο άρθρο απαγορεύσεως απόπλου, μέχρις ότου καταβληθεί η χρηματική ποινή ή κατατεθεί τραπεζική εγγύηση ίσου ποσού, αναγνωρισμένης τράπεζας και με όρους ικανοποιούντας την Αρμόδια Αρχή.

(4) Κατά της αποφάσεως περί επιβολής χρηματικής ποινής επιτρέπεται η άσκηση προσφυγής ενώπιον του Υπουργού. Η προσφυγή ενώπιον του Υπουργού ασκείται σε προθεσμία τριάντα ημερών από της κοινοποίησεως της αποφάσεως, προκειμένου περί παραβάσεως βεβαιουμένης σε λιμένα της Δημοκρατίας, ή εξήντα ημερών, προκειμένου περί παραβάσεως βεβαιουμένης σε λιμένα της αλλοδαπής.

(5) Η κατά το εδάφιο (4) προσφυγή δεν αναστέλλει την εκτέλεση της αποφάσεως.

(6) Το ποσό της χρηματικής ποινής ή η τραπεζική εγγύηση καταπίπτει και περιέρχεται οριστικά στη Δημοκρατία, αν περάσει άπρακτη η προς άσκηση προσφυγής ενώπιον του Ανωτάτου Δικαστηρίου προθεσμία των εβδομήντα πέντε ημερών από της κοινοποίησεως της αποφάσεως περί επιβολής της χρηματικής ποινής ή, σε περίπτωση που κατά το εδάφιο (4) ασκείται προσφυγή ενώπιον του Υπουργού, από της κοινοποίησεως της επί της προσφυγής αποφάσεως του Υπουργού.

Ποινικό
αδίκημα.

9. Διαπράττει αδίκημα, τιμωρούμενο με φυλάκιση μέχρι δύο ετών, ή με χρηματική ποινή μέχρι πέντε χιλιάδων λιρών, ή και με τις δύο ποινές, ο πλοίαρχος που επιχειρεί τον απόπλου πλοίου κατά παράβαση απαγορεύσεως απόπλου που επεβλήθη στο πλοίο κατά τις πρόνοιες του παρόντος Νόμου. Το αυτό αδίκημα διαπράττει ο πλοιοκτήτης, ο έχων την εκμετάλλευση, ο πράκτορας του πλοίου, ή οποιοσδήποτε άλλος που εν γνώσει της απαγορεύσεως συμπράττει ή συνδράμει στην τέλεση του κατά το παρόν άρθρο αδικήματος.

Χρηματική
ποινή
επιβάρυνση
επί του
πλοίου.

10. Ανεξάρτητα από τις πρόνοιες οποιουδήποτε άλλου Νόμου, η κατά το άρθρο 8 ή κατά το άρθρο 9 επιβαλλόμενη χρηματική ποινή, συνιστά επιβάρυνση επί του πλοίου σχετικά προς το οποίο διεπιστώθη η παράβαση ή, ανάλογα με την περίπτωση, διεπράχθη το αδίκημα.

Έκδοση
κανονισμών.

11. Το Υπουργικό Συμβούλιο έχει εξουσία να εκδίδει Κανονισμούς:

- (α) προς ρύθμιση οποιουδήποτε θέματος που κατά τον παρόντα Νόμο, τη Σύμβαση, το Πρωτόκολλο και τις Αποφάσεις χρήζει ή είναι δεκτικό καθορισμού·
- (β) προς πρόβλεψη ανάλογης εφαρμογής των προνοιών της Συμβάσεως, του Πρωτοκόλλου και των Αποφάσεων επί Κυπριακών πλοίων μη υπαγομένων στις πρόνοιες αυτές κατά το μέτρο που ανάλογη εφαρμογή είναι εφικτή και
- (γ) προς καθορισμό ποινής φυλακίσεως μέχρι δύο ετών ή χρηματικής ποινής μέχρι πέντε χιλιάδων λιρών ή και των δύο ποινών για τα προνοούμενα στους Κανονισμούς ποινικά αδικήματα.

Έναρξη
ισχύος.

12. Ο παρών Νόμος θα τεθεί σε ισχύ μετά παρέλευση έξι μηνών από της δημοσιεύσεώς του στην επίσημη εφημερίδα της Δημοκρατίας.

Κατάργηση.

13. Από της ενάρξεως της ισχύος του παρόντος Νόμου καταργούνται οι περί της Συμβάσεως περί της Ασφαλείας της Ανθρωπίνης Ζωής εν Θαλάσση (Κυρωτικοί) Νόμοι του 1965 έως 1982.

30 του 1965
8 του 1982.

ΠΙΝΑΚΑΣ

(Άρθρο 3)

ΜΕΡΟΣ Ι

**INTERNATIONAL CONVENTION FOR THE
SAFETY OF LIFE AT SEA, 1974**

THE CONTRACTING GOVERNMENTS,

BEING DESIROUS of promoting safety of life at sea by establishing in common agreement uniform principles and rules directed thereto,

CONSIDERING that this end may best be achieved by the conclusion of a Convention to replace the International Convention for the Safety of Life at Sea, 1960, taking account of developments since that Convention was concluded,

HAVE AGREED as follows:

ARTICLE I

General Obligations under the Convention

(a) The Contracting Governments undertake to give effect to the provisions of the present Convention and the Annex thereto, which shall constitute an integral part of the present Convention. Every reference to the present Convention constitutes at the same time a reference to the Annex.

(b) The Contracting Governments undertake to promulgate all laws, decrees, orders and regulations and to take all other steps which may be necessary to give the present Convention full and complete effect, so as to ensure that, from the point of view of safety of life, a ship is fit for the service for which it is intended.

ARTICLE II

Application

The present Convention shall apply to ships entitled to fly the flag of States the Governments of which are Contracting Governments.

ARTICLE III

Laws, Regulations

The Contracting Governments undertake to communicate to and deposit with the Secretary-General of the Inter-Governmental Maritime Consultative Organization (hereinafter referred to as "the Organization"):

(a) a list of non-governmental agencies which are authorized to act in their behalf in the administration of measures for safety of life at sea for circulation to the Contracting Governments for the information of their officers;

- (b) the text of laws, decrees, orders and regulations which shall have been promulgated on the various matters within the scope of the present Convention;
- (c) a sufficient number of specimens of their Certificates issued under the provisions of the present Convention for circulation to the Contracting Governments for the information of their officers.

ARTICLE IV

Cases of Force Majeure

- (a) A ship, which is not subject to the provisions of the present Convention at the time of its departure on any voyage, shall not become subject to the provisions of the present Convention on account of any deviation from its intended voyage due to stress of weather or any other cause of *force majeure*.
- (b) Persons who are on board a ship by reason of *force majeure* or in consequence of the obligation laid upon the master to carry shipwrecked or other persons shall not be taken into account for the purpose of ascertaining the application to a ship of any provisions of the present Convention.

ARTICLE V

Carriage of Persons in Emergency

- (a) For the purpose of evacuating persons in order to avoid a threat to the security of their lives a Contracting Government may permit the carriage of a larger number of persons in its ships than is otherwise permissible under the present Convention.
- (b) Such permission shall not deprive other Contracting Governments of any right of control under the present Convention over such ships which come within their ports.
- (c) Notice of any such permission, together with a statement of the circumstances, shall be sent to the Secretary-General of the Organization by the Contracting Government granting such permission.

ARTICLE VI

Prior Treaties and Conventions

- (a) As between the Contracting Governments, the present Convention replaces and abrogates the International Convention for the Safety of Life at Sea which was signed in London on 17 June 1960.
- (b) All other treaties, conventions and arrangements relating to safety of life at sea, or matters appertaining thereto, at present in force between Governments parties to the present Convention shall continue to have full and complete effect during the terms thereof as regards:

- (i) ships to which the present Convention does not apply;
 - (ii) ships to which the present Convention applies, in respect of matters for which it has not expressly provided.
- (c) To the extent, however, that such treaties, conventions or arrangements conflict with the provisions of the present Convention, the provisions of the present Convention shall prevail.
- (d) All matters which are not expressly provided for in the present Convention remain subject to the legislation of the Contracting Governments.

ARTICLE VII

Special Rules drawn up by Agreement

When in accordance with the present Convention special rules are drawn up by agreement between all or some of the Contracting Governments, such rules shall be communicated to the Secretary-General of the Organization for circulation to all Contracting Governments.

ARTICLE VIII

Amendments

- (a) The present Convention may be amended by either of the procedures specified in the following paragraphs.
- (b) Amendments after consideration within the Organization:
- (i) Any amendment proposed by a Contracting Government shall be submitted to the Secretary-General of the Organization, who shall then circulate it to all Members of the Organization and all Contracting Governments at least six months prior to its consideration.
 - (ii) Any amendment proposed and circulated as above shall be referred to the Maritime Safety Committee of the Organization for consideration.
 - (iii) Contracting Governments of States, whether or not Members of the Organization, shall be entitled to participate in the proceedings of the Maritime Safety Committee for the consideration and adoption of amendments.
 - (iv) Amendments shall be adopted by a two-thirds majority of the Contracting Governments present and voting in the Maritime Safety Committee expanded as provided for in sub-paragraph (iii) of this paragraph (hereinafter referred to as "the expanded Maritime Safety Committee") on condition that at least one-third of the Contracting Governments shall be present at the time of voting.
 - (v) Amendments adopted in accordance with sub-paragraph (iv) of this paragraph shall be communicated by the Secretary-General of the Organization to all Contracting Governments for acceptance.

- (vi) (1) An amendment to an Article of the Convention or to Chapter I of the Annex shall be deemed to have been accepted on the date on which it is accepted by two-thirds of the Contracting Governments.
- (2) An amendment to the Annex other than Chapter I shall be deemed to have been accepted:
 - (aa) at the end of two years from the date on which it is communicated to Contracting Governments for acceptance; or
 - (bb) at the end of a different period, which shall not be less than one year, if so determined at the time of its adoption by a two-thirds majority of the Contracting Governments present and voting in the expanded Maritime Safety Committee.

However, if within the specified period either more than one-third of Contracting Governments, or Contracting Governments the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant fleet, notify the Secretary-General of the Organization that they object to the amendment, it shall be deemed not to have been accepted.

- (vii) (1) An amendment to an Article of the Convention or to Chapter I of the Annex shall enter into force with respect to those Contracting Governments which have accepted it, six months after the date on which it is deemed to have been accepted, and with respect to each Contracting Government which accepts it after that date, six months after the date of that Contracting Government's acceptance.
- (2) An amendment to the Annex other than Chapter I shall enter into force with respect to all Contracting Governments, except those which have objected to the amendment under sub-paragraph (vi)(2) of this paragraph and which have not withdrawn such objections, six months after the date on which it is deemed to have been accepted. However, before the date set for entry into force, any Contracting Government may give notice to the Secretary-General of the Organization that it exempts itself from giving effect to that amendment for a period not longer than one year from the date of its entry into force, or for such longer period as may be determined by a two-thirds majority of the Contracting Governments present and voting in the expanded Maritime Safety Committee at the time of the adoption of the amendment.

(c) Amendment by a Conference:

- (i) Upon the request of a Contracting Government concurred in by at least one-third of the Contracting Governments, the Organization shall convene a Conference of Contracting Governments to consider amendments to the present Convention.
- (ii) Every amendment adopted by such a Conference by a two-thirds majority of the Contracting Governments present and voting shall

be communicated by the Secretary-General of the Organization to all Contracting Governments for acceptance.

- (iii) Unless the Conference decides otherwise, the amendment shall be deemed to have been accepted and shall enter into force in accordance with the procedures specified in sub-paragraphs (b)(vi) and (b)(vii) respectively of this Article, provided that references in these paragraphs to the expanded Maritime Safety Committee shall be taken to mean references to the Conference.
- (d)
 - (i) A Contracting Government which has accepted an amendment to the Annex which has entered into force shall not be obliged to extend the benefit of the present Convention in respect of the certificates issued to a ship entitled to fly the flag of a State the Government of which, pursuant to the provisions of sub-paragraph (b)(vi)(2) of this Article, has objected to the amendment and has not withdrawn such an objection, but only to the extent that such certificates relate to matters covered by the amendment in question.
 - (ii) A Contracting Government which has accepted an amendment to the Annex which has entered into force shall extend the benefit of the present Convention in respect of the certificates issued to a ship entitled to fly the flag of a State the Government of which, pursuant to the provisions of sub-paragraph (b)(vii)(2) of this Article, has notified the Secretary-General of the Organization that it exempts itself from giving effect to the amendment.
- (e) Unless expressly provided otherwise, any amendment to the present Convention made under this Article, which relates to the structure of a ship, shall apply only to ships the keels of which are laid or which are at a similar stage of construction, on or after the date on which the amendment enters into force.
- (f) Any declaration of acceptance of, or objection to, an amendment or any notice given under sub-paragraph (b)(vii)(2) of this Article shall be submitted in writing to the Secretary-General of the Organization, who shall inform all Contracting Governments of any such submission and the date of its receipt.
- (g) The Secretary-General of the Organization shall inform all Contracting Governments of any amendments which enter into force under this Article, together with the date on which each such amendment enters into force.

ARTICLE IX

Signature, Ratification, Acceptance, Approval and Accession

- (a) The present Convention shall remain open for signature at the Headquarters of the Organization from 1 November 1974 until 1 July 1975 and shall thereafter remain open for accession. States may become parties to the present Convention by:
 - (i) signature without reservation as to ratification, acceptance or approval; or

- (ii) signature subject to ratification, acceptance or approval, followed by ratification, acceptance or approval; or
 - (iii) accession.
- (b) Ratification, acceptance, approval or accession shall be effected by the deposit of an instrument to that effect with the Secretary-General of the Organization.
- (c) The Secretary-General of the Organization shall inform the Governments of all States which have signed the present Convention or acceded to it of any signature or of the deposit of any instrument of ratification, acceptance, approval or accession and the date of its deposit.

ARTICLE X

Entry into Force

- (a) The present Convention shall enter into force twelve months after the date on which not less than twenty-five States, the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant shipping, have become parties to it in accordance with Article IX.
- (b) Any instrument of ratification, acceptance, approval or accession deposited after the date on which the present Convention enters into force shall take effect three months after the date of deposit.
- (c) After the date on which an amendment to the present Convention is deemed to have been accepted under Article VIII, any instrument of ratification, acceptance, approval or accession deposited shall apply to the Convention as amended.

ARTICLE XI

Denunciation

- (a) The present Convention may be denounced by any Contracting Government at any time after the expiry of five years from the date on which the Convention enters into force for that Government.
- (b) Denunciation shall be effected by the deposit of an instrument of denunciation with the Secretary-General of the Organization who shall notify all the other Contracting Governments of any instrument of denunciation received and of the date of its receipt as well as the date on which such denunciation takes effect.
- (c) A denunciation shall take effect one year, or such longer period as may be specified in the instrument of denunciation, after its receipt by the Secretary-General of the Organization.

ARTICLE XII

Deposit and Registration

- (a) The present Convention shall be deposited with the Secretary-General of the Organization who shall transmit certified true copies thereof to the Governments of all States which have signed the present Convention or acceded to it.
- (b) As soon as the present Convention enters into force, the text shall be transmitted by the Secretary-General of the Organization to the Secretary-General of the United Nations for registration and publication, in accordance with Article 102 of the Charter of the United Nations.

ARTICLE XIII

Languages

The present Convention is established in a single copy in the Chinese, English, French, Russian and Spanish languages, each text being equally authentic. Official translations in the Arabic, German and Italian languages shall be prepared and deposited with the signed original.

IN WITNESS WHEREOF the undersigned, being duly authorized by their respective Governments for that purpose, have signed the present Convention.

DONE AT LONDON this first day of November one thousand nine hundred and seventy-four.

ANNEX

CHAPTER I
GENERAL PROVISIONS

PART A – APPLICATION, DEFINITIONS, ETC.

Regulation 1

Application

- (a) Unless expressly provided otherwise, the present Regulations apply only to ships engaged on international voyages.
- (b) The classes of ships to which each Chapter applies are more precisely defined, and the extent of the application is shown, in each Chapter.

Regulation 2

Definitions

For the purpose of the present Regulations, unless expressly provided otherwise:

- (a) “Regulations” means the Regulations contained in the Annex to the present Convention.
- (b) “Administration” means the Government of the State whose flag the ship is entitled to fly.
- (c) “Approved” means approved by the Administration.
- (d) “International voyage” means a voyage from a country to which the present Convention applies to a port outside such country, or conversely.
- (e) A passenger is every person other than:
 - (i) the master and the members of the crew or other persons employed or engaged in any capacity on board a ship on the business of that ship; and
 - (ii) a child under one year of age.
- (f) A passenger ship is a ship which carries more than twelve passengers.
- (g) A cargo ship is any ship which is not a passenger ship.

- (h) A tanker is a cargo ship constructed or adapted for the carriage in bulk of liquid cargoes of an inflammable* nature.
- (i) A fishing vessel is a vessel used for catching fish, whales, seals, walrus or other living resources of the sea.
- (j) A nuclear ship is a ship provided with a nuclear power plant.
- (k) "New ship" means a ship the keel of which is laid or which is at a similar stage of construction on or after the date of coming into force of the present Convention.
- (l) "Existing ship" means a ship which is not a new ship.
- (m) A mile is 1,852 metres or 6,080 feet.

Regulation 3

Exceptions

- (a) The present Regulations, unless expressly provided otherwise, do not apply to:
 - (i) Ships of war and troopships.
 - (ii) Cargo ships of less than 500 tons gross tonnage.
 - (iii) Ships not propelled by mechanical means.
 - (iv) Wooden ships of primitive build.
 - (v) Pleasure yachts not engaged in trade.
 - (vi) Fishing vessels.
- (b) Except as expressly provided in Chapter V, nothing herein shall apply to ships solely navigating the Great Lakes of North America and the River St. Lawrence as far east as a straight line drawn from Cap des Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63rd Meridian.

Regulation 4

Exemptions

- (a) A ship which is not normally engaged on international voyages but which, in exceptional circumstances, is required to undertake a single international voyage may be exempted by the Administration from any of the requirements of the present Regulations provided that it complies with safety requirements which are adequate in the opinion of the Administration for the voyage which is to be undertaken by the ship.
- (b) The Administration may exempt any ship which embodies features of a novel kind from any of the provisions of Chapters II-1, II-2, III and IV of these

* "Inflammable" has the same meaning as "flammable".

Regulations the application of which might seriously impede research into the development of such features and their incorporation in ships engaged on international voyages. Any such ship shall, however, comply with safety requirements which, in the opinion of that Administration, are adequate for the service for which it is intended and are such as to ensure the overall safety of the ship and which are acceptable to the Governments of the States to be visited by the ship. The Administration which allows any such exemption shall communicate to the Organization particulars of same and the reasons therefor which the Organization shall circulate to the Contracting Governments for their information.

Regulation 5

Equivalents

(a) Where the present Regulations require that a particular fitting, material, appliance or apparatus, or type thereof, shall be fitted or carried in a ship, or that any particular provision shall be made, the Administration may allow any other fitting, material, appliance or apparatus, or type thereof, to be fitted or carried, or any other provision to be made in that ship, if it is satisfied by trial thereof or otherwise that such fitting, material, appliance or apparatus, or type thereof, or provision, is at least as effective as that required by the present Regulations.

(b) Any Administration which so allows, in substitution, a fitting, material, appliance or apparatus, or type thereof, or provision, shall communicate to the Organization particulars thereof together with a report on any trials made and the Organization shall circulate such particulars to other Contracting Governments for the information of their officers.

PART B – SURVEYS AND CERTIFICATES

Regulation 6

Inspection and Survey

The inspection and survey of ships, so far as regards the enforcement of the provisions of the present Regulations and the granting of exemptions therefrom, shall be carried out by officers of the State ~~whose flag~~ ^{the ship is entitled to fly,} provided that the Government of each State may entrust the inspection and survey either to surveyors nominated for the purpose or to organizations recognized by it. In every case the Government concerned fully guarantees the completeness and efficiency of the inspection and survey.

Regulation 7

Surveys of Passenger Ships

- (a) A passenger ship shall be subjected to the surveys specified below:
- (i) A survey before the ship is put in service.

- (ii) A periodical survey once every twelve months.
 - (iii) Additional surveys, as occasion arises.
- (b) The surveys referred to above shall be carried out as follows:
- (i) The survey before the ship is put in service shall include a complete inspection of its structure, machinery and equipment, including the outside of the ship's bottom and the inside and outside of the boilers. This survey shall be such as to ensure that the arrangements, material, and scantlings of the structure, boilers and other pressure vessels and their appurtenances, main and auxiliary machinery, electrical installation, radio installation, radiotelegraph installations in motor lifeboats, portable radio apparatus for survival craft, life-saving appliances, fire protection, fire detecting and extinguishing appliances, radar, echo-sounding device, gyro-compass, pilot ladders, mechanical pilot hoists and other equipment, fully comply with the requirements of the present Convention, and of the laws, decrees, orders and regulations promulgated as a result thereof by the Administration for ships of the service for which it is intended. The survey shall also be such as to ensure that the workmanship of all parts of the ship and its equipment is in all respects satisfactory, and that the ship is provided with the lights, shapes, means of making sound signals and distress signals as required by the provisions of the present Convention and the International Regulations for Preventing Collisions at Sea in force.
 - (ii) The periodical survey shall include an inspection of the structure, boilers and other pressure vessels, machinery and equipment, including the outside of the ship's bottom. The survey shall be such as to ensure that the ship, as regards the structure, boilers and other pressure vessels and their appurtenances, main and auxiliary machinery, electrical installation, radio installation, radiotelegraph installations in motor lifeboats, portable radio apparatus for survival craft, life-saving appliances, fire protection, fire detecting and extinguishing appliances, radar, echo-sounding device, gyro-compass, pilot ladders, mechanical pilot hoists and other equipment, is in satisfactory condition and fit for the service for which it is intended, and that it complies with the requirements of the present Convention, and of the laws, decrees, orders and regulations promulgated as a result thereof by the Administration. The lights, shapes and means of making sound signals and the distress signals carried by the ship shall also be subject to the above-mentioned survey for the purpose of ensuring that they comply with the requirements of the present Convention and of the International Regulations for Preventing Collisions at Sea in force.
 - (iii) A survey either general or partial, according to the circumstances, shall be made every time an accident occurs or a defect is discovered which affects the safety of the ship or the efficiency or completeness of its life-saving appliances or other equipment, or whenever any important repairs or renewals are made. The survey shall be such as to ensure that the necessary repairs or renewals have been effectively made, that the material and workmanship of such repairs are in all respects satisfactory, and that the ship complies in all respects with

the provisions of the present Convention and of the International Regulations for Preventing Collisions at Sea in force, and of the laws, decrees, orders and regulations promulgated as a result thereof by the Administration.

- (c) (i) The laws, decrees, orders and regulations referred to in paragraph (b) of this Regulation shall be in all respects such as to ensure that, from the point of view of safety of life, the ship is fit for the service for which it is intended.
- (ii) They shall among other things prescribe the requirements to be observed as to the initial and subsequent hydraulic or other acceptable alternative tests to which the main and auxiliary boilers, connexions, steam pipes, high pressure receivers, and fuel tanks for internal combustion engines are to be submitted including the test procedures to be followed and the intervals between two consecutive tests.

Regulation 8

Surveys of Life-Saving Appliances and other Equipment of Cargo Ships

The life-saving appliances, except a radiotelegraph installation in a motor lifeboat or a portable radio apparatus for survival craft, the echo-sounding device, the gyro-compass, and the fire-extinguishing appliances of cargo ships to which Chapters II-1, II-2, III and V apply shall be subject to initial and subsequent surveys as provided for passenger ships in Regulation 7 of this Chapter with the substitution of 24 months for 12 months in sub-paragraph (a)(ii) of that Regulation. The fire control plans in new ships and the pilot ladders, mechanical pilot hoists, lights, shapes and means of making sound signals carried by new and existing ships shall be included in the surveys for the purpose of ensuring that they comply fully with the requirements of the present Convention and, where applicable, the International Regulations for Preventing Collisions at Sea in force.

Regulation 9

Surveys of Radio and Radar Installations of Cargo Ships

The radio and radar installations of cargo ships to which Chapters IV and V apply and any radiotelegraph installation in a motor lifeboat or portable radio apparatus for survival craft which is carried in compliance with the requirements of Chapter III shall be subject to initial and subsequent surveys as provided for passenger ships in Regulation 7 of this Chapter.

Regulation 10

Surveys of Hull, Machinery and Equipment of Cargo Ships

The hull, machinery and equipment (other than items in respect of which Cargo Ship Safety Equipment Certificates, Cargo Ship Safety Radiotelegraphy Certificates or Cargo Ship Safety Radiotelephony Certificates are issued) of a

cargo ship shall be surveyed on completion and thereafter in such manner and at such intervals as the Administration may consider necessary in order to ensure that their condition is in all respects satisfactory. The survey shall be such as to ensure that the arrangements, material, and scantlings of the structure, boilers and other pressure vessels and their appurtenances, main and auxiliary machinery, electrical installations and other equipment are in all respects satisfactory for the service for which the ship is intended.

Regulation 11

Maintenance of Conditions after Survey

After any survey of the ship under Regulations 7, 8, 9 or 10 of this Chapter has been completed, no change shall be made in the structural arrangements, machinery, equipment, etc. covered by the survey, without the sanction of the Administration.

Regulation 12

Issue of Certificates

- (a) (i) A certificate called a Passenger Ship Safety Certificate shall be issued after inspection and survey to a passenger ship which complies with the requirements of Chapters II-1, II-2, III and IV and any other relevant requirements of the present Regulations.
- (ii) A certificate called a Cargo Ship Safety Construction Certificate shall be issued after survey to a cargo ship which satisfies the requirements for cargo ships on survey set out in Regulation 10 of this Chapter and complies with the applicable requirements of Chapters II-1 and II-2 other than those relating to fire-extinguishing appliances and fire control plans.
- (iii) A certificate called a Cargo Ship Safety Equipment Certificate shall be issued after inspection to a cargo ship which complies with the relevant requirements of Chapters II-1, II-2 and III and any other relevant requirements of the present Regulations.
- (iv) A certificate called a Cargo Ship Safety Radiotelegraphy Certificate shall be issued after inspection to a cargo ship, fitted with a radiotelegraph installation, which complies with the requirements of Chapter IV and any other relevant requirements of the present Regulations.
- (v) A certificate called a Cargo Ship Safety Radiotelephony Certificate shall be issued after inspection to a cargo ship, fitted with a radiotelephone installation, which complies with the requirements of Chapter IV and any other relevant requirements of the present Regulations.
- (vi) When an exemption is granted to a ship under and in accordance with the provisions of the present Regulations, a certificate called an Exemption Certificate shall be issued in addition to the certificates prescribed in this paragraph.

- (vii) Passenger Ship Safety Certificates, Cargo Ship Safety Construction Certificates, Cargo Ship Safety Equipment Certificates, Cargo Ship Safety Radiotelegraphy Certificates, Cargo Ship Safety Radiotelephony Certificates and Exemption Certificates shall be issued either by the Administration or by any person or organization duly authorized by it. In every case, that Administration assumes full responsibility for the Certificate.

(b) Notwithstanding any other provision of the present Convention any certificate issued under, and in accordance with, the provisions of the International Convention for the Safety of Life at Sea, 1960, which is current when the present Convention comes into force in respect of the Administration by which the certificate is issued, shall remain valid until it expires under the terms of Regulation 14 of Chapter I of that Convention.

(c) A Contracting Government shall not issue certificates under, and in accordance with, the provisions of the International Convention for the Safety of Life at Sea, 1960, 1948 or 1929, after the date on which acceptance of the present Convention by the Government takes effect.

Regulation 13

Issue of Certificate by another Government

A Contracting Government may, at the request of the Administration, cause a ship to be surveyed and, if satisfied that the requirements of the present Regulations are complied with, shall issue certificates to the ship in accordance with the present Regulations. Any certificate so issued must contain a statement to the effect that it has been issued at the request of the Government of the State whose flag the ship is or will be entitled to fly, and it shall have the same force and receive the same recognition as a certificate issued under Regulation 12 of this Chapter.

Regulation 14

Duration of Certificates

(a) Certificates other than Cargo Ship Safety Construction Certificates, Cargo Ship Safety Equipment Certificates and Exemption Certificates shall be issued for a period of not more than 12 months. Cargo Ship Safety Equipment Certificates shall be issued for a period of not more than 24 months. Exemption Certificates shall not be valid for longer than the period of the certificates to which they refer.

(b) If a survey takes place within two months before the end of the period for which a Cargo Ship Safety Radiotelegraphy Certificate or a Cargo Ship Safety Radiotelephony Certificate issued in respect of cargo ships of 300 tons gross tonnage and upwards, but less than 500 tons gross tonnage, was originally issued, that certificate may be withdrawn, and a new certificate may be issued which shall expire 12 months after the end of the said period.

(c) If a ship at the time when its certificate expires is not in a port of the State whose flag it is entitled to fly, the certificate may be extended by the Admini-

stration, but such extension shall be granted only for the purpose of allowing the ship to complete its voyage to the ~~State whose flag it is entitled to fly~~ or in which it is to be surveyed, and then only in cases where it appears proper and reasonable so to do.

(d) No certificate shall be thus extended for a longer period than five months, and a ship to which such extension is granted shall not, on its arrival in the ~~State whose flag it is entitled to fly~~ or the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port or ~~State~~ without having obtained a new certificate.

(e) A certificate which has not been extended under the foregoing provisions of this Regulation may be extended by the Administration for a period of grace of up to one month from the date of expiry stated on it.

Regulation 15

Form of Certificates

(a) All certificates shall be drawn up in the official language or languages of the country by which they are issued.

(b) The form of the certificates shall be that of the models given in the Appendix to the present Regulations. The arrangement of the printed part of the model certificates shall be exactly reproduced in the certificates issued, or in certified copies thereof, and the particulars inserted in the certificates issued, or in certified copies thereof, shall be in Roman characters and Arabic figures.

Regulation 16

Posting up of Certificates

All certificates or certified copies thereof issued under the present Regulations shall be posted up in a prominent and accessible place in the ship.

Regulation 17

Acceptance of Certificates

Certificates issued under the authority of a Contracting Government shall be accepted by the other Contracting Governments for all purposes covered by the present Convention. They shall be regarded by the other Contracting Governments as having the same force as certificates issued by them.

Regulation 18

Qualification of Certificates

(a) If in the course of a particular voyage a ship has on board a number of persons less than the total number stated in the Passenger Ship Safety Certificate and is in consequence, in accordance with the provisions of the present Regula-

tions, free to carry a smaller number of lifeboats and other life-saving appliances than that stated in the Certificate, an annex may be issued by the Government, person or organization referred to in Regulation 12 or 13 of this Chapter.

(b) This annex shall state that in the circumstances there is no infringement of the provisions of the present Regulations. It shall be annexed to the Certificate and shall be substituted for it in so far as the life-saving appliances are concerned. It shall be valid only for the particular voyage for which it is issued.

Regulation 19

Control

Every ship holding a certificate issued under Regulation 12 or Regulation 13 of this Chapter is subject in the ports of the other Contracting Governments to control by officers duly authorized by such Governments in so far as this control is directed towards verifying that there is on board a valid certificate. Such certificate shall be accepted unless there are clear grounds for believing that the condition of the ship or of its equipment does not correspond substantially with the particulars of that certificate. In that case, the officer carrying out the control shall take such steps as will ensure that the ship shall not sail until it can proceed to sea without danger to the passengers or the crew. In the event of this control giving rise to intervention of any kind, the officer carrying out the control shall inform the Consul of the State whose flag the ship is entitled to fly, in writing forthwith of all the circumstances in which intervention was deemed to be necessary, and the facts shall be reported to the Organization.

Regulation 20

Privileges

The privileges of the present Convention may not be claimed in favour of any ship unless it holds appropriate valid certificates.

PART C - CASUALTIES

Regulation 21

Casualties

(a) Each Administration undertakes to conduct an investigation of any casualty occurring to any of its ships subject to the provisions of the present Convention when it judges that such an investigation may assist in determining what changes in the present Regulations might be desirable.

(b) Each Contracting Government undertakes to supply the Organization with pertinent information concerning the findings of such investigations. No reports or recommendations of the Organization based upon such information shall disclose the identity or nationality of the ships concerned or in any manner fix or imply responsibility upon any ship or person.

CHAPTER II-1
**CONSTRUCTION – SUBDIVISION AND STABILITY,
MACHINERY AND ELECTRICAL INSTALLATIONS**

PART A – GENERAL

Regulation 1

Application

- (a) (i) Unless expressly provided otherwise, this Chapter applies to new ships.
- (ii) Existing passenger ships and cargo ships shall comply with the following:
- (1) for ships the keels of which were laid or which were at a similar stage of construction on or after the date of coming into force of the International Convention for the Safety of Life at Sea, 1960, the Administration shall ensure that the requirements which were applied under Chapter II of that Convention to new ships as defined in that Chapter are complied with;
 - (2) for ships the keels of which were laid or which were at a similar stage of construction on or after the date of coming into force of the International Convention for the Safety of Life at Sea, 1948, but before the date of coming into force of the International Convention for the Safety of Life at Sea, 1960, the Administration shall ensure that the requirements which were applied under Chapter II of the 1948 Convention to new ships as defined in that Chapter are complied with;
 - (3) for ships the keels of which were laid or which were at a similar stage of construction before the date of coming into force of the International Convention for the Safety of Life at Sea, 1948, the Administration shall ensure that the requirements which were applied under Chapter II of that Convention to existing ships as defined in that Chapter are complied with;
 - (4) as regards the requirements of Chapter II-1 of the present Convention which are not contained in Chapter II of the 1960 and 1948 Conventions, the Administration shall decide which of these requirements shall be applied to existing ships as defined in the present Convention.
- (iii) A ship which undergoes repairs, alterations, modifications and outfitting related thereto shall continue to comply with at least the requirements previously applicable to the ship. An existing ship in such a case shall not, as a rule, comply to a lesser extent with the requirements for a new ship than it did before. Repairs, alterations

and modifications of a major character and outfitting related thereto should meet the requirements for a new ship in so far as the Administration deems reasonable and practicable.

- (b) For the purpose of this Chapter:
- (i) A new passenger ship is a passenger ship the keel of which is laid or which is at a similar stage of construction on or after the date of coming into force of the present Convention, or a cargo ship which is converted to a passenger ship on or after that date, all other passenger ships being described as existing passenger ships.
 - (ii) A new cargo ship is a cargo ship the keel of which is laid or which is at a similar stage of construction after the date of coming into force of the present Convention.
- (c) The Administration may, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of any specific requirements of this Chapter unreasonable or unnecessary, exempt from those requirements individual ships or classes of ships belonging to its country which, in the course of their voyage, do not proceed more than 20 miles from the nearest land.
- (d) In the case of a passenger ship which is permitted under paragraph (c) of Regulation 27 of Chapter III to carry a number of persons on board in excess of the lifeboat capacity provided, it shall comply with the special standards of subdivision set out in paragraph (e) of Regulation 5 of this Chapter, and the associated special provisions regarding permeability in paragraph (d) of Regulation 4 of this Chapter, unless the Administration is satisfied that, having regard to the nature and conditions of the voyage, compliance with the other provisions of the Regulations of this Chapter and Chapter II-2 of the present Convention is sufficient.
- (e) In the case of passenger ships which are employed in special trades for the carriage of large numbers of special trade passengers, such as the pilgrim trade, the Administration, if satisfied that it is impracticable to enforce compliance with the requirements of this Chapter, may exempt such ships, when they belong to its country, from those requirements, provided that they comply fully with the provisions of:
- (i) the Rules annexed to the Special Trade Passenger Ships Agreement, 1971, and
 - (ii) the Rules annexed to the Protocol on Space Requirements for Special Trade Passenger Ships, 1973, when it enters into force.

Regulation 2

Definitions

For the purpose of this Chapter, unless expressly provided otherwise:

- (a) (i) A subdivision load line is a water-line used in determining the subdivision of the ship.

- (ii) The deepest subdivision load line is the water-line which corresponds to the greatest draught permitted by the subdivision requirements which are applicable.
- (b) The length of the ship is the length measured between perpendiculars taken at the extremities of the deepest subdivision load line.
- (c) The breadth of the ship is the extreme width from outside of frame to outside of frame at or below the deepest subdivision load line.
- (d) The draught is the vertical distance from the moulded base line amidships to the subdivision load line in question.
- (e) The bulkhead deck is the uppermost deck up to which the transverse watertight bulkheads are carried.
- (f) The margin line is a line drawn at least 76 millimetres (3 inches) below the upper surface of the bulkhead deck at side.
- (g) The permeability of a space is the percentage of that space which can be occupied by water.

The volume of a space which extends above the margin line shall be measured only to the height of that line.

(h) The machinery space is to be taken as extending from the moulded base line to the margin line and between the extreme main transverse watertight bulkheads bounding the spaces containing the main and auxiliary propelling machinery, boilers serving the needs of propulsion, and all permanent coal bunkers.

In the case of unusual arrangements, the Administration may define the limits of the machinery spaces.

(i) Passenger spaces are those which are provided for the accommodation and use of passengers, excluding baggage, store, provision and mail rooms.

For the purposes of Regulations 4 and 5 of this Chapter, spaces provided below the margin line for the accommodation and use of the crew shall be regarded as passenger spaces.

(j) In all cases volumes and areas shall be calculated to moulded lines.

PART B – SUBDIVISION AND STABILITY*

(Part B applies to passenger ships only, except that Regulation 19 also applies to cargo ships.)

Regulation 3

Floodable Length

(a) The floodable length at any point of the length of a ship shall be determined by a method of calculation which takes into consideration the form, draught and other characteristics of the ship in question.

* Instead of the requirements in this Part, the Regulations on Subdivision and Stability of Passenger Ships as an Equivalent to Part B of Chapter II of the International Convention for the Safety of Life at Sea, 1960, adopted by the Organization by Resolution A.265(VIII), may be used, if applied, in their entirety.

- (b) In a ship with a continuous bulkhead deck, the floodable length at a given point is the maximum portion of the length of the ship, having its centre at the point in question, which can be flooded under the definite assumptions set forth in Regulation 4 of this Chapter without the ship being submerged beyond the margin line.
- (c) (i) In the case of a ship not having a continuous bulkhead deck, the floodable length at any point may be determined to an assumed continuous margin line which at no point is less than 76 millimetres (3 inches) below the top of the deck (at side) to which the bulkheads concerned and the shell are carried watertight.
- (ii) Where a portion of an assumed margin line is appreciably below the deck to which bulkheads are carried, the Administration may permit a limited relaxation in the watertightness of those portions of the bulkheads which are above the margin line and immediately under the higher deck.

Regulation 4

Permeability

- (a) The definite assumptions referred to in Regulation 3 of this Chapter relate to the permeabilities of the spaces below the margin line.

In determining the floodable length, a uniform average permeability shall be used throughout the whole length of each of the following portions of the ship below the margin line:

- (i) the machinery space as defined in Regulation 2 of this Chapter;
- (ii) the portion forward of the machinery space; and
- (iii) the portion abaft the machinery space.
- (b) (i) The uniform average permeability throughout the machinery space shall be determined from the formula –

$$85 + 10 \left(\frac{a - c}{v} \right)$$

where:

- a = volume of the passenger spaces, as defined in Regulation 2 of this Chapter, which are situated below the margin line within the limits of the machinery space;
- c = volume of between deck spaces below the margin line within the limits of the machinery space which are appropriated to cargo, coal or stores;
- v = whole volume of the machinery space below the margin line.
- (ii) Where it is shown to the satisfaction of the Administration that the average permeability as determined by detailed calculation is less than that given by the formula, the detailed calculated value may be used. For the purpose of such calculation, the permeabilities of passenger spaces, as defined in Regulation 2 of this Chapter, shall be taken as 95, that of all cargo, coal and store spaces as 60, and that

of double bottom, oil fuel and other tanks at such values as may be approved in each case.

(c) Except as provided in paragraph (d) of this Regulation, the uniform average permeability throughout the portion of the ship before (or abaft) the machinery space shall be determined from the formula –

$$63 + 35 \frac{a}{v}$$

where:

- a = volume of the passenger spaces, as defined in Regulation 2 of this Chapter, which are situated below the margin line, before (or abaft) the machinery space, and
- v = whole volume of the portion of the ship below the margin line before (or abaft) the machinery space.

(d) In the case of a ship which is permitted under paragraph (c) of Regulation 27 of Chapter III to carry a number of persons on board in excess of the lifeboat capacity provided, and is required under paragraph (d) of Regulation 1 of this Chapter to comply with special provisions, the uniform average permeability throughout the portion of the ship before (or abaft) the machinery space shall be determined from the formula –

$$95 - 35 \frac{b}{v}$$

where:

- b = the volume of the spaces below the margin line and above the tops of floors, inner bottom, or peak tanks, as the case may be, which are appropriated to and used as cargo spaces, coal or oil fuel bunkers, store-rooms, baggage and mail rooms, chain lockers and fresh water tanks, before (or abaft) the machinery space; and
- v = whole volume of the portion of the ship below the margin line before (or abaft) the machinery space.

In the case of ships engaged on services where the cargo holds are not generally occupied by any substantial quantities of cargo, no part of the cargo spaces is to be included in calculating "b".

(e) In the case of unusual arrangements the Administration may allow, or require, a detailed calculation of average permeability for the portions before or abaft the machinery space. For the purpose of such calculation, the permeability of passenger spaces as defined in Regulation 2 of this Chapter shall be taken as 95, that of spaces containing machinery as 85, that of all cargo, coal and store spaces as 60, and that of double bottom, oil fuel and other tanks at such value as may be approved in each case.

(f) Where a between deck compartment between two watertight transverse bulkheads contains any passenger or crew space, the whole of that compartment, less any space completely enclosed within permanent steel bulkheads and appropriated to other purposes, shall be regarded as passenger space. Where, however, the passenger or crew space in question is completely enclosed within permanent steel bulkheads, only the space so enclosed need be considered as passenger space.

Regulation 5*Permissible Length of Compartments*

(a) Ships shall be as efficiently subdivided as is possible having regard to the nature of the service for which they are intended. The degree of subdivision shall vary with the length of the ship and with the service, in such manner that the highest degree of subdivision corresponds with the ships of greatest length, primarily engaged in the carriage of passengers.

(b) *Factor of Subdivision.* The maximum permissible length of a compartment having its centre at any point in the ship's length is obtained from the floodable length by multiplying the latter by an appropriate factor called the factor of subdivision.

The factor of subdivision shall depend on the length of the ship, and for a given length shall vary according to the nature of the service for which the ship is intended. It shall decrease in a regular and continuous manner:

- (i) as the length of the ship increases, and
- (ii) from a factor A, applicable to ships primarily engaged in the carriage of cargo, to a factor B, applicable to ships primarily engaged in the carriage of passengers.

The variations of the factors A and B shall be expressed by the following formulae (I) and (II) where L is the length of the ship as defined in Regulation 2 of this Chapter:

L in metres

$$A = \frac{58.2}{L - 60} + .18 \quad (L = 131 \text{ and upwards}) \dots\dots\dots(I)$$

L in feet

$$A = \frac{190}{L - 198} + .18 \quad (L = 430 \text{ and upwards})$$

L in metres

$$B = \frac{30.3}{L - 42} + .18 \quad (L = 79 \text{ and upwards}) \dots\dots\dots(II)$$

L in feet

$$B = \frac{100}{L - 138} + .18 \quad (L = 260 \text{ and upwards})$$

(c) *Criterion of Service.* For a ship of given length the appropriate factor of subdivision shall be determined by the Criterion of Service Numeral (hereinafter called the Criterion Numeral) as given by the following formulae (III) and (IV) where:

C_s = the Criterion Numeral;

L = length of the ship, as defined in Regulation 2 of this Chapter;

M = the volume of the machinery space, as defined in Regulation 2 of this Chapter; with the addition thereto of the volume of any permanent oil fuel bunkers which may be situated above the inner bottom and before or abaft the machinery space;

P = the whole volume of the passenger spaces below the margin line, as defined in Regulation 2 of this Chapter;

V = the whole volume of the ship below the margin line;

P₁ = KN where:

N = number of passengers for which the ship is to be certified, and

K has the following values:

	Value of K
Length in metres and volumes in cubic metres	.056L
Length in feet and volumes in cubic feet	.6L

Where the value of KN is greater than the sum of P and the whole volume of the actual passenger spaces above the margin line, the figure to be taken as P₁ is that sum or two-thirds KN, whichever is the greater.

When P₁ is greater than P –

$$C_s = 72 \frac{M + 2P_1}{V + P_1 - P} \dots\dots\dots(III)$$

and in other cases –

$$C_s = 72 \frac{M + 2P}{V} \dots\dots\dots(IV)$$

For ships not having a continuous bulkhead deck the volumes are to be taken up to the actual margin lines used in determining the floodable lengths.

(d) *Rules for Subdivision of Ships other than those covered by paragraph (e) of this Regulation*

- (i) The subdivision abaft the forepeak of ships 131 metres (430 feet) in length and upwards having a criterion numeral of 23 or less shall be governed by the factor A given by formula (I); of those having a criterion numeral of 123 or more by the factor B given by formula (II); and of those having a criterion numeral between 23 and 123 by the factor F obtained by linear interpolation between the factors A and B, using the formula:

$$F = A - \frac{(A - B)(C_s - 23)}{100} \dots\dots\dots(V)$$

Nevertheless, where the criterion numeral is equal to 45 or more and simultaneously the computed factor of subdivision as given by formula (V) is .65 or less, but more than .50, the subdivision abaft the forepeak shall be governed by the factor .50.

Where the factor F is less than .40 and it is shown to the satisfaction of the Administration to be impracticable to comply with the factor F in a machinery compartment of the ship, the subdivision of such compartment may be governed by an increased factor, which, however, shall not exceed .40.

- (ii) The subdivision abaft the forepeak of ships less than 131 metres (430 feet) but not less than 79 metres (260 feet) in length having a criterion numeral equal to S, where –

$$S = \frac{3,574 - 25L}{13} \text{ (L in metres)} = \frac{9,382 - 20L}{34} \text{ (L in feet)}$$

shall be governed by the factor unity; of those having a criterion numeral of 123 or more by the factor B given by the formula (II); of those having a criterion numeral between S and 123 by the factor F obtained by linear interpolation between unity and the factor B using the formula:

$$F = 1 - \frac{(1 - B)(C_s - S)}{123 - S} \dots\dots\dots (VI)$$

- (iii) The subdivision abaft the forepeak of ships less than 131 metres (430 feet) but not less than 79 metres (260 feet) in length and having a criterion numeral less than S, and of all ships less than 79 metres (260 feet) in length shall be governed by the factor unity, unless, in either case, it is shown to the satisfaction of the Administration to be impracticable to comply with this factor in any part of the ship, in which case the Administration may allow such relaxation as may appear to be justified, having regard to all the circumstances.
- (iv) The provisions of sub-paragraph (iii) of this paragraph shall apply also to ships of whatever length, which are to be certified to carry a number of passengers exceeding 12 but not exceeding –

$$\frac{L^2}{650} \text{ (in metres)} = \frac{L^2}{7,000} \text{ (in feet), or 50, whichever is the less.}$$

(e) *Special Standards of Subdivision for Ships which are permitted under paragraph (c) of Regulation 27 of Chapter III to carry a number of persons on board in excess of the lifeboat capacity provided and are required under paragraph (d) of Regulation 1 of this Chapter to comply with special provisions*

- (i) (1) In the case of ships primarily engaged in the carriage of passengers, the subdivision abaft the forepeak shall be governed by a factor of .50 or by the factor determined according to paragraphs (c) and (d) of this Regulation, if less than .50.
- (2) In the case of such ships less than 91.5 metres (300 feet) in length, if the Administration is satisfied that compliance with such factor would be impracticable in a compartment, it may allow the length of that compartment to be governed by a higher factor provided the factor used is the lowest that is practicable and reasonable in the circumstances.
- (ii) Where, in the case of any ship whether less than 91.5 metres (300 feet) or not, the necessity of carrying appreciable quantities of cargo makes it impracticable to require the subdivision abaft the forepeak to be governed by a factor not exceeding .50, the standard of subdivision to be applied shall be determined in accordance with the following sub-paragraphs (1) to (5), subject to the condition that where the Administration is satisfied that insistence on strict compliance in any respect would be unreasonable, it may allow such alternative arrangement of the watertight bulkheads as appears to be justified on merits and will not diminish the general effectiveness of the subdivision.
- (1) The provisions of paragraph (c) of this Regulation relating to the criterion numeral shall apply with the exception that in

calculating the value of P_1 for berthed passengers K is to have the value defined in paragraph (c) of this Regulation, or 3.55 cubic metres (125 cubic feet), whichever is the greater, and for unberthed passengers K is to have the value 3.55 cubic metres (125 cubic feet).

- (2) The factor B in paragraph (b) of this Regulation shall be replaced by the factor BB determined by the following formula:

L in metres

$$BB = \frac{17.6}{L - 33} + .20 \quad (L = 55 \text{ and upwards})$$

L in feet

$$BB = \frac{57.6}{L - 108} + .20 \quad (L = 180 \text{ and upwards})$$

- (3) The subdivision abaft the forepeak of ships 131 metres (430 feet) in length and upwards having a criterion numeral of 23 or less shall be governed by the factor A given by formula (I) in paragraph (b) of this Regulation; of those having a criterion numeral of 123 or more by the factor BB given by the formula in sub-paragraph (ii)(2) of this paragraph; and of those having a criterion numeral between 23 and 123 by the factor F obtained by linear interpolation between the factors A and BB, using the formula:

$$F = A - \frac{(A - BB)(C_s - 23)}{100}$$

except that if the factor F so obtained is less than .50 the factor to be used shall be either .50 or the factor calculated according to the provisions of sub-paragraph (d)(i) of this Regulation, whichever is the smaller.

- (4) The subdivision abaft the forepeak of ships less than 131 metres (430 feet) but not less than 55 metres (180 feet) in length having a criterion numeral equal to S_1 where -

$$S_1 = \frac{3,712 - 25L}{19} \quad (L \text{ in metres})$$

$$S_1 = \frac{1,950 - 4L}{10} \quad (L \text{ in feet})$$

shall be governed by the factor unity; of those having a criterion numeral of 123 or more by the factor BB given by the formula in sub-paragraph (ii)(2) of this paragraph; of those having a criterion numeral between S_1 and 123 by the factor F obtained by linear interpolation between unity and the factor BB using the formula:

$$F = 1 - \frac{(1 - BB)(C_s - S_1)}{123 - S_1}$$

except that in either of the two latter cases if the factor so obtained is less than .50 the subdivision may be governed by a factor not exceeding .50.

- (5) The subdivision abaft the forepeak of ships less than 131 metres (430 feet) but not less than 55 metres (180 feet) in length and having a criterion numeral less than S_1 and of all ships less than 55 metres (180 feet) in length shall be governed by the factor unity, unless it is shown to the satisfaction of the Administration to be impracticable to comply with this factor in particular compartments, in which event the Administration may allow such relaxations in respect of those compartments as appear to be justified, having regard to all the circumstances, provided that the aftermost compartment and as many as possible of the forward compartments (between the forepeak and the after end of the machinery space) shall be kept within the floodable length.

Regulation 6

Special Rules concerning Subdivision

- (a) Where in a portion or portions of a ship the watertight bulkheads are carried to a higher deck than in the remainder of the ship and it is desired to take advantage of this higher extension of the bulkheads in calculating the floodable length, separate margin lines may be used for each such portion of the ship provided that:
- (i) the sides of the ship are extended throughout the ship's length to the deck corresponding to the upper margin line and all openings in the shell plating below this deck throughout the length of the ship are treated as being below a margin line, for the purposes of Regulation 14 of this Chapter; and
 - (ii) the two compartments adjacent to the "step" in the bulkhead deck are each within the permissible length corresponding to their respective margin lines, and, in addition, their combined length does not exceed twice the permissible length based on the lower margin line.
- (b)
- (i) A compartment may exceed the permissible length determined by the rules of Regulation 5 of this Chapter provided the combined length of each pair of adjacent compartments to which the compartment in question is common does not exceed either the floodable length or twice the permissible length, whichever is the less.
 - (ii) If one of the two adjacent compartments is situated inside the machinery space, and the second is situated outside the machinery space, and the average permeability of the portion of the ship in which the second is situated differs from that of the machinery space, the combined length of the two compartments shall be adjusted to the mean average permeability of the two portions of the ship in which the compartments are situated.
 - (iii) Where the two adjacent compartments have different factors of subdivision, the combined length of the two compartments shall be determined proportionately.

(c) In ships 100 metres (330 feet) in length and upwards, one of the main transverse bulkheads abaft the forepeak shall be fitted at a distance from forward perpendicular which is not greater than the permissible length.

(d) A main transverse bulkhead may be recessed provided that all parts of the recess lie inboard of vertical surfaces on both sides of the ship, situated at a distance from the shell plating equal to one-fifth the breadth of the ship, as defined in Regulation 2 of this Chapter, and measured at right angles to the centre line at the level of the deepest subdivision load line.

Any part of a recess which lies outside these limits shall be dealt with as a step in accordance with paragraph (e) of this Regulation.

(e) A main transverse bulkhead may be stepped provided that it meets one of the following conditions:

- (i) the combined length of the two compartments, separated by the bulkhead in question, does not exceed either 90 per cent of the floodable length or twice the permissible length, except that in ships having a factor of subdivision greater than .9, the combined length of the two compartments in question shall not exceed the permissible length;
- (ii) additional subdivision is provided in way of the step to maintain the same measure of safety as that secured by a plane bulkhead;
- (iii) the compartment over which the step extends does not exceed the permissible length corresponding to a margin line taken 76 millimetres (3 inches) below the step.

(f) Where a main transverse bulkhead is recessed or stepped, an equivalent plane bulkhead shall be used in determining the subdivision.

(g) If the distance between two adjacent main transverse bulkheads, or their equivalent plane bulkheads, or the distance between the transverse planes passing through the nearest stepped portions of the bulkheads, is less than 3.05 metres (10 feet) plus 3 per cent of the length of the ship, or 10.67 metres (35 feet) whichever is the less, only one of these bulkheads shall be regarded as forming part of the subdivision of the ship in accordance with the provisions of Regulation 5 of this Chapter.

(h) Where a main transverse watertight compartment contains local subdivision and it can be shown to the satisfaction of the Administration that, after any assumed side damage extending over a length of 3.05 metres (10 feet) plus 3 per cent of the length of the ship, or 10.67 metres (35 feet) whichever is the less, the whole volume of the main compartment will not be flooded, a proportionate allowance may be made in the permissible length otherwise required for such compartment. In such a case the volume of effective buoyancy assumed on the undamaged side shall not be greater than that assumed on the damaged side.

(i) Where the required factor of subdivision is .50 or less, the combined length of any two adjacent compartments shall not exceed the floodable length.

Regulation 7*Stability of Ships in Damaged Condition*

(a) Sufficient intact stability shall be provided in all service conditions so as to enable the ship to withstand the final stage of flooding of any one main compartment which is required to be within the floodable length.

Where two adjacent main compartments are separated by a bulkhead which is stepped under the conditions of sub-paragraph (e)(i) of Regulation 6 of this Chapter the intact stability shall be adequate to withstand the flooding of those two adjacent main compartments.

Where the required factor of subdivision is .50 or less but more than .33 intact stability shall be adequate to withstand the flooding of any two adjacent main compartments.

Where the required factor of subdivision is .33 or less the intact stability shall be adequate to withstand the flooding of any three adjacent main compartments.

- (b) (i) The requirements of paragraph (a) of this Regulation shall be determined by calculations which are in accordance with paragraphs (c), (d) and (f) of this Regulation and which take into consideration the proportions and design characteristics of the ship and the arrangement and configuration of the damaged compartments. In making these calculations the ship is to be assumed in the worst anticipated service condition as regards stability.
- (ii) Where it is proposed to fit decks, inner skins or longitudinal bulkheads of sufficient tightness to seriously restrict the flow of water, the Administration shall be satisfied that proper consideration is given to such restrictions in the calculations.
- (iii) In cases where the Administration considers the range of stability in the damaged condition to be doubtful, it may require investigation thereof.
- (c) For the purpose of making damage stability calculations the volume and surface permeabilities shall be in general as follows:

Spaces	Permeability
Appropriated to Cargo, Coal or Stores	60
Occupied by Accommodation	95
Occupied by Machinery	85
Intended for Liquids	0 or 95*

Higher surface permeabilities are to be assumed in respect of spaces which, in the vicinity of the damage waterplane, contain no substantial quantity of accommodation or machinery and spaces which are not generally occupied by any substantial quantity of cargo or stores.

- (d) Assumed extent of damage shall be as follows:
- (i) longitudinal extent: 3.05 metres (10 feet) plus 3 per cent of the length of the ship, or 10.67 metres (35 feet) whichever is the less. Where the

* Whichever results in the more severe requirements.

required factor of subdivision is .33 or less the assumed longitudinal extent of damage shall be increased as necessary so as to include any two consecutive main transverse watertight bulkheads;

- (ii) transverse extent (measured inboard from the ship's side, at right angles to the centre line at the level of the deepest subdivision load line): a distance of one-fifth of the breadth of the ship, as defined in Regulation 2 of this Chapter; and
- (iii) vertical extent: from the base line upwards without limit.
- (iv) If any damage of lesser extent than that indicated in sub-paragraphs (i), (ii) and (iii) of this paragraph would result in a more severe condition regarding heel or loss of metacentric height, such damage shall be assumed in the calculations.

(e) Unsymmetrical flooding is to be kept to a minimum consistent with efficient arrangements. Where it is necessary to correct large angles of heel, the means adopted shall, where practicable, be self-acting, but in any case where controls to cross-flooding fittings are provided they shall be operable from above the bulkhead deck. These fittings together with their controls as well as the maximum heel before equalization shall be acceptable to the Administration. Where cross-flooding fittings are required the time for equalization shall not exceed 15 minutes. Suitable information concerning the use of cross-flooding fittings shall be supplied to the master of the ship.*

(f) The final conditions of the ship after damage and, in the case of unsymmetrical flooding, after equalization measures have been taken shall be as follows:

- (i) in the case of symmetrical flooding there shall be a positive residual metacentric height of at least 50 millimetres (2 inches) as calculated by the constant displacement method;
- (ii) in the case of unsymmetrical flooding the total heel shall not exceed seven degrees, except that, in special cases, the Administration may allow additional heel due to the unsymmetrical moment, but in no case shall the final heel exceed fifteen degrees;
- (iii) in no case shall the margin line be submerged in the final stage of flooding. If it is considered that the margin line may become submerged during an intermediate stage of flooding, the Administration may require such investigations and arrangements as it considers necessary for the safety of the ship.

(g) The master of the ship shall be supplied with the data necessary to maintain sufficient intact stability under service conditions to enable the ship to withstand the critical damage. In the case of ships requiring cross-flooding the master of the ship shall be informed of the conditions of stability on which the calculations of heel are based and be warned that excessive heeling might result should the ship sustain damage when in a less favourable condition.

* Reference is made to the Recommendation on a Standard Method for Establishing Compliance with the Requirements for Cross-Flooding Arrangements in Passenger Ships, adopted by the Organization by Resolution A.266(VIII).

- (h) (i) No relaxation from the requirements for damage stability may be considered by the Administration unless it is shown that the intact metacentric height in any service condition necessary to meet these requirements is excessive for the service intended.
- (ii) Relaxations from the requirements for damage stability shall be permitted only in exceptional cases and subject to the condition that the Administration is to be satisfied that the proportions, arrangements and other characteristics of the ship are the most favourable to stability after damage which can practically and reasonably be adopted in the particular circumstances.

Regulation 8

Ballasting

When ballasting with water is necessary, the water ballast should not in general be carried in tanks intended for oil fuel. In ships in which it is not practicable to avoid putting water in oil fuel tanks, oily-water separator equipment to the satisfaction of the Administration shall be fitted, or other alternative means acceptable to the Administration shall be provided for disposing of the oily-water ballast.

Regulation 9

Peak and Machinery Space Bulkheads, Shaft Tunnels, etc.

- (a) (i) A ship shall have a forepeak or collision bulkhead, which shall be watertight up to the bulkhead deck. This bulkhead shall be fitted not less than 5 per cent of the length of the ship, and not more than 3.05 metres (10 feet) plus 5 per cent of the length of the ship from the forward perpendicular.
 - (ii) If the ship has a long forward superstructure, the forepeak bulkhead shall be extended weathertight to the deck next above the bulkhead deck. The extension need not be fitted directly over the bulkhead below, provided it is at least 5 per cent of the length of the ship from the forward perpendicular, and the part of the bulkhead deck which forms the step is made effectively weathertight.
- (b) An afterpeak bulkhead, and bulkheads dividing the machinery space, as defined in Regulation 2 of this Chapter, from the cargo and passenger spaces forward and aft, shall also be fitted and made watertight up to the bulkhead deck. The afterpeak bulkhead may, however, be stepped below the bulkhead deck, provided the degree of safety of the ship as regards subdivision is not thereby diminished.
- (c) In all cases stern tubes shall be enclosed in watertight spaces of moderate volume. The stern gland shall be situated in a watertight shaft tunnel or other watertight space separate from the stern tube compartment and of such volume that, if flooded by leakage through the stern gland, the margin line will not be submerged.

Regulation 10*Double Bottoms*

(a) A double bottom shall be fitted extending from the forepeak bulkhead to the afterpeak bulkhead as far as this is practicable and compatible with the design and proper working of the ship.

- (i) In ships 50 metres (165 feet) and under 61 metres (200 feet) in length a double bottom shall be fitted at least from the machinery space to the forepeak bulkhead, or as near thereto as practicable.
- (ii) In ships 61 metres (200 feet) and under 76 metres (249 feet) in length a double bottom shall be fitted at least outside the machinery space, and shall extend to the fore and after peak bulkheads, or as near thereto as practicable.
- (iii) In ships 76 metres (249 feet) in length and upwards, a double bottom shall be fitted amidships, and shall extend to the fore and after peak bulkheads, or as near thereto as practicable.

(b) Where a double bottom is required to be fitted its depth shall be to the satisfaction of the Administration and the inner bottom shall be continued out to the ship's sides in such a manner as to protect the bottom to the turn of the bilge. Such protection will be deemed satisfactory if the line of intersection of the outer edge of the margin plate with the bilge plating is not lower at any part than a horizontal plane passing through the point of intersection with the frame line amidships of a transverse diagonal line inclined at 25 degrees to the base line and cutting it at a point one-half the ship's moulded breadth from the middle line.

(c) Small wells constructed in the double bottom in connexion with drainage arrangements of holds, etc., shall not extend downwards more than necessary. The depth of the well shall in no case be more than the depth less 457 millimetres (18 inches) of the double bottom at the centreline, nor shall the well extend below the horizontal plane referred to in paragraph (b) of this Regulation. A well extending to the outer bottom is, however, permitted at the after end of the shaft tunnel of screw-ships. Other wells (e.g., for lubricating oil under main engines) may be permitted by the Administration if satisfied that the arrangements give protection equivalent to that afforded by a double bottom complying with this Regulation.

(d) A double bottom need not be fitted in way of watertight compartments of moderate size used exclusively for the carriage of liquids, provided the safety of the ship, in the event of bottom or side damage, is not, in the opinion of the Administration, thereby impaired.

(e) In the case of ships to which the provisions of paragraph (d) of Regulation 1 of this Chapter apply and which are engaged on regular service within the limits of a short international voyage as defined in Regulation 2 of Chapter III, the Administration may permit a double bottom to be dispensed with in any part of the ship which is subdivided by a factor not exceeding .50, if satisfied that the fitting of a double bottom in that part would not be compatible with the design and proper working of the ship.

Regulation 11*Assigning, Marking and Recording of Subdivision Load Lines*

- (a) In order that the required degree of subdivision shall be maintained, a load line corresponding to the approved subdivision draught shall be assigned and marked on the ship's sides. A ship having spaces which are specially adapted for the accommodation of passengers and the carriage of cargo alternatively may, if the owners desire, have one or more additional load lines assigned and marked to correspond with the subdivision draughts which the Administration may approve for the alternative service conditions.
- (b) The subdivision load lines assigned and marked shall be recorded in the Passenger Ship Safety Certificate, and shall be distinguished by the notation C.1 for the principal passenger condition, and C.2, C.3, etc., for the alternative conditions.
- (c) The freeboard corresponding to each of these load lines shall be measured at the same position and from the same deck line as the freeboards determined in accordance with the International Convention respecting Load Lines in force.
- (d) The freeboard corresponding to each approved subdivision load line and the conditions of service for which it is approved, shall be clearly indicated on the Passenger Ship Safety Certificate.
- (e) In no case shall any subdivision load line mark be placed above the deepest load line in salt water as determined by the strength of the ship and/or the International Convention respecting Load Lines in force.
- (f) Whatever may be the position of the subdivision load line marks, a ship shall in no case be loaded so as to submerge the load line mark appropriate to the season and locality as determined in accordance with the International Convention respecting Load Lines in force.
- (g) A ship shall in no case be so loaded that when she is in salt water the subdivision load line mark appropriate to the particular voyage and condition of service is submerged.

Regulation 12*Construction and Initial Testing of Watertight Bulkheads, etc.*

- (a) Each watertight subdivision bulkhead, whether transverse or longitudinal, shall be constructed in such a manner that it shall be capable of supporting, with a proper margin of resistance, the pressure due to the maximum head of water which it might have to sustain in the event of damage to the ship but at least the pressure due to a head of water up to the margin line. The construction of these bulkheads shall be to the satisfaction of the Administration.
- (b) (i) Steps and recesses in bulkheads shall be watertight and as strong as the bulkhead at the place where each occurs.

- (ii) Where frames or beams pass through a watertight deck or bulkhead, such deck or bulkhead shall be made structurally watertight without the use of wood or cement.
- (c) Testing main compartments by filling them with water is not compulsory. When testing by filling with water is not carried out, a hose test is compulsory; this test shall be carried out in the most advanced stage of the fitting out of the ship. In any case, a thorough inspection of the watertight bulkheads shall be carried out.
- (d) The forepeak, double bottoms (including duct keels) and inner skins shall be tested with water to a head corresponding to the requirements of paragraph (a) of this Regulation.
- (e) Tanks which are intended to hold liquids, and which form part of the subdivision of the ship, shall be tested for tightness with water to a head up to the deepest subdivision load line or to a head corresponding to two-thirds of the depth from the top of keel to the margin line in way of the tanks, whichever is the greater; provided that in no case shall the test head be less than 0.92 metres (3 feet) above the top of the tank.
- (f) The tests referred to in paragraphs (d) and (e) of this Regulation are for the purpose of ensuring that the subdivision structural arrangements are watertight and are not to be regarded as a test of the fitness of any compartment for the storage of oil fuel or for other special purposes for which a test of a superior character may be required depending on the height to which the liquid has access in the tank or its connexions.

Regulation 13

Openings in Watertight Bulkheads

- (a) The number of openings in watertight bulkheads shall be reduced to the minimum compatible with the design and proper working of the ship; satisfactory means shall be provided for closing these openings.
- (b)
 - (i) Where pipes, scuppers, electric cables, etc. are carried through watertight subdivision bulkheads, arrangements shall be made to ensure the integrity of the watertightness of the bulkheads.
 - (ii) Valves and cocks not forming part of a piping system shall not be permitted in watertight subdivision bulkheads.
 - (iii) Lead or other heat sensitive materials shall not be used in systems which penetrate watertight subdivision bulkheads, where deterioration of such systems in the event of fire would impair the watertight integrity of the bulkheads.
- (c)
 - (i) No doors, manholes, or access openings are permitted:
 - (1) in the collision bulkhead below the margin line;
 - (2) in watertight transverse bulkheads dividing a cargo space from an adjoining cargo space or from a permanent or reserve bunker, except as provided in paragraph (1) of this Regulation.

- (ii) Except as provided in sub-paragraph (iii) of this paragraph, the collision bulkhead may be pierced below the margin line by not more than one pipe for dealing with fluid in the forepeak tank, provided that the pipe is fitted with a screwdown valve capable of being operated from above the bulkhead deck, the valve chest being secured inside the forepeak to the collision bulkhead.
 - (iii) If the forepeak is divided to hold two different kinds of liquids the Administration may allow the collision bulkhead to be pierced below the margin line by two pipes, each of which is fitted as required by sub-paragraph (ii) of this paragraph, provided the Administration is satisfied that there is no practical alternative to the fitting of such a second pipe and that, having regard to the additional subdivision provided in the forepeak, the safety of the ship is maintained.
- (d)
- (i) Watertight doors fitted in bulkheads between permanent and reserve bunkers shall be always accessible, except as provided in sub-paragraph (ii) of paragraph (k) of this Regulation for between deck bunker doors.
 - (ii) Satisfactory arrangements shall be made by means of screens or otherwise to prevent the coal from interfering with the closing of watertight bunker doors.
- (e) Within spaces containing the main and auxiliary propelling machinery including boilers serving the needs of propulsion and all permanent bunkers, not more than one door apart from the doors to bunkers and shaft tunnels may be fitted in each main transverse bulkhead. Where two or more shafts are fitted the tunnels shall be connected by an inter-communicating passage. There shall be only one door between the machinery space and the tunnel spaces where two shafts are fitted and only two doors where there are more than two shafts. All these doors shall be of the sliding type and shall be located so as to have their sills as high as practicable. The hand gear for operating these doors from above the bulkhead deck shall be situated outside the spaces containing the machinery if this is consistent with a satisfactory arrangement of the necessary gearing.
- (f)
- (i) Watertight doors shall be sliding doors or hinged doors or doors of an equivalent type. Plate doors secured only by bolts and doors required to be closed by dropping or by the action of a dropping weight are not permitted.
 - (ii) Sliding doors may be either:
hand-operated only, or
power-operated as well as hand-operated.
 - (iii) Authorized watertight doors may therefore be divided into three Classes:
Class 1 – hinged doors;
Class 2 – hand-operated sliding doors;
Class 3 – sliding doors which are power-operated as well as hand-operated.

- (iv) The means of operation of any watertight door whether power-operated or not shall be capable of closing the door with the ship listed to 15 degrees either way.
 - (v) In all classes of watertight doors indicators shall be fitted which show, at all operating stations from which the doors are not visible, whether the doors are open or closed. If any of the watertight doors, of whatever Class, is not fitted so as to enable it to be closed from a central control station, it shall be provided with a mechanical, electrical, telephonic, or any other suitable direct means of communication, enabling the officer of the watch promptly to contact the person who is responsible for closing the door in question, under previous orders.
- (g) Hinged doors (Class 1) shall be fitted with quick action closing devices, such as catches, workable from each side of the bulkhead.
- (h) Hand-operated sliding doors (Class 2) may have a horizontal or vertical motion. It shall be possible to operate the mechanism at the door itself from either side, and in addition, from an accessible position above the bulkhead deck, with an all round crank motion, or some other movement providing the same guarantee of safety and of an approved type. Departures from the requirement of operation on both sides may be allowed, if this requirement is impossible owing to the layout of the spaces. When operating a hand gear the time necessary for the complete closure of the door with the vessel upright, shall not exceed 90 seconds.
- (i) (i) Power-operated sliding doors (Class 3) may have a vertical or horizontal motion. If a door is required to be power-operated from a central control, the gearing shall be so arranged that the door can be operated by power also at the door itself from both sides. The arrangement shall be such that the door will close automatically if opened by local control after being closed from the central control, and also such that any door can be kept closed by local systems which will prevent the door from being opened from the upper control. Local control handles in connexion with the power gear shall be provided each side of the bulkhead and shall be so arranged as to enable persons passing through the doorway to hold both handles in the open position without being able to set the closing mechanism in operation accidentally. Power-operated sliding doors shall be provided with hand gear workable at the door itself on either side and from an accessible position above the bulkhead deck, with an all round crank motion or some other movement providing the same guarantee of safety and of an approved type. Provision shall be made to give warnings by sound signal that the door has begun to close and will continue to move until it is completely closed. The door shall take a sufficient time to close to ensure safety.
 - (ii) There shall be at least two independent power sources capable of opening and closing all the doors under control, each of them capable of operating all the doors simultaneously. The two power sources shall be controlled from the central station on the bridge provided with all the necessary indicators for checking that each of the two power sources is capable of giving the required service satisfactorily.

- (iii) In the case of hydraulic operation, each power source shall consist of a pump capable of closing all doors in not more than 60 seconds. In addition, there shall be for the whole installation hydraulic accumulators of sufficient capacity to operate all the doors at least three times, i.e., closed-open-closed. The fluid used shall be one which does not freeze at any of the temperatures liable to be encountered by the ship during its service.

- (j) (i) Hinged watertight doors (Class 1) in passenger, crew and working spaces are only permitted above a deck the underside of which, at its lowest point at side, is at least 2.13 metres (7 feet) above the deepest subdivision load line.
- (ii) Watertight doors, the sills of which are above the deepest load line and below the line specified in the preceding sub-paragraph shall be sliding doors and may be hand-operated (Class 2), except in vessels engaged on short international voyages and required to have a factor of subdivision of .50 or less in which all such doors shall be power-operated. When trunkways in connexion with refrigerated cargo and ventilation or forced draught ducts are carried through more than one main watertight subdivision bulkhead, the doors at such openings shall be operated by power.

- (k) (i) Watertight doors which may sometimes be opened at sea, and the sills of which are below the deepest subdivision load line shall be sliding doors. The following rules shall apply:
 - (1) when the number of such doors (excluding doors at entrances to shaft tunnels) exceeds five, all of these doors and those at the entrance to shaft tunnels or ventilation or forced draught ducts, shall be power-operated (Class 3) and shall be capable of being simultaneously closed from a central station situated on the bridge;
 - (2) when the number of such doors (excluding doors at entrances to shaft tunnels) is greater than one, but does not exceed five,
 - (a) where the ship has no passenger spaces below the bulkhead deck, all the above-mentioned doors may be hand-operated (Class 2);
 - (b) where the ship has passenger spaces below the bulkhead deck all the above-mentioned doors shall be power-operated (Class 3) and shall be capable of being simultaneously closed from a central station situated on the bridge;
 - (3) in any ship where there are only two such watertight doors and they are into or within the space containing machinery, the Administration may allow these two doors to be hand-operated only (Class 2).
- (ii) If sliding watertight doors which have sometimes to be open at sea for the purpose of trimming coal are fitted between bunkers in the between decks below the bulkhead deck, these doors shall be operated by power. The opening and closing of these doors shall be recorded in such log book as may be prescribed by the Administration.

- (l) (i) If the Administration is satisfied that such doors are essential, watertight doors of satisfactory construction may be fitted in watertight bulkheads dividing cargo between deck spaces. Such doors may be hinged, rolling or sliding doors but shall not be remotely controlled. They shall be fitted at the highest level and as far from the shell plating as practicable, but in no case shall the outboard vertical edges be situated at a distance from the shell plating which is less than one-fifth of the breadth of the ship, as defined in Regulation 2 of this Chapter, such distance being measured at right angles to the centre line of the ship at the level of the deepest subdivision load line.
 - (ii) Such doors shall be closed before the voyage commences and shall be kept closed during navigation; and the time of opening such doors in port and of closing them before the ship leaves port shall be entered in the log book. Should any of the doors be accessible during the voyage, they shall be fitted with a device which prevents unauthorized opening. When it is proposed to fit such doors, the number and arrangements shall receive the special consideration of the Administration.
- (m) Portable plates on bulkheads shall not be permitted except in machinery spaces. Such plates shall always be in place before the ship leaves port, and shall not be removed during navigation except in case of urgent necessity. The necessary precautions shall be taken in replacing them to ensure that the joints shall be watertight.
- (n) All watertight doors shall be kept closed during navigation except when necessarily opened for the working of the ship, and shall always be ready to be immediately closed.
- (o) (i) Where trunkways or tunnels for access from crew accommodation to the stokehold, for piping, or for any other purpose are carried through main transverse watertight bulkheads, they shall be watertight and in accordance with the requirements of Regulation 16 of this Chapter. The access to at least one end of each such tunnel or trunkway, if used as a passage at sea, shall be through a trunk extending watertight to a height sufficient to permit access above the margin line. The access to the other end of the trunkway or tunnel may be through a watertight door of the type required by its location in the ship. Such trunkways or tunnels shall not extend through the first subdivision bulkhead abaft the collision bulkhead.
 - (ii) Where it is proposed to fit tunnels or trunkways for forced draught, piercing main transverse watertight bulkheads, these shall receive the special consideration of the Administration.

Regulation 14

Openings in the Shell Plating below the Margin Line

- (a) The number of openings in the shell plating shall be reduced to the minimum compatible with the design and proper working of the ship.

(b) The arrangement and efficiency of the means for closing any opening in the shell plating shall be consistent with its intended purpose and the position in which it is fitted and generally to the satisfaction of the Administration.

(c) (i) If in a between decks, the sills of any sidescuttles are below a line drawn parallel to the bulkhead deck at side and having its lowest point $2\frac{1}{2}$ per cent of the breadth of the ship above the deepest subdivision load line, all sidescuttles in that between deck shall be of the non-opening type.

(ii) All sidescuttles the sills of which are below the margin line, other than those required to be of a non-opening type by sub-paragraph (i) of this paragraph, shall be of such construction as will effectively prevent any person opening them without the consent of the master of the ship.

(iii) (1) Where in a between decks, the sills of any of the sidescuttles referred to in sub-paragraph (ii) of this paragraph are below a line drawn parallel to the bulkhead deck at side and having its lowest point 1.37 metres ($4\frac{1}{2}$ feet) plus $2\frac{1}{2}$ per cent of the breadth of the ship above the water when the ship departs from any port, all the sidescuttles in that between decks shall be closed watertight and locked before the ship leaves port, and they shall not be opened before the ship arrives at the next port. In the application of this sub-paragraph the appropriate allowance for fresh water may be made when applicable.

(2) The time of opening such sidescuttles in port and of closing and locking them before the ship leaves port shall be entered in such log book as may be prescribed by the Administration.

(3) For any ship that has one or more sidescuttles so placed that the requirements of clause (1) of this sub-paragraph would apply when she was floating at her deepest subdivision load line, the Administration may indicate the limiting mean draught at which these sidescuttles will have their sills above the line drawn parallel to the bulkhead deck at side, and having its lowest point 1.37 metres ($4\frac{1}{2}$ feet) plus $2\frac{1}{2}$ per cent of the breadth of the ship above the water-line corresponding to the limiting mean draught, and at which it will therefore be permissible to depart from port without previously closing and locking them and to open them at sea on the responsibility of the master during the voyage to the next port. In tropical zones as defined in the International Convention respecting Load Lines in force, this limiting draught may be increased by 0.305 metres (1 foot).

(d) Efficient hinged inside deadlights arranged so that they can be easily and effectively closed and secured watertight shall be fitted to all sidescuttles except that abaft one-eighth of the ship's length from the forward perpendicular and above a line drawn parallel to the bulkhead deck at side and having its lowest point at a height of 3.66 metres (12 feet) plus $2\frac{1}{2}$ per cent of the breadth of the ship above the deepest subdivision load line, the deadlights may be portable in passenger accommodation other than that for steerage passengers, unless the deadlights are required by the International Convention respecting Load Lines in force to be permanently attached in their proper positions. Such portable deadlights shall be stowed adjacent to the sidescuttles they serve.

- (e) Sidescuttles and their deadlights, which will not be accessible during navigation, shall be closed and secured before the ship leaves port.
- (f) (i) No sidescuttles shall be fitted in any spaces which are appropriated exclusively to the carriage of cargo or coal.
- (ii) Sidescuttles may, however, be fitted in spaces appropriated alternatively to the carriage of cargo or passengers, but they shall be of such construction as will effectively prevent any person opening them or their deadlights without the consent of the master of the ship.
- (iii) If cargo is carried in such spaces, the sidescuttles and their deadlights shall be closed watertight and locked before the cargo is shipped and such closing and locking shall be recorded in such log book as may be prescribed by the Administration.
- (g) Automatic ventilating sidescuttles shall not be fitted in the shell plating below the margin line without the special sanction of the Administration.
- (h) The number of scuppers, sanitary discharges and other similar openings in the shell plating shall be reduced to the minimum either by making each discharge serve for as many as possible of the sanitary and other pipes, or in any other satisfactory manner.
- (i) (i) All inlets and discharges in the shell plating shall be fitted with efficient and accessible arrangements for preventing the accidental admission of water into the ship. Lead or other heat sensitive materials shall not be used for pipes fitted outboard of shell valves in inlets or discharges, or any other application where the deterioration of such pipes in the event of fire would give rise to danger of flooding.
- (ii) (1) Except as provided in sub-paragraph (iii) of this paragraph, each separate discharge led through the shell plating from spaces below the margin line shall be provided either with one automatic non-return valve fitted with a positive means of closing it from above the bulkhead deck, or, alternatively, with two automatic non-return valves without such means, the upper of which is so situated above the deepest subdivision load line as to be always accessible for examination under service conditions, and is of a type which is normally closed.
- (2) Where a valve with positive means of closing is fitted, the operating position above the bulkhead deck shall always be readily accessible, and means shall be provided for indicating whether the valve is open or closed.
- (iii) Main and auxiliary sea inlets and discharges in connexion with machinery shall be fitted with readily accessible cocks or valves between the pipes and shell plating or between the pipes and fabricated boxes attached to the shell plating.
- (j) (i) Gangway, cargo and coaling ports fitted below the margin line shall be of sufficient strength. They shall be effectively closed and secured watertight before the ship leaves port, and shall be kept closed during navigation.

- (ii) Such ports shall be in no case fitted so as to have their lowest point below the deepest subdivision load line.
- (k) (i) The inboard opening of each ash-shoot, rubbish-shoot, etc. shall be fitted with an efficient cover.
- (ii) If the inboard opening is situated below the margin line, the cover shall be watertight, and in addition an automatic non-return valve shall be fitted in the shoot in an easily accessible position above the deepest subdivision load line. When the shoot is not in use both the cover and the valve shall be kept closed and secured.

Regulation 15

Construction and Initial Tests of Watertight Doors, Sidescuttles, etc.

- (a) (i) The design, materials and construction of all watertight doors, sidescuttles, gangway, cargo and coaling ports, valves, pipes, ash-shoots and rubbish-shoots referred to in these Regulations shall be to the satisfaction of the Administration.
- (ii) The frames of vertical watertight doors shall have no groove at the bottom in which dirt might lodge and prevent the door closing properly.
- (iii) All cocks and valves for sea inlets and discharges below the bulkhead deck and all fittings outboard of such cocks and valves shall be made of steel, bronze or other approved ductile material. Ordinary cast iron or similar materials shall not be used.
- (b) Each watertight door shall be tested by water pressure to a head up to the bulkhead deck. The test shall be made before the ship is put in service, either before or after the door is fitted.

Regulation 16

Construction and Initial Tests of Watertight Decks, Trunks, etc.

- (a) Watertight decks, trunks, tunnels, duct keels and ventilators shall be of the same strength as watertight bulkheads at corresponding levels. The means used for making them watertight, and the arrangements adopted for closing openings in them, shall be to the satisfaction of the Administration. Watertight ventilators and trunks shall be carried at least up to the bulkhead deck.
- (b) After completion, a hose or flooding test shall be applied to watertight decks and a hose test to watertight trunks, tunnels and ventilators.

Regulation 17

Watertight Integrity above the Margin Line

- (a) The Administration may require that all reasonable and practicable measures shall be taken to limit the entry and spread of water above the bulkhead deck. Such measures may include partial bulkheads or webs. When partial watertight bulkheads and webs are fitted on the bulkhead deck, above or in the

immediate vicinity of main subdivision bulkheads, they shall have watertight shell and bulkhead deck connexions so as to restrict the flow of water along the deck when the ship is in a heeled damaged condition. Where the partial watertight bulkhead does not line up with the bulkhead below, the bulkhead deck between shall be made effectively watertight.

(b) The bulkhead deck or a deck above it shall be weathertight in the sense that in ordinary sea conditions water will not penetrate in a downward direction. All openings in the exposed weather deck shall have coamings of ample height and strength and shall be provided with efficient means for expeditiously closing them weathertight. Freeing ports, open rails and/or scuppers shall be fitted as necessary for rapidly clearing the weather deck of water under all weather conditions.

(c) Sidescuttles, gangway, cargo and coaling ports and other means for closing openings in the shell plating above the margin line shall be of efficient design and construction and of sufficient strength having regard to the spaces in which they are fitted and their positions relative to the deepest subdivision load line.

(d) Efficient inside deadlights, arranged so that they can be easily and effectively closed and secured watertight, shall be provided for all sidescuttles to spaces below the first deck above the bulkhead deck.

Regulation 18

Bilge Pumping Arrangements in Passenger Ships

(a) Ships shall be provided with an efficient bilge pumping plant capable of pumping from and draining any watertight compartment which is neither a permanent oil compartment nor a permanent water compartment under all practicable conditions after a casualty whether the ship is upright or listed. For this purpose wing suction will generally be necessary except in narrow compartments at the ends of the ship, where one suction may be sufficient. In compartments of unusual form, additional suction may be required. Arrangements shall be made whereby water in the compartment may find its way to the suction pipes. Where in relation to particular compartments the Administration is satisfied that the provision of drainage may be undesirable, it may allow such provision to be dispensed with if calculations made in accordance with the conditions laid down in paragraph (b) of Regulation 7 of this Chapter show that the safety of the ship will not be impaired. Efficient means shall be provided for draining water from insulated holds.

(b) (i) Ships shall have at least three power pumps connected to the bilge main, one of which may be attached to the propelling unit. Where the criterion numeral is 30 or more, one additional independent power pump shall be provided.

(ii) The requirements are summarized in the following table:

Criterion numeral	Less than 30	30 and over
Main engine pump (may be replaced by one independent pump)	1	1
Independent pumps	2	3

- (iii) Sanitary, ballast and general service pumps may be accepted as independent power bilge pumps if fitted with the necessary connexions to the bilge pumping system.
- (c) Where practicable, the power bilge pumps shall be placed in separate watertight compartments so arranged or situated that these compartments will not readily be flooded by the same damage. If the engines and boilers are in two or more watertight compartments, the pumps available for bilge service shall be distributed throughout these compartments as far as is possible.
- (d) On ships 91.5 metres (300 feet) or more in length or having a criterion numeral of 30 or more, the arrangements shall be such that at least one power pump shall be available for use in all ordinary circumstances in which a ship may be flooded at sea. This requirement will be satisfied if:
- (i) one of the required pumps is an emergency pump of a reliable submersible type having a source of power situated above the bulkhead deck; or
 - (ii) the pumps and their sources of power are so disposed throughout the length of the ship that under any condition of flooding which the ship is required to withstand, at least one pump in an undamaged compartment will be available.
- (e) With the exception of additional pumps which may be provided for peak compartments only, each required bilge pump shall be arranged to draw water from any space required to be drained by paragraph (a) of this Regulation.
- (f) (i) Each power bilge pump shall be capable of giving a speed of water through the required main bilge pipe of not less than 122 metres (400 feet) per minute. Independent power bilge pumps situated in machinery spaces shall have direct suction from these spaces, except that not more than two such suction shall be required in any one space. Where two or more such suction are provided there shall be at least one on the port side and one on the starboard side. The Administration may require independent power bilge pumps situated in other spaces to have separate direct suction. Direct suction shall be suitably arranged and those in a machinery space shall be of a diameter not less than that required for the bilge main.
- (ii) In coal-burning ships there shall be provided in the stokehold, in addition to the other suction required by this Regulation, a flexible suction hose of suitable diameter and sufficient length, capable of being connected to the suction side of an independent power pump.
- (g) (i) In addition to the direct bilge suction or suction required by paragraph (f) of this Regulation there shall be in the machinery space a direct suction from the main circulating pump leading to the drainage level of the machinery space and fitted with a non-return valve. The diameter of this direct suction pipe shall be at least two-thirds of the diameter of the pump inlet in the case of steamships, and of the same diameter as the pump inlet in the case of motorships.
- (ii) Where in the opinion of the Administration the main circulating pump is not suitable for this purpose, a direct emergency bilge suction shall be led from the largest available independent power

driven pump to the drainage level of the machinery space; the suction shall be of the same diameter as the main inlet of the pump used. The capacity of the pump so connected shall exceed that of a required bilge pump by an amount satisfactory to the Administration.

- (iii) The spindles of the sea inlet and direct suction valves shall extend well above the engine room platform.
- (iv) Where the fuel is, or may be, coal and there is no watertight bulkhead between the engines and the boilers, a direct discharge overboard or alternatively a by-pass to the circulating pump discharge, shall be fitted from any circulating pump used in compliance with subparagraph (i) of this paragraph.
- (h) (i) All pipes from the pumps which are required for draining cargo or machinery spaces shall be entirely distinct from pipes which may be used for filling or emptying spaces where water or oil is carried.
- (ii) All bilge pipes used in or under coal bunkers or fuel storage tanks or in boiler or machinery spaces, including spaces in which oil-settling tanks or oil fuel pumping units are situated, shall be of steel or other approved material.
- (i) The diameter of the bilge main shall be calculated according to the following formulae provided that the actual internal diameter of the bilge main may be of the nearest standard size acceptable to the Administration:

$$d = 1.68\sqrt{L(B + D)} + 25$$

where: d = internal diameter of the bilge main in millimetres,
 L and B are the length and the breadth of the ship in metres, as defined in Regulation 2 of this Chapter, and
 D = moulded depth of the ship to bulkhead deck in metres;

or

$$d = \sqrt{\frac{L(B + D)}{2,500}} + 1$$

where: d = internal diameter of the bilge main in inches,
 L and B are the length and the breadth of the ship in feet, as defined in Regulation 2 of this Chapter, and
 D = moulded depth of the ship to bulkhead deck in feet.

The diameter of the bilge branch pipes shall be determined by rules to be made by the Administration.

(j) The arrangement of the bilge and ballast pumping system shall be such as to prevent the possibility of water passing from the sea and from water ballast spaces into the cargo and machinery spaces, or from one compartment to another. Special provision shall be made to prevent any deep tank having bilge and ballast connexions being inadvertently run up from the sea when containing cargo, or pumped out through a bilge pipe when containing water ballast.

(k) Provision shall be made to prevent the compartment served by any bilge suction pipe being flooded in the event of the pipe being severed, or otherwise damaged by collision or grounding in any other compartment. For this purpose, where the pipe is at any part situated nearer the side of the ship than one-fifth the breadth of the ship (measured at right angles to the centre line at the level of the

deepest subdivision load line), or in a duct keel, a non-return valve shall be fitted to the pipe in the compartment containing the open end.

(l) All the distribution boxes, cocks and valves in connexion with the bilge pumping arrangements shall be in positions which are accessible at all times under ordinary circumstances. They shall be so arranged that, in the event of flooding, one of the bilge pumps may be operative on any compartment; in addition, damage to a pump or its pipe connecting to the bilge main outboard of a line drawn at one-fifth of the breadth of the ship shall not put the bilge system out of action. If there is only one system of pipes common to all the pumps, the necessary cocks or valves for controlling the bilge suctions must be capable of being operated from above the bulkhead deck. Where in addition to the main bilge pumping system an emergency bilge pumping system is provided, it shall be independent of the main system and so arranged that a pump is capable of operating on any compartment under flooding conditions; in that case only the cocks and valves necessary for the operation of the emergency system need be capable of being operated from above the bulkhead deck.

(m) All cocks and valves mentioned in paragraph (l) of this Regulation which can be operated from above the bulkhead deck shall have their controls at their place of operation clearly marked and provided with means to indicate whether they are open or closed.

Regulation 19

*Stability Information for Passenger Ships and Cargo Ships**

(a) Every passenger ship and cargo ship shall be inclined upon its completion and the elements of its stability determined. The master shall be supplied with such reliable information as is necessary to enable him by rapid and simple processes to obtain accurate guidance as to the stability of the ship under varying conditions of service, and a copy shall be furnished to the Administration.

(b) Where any alterations are made to a ship so as to materially affect the stability information supplied to the master, amended stability information shall be provided. If necessary the ship shall be re-inclined.

(c) The Administration may allow the inclining test of an individual ship to be dispensed with provided basic stability data are available from the inclining test of a sister ship and it is shown to the satisfaction of the Administration that reliable stability information for the exempted ship can be obtained from such basic data.

(d) The Administration may also allow the inclining test of an individual ship or class of ships, especially designed for the carriage of liquids or ore in bulk, to be dispensed with when reference to existing data for similar ships clearly indicates that due to the ship's proportions and arrangements more than sufficient metacentric height will be available in all probable loading conditions.

* Reference is made to the Recommendation on Intact Stability for Passenger and Cargo Ships under 100 metres in length, adopted by the Organization by Resolution A.167 (ES.IV) and Amendments to this Recommendation, adopted by the Organization by Resolution A.206(VII).

Regulation 20*Damage Control Plans*

There shall be permanently exhibited, for the guidance of the officer in charge of the ship, plans showing clearly for each deck and hold the boundaries of the watertight compartments, the openings therein with the means of closure and position of any controls thereof, and the arrangements for the correction of any list due to flooding. In addition, booklets containing the aforementioned information shall be made available to the officers of the ship.

Regulation 21*Marking, Periodical Operation and Inspection of Watertight Doors, etc.*

- (a) This Regulation applies to new and existing ships.
- (b) Drills for the operating of watertight doors, sidescuttles, valves and closing mechanisms of scuppers, ash-shoots and rubbish-shoots shall take place weekly. In ships in which the voyage exceeds one week in duration a complete drill shall be held before leaving port, and others thereafter at least once a week during the voyage. In all ships all watertight power doors and hinged doors, in main transverse bulkheads, in use at sea, shall be operated daily.
- (c)
 - (i) The watertight doors and all mechanisms and indicators connected therewith, all valves the closing of which is necessary to make a compartment watertight, and all valves the operation of which is necessary for damage control cross connexions shall be periodically inspected at sea at least once a week.
 - (ii) Such valves, doors and mechanisms shall be suitably marked to ensure that they may be properly used to provide maximum safety.

Regulation 22*Entries in Log*

- (a) This Regulation applies to new and existing ships.
- (b) Hinged doors, portable plates, sidescuttles, gangway, cargo and coaling ports and other openings, which are required by these Regulations to be kept closed during navigation, shall be closed before the ship leaves port. The time of closing and the time of opening (if permissible under these Regulations) shall be recorded in such log book as may be prescribed by the Administration.
- (c) A record of all drills and inspections required by Regulation 21 of this Chapter shall be entered in the log book with an explicit record of any defects which may be disclosed.

PART C – MACHINERY AND ELECTRICAL INSTALLATIONS***(Part C applies to passenger ships and cargo ships)****Regulation 23***General*

- (a) Electrical installations in passenger ships shall be such that:
- (i) services essential for safety will be maintained under various emergency conditions; and
 - (ii) the safety of passengers, crew and ship from electrical hazards will be assured.
- (b) Cargo ships shall comply with Regulations 26, 27, 28, 29, 30 and 32 of this Chapter.

Regulation 24*Main Source of Electrical Power in Passenger Ships*

- (a) Every passenger ship, the electrical power of which constitutes the only means of maintaining the auxiliary services indispensable for the propulsion and the safety of the ship, shall be provided with at least two main generating sets. The power of these sets shall be such that it shall still be possible to ensure the functioning of the services referred to in sub-paragraph (a)(i) of Regulation 23 of this Chapter in the event of any one of these generating sets being stopped.
- (b) In a passenger ship where there is only one main generating station, the main switchboard shall be located in the same main fire zone. Where there is more than one main generating station, it is permissible to have only one main switchboard.

Regulation 25*Emergency Source of Electrical Power in Passenger Ships*

- (a) There shall be above the bulkhead deck and outside the machinery casings a self-contained emergency source of electrical power. Its location in relation to the main source or sources of electrical power shall be such as to ensure to the satisfaction of the Administration that a fire or other casualty to the machinery space as defined in paragraph (h) of Regulation 2 of this Chapter will not interfere with the supply or distribution of emergency power. It shall not be forward of the collision bulkhead.
- (b) The power available shall be sufficient to supply all those services that are, in the opinion of the Administration, necessary for the safety of the passengers

* Reference is made to the Recommendation on Safety Measures for Periodically Unattended Machinery Spaces of Cargo Ships additional to those normally considered necessary for an Attended Machinery Space, adopted by the Organization by Resolution A.211(VII).

and the crew in an emergency, due regard being paid to such services as may have to be operated simultaneously. Special consideration shall be given to emergency lighting at every boat station on deck and oversides, in all alleyways, stairways and exits, in the machinery spaces and in the control stations as defined in paragraph (r) of Regulation 3 of Chapter II-2, to the sprinkler pump, to navigation lights, and to the daylight signalling lamp if operated from the main source of power. The power shall be adequate for a period of 36 hours, except that, in the case of ships engaged regularly on voyages of short duration, the Administration may accept a lesser supply if satisfied that the same standard of safety would be attained.

- (c) The emergency source of power may be either:
- (i) a generator driven by a suitable prime-mover with an independent fuel supply and with approved starting arrangements; the fuel used shall have a flashpoint of not less than 43°C (110°F); or
 - (ii) an accumulator (storage) battery capable of carrying the emergency load without recharging or excessive voltage drop.
- (d) (i) Where the emergency source of power is a generator there shall be provided a temporary source of emergency power consisting of an accumulator battery of sufficient capacity:
- (1) to supply emergency lighting continuously for half an hour;
 - (2) to close the watertight doors (if electrically operated) but not necessarily to close them all simultaneously;
 - (3) to operate the indicators (if electrically operated) which show whether power-operated watertight doors are open or closed; and
 - (4) to operate the sound signals (if electrically operated) which give warning that power-operated watertight doors are about to close.
- The arrangements shall be such that the temporary source of emergency power will come into operation automatically in the event of failure of the main electrical supply.
- (ii) Where the emergency source of power is an accumulator battery, arrangements shall be made to ensure that emergency lighting will automatically come into operation in the event of failure of the main lighting supply.
- (e) An indicator shall be mounted in the machinery space, preferably on the main switchboard, to indicate when any accumulator battery fitted in accordance with this Regulation is being discharged.
- (f) (i) The emergency switchboard shall be installed as near as is practicable to the emergency source of power.
- (ii) Where the emergency source of power is a generator, the emergency switchboard shall be located in the same space as the emergency source of power, unless the operation of the emergency switchboard would thereby be impaired.

- (iii) No accumulator battery fitted in accordance with this Regulation shall be installed in the same space as the emergency switchboard.
 - (iv) The Administration may permit the emergency switchboard to be supplied from the main switchboard in normal operation.
- (g) Arrangements shall be such that the complete emergency installation will function when the ship is inclined $22\frac{1}{2}$ degrees and/or when the trim of the ship is 10 degrees.
- (h) Provision shall be made for the periodic testing of the emergency source of power and the temporary source of power, if provided, which shall include the testing of automatic arrangements.

Regulation 26

Emergency Source of Electrical Power in Cargo Ships

- (a) *Cargo ships of 5,000 Tons Gross Tonnage and upwards*
- (i) In cargo ships of 5,000 tons gross tonnage and upwards there shall be a self-contained emergency source of power, located to the satisfaction of the Administration above the uppermost continuous deck and outside the machinery casings, to ensure its functioning in the event of fire or other casualty causing failure to the main electrical installation.
 - (ii) The power available shall be sufficient to supply all those services which are, in the opinion of the Administration, necessary for the safety of all on board in an emergency, due regard being paid to such services as may have to be operated simultaneously. Special consideration shall be given to:
 - (1) emergency lighting at every boat station on deck and oversides, in all alleyways, stairways and exits, in the main machinery space and main generating set space, on the navigating bridge and in the chartroom;
 - (2) the general alarm; and
 - (3) navigation lights if solely electric, and the daylight signalling lamp if operated by the main source of electrical power.

The power shall be adequate for a period of 6 hours.
 - (iii) The emergency source of power may be either:
 - (1) an accumulator (storage) battery capable of carrying the emergency load without recharging or excessive voltage drop; or
 - (2) a generator driven by a suitable prime-mover with an independent fuel supply and with starting arrangements to the satisfaction of the Administration. The fuel used shall have a flashpoint of not less than 43°C (110°F).
 - (iv) Arrangements shall be such that the complete emergency installation will function when the ship is inclined $22\frac{1}{2}$ degrees and/or when the trim of the ship is 10 degrees.

- (v) Provision shall be made for the periodic testing of the complete emergency installation.
- (b) *Cargo ships of less than 5,000 Tons Gross Tonnage*
 - (i) In cargo ships of less than 5,000 tons gross tonnage there shall be a self-contained emergency source of power located to the satisfaction of the Administration, and capable of supplying the illumination at launching stations and stowage positions of survival craft prescribed in sub-paragraphs (a)(ii), (b)(ii) and (b)(iii) of Regulation 19 of Chapter III, and in addition such other services as the Administration may require, due regard being paid to Regulation 38 of Chapter III.
 - (ii) The power available shall be adequate for a period of at least 3 hours.
 - (iii) These ships shall also be subject to sub-paragraphs (iii), (iv), and (v) of paragraph (a) of this Regulation.

Regulation 27

Precautions against Shock, Fire and other Hazards of Electrical Origin

- (a) *Passenger Ships and Cargo Ships*
 - (i) (1) All exposed metal parts of electrical machines or equipment which are not intended to be "live" but are liable to become "live" under fault conditions, shall be earthed (grounded); and all electrical apparatus shall be so constructed and so installed that danger of injury in ordinary handling shall not exist.
 - (2) Metal frames of all portable electric lamps, tools and similar apparatus, supplied as ship's equipment and rated in excess of a safety voltage to be prescribed by the Administration shall be earthed (grounded) through a suitable conductor, unless equivalent provisions are made such as by double insulation or by an isolating transformer. The Administration may require additional special precautions for electric lamps, tools or similar apparatus for use in damp spaces.
 - (ii) Main and emergency switchboards shall be so arranged as to give easy access back and front, without danger to attendants. The sides and backs and, where necessary, the fronts of switchboards shall be suitably guarded. There shall be non-conducting mats or gratings front and rear where necessary. Exposed current-carrying parts at voltages to earth (ground) exceeding a voltage to be specified by the Administration shall not be installed on the face of any switchboard or control panel.
 - (iii) (1) Where the hull return system of distribution is used, special precautions shall be taken to the satisfaction of the Administration.
 - (2) Hull return shall not be used in tankers.
 - (iv) (1) All metal sheaths and armour of cables shall be electrically continuous and shall be earthed (grounded).

- (2) Where the cables are neither sheathed nor armoured and there might be a risk of fire in the event of an electrical fault, precautions shall be required by the Administration.
- (v) Lighting fittings shall be arranged to prevent temperature rises that would be injurious to the wiring, and to prevent surrounding material from becoming excessively hot.
- (vi) Wiring shall be supported in such a manner as to avoid chafing or other injury.
- (vii) Each separate circuit shall be protected against short circuit. Each separate circuit shall also be protected against overload, except in accordance with Regulation 30 of this Chapter or where the Administration grants an exemption. The current-carrying capacity of each circuit shall be permanently indicated, together with the rating or setting of the appropriate overload protective device.
- (viii) Accumulator batteries shall be suitably housed, and compartments used primarily for their accommodation shall be properly constructed and efficiently ventilated.

(b) *Passenger Ships only*

- (i) Distribution systems shall be so arranged that fire in any main fire zone will not interfere with essential services in any other main fire zone. This requirement will be met if main and emergency feeders passing through any zone are separated both vertically and horizontally as widely as is practicable.
- (ii) Electric cables shall be of a flame retarding type to the satisfaction of the Administration. The Administration may require additional safeguards for electric cables in particular spaces of the ship with a view to the prevention of fire or explosion.
- (iii) In spaces where inflammable mixtures are liable to collect, no electrical equipment shall be installed unless it is of a type which will not ignite the mixture concerned, such as flameproof (explosion proof) equipment.
- (iv) A lighting circuit in a bunker or hold shall be provided with an isolating switch outside the space.
- (v) Joints in all conductors except for low voltage communication circuits shall be made only in junction or outlet boxes. All such boxes or wiring devices shall be so constructed as to prevent the spread of fire from the box or device. Where splicing is employed it shall only be by an approved method such that it retains the original mechanical and electrical properties of the cable.
- (vi) Wiring systems for interior communications essential for safety and for emergency alarm systems shall be arranged to avoid galleys, machinery spaces and other enclosed spaces having a high risk of fire except in so far as it is necessary to provide communication or to give alarm within those spaces. In the case of ships the construction and small size of which do not permit of compliance with these requirements, measures satisfactory to the Administration shall be taken to ensure efficient protection for these wiring systems where

they pass through galleys, machinery spaces and other enclosed spaces having a high risk of fire.

(c) *Cargo Ships only*

Devices liable to arc shall not be installed in any compartment assigned principally to accumulator batteries unless the devices are flameproof (explosion proof).

Regulation 28

Means of Going Astern

(a) *Passenger Ships and Cargo Ships*

Ships shall have sufficient power for going astern to secure proper control of the ship in all normal circumstances.

(b) *Passenger Ships only*

The ability of the machinery to reverse the direction of thrust of the propeller in sufficient time, under normal manoeuvring conditions, and so to bring the ship to rest from maximum ahead service speed shall be demonstrated at the initial survey.

Regulation 29

*Steering Gear**

(a) *Passenger Ships and Cargo Ships*

- (i) Ships shall be provided with a main steering gear and an auxiliary steering gear to the satisfaction of the Administration.
- (ii) The main steering gear shall be of adequate strength and sufficient to steer the ship at maximum service speed. The main steering gear and rudder stock shall be so designed that they are not damaged at maximum astern speed.
- (iii) The auxiliary steering gear shall be of adequate strength and sufficient to steer the ship at navigable speed and capable of being brought speedily into action in an emergency.
- (iv) The exact position of the rudder, if power operated, shall be indicated at the principal steering station.

(b) *Passenger Ships only*

- (i) The main steering gear shall be capable of putting the rudder over from 35 degrees on one side to 35 degrees on the other side with the ship running ahead at maximum service speed. The rudder shall be capable of being put over from 35 degrees on either side to 30 degrees on the other side in 28 seconds at maximum service speed.

* Reference is made to the Recommendation on Steering Gear for Large Ships, adopted by the Organization by Resolution A.210(VII).

- (ii) The auxiliary steering gear shall be operated by power in any case in which the Administration would require a rudder stock of over 228.6 millimetres (9 inches) diameter in way of the tiller.
 - (iii) Where main steering gear power units and their connexions are fitted in duplicate to the satisfaction of the Administration, and each power unit enables the steering gear to meet the requirements of sub-paragraph (i) of this paragraph, no auxiliary steering gear need be required.
 - (iv) Where the Administration would require a rudder stock with a diameter in way of the tiller exceeding 228.6 millimetres (9 inches) there shall be provided an alternative steering station located to the satisfaction of the Administration. The remote steering control systems from the principal and alternative steering stations shall be so arranged to the satisfaction of the Administration that failure of either system would not result in inability to steer the ship by means of the other system.
 - (v) Means satisfactory to the Administration shall be provided to enable orders to be transmitted from the bridge to the alternative steering station.
- (c) *Cargo Ships only*
- (i) The auxiliary steering gear shall be operated by power in any case in which the Administration would require a rudder stock of over 355.6 millimetres (14 inches) diameter in way of the tiller.
 - (ii) Where power-operated steering gear units and connexions are fitted in duplicate to the satisfaction of the Administration, and each unit complies with sub-paragraph (iii) of paragraph (a) of this Regulation, no auxiliary steering gear need be required, provided that the duplicate units and connexions operating together comply with sub-paragraph (ii) of paragraph (a) of this Regulation.

Regulation 30

*Electric and Electrohydraulic Steering Gear**

(a) *Passenger Ships and Cargo Ships*

Indicators for running indication of the motors of electric and electrohydraulic steering gear shall be installed in a suitable location to the satisfaction of the Administration.

(b) *All Passenger Ships (irrespective of tonnage) and Cargo Ships of 5,000 Tons Gross Tonnage and upwards*

- (i) Electric and electrohydraulic steering gear shall be served by two circuits fed from the main switchboard. One of the circuits may pass through the emergency switchboard, if provided. Each circuit shall have adequate capacity for supplying all the motors which are normally connected to it and which operate simultaneously. If

* Reference is made to the Recommendation on Steering Gear for Large Ships, adopted by the Organization by Resolution A.210(VII).

transfer arrangements are provided in the steering gear room to permit either circuit to supply any motor or combination of motors, the capacity of each circuit shall be adequate for the most severe load condition. The circuits shall be separated throughout their length as widely as is practicable.

- (ii) Short circuit protection only shall be provided for these circuits and motors.
- (c) *Cargo Ships of less than 5,000 Tons Gross Tonnage*
- (i) Cargo ships in which electrical power is the sole source of power for both main and auxiliary steering gear shall comply with subparagraphs (i) and (ii) of paragraph (b) of this Regulation, except that if the auxiliary steering gear is powered by a motor primarily intended for other services, paragraph (b)(ii) may be waived, provided that the Administration is satisfied with the protection arrangements.
 - (ii) Short circuit protection only shall be provided for motors and power circuits of electrically or electrohydraulically operated main steering gear.

Regulation 31

Location of Emergency Installations in Passenger Ships

The emergency source of electrical power, emergency fire pumps, emergency bilge pumps, batteries of carbon dioxide bottles for fire extinguishing purposes and other emergency installations which are essential for the safety of the ship shall not be installed in a passenger ship forward of the collision bulkhead.

Regulation 32

Communication between Bridge and Engine Room

Ships shall be fitted with two means of communicating orders from the bridge to the engine room. One means shall be an engine room telegraph.

CHAPTER II-2
CONSTRUCTION – FIRE PROTECTION, FIRE DETECTION
AND FIRE EXTINCTION

PART A – GENERAL*

Regulation 1

Application

- (a) For the purpose of this Chapter:
- (i) A new passenger ship is a passenger ship the keel of which is laid or which is at a similar stage of construction on or after the date of coming into force of the present Convention, or a cargo ship which is converted to a passenger ship on or after that date, all other passenger ships being considered as existing ships.
 - (ii) A new cargo ship is a cargo ship the keel of which is laid or which is at a similar stage of construction on or after the date of coming into force of the present Convention.
 - (iii) A ship which undergoes repairs, alterations, modifications and outfitting related thereto shall continue to comply with at least the requirements previously applicable to the ship. An existing ship in such a case shall not as a rule comply to a lesser extent with the requirements for a new ship than it did before. Repairs, alterations and modifications of a major character and outfitting related thereto should meet the requirements for a new ship in so far as the Administration deems reasonable and practicable.
- (b) Unless expressly provided otherwise:
- (i) Regulations 4 to 16 of Part A of this Chapter apply to new ships.
 - (ii) Part B of this Chapter applies to new passenger ships carrying more than 36 passengers.
 - (iii) Part C of this Chapter applies to new passenger ships carrying not more than 36 passengers.
 - (iv) Part D of this Chapter applies to new cargo ships.
 - (v) Part E of this Chapter applies to new tankers.
- (c) (i) Part F of this Chapter applies to existing passenger ships carrying more than 36 passengers.

* Reference is made to Recommendation on Safety Measures for Periodically Unattended Machinery Spaces of Cargo Ships additional to those normally considered necessary for an Attended Machinery Space, adopted by the Organization by Resolution A.211(VII).

- (ii) Existing passenger ships carrying not more than 36 passengers and existing cargo ships shall comply with the following:
- (1) for ships the keels of which were laid or which were at a similar stage of construction on or after the date of coming into force of the International Convention for the Safety of Life at Sea, 1960, the Administration shall ensure that the requirements which were applied under Chapter II of that Convention to new ships as defined in that Chapter are complied with;
 - (2) for ships the keels of which were laid or which were at a similar stage of construction on or after the date of coming into force of the International Convention for the Safety of Life at Sea, 1948, but before the date of coming into force of the International Convention for the Safety of Life at Sea, 1960, the Administration shall ensure that the requirements which were applied under Chapter II of the 1948 Convention to new ships as defined in that Chapter are complied with;
 - (3) for ships the keels of which were laid or which were at a similar stage of construction before the date of coming into force of the International Convention for the Safety of Life at Sea, 1948, the Administration shall ensure that the requirements which were applied under Chapter II of that Convention to existing ships as defined in that Chapter are complied with.

(d) For any existing ship as defined in the present Convention the Administration, in addition to applying the requirements of sub-paragraph (c)(i) of this Regulation, shall decide which of the requirements of this Chapter not contained in Chapter II of the 1948 and 1960 Conventions shall be applied.

(e) The Administration may, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of any specific requirements of this Chapter unreasonable or unnecessary, exempt from those requirements individual ships or classes of ships belonging to its country which, in the course of their voyage, do not proceed more than 20 miles from the nearest land.

(f) In the case of passenger ships which are employed in special trades for the carriage of large numbers of special trade passengers, such as the pilgrim trade, the Administration, if satisfied that it is impracticable to enforce compliance with the requirements of this Chapter, may exempt such ships, when they belong to its country, from those requirements, provided that they comply fully with the provisions of:

- (i) the Rules annexed to the Special Trade Passenger Ships Agreement, 1971, and
- (ii) the Rules annexed to the Protocol on Space Requirements for Special Trade Passenger Ships, 1973, when it comes into force.

Regulation 2

Basic Principles

The purpose of this Chapter is to require the fullest practicable degree of fire protection, fire detection and fire extinction in ships. The following basic

principles underlie the Regulations in this Chapter and are embodied in the Regulations as appropriate, having regard to the type of ships and the potential fire hazard involved:

- (a) division of ship into main vertical zones by thermal and structural boundaries;
- (b) separation of accommodation spaces from the remainder of the ship by thermal and structural boundaries;
- (c) restricted use of combustible materials;
- (d) detection of any fire in the zone of origin;
- (e) containment and extinction of any fire in the space of origin;
- (f) protection of means of escape or access for fire fighting;
- (g) ready availability of fire-extinguishing appliances;
- (h) minimization of possibility of ignition of inflammable* cargo vapour.

Regulation 3

Definitions

For the purpose of this Chapter, unless expressly provided otherwise:

(a) "Non-combustible material" means a material which neither burns nor gives off inflammable vapours in sufficient quantity for self-ignition when heated to approximately 750°C (1,382°F) this being determined to the satisfaction of the Administration by an established test procedure.† Any other material is a combustible material.

(b) "A Standard Fire Test" is one in which specimens of the relevant bulkheads or decks are exposed in a test furnace to temperatures corresponding approximately to the standard time-temperature curve. The specimen shall have an exposed surface of not less than 4.65 square metres (50 square feet) and height (or length of deck) of 2.44 metres (8 feet) resembling as closely as possible the intended construction and including where appropriate at least one joint. The standard time-temperature curve is defined by a smooth curve drawn through the following points:

at the end of the first 5 minutes	– 538°C (1,000°F)
" " " " " " " 10	" – 704°C (1,300°F)
" " " " " " " 30	" – 843°C (1,550°F)
" " " " " " " 60	" – 927°C (1,700°F)

* "Inflammable" has the same meaning as "flammable".

† Reference is made to Recommendation on Test Method for Qualifying Marine Construction Materials as Non-Combustible, adopted by the Organization by Resolution A.270(VIII).

(c) ““A” Class Divisions” are those divisions formed by bulkheads and decks which comply with the following:

- (i) they shall be constructed of steel or other equivalent material;
- (ii) they shall be suitably stiffened;
- (iii) they shall be so constructed as to be capable of preventing the passage of smoke and flame to the end of the one-hour standard fire test;
- (iv) they shall be insulated with approved non-combustible materials such that the average temperature of the unexposed side will not rise more than 139°C (250°F) above the original temperature, nor will the temperature, at any one point, including any joint, rise more than 180°C (325°F) above the original temperature, within the time listed below:

Class “A-60”	60 minutes
Class “A-30”	30 minutes
Class “A-15”	15 minutes
Class “A-0”	0 minutes

- (v) the Administration may require a test of a prototype bulkhead or deck to ensure that it meets the above requirements for integrity and temperature rise.*

(d) ““B” Class Divisions” are those divisions formed by bulkheads, decks, ceilings or linings which comply with the following:

- (i) they shall be so constructed as to be capable of preventing the passage of flame to the end of the first one-half hour of the standard fire test;
- (ii) they shall have an insulation value such that the average temperature of the unexposed side will not rise more than 139°C (250°F) above the original temperature, nor will the temperature at any one point, including any joint, rise more than 225°C (405°F) above the original temperature, within the time listed below:

Class “B-15”	15 minutes
Class “B-0”	0 minutes

- (iii) they shall be constructed of approved non-combustible materials and all materials entering into the construction and erection of “B” Class divisions shall be non-combustible, except where in accordance with Parts C and D of this Chapter the use of combustible material is not precluded, in which case it shall comply with the temperature rise limitation specified in sub-paragraph (ii) of this paragraph up to the end of the first one-half hour of the standard fire test;
- (iv) the Administration may require a test of a prototype division to ensure that it meets the above requirements for integrity and temperature rise.*

* Reference is made to Recommendation for Fire Test Procedures for “A” and “B” Class Divisions, adopted by the Organization by Resolutions A.163(ES.IV) and A.215(VII).

- (e) “C” Class Divisions shall be constructed of approved non-combustible materials. They need meet no requirements relative to the passage of smoke and flame nor the limiting of temperature rise.
- (f) “Continuous B” Class Ceilings or Linings” are those “B” Class ceilings or linings which terminate only at an “A” or “B” Class division.
- (g) “Steel or Other Equivalent Material”. Where the words “steel or other equivalent material” occur, “equivalent material” means any material which, by itself or due to insulation provided, has structural and integrity properties equivalent to steel at the end of the applicable fire exposure to the standard fire test (e.g. aluminium alloy with appropriate insulation).
- (h) “Low Flame Spread” means that the surface thus described will adequately restrict the spread of flame, this being determined to the satisfaction of the Administration by an established test procedure.
- (i) “Main Vertical Zones” are those sections into which the hull, superstructure, and deckhouses are divided by “A” Class divisions, the mean length of which on any one deck does not in general exceed 40 metres (131 feet).
- (j) “Accommodation Spaces” are those used for public spaces, corridors, lavatories, cabins, offices, crew quarters, barber shops, isolated pantries and lockers and similar spaces.
- (k) “Public Spaces” are those portions of the accommodation which are used for halls, dining rooms, lounges and similar permanently enclosed spaces.
- (l) “Service Spaces” are those used for galleys, main pantries, stores (except isolated pantries and lockers), mail and specie rooms, workshops other than those forming part of machinery spaces, and similar spaces and trunks to such spaces.
- (m) “Cargo Spaces” are all spaces used for cargo (including cargo oil tanks) and trunks to such spaces.
- (n) “Special Category Spaces” are those enclosed spaces above or below the bulkhead deck intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion, into and from which such vehicles can be driven and to which passengers have access.
- (o) “Machinery Spaces of Category A” are all spaces which contain:
- (i) internal combustion type machinery used either for main propulsion purposes, or for other purposes where such machinery has in the aggregate a total power output of not less than 373 kW, or
 - (ii) any oil-fired boiler or oil fuel unit; and trunks to such spaces.
- (p) “Machinery Spaces” are all machinery spaces of Category A and all other spaces containing propelling machinery, boilers, oil fuel units, steam and internal combustion engines, generators and major electrical machinery, oil filling stations, refrigerating, stabilizing, ventilation and air conditioning machinery, and similar spaces; and trunks to such spaces.

(q) "Oil Fuel Unit" means the equipment used for the preparation of oil fuel for delivery to an oil-fired boiler, or equipment used for the preparation for delivery of heated oil to an internal combustion engine, and includes any oil pressure pumps, filters and heaters dealing with oil at a pressure more than 1.8 kilogrammes per square centimetre (25 pounds per square inch) gauge.

(r) "Control Stations" are those spaces in which the ship's radio or main navigating equipment or the emergency source of power is located or where the fire recording or fire control equipment is centralized.

(s) "Rooms containing Furniture and Furnishings of Restricted Fire Risk" are, for the purpose of Regulation 20 of this Chapter, those rooms containing furniture and furnishings of restricted fire risk (whether cabins, public spaces, offices or other types of accommodation) in which:

- (i) all case furniture such as desks, wardrobes, dressing tables, bureaux, dressers, is constructed entirely of approved non-combustible materials, except that a combustible veneer not exceeding 2 millimetres ($\frac{1}{16}$ inch) may be used on the working surface of such articles;
- (ii) all free-standing furniture such as chairs, sofas, tables, is constructed with frames of non-combustible materials;
- (iii) all draperies, curtains and other suspended textile materials have, to the satisfaction of the Administration, qualities of resistance to the propagation of flame not inferior to those of wool weighing 0.8 kilogrammes per square metre (24 ounces per square yard);
- (iv) all floor coverings have, to the satisfaction of the Administration, qualities of resistance to the propagation of flame not inferior to those of an equivalent woollen material used for the same purpose; and
- (v) all exposed surfaces of bulkheads, linings and ceilings have low flame-spread characteristics.

(t) "Bulkhead deck" is the uppermost deck up to which the transverse watertight bulkheads are carried.

(u) "Deadweight" is the difference in metric tons between the displacement of a ship in water of a specific gravity of 1.025 at the load water line corresponding to the assigned summer freeboard and the lightweight of the ship.

(v) "Lightweight" is the displacement of a ship in metric tons without cargo, fuel, lubricating oil, ballast water, fresh water and feedwater in tanks, consumable stores, together with passengers, and crew and their effects.

(w) "Combination carrier" is a tanker designed to carry oil or alternatively solid cargoes in bulk.

Regulation 4

Fire Control Plans

There shall be permanently exhibited in all new and existing ships for the guidance of the ship's officers general arrangement plans showing clearly for each

deck the control stations, the various fire sections enclosed by "A" Class divisions, the sections enclosed by "B" Class divisions (if any), together with particulars of the fire alarms, detecting systems, the sprinkler installation (if any), the fire-extinguishing appliances, means of access to different compartments, decks, etc. and the ventilating system including particulars of the fan control positions, the position of dampers and identification numbers of the ventilating fans serving each section. Alternatively, at the discretion of the Administration, the aforementioned details may be set out in a booklet, a copy of which shall be supplied to each officer, and one copy at all times shall be available on board in an accessible position. Plans and booklets shall be kept up to date, any alterations being recorded thereon as soon as practicable. Description in such plans and booklets shall be in the national language. If the language is neither English nor French, a translation into one of those languages shall be included. In addition, instructions concerning the maintenance and operation of all the equipment and installations on board for the fighting and containment of fire shall be kept under one cover, readily available in an accessible position.

Regulation 5

Fire Pumps, Fire Mains, Hydrants and Hoses

(a) *Total Capacity of Fire Pumps*

- (i) In a passenger ship, the required fire pumps shall be capable of delivering for fire-fighting purposes a quantity of water, at the appropriate pressure prescribed below, not less than two-thirds of the quantity required to be dealt with by the bilge pumps when employed for bilge pumping.
- (ii) In a cargo ship, the required fire pumps, other than the emergency pump (if any), shall be capable of delivering for fire-fighting purposes a quantity of water, at the appropriate pressure prescribed, not less than four-thirds of the quantity required under Regulation 18 of Chapter II-1 to be dealt with by each of the independent bilge pumps in a passenger ship of the same dimensions when employed on bilge pumping, provided that in no cargo ship need the total required capacity of the fire pumps exceed 180 cubic metres per hour.

(b) *Fire Pumps*

- (i) The fire pumps shall be independently driven. Sanitary, ballast, bilge or general service pumps may be accepted as fire pumps, provided that they are not normally used for pumping oil and that if they are subject to occasional duty for the transfer or pumping of fuel oil, suitable change-over arrangements are fitted.
- (ii) (1) In passenger ships carrying more than 36 passengers, each of the required fire pumps shall have a capacity not less than 80 per cent of the total required capacity divided by the minimum number of required fire pumps and each such pump shall in any event be capable of delivering at least the two required jets of water. These fire pumps shall be capable of supplying the fire main system under the required conditions.

Where more pumps than the minimum of required pumps are installed the capacity of such additional pumps shall be to the satisfaction of the Administration.

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water. These
fire pumps
shall be
capable of

- (2) In all other types of ships, each of the required fire pumps (other than any emergency pump required by Regulation 52 of this Chapter) shall have a capacity not less than 80 per cent of the total required capacity divided by the number of required fire pumps, and shall in any event be capable of supplying the fire main system under the required conditions.

Where more pumps than required are installed their capacity shall be to the satisfaction of the Administration.

- (iii) Relief valves shall be provided in conjunction with all fire pumps if the pumps are capable of developing a pressure exceeding the design pressure of the water service pipes, hydrants and hoses. These valves shall be so placed and adjusted as to prevent excessive pressure in any part of the fire main system.

(c) *Pressure in the Fire Main*

- (i) The diameter of the fire main and water service pipes shall be sufficient for the effective distribution of the maximum required discharge from two fire pumps operating simultaneously, except that in the case of cargo ships the diameter need only be sufficient for the discharge of 140 cubic metres per hour.
- (ii) With the two pumps simultaneously delivering through nozzles specified in paragraph (g) of this Regulation the quantity of water specified in sub-paragraph (i) of this paragraph, through any adjacent hydrants, the following minimum pressures shall be maintained at all hydrants:

Passenger ships:

4,000 tons gross tonnage and upwards	3.2 kilogrammes per square centimetre (45 pounds per square inch)
1,000 tons gross tonnage and upwards but under 4,000 tons gross tonnage	2.8 kilogrammes per square centimetre (40 pounds per square inch)
Under 1,000 tons gross tonnage	To the satisfaction of the Administration

Cargo ships:

6,000 tons gross tonnage and upwards	2.8 kilogrammes per square centimetre (40 pounds per square inch)
1,000 tons gross tonnage and upwards but under 6,000 tons gross tonnage	2.6 kilogrammes per square centimetre (37 pounds per square inch)
Under 1,000 tons gross tonnage	To the satisfaction of the Administration

(d) *Number and Position of Hydrants*

The number and position of the hydrants shall be such that at least two jets of water not emanating from the same hydrant, one of which shall be from a single length of hose, may reach any part of the ship normally accessible to the passengers or crew while the ship is being navigated.

(e) *Pipes and Hydrants*

- (i) Materials readily rendered ineffective by heat shall not be used for fire mains and hydrants unless adequately protected. The pipes and hydrants shall be so placed that the fire hoses may be easily coupled to them. In ships where deck cargo may be carried, the positions of the hydrants shall be such that they are always readily accessible and the pipes shall be arranged as far as practicable to avoid risk of damage by such cargo. Unless there is provided one hose and nozzle for each hydrant in the ship, there shall be complete interchangeability of hose couplings and nozzles.
- (ii) A cock or valve shall be fitted to serve each fire hose so that any fire hose may be removed while the fire pumps are at work.

(f) *Fire Hoses*

Fire hoses shall be of material approved by the Administration and sufficient in length to project a jet of water to any of the spaces in which they may be required to be used. Their maximum length shall be to the satisfaction of the Administration. Each hose shall be provided with a nozzle and the necessary couplings. Hoses specified in this Chapter as "fire hoses" shall together with any necessary fittings and tools be kept ready for use in conspicuous positions near the water service hydrants or connexions. Additionally in interior locations in passenger ships carrying more than 36 passengers, fire hoses shall be connected to the hydrants at all times.

(g) *Nozzles*

- (i) For the purposes of this Chapter, standard nozzle sizes shall be 12 millimetres ($\frac{1}{2}$ inch), 16 millimetres ($\frac{5}{8}$ inch) and 19 millimetres ($\frac{3}{4}$ inch) or as near thereto as possible. Larger diameter nozzles may be permitted at the discretion of the Administration.
- (ii) For accommodation and service spaces, a nozzle size greater than 12 millimetres ($\frac{1}{2}$ inch) need not be used.
- (iii) For machinery spaces and exterior locations, the nozzle size shall be such as to obtain the maximum discharge possible from two jets at the pressure mentioned in paragraph (c) of this Regulation from the smallest pump, provided that a nozzle size greater than 19 millimetres ($\frac{3}{4}$ inch) need not be used.
- (iv) For machinery spaces or in similar spaces where the risk of spillage of oil exists, the nozzles shall be suitable for spraying water on oil or alternatively shall be of a dual purpose type.

(h) *International Shore Connexion*

Standard dimensions of flanges for the international shore connexion required in this Chapter to be installed in the ship shall be in accordance with the following table:

Description	Dimension
Outside diameter	178 millimetres (7 inches)
Inner diameter	64 millimetres (2½ inches)
Bolt circle diameter	132 millimetres (5¼ inches)
Slots in flange	4 holes 19 millimetres (¾ inch) in diameter equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery
Flange thickness	14.5 millimetres (⅝ inch) minimum
Bolts and nuts	4, each of 16 millimetres (⅝ inch) diameter, 50 millimetres (2 inches) in length

The connexion shall be constructed of material suitable for 10.5 kilogrammes per square centimetre (150 pounds per square inch) service. The flange shall have a flat face on one side and the other shall have permanently attached thereto a coupling that will fit the ship's hydrant and hose. The connexion shall be kept aboard the ship together with a gasket of any material suitable for 10.5 kilogrammes per square centimetre (150 pounds per square inch) service, together with four 16 millimetre (⅝ inch) bolts, 50 millimetres (2 inches) in length and eight washers.

Regulation 6*Miscellaneous Items*

- (a) Electric radiators, if used, shall be fixed in position and so constructed as to reduce fire risks to a minimum. No such radiators shall be fitted with an element so exposed that clothing, curtains, or other similar materials can be scorched or set on fire by heat from the element.
- (b) Cellulose-nitrate based films shall not be used for cinematograph installations.

Regulation 7*Fire Extinguishers*

- (a) All fire extinguishers shall be of approved types and designs.
- (i) The capacity of required portable fluid extinguishers shall be not more than 13.5 litres (3 gallons) and not less than 9 litres (2 gallons). Other extinguishers shall not be in excess of the equivalent portability of the 13.5 litre (3 gallons) fluid extinguisher and shall not be less than the fire-extinguishing equivalent of a 9 litre (2 gallons) fluid extinguisher.
- (ii) The Administration shall determine the equivalents of fire extinguishers.

- (b) Spare charges shall be provided in accordance with requirements to be specified by the Administration.
- (c) Fire extinguishers containing an extinguishing medium which, in the opinion of the Administration, either by itself or under expected conditions of use gives off toxic gases in such quantities as to endanger persons shall not be permitted.
- (d) A portable froth applicator unit shall consist of an inductor type of air-froth nozzle capable of being connected to the fire main by a fire hose, together with a portable tank containing at least 20 litres ($4\frac{1}{2}$ gallons) of froth-making liquid and one spare tank. The nozzle shall be capable of producing effective froth suitable for extinguishing an oil fire, at the rate of at least 1.5 cubic metres (53 cubic feet) per minute.
- (e) Fire extinguishers shall be periodically examined and subjected to such tests as the Administration may require.
- (f) One of the portable fire extinguishers intended for use in any space shall be stowed near the entrance to that space.

Regulation 8

Fixed Gas Fire-Extinguishing Systems

- (a) The use of a fire-extinguishing medium which, in the opinion of the Administration, either by itself or under expected conditions of use gives off toxic gases in such quantities as to endanger persons shall not be permitted.
- (b) Where provision is made for the injection of gas for fire-extinguishing purposes, the necessary pipes for conveying the gas shall be provided with control valves or cocks so marked as to indicate clearly the compartments to which the pipes are led. Suitable provision shall be made to prevent inadvertent admission of the gas to any compartment. Where cargo spaces fitted with such a system for fire protection are used as passenger spaces the gas connexion shall be blanked during such use.
- (c) The piping shall be arranged so as to provide effective distribution of fire-extinguishing gas.
- (d)
 - (i) When carbon dioxide is used as the extinguishing medium in cargo spaces, the quantity of gas available shall be sufficient to give a minimum volume of free gas equal to 30 per cent of the gross volume of the largest cargo compartment in the ship which is capable of being sealed.
 - (ii) When carbon dioxide is used as an extinguishing medium for machinery spaces of Category A the quantity of gas carried shall be sufficient to give a minimum quantity of free gas equal to the larger of the following quantities, either:
 - (1) 40 per cent of the gross volume of the largest space, the volume to include the casing up to the level at which the horizontal area of the casing is 40 per cent or less of the horizontal area

of the space concerned taken midway between the tank top and the lowest part of the casing; or

- (2) 35 per cent of the entire volume of the largest space including the casing;

provided that the above-mentioned percentages may be reduced to 35 per cent and 30 per cent respectively for cargo ships of less than 2,000 tons gross tonnage; provided also that if two or more machinery spaces of Category A are not entirely separate they shall be considered as forming one compartment.

- (iii) Where the volume of free air contained in air receivers in any machinery space of Category A is such that, if released in such space in the event of fire, such release of air within that space would seriously affect the efficiency of the fixed fire-extinguishing installation, the Administration shall require the provision of an additional quantity of carbon dioxide.
- (iv) When carbon dioxide is used as an extinguishing medium both for cargo spaces and for machinery spaces of Category A the quantity of gas need not be more than the maximum required either for the largest cargo compartment or machinery space.
- (v) For the purpose of this paragraph the volume of carbon dioxide shall be calculated at 0.56 cubic metres to the kilogramme (9 cubic feet to the pound).
- (vi) When carbon dioxide is used as the extinguishing medium for machinery spaces of Category A the fixed piping system shall be such that 85 per cent of the gas can be discharged into the space within 2 minutes.
- (vii) Carbon dioxide bottle storage rooms shall be situated at a safe and readily accessible position and shall be effectively ventilated to the satisfaction of the Administration. Any entrance to such storage rooms shall preferably be from the open deck, and in any case shall be independent of the protected space. Access doors shall be gastight and bulkheads and decks which form the boundaries of such rooms shall be gastight and adequately insulated.
- (e) (i) Where gas other than carbon dioxide or steam as permitted by paragraph (f) of this Regulation is produced on the ship and is used as an extinguishing medium, it shall be a gaseous product of fuel combustion in which the oxygen content, the carbon monoxide content, the corrosive elements and any solid combustible elements have been reduced to a permissible minimum.
- (ii) Where such gas is used as the extinguishing medium in a fixed fire-extinguishing system for the protection of machinery spaces of Category A it shall afford protection equivalent to that provided by a fixed carbon dioxide system.
- (iii) Where such gas is used as the extinguishing medium in a fixed fire-extinguishing system for the protection of cargo spaces a sufficient quantity of such gas shall be available to supply hourly a volume of free gas at least equal to 25 per cent of the gross volume of the largest compartment protected in this way for a period of 72 hours.

(f) In general, the Administration shall not permit the use of steam as a fire-extinguishing medium in fixed fire-extinguishing systems of new ships. Where the use of steam is permitted by the Administration it shall be used only in restricted areas as an addition to the required fire-extinguishing medium and with the proviso that the boiler or boilers available for supplying steam shall have an evaporation of at least 1 kilogramme of steam per hour for each 0.75 cubic metres (1 pound of steam per hour per 12 cubic feet) of the gross volume of the largest space so protected. In addition to complying with the foregoing requirements the systems in all respects shall be as determined by, and to the satisfaction of the Administration.

(g) Means shall be provided for automatically giving audible warning of the release of fire-extinguishing gas into any space to which personnel normally have access. The alarm shall operate for a suitable period before the gas is released.

(h) The means of control of any such fixed gas fire-extinguishing system shall be readily accessible and simple to operate and shall be grouped together in as few locations as possible at positions not likely to be cut off by a fire in the protected space.

Regulation 9

Fixed Froth Fire-Extinguishing Systems in Machinery Spaces

(a) Any required fixed froth fire-extinguishing system in machinery spaces shall be capable of discharging through fixed discharge outlets in not more than five minutes, a quantity of froth sufficient to cover to a depth of 150 millimetres (6 inches) the largest single area over which oil fuel is liable to spread. The system shall be capable of generating froth suitable for extinguishing oil fires. Means shall be provided for effective distribution of the froth through a permanent system of piping and control valves or cocks to suitable discharge outlets, and for the froth to be effectively directed by fixed sprayers on other main fire hazards in the protected space. The expansion ratio of the froth shall not exceed 12 to 1.

(b) The means of control of any such systems shall be readily accessible and simple to operate and shall be grouped together in as few locations as possible at positions not likely to be cut off by a fire in the protected space.

Regulation 10

Fixed High Expansion Froth Fire-Extinguishing Systems in Machinery Spaces

(a) (i) Any required fixed high expansion froth system in machinery spaces shall be capable of rapidly discharging through fixed discharge outlets a quantity of froth sufficient to fill the greatest space to be protected at a rate of at least 1 metre (3.3 feet) in depth per minute. The quantity of froth-forming liquid available shall be sufficient to produce a volume of froth equal to five times the volume of the largest space to be protected. The expansion ratio of the froth shall not exceed 1,000 to 1.

- (ii) The Administration may permit alternative arrangements and discharge rates provided that it is satisfied that equivalent protection is achieved.
- (b) Supply ducts for delivering froth, air intakes to the froth generator and the number of froth-producing units shall in the opinion of the Administration be such as will provide effective froth production and distribution.
- (c) The arrangement of the froth generator delivery ducting shall be such that a fire in the protected space will not affect the froth-generating equipment.
- (d) The froth generator, its sources of power supply, froth-forming liquid and means of controlling the system shall be readily accessible and simple to operate and shall be grouped in as few locations as possible at positions not likely to be cut off by fire in the protected space.

Regulation 11

Fixed Pressure Water-Spraying Fire-Extinguishing Systems in Machinery Spaces

- (a) Any required fixed pressure water-spraying fire-extinguishing system in machinery spaces shall be provided with spraying nozzles of an approved type.
- (b) The number and arrangement of the nozzles shall be to the satisfaction of the Administration and be such as to ensure an effective average distribution of water of at least 5 litres per square metre (0.1 gallon per square foot) per minute in the spaces to be protected. Where increased application rates are considered necessary, these shall be to the satisfaction of the Administration. Nozzles shall be fitted above bilges, tank tops and other areas over which oil fuel is liable to spread and also above other specific fire hazards in the machinery spaces.
- (c) The system may be divided into sections, the distribution valves of which shall be operated from easily accessible positions outside the spaces to be protected and which will not be readily cut off by an outbreak of fire.
- (d) The system shall be kept charged at the necessary pressure and the pump supplying the water for the system shall be put automatically into action by a pressure drop in the system.
- (e) The pump shall be capable of simultaneously supplying at the necessary pressure all sections of the system in any one compartment to be protected. The pump and its controls shall be installed outside the space or spaces to be protected. It shall not be possible for a fire in the space or spaces protected by the water-spraying system to put the system out of action.
- (f) The pump may be driven by independent internal combustion type machinery but if it is dependent upon power being supplied from the emergency generator fitted in compliance with the provisions of Regulation 25 or Regulation 26 as appropriate of Chapter II-1 of the present Convention that generator shall be arranged to start automatically in case of main power failure so that power for the pump required by paragraph (e) of this Regulation is immediately

available. When the pump is driven by independent internal combustion type machinery it shall be so situated that a fire in the protected space will not affect the air supply to the machinery.

(g) Precautions shall be taken to prevent the nozzles from becoming clogged by impurities in the water or corrosion of piping, nozzles, valves and pump.

Regulation 12

Automatic Sprinkler and Fire Alarm and Fire Detection Systems

- (a)
 - (i) Any required automatic sprinkler and fire alarm and fire detection system shall be capable of immediate operation at all times and no action by the crew shall be necessary to set it in operation. It shall be of the wet pipe type but small exposed sections may be of the dry pipe type where in the opinion of the Administration this is a necessary precaution. Any parts of the system which may be subjected to freezing temperatures in service shall be suitably protected against freezing. It shall be kept charged at the necessary pressure and shall have provision for a continuous supply of water as required in this Regulation.
 - (ii) Each section of sprinklers shall include means for giving a visual and audible alarm signal automatically at one or more indicating units whenever any sprinkler comes into operation. Such units shall give an indication of any fire and its location in any space served by the system and shall be centralized on the navigating bridge or in the main fire control station, which shall be so manned or equipped as to ensure that any alarm from the system is immediately received by a responsible member of the crew. Such alarm systems shall be constructed so as to indicate if any fault occurs in the system.
- (b)
 - (i) Sprinklers shall be grouped into separate sections, each of which shall contain not more than 200 sprinklers. Any section of sprinklers shall not serve more than two decks and shall not be situated in more than one main vertical zone, except that an Administration, if it is satisfied that the protection of the ship against fire will not thereby be reduced, may permit such a section of sprinklers to serve more than two decks or to be situated in more than one main vertical zone.
 - (ii) Each section of sprinklers shall be capable of being isolated by one stop valve only. The stop valve in each section shall be readily accessible and its location shall be clearly and permanently indicated. Means shall be provided to prevent the operation of the stop valves by any unauthorized person.
 - (iii) A gauge indicating the pressure in the system shall be provided at each section stop valve and at a central station.
 - (iv) The sprinklers shall be resistant to corrosion by marine atmospheres. In accommodation and service spaces the sprinklers shall come into operation within the temperature range of 68°C (155°F) and 79°C (175°F), except that in locations such as drying rooms, where high ambient temperatures might be expected, the operating temperature

may be increased by not more than 30°C (54°F) above the maximum deck head temperature.

- (v) A list or plan shall be displayed at each indicating unit showing the spaces covered and the location of the zone in respect of each section. Suitable instructions for testing and maintenance shall be available.
- (c) Sprinklers shall be placed in an overhead position and spaced in a suitable pattern to maintain an average application rate of not less than 5 litres per square metre (0.1 gallon per square foot) per minute over the nominal area covered by the sprinklers. Alternatively, the Administration may permit the use of sprinklers providing such other amount of water suitably distributed as has been shown to the satisfaction of the Administration to be not less effective.
- (d)
 - (i) A pressure tank having a volume equal to at least twice that of the charge of water specified in this sub-paragraph shall be provided. The tank shall contain a standing charge of fresh water, equivalent to the amount of water which would be discharged in one minute by the pump referred to in sub-paragraph (e)(ii) of this Regulation, and the arrangements shall provide for maintaining such air pressure in the tank to ensure that where the standing charge of fresh water in the tank has been used the pressure will be not less than the working pressure of the sprinkler, plus the pressure due to a head of water measured from the bottom of the tank to the highest sprinkler in the system. Suitable means of replenishing the air under pressure and of replenishing the fresh water charge in the tank shall be provided. A glass gauge shall be provided to indicate the correct level of the water in the tank.
 - (ii) Means shall be provided to prevent the passage of sea water into the tank.
- (e)
 - (i) An independent power pump shall be provided solely for the purpose of continuing automatically the discharge of water from the sprinklers. The pump shall be brought into action automatically by the pressure drop in the system before the standing fresh water charge in the pressure tank is completely exhausted.
 - (ii) The pump and the piping system shall be capable of maintaining the necessary pressure at the level of the highest sprinkler to ensure a continuous output of water sufficient for the simultaneous coverage of a minimum area of 280 square metres (3,000 square feet) at the application rate specified in paragraph (c) of this Regulation.
 - (iii) The pump shall have fitted on the delivery side a test valve with a short open-ended discharge pipe. The effective area through the valve and pipe shall be adequate to permit the release of the required pump output while maintaining the pressure in the system specified in sub-paragraph (d)(i) of this Regulation.
 - (iv) The sea inlet to the pump shall wherever possible be in the space containing the pump and shall be so arranged that when the ship is afloat it will not be necessary to shut off the supply of sea water to the pump for any purpose other than the inspection or repair of the pump.

(f) The sprinkler pump and tank shall be situated in a position reasonably remote from any machinery space of Category A and shall not be situated in any space required to be protected by the sprinkler system.

(g) There shall be not less than two sources of power supply for the sea water pump and automatic alarm and detection system. Where the sources of power for the pump are electrical, these shall be a main generator and an emergency source of power. One supply for the pump shall be taken from the main switchboard, and one from the emergency switchboard by separate feeders reserved solely for that purpose.

The feeders shall be arranged so as to avoid galleys, machinery spaces and other enclosed spaces of high fire risk except in so far as it is necessary to reach the appropriate switchboards, and shall be run to an automatic change-over switch situated near the sprinkler pump. This switch shall permit the supply of power from the main switchboard so long as a supply is available therefrom, and be so designed that upon failure of that supply it will automatically change over to the supply from the emergency switchboard. The switches on the main switchboard and the emergency switchboard shall be clearly labelled and normally kept closed. No other switch shall be permitted in the feeders concerned. One of the sources of power supply for the alarm and detection system shall be an emergency source. Where one of the sources of power for the pump is an internal combustion-type engine it shall, in addition to complying with the provisions of paragraph (f) of this Regulation, be so situated that a fire in any protected space will not affect the air supply to the machinery.

(h) The sprinkler system shall have a connexion from the ship's fire main by way of a lockable screw-down non-return valve at the connexion which will prevent a backflow from the sprinkler system to the fire main.

- (i) (i) A test valve shall be provided for testing the automatic alarm for each section of sprinklers by a discharge of water equivalent to the operation of one sprinkler. The test valve for each section shall be situated near the stop valve for that section.
 - (ii) Means shall be provided for testing the automatic operation of the pump, on reduction of pressure in the system.
 - (iii) Switches shall be provided at one of the indicating positions referred to in sub-paragraph (a)(ii) of this Regulation which will enable the alarm and the indicators for each section of sprinklers to be tested.
- (j) Spare sprinkler heads shall be provided for each section of sprinklers to the satisfaction of the Administration.

Regulation 13

Automatic Fire Alarm and Fire Detection Systems

Requirements for passenger ships carrying more than 36 passengers

- (a) (i) Any required automatic fire alarm and fire detection system shall be capable of immediate operation at all times and no action of the crew shall be necessary to set it in operation.

- (ii) Each section of detectors shall include means for giving a visual and audible alarm signal automatically at one or more indicating units whenever any detector comes into operation. Such units shall give an indication of any fire and its location in any space served by the system and shall be centralized on the navigating bridge or in the main fire control station which shall be so manned or equipped as to ensure that any alarm from the system is immediately received by a responsible member of the crew. Such alarm system shall be constructed so as to indicate if any fault occurs in the system.
- (b) Detectors shall be grouped into separate sections each covering not more than 50 rooms served by such a system and containing not more than 100 detectors. A section of detectors shall not serve spaces on both the port and starboard sides of the ship nor on more than one deck and neither shall it be situated in more than one main vertical zone except that the Administration, if it is satisfied that the protection of the ship against fire will not thereby be reduced, may permit such a section of detectors to serve both the port and starboard sides of the ship and more than one deck.
- (c) The system shall be operated by an abnormal air temperature, by an abnormal concentration of smoke or by other factors indicative of incipient fire in any one of the spaces to be protected. Systems which are sensitive to air temperature shall not operate at less than 57°C (135°F) and shall operate at a temperature not greater than 74°C (165°F) when the temperature increase to those levels is not more than 1°C (1.8°F) per minute. At the discretion of the Administration the permissible temperature of operation may be increased to 30°C (54°F) above the maximum deckhead temperature in drying rooms and similar places of a normally high ambient temperature. Systems which are sensitive to smoke concentration shall operate on the reduction of the intensity of a transmitted light beam by an amount to be determined by the Administration. Other equally effective methods of operation may be accepted at the discretion of the Administration. The detection system shall not be used for any purpose other than fire detection.
- (d) The detectors may be arranged to operate the alarm by the opening or closing of contacts or by other appropriate methods. They shall be fitted in an overhead position and shall be suitably protected against impact and physical damage. They shall be suitable for use in a marine atmosphere. They shall be placed in an open position clear of beams and other objects likely to obstruct the flow of hot gases or smoke to the sensitive element. Detectors operated by the closing of contacts shall be of the sealed contact type and the circuit shall be continuously monitored to indicate fault conditions.
- (e) At least one detector shall be installed in each space where detection facilities are required and there shall be not less than one detector for each 37 square metres (400 square feet) of deck area. In large spaces the detectors shall be arranged in a regular pattern so that no detector is more than 9 metres (30 feet) from another detector or more than 4.5 metres (15 feet) from a bulkhead.
- (f) There shall be not less than two sources of power supply for the electrical equipment used in the operation of the fire alarm and fire detection system, one of which shall be an emergency source. The supply shall be provided by separate feeders reserved solely for that purpose. Such feeders shall run to a change-over switch situated in the control station for the fire detection system. The wiring

system shall be so arranged to avoid galleys, machinery spaces and other enclosed spaces having a high fire risk except in so far as it is necessary to provide for fire detection in such spaces or to reach the appropriate switchboard.

- (g) (i) A list or plan shall be displayed adjacent to each indicating unit showing the spaces covered and the location of the zone in respect of each section. Suitable instructions for testing and maintenance shall be available.
- (ii) Provision shall be made for testing the correct operation of the detectors and the indicating units by supplying means for applying hot air or smoke at detector positions.
- (h) Spare detector heads shall be provided for each section of detectors to the satisfaction of the Administration.

Requirements for all other types of ships

- (i) All required fire detection systems shall be capable of automatically indicating the presence or indication of fire and also its location. Indicators shall be centralized either on the navigating bridge or in other control stations which are provided with a direct communication with the bridge. The Administration may permit the indicators to be distributed among several stations.
- (j) In passenger ships electrical equipment used in the operation of required fire detection systems shall have two separate sources of power, one of which shall be an emergency source.
- (k) The alarm system shall operate both audible and visible signals at the main stations referred to in paragraph (i) of this Regulation. Detection systems for cargo spaces need not have audible alarms.

Regulation 14

Fireman's Outfit

A fireman's outfit shall consist of:

- (a) Personal equipment comprising:
 - (i) Protective clothing of material to protect the skin from the heat radiating from the fire and from burns and scalding by steam. The outer surface shall be water-resistant.
 - (ii) Boots and gloves of rubber or other electrically non-conducting material.
 - (iii) A rigid helmet providing effective protection against impact.
 - (iv) An electric safety lamp (hand lantern) of an approved type with a minimum burning period of three hours.
 - (v) An axe to the satisfaction of the Administration.
- (b) A breathing apparatus of an approved type which may be either:

- (i) A smoke helmet or smoke mask which shall be provided with a suitable air pump and a length of air hose sufficient to reach from the open deck, well clear of hatch or doorway, to any part of the holds or machinery spaces. If, in order to comply with this subparagraph, an air hose exceeding 36 metres (120 feet) in length would be necessary, a self-contained breathing apparatus shall be substituted or provided in addition as determined by the Administration, or
- (ii) a self-contained breathing apparatus which shall be capable of functioning for a period of time to be determined by the Administration.

For each breathing apparatus a fireproof lifeline of sufficient length and strength shall be provided capable of being attached by means of a snaphook to the harness of the apparatus or to a separate belt in order to prevent the breathing apparatus becoming detached when the lifeline is operated.

Regulation 15

Ready Availability of Fire-Extinguishing Appliances

In all new and existing ships, fire-extinguishing appliances shall be kept in good order and available for immediate use at all times during the voyage.

Regulation 16

Acceptance of Substitutes

Where in this Chapter any special type of appliance, apparatus, extinguishing medium or arrangement is specified in any new and existing ships, any other type of appliance etc., may be allowed, provided the Administration is satisfied that it is not less effective.

PART B – FIRE SAFETY MEASURES FOR PASSENGER SHIPS CARRYING MORE THAN 36 PASSENGERS

Regulation 17

Structure

The hull, superstructure, structural bulkheads, decks and deckhouses shall be constructed of steel or other equivalent material. For the purpose of applying the definition of steel or other equivalent material as given in Regulation 3(g) of this Chapter the “applicable fire exposure” shall be according to the integrity and insulation standards given in the tables of Regulation 20 of this Chapter. An example where divisions such as decks or sides and ends of deckhouses are permitted to have “B-0” fire integrity, the “applicable fire exposure” shall be one half-hour.

Provided that in cases where any part of the structure is of aluminium alloy, the following requirements shall apply:

- (a) The insulation of aluminium alloy components of "A" or "B" Class divisions, except structure which in the opinion of the Administration is non-load-bearing, shall be such that the temperature of the structural core does not rise more than 200°C (360°F) above the ambient temperature at any time during the applicable fire exposure to the standard fire test.
- (b) Special attention shall be given to the insulation of aluminium alloy components of columns, stanchions and other structural members required to support lifeboat and liferaft stowage, launching and embarkation areas, and "A" and "B" Class divisions to ensure:
- (i) that for such members supporting lifeboat and liferaft areas and "A" Class divisions the temperature rise limitation specified in paragraph (a) of this Regulation shall apply at the end of one hour; and
 - (ii) that for such members required to support "B" Class divisions, the temperature rise limitation specified in paragraph (a) of this Regulation shall apply at the end of one half-hour.
- (c) Crowns and casings of machinery spaces of Category A shall be of steel construction adequately insulated and openings therein, if any, shall be suitably arranged and protected to prevent the spread of fire.

Regulation 18

Main Vertical Zones and Horizontal Zones

- (a) The hull, superstructure and deckhouses shall be subdivided into main vertical zones by "A" Class divisions. Steps and recesses shall be kept to a minimum, but where they are necessary, they shall also be "A" Class divisions. These divisions shall have insulation values in accordance with the applicable tables in Regulation 20 of this Chapter.
- (b) As far as practicable, the bulkheads forming the boundaries of the main vertical zones above the bulkhead deck shall be in line with watertight subdivision bulkheads situated immediately below the bulkhead deck.
- (c) Such bulkheads shall extend from deck to deck and to the shell or other boundaries.
- (d) Where a main vertical zone is subdivided by horizontal "A" Class divisions into horizontal zones for the purpose of providing an appropriate barrier between sprinklered and non-sprinklered zones of the ship the divisions shall extend between adjacent main vertical zone bulkheads and to the shell or exterior boundaries of the ship and shall be insulated in accordance with the fire insulation and integrity values given in Table 3 of Regulation 20 of this Chapter.
- (e) On ships designed for special purposes, such as automobile or railroad car ferries, where the provision of main vertical zone bulkheads would defeat the purpose for which the ship is intended, equivalent means for controlling and limiting a fire shall be substituted and specifically approved by the Administration.

Provided that in a ship with special category spaces, any such space shall comply with the applicable provisions of Regulation 30 of this Chapter, and in

so far as such compliance would be inconsistent with compliance with other requirements of this Part of this Chapter, the requirements of Regulation 30 shall prevail.

Regulation 19

Bulkheads within a Main Vertical Zone

(a) All bulkheads which are not required to be "A" Class divisions shall be at least "B" Class or "C" Class divisions as prescribed in the tables in Regulation 20 of this Chapter. All such divisions may be faced with combustible materials in accordance with the provisions of Regulation 27 of this Chapter.

(b) All corridor bulkheads where not required to be "A" Class shall be "B" Class divisions which shall extend from deck to deck except:

- (i) when continuous "B" Class ceilings and/or linings are fitted on both sides of the bulkhead, the portion of the bulkhead behind the continuous ceiling or lining shall be of material which in thickness and composition is acceptable in the construction of "B" Class divisions but which shall be required to meet "B" Class integrity standards only in so far as is reasonable and practicable in the opinion of the Administration;
- (ii) in the case of a ship protected by an automatic sprinkler system complying with the provisions of Regulation 12 of this Chapter, the corridor bulkheads of "B" Class materials may terminate at a ceiling in the corridor provided such a ceiling is of material which in thickness and composition is acceptable in the construction of "B" Class divisions. Notwithstanding the requirements of Regulation 20 of this Chapter, such bulkheads and ceilings shall be required to meet "B" Class integrity standards only in so far as is reasonable and practicable in the opinion of the Administration. All doors and frames in such bulkheads shall be of incombustible materials and shall be constructed and erected so as to provide substantial fire resistance to the satisfaction of the Administration.

(c) All bulkheads required to be "B" Class divisions, except corridor bulkheads, shall extend from deck to deck and to the shell or other boundaries unless continuous "B" Class ceilings and/or linings are fitted on both sides of the bulkhead in which case the bulkhead may terminate at the continuous ceiling or lining.

Regulation 20

Fire Integrity of Bulkheads and Decks

(a) In addition to complying with the specific provisions for fire integrity of bulkheads and decks mentioned elsewhere in the Regulations of this Part, the minimum fire integrity of all bulkheads and decks shall be as prescribed in Tables 1 to 4 in this Regulation. Where, due to any particular structural arrangements in the ship, difficulty is experienced in determining from the tables the minimum fire integrity value of any divisions, such values shall be determined to the satisfaction of the Administration.

(b) The following requirements shall govern application of the tables:

(i) Table 1 shall apply to bulkheads bounding main vertical zones or horizontal zones.

Table 2 shall apply to bulkheads not bounding either main vertical zones or horizontal zones.

Table 3 shall apply to decks forming steps in main vertical zones or bounding horizontal zones.

Table 4 shall apply to decks not forming steps in main vertical zones nor bounding horizontal zones.

(ii) For the purpose of determining the appropriate fire integrity standards to be applied to boundaries between adjacent spaces, such spaces are classified according to their fire risk as shown in Categories (1) to (14) below. Where the contents and use of a space are such that there is a doubt as to its classification for the purpose of this Regulation, it shall be treated as a space within the relevant category having the most stringent boundary requirements. The title of each category is intended to be typical rather than restrictive. The number in parentheses preceding each category refers to the applicable column or row number in the tables.

(1) *Control Stations*

Spaces containing emergency sources of power and lighting.

Wheelhouse and chartroom.

Spaces containing the ship's radio equipment.

Fire control and recording stations.

Control room for propelling machinery when located outside the propelling machinery space.

Spaces containing centralized fire alarm equipment.

Spaces containing centralized emergency public address system stations and equipment.

(2) *Stairways*

Interior stairways, lifts and escalators (other than those wholly contained within the machinery spaces) for passengers and crew and enclosures thereto.

In this connexion, a stairway which is enclosed at only one level shall be regarded as part of the space from which it is not separated by a fire door.

(3) *Corridors*

Passenger and crew corridors.

(4) *Lifeboat and Liferaft Handling and Embarkation Stations*

Open deck spaces and enclosed promenades forming lifeboat and liferaft embarkation and lowering stations.

(5) *Open Deck Spaces*

Open deck spaces and enclosed promenades clear of lifeboat and liferaft embarkation and lowering stations.

Air space (the space outside superstructures and deckhouses).

(6) *Accommodation Spaces of Minor Fire Risk*

Cabins containing furniture and furnishings of restricted fire risk.

Public spaces containing furniture and furnishings of restricted fire risk and having a deck area of less than 50 square metres (540 square feet).
Offices and dispensaries containing furniture and furnishings of restricted fire risk.

(7) *Accommodation Spaces of Moderate Fire Risk*

Same as (6) above but containing furniture and furnishings of other than restricted fire risk.

Public spaces containing furniture and furnishings of restricted fire risk and having a deck area of 50 square metres (540 square feet) and greater.

Isolated lockers and small store-rooms in accommodation spaces.

Sale shops.

Motion picture projection and film stowage rooms.

Diet kitchens (containing no open flame).

Cleaning gear lockers (in which inflammable liquids are not stowed).

Laboratories (in which inflammable liquids are not stowed)

Pharmacies.

Small drying rooms (having a deck area of 4 square metres (43 square feet) or less).

Specie rooms.

(8) *Accommodation Spaces of Greater Fire Risk*

Public spaces containing furniture and furnishings of other than restricted fire risk and having a deck area of 50 square metres (540 square feet) and greater.

Barber shops and beauty parlours.

(9) *Sanitary and Similar Spaces*

Communal sanitary facilities, showers, baths, water closets, etc.
Small laundry rooms.

Indoor swimming pool area.

Operating rooms.

Isolated serving pantries in accommodation spaces.

Private sanitary facilities shall be considered a portion of the space in which they are located.

(10) *Tanks, Voids and Auxiliary Machinery Spaces having little or no Fire Risk*

Water tanks forming part of the ship's structure.

Voids and cofferdams.

Auxiliary machinery spaces which do not contain machinery having a pressure lubrication system and where storage of combustibles is prohibited, such as:

ventilation and air-conditioning rooms; windlass room; steering gear room; stabilizer equipment room; electrical propulsion motor room; rooms containing section switchboards and purely electrical equipment other than

oil-filled electrical transformers (above 10 kVA); shaft alleys and pipe tunnels; spaces for pumps and refrigeration machinery (not handling or using inflammable liquids).

Closed trunks serving the spaces listed above.

Other closed trunks such as pipe and cable trunks.

(11) *Auxiliary Machinery Spaces, Cargo Spaces, Special Category Spaces, Cargo and other Oil Tanks and other Similar Spaces of Moderate Fire Risk*

Cargo oil tanks.

Cargo holds, trunkways and hatchways.

Refrigerated chambers.

Oil fuel tanks (where installed in a separate space with no machinery).

Shaft alleys and pipe tunnels allowing storage of combustibles.

Auxiliary machinery spaces as in Category (10) which contain machinery having a pressure lubrication system or where storage of combustibles is permitted.

Oil fuel filling stations.

Spaces containing oil-filled electrical transformers (above 10 kVA).

Spaces containing turbine and reciprocating steam engine driven auxiliary generators and small internal combustion engines of power output up to 112 kW driving emergency generators, sprinkler, drencher or fire pumps, bilge pumps, etc.

Special category spaces (Tables 1 and 3 only apply).

Closed trunks serving the spaces listed above.

(12) *Machinery Spaces and Main Galleys*

Main propelling machinery rooms (other than electric propulsion motor rooms) and boiler rooms.

Auxiliary machinery spaces other than those in Categories (10) and (11) which contain internal combustion machinery or other oil-burning, heating or pumping units.

Main galleys and annexes.

Trunks and casings to the spaces listed above.

(13) *Store-rooms, Workshops, Pantries, etc.*

Main pantries not annexed to galleys.

Main laundry.

Large drying rooms (having a deck area of more than 4 square metres (43 square feet)).

Miscellaneous stores.

Mail and baggage rooms.

Garbage rooms.

Workshops (not part of machinery spaces, galleys, etc.).

(14) *Other Spaces in which Inflammable Liquids are stowed*

Lamp rooms.

Paint rooms.

Store-rooms containing inflammable liquids (including dyes, medicines, etc.).

Laboratories (in which inflammable liquids are stowed).

- (iii) Where a single value is shown for the fire integrity of a boundary between two spaces, that value shall apply in all cases.
 - (iv) In determining the applicable fire integrity standard of a boundary between two spaces within a main vertical zone or horizontal zone which is not protected by an automatic sprinkler system complying with the provisions of Regulation 12 of this Chapter or between such zones neither of which is so protected, the higher of the two values given in the tables shall apply.
 - (v) In determining the applicable fire integrity standard of a boundary between two spaces within a main vertical zone or horizontal zone which is protected by an automatic sprinkler system complying with the provisions of Regulation 12 of this Chapter or between such zones both of which are so protected, the lesser of the two values given in the tables shall apply. In instances where a sprinklered zone and a non-sprinklered zone meet within accommodation and service spaces, the higher of the two values given in the tables shall apply to the division between the zones.
 - (vi) Where adjacent spaces are in the same numerical category and the superscript "1" appears in the tables, a bulkhead or deck between such spaces need not be fitted if deemed unnecessary by the Administration. For example, in Category (12) a bulkhead need not be required between a galley and its annexed pantries provided the pantry bulkheads and decks maintain the integrity of the galley boundaries. A bulkhead is, however, required between a galley and a machinery space even though both spaces are in Category (12).
 - (vii) Where the superscript "2" appears in the tables, the lesser insulation value may be permitted only if at least one of the adjoining spaces is protected by an automatic sprinkler system complying with the provisions of Regulation 12 of this Chapter.
 - (viii) Notwithstanding the provisions of Regulation 19 of this Chapter, there are no special requirements for material or integrity of boundaries where only a dash appears in the tables.
 - (ix) The Administration shall determine in respect of Category (5) spaces whether the insulation values in Table 1 or 2 shall apply to ends of deckhouses and superstructures, and whether the insulation values in Table 3 or 4 shall apply to weather decks. In no case shall the requirements of Category (5) of Tables 1 to 4 necessitate enclosure of spaces which in the opinion of the Administration need not be enclosed.
- (c) Continuous "B" Class ceilings or linings, in association with the relevant decks or bulkheads, may be accepted as contributing wholly or in part, to the required insulation and integrity of a division.
- (d) In approving structural fire protection details, the Administration shall have regard to the risk of heat transmission at intersections and terminal points of required thermal barriers.

TABLE 2. - BULKHEADS NOT BOUNDING EITHER MAIN VERTICAL ZONES OR HORIZONTAL ZONES

Spaces	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Control stations	B-0 ¹	A-0	A-0	A-0	A-0 B-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60
Stairways		A-0 ¹	A-0	A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-15	A-30	A-15 A-0	A-30
Corridors			C	A-0	A-0 B-0	B-0	B-15 B-0	B-15 B-0	B-0	A-0	A-15	A-30	A-0	A-30 A-0
Lifeboat and liferaft handling and embarkation stations				—	—	A-0	A-0	A-0	A-0	A-0	A-0	A-15	A-0	A-15 A-0
Open deck space					—	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0 B-0	A-0 B-0
Accommodation spaces of minor fire risk						B-0 C	B-15 C	B-15 C	B-0 C	A-0	A-15 A-0	A-30	A-0	A-30 A-0
Accommodation spaces of moderate fire risk							B-15 C	B-15 C	B-0 C	A-0	A-15 A-0	A-60	A-15 A-0	A-60 A-15
Accommodation spaces of greater fire risk								B-15 C	B-0 C	A-0	A-30 A-0	A-60	A-15 A-0	A-60 A-15
Sanitary and similar spaces									C	A-0	A-0	A-0	A-0	A-0
Tanks, voids and auxiliary machinery spaces having little or no fire risk										A-0 ¹	A-0	A-0	A-0	A-0
Auxiliary machinery spaces, cargo spaces, cargo and other oil tanks and other similar spaces of moderate fire risk											A-0 ¹	A-0	A-0	A-30 ² A-15
Machinery spaces and main galleys												A-0	A-0	A-60
Store-rooms, workshops, pantries, etc.												A-0	A-0 ¹	A-0
Other spaces in which inflammable liquids are stowed														A-30 ² A-15

TABLE 3. - DECKS FORMING STEPS IN MAIN VERTICAL ZONES OR BOUNDING HORIZONTAL ZONES

Space below ↕	Space above →	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Control stations	(1)	A-60	A-60	A-30	A-0	A-0	A-15	A-30	A-60	A-0	A-0	A-30	A-60	A-15	A-60
Stairways	(2)	A-15	A-0	A-0	A-0	A-0	A-0	A-15 A-0	A-15 A-0	A-0	A-0	A-0	A-60	A-0	A-60
Corridors	(3)	A-30	A-0	A-0	A-0	A-0	A-0	A-15 A-0	A-15 A-0	A-0	A-0	A-0	A-60	A-0	A-60
Lifeboat and liferaft handling and embarkation stations	(4)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Open deck spaces	(5)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Accommodation spaces of minor fire risk	(6)	A-60	A-30 A-0	A-15 A-0	A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-15 A-0	A-15	A-0	A-15
Accommodation spaces of moderate fire risk	(7)	A-60	A-60 A-15	A-30 A-0	A-15 A-0	A-0	A-15 A-0	A-30 A-0	A-60 A-15	A-0	A-0	A-30 A-0	A-30	A-0	A-30
Accommodation spaces of greater fire risk	(8)	A-60	A-60 A-15	A-60 A-15	A-60 A-15	A-0	A-30 A-0	A-60 A-15	A-60 A-15	A-0	A-0	A-30 A-0	A-60	A-15 A-0	A-60
Sanitary and similar spaces	(9)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Tanks, voids and auxiliary machinery spaces having little or no fire risk	(10)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Auxiliary machinery spaces, cargo spaces, special category spaces, cargo and other oil tanks and other similar spaces of moderate fire risk	(11)	A-60	A-60	A-60	A-60	A-0	A-30 A-0	A-60 A-15	A-60 A-15	A-0	A-0	A-0	A-30	A-30 ² A-0	A-30
Machinery spaces and main galleys	(12)	A-60	A-60	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60
Store-rooms, workshops, pantries, etc.	(13)	A-60	A-60 A-15	A-30 A-0	A-15	A-0	A-15 A-0	A-30 A-0	A-60 A-15	A-0	A-0	A-0	A-30	A-0	A-30
Other spaces in which inflammable liquids are stowed	(14)	A-60	A-60	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60

TABLE 4. - DECKS NOT FORMING STEPS IN MAIN VERTICAL ZONES NOR BOUNDING HORIZONTAL ZONES

Space below ↕	Space above →	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Control stations	(1)	A-30 A-0	A-30 A-0	A-15 A-0	A-0	A-0 B-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-0	A-60	A-0	A-60 A-15
Stairways	(2)	A-0	A-0	A-0	A-0	A-0 B-0	A-0	A-0	A-0	A-0	A-0	A-0	A-30	A-0	A-30 A-0
Corridors	(3)	A-15 A-0	A-0	A-0 ¹ B-0 ¹	A-0	A-0 B-0	A-0 B-0	A-15 B-0	A-15 B-0	A-0 B-0	A-0	A-0	A-30	A-0	A-30 A-0
Lifeboat and liferaft handling and embarkation stations	(4)	A-0	A-0	A-0	A-0	—	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0	A-0
Open deck spaces	(5)	A-0	A-0	A-0 B-0	A-0	—	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0 B-0	A-0
Accommodation spaces of minor fire risk	(6)	A-60	A-15 A-0	A-0	A-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-15 A-0	A-0	A-15 A-0
Accommodation spaces of moderate fire risk	(7)	A-60	A-30 A-0	A-15 A-0	A-15 A-0	A-0 B-0	A-0 B-0	A-15 B-0	A-30 B-0	A-0 B-0	A-0	A-15 A-0	A-30 A-0	A-0	A-30 A-0
Accommodation spaces of greater fire risk	(8)	A-60	A-60 A-15	A-60 A-0	A-30 A-0	A-0 B-0	A-15 B-0	A-30 B-0	A-60 B-0	A-0 B-0	A-0	A-30 A-0	A-30 A-0	A-0	A-30 A-0
Sanitary spaces and similar spaces	(9)	A-0	A-0	A-0 B-0	A-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0	A-0
Tanks, voids and auxiliary machinery spaces having little or no fire risk	(10)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0 ¹	A-0	A-0	A-0	A-0
Auxiliary machinery spaces, cargo spaces, cargo and other oil tanks and other similar spaces of moderate fire risk	(11)	A-60	A-60 A-15	A-60 A-15	A-30 A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-0 ¹	A-0	A-0	A-30 ² A-15
Machinery spaces and main galleys	(12)	A-60	A-60	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0	A-30	A-30 ¹	A-0	A-60
Store-rooms, workshops, pantries, etc.	(13)	A-60	A-30 A-0	A-15 A-0	A-15 A-0	A-0 B-0	A-15 A-0	A-30 A-0	A-30 A-0	A-0 B-0	A-0	A-0	A-0	A-0	A-15 ² A-0
Other spaces in which inflammable liquids are stowed	(14)	A-60	A-60 A-30	A-60 A-30	A-60	A-0	A-30 A-0	A-60 A-15	A-60 A-15	A-0	A-0	A-30 ² A-0	A-30 ² A-0	A-0	A-30 ² A-0

Regulation 21*Means of Escape*

- (a) In and from all passenger and crew spaces and spaces in which the crew is normally employed, other than machinery spaces, stairways and ladders shall be arranged to provide ready means of escape to the lifeboat and liferaft embarkation deck. In particular, the following provisions shall be complied with:
- (i) Below the bulkhead deck, two means of escape, at least one of which shall be independent of watertight doors, shall be provided from each watertight compartment or similarly restricted space or group of spaces. Exceptionally, the Administration may dispense with one of the means of escape, due regard being paid to the nature and location of spaces and to the number of persons who normally might be quartered or employed there.
 - (ii) Above the bulkhead deck, there shall be at least two means of escape from each main vertical zone or similarly restricted space or group of spaces at least one of which shall give access to a stairway forming a vertical escape.
 - (iii) At least one of the means of escape required by sub-paragraphs (a)(i) and (ii) of this Regulation shall be by means of a readily accessible enclosed stairway, which shall provide continuous fire shelter from the level of its origin to the appropriate lifeboat and liferaft embarkation decks or the highest level served by the stairway, whichever level is the highest. However, where an Administration has granted dispensation under the provisions of sub-paragraph (a)(i) of this Regulation the sole means of escape shall provide safe escape to the satisfaction of the Administration. The width, number and continuity of the stairways shall be to the satisfaction of the Administration.
 - (iv) Protection of access from the stairway enclosures to the lifeboat and liferaft embarkation areas shall be to the satisfaction of the Administration.
 - (v) Lifts shall not be considered as forming one of the required means of escape.
 - (vi) Stairways serving only a space and a balcony in that space shall not be considered as forming one of the required means of escape.
 - (vii) If a radiotelegraph station has no direct access to the weather deck, two means of escape shall be provided from such station.
 - (viii) Dead-end corridors exceeding 13 metres (43 feet) shall not be permitted.
- (b)
- (i) In special category spaces the number and disposition of the means of escape both below and above the bulkhead deck shall be to the satisfaction of the Administration, and in general the safety of access to the embarkation deck shall be at least equivalent to that provided for under sub-paragraphs (a)(i), (ii), (iii), (iv) and (v) of this Regulation.
 - (ii) One of the escape routes from the machinery spaces where the crew is normally employed shall avoid direct access to any special category space.

(c) Two means of escape shall be provided from each machinery space. In particular, the following provisions shall be complied with:

- (i) Where the space is below the bulkhead deck the two means of escape shall consist of either:
 - (1) two sets of steel ladders as widely separated as possible, leading to doors in the upper part of the space similarly separated and from which access is provided to the appropriate lifeboat and liferaft embarkation decks. One of these ladders shall provide continuous fire shelter from the lower part of the space to a safe position outside the space; or
 - (2) one steel ladder leading to a door in the upper part of the space from which access is provided to the embarkation deck and a steel door capable of being operated from each side and which provides a safe escape route to the embarkation deck.
- (ii) Where the space is above the bulkhead deck, two means of escape shall be as widely separated as possible and the doors leading from such means of escape shall be in a position from which access is provided to the appropriate lifeboat and liferaft embarkation decks. Where such escapes require the use of ladders these shall be of steel.

Provided that in a ship of less than 1,000 tons gross tonnage, the Administration may dispense with one of the means of escape due regard being paid to the width and disposition of the upper part of the space; and in a ship of 1,000 tons gross tonnage and above, the Administration may dispense with one means of escape from any such space so long as either a door or a steel ladder provides a safe escape route to the embarkation deck due regard being paid to the nature and location of the space and whether persons are normally employed in that space.

Regulation 22

Protection of Stairways and Lifts in Accommodation and Service Spaces

- (a) All stairways shall be of steel frame construction except where the Administration sanctions the use of other equivalent material, and shall be within enclosures formed of "A" Class divisions, with positive means of closure at all openings, except that:
 - (i) a stairway connecting only two decks need not be enclosed, provided the integrity of the deck is maintained by proper bulkheads or doors at one between deck space. When a stairway is closed at one between deck space, the stairway enclosure shall be protected in accordance with the tables for decks in Regulation 20 of this Chapter;
 - (ii) stairways may be fitted in the open in a public space, provided they lie wholly within such public space.
- (b) Stairway enclosures shall have direct communication with the corridors and be of sufficient area to prevent congestion, having in view the number of persons likely to use them in an emergency. In so far as practicable, stairway enclosures shall not give direct access to cabins, service lockers, or other enclosed spaces containing combustibles in which a fire is likely to originate.

(c) Lift trunks shall be so fitted as to prevent the passage of smoke and flame from one between deck to another and shall be provided with means of closing so as to permit the control of draught and smoke.

Regulation 23

Openings in "A" Class Divisions

(a) Where "A" Class divisions are pierced for the passage of electric cables, pipes, trunks, ducts, etc., for girders, beams or other structures, arrangements shall be made to ensure that the fire resistance is not impaired, subject to the provisions of paragraph (g) of this Regulation.

(b) Where of necessity, a ventilation duct passes through a main vertical zone bulkhead, a fail-safe automatic closing fire damper shall be fitted adjacent to the bulkhead. The damper shall also be capable of being manually closed from each side of the bulkhead. The operating position shall be readily accessible and be marked in red light-reflecting colour. The duct between the bulkhead and the damper shall be of steel or other equivalent material and, if necessary, to an insulating standard such as to comply with paragraph (a) of this Regulation. The damper shall be fitted on at least one side of the bulkhead with a visible indicator showing if the damper is in the open position.

(c) Except for hatches between cargo, special category, store, and baggage spaces, and between such spaces and the weather decks, all openings shall be provided with permanently attached means of closing which shall be at least as effective for resisting fires as the divisions in which they are fitted.

(d) The construction of all doors and door frames in "A" Class divisions, with the means of securing them when closed, shall provide resistance to fire as well as to the passage of smoke and flame, as far as practicable, equivalent to that of the bulkheads in which the doors are situated. Such doors and door frames shall be constructed of steel or other equivalent material. Watertight doors need not be insulated.

(e) It shall be possible for each door to be opened and closed from each side of the bulkhead by one person only.

(f) Fire doors in main vertical zone bulkheads and stairway enclosures, other than power-operated watertight doors and those which are normally locked, shall be of the self-closing type capable of closing against an inclination of $3\frac{1}{2}$ degrees opposing closure. The speed of door closure shall, if necessary, be controlled so as to prevent undue danger to personnel. All such doors, except those that are normally closed, shall be capable of release from a control station, either simultaneously or in groups, and also individually from a position at the door. The release mechanism shall be so designed that the door will automatically close in the event of disruption of the control system; however, approved power-operated watertight doors will be considered acceptable for this purpose. Hold-back hooks, not subject to control station release, will not be permitted. When double swing doors are permitted, they shall have a latch arrangement which is automatically engaged by the operation of the door release system.

(g) Where a space is protected by an automatic sprinkler system complying with the provisions of Regulation 12 of this Chapter or fitted with a continuous "B" Class ceiling, openings in decks not forming steps in main vertical zones nor bounding horizontal zones shall be closed reasonably tight and such decks shall meet the "A" Class integrity requirements in so far as is reasonable and practicable in the opinion of the Administration.

(h) The requirements for "A" Class integrity of the outer boundaries of a ship shall not apply to glass partitions, windows and sidescuttles. Similarly, the requirements for "A" Class integrity shall not apply to exterior doors in superstructures and deckhouses.

Regulation 24

Openings in "B" Class Divisions

(a) Where "B" Class divisions are penetrated for the passage of electrical cables, pipes, trunks, ducts, etc., or for the fitting of ventilation terminals, lighting fixtures and similar devices, arrangements shall be made to ensure that the fire resistance is not impaired.

(b) Doors and door frames in "B" Class divisions and means of securing them shall provide a method of closure which shall have resistance to fire as far as practicable equivalent to the divisions except that ventilation openings may be permitted in the lower portion of such doors. Where such opening is in or under a door the total net area of any such opening or openings shall not exceed 0.05 square metres (78 square inches). When such opening is cut in a door it shall be fitted with a grill made of non-combustible material. Doors shall be non-combustible.

(c) The requirements for "B" Class integrity of the outer boundaries of a ship shall not apply to glass partitions, windows and sidescuttles. Similarly, the requirements for "B" Class integrity shall not apply to exterior doors in superstructures and deckhouses.

(d) Where an automatic sprinkler system complying with the provisions of Regulation 12 of this Chapter is fitted:

- (i) openings in decks not forming steps in main vertical zones nor bounding horizontal zones shall be closed reasonably tight and such decks shall meet the "B" Class integrity requirements in so far as is reasonable and practicable in the opinion of the Administration; and
- (ii) openings in corridor bulkheads of "B" Class materials shall be protected in accordance with the provisions of Regulation 19 of this Chapter.

Regulation 25

Ventilation Systems

(a) In general, the ventilation fans shall be so disposed that the ducts reaching the various spaces remain within the main vertical zone.

(b) Where ventilation systems penetrate decks, precautions shall be taken, in addition to those relating to the fire integrity of the deck required by Regulation 23 of this Chapter, to reduce the likelihood of smoke and hot gases passing from one between deck space to another through the system. In addition to insulation requirements contained in this Regulation, vertical ducts shall, if necessary, be insulated as required by the appropriate tables in Regulation 20 of this Chapter.

(c) The main inlets and outlets of all ventilation systems shall be capable of being closed from outside the space being ventilated.

(d) Except in cargo spaces, ventilation ducts shall be constructed of the following materials:

- (i) Ducts not less than 0.075 square metres (116 square inches) in sectional area and all vertical ducts serving more than a single between deck space shall be constructed of steel or other equivalent material.
- (ii) Ducts less than 0.075 square metres (116 square inches) in sectional area shall be constructed of non-combustible materials. Where such ducts penetrate "A" or "B" Class divisions due regard shall be given to ensuring the fire integrity of the division.
- (iii) Short lengths of duct, not in general exceeding 0.02 square metres (31 square inches) in sectional area nor 2 metres (79 inches) in length, need not be incombustible provided that all of the following conditions are met:
 - (1) the duct is constructed of a material of restricted fire risk to the satisfaction of the Administration;
 - (2) the duct is used only at the terminal end of the ventilation system; and
 - (3) the duct is not located closer than 0.6 metres (24 inches) measured along its length to a penetration of an "A" or "B" Class division, including continuous "B" Class ceilings.

(e) Where a stairway enclosure is ventilated, the duct or ducts (if any) shall be taken from the fan room independently of other ducts in the ventilation system and shall not serve any other space.

(f) All power ventilation, except machinery and cargo spaces ventilation and any alternative system which may be required under paragraph (h) of this Regulation, shall be fitted with controls so grouped that all fans may be stopped from either of two separate positions which shall be situated as far apart as practicable. Controls provided for the power ventilation serving machinery spaces shall also be grouped so as to be operable from two positions, one of which shall be outside such spaces. Fans serving power ventilation systems to cargo spaces shall be capable of being stopped from a safe position outside such spaces.

(g) Where they pass through accommodation spaces or spaces containing combustible materials, the exhaust ducts from galley ranges shall be constructed of "A" Class divisions. Each exhaust duct shall be fitted with:

- (i) a grease trap readily removable for cleaning;
- (ii) a fire damper located in the lower end of the duct;

- (iii) arrangements, operable from within the galley, for shutting off the exhaust fan; and
 - (iv) fixed means for extinguishing a fire within the duct.
- (h) Such measures as are practicable shall be taken in respect of control stations outside machinery spaces in order to ensure that ventilation, visibility and freedom from smoke are maintained, so that in the event of fire the machinery and equipment contained therein may be supervised and continue to function effectively. Alternative and separate means of air supply shall be provided; air inlets of the two sources of supply shall be so disposed that the risk of both inlets drawing in smoke simultaneously is minimized. At the discretion of the Administration, such requirements need not apply to control stations situated on, and opening on to, an open deck, or where local closing arrangements would be equally effective.
- (i) Ducts provided for ventilation of machinery spaces of Category A shall not in general pass through accommodation, service spaces or control stations, except that the Administration may permit relaxation from this requirement, provided that:
- (i) the ducts are constructed of steel, and are insulated to "A-60" standard; or
 - (ii) the ducts are constructed of steel and are fitted with an automatic fire damper close to the boundary penetrated and are insulated to "A-60" standard from the machinery space to a point at least 5 metres (16 feet) beyond the fire damper.
- (j) Ducts provided for ventilation of accommodation, service spaces, or control stations shall not in general pass through machinery spaces of Category A, except that the Administration may permit relaxation from this requirement provided that the ducts are constructed of steel and automatic fire dampers are fitted close to the boundaries penetrated.

Regulation 26

Windows and Sidescuttles

- (a) All windows and sidescuttles in bulkheads within accommodation and service spaces and control stations other than those to which the provisions of paragraph (h) of Regulation 23 and paragraph (c) of Regulation 24 of this Chapter apply, shall be constructed so as to preserve the integrity requirements of the type of bulkheads in which they are fitted.
- (b) Notwithstanding the requirements of the tables in Regulation 20 of this Chapter:
- (i) All windows and sidescuttles in bulkheads separating accommodation and service spaces and control stations from weather shall be constructed with frames of steel or other suitable material. The glass shall be retained by a metal glazing bead or angle.
 - (ii) Special attention shall be given to the fire integrity of windows facing open or enclosed lifeboat and liferaft embarkation areas and of windows situated below such areas in such a position that their

failure during a fire would impede the launching of, or embarkation into, lifeboats or liferafts.

Regulation 27

Restriction of Combustible Materials

- (a) Except in cargo spaces, mail rooms, baggage rooms, or refrigerated compartments of service spaces, all linings, grounds, ceilings and insulations shall be of non-combustible materials. Partial bulkheads or decks used to subdivide a space for utility or artistic treatment shall also be of non-combustible material.
- (b) Vapour barriers and adhesives used in conjunction with insulation, as well as insulation of pipe fittings, for cold service systems need not be non-combustible, but they shall be kept to the minimum quantity practicable and their exposed surfaces shall have qualities of resistance to the propagation of flame to the satisfaction of the Administration.
- (c) Bulkheads, linings and ceilings in all accommodation and service spaces may have combustible veneer, provided that such veneer shall not exceed 2 millimetres ($\frac{1}{12}$ inch) within any such spaces except corridors, stairway enclosures and control stations where it shall not exceed 1.5 millimetres ($\frac{1}{17}$ inch).
- (d) The total volume of combustible facings, mouldings, decorations and veneers in any accommodation and service space shall not exceed a volume equivalent to 2.5 millimetres ($\frac{1}{10}$ inch) veneer on the combined area of the walls and ceilings. In the case of ships fitted with an automatic sprinkler system complying with the provisions of Regulation 12 of this Chapter, the above volume may include some combustible material used for erection of "C" Class divisions.
- (e) All exposed surfaces in corridors or stairway enclosures and surfaces in concealed or inaccessible spaces in accommodation and service spaces and control stations shall have low flame-spread characteristics.*
- (f) Furniture in the passages and stairway enclosures shall be kept to a minimum.
- (g) Paints, varnishes and other finishes used on exposed interior surfaces shall not be of a nature to offer an undue fire hazard in the judgment of the Administration and shall not be capable of producing excessive quantities of smoke or other toxic properties.
- (h) Primary deck coverings, if applied, within accommodation and service spaces and control stations, shall be of approved material which will not readily ignite, or give rise to toxic or explosive hazards at elevated temperatures.†

* Reference is made to Guidelines on the Evaluation of Fire Hazard Properties of Materials, adopted by the Organization by Resolution A.166(ES.IV).

† Reference is made to Improved Provisional Guidelines on Test Procedures for Primary Deck Coverings, adopted by the Organization by Resolution A.214(VII).

- (i) Waste-paper receptacles shall be constructed of non-combustible materials and with solid sides and bottoms.

Regulation 28

Miscellaneous Items

Requirements Applicable to all Portions of the Ship

(a) Pipes penetrating "A" or "B" Class divisions shall be of a material approved by the Administration having regard to the temperature such divisions are required to withstand. Pipes conveying oil or combustible liquids shall be of a material approved by the Administration having regard to the fire risk. Materials readily rendered ineffective by heat shall not be used for overboard scuppers, sanitary discharges, and other outlets which are close to the water-line and where the failure of the material in the event of fire would give rise to danger of flooding.

Requirements Applicable to Accommodation and Service Spaces, Control Stations, Corridors and Stairways

- (b)
 - (i) Air spaces enclosed behind ceilings, panelling or linings shall be suitably divided by close-fitting draught stops not more than 14 metres (46 feet) apart.
 - (ii) In the vertical direction, such spaces, including those behind linings of stairways, trunks, etc., shall be closed at each deck.
- (c) The construction of ceiling and bulkheading shall be such that it will be possible, without impairing the efficiency of the fire protection, for the fire patrols to detect any smoke originating in concealed and inaccessible places, except where in the opinion of the Administration there is no risk of fire originating in such places.

Regulation 29

Automatic Sprinkler and Fire Alarm and Fire Detection Systems or Automatic Fire Alarm and Fire Detection Systems

In any ship to which this Part applies there shall be installed throughout each separate zone, whether vertical or horizontal, in all accommodation and service spaces and, where it is considered necessary by the Administration, in control stations, except spaces which afford no substantial fire risk (such as void spaces, sanitary spaces, etc.) either:

- (i) an automatic sprinkler and fire alarm and fire detection system of an approved type, complying with the provisions of Regulation 12 of this Chapter and installed and so arranged as to protect such spaces; or
- (ii) an automatic fire alarm and fire detection system of an approved type, complying with the provisions of Regulation 13 of this Chapter, and installed and so arranged as to detect the presence of fire in such spaces.

Regulation 30*Protection of Special Category Spaces***Provisions Applicable to Special Category Spaces whether above or below the Bulkhead Deck****(a) General**

- (i) The basic principle underlying the provisions in this Regulation is that as normal main vertical zoning may not be practicable in special category spaces, equivalent protection must be obtained in such spaces on the basis of a horizontal zone concept and the provision of an efficient fixed fire-extinguishing system. Under this concept a horizontal zone for the purpose of this Regulation may include special category spaces on more than one deck provided that the overall height of the zone does not exceed 10 metres (33 feet).
- (ii) All requirements laid down in Regulations 23 and 25 of this Chapter for maintaining the integrity of vertical zones shall be applied equally to decks and bulkheads forming the boundaries separating horizontal zones from each other and from the remainder of the ship.

(b) Structural Protection

- (i) Boundary bulkheads of special category spaces shall be insulated as required for Category (11) spaces in Table 1 of Regulation 20 of this Chapter and the horizontal boundaries as required for Category (11) spaces in Table 3 of that Regulation.
- (ii) Indicators shall be provided on the navigating bridge which shall indicate when any fire door leading to or from the special category spaces is closed.

(c) Fixed Fire-Extinguishing System*

Each special category space shall be fitted with an approved fixed pressure water-spraying system for manual operation which shall protect all parts of any deck and vehicle platform, if any, in such space, provided that the Administration may permit the use of any other fixed fire-extinguishing system that has been shown by full-scale test in conditions simulating a flowing petrol fire in a special category space to be not less effective in controlling fires likely to occur in such a space.

(d) Patrols and Detection

- (i) An efficient patrol system shall be maintained in special category spaces. In any such space in which the patrol is not maintained by a continuous fire watch at all times during the voyage there shall be provided in that space an automatic fire detection system of an approved type.
- (ii) Manual fire alarms shall be provided as necessary throughout the special category spaces and one shall be placed close to each exit from such spaces.

* Reference is made to Recommendation on Fixed Fire Extinguishing Systems for Special Category Spaces, adopted by the Organization by Resolution A.123(V).

(e) *Fire-Extinguishing Equipment*

There shall be provided in each special category space:

- (i) a number of hydrants with hoses and dual-purpose nozzles of an approved type so arranged that at least two jets of water each from a single length of hose not emanating from the same hydrant may reach any part of such space;
- (ii) at least three water fog applicators;
- (iii) one portable applicator unit complying with the provisions of Regulation 7(d) of this Chapter, provided that at least two such units are available in the ship for use in such spaces; and
- (iv) such number of portable fire extinguishers of an approved type as the Administration may deem sufficient.

(f) *Ventilation System*

- (i) There shall be provided an effective power ventilation system for the special category spaces sufficient to give at least 10 air changes per hour. The system for such spaces shall be entirely separated from other ventilation systems and shall be operating at all times when vehicles are in such spaces. The Administration may require an increased number of air changes when vehicles are being loaded and unloaded.
- (ii) The ventilation shall be such as to prevent air stratification and the formation of air pockets.
- (iii) Means shall be provided to indicate on the navigating bridge any loss or reduction of the required ventilating capacity.

Additional Provisions Applicable only to Special Category Spaces above the Bulk-head Deck

(g) *Scuppers*

In view of the serious loss of stability which could arise due to large quantities of water accumulating on the deck or decks consequent on the operation of the fixed pressure water-spraying system, scuppers shall be fitted so as to ensure that such water is rapidly discharged directly overboard.

(h) *Precautions against Ignition of Inflammable Vapours*

- (i) Equipment which may constitute a source of ignition of inflammable vapours and in particular electrical equipment and wiring, shall be installed at least 450 millimetres (18 inches) above the deck, provided that if the Administration is satisfied that the installation of such electrical equipment and wiring below this level is necessary for the safe operation of the ship, such electrical equipment and wiring shall be of a type approved for use in an explosive petrol and air mixture. Electrical equipment installed at more than 450 millimetres (18 inches) above the deck shall be of a type so enclosed and protected as to prevent the escape of sparks. The reference to a level of 450 millimetres (18 inches) above the deck shall be construed to mean each deck on which vehicles are carried and on which explosive vapours might be expected to accumulate.

- (ii) Electrical equipment and wiring, if installed in an exhaust ventilation duct, shall be of a type approved for use in explosive petrol and air mixtures and the outlet from any exhaust duct shall be sited in a safe position, having regard to other possible sources of ignition.

Additional Provisions applicable only to Special Category Spaces below the Bulkhead Deck

(i) *Bilge Pumping and Drainage*

In view of the serious loss of stability which could arise due to large quantities of water accumulating on the deck or tank top consequent on the operation of the fixed pressure water-spraying system, the Administration may require pumping and drainage facilities to be provided additional to the requirements of Regulation 18 of Chapter II-1 of the present Convention.

(j) *Precautions against Ignition of Inflammable Vapours*

- (i) Electrical equipment and wiring, if fitted, shall be of a type suitable for use in explosive petrol and air mixtures. Other equipment which may constitute a source of ignition of inflammable vapours shall not be permitted.
- (ii) Electrical equipment and wiring, if installed in an exhaust ventilation duct, shall be of a type approved for use in explosive petrol and air mixtures and the outlet from any exhaust duct shall be sited in a safe position, having regard to other possible sources of ignition.

Regulation 31

Protection of Cargo Spaces other than Special Category Spaces intended for the Carriage of Motor Vehicles with Fuel in their Tanks for their own Propulsion

In any cargo space (other than special category spaces) containing motor vehicles with fuel in their tanks for their own propulsion, the following provisions shall be complied with:

(a) *Fire Detection*

There shall be provided an approved fire detection and fire alarm system.

(b) *Fire-Extinguishing Arrangements*

- (i) There shall be fitted a fixed gas fire-extinguishing system which shall comply with the provisions of Regulation 8 of this Chapter, except that if a carbon dioxide system is fitted, the quantity of gas available shall be at least sufficient to give a minimum volume of free gas equal to 45 per cent of the gross volume of the largest of such cargo spaces which is capable of being sealed, and the arrangements shall be such as to ensure that the gas is introduced rapidly and effectively into the space. Any other fixed gas fire-extinguishing system or fixed high expansion froth fire-extinguishing system may be fitted provided it gives equivalent protection.
- (ii) There shall be provided for use in any such space such number of portable fire extinguishers of an approved type as the Administration may deem sufficient.

- (c) *Ventilation System*
- (i) In any such cargo space there shall be provided an effective power ventilation system sufficient to give at least 10 air changes per hour. The system for such cargo spaces shall be entirely separated from other ventilation systems and shall be operating at all times when vehicles are in such spaces.
 - (ii) The ventilation shall be such as to prevent air stratification and the formation of air pockets.
 - (iii) Means shall be provided to indicate on the navigating bridge any loss or reduction of the required ventilating capacity.
- (d) *Precautions against Ignition of Inflammable Vapours*
- (i) Electrical equipment and wiring, if fitted, shall be of a type suitable for use in explosive petrol and air mixtures. Other equipment which may constitute a source of ignition of inflammable vapours shall not be permitted.
 - (ii) Electrical equipment and wiring, if installed in an exhaust ventilation duct, shall be of a type approved for use in explosive petrol and air mixtures and the outlet from any exhaust duct shall be sited in a safe position, having regard to other possible sources of ignition.

Regulation 32

Maintenance of Fire Patrols, etc., and Provision for Fire-Extinguishing Equipment

- (a) *Fire Patrols and Detection, Alarms and Public Address Systems*
- (i) An efficient patrol system shall be maintained so that an outbreak of fire may be promptly detected. Each member of the fire patrol shall be trained to be familiar with the arrangements of the ship as well as the location and operation of any equipment he may be called upon to use.
 - (ii) Manual alarms shall be fitted throughout the accommodation and service spaces to enable the fire patrol to give an alarm immediately to the navigating bridge or main fire control station.
 - (iii) An approved fire alarm or fire detecting system shall be provided which will automatically indicate at one or more suitable points or stations the presence or indication of fire and its location in any cargo space which, in the opinion of the Administration, is not accessible to the patrol system, except where it is shown to the satisfaction of the Administration that the ship is engaged on voyages of such short duration that it would be unreasonable to apply this requirement.
 - (iv) The ship shall at all times when at sea, or in port (except when out of service), be so manned or equipped as to ensure that any initial fire alarm is immediately received by a responsible member of the crew.
 - (v) A special alarm, operated from the navigating bridge or fire control station, shall be fitted to summon the crew. This alarm may be part

of the ship's general alarm system but it shall be capable of being sounded independently of the alarm to the passenger spaces.

- (vi) A public address system or other effective means of communication shall be available throughout the accommodation and service spaces and control stations.

(b) *Fire Pumps and Fire Main System*

The ship shall be provided with fire pumps, fire main system, hydrants and hoses complying with the provisions of Regulation 5 of this Chapter and shall comply with the following requirements:

- (i) In a ship of 4,000 tons gross tonnage and upwards, there shall be provided at least three independently-driven fire pumps and, in a ship of less than 4,000 tons gross tonnage, at least two such fire pumps.
- (ii) In a ship of 1,000 tons gross tonnage and upwards, the arrangement of sea connexions, fire pumps and sources of power for operating them shall be such as to ensure that a fire in any one compartment will not put all the fire pumps out of action.
- (iii) In a ship of 1,000 tons gross tonnage and upwards, the arrangement of fire pumps, fire mains and hydrants shall be such that at least one effective jet of water as stipulated in paragraph (c) of Regulation 5 of this Chapter is immediately available from any one hydrant in an interior location. Arrangements shall also be made to ensure the continuation of the output of water by the automatic starting of a required fire pump.
- (iv) In a ship of less than 1,000 tons gross tonnage the arrangements shall be to the satisfaction of the Administration.

(c) *Fire Hydrants, Hoses and Nozzles*

- (i) The ship shall be provided with fire hoses the number and diameter of which shall be to the satisfaction of the Administration. There shall be at least one fire hose for each of the hydrants required by paragraph (d) of Regulation 5 of this Chapter and these hoses shall be used only for the purposes of extinguishing fires or testing the fire-extinguishing apparatus at fire drills and surveys.
- (ii) In accommodation and service spaces and in machinery spaces, the number and position of hydrants shall be such that the requirements of paragraph (d) of Regulation 5 of this Chapter may be complied with when all watertight doors and all doors in main vertical zone bulkheads are closed.
- (iii) The arrangements shall be such that at least two jets of water can reach any part of any cargo space when empty.
- (iv) All required hydrants in machinery spaces shall be fitted with hoses having in addition to the nozzles required in paragraph (g) of Regulation 5 of this Chapter nozzles suitable for spraying water on oil, or alternatively dual-purpose nozzles. Additionally, each

machinery space of Category A shall be provided with at least two suitable water fog applicators.*

- (v) Water spray nozzles or dual-purpose nozzles shall be provided for at least one quarter of the number of hoses required in parts of the ship other than machinery spaces.
 - (vi) For each pair of breathing apparatus there shall be provided one water fog applicator which shall be stored adjacent to such apparatus.
 - (vii) Where, in any machinery space of Category A, access is provided at a low level from an adjacent shaft tunnel, two hydrants fitted with hoses with dual-purpose nozzles shall be provided external to, but near the entrance to that machinery space. Where such access is not provided from a tunnel but is provided from other space or spaces there shall be provided in one of those spaces two hydrants fitted with hoses with dual-purpose nozzles near the entrance to the machinery space of Category A. Such provision need not be made when the tunnel or adjacent spaces are not part of an escape route.
- (d) *International Shore Connexion*
- (i) A ship of 1,000 tons gross tonnage and upwards shall be provided with at least one international shore connexion, complying with the provisions of paragraph (h) of Regulation 5 of this Chapter.
 - (ii) Facilities shall be available enabling such a connexion to be used on either side of the ship.
- (e) *Portable Fire Extinguishers in Accommodation and Service Spaces and Control Stations*
- The ship shall be provided in accommodation and service spaces and control stations with such approved portable fire extinguishers as the Administration may deem to be appropriate and sufficient.
- (f) *Fixed Fire-Extinguishing Arrangements in Cargo Spaces*
- (i) The cargo spaces of ships of 1,000 tons gross tonnage and upwards shall be protected by a fixed gas fire-extinguishing system complying with the provisions of Regulation 8 of this Chapter, or by a fixed high expansion froth fire-extinguishing system which gives equivalent protection.
 - (ii) Where it is shown to the satisfaction of the Administration that a ship is engaged on voyages of such short duration that it would be unreasonable to apply the requirements of sub-paragraph (i) of this paragraph and also in ships of less than 1,000 tons gross tonnage, the arrangements in cargo spaces shall be to the satisfaction of the Administration.
- (g) *Fire-Extinguishing Appliances in Boiler Rooms, etc.*

Spaces containing oil-fired boilers or oil fuel units shall be provided with the following arrangements:

* A water fog applicator might consist of a metal "L"-shaped pipe, the long limb being about 2 metres (6 feet) in length capable of being fitted to a fire hose and the short limb being about 250 millimetres (10 inches) in length fitted with a fixed water fog nozzle or capable of being fitted with a water spray nozzle.

- (i) There shall be any one of the following fixed fire-extinguishing systems:
 - (1) A pressure water-spraying system complying with the provisions of Regulation 11 of this Chapter.
 - (2) A gas system complying with the provisions of Regulation 8 of this Chapter.
 - (3) A froth system complying with the provisions of Regulation 9 of this Chapter.
 - (4) A high expansion froth system complying with the provisions of Regulation 10 of this Chapter.

In each case if the engine and boiler rooms are not entirely separate, or if fuel oil can drain from the boiler room into the engine room, the combined engine and boiler rooms shall be considered as one compartment.

- (ii) There shall be in each boiler room at least one set of portable air-froth equipment complying with the provisions of paragraph (d) of Regulation 7 of this Chapter.
 - (iii) There shall be at least two approved portable extinguishers discharging froth or equivalent in each firing space in each boiler room and each space in which a part of the oil fuel installation is situated. There shall be not less than one approved froth-type extinguisher of at least 136 litres (30 gallons) capacity or equivalent in each boiler room. These extinguishers shall be provided with hoses on reels suitable for reaching any part of the boiler room.
 - (iv) In each firing space there shall be a receptacle containing sand, sawdust impregnated with soda or other approved dry material, in such quantity as may be required by the Administration. Alternatively an approved portable extinguisher may be substituted therefor.
- (h) *Fire-Extinguishing Appliances in Spaces containing Internal Combustion Type Machinery*

Spaces containing internal combustion machinery used either for main propulsion, or for other purposes when such machinery has in the aggregate a total power output of not less than 373 kW, shall be provided with the following arrangements:

- (i) There shall be one of the fire-extinguishing systems required by subparagraph (g)(i) of this Regulation.
- (ii) There shall be at least one set of portable air-froth equipment complying with the provisions of paragraph (d) of Regulation 7 of this Chapter.
- (iii) There shall be in each such space approved froth-type fire extinguishers each of at least 45 litres (10 gallons) capacity or equivalent sufficient in number to enable froth or its equivalent to be directed on to any part of the fuel and lubricating oil pressure systems, gearing and other fire hazards. In addition, there shall be provided a sufficient number of portable froth extinguishers or equivalent which shall be so located that an extinguisher is not more than 10 metres (33 feet) walking distance from any point in the space; provided that there shall be at least two such extinguishers in each such space.

(i) *Fire-Extinguishing Arrangements in Spaces containing Steam Turbines or enclosed Steam Engines*

In spaces containing steam turbines or enclosed steam engines used either for main propulsion or for other purposes when such machinery has in the aggregate a total power output of not less than 373 kW:

- (i) There shall be provided froth fire extinguishers each of at least 45 litres (10 gallons) capacity or equivalent sufficient in number to enable froth or its equivalent to be directed on to any part of the pressure lubrication system, on to any part of the casings enclosing pressure lubricated parts of the turbines, engines or associated gearing, and any other fire hazards. Provided that such extinguishers shall not be required if protection at least equivalent to this sub-paragraph is provided in such spaces by a fixed fire-extinguishing system fitted in compliance with sub-paragraph (g)(i) of this Regulation.
- (ii) There shall be provided a sufficient number of portable froth extinguishers or equivalent which shall be so located that an extinguisher is not more than 10 metres (33 feet) walking distance from any point in the space; provided that there shall be at least two such extinguishers in each such space, and such extinguishers shall not be required in addition to any provided in compliance with sub-paragraph (h)(iii) of this Regulation.

(j) *Fire-Extinguishing Appliances in other Machinery Spaces*

Where, in the opinion of the Administration, a fire hazard exists in any machinery space for which no specific provisions for fire-extinguishing appliances are prescribed in paragraphs (g), (h) and (i) of this Regulation there shall be provided in, or adjacent to, that space such number of approved portable fire extinguishers or other means of fire extinction as the Administration may deem sufficient.

(k) *Fixed Fire-Extinguishing Appliances not required by this Part*

Where a fixed fire-extinguishing system not required by this Part of this Chapter is installed, such a system shall be to the satisfaction of the Administration.

(l) *Special Requirements for Machinery Spaces*

- (i) For any machinery space of Category A to which access is provided at a low level from an adjacent shaft tunnel there shall be provided in addition to any watertight door and on the side remote from that machinery space a light steel fire-screen door which shall be operable from each side.
- (ii) An automatic fire detection and alarm system shall be fitted when the Administration considers such special precautions warranted in any machinery space in which the installation of automatic and remote control systems and equipment have been approved in lieu of continuous manning of the space.

(m) *Fireman's Outfits and Personal Equipment*

- (i) The minimum number of fireman's outfits complying with the requirements of Regulation 14 of this Chapter, and of additional sets

of personal equipment, each such set comprising the items stipulated in sub-paragraphs (a)(i), (ii) and (iii) of that Regulation, to be carried shall be as follows:

- (1) two fireman's outfits; and in addition
 - (2) for every 80 metres (262 feet) or part thereof, of the aggregate of the lengths of all passenger spaces and service spaces on the deck which carries such spaces or, if there is more than one such deck, on the deck which has the largest aggregate of such lengths, two fireman's outfits and two sets of personal equipment, each such set comprising the items stipulated in Regulation 14(a)(i), (ii) and (iii) of this Chapter.
- (ii) For each fireman's outfit which includes a self-contained breathing apparatus as provided in paragraph (b) of Regulation 14 of this Chapter, spare charges shall be carried on a scale approved by the Administration.
 - (iii) Fireman's outfits and sets of personal equipment shall be stored in widely separated positions ready for use. At least two fireman's outfits and one set of personal equipment shall be available at any one position.

Regulation 33

Arrangements for Oil Fuel, Lubricating Oil and other Inflammable Oils

(a) *Oil Fuel Arrangements*

In a ship in which oil fuel is used, the arrangements for the storage, distribution and utilization of the oil fuel shall be such as to ensure the safety of the ship and persons on board and shall at least comply with the following provisions:

- (i) No oil fuel which has a flashpoint of less than 60°C (140°F) (closed cup test) as determined by an approved flashpoint apparatus shall be used as fuel, except in emergency generators, in which case the flashpoint shall be not less than 43°C (110°F).
Provided that the Administration may permit the general use of fuel oil having a flashpoint of not less than 43°C (110°F) subject to such additional precautions as it may consider necessary and on condition that the temperature of the space in which such fuel is stored or used shall not be allowed to rise within 10°C (18°F) below the flashpoint of the fuel.
- (ii) As far as practicable, no part of the oil fuel system containing heated oil under pressure exceeding 1.8 kilogrammes per square centimetre (25 pounds per square inch) gauge shall be so concealed that defects and leakage cannot readily be observed. In way of such parts of the oil fuel system the machinery space shall be adequately illuminated.
- (iii) The ventilation of machinery spaces shall be sufficient under all normal conditions to prevent accumulation of oil vapour.
- (iv) (1) As far as practicable, oil fuel tanks shall be part of the ship's structure and shall be located outside machinery spaces of Category A. When oil fuel tanks, except double bottom tanks,

are necessarily located adjacent to machinery spaces of Category A, they shall preferably have a common boundary with the double bottom tanks, and the area of the tank boundary common with the machinery space shall be kept to a minimum. In general, the use of free-standing oil fuel tanks shall be avoided but when such tanks are employed they shall not be situated in machinery spaces of Category A.

- (2) No oil tank shall be situated where spillage or leakage therefrom can constitute a hazard by falling on heated surfaces. Precautions shall be taken to prevent any oil that may escape under pressure from any pump, filter or heater from coming into contact with heated surfaces.
- (v) Every oil fuel pipe which if damaged would allow oil to escape from a storage, settling or daily service tank situated above the double bottom shall be fitted with a cock or valve on the tank capable of being closed from a safe position outside the space concerned in the event of a fire arising in the space in which such tanks are situated. In the special case of deep tanks situated in any shaft or pipe tunnel or similar space, valves on the tanks shall be fitted but control in event of fire may be effected by means of an additional valve on the pipe or pipes outside the tunnel or similar space.
- (vi) Safe and efficient means of ascertaining the amount of oil fuel contained in any oil tank shall be provided. Sounding pipes with suitable means of closure may be permitted if their upper ends terminate in safe positions. Other means of ascertaining the amount of oil fuel contained in any oil fuel tank may be permitted if they do not require penetration below the top of the tank, and providing their failure or overfilling of the tanks will not permit release of fuel thereby.
- (vii) Provision shall be made to prevent over-pressure in any oil tank or in any part of the oil fuel system, including the filling pipes. Any relief valves and air or overflow pipes shall discharge to a position which, in the opinion of the Administration, is safe.
- (viii) Oil fuel pipes shall be of steel or other approved material, provided that restricted use of flexible pipes shall be permissible in positions where the Administration is satisfied that they are necessary. Such flexible pipes and end attachments shall be of approved fire-resisting materials of adequate strength and shall be constructed to the satisfaction of the Administration.

(b) *Lubricating Oil Arrangements*

The arrangements for the storage, distribution and utilization of oil used in pressure lubrication systems shall be such as to ensure the safety of the ships and persons on board, and such arrangements in machinery spaces of Category A and, whenever practicable, in other machinery spaces shall at least comply with the provisions of sub-paragraphs (ii), (iv)(2), (v), (vi) and (vii) of paragraph (a) of this Regulation.

(c) *Arrangements for other Inflammable Oils*

The arrangements for the storage, distribution and utilization of other inflammable oils employed under pressure in power transmission systems, control

and activating systems and heating systems shall be such as to ensure the safety of the ship and persons on board. In locations where means of ignition are present such arrangements shall at least comply with the provisions of sub-paragraphs (a)(iv)(2) and (a)(vi), and with the provisions of sub-paragraph (a)(viii) in respect of strength and construction, of this Regulation.

Regulation 34

Special Arrangements in Machinery Spaces

- (a) The provisions of this Regulation shall apply to machinery spaces of Category A and, where the Administration considers it desirable, to other machinery spaces.
- (b) (i) The number of skylights, doors, ventilators, openings in funnels to permit exhaust ventilation and other openings to machinery spaces shall be reduced to a minimum consistent with the needs of ventilation and the proper and safe working of the ship.
- (ii) The flaps of such skylights where fitted shall be of steel. Suitable arrangements shall be made to permit the release of smoke in the event of fire, from the space to be protected.
- (iii) Such doors other than power-operated watertight doors shall be arranged so that positive closure is assured in case of fire in the space, by power-operated closing arrangements or by the provision of self-closing doors capable of closing against an inclination of $3\frac{1}{2}$ degrees opposing closure and having a fail-safe hook-back facility, provided with a remotely operated release device.
- (c) Windows shall not be fitted in machinery space casings.
- (d) Means of control shall be provided for:
- (i) opening and closure of skylights, closure of openings in funnels which normally allow exhaust ventilation, and closure of ventilator dampers;
 - (ii) permitting the release of smoke;
 - (iii) closure of power-operated doors or release mechanism on doors other than power-operated watertight doors;
 - (iv) stopping ventilating fans; and
 - (v) stopping forced and induced draught fans, oil fuel transfer pumps, oil fuel unit pumps and other similar fuel pumps.
- (e) The controls required for ventilating fans shall comply with the provisions of paragraph (f) of Regulation 25 of this Chapter. The controls for any required fixed fire-extinguishing system and those required by sub-paragraphs (d)(i), (ii), (iii) and (v) of this Regulation and of sub-paragraph (a)(v) of Regulation 33 of this Chapter shall be situated at one control position, or grouped in as few positions as possible to the satisfaction of the Administration. Such position or positions shall be located where they will not be cut off in the event of fire in the space they serve, and shall have a safe access from the open deck.

**PART C – FIRE SAFETY MEASURES FOR PASSENGER SHIPS
CARRYING NOT MORE THAN 36 PASSENGERS**

Regulation 35

Structure

- (a) The hull, superstructure, structural bulkheads, decks and deckhouses shall be constructed of steel or other equivalent material.
- (b) Where fire protection in accordance with paragraph (b) of Regulation 40 of this Chapter is employed, the superstructure may be constructed of, for example, aluminium alloy, provided that:
- (i) for the temperature rise of the metallic cores of “A” Class divisions when exposed to the standard fire test, due regard is given to the mechanical properties of the material;
 - (ii) the Administration is satisfied that the amount of combustible materials used in the relevant part of the ship is suitably reduced; the ceilings (i.e. linings of deck heads) are non-combustible;
 - (iii) adequate provision is made to ensure that in the event of fire, arrangements for stowage, launching and embarkation into survival craft remain as effective as if the superstructure were constructed of steel;
 - (iv) crowns and casings of boiler and machinery spaces are of steel construction adequately insulated, and the openings therein, if any, are suitably arranged and protected to prevent spread of fire.

Regulation 36

Main Vertical Zones

- (a) The hull, superstructure and deckhouses shall be subdivided into main vertical zones. Steps and recesses shall be kept to a minimum, but where they are necessary, they shall be of “A” Class divisions.
- (b) As far as practicable, the bulkheads forming the boundaries of the main vertical zones above the bulkhead deck shall be in line with watertight subdivision bulkheads situated immediately below the bulkhead deck.
- (c) Such bulkheads shall extend from deck to deck and to the shell or other boundaries.
- (d) On ships designed for special purposes, such as automobile or railroad car ferries, where installation of such bulkheads would defeat the purpose for which the ship is intended, equivalent means for controlling and limiting a fire shall be substituted and specifically approved by the Administration.

Regulation 37*Openings in "A" Class Divisions*

(a) Where "A" Class divisions are pierced for the passage of electric cables, pipes, trunks, ducts, etc., for girders, beams or other structures, arrangements shall be made to ensure that the fire resistance is not impaired.

(b) Where of necessity, a duct passes through a main vertical zone bulkhead, a fail-safe automatic closing fire damper shall be fitted adjacent to the bulkhead. The damper shall also be capable of being manually closed from both sides of the bulkhead. The operating position shall be readily accessible and be marked in red light-reflecting colour. The duct between the bulkhead and the damper shall be of steel or other equivalent material and, if necessary, to an insulating standard such as to comply with paragraph (a) of this Regulation. The damper shall be fitted on at least one side of the bulkhead with a visible indicator showing if the damper is in the open position.

(c) Except for hatches between cargo, store, and baggage spaces, and between such spaces and the weather decks, all openings shall be provided with permanently attached means of closing which shall be at least as effective for resisting fires as the divisions in which they are fitted.

(d) The construction of all doors and door frames in "A" Class divisions, with the means of securing them when closed, shall provide resistance to fire as well as to the passage of smoke and flame as far as practicable equivalent to that of the bulkheads in which the doors are situated. Watertight doors need not be insulated.

(e) It shall be possible for each door to be opened from either side of the bulkhead by one person only.

(f) Fire doors in main vertical zone bulkheads and stairway enclosures, other than power-operated watertight doors and those which are normally locked, shall be of the self-closing type capable of closing against an inclination of $3\frac{1}{2}$ degrees opposing closure. All such doors, except those that are normally closed, shall be capable of release from a control station, either simultaneously or in groups, and also individually from a position at the door. The release mechanism shall be so designed that the door will automatically close in the event of disruption of the control system; however, approved power-operated watertight doors will be considered acceptable for this purpose. Hold-back hooks, not subject to control station release, will not be permitted. When double swing doors are permitted, they shall have a latch arrangement which is automatically engaged by the operation of the door release system.

Regulation 38*Fire Integrity of "A" Class Divisions*

Where "A" Class divisions are required under this Part, the Administration, in deciding the amount of insulation to be provided, shall be guided by the provisions of Part B of this Chapter, but may accept a reduction of the amount of insulation below that stipulated by that Part.

Regulation 39*Separation of Accommodation Spaces from Machinery, Cargo and Service Spaces*

The boundary bulkheads and decks separating accommodation spaces from machinery, cargo and service spaces shall be constructed of "A" Class divisions, and these bulkheads and decks shall have an insulation value to the satisfaction of the Administration having regard to the nature of the adjacent spaces.

Regulation 40*Protection of Accommodation and Service Spaces*

The accommodation and service spaces shall be protected in accordance with the provisions of either paragraph (a) or (b) of this Regulation.

- (a)
 - (i) Within the accommodation spaces, all enclosure bulkheads other than those required to be of "A" Class divisions, shall be constructed of "B" Class divisions of non-combustible materials, which may, however, be faced with combustible materials in accordance with subparagraph (iii) of this paragraph.
 - (ii) All corridor bulkheads shall extend from deck to deck. Ventilation openings may be permitted in the doors in "B" Class bulkheads, preferably in the lower portion. All other enclosure bulkheads shall extend from deck to deck vertically, and to the shell or other boundaries transversely, unless non-combustible ceilings or linings such as will ensure fire integrity are fitted, in which case the bulkheads may terminate at the ceilings or linings.
 - (iii) Except in cargo spaces, mail rooms, baggage rooms, or refrigerated compartments of service spaces, all linings, grounds, ceilings and insulations shall be of non-combustible materials. The total volume of combustible facings, mouldings, decorations and veneers in any accommodation or public space shall not exceed a volume equivalent to 2.54 millimetres (1/10 inch) veneer on the combined area of the walls and ceilings. All exposed surfaces in corridors or stairway enclosures and in concealed or inaccessible spaces shall have low flame-spread characteristics.*
- (b)
 - (i) All corridor bulkheads in accommodation spaces shall be of steel or be constructed of "B" Class panels.
 - (ii) A fire detecting system of an approved type shall be installed and so arranged as to detect the presence of fire in all enclosed spaces appropriated to the use or service of passengers or crew (except spaces which afford no substantial fire hazard) and automatically to

* Reference is made to Guidelines on the Evaluation of Fire Hazard Properties of Materials, adopted by the Organization by Resolution A.166(ES.IV).

indicate at one or more points or stations where it can be most quickly observed by officers and crew, the presence or indication of fire and also its location.

Regulation 41

*Deck Coverings**

Primary deck coverings within accommodation spaces, control stations, stairways and corridors shall be of approved material which will not readily ignite.

Regulation 42

Protection of Stairways and Lifts in Accommodation and Service Spaces

- (a) All stairways and means of escape in accommodation and service spaces shall be of steel or other suitable materials.
- (b) Passenger and service lift trunks, vertical trunks for light and air to passenger spaces, etc., shall be of "A" Class divisions. Doors shall be of steel or other equivalent material and when closed shall provide fire resistance at least as effective as the trunks in which they are fitted.

Regulation 43

Protection of Control Stations and Store-rooms

- (a) Control stations shall be separated from the remainder of the ship by "A" Class bulkheads and decks.
- (b) The boundary bulkheads of baggage rooms, mail rooms, store-rooms, paint and lamp lockers, galleys and similar spaces shall be of "A" Class divisions. Spaces containing highly inflammable stores shall be so situated as to minimize the danger to passengers or crew in the event of fire.

Regulation 44

Windows and Sidescuttles

- (a) All windows and sidescuttles in bulkheads separating accommodation spaces from weather shall be constructed with frames of steel or other suitable material. The glass shall be retained by a metal glazing bead.
- (b) All windows and sidescuttles in bulkheads within accommodation spaces shall be constructed so as to preserve the integrity requirements of the type of bulkhead in which they are fitted.

* Reference is made to Improved Provisional Guidelines on Test Procedures for Primary Deck Coverings, adopted by the Organization by Resolution A.214(VII).

Regulation 45*Ventilation Systems*

Power ventilation of machinery spaces shall be capable of being stopped from an easily accessible position outside the machinery spaces.

Regulation 46*Details of Construction*

- (a) Paints, varnishes and similar preparations having a nitro-cellulose or other highly inflammable base shall not be used in any part of the ship.
- (b) Pipes penetrating "A" or "B" Class divisions shall be of a material approved by the Administration having regard to the temperature such divisions are required to withstand. Pipes conveying oil or combustible liquids shall be of a material approved by the Administration having regard to the fire risk. Materials readily rendered ineffective by heat shall not be used for overboard scuppers, sanitary discharges, and other outlets which are close to the water-line and where the failure of the material in the event of fire would give rise to danger of flooding.
- (c) In spaces containing main propulsion machinery, or oil-fired boilers, or auxiliary internal combustion type machinery of total power output of 746 kW or over, the following measures shall be taken:
 - (i) skylights shall be capable of being closed from outside the space;
 - (ii) skylights containing glass panels shall be fitted with external shutters of steel or other equivalent material permanently attached;
 - (iii) any window permitted by the Administration in casings of such spaces shall be of the non-opening type, and shall be fitted with an external shutter of steel or other equivalent material permanently attached; and
 - (iv) in the windows and skylights referred to in sub-paragraphs (i), (ii) and (iii) of this paragraph, wire reinforced glass shall be used.

Regulation 47*Fire Detection Systems and Fire-Extinguishing Equipment*

- (a) *Patrols and Detection*
 - (i) An efficient patrol system shall be maintained in all ships so that any outbreak of fire may be promptly detected. Manual fire alarms shall be fitted throughout the passenger and crew accommodation to enable the fire patrol to give an alarm immediately to the navigating bridge or fire control station.
 - (ii) An approved fire alarm or fire detecting system shall be provided which will automatically indicate at one or more suitable points or

stations the presence or indication of fire and its location in any part of the ship which, in the opinion of the Administration, is not accessible to the patrol system, except where it is shown to the satisfaction of the Administration that the ship is engaged on voyages of such short duration that it would be unreasonable to apply this requirement.

- (iii) The ship, whether new or existing, shall at all times when at sea, or in port (except when out of service), be so manned or equipped as to ensure that any initial fire alarm is immediately received by a responsible member of the crew.

(b) *Fire Pumps and Fire Main System*

The ship shall be provided with fire pumps, fire main system, hydrants and hoses complying with Regulation 5 of this Chapter and with the following requirements:

- (i) A ship of 4,000 tons gross tonnage and upwards shall be provided with at least three independently driven fire pumps and every ship of less than 4,000 tons gross tonnage with at least two such fire pumps.
- (ii) In a ship of 1,000 tons gross tonnage and upwards, the arrangement of sea connexions, pumps and sources of power for operating them shall be such as to ensure that a fire in any one compartment will not put all the fire pumps out of action.
- (iii) In a ship of less than 1,000 tons gross tonnage the arrangements shall be to the satisfaction of the Administration.

(c) *Fire Hydrants, Hoses and Nozzles*

- (i) The ship shall be provided with such number of fire hoses as the Administration may deem sufficient. There shall be at least one fire hose for each of the hydrants required by paragraph (d) of Regulation 5 of this Chapter and these hoses shall be used only for the purposes of extinguishing fires or testing the fire-extinguishing apparatus at fire drills and surveys.
- (ii) In accommodation, service and machinery spaces, the number and position of hydrants shall be such that the requirements of paragraph (d) of Regulation 5 of this Chapter may be complied with when all watertight doors and all doors in main vertical zone bulkheads are closed.
- (iii) The arrangements shall be such that at least two jets of water can reach any part of any cargo space when empty.
- (iv) All required hydrants in the machinery spaces of ships with oil-fired boilers or internal combustion type propelling machinery shall be fitted with hoses having nozzles as required in paragraph (g) of Regulation 5 of this Chapter.

(d) *International Shore Connexion*

- (i) A ship of 1,000 tons gross tonnage and upwards shall be provided with at least one international shore connexion, complying with paragraph (h) of Regulation 5 of this Chapter.
- (ii) Facilities shall be available enabling such a connexion to be used on either side of the ship.

(e) *Portable Fire Extinguishers in Accommodation and Service Spaces*

The ship shall be provided in accommodation and service spaces with such approved portable fire extinguishers as the Administration may deem to be appropriate and sufficient.

(f) *Fixed Fire-Extinguishing Arrangements in Cargo Spaces*

- (i) The cargo spaces of ships of 1,000 tons gross tonnage and upwards shall be protected by a fixed gas fire-extinguishing system complying with Regulation 8 of this Chapter.
- (ii) Where it is shown to the satisfaction of the Administration that a ship is engaged on voyages of such short duration that it would be unreasonable to apply the requirements of sub-paragraph (i) of this paragraph and also in ships of less than 1,000 tons gross tonnage, the arrangements in cargo spaces shall be to the satisfaction of the Administration.

(g) *Fire-Extinguishing Appliances in Boiler Rooms, etc.*

Where main or auxiliary oil-fired boilers are situated, or in spaces containing oil fuel units or settling tanks, a ship shall be provided with the following arrangements:

- (i) There shall be any one of the following fixed fire-extinguishing installations:
 - (1) a pressure water-spraying system complying with Regulation 11 of this Chapter;
 - (2) a gas fire-extinguishing installation complying with Regulation 8 of this Chapter;
 - (3) a fixed froth installation complying with Regulation 9 of this Chapter. (The Administration may require fixed or mobile arrangements by pressure water or froth spraying to fight fire above the floor plates.)

In each case if the engine and boiler rooms are not entirely separate, or if fuel oil can drain from the boiler room into the engine room bilges, the combined engine and boiler rooms shall be considered as one compartment.

- (ii) There shall be at least two approved portable extinguishers discharging froth or other approved medium suitable for extinguishing oil fires, in each firing space in each boiler room and each space in which a part of the oil fuel installation is situated. There shall be not less than one approved froth type extinguisher of at least 136 litres (30 gallons) capacity or equivalent in each boiler room. These extinguishers shall be provided with hoses on reels suitable for reaching any part of the boiler room and spaces containing any part of the oil fuel installations.
- (iii) In each firing space there shall be a receptacle containing sand, sawdust impregnated with soda or other approved dry material, in such quantity as may be required by the Administration. Alternatively an approved portable extinguisher may be substituted therefor.

(h) *Fire-Fighting Appliances in Spaces containing Internal Combustion Type Machinery*

Where internal combustion type engines are used, either for main propulsion or for auxiliary purposes associated with a total power output of not less than 746 kW, a ship shall be provided with the following arrangements:

- (i) there shall be one of the fixed arrangements required by sub-paragraph (g)(i) of this Regulation;
- (ii) there shall be in each engine space one approved froth-type extinguisher of not less than 45 litres (10 gallons) capacity or equivalent and also one approved portable froth-type extinguisher for each 746 kW of engine power output or part thereof; but the total number of portable extinguishers so supplied shall be not less than two and need not exceed six.

(i) *Fire-Fighting Arrangements in Spaces containing Steam Turbines and not requiring any Fixed Installation*

The Administration shall give special consideration to the fire-extinguishing arrangements to be provided in spaces containing steam turbines which are separated from boiler rooms by watertight bulkheads.

(j) *Fireman's Outfits and Personal Equipment*

- (i) The minimum number of fireman's outfits complying with the requirements of Regulation 14 of this Chapter, and of additional sets of personal equipment, each such set comprising the items stipulated in sub-paragraphs (a)(i), (ii) and (iii) of that Regulation, to be carried, shall be as follows:
 - (1) two fireman's outfits; and in addition
 - (2) for every 80 metres (262 feet) or part thereof, of the aggregate of the lengths of all passenger spaces and service spaces on the deck which carries such spaces or, if there is more than one such deck, on the deck which has the largest aggregate of such lengths, two fireman's outfits and two sets of personal equipment, each such set comprising the items stipulated in Regulation 14(a)(i), (ii) and (iii) of this Chapter.
- (ii) For each fireman's outfit which includes a self-contained breathing apparatus as provided in paragraph (b) of Regulation 14 of this Chapter, spare charges shall be carried on a scale approved by the Administration.
- (iii) Fireman's outfits and sets of personal equipment shall be stored in widely separated positions ready for use. At least two fireman's outfits and one set of personal equipment shall be available at any one position.

Regulation 48

Means of Escape

- (a) In and from all passenger and crew spaces and spaces in which crew are normally employed, other than machinery spaces, stairways and ladderways shall

be arranged so as to provide ready means of escape to the lifeboat embarkation deck. In particular the following precautions shall be complied with:

- (i) below the bulkhead deck, two means of escape, at least one of which shall be independent of watertight doors, shall be provided for each watertight compartment or similarly restricted space or group of spaces. One of these means of escape may be dispensed with by the Administration, due regard being paid to the nature and the location of spaces concerned, and to the number of persons who normally might be quartered or employed there;
 - (ii) above the bulkhead deck, there shall be at least two practical means of escape from each main vertical zone or similarly restricted space or group of spaces at least one of which shall give access to a stairway forming a vertical escape; and
 - (iii) at least one of the means of escape shall be by means of a readily accessible enclosed stairway, which shall provide as far as practicable continuous fire shelter from the level of its origin to the lifeboat embarkation deck. The width, number and continuity of the stairways shall be to the satisfaction of the Administration.
- (b) In machinery spaces, two means of escape, one of which may be a watertight door, shall be provided from each engine room, shaft tunnel and boiler room. In machinery spaces, where no watertight door is available, the two means of escape shall be formed by two sets of steel ladders as widely separated as possible leading to doors in the casing similarly separated and from which access is provided to the embarkation deck. In the case of ships of less than 2,000 tons gross tonnage, the Administration may dispense with this requirement, due regard being paid to the width and the disposition of the casing.

Regulation 49

Oil Fuel used for Internal Combustion Engines

No internal combustion engine shall be used for any fixed installation in a ship if its fuel has a flashpoint of 43°C (110°F) or less (closed cup test) as determined by an approved flashpoint apparatus.

Regulation 50

Special Arrangements in Machinery Spaces

- (a) Means shall be provided for stopping ventilating fans serving machinery and cargo spaces and for closing all doorways, ventilators, annular spaces around funnels and other openings to such spaces. These means shall be capable of being operated from outside such spaces in case of fire.
- (b) Machinery driving forced and induced draught fans, oil fuel transfer pumps, oil fuel unit pumps and other similar fuel pumps shall be fitted with remote controls situated outside the space concerned so that they may be stopped in the event of a fire arising in the space in which they are located.

(c) Every oil fuel suction pipe from a storage, settling or daily service tank situated above the double bottom shall be fitted with a cock or valve capable of being closed from outside the space concerned in the event of a fire arising in the space in which such tanks are situated. In the special case of deep tanks situated in any shaft or pipe tunnel, valves on the tanks shall be fitted but control in event of fire may be effected by means of an additional valve on the pipeline or lines outside the tunnel or tunnels.

PART D – FIRE SAFETY MEASURES FOR CARGO SHIPS*

Regulation 51

General Requirements for Cargo Ships of 4,000 tons Gross Tonnage and Upwards other than Tankers Covered by Part E of this Chapter

- (a) The hull, superstructure, structural bulkheads, decks and deckhouses shall be constructed of steel, except where the Administration may sanction the use of other suitable material in special cases, having in mind the risk of fire.
- (b) In accommodation spaces, the corridor bulkheads shall be of steel or be constructed of “B” Class panels.
- (c) Deck coverings within accommodation spaces on the decks forming the crown of machinery and cargo spaces shall be of a type which will not readily ignite.†
- (d) Interior stairways below the weather deck shall be of steel or other suitable material. Crew lift trunks within accommodation shall be of steel or equivalent material.
- (e) Bulkheads of galleys, paint stores, lamp rooms, boatswain’s stores when adjacent to accommodation spaces and emergency generator rooms if any, shall be of steel or equivalent material.
- (f) In accommodation and machinery spaces, paints, varnishes and similar preparations having a nitro-cellulose or other highly inflammable base shall not be used.
- (g) Pipes conveying oil or combustible liquids shall be of a material approved by the Administration having regard to the fire risk. Materials readily rendered ineffective by heat shall not be used for overboard scuppers, sanitary discharges, and other outlets which are close to the water-line and where the failure of the material in the event of fire would give rise to danger of flooding.
- (h) Power ventilation of machinery spaces shall be capable of being stopped from an easily accessible position outside the machinery spaces.

* Reference is made to Recommendation on Safety Measures for Periodically Unattended Machinery Spaces of Cargo Ships additional to those normally considered necessary for an Attended Machinery Space, adopted by the Organization by Resolution A.211(VII).

† Reference is made to Improved Provisional Guidelines on Test Procedures for Primary Deck Coverings, adopted by the Organization by Resolution A.214(VII).

Regulation 52*Fire-Extinguishing Systems and Equipment***(a) Application**

Where ships have a lower gross tonnage than those quoted in this Regulation, the arrangements for the items covered in this Regulation shall be to the satisfaction of the Administration.

(b) Fire Pumps and Fire Main System

The ship shall be provided with fire pumps, fire main system, hydrants and hoses complying with Regulation 5 of this Chapter and with the following requirements:

- (i) A ship of 1,000 tons gross tonnage and upwards shall be provided with two independently driven power pumps.
- (ii) In a ship of 1,000 tons gross tonnage and upwards if a fire in any one compartment could put all the pumps out of action, there must be an alternative means of providing water for fire fighting. In a ship of 2,000 tons gross tonnage and upwards this alternative means shall be a fixed emergency pump independently driven. This emergency pump shall be capable of supplying two jets of water to the satisfaction of the Administration.

(c) Fire Hydrants, Hoses and Nozzles

- (i) In a ship of 1,000 tons gross tonnage and upwards the number of fire hoses to be provided, each complete with couplings and nozzles, shall be one for each 30 metres (100 feet) length of the ship and one spare but in no case less than five in all. This number does not include any hoses required in any engine or boiler room. The Administration may increase the number of the hoses required so as to ensure that hoses in sufficient number are available and accessible at all times, having regard to the type of the ship and the nature of the trade on which the ship is employed.
- (ii) In accommodation, service and machinery spaces, the number and position of hydrants shall be such as to comply with the requirements of paragraph (d) of Regulation 5 of this Chapter.
- (iii) In a ship the arrangements shall be such that at least two jets of water can reach any part of any cargo space when empty.
- (iv) All required hydrants in the machinery spaces of ships with oil-fired boilers or internal combustion type propelling machinery shall be fitted with hoses having nozzles as required in paragraph (g) of Regulation 5 of this Chapter.

(d) International Shore Connexion

- (i) A ship of 1,000 tons gross tonnage and upwards shall be provided with at least one international shore connexion, complying with paragraph (h) of Regulation 5 of this Chapter.
- (ii) Facilities shall be available enabling such a connexion to be used on either side of the ship.

(e) *Portable Fire Extinguishers in Accommodation and Service Spaces*

The ship shall be provided in accommodation and service spaces with such approved portable fire extinguishers as the Administration may deem to be appropriate and sufficient; in any case, their number shall not be less than five for ships of 1,000 tons gross tonnage and upwards.

(f) *Fixed Fire-Extinguishing Arrangements in Cargo Spaces*

- (i) Cargo spaces of ships of 2,000 tons gross tonnage and upwards shall be protected by a fixed fire-extinguishing system complying with Regulation 8 of this Chapter.
- (ii) The Administration may exempt from the requirements of subparagraph (i) of this paragraph the cargo holds of any ship (other than the tanks of a tanker):
 - (1) if they are provided with steel hatch covers and effective means of closing all ventilators and other openings leading to the holds;
 - (2) if the ship is constructed and intended solely for carrying such cargoes as ore, coal or grain; or
 - (3) where it is shown to the satisfaction of the Administration that the ship is engaged on voyages of such short duration that it would be unreasonable to apply the requirement.
- (iii) Every ship in addition to complying with the requirements of this Regulation shall, while carrying explosives of such nature or in such quantity as are not permitted to be carried in passenger ships under Regulation 7 of Chapter VII of this Convention comply with the following requirements:
 - (1) Steam shall not be used in any compartment containing explosives. For the purpose of this subparagraph, "compartment" means all spaces contained between two adjacent permanent bulkheads and includes the lower hold and all cargo spaces above it.
 - (2) In addition, in each compartment containing explosives and in adjacent cargo compartments, there shall be provided a smoke- or fire-detection system in each cargo space.

(g) *Fire-Extinguishing Appliances in Boiler Rooms, etc.*

Where main or auxiliary oil-fired boilers are situated, or in spaces containing oil fuel units or settling tanks, a ship of 1,000 tons gross tonnage and upwards shall be provided with the following arrangements:

- (i) There shall be any one of the following fixed fire-extinguishing installations:
 - (1) A pressure water-spraying system complying with Regulation 11 of this Chapter.
 - (2) A fire-extinguishing installation complying with Regulation 8 of this Chapter.
 - (3) A fixed froth installation complying with Regulation 9 of this Chapter. (The Administration may require fixed or mobile

arrangements by pressure water or froth spraying to fight fire above the floor plates.)

In each case if the engine and boiler rooms are not entirely separate, or if fuel oil can drain from the boiler room into the engine room bilges, the combined engine and boiler rooms shall be considered as one compartment.

- (ii) There shall be at least two approved portable extinguishers discharging froth or other approved medium suitable for extinguishing oil fires in each firing space in each boiler room and each space in which a part of the oil fuel installation is situated. In addition, there shall be at least one extinguisher of the same description with a capacity of 9 litres (2 gallons) for each burner, provided that the total capacity of the additional extinguisher or extinguishers need not exceed 45 litres (10 gallons) for any one boiler room.
 - (iii) In each firing space there shall be a receptacle containing sand, sawdust impregnated with soda, or other approved dry material in such quantity as may be required by the Administration. Alternatively an approved portable extinguisher may be substituted therefor.
- (h) *Fire-Fighting Appliances in Spaces containing Internal Combustion Type Machinery*

Where internal combustion type engines are used, either for main propulsion machinery, or for auxiliary purposes associated with a total power output of not less than 746 kW, a ship of 1,000 tons gross tonnage and upwards shall be provided with the following arrangements:

- (i) There shall be one of the fixed arrangements required by subparagraph (g)(i) of this Regulation.
 - (ii) There shall be in each engine space one approved froth-type extinguisher of not less than 45 litres (10 gallons) capacity or equivalent and also one approved portable froth extinguisher for each 746 kW of engine power output or part thereof; but the total number of portable extinguishers so supplied shall be not less than two and need not exceed six.
- (i) *Fire-Fighting Arrangements in Spaces containing Steam Turbines and not requiring any Fixed Installation*

The Administration shall give special consideration to the fire-extinguishing arrangements to be provided in spaces containing steam turbines which are separated from boiler rooms by watertight bulkheads.

- (j) *Fireman's Outfits and Personal Equipment*
- (i) The ship, whether new or existing, shall carry at least two fireman's outfits complying with the requirements of Regulation 14 of this Chapter. Furthermore, Administrations may require in large ships additional sets of personal equipment and in tankers and special ships such as factory ships additional fireman's outfits.
 - (ii) For each fireman's outfit which includes a self-contained breathing apparatus as provided in paragraph (b) of Regulation 14 of this

Chapter, spare charges shall be carried on a scale approved by the Administration.

- (iii) The fireman's outfits and personal equipment shall be stored so as to be easily accessible and ready for use and, where more than one fireman's outfit and set of personal equipment are carried, they shall be stored in widely separated positions.

Regulation 53

Means of Escape

(a) In and from all crew and passenger spaces and spaces in which crew are normally employed, other than machinery spaces, stairways and ladders shall be arranged so as to provide ready means of escape to the lifeboat embarkation deck.

(b) In machinery spaces, two means of escape, one of which may be a watertight door, shall be provided from each engine room, shaft tunnel and boiler room. In machinery spaces, where no watertight door is available, the two means of escape shall be formed by two sets of steel ladders as widely separated as possible leading to doors in the casing similarly separated and from which access is provided to the embarkation deck. In the case of ships of less than 2,000 tons gross tonnage, the Administration may dispense with this requirement, due regard being paid to the width and the disposition of the casing.

Regulation 54

Special Arrangements in Machinery Spaces

(a) Means shall be provided for stopping ventilating fans serving machinery and cargo spaces and for closing all doorways, ventilators, annular spaces around funnels and other openings to such spaces. These means shall be capable of being operated from outside such spaces in case of fire.

(b) Machinery driving forced and induced draught fans, oil fuel transfer pumps, oil fuel unit pumps and other similar fuel pumps shall be fitted with remote controls situated outside the space concerned so that they may be stopped in the event of a fire arising in the space in which they are located.

(c) Every oil fuel suction pipe from a storage, settling or daily service tank situated above the double bottom shall be fitted with a cock or valve capable of being closed from outside the space concerned in the event of a fire arising in the space in which such tanks are situated. In the special case of deep tanks situated in any shaft or pipe tunnel, valves on the tanks shall be fitted but control in event of fire may be effected by means of an additional valve on the pipeline or lines outside the tunnel or tunnels.

PART E – FIRE SAFETY MEASURES FOR TANKERS**Regulation 55***Application*

- (a) This Part shall apply to all new tankers carrying crude oil and petroleum products having a flashpoint not exceeding 60°C (140°F) (closed cup test) as determined by an approved flashpoint apparatus and whose Reid vapour pressure is below that of atmospheric pressure, and other liquid products having a similar fire hazard.
- (b) In addition, all ships covered by this Part shall comply with the requirements of Regulations 52, 53 and 54 of this Chapter, except that paragraph (f) of Regulation 52 need not apply to tankers complying with Regulation 60 of this Chapter.
- (c) Where cargoes other than those referred to in paragraph (a) of this Regulation which introduce additional fire hazards are intended to be carried, additional safety measures shall be required to the satisfaction of the Administration.
- (d) Combination carriers shall not carry solid cargoes unless all cargo tanks are empty of oil and gas freed or unless, in each case, the Administration is satisfied with the arrangements provided.

Regulation 56*Location and Separation of Spaces*

- (a) Machinery spaces of Category A shall be positioned aft of cargo tanks and slop tanks and shall be isolated from them by a cofferdam, cargo pump room or oil fuel bunker tank; they shall also be situated aft of such cargo pump rooms and cofferdams, but not necessarily aft of the oil fuel bunker tanks. However, the lower portion of the pump room may be recessed into such spaces to accommodate pumps provided the deck head of the recess is in general not more than one-third of the moulded depth above the keel except that in the case of ships of not more than 25,000 metric tons deadweight, where it can be demonstrated that for reasons of access and satisfactory piping arrangements this is impracticable, the Administration may permit a recess in excess of such height, but not exceeding one half of the moulded depth above the keel.
- (b) Accommodation spaces, main cargo control stations, control stations and service spaces shall be positioned aft of all cargo tanks, slop tanks, cargo pump rooms and cofferdams which isolate cargo or slop tanks from machinery spaces of Category A. Any common bulkhead separating a cargo pump room, including the pump room entrance, from accommodation and service spaces and control stations shall be constructed to "A-60" Class. Where deemed necessary, accommodation spaces, control stations, machinery spaces other than those of Category A and service spaces may be permitted forward of all cargo tanks, slop tanks, cargo pump rooms and cofferdams subject to an equivalent standard of safety and appropriate availability of fire-extinguishing arrangements being provided to the satisfaction of the Administration.

(c) Where the fitting of a navigation position above the cargo tank area is shown to be necessary it shall be for navigation purposes only and it shall be separated from the cargo tank deck by means of an open space with a height of at least 2 metres. The fire protection of such navigation position shall in addition be as required for control spaces as set forth in paragraphs (a) and (b) of Regulation 57 and other provisions as applicable of this Part.

(d) Means shall be provided to keep deck spills away from the accommodation and service areas. This may be accomplished by provision of a permanent continuous coaming of a suitable height extending from side to side. Special consideration shall be given to the arrangements associated with stern loading.

(e) Exterior boundaries of superstructures and deckhouses enclosing accommodation and service spaces and including any overhanging decks which support such accommodation, shall be insulated to "A-60" Class for the whole of the portions which face cargo oil tanks and for 3 metres aft of the front boundary. In the case of the sides of these superstructures and deckhouses, such insulation shall be carried as high as is deemed necessary by the Administration.

(f) In boundaries, facing cargo tanks, of superstructures and deckhouses containing accommodation and service spaces the following provisions shall apply:

- (i) No doors shall be permitted in such boundaries, except that doors to those spaces not having access to accommodation and service spaces, such as cargo control stations, provision rooms, and store-rooms may be permitted by the Administration. Where such doors are fitted, the boundaries of the space shall be insulated to "A-60" Class. Bolted plates for removal of machinery may be fitted in such boundaries.
- (ii) Portlights in such boundaries shall be of a fixed (non-opening) type. Pilot house windows may be non-fixed (opening).
- (iii) Portlights in the first tier on the main deck shall be fitted with inside covers of steel or equivalent material.

The requirements of this paragraph, where applicable, except in the case of access to the navigating bridge spaces, shall also be applied to the boundaries of the superstructures and deckhouses for a distance of 5 metres measured longitudinally from the forward end of such structures.

Regulation 57

Construction

- (a) (i) The hull, superstructure, structural bulkheads, decks and deck-houses shall be constructed of steel or other equivalent material.
- (ii) Bulkheads between cargo pump rooms, including their trunks and machinery spaces of Category A shall be "A" Class and shall have no penetrations which are less than "A-0" Class or equivalent in all respects, other than the cargo pump shaft glands and similar glanded penetrations.

- (iii) Bulkheads and decks forming divisions separating machinery spaces of Category A and cargo pump rooms, including their trunks, respectively, from the accommodation and service spaces shall be of "A-60" Class. Such bulkheads and decks and any boundaries of machinery spaces of Category A and cargo pump rooms shall not be pierced for windows or portlights.
- (iv) The requirements of sub-paragraphs (ii) and (iii) of this paragraph, however, do not preclude the installation of permanent approved gas-tight lighting enclosures for illuminating the pump rooms provided that they are of adequate strength and maintain the integrity and gas-tightness of the bulkhead as "A" Class. Further, it does not preclude the use of windows in a control room located entirely within a machinery space.
- (v) Control stations shall be separated from adjacent enclosed spaces by means of "A" Class bulkheads and decks. The insulation of these control station boundaries shall be to the satisfaction of the Administration having in mind the risk of fire in adjacent spaces.
- (vi) Casing doors in machinery spaces of Category A shall be self-closing and comply with the related provisions of sub-paragraph (b)(vii) of this Regulation.
- (vii) The surface of the insulation on interior boundaries of machinery spaces of Category A shall be impervious to oil and oil vapours.
- (viii) Primary deck coverings, if applied, shall be of approved materials which will not readily ignite.*
- (ix) Interior stairways shall be of steel or other suitable material.
- (x) When adjacent to accommodation spaces, bulkheads of galleys, paint stores, lamp rooms and boatswain's stores shall be of steel or equivalent material.
- (xi) Paints, varnishes and other finishes used on exposed interior surfaces shall not be of a nature to offer an undue fire hazard in the judgement of the Administration and shall not be capable of producing excessive quantities of smoke or other toxic properties.
- (xii) Pipes conveying oil or combustible liquids shall be of a material approved by the Administration having regard to the fire risk. Materials readily rendered ineffective by heat shall not be used for overboard scuppers, sanitary discharges, and other outlets which are close to the water-line and where the failure of the material in the event of fire would give rise to danger of flooding.
- (xiii) Power ventilation of machinery spaces shall be capable of being stopped from an easily accessible position outside the machinery spaces.
- (xiv) Skylights to machinery spaces of Category A and cargo pump rooms shall comply with the provisions of sub-paragraph (a)(iii) of this

* Reference is made to Improved Provisional Guidelines on Test Procedures for Primary Deck Coverings, adopted by the Organization by Resolution A.214(VII).

Regulation in respect of windows and portlights and in addition shall be so arranged as to be capable of being readily closed from outside the spaces which they serve.

(b) Within the accommodation and service spaces and control stations the following conditions shall apply:

- (i) Corridor bulkheads including doors shall be of "A" or "B" Class divisions extending from deck to deck. Where continuous "B" Class ceilings and/or linings are fitted on both sides of the bulkhead, the bulkhead may terminate at the continuous ceiling or lining. Doors of cabins and public spaces in such bulkheads may have a louvre in the lower half.
- (ii) Air spaces enclosed behind ceilings, panellings, or linings shall be divided by close fitting draught stops spaced not more than 14 metres apart.
- (iii) Ceilings, linings, bulkheads and insulation except for insulation in refrigerated compartments shall be of non-combustible material. Vapour barriers and adhesives used in conjunction with insulation, as well as insulation of pipe fittings for cold service systems need not be non-combustible, but they shall be kept to the minimum quantity practicable and their exposed surfaces shall have resistance to propagation of flame to the satisfaction of the Administration.
- (iv) The framing, including grounds and the joint pieces of bulkheads, linings, ceilings and draught stops, if fitted, shall be of non-combustible material.
- (v) All exposed surfaces in corridors and stairway enclosures and surfaces in concealed or inaccessible spaces shall have low flame-spread characteristics.*
- (vi) Bulkheads, linings and ceilings may have combustible veneer, provided that such veneer shall not exceed 2 millimetres within any such space except corridors, stairway enclosures and control stations where it shall not exceed 1.5 millimetres.
- (vii) Stairways which penetrate only a single deck shall be protected at least at one level by "A" or "B" Class divisions and self-closing doors so as to limit the rapid spread of fire from one deck to another. Crew lift trunks shall be of "A" Class divisions. Stairways and lift trunks which penetrate more than a single deck shall be surrounded by "A" Class divisions and protected by self-closing steel doors at all levels. Self-closing doors shall not be fitted with hold-back hooks. However, hold-back arrangements fitted with remote release fittings of the fail-safe type may be utilized.

(c) Ducts provided for ventilation of machinery spaces of Category "A" shall not in general pass through accommodation and service spaces or control stations, except that the Administration may permit relaxation from this requirement provided that:

- (i) the ducts are constructed of steel and each is insulated to "A-60" Class; or

* Reference is made to Guidelines on the Evaluation of Fire Hazard Properties of Materials, adopted by the Organization by Resolution A.166(ES.IV).

- (ii) the ducts are constructed of steel and are fitted with an automatic fire damper close to the boundary penetrated and are insulated to "A-60" Class from the machinery space of Category A to a point at least 5 metres beyond the fire damper.

(d) Ducts provided for ventilation of accommodation and service spaces or control stations shall not in general pass through machinery spaces of Category A except that the Administration may permit relaxation from this requirement provided that ducts are constructed of steel and an automatic fire damper is fitted close to the boundaries penetrated.

Regulation 58

Ventilation

(a) The arrangement and positioning of openings in the cargo tank deck from which gas emission can occur shall be such as to minimize the possibility of gas being admitted to enclosed spaces containing a source of ignition, or collecting in the vicinity of deck machinery and equipment which may constitute an ignition hazard. In every case the height of the outlet above the deck and the discharge velocity of the gas shall be considered in conjunction with the distance of any outlet from any deckhouse opening or source of ignition.

(b) The arrangement of ventilation inlets and outlets and other deckhouse and superstructure boundary space openings shall be such as to complement the provisions of paragraph (a) of this Regulation. Such vents especially for machinery spaces shall be situated as far aft as practicable. Due consideration in this regard should be given when the ship is equipped to load or discharge at the stern. Sources of ignition such as electrical equipment shall be so arranged as to avoid an explosion hazard.

(c) Cargo pump rooms shall be mechanically ventilated and discharges from the exhaust fans shall be led to a safe place on the open deck. The ventilation of these rooms shall have sufficient capacity to minimize the possibility of accumulation of inflammable vapours. The number of changes of air shall be at least 20 times per hour, based upon the gross volume of the space. The air ducts shall be arranged so that all of the space is effectively ventilated. The ventilation shall be of the suction type.

Regulation 59

Means of Escape

In addition to the requirements of paragraph (a) of Regulation 53 of this Chapter, consideration shall be given by the Administration to the availability of emergency means of escape for personnel from each cabin.

Regulation 60

Cargo Tank Protection

(a) For tankers of 100,000 metric tons deadweight and upwards and combination carriers of 50,000 metric tons deadweight and upwards, the protection of

the cargo tanks deck area and cargo tanks shall be achieved by a fixed deck froth system and a fixed inert gas system in accordance with the requirements of Regulations 61 and 62 of this Part except that in lieu of the above installations the Administration, after having given consideration to the ship arrangement and equipment, may accept other combinations of fixed installations if they afford protection equivalent to the above, in accordance with Regulation 5 of Chapter I of this Convention.

(b) To be considered equivalent, the system proposed in lieu of the deck froth system shall:

- (i) be capable of extinguishing spill fires and also preclude ignition of spilled oil not yet ignited; and
- (ii) be capable of combating fires in ruptured tanks.

(c) To be considered equivalent, the system proposed in lieu of the fixed inert gas system shall:

- (i) be capable of preventing dangerous accumulations of explosive mixtures in intact cargo tanks during normal service throughout the ballast voyage and necessary in-tank operations; and
- (ii) be so designed as to minimize the risk of ignition from the generation of static electricity by the system itself.

(d) In tankers of less than 100,000 metric tons deadweight and combination carriers of less than 50,000 metric tons deadweight the Administration, in applying the requirements of paragraph (f) of Regulation 52 of this Chapter, may accept a froth system, capable of discharging froth internally or externally, to the tanks. The details of such installation shall be to the satisfaction of the Administration.

Regulation 61

Fixed Deck Froth System

The fixed deck froth system referred to in paragraph (a) of Regulation 60 of this Chapter shall be designed as follows:

(a) The arrangements for providing froth shall be capable of delivering froth to the entire cargo tank area as well as into any cargo tank, the deck of which has been ruptured.

(b) The system shall be capable of simple and rapid operation. The main control station for the system shall be suitably located outside of the cargo tank area, adjacent to the accommodation spaces and readily accessible and operable in the event of fire in the areas protected.

(c) The rate of supply of froth solution shall be not less than the greater of the following:

- (i) 0.6 litres per minute per square metre of the cargo deck area, where cargo deck area means the maximum breadth of the ship times the total longitudinal extent of the cargo tank spaces, or
- (ii) 6 litres per minute per square metre of the horizontal sectional area of the single tank having the largest such area.

Sufficient froth concentrate shall be supplied to ensure at least 20 minutes of froth generation when using solution rates stipulated in sub-paragraph (i) or (ii) of this paragraph, whichever is the greater. The froth expansion ratio (i.e. the ratio of the volume of froth produced to the volume of the mixture of water and froth-making concentrate supplied) shall not generally exceed 12 to 1. Where systems essentially produce low expansion froth but at an expansion ratio slightly in excess of 12 to 1, the quantity of froth solution available shall be calculated as for 12 to 1 expansion ratio systems. When medium expansion ratio froth (between 50 to 1 and 150 to 1 expansion ratio) is employed the application rate of the froth and the capacity of a monitor installation shall be to the satisfaction of the Administration.

(d) Froth from the fixed froth system shall be supplied by means of monitors and froth applicators. At least 50 per cent of the required froth rate shall be delivered from each monitor.

(e) (i) The number and position of monitors shall be such as to comply with paragraph (a) of this Regulation. The capacity of any monitor in litres per minute of froth solution shall be at least three times the deck area in square metres protected by that monitor, such area being entirely forward of the monitor.

(ii) The distance from the monitor to the farthest extremity of the protected area forward of that monitor shall not be more than 75 per cent of the monitor throw in still air conditions.

(f) A monitor and hose connexion for a froth applicator shall be situated both port and starboard at the poop front or accommodation spaces facing the cargo deck. Applicators shall be provided for flexibility of action during fire-fighting operations and to cover areas screened from the monitors.

(g) Valves shall be provided in both the froth main and the fire main immediately forward of every monitor position to isolate damaged sections of these mains.

(h) Operation of a deck froth system at its required output shall permit the simultaneous use of the minimum required number of jets of water at the required pressure from the fire main.

Regulation 62

Inert Gas System

The inert gas system referred to in paragraph (a) of Regulation 60 of this Chapter shall be capable of providing on demand a gas or mixture of gases to the cargo tanks so deficient in oxygen that the atmosphere within a tank may be rendered inert, i.e. incapable of propagating flame. Such a system shall satisfy the following conditions:

(a) The need for fresh air to enter a tank during normal operations shall be eliminated, except when preparing a tank for entry by personnel.

(b) Empty tanks shall be capable of being purged with inert gas to reduce the hydrocarbon content of a tank after discharge of cargo.

- (c) The washing of tanks shall be capable of being carried out in an inert atmosphere.
- (d) During cargo discharge, the system shall be such as to ensure that the volume of gas referred to in paragraph (f) of this Regulation is available. At other times sufficient gas to ensure compliance with paragraph (g) of this Regulation shall be continuously available.
- (e) Suitable means for purging the tanks with fresh air as well as with inert gas shall be provided.
- (f) The system shall be capable of supplying inert gas at a rate of at least 125 per cent of the maximum rated capacity of the cargo pumps.
- (g) Under normal running conditions, when tanks are being filled or have been filled with inert gas, a positive pressure shall be capable of being maintained at the tank.
- (h) Exhaust gas outlets for purging shall be suitably located in the open air and shall be to the same general requirements as prescribed for ventilating outlets of tanks, referred to in paragraph (a) of Regulation 58 of this Chapter.
- (i) A scrubber shall be provided which will effectively cool the gas and remove solids and sulphur combustion products.
- (j) At least two fans (blowers) shall be provided which together shall be capable of delivering at least the amount of gas stipulated in paragraph (f) of this Regulation.
- (k) The oxygen content in the inert gas supply shall not normally exceed 5 per cent by volume.
- (l) Means shall be provided to prevent the return of hydrocarbon gases or vapours from the tanks to the machinery spaces and uptakes and prevent the development of excessive pressure or vacuum. In addition, an effective water lock shall be installed at the scrubber or on deck. Branch piping for inert gas shall be fitted with stop valves or equivalent means of control at every tank. The system shall be so designed as to minimize the risk of ignition from the generation of static electricity.
- (m) Instrumentation shall be fitted for continuously indicating and permanently recording at all times when inert gas is being supplied the pressure and oxygen content of the gas in the inert gas supply main on the discharge side of the fan. Such instrumentation should preferably be placed in the cargo control room if fitted but in any case shall be easily accessible to the officer in charge of cargo operations. Portable instruments suitable for measuring oxygen and hydrocarbon gases or vapour and the necessary tank fittings shall be provided for monitoring the tank contents.
- (n) Means for indicating the temperature and pressure of the inert gas main shall be provided.

- (o) Alarms shall be provided to indicate:
- (i) high oxygen content of gas in the inert gas main;
 - (ii) low gas pressure in the inert gas main;
 - (iii) low pressure in the supply to the deck water seal, if such equipment is installed;
 - (iv) high temperature of gas in the inert gas main; and
 - (v) low water pressure to the scrubber

and automatic shut-downs of the system shall be arranged on predetermined limits being reached in respect of sub-paragraphs (iii), (iv) and (v) of this paragraph.

(p) The master of any ship equipped with an inert gas system shall be provided with an instruction manual covering operational, safety and occupational health requirements relevant to the system.

Regulation 63

Cargo Pump Room

Each cargo pump room shall be provided with a fixed fire-fighting system operated from a readily accessible position outside the pump room. The system shall use water-spray or another suitable medium satisfactory to the Administration.

Regulation 64

Hose Nozzles

All hose water nozzles provided shall be of an approved dual purpose type (i.e. spray/jet type) incorporating a shut-off.

PART F – SPECIAL FIRE SAFETY MEASURES FOR EXISTING PASSENGER SHIPS

(For the purposes of this Part of this Chapter, all references to Regulation . . . (1948) mean references to Regulations of Chapter II of the International Convention for the Safety of Life at Sea, 1948, and all references to Regulation . . . (1960) mean, unless otherwise stated, references to Regulations of Chapter II of the International Convention for the Safety of Life at Sea, 1960)

Regulation 65

Application

Any passenger ship carrying more than 36 passengers shall at least comply as follows:

- (a) A ship, the keel of which was laid before 19 November 1952, shall comply with the provisions of Regulations 66 to 85 inclusive of this Part.

(b) A ship, the keel of which was laid on or after 19 November 1952 but before 26 May 1965, shall comply with the provisions of the International Convention for the Safety of Life at Sea, 1948, relating to the fire safety measures applicable in that Convention to new ships and shall also comply with the provisions of Regulations 68(b) and (c), 75, 77(b), 78, 80(b), 81(b) to (g), 84 and 85 of this Part.

(c) A ship, the keel of which was laid on or after 26 May 1965, but before the present Convention comes into force, shall, unless it complies with Parts A and B of this Chapter, comply with the provisions of the International Convention for the Safety of Life at Sea, 1960 relating to the fire safety measures applicable in that Convention to new ships and shall also comply with Regulations 68(b) and (c), 80(b), 81(b), (c) and (d) and 85 of this Part.

Regulation 66

Structure

The structural components shall be of steel or other suitable material in compliance with Regulation 27 (1948), except that isolated deckhouses containing no accommodation and decks exposed to the weather may be of wood if structural fire protection measures are taken to the satisfaction of the Administration.

Regulation 67

Main Vertical Zones

The ship shall be subdivided by "A" Class divisions into main vertical zones in compliance with Regulation 28 (1948). Such divisions shall have as far as practicable adequate insulating value, taking into account the nature of the adjacent spaces as provided for in Regulation 26(c)(iv) (1948).

Regulation 68

Openings in Main Vertical Zone Bulkheads

(a) The ship shall comply substantially with Regulation 29 (1948).

(b) Fire doors shall be of steel or equivalent material with or without non-combustible insulation.

(c) In the case of ventilation trunks and ducts having a cross-sectional area of 0.02 square metres (31 square inches) or more which pass through main zone divisions, the following additional provisions shall apply:

- (i) for trunks and ducts having cross-sectional areas between 0.02 square metres (31 square inches) and 0.075 square metres (116 square inches) inclusive, fire dampers shall be of a fail-safe automatic closing type, or such trunks and ducts shall be insulated for at least 457 millimetres (18 inches) on each side of the division to meet the applicable bulkhead requirements;

- (ii) for trunks and ducts having a cross-sectional area exceeding 0.075 square metres (116 square inches), fire dampers shall be of a fail-safe automatic closing type.

Regulation 69

Separation of Accommodation Spaces from Machinery, Cargo and Service Spaces

The ship shall comply with Regulation 31 (1948).

Regulation 70

Application relative to Methods I, II and III

Each accommodation space and service space in a ship shall comply with all the provisions stipulated in one of the paragraphs (a), (b), (c) or (d) of this Regulation:

- (a) When a ship is being considered for acceptance in the context of Method I, a network of non-combustible "B" Class bulkheads shall be provided in substantial compliance with Regulation 30(a) (1948) together with maximum use of non-combustible materials in compliance with Regulation 39(a) (1948).
- (b) When a ship is being considered for acceptance in the context of Method II:
 - (i) an automatic sprinkler and fire alarm system shall be provided which shall be in substantial compliance with Regulations 42 and 48 (1948), and
 - (ii) the use of combustible materials of all kinds shall be reduced as far as is reasonable and practicable.
- (c) When a ship is being considered for acceptance in the context of Method III, a network of fire-retarding bulkheads shall be fitted from deck to deck in substantial compliance with Regulation 30(b) (1948), together with an automatic fire detection system in substantial compliance with Regulation 43 (1948). The use of combustible and highly inflammable materials shall be restricted as prescribed in Regulations 39(b) and 40(g) (1948). Departure from the requirements of Regulations 39(b) and 40(g) (1948) may be permitted if a fire patrol is provided at intervals not exceeding 20 minutes.
- (d) When a ship is being considered for acceptance in the context of Method III:
 - (i) additional "A" Class divisions shall be provided within the accommodation spaces in order to reduce in these spaces the mean length of the main vertical zones to about 20 metres (65.5 feet); and
 - (ii) an automatic fire detection system shall be provided in substantial compliance with Regulation 43 (1948); and
 - (iii) all exposed surfaces, and their coatings, of corridor and cabin bulkheads in accommodation spaces shall be of limited flame-spreading power; and

- (iv) the use of combustible materials shall be restricted as prescribed in Regulation 39(b) (1948). Departure from the requirements of Regulation 39(b) (1948) may be permitted if a fire patrol is provided at intervals not exceeding 20 minutes; and
- (v) additional non-combustible "B" Class divisions shall be fitted from deck to deck forming a network of fire-retarding bulkheads within which the area of any compartment, except public spaces, will in general not exceed 300 square metres (3,200 square feet).

Regulation 71

Protection of Vertical Stairways

The stairways shall comply with Regulation 33 (1948) except that, in cases of exceptional difficulty, the Administration may permit the use of non-combustible "B" Class divisions and doors instead of "A" Class divisions and doors for stairway enclosures. Moreover, the Administration may permit exceptionally the retention of a wooden stairway subject to its being sprinkler-protected and satisfactorily enclosed.

Regulation 72

Protection of Lifts (Passenger and Service), Vertical Trunks for Light and Air, etc.

The ship shall comply with Regulation 34 (1948).

Regulation 73

Protection of Control Stations

The ship shall comply with Regulation 35 (1948), except however that in cases where the disposition or construction of control stations is such as to preclude full compliance, e.g. timber construction of wheelhouse, the Administration may permit the use of free-standing non-combustible "B" Class divisions to protect the boundaries of such control stations. In such cases, where spaces immediately below such control stations constitute a significant fire hazard, the deck between shall be fully insulated as an "A" Class division.

Regulation 74

Protection of Store-rooms, etc.

The ship shall comply with Regulation 36 (1948).

Regulation 75

Windows and Sidescuttles

Skylights of engine and boiler spaces shall be capable of being closed from outside such spaces.

Regulation 76*Ventilation Systems*

- (a) All power ventilation, except cargo and machinery space ventilation, shall be fitted with master controls so located outside the machinery space and in readily accessible positions, that it shall not be necessary to go to more than three stations in order to stop all the ventilation fans to spaces other than machinery and cargo spaces. Machinery space ventilation shall be provided with a master control operable from a position outside the machinery space.
- (b) Efficient insulation shall be provided for exhaust ducts from galley ranges where the ducts pass through accommodation spaces.

Regulation 77*Miscellaneous Items*

- (a) The ship shall comply with Regulation 40(a), (b) and (f) (1948), except that in Regulation 40(a)(i) (1948), 20 metres (65.5 feet) may be substituted for 13.73 metres (45 feet).
- (b) Fuel pumps shall be fitted with remote controls situated outside the space concerned so that they may be stopped in the event of a fire arising in the space in which they are located.

Regulation 78*Cinematograph Film*

Cellulose-nitrate-based film shall not be used in cinematograph installations on board ship.

Regulation 79*Plans*

Plans shall be provided in compliance with Regulation 44 (1948).

Regulation 80*Pumps, Fire Main Systems, Hydrants and Hoses*

- (a) The provisions of Regulation 45 (1948) shall be complied with.
- (b) Water from the fire main shall, as far as practicable, be immediately available, such as by maintenance of pressure or by remote control of fire pumps, which control shall be easily operable and readily accessible.

Regulation 81

Fire Detection and Extinction Requirements

General

(a) The requirements of Regulation 50(a) to (o) (1948) inclusive shall be complied with, subject to further provisions of this Regulation.

Patrols, Detection and Communication System

(b) Each member of any fire patrol required by this Part shall be trained to be familiar with the arrangements of the ship as well as the location and operation of any equipment he may be called upon to use.

(c) A special alarm to summon the crew shall be fitted which may be part of the ship's general alarm system.

(d) A public address system or other effective means of communication shall also be available throughout the accommodation, public and service spaces.

Machinery and Boiler Spaces

(e) The number, type and distribution of fire extinguishers shall comply with paragraphs (g)(ii), (g)(iii) and (h)(ii) of Regulation 64 (1960).

International Shore Connexion

(f) The provisions of Regulation 64(d) (1960) shall be complied with.

Fireman's Outfits

(g) The provisions of Regulation 64(j) (1960) shall be complied with.

Regulation 82

Ready Availability of Fire-Fighting Appliances

The provisions of Regulation 66 (1960) shall be complied with.

Regulation 83

Means of Escape

The provisions of Regulation 54 (1948) shall be complied with.

Regulation 84

Emergency Source of Electrical Power

The provisions of Regulation 22(a), (b) and (c) (1948) shall be complied with except that the location of the emergency source of electrical power shall be in accordance with the requirements of Regulation 25(a) (1960).

Regulation 85*Practice Musters and Drills*

At the fire drills mentioned in Regulation 26 of Chapter III of the International Convention for the Safety of Life at Sea, 1960 each member of the crew shall be required to demonstrate his familiarity with the arrangements and facilities of the ship, his duties, and any equipment he may be called upon to use. Masters shall be required to familiarize and instruct the crews in this regard.

CHAPTER III
LIFE-SAVING APPLIANCES, ETC.

Regulation 1

Application

(a) This Chapter, except where it is otherwise expressly provided, applies as follows to new ships engaged on international voyages:

Part A – Passenger ships and cargo ships.

Part B – Passenger ships.

Part C – Cargo ships.

(b) In the case of existing ships engaged on international voyages, the keels of which were laid or which were at a similar stage of construction on or after the date of coming into force of the International Convention for the Safety of Life at Sea, 1960, the requirements of Chapter III of that Convention applicable to new ships as defined in that Convention shall apply.

(c) In the case of existing ships engaged on international voyages, the keels of which were laid or which were at a similar stage of construction before the date of coming into force of the International Convention for the Safety of Life at Sea, 1960, and which do not already comply with the provisions of Chapter III of that Convention relating to new ships, the arrangements in each ship shall be considered by the Administration with a view to securing, so far as this is practicable and reasonable, and as early as possible, substantial compliance with the requirements of Chapter III of that Convention. The proviso to sub-paragraph (b)(i) of Regulation 27 of that Chapter may, however, be applied to existing ships referred to in this paragraph only if:

- (i) the provisions of Regulations 4, 8, 14, 18 and 19 and paragraphs (a) and (b) of Regulation 27 of this Chapter are complied with;
- (ii) the liferafts carried in accordance with the provisions of paragraph (b) of Regulation 27 comply with the requirements of either Regulation 15 or Regulation 16, and of Regulation 17 of this Chapter; and
- (iii) the total number of persons on board shall not be increased as the result of the provision of liferafts unless the ship fully complies with the provisions of:
 - (1) Part B of Chapter II-1;
 - (2) sub-paragraphs (a)(iii) and (iv) of Regulation 21 or sub-paragraph (a)(iii) of Regulation 48 of Chapter II-2, as applicable; and
 - (3) paragraphs (a), (b), (e) and (f) of Regulation 29 of this Chapter.

PART A – GENERAL

(Part A applies to both passenger ships and cargo ships)

Regulation 2*Definitions*

For the purpose of this Chapter:

- (a) “Short international voyage” means an international voyage in the course of which a ship is not more than 200 miles from a port or place in which the passengers and crew could be placed in safety, and which does not exceed 600 miles in length between the last port of call in the country in which the voyage begins and the final port of destination.
- (b) “Liferaft” means a liferaft complying with either Regulation 15 or Regulation 16 of this Chapter.
- (c) “Approved launching device” means a device approved by the Administration, capable of launching from the embarkation position a liferaft fully loaded with the number of persons it is permitted to carry and with its equipment.
- (d) “Certificated lifeboatman” means any member of the crew who holds a certificate of efficiency issued under the provisions of Regulation 32 of this Chapter.
- (e) “Buoyant apparatus” means flotation equipment (other than lifeboats, liferafts, lifebuoys and life-jackets) designed to support a specified number of persons who are in the water and of such construction that it retains its shape and properties.

Regulation 3*Exemptions*

- (a) The Administration, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of the full requirements of this Chapter unreasonable or unnecessary, may to that extent exempt from the requirements of this Chapter individual ships or classes of ships which, in the course of their voyage, do not go more than 20 miles from the nearest land.
- (b) In the case of passenger ships which are employed in special trades for the carriage of large numbers of special trade passengers, such as the pilgrim trade, the Administration, if satisfied that it is impracticable to enforce compliance with the requirements of this Chapter, may exempt such ships, when they belong to its country, from those requirements, provided that they comply fully with the provisions of:
 - (i) the Rules annexed to the Special Trade Passenger Ships Agreement, 1971; and
 - (ii) the Rules annexed to the Protocol on Space Requirements for Special Trade Passenger Ships, 1973, when it enters into force.

Regulation 4*Ready Availability of Lifeboats, Liferafts and Buoyant Apparatus*

- (a) The general principle governing the provision of lifeboats, liferafts and buoyant apparatus in a ship to which this Chapter applies is that they shall be readily available in case of emergency.
- (b) To be readily available, the lifeboats, liferafts and buoyant apparatus shall comply with the following conditions:
- (i) they shall be capable of being put into the water safely and rapidly even under unfavourable conditions of trim and of 15 degree of list;
 - (ii) it shall be possible to effect embarkation into the lifeboats and liferafts rapidly and in good order;
 - (iii) the arrangement of each lifeboat, liferaft and article of buoyant apparatus shall be such that it will not interfere with the operation of other boats, liferafts and buoyant apparatus.
- (c) All the life-saving appliances shall be kept in working order and available for immediate use before the ship leaves port and at all times during the voyage.

Regulation 5*Construction of Lifeboats*

- (a) All lifeboats shall be properly constructed and shall be of such form and proportions that they shall have ample stability in a seaway, and sufficient freeboard when loaded with their full complement of persons and equipment. All lifeboats shall be capable of maintaining positive stability when open to the sea and loaded with their full complement of persons and equipment.
- (b)
- (i) All lifeboats shall have rigid sides and internal buoyancy only. The Administration may approve lifeboats with a rigid shelter, provided that it may be readily opened from both inside and outside, and does not impede rapid embarkation and disembarkation or the launching and handling of the lifeboat.
 - (ii) Motor lifeboats may be fitted to the satisfaction of the Administration with a means for preventing the entry of water at the fore end.
 - (iii) All lifeboats shall be not less than 7.3 metres (24 feet) in length except where owing to the size of the ship, or for other reasons, the Administration considers the carriage of such lifeboats unreasonable or impracticable. In no ship shall the lifeboats be less than 4.9 metres (16 feet) in length.
- (c) No lifeboat may be approved the weight of which when fully laden with persons and equipment exceeds 20,300 kilogrammes (20 tons) or which has a carrying capacity calculated in accordance with Regulation 7 of this Chapter of more than 150 persons.

- (d) All lifeboats permitted to carry more than 60 persons but not more than 100 persons shall be either motor lifeboats complying with the requirements of Regulation 9 of this Chapter or be lifeboats fitted with an approved means of mechanical propulsion complying with Regulation 10 of this Chapter. All lifeboats permitted to carry more than 100 persons shall be motor lifeboats complying with the requirements of Regulation 9 of this Chapter.
- (e) All lifeboats shall be of sufficient strength to enable them to be safely lowered into the water when loaded with their full complement of persons and equipment. All lifeboats shall be of such strength that they will not suffer residual deflection if subjected to an overload of 25 per cent.
- (f) All lifeboats shall have a mean sheer at least equal to 4 per cent of their length. The sheer shall be approximately parabolic in form.
- (g) In lifeboats permitted to carry 100 or more persons the volume of the buoyancy shall be increased to the satisfaction of the Administration.
- (h) All lifeboats shall have inherent buoyancy, or shall be fitted with watertight air cases or other equivalent non-corrodible buoyant material which shall not be adversely affected by oil or oil products, sufficient to float the boat and its equipment when the boat is flooded and open to the sea. An additional volume of watertight air cases or other equivalent non-corrodible buoyant material, which shall not be adversely affected by oil or oil products, equal to at least one-tenth of the cubic capacity of the boat shall also be provided. The Administration may permit the watertight air cases to be filled with a non-corrodible buoyant material which shall not be adversely affected by oil or oil products.
- (i) All thwarts and side-seats shall be fitted as low in the lifeboat as practicable.
- (j) The block coefficient of the cubic capacity as determined in accordance with Regulation 6 of this Chapter of all lifeboats, except wooden lifeboats made of planks, shall be not less than 0.64 provided that any such lifeboat may have a block coefficient of less than 0.64 if the Administration is satisfied with the sufficiency of the metacentric height and freeboard when the lifeboat is loaded with its full complement of persons and equipment.

Regulation 6

Cubic Capacity of Lifeboats

- (a) The cubic capacity of a lifeboat shall be determined by Simpson's (Stirling's) Rule or by any other method giving the same degree of accuracy. The capacity of a square-sterned lifeboat shall be calculated as if the lifeboat had a pointed stern.
- (b) For example, the capacity in cubic metres (or cubic feet) of a lifeboat, calculated by the aid of Simpson's Rule, may be considered as given by the following formula:

$$\text{Capacity} = \frac{L}{12} (4A + 2B + 4C)$$

L being the length of the lifeboat in metres (or feet) from the inside of the planking or plating at the stem to the corresponding point at the stern post: in the

case of a lifeboat with a square stern, the length is measured to the inside of the transom.

A, B, C denote respectively the areas of the cross-sections at the quarter-length forward, amidships, and the quarter-length aft, which correspond to the three points obtained by dividing L into four equal parts. (The areas corresponding to the two ends of the lifeboat are considered negligible.)

The areas A, B, C shall be deemed to be given in square metres (or square feet) by the successive application of the following formula to each of the three cross-sections:

$$\text{Area} = \frac{h}{12} (a + 4b + 2c + 4d + e)$$

h being the depth measured in metres (or in feet) inside the planking or plating from the keel to the level of the gunwale, or, in certain cases, to a lower level as determined hereafter.

a, b, c, d, e denote the horizontal breadths of the lifeboat measured in metres (or in feet) at the upper and lower points of the depth and at the three points obtained by dividing h into four equal parts (a and e being the breadths at the extreme point, and c at the middle point of h).

(c) If the sheer of the gunwale, measured at the two points situated at a quarter of the length of the lifeboat from the ends, exceeds 1 per cent of the length of the lifeboat the depth employed in calculating the area of the cross-sections A or C shall be deemed to be the depth amidships plus 1 per cent of the length of the lifeboat.

(d) If the depth of the lifeboat amidships exceeds 45 per cent of the breadth, the depth employed in calculating the area of the amidship cross-section B shall be deemed to be equal to 45 per cent of the breadth, and the depth employed in calculating the areas of the quarter-length sections A and C is obtained by increasing this last figure by an amount equal to 1 per cent of the length of the lifeboat, provided that in no case shall the depths employed in the calculation exceed the actual depths at these points.

(e) If the depth of the lifeboat is greater than 1.22 metres (4 feet) the number of persons given by the application of this Rule shall be reduced in proportion to the ratio of 1.22 metres (4 feet) to the actual depth, until the lifeboat has been satisfactorily tested afloat with that number of persons on board, all wearing life-jackets.

(f) The Administration shall impose, by suitable formulae, a limit for the number of persons allowed in lifeboats with very fine ends and in lifeboats very full in form.

(g) The Administration may assign to a lifeboat constructed of wooden planks capacity equal to the product of the length, the breadth and the depth multiplied by 0.6 if it is evident that this formula does not give a greater capacity than that obtained by the above method. The dimensions shall then be measured in the following manner:

Length – From the intersection of the outside of the planking with the stem to the corresponding point at the stern post or, in the case of a square-sterned boat, to the after side of the transom.

Breadth – From the outside of the planking at the point where the breadth of the boat is greatest.

Depth – Amidships inside the planking from the keel to the level of the gunwale, but the depth used in calculating the cubic capacity may not in any case exceed 45 per cent of the breadth.

In all cases the shipowner has the right to require that the cubic capacity of the lifeboat shall be determined by exact measurement.

(h) The cubic capacity of a motor lifeboat or a lifeboat fitted with other propelling gear shall be obtained from the gross capacity by deducting a volume equal to that occupied by the motor and its accessories or the gearbox of the other propelling gear, and, when carried, the radiotelegraph installation and searchlight with their accessories.

Regulation 7

Carrying Capacity of Lifeboats

The number of persons which a lifeboat shall be permitted to accommodate shall be equal to the greatest whole number obtained by dividing the capacity in cubic metres by:

In the case of a lifeboat of 7.3 metres (24 feet) in length or over	0.283 (or where the capacity is measured in cubic feet 10);
in the case of lifeboats of 4.9 metres (16 feet) in length	0.396 (or where the capacity is measured in cubic feet 14); and
in the case of lifeboats of 4.9 metres (16 feet) in length or over but under 7.3 metres (24 feet)	a number between 0.396 and 0.283 (or where the capacity is measured in cubic feet between 14 and 10), to be obtained by interpolation;

provided that the number shall in no case exceed the number of adult persons wearing life-jackets which can be seated without in any way interfering with the use of oars or the operation of other propulsion equipment.

Regulation 8

Number of Motor Lifeboats to be carried

(a) In every passenger ship there shall be carried on each side of the ship at least one motor lifeboat complying with the requirements of Regulation 9 of this Chapter.

Provided that in passenger ships in which the total number of persons which the ship is certified to carry, together with the crew, does not exceed 30, only one such motor lifeboat shall be required.

(b) In every cargo ship of 1,600 tons gross tonnage and upwards, except tankers, ships employed as whale factory ships, ships employed as fish

processing or canning factory ships, and ships engaged in the carriage of persons in the whaling, fish processing or canning industries, there shall be carried at least one motor lifeboat complying with the requirements of Regulation 9 of this Chapter.

(c) In every tanker of 1,600 tons gross tonnage and upwards, in every ship employed as a whale factory ship, in every ship employed as a fish processing or canning factory ship and in every ship engaged in the carriage of persons employed in the whaling, fish processing or canning industries, there shall be carried on each side at least one motor lifeboat complying with the requirements of Regulation 9 of this Chapter.

Regulation 9

Specification of Motor Lifeboats

- (a) A motor lifeboat shall comply with the following conditions:
- (i) It shall be fitted with a compression ignition engine and kept so as to be at all times ready for use; it shall be capable of being readily started in all conditions; sufficient fuel for 24 hours continuous operation at the speed specified in sub-paragraph (iii) of this paragraph shall be provided.
 - (ii) The engine and its accessories shall be suitably enclosed to ensure operation under adverse weather conditions, and the engine casing shall be fire-resisting. Provision shall be made for going astern.
 - (iii) The speed ahead in smooth water when loaded with its full complement of persons and equipment shall be:
 - (1) In the case of motor lifeboats required by Regulation 8 of this Chapter to be carried in passenger ships, tankers, ships employed as whale factory ships, ships employed as fish processing or canning factory ships and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries, at least six knots.
 - (2) In the case of any other motor lifeboat, at least four knots.
- (b) The volume of the internal buoyancy appliances of a motor lifeboat shall be increased above that required by Regulation 5 of this Chapter by the amount, if any, by which the volume of the internal buoyancy appliances required to support the engine and its accessories, and, if fitted, the searchlight and radiotelegraph installation and their accessories, exceeds the volume of the internal buoyancy appliances required, at the rate of 0.0283 cubic metres (one cubic foot) per person, to support the additional persons which the lifeboat could accommodate if the motor and its accessories, and, if fitted, the searchlight and radiotelegraph installation and their accessories, were removed.

Regulation 10

Specification of Mechanically Propelled Lifeboats other than Motor Lifeboats

A mechanically propelled lifeboat, other than a motor lifeboat, shall comply with the following conditions:

- (a) The propelling gear shall be of an approved type and shall have sufficient power to enable the lifeboat to be readily cleared from the ship's side when launched and to be able to hold course under adverse weather conditions. If the gear is manually operated it shall be capable of being worked by persons untrained in its use and shall be capable of being operated when the lifeboat is flooded.
- (b) A device shall be fitted by means of which the helmsman can cause the lifeboat to go astern at any time when the propelling gear is in operation.
- (c) The volume of the internal buoyancy of a mechanically propelled lifeboat, other than a motor lifeboat, shall be increased to compensate for the weight of the propelling gear.

Regulation 11

Equipment of Lifeboats

- (a) The normal equipment of every lifeboat shall consist of:
- (i) a single banked complement of buoyant oars, two spare buoyant oars, and a buoyant steering oar; one set and a half of thole pins or crutches, attached to the lifeboat by lanyard or chain; a boat hook;
 - (ii) two plugs for each plug hole (plugs are not required when proper automatic valves are fitted) attached to the lifeboat by lanyards or chains; a baler, and two buckets of approved material;
 - (iii) a rudder attached to the lifeboat and a tiller;
 - (iv) two hatchets, one at each end of the lifeboat;
 - (v) a lamp, with oil sufficient for 12 hours; two boxes of suitable matches in a watertight container;
 - (vi) a mast or masts, with galvanized wire stays together with sails (coloured orange);
 - (vii) an efficient compass in binnacle, to be luminised or fitted with suitable means of illumination;
 - (viii) a lifeline becketed round the outside of the lifeboat;
 - (ix) a sea-anchor of approved size;
 - (x) two painters of sufficient length. One shall be secured to the forward end of the lifeboat with strop and toggle so that it can be released, and the other shall be firmly secured to the stem of the lifeboat and be ready for use;
 - (xi) a vessel containing $4\frac{1}{2}$ litres (1 gallon) of vegetable, fish or animal oil. The vessel shall be so constructed that the oil can be easily distributed on the water, and so arranged that it can be attached to the sea-anchor;
 - (xii) a food ration, determined by the Administration, for each person the lifeboat is certified to carry. These rations shall be kept in airtight receptacles which are to be stowed in a watertight container;

- (xiii) watertight receptacles containing 3 litres (6 pints) of fresh water for each person the lifeboat is certified to carry, or watertight receptacles containing 2 litres (4 pints) of fresh water for each person together with an approved de-salting apparatus capable of providing 1 litre (2 pints) of drinking water per person; a rust-proof dipper with lanyard; a rustproof graduated drinking vessel;
- (xiv) four parachute signals of approved type capable of giving a bright red light at a high altitude; six hand flares of an approved type giving a bright red light;
- (xv) two buoyant smoke signals of an approved type (for day-time use) capable of giving off a volume of orange-coloured smoke;
- (xvi) approved means to enable persons to cling to the boat should it be upturned, in the form of bilge keels or keel rails, together with grab lines secured from gunwale to gunwale under the keel, or other approved arrangements;
- (xvii) an approved first-aid outfit in a watertight case;
- (xviii) a waterproof electric torch suitable for signalling in the Morse Code together with one spare set of batteries and one spare bulb in a waterproof container;
- (xix) a daylight-signalling mirror of an approved type;
- (xx) a jack-knife fitted with a tin-opener to be kept attached to the boat with a lanyard;
- (xxi) two light buoyant heaving lines;
- (xxii) a manual pump of an approved type;
- (xxiii) a suitable locker for stowage of small items of equipment;
- (xxiv) one whistle or equivalent sound signal;
- (xxv) one set of fishing tackle;
- (xxvi) one approved cover of a highly visible colour capable of protecting the occupants against injury by exposure: and
- (xxvii) one copy of the illustrated table of life-saving signals referred to in Regulation 16 of Chapter V.

(b) In the case of ships engaged on voyages of such duration that in the opinion of the Administration the items specified in sub-paragraphs (vi), (xii), (xix), (xx) and (xxv) of paragraph (a) of this Regulation are unnecessary, the Administration may allow them to be dispensed with.

(c) Notwithstanding the provisions of paragraph (a) of this Regulation, motor lifeboats or other approved mechanically propelled lifeboats need not carry a mast or sails or more than half the complement of oars, but they shall carry two boat hooks.

(d) All lifeboats shall be fitted with suitable means to enable persons in the water to climb into the lifeboat.

- (e) Every motor lifeboat shall carry portable fire-extinguishing equipment of an approved type capable of discharging froth or other suitable substance for extinguishing oil fires.

Regulation 12

Security of Lifeboat Equipment

All items of lifeboat equipment, with the exception of the boat hook which shall be kept free for fending off purposes, shall be suitably secured within the lifeboat. The lashing shall be carried out in such a manner as to ensure the security of the equipment and so as not to interfere with the lifting hooks or to prevent ready embarkation. All items of lifeboat equipment shall be as small and light in weight as possible and shall be packed in suitable and compact form.

Regulation 13

Portable Radio Apparatus for Survival Craft

(a) An approved portable radio apparatus for survival craft complying with the requirements set out in Regulation 14 of Chapter IV shall be carried in all ships except those on which there is carried on each side of the ship a motor lifeboat fitted with a radiotelegraph installation complying with the provisions of Regulation 14 of this Chapter and of Regulation 13 of Chapter IV. All this equipment shall be kept together in the chartroom or other suitable place ready to be moved to one or other of the lifeboats in the event of an emergency. However, in tankers of 3,000 tons gross tonnage and upwards in which lifeboats are fitted amidships and aft this equipment shall be kept in a suitable place in the vicinity of those lifeboats which are furthest away from the ship's main transmitter.

(b) In the case of ships engaged on voyages of such duration that in the opinion of the Administration portable radio apparatus for survival craft is unnecessary, the Administration may allow such equipment to be dispensed with.

Regulation 14

Radio Apparatus and Searchlights in Motor Lifeboats

- (a) (i) Where the total number of persons on board a passenger ship engaged on international voyages which are not short international voyages, a ship employed as a whale factory ship, a ship employed as a fish processing or canning factory ship or a ship engaged in the carriage of persons employed in the whaling, fish processing or canning industries, is more than 199 but less than 1,500, a radiotelegraph apparatus complying with the requirements set out in this Regulation and in Regulation 13 of Chapter IV shall be fitted in at least one of the motor lifeboats required under Regulation 8 of this Chapter to be carried in that ship.
- (ii) Where the total number of persons on board such a ship is 1,500 or more, such a radiotelegraph apparatus shall be fitted in every motor lifeboat required under Regulation 8 of this Chapter to be carried in that ship.

- (b) The radio apparatus shall be installed in a cabin large enough to accommodate both the equipment and the person using it.
- (c) The arrangements shall be such that the efficient operation of the transmitter and receiver shall not be interfered with by the engine while it is running, whether a battery is on charge or not.
- (d) The radio battery shall not be used to supply power to any engine starting motor or ignition system.
- (e) The motor lifeboat engine shall be fitted with a dynamo for recharging the radio battery, and for other services.
- (f) A searchlight shall be fitted in each motor lifeboat required to be carried under paragraph (a) of Regulation 8 of this Chapter in passenger ships and under paragraph (c) of that Regulation in ships employed as whale factory ships, fish processing or canning factory ships and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries.
- (g) The searchlight shall include a lamp of at least 80 watts, an efficient reflector and a source of power which will give effective illumination of a light-coloured object having a width of about 18 metres (60 feet) at a distance of 180 metres (200 yards) for a total period of six hours and shall be capable of working for at least three hours continuously.

Regulation 15

Requirements for Inflatable Liferrafts

- (a) Every inflatable liferaft shall be so constructed that, when fully inflated and floating with the cover uppermost, it shall be stable in a seaway.
- (b) The liferaft shall be so constructed that if it is dropped into the water from a height of 18 metres (60 feet) neither the liferaft nor its equipment will be damaged. If the raft is to be stowed on the ship at a height above the water of more than 18 metres (60 feet), it shall be of a type which has been satisfactorily drop-tested from a height at least equal to the height at which it is to be stowed.
- (c) The construction of the liferaft shall include a cover which shall automatically be set in place when the liferaft is inflated. This cover shall be capable of protecting the occupants against injury from exposure, and means shall be provided for collecting rain. The top of the cover shall be fitted with a lamp which derives its luminosity from a sea-activated cell and a similar lamp shall also be fitted inside the liferaft. The cover of the liferaft shall be of a highly visible colour.
- (d) The liferaft shall be fitted with a painter and shall have a line securely becketed round the outside. A lifeline shall also be fitted around the inside of the liferaft.
- (e) The liferaft shall be capable of being readily righted by one person if it inflates in an inverted position.

- (f) The liferaft shall be fitted at each opening with efficient means to enable persons in the water to climb on board.
- (g) The liferaft shall be contained in a valise or other container so constructed as to be capable of withstanding hard wear under conditions met with at sea. The liferaft in its valise or other container shall be inherently buoyant.
- (h) The buoyancy of the liferaft shall be so arranged as to ensure by a division into an even number of separate compartments, half of which shall be capable of supporting out of the water the number of persons which the liferaft is permitted to accommodate, or by some other equally efficient means, that there is a reasonable margin of buoyancy if the raft is damaged or partially fails to inflate.
- (i) The total weight of the liferaft, its valise or other container and its equipment shall not exceed 180 kilogrammes (400 lbs.).
- (j) The number of persons which an inflatable liferaft shall be permitted to accommodate shall be equal to:
- (i) the greatest whole number obtained by dividing by 96 the volume, measured in cubic decimetres (or by 3.4 the volume, measured in cubic feet) of the main buoyancy tubes (which for this purpose shall include neither the arches nor the thwart or thwarts if fitted) when inflated; or
 - (ii) the greatest whole number obtained by dividing by 3,720 the area measured in square centimetres (or by 4 the area, measured in square feet) of the floor (which for this purpose may include the thwart or thwarts if fitted) of the liferaft when inflated whichever number shall be the less.
- (k) The floor of the liferaft shall be waterproof and shall be capable of being sufficiently insulated against cold.
- (l) The liferaft shall be inflated by a gas which is not injurious to the occupants and the inflation shall take place automatically either on the pulling of a line or by some other equally simple and efficient method. Means shall be provided whereby the topping-up pump or bellows required by Regulation 17 of this Chapter may be used to maintain pressure.
- (m) The liferaft shall be of approved material and construction, and shall be so constructed as to be capable of withstanding exposure for 30 days afloat in all sea conditions.
- (n) No liferaft shall be approved which has a carrying capacity calculated in accordance with paragraph (j) of this Regulation of less than six persons. The maximum number of persons calculated in accordance with that paragraph for which an inflatable liferaft may be approved shall be at the discretion of the Administration, but shall in no case exceed 25.
- (o) The liferaft shall be capable of operating throughout a temperature range of 66°C to minus 30°C (150°F to minus 22°F).

- (p) (i) The liferaft shall be so stowed as to be readily available in case of emergency. It shall be stowed in such a manner as to permit it to float free from its stowage, inflate and break free from the vessel in the event of sinking.
 - (ii) If used, lashings shall be fitted with an automatic release system of a hydrostatic or equivalent nature approved by the Administration.
 - (iii) The liferaft required by paragraph (c) of Regulation 35 of this Chapter may be securely fastened.
- (q) The liferaft shall be fitted with arrangements enabling it to be readily towed.

Regulation 16

Requirements for Rigid Liferafts

- (a) Every rigid liferaft shall be so constructed that if it is dropped into the water from its stowed position neither the liferaft nor its equipment will be damaged.
- (b) The deck area of the liferaft shall be situated within that part of the liferaft which affords protection to its occupants. The area of that deck shall be at least 0.3720 square metres (4 square feet) for every person the liferaft is permitted to carry. The nature of the deck shall be such as to prevent so far as practicable the ingress of water and it shall effectively support the occupants out of the water.
- (c) The liferaft shall be fitted with a cover or equivalent arrangement of a highly visible colour, which shall be capable of protecting the occupants against injury from exposure whichever way up the liferaft is floating.
- (d) The equipment of the liferaft shall be so stowed as to be readily available whichever way up the liferaft is floating.
- (e) The total weight of a liferaft and its equipment carried in passenger ships shall not exceed 180 kilogrammes (400 lbs.). Liferafts carried in cargo ships may exceed 180 kilogrammes (400 lbs.) in weight if they are capable of being launched from both sides of the ship or if there are provided means for putting them into the water mechanically.
- (f) The liferaft must at all times be effective and stable when floating either way up.
- (g) The liferaft shall have at least 96 cubic decimetres (3.4 cubic feet) of air cases or equivalent buoyancy for each person it is permitted to carry which must be placed as near as possible to the sides of the raft.
- (h) The liferaft shall have a painter attached and a lifeline securely becketed round the outside. A lifeline shall also be fitted around the inside of the raft.
- (i) The liferaft shall be fitted at each opening with efficient means to enable persons in the water to climb on board.
- (j) The liferaft shall be so constructed as not to be affected by oil or oil products.

- (k) A buoyant light of the electric battery type shall be attached to the liferaft by a lanyard.
- (l) The liferaft shall be fitted with arrangements enabling it to be readily towed.
- (m) Liferafts shall be so stowed as to float free in the event of the ship sinking.

Regulation 17

Equipment of Inflatable and Rigid Liferafts

- (a) The normal equipment of every liferaft shall consist of:
 - (i) One buoyant rescue quito, attached to at least 30 metres (100 feet) of buoyant line.
 - (ii) For liferafts which are permitted to accommodate not more than 12 persons: one knife and one baler; for liferafts which are permitted to accommodate 13 persons or more: two knives and two balers.
 - (iii) Two sponges.
 - (iv) Two sea-anchors, one permanently attached to the liferaft and one spare.
 - (v) Two paddles.
 - (vi) One repair outfit capable of repairing punctures in buoyancy compartments.
 - (vii) One topping-up pump or bellows, unless the liferaft complies with Regulation 16 of this Chapter.
 - (viii) Three tin-openers.
 - (ix) One approved first-aid outfit in a waterproof case.
 - (x) One rustproof graduated drinking vessel.
 - (xi) One waterproof electric torch suitable for signalling in the Morse Code, together with one spare set of batteries and one spare bulb in a waterproof container.
 - (xii) One daylight-signalling mirror and one signalling whistle.
 - (xiii) Two parachute distress signals of an approved type, capable of giving a bright red light at a high altitude.
 - (xiv) Six hand flares of an approved type, capable of giving a bright red light.
 - (xv) One set of fishing tackle.
 - (xvi) A food ration, determined by the Administration, for each person the liferaft is permitted to accommodate.
 - (xvii) Watertight receptacles containing $1\frac{1}{2}$ litres (3 pints) of fresh water for each person the liferaft is permitted to accommodate, of which $\frac{1}{2}$ litre (1 pint) per person may be replaced by a suitable de-salting apparatus capable of producing an equal amount of fresh water.

- (xviii) Six anti-seasickness tablets for each person the liferaft is deemed fit to accommodate.
- (xix) Instructions on how to survive in the liferaft; and
- (xx) one copy of the illustrated table of life-saving signals referred to in Regulation 16 of Chapter V.

(b) In the case of passenger ships engaged on short international voyages of such duration that in the opinion of the Administration all the items specified in paragraph (a) of this Regulation are unnecessary, the Administration may allow one or more liferafts, not being less than one-sixth of the number of liferafts carried in any such ship, to be provided with the equipment specified in sub-paragraphs (i) to (vii) inclusive, (xi) and (xix) of paragraph (a) of this Regulation, and with one-half of the equipment specified in sub-paragraphs (xiii) and (xiv) of that paragraph and the remainder of the liferafts carried to be provided with the equipment specified in sub-paragraphs (i) to (vii) inclusive and (xix) of that paragraph.

Regulation 18

Training in the use of Liferafts

The Administration shall so far as is practicable and reasonable take steps with a view to ensuring that crews of ships in which liferafts are carried are trained in their launching and use.

Regulation 19

Embarkation into Lifeboats and Liferafts

- (a) Suitable arrangements shall be made for embarkation into the lifeboats, which shall include:
- (i) a ladder at each set of davits to afford access to the lifeboats when waterborne, except that in passenger ships, ships employed as whale factory ships, ships employed as fish processing or canning factory ships and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries, the Administration may permit such ladders to be replaced by approved devices provided that there shall not be less than one ladder on each side of the ship;
 - (ii) means for illuminating the lifeboats and their launching gear during preparation for and the process of launching, and also for illuminating the water into which the lifeboats are launched until the process of launching is completed;
 - (iii) arrangements for warning the passengers and crew that the ship is about to be abandoned; and
 - (iv) means for preventing any discharge of water into the lifeboats.
- (b) Suitable arrangements shall also be made for embarkation into the liferafts, which shall include:

- (i) sufficient ladders to facilitate embarkation into the liferafts when waterborne except that in passenger ships, ships employed as whale factory ships, ships employed as fish processing or canning factory ships, and ships engaged in the carriage of persons employed in the whaling, fish processing or fish canning industries, the Administration may permit the replacement of some or all of such ladders by approved devices;
- (ii) where there are carried liferafts for which approved launching devices are provided, means for illuminating those liferafts and launching devices during the preparation for and the process of launching, and also for illuminating the water into which those liferafts are launched until the process of launching is completed;
- (iii) means for illuminating the stowage position of liferafts for which approved launching devices are not provided;
- (iv) arrangements for warning the passengers and crew that the ship is about to be abandoned; and
- (v) means for preventing any discharge of water into the liferafts at fixed launching positions, including those under approved launching devices.

Regulation 20

Marking of Lifeboats, Liferafts and Buoyant Apparatus

- (a) The dimensions of a lifeboat and the number of persons which it is permitted to carry shall be marked on it in clear permanent characters. The name and port of registry of the ship to which the lifeboat belongs shall be painted on each side of the bow.
- (b) Buoyant apparatus shall be marked with the number of persons in the same manner.
- (c) The number of persons shall be marked in the same manner on inflatable liferafts and also on the valise or container in which the inflatable liferaft is contained. Every inflatable liferaft shall also bear a serial number and the manufacturer's name so that the owner of the liferaft can be ascertained.
- (d) Every rigid liferaft shall be marked with the name and port of registry of the ship in which it is carried, and with the number of persons it is permitted to carry.
- (e) No lifeboat, liferaft or buoyant apparatus shall be marked for a greater number of persons than that obtained in the manner specified in this Chapter.

Regulation 21

Specification of a Lifebuoy

- (a) A lifebuoy shall satisfy the following requirements:
 - (i) it shall be of solid cork or any other equivalent material;

- (ii) it shall be capable of supporting in fresh water for 24 hours at least 14.5 kilogrammes (32 lbs.) of iron;
 - (iii) it shall not be adversely affected by oil or oil products;
 - (iv) it shall be of a highly visible colour;
 - (v) it shall be marked in block letters with the name and port of registry of the ship in which it is carried.
- (b) Lifebuoys filled with rushes, cork shavings or granulated cork, or any other loose granulated material, or whose buoyancy depends upon air compartments which require to be inflated, are prohibited.
- (c) Lifebuoys made of plastic or other synthetic compounds shall be capable of retaining their buoyant properties and durability in contact with sea water or oil products, or under variations of temperature or climatic changes prevailing in open sea voyages.
- (d) Lifebuoys shall be fitted with beackets securely seized. At least one lifebuoy on each side of the ship shall be fitted with a buoyant lifeline of at least 27.5 metres (15 fathoms) in length.
- (e) In passenger ships not less than one-half of the total number of lifebuoys, and in no case less than six, and in cargo ships at least one-half of the total number of lifebuoys, shall be provided with efficient self-igniting lights.
- (f) The self-igniting lights required by paragraph (e) of this Regulation shall be such that they cannot be extinguished by water. They shall be capable of burning for not less than 45 minutes and shall have a luminous intensity of not less than 2 candelas in all directions of the upper hemisphere. The lights shall be kept near the lifebuoys to which they belong, with the necessary means of attachment. Self-igniting lights used in tankers shall be of an approved electric battery type.*
- (g) All lifebuoys shall be so placed as to be readily accessible to the persons on board, and at least two of the lifebuoys provided with self-igniting lights in accordance with paragraph (e) of this Regulation shall also be provided with an efficient self-activating smoke signal capable of producing smoke of a highly visible colour for at least 15 minutes, and shall be capable of quick release from the navigating bridge.

* The following ranges of visibilities of the light might be expected in given atmospheric conditions.

Atmospheric transmissivity factor	Meteorological range of visibility (miles)	Range of visibility of the light (miles)
0.3	2.4	0.96
0.4	3.3	1.05
0.5	4.3	1.15
0.6	5.8	1.24
0.7	8.4	1.34
0.8	13.4	1.45
0.9	28.9	1.57

(h) Lifebuoys shall always be capable of being rapidly cast loose and shall not be permanently secured in any way.

Regulation 22

Life-jackets

(a) Ships shall carry for every person on board a life-jacket of an approved type and, in addition, unless these life-jackets can be adapted for use by children, a sufficient number of life-jackets suitable for children. Each life-jacket shall be suitably marked showing that it has been approved by the Administration.

(b) In addition to the life-jackets required by paragraph (a) of this Regulation there shall be carried on passenger ships life-jackets for 5 per cent of the total number of persons on board. These life-jackets shall be stowed in a conspicuous place on deck.

(c) An approved life-jacket shall comply with the following requirements:

- (i) it shall be constructed with proper workmanship and materials;
- (ii) it shall be so constructed as to eliminate so far as possible all risk of its being put on incorrectly, except that it shall be capable of being worn inside out;
- (iii) it shall be capable of lifting the face of an exhausted or unconscious person out of the water and holding it above the water with the body inclined backwards from its vertical position;
- (iv) it shall be capable of turning the body in the water from any position to a safe floating position with the body inclined backwards from its vertical position;
- (v) it shall not be adversely affected by oil or oil products;
- (vi) it shall be of a highly visible colour;
- (vii) it shall be fitted with an approved whistle, firmly secured by a cord;
- (viii) the buoyancy of the life-jacket required to provide the foregoing performance shall not be reduced by more than 5 per cent after 24 hours' submergence in fresh water.

(d) A life-jacket, the buoyancy of which depends on inflation, may be permitted for use by the crews of all ships except passenger ships and tankers provided that:

- (i) it has two separate inflatable compartments;
- (ii) it is capable of being inflated both mechanically and by mouth; and
- (iii) it complies with the requirements of paragraph (c) of this Regulation with either compartment inflated separately.

(e) Life-jackets shall be so placed as to be readily accessible and their position shall be plainly indicated.

Regulation 23*Line-throwing Appliances*

- (a) Ships shall carry a line-throwing appliance of an approved type.
- (b) The appliance shall be capable of carrying a line not less than 230 metres (250 yards) with reasonable accuracy, and shall include not less than four projectiles and four lines.

Regulation 24*Ships' Distress Signals*

Ships shall be provided, to the satisfaction of the Administration, with means of making effective distress signals by day and by night, including at least twelve parachute signals capable of giving a bright red light at a high altitude.

Regulation 25*Muster List and Emergency Procedure*

- (a) Special duties to be undertaken in the event of an emergency shall be allotted to each member of the crew.
- (b) The muster list shall show all the special duties and shall indicate, in particular, the station to which each member must go, and the duties that he has to perform.
- (c) The muster list for each passenger ship shall be in a form approved by the Administration.
- (d) Before the vessel sails, the muster list shall be completed. Copies shall be posted in several parts of the ship, and in particular in the crew's quarters.
- (e) The muster list shall show the duties assigned to the different members of the crew in connexion with:
 - (i) the closing of the watertight doors, valves and closing mechanisms of scuppers, ash-shoots and fire doors;
 - (ii) the equipping of the lifeboats (including the portable radio apparatus for survival craft) and the other life-saving appliances;
 - (iii) the launching of the lifeboat;
 - (iv) the general preparation of the other life-saving appliances;
 - (v) the muster of the passengers; and
 - (vi) the extinction of fire, having regard to the ship's fire control plans.
- (f) The muster list shall show the several duties assigned to the members of the stewards' department in relation to the passengers in case of emergency. These duties shall include:
 - (i) warning the passengers;

- (ii) seeing that they are suitably clad and have put on their life-jackets in a proper manner;
 - (iii) assembling the passengers at muster stations;
 - (iv) keeping order in the passages and on the stairways, and, generally, controlling the movements of the passengers; and
 - (v) ensuring that a supply of blankets is taken to the lifeboats.
- (g) The duties shown by the muster list in relation to the extinction of fire pursuant to sub-paragraph (e)(vi) of this Regulation shall include particulars of:
- (i) the manning of the fire parties assigned to deal with fires;
 - (ii) the special duties assigned in respect of the operation of fire-fighting equipment and installations.
- (h) The muster list shall specify definite signals for calling all the crew to their boat, liferaft and fire stations, and shall give full particulars of these signals. These signals shall be made on the whistle or siren and, except on passenger ships on short international voyages and on cargo ships of less than 45.7 metres (150 feet) in length, they shall be supplemented by other signals which shall be electrically operated. All these signals shall be operable from the bridge.

Regulation 26

Practice Musters and Drills

- (a)
- (i) In passenger ships, musters of the crew for boat drill and fire drill shall take place weekly when practicable and there shall be such a muster when a passenger ship leaves the final port of departure on an international voyage which is not a short international voyage.
 - (ii) In cargo ships, a muster of the crew for boat drill and fire drill shall take place at intervals of not more than one month, provided that a muster of the crew for boat drill and fire drill shall take place within 24 hours of leaving a port if more than 25 per cent of the crew have been replaced at that port.
 - (iii) On the occasion of the monthly muster in cargo ships the boat's equipment shall be examined to ensure that it is complete.
 - (iv) The date upon which musters are held, and details of any training and drills in fire fighting which are carried out on board shall be recorded in such log book as may be prescribed by the Administration. If in any week (for passenger ships) or month (for cargo ships) no muster or a part muster only is held, an entry shall be made stating the circumstances and extent of the muster held. A report of the examination of the boat's equipment on cargo ships shall be entered in the log book, which shall also record the occasions on which the lifeboats are swung out and lowered in compliance with paragraph (c) of this Regulation.
- (b) In passenger ships, except those engaged on short international voyages, a muster of the passengers shall be held within 24 hours after leaving port.

(c) Different groups of lifeboats shall be used in turn at successive boat drills and every lifeboat shall be swung out and, if practicable and reasonable, lowered at least once every four months. The musters and inspections shall be so arranged that the crew thoroughly understand and are practised in the duties they have to perform, including instructions in the handling and operation of liferafts where these are carried.

(d) The emergency signal for summoning passengers to muster stations shall be a succession of seven or more short blasts followed by one long blast on the whistle or siren. This shall be supplemented in passenger ships, except those engaged on short international voyages, by other signals, which shall be electrically operated, throughout the ship operable from the bridge. The meaning of all signals affecting passengers, with precise instructions on what they are to do in an emergency, shall be clearly stated in appropriate languages on cards posted in their cabins and in conspicuous places in other passenger quarters.

PART B – PASSENGER SHIPS ONLY

Regulation 27

Lifeboats, Liferafts and Buoyant Apparatus

(a) Passenger ships shall carry two boats attached to davits – one on each side of the ship – for use in an emergency. These boats shall be of an approved type and shall be not more than 8.5 metres (28 feet) in length. They may be counted for the purposes of paragraphs (b) and (c) of this Regulation, provided that they comply fully with the requirements for lifeboats of this Chapter, and for the purposes of Regulation 8 provided that in addition they comply fully with the requirements of Regulation 9 and where appropriate Regulation 14 of this Chapter. They shall be kept ready for immediate use while the ship is at sea. In ships in which the requirements of paragraph (h) of Regulation 29 are met by means of appliances fitted to the sides of the lifeboats, such appliances shall not be required to be fitted to the two boats provided to meet the requirements of this Regulation.

(b) Passenger ships engaged on international voyages which are not short international voyages shall carry:

- (i) Lifeboats on each side of such aggregate capacity as will accommodate half the total number of persons on board. Provided that the Administration may permit the substitution of lifeboats by liferafts of the same total capacity so however that there shall never be less than sufficient lifeboats on each side of the ship to accommodate 37½ per cent of all on board.
- (ii) Liferafts of sufficient aggregate capacity to accommodate 25 per cent of the total number of persons on board, together with buoyant apparatus for 3 per cent of that number. Provided that ships which have a factor of subdivision of 0.33 or less shall be permitted to carry, in lieu of liferafts for 25 per cent of all on board and buoyant apparatus for 3 per cent of all on board, buoyant apparatus for 25 per cent of that number.

(c) (i) A passenger ship engaged on short international voyages shall be provided with sets of davits in accordance with its length as specified in Column A of the Table in Regulation 28 of this Chapter. Each set of davits shall have a lifeboat attached to it and these lifeboats

shall provide at least the minimum capacity required by Column C of the Table or the capacity required to provide accommodation for all on board if this is less.

Provided that when in the opinion of the Administration it is impracticable or unreasonable to place on a ship engaged on short international voyages the number of sets of davits required by Column A of the Table in Regulation 28, the Administration may authorize, under exceptional conditions, a smaller number of davits, except that this number shall never be less than the minimum number fixed by Column B of the Table, and that the total capacity of the lifeboats on the ship will be at least equal to the minimum capacity required by Column C or the capacity required to provide for all persons on board if this is less.

- (ii) If the lifeboats so provided are not sufficient to accommodate all on board, additional lifeboats under davits or liferafts shall be provided so that the accommodation provided in the lifeboats and the liferafts in the ship shall be sufficient for all on board.
- (iii) Notwithstanding the provisions of sub-paragraph (ii) of this paragraph in any ship engaged on short international voyages the number of persons carried shall not exceed the total capacity of the lifeboats provided in accordance with sub-paragraphs (i) and (ii) of this paragraph unless the Administration considers that this is necessitated by the volume of traffic and then only if the ship complies with the provisions of paragraph (d) of Regulation 1 of Chapter II-1.
- (iv) Where under the provisions of sub-paragraph (iii) of this paragraph the Administration has permitted the carriage of persons in excess of the lifeboat capacity and is satisfied that it is impracticable in that ship to stow the liferafts carried in accordance with sub-paragraph (ii) of this paragraph it may permit a reduction in the number of lifeboats.

Provided that:

- (1) the number of lifeboats shall, in the case of ships of 58 metres (190 feet) in length and over, never be less than four, two of which shall be carried on each side of the ship, and in the case of ships of less than 58 metres (190 feet) in length, shall never be less than two, one of which shall be carried on each side of the ship; and
- (2) the number of lifeboats and liferafts shall always be sufficient to accommodate the total number of persons on board.
- (v) Every passenger ship engaged on short international voyages shall carry in addition to the lifeboats and liferafts required by the provisions of this paragraph, liferafts sufficient to accommodate 10 per cent of the total number of persons for whom there is accommodation in the lifeboats carried in that ship.
- (vi) Every passenger ship engaged on short international voyages shall also carry buoyant apparatus for at least 5 per cent of the total number of persons on board.
- (vii) The Administration may permit individual ships or classes of ships with short international voyage certificates to proceed on voyages

in excess of 600 miles but not exceeding 1,200 miles if such ships comply with the provisions of paragraph (d) of Regulation 1 of Chapter II-1, if they carry lifeboats which provide for 75 per cent of the persons on board and otherwise comply with the provisions of this paragraph.

Regulation 28

Table relating to Davits and Lifeboat Capacity for Ships on Short International Voyages

The following table fixes according to the length of the ship:

- (A) the minimum number of sets of davits to be provided on a ship engaged on short international voyages to each of which must be attached a lifeboat in accordance with Regulation 27 of this Chapter;
- (B) the smaller number of sets of davits which may be authorized exceptionally on a ship engaged on short international voyages under Regulation 27 of this Chapter; and
- (C) the minimum lifeboat capacity required for a ship engaged on short international voyages.

Registered length of ship		(A) Minimum number of sets of davits	(B) Smaller number of sets of davits authorized exceptionally	(C) Minimum capacity of lifeboats	
Metres	Feet			Cubic metres	Cubic feet
31 and under 37	100 and under 120	2	2	11	400
37 " 43	120 " 140	2	2	18	650
43 " 49	140 " 160	2	2	26	900
49 " 53	160 " 175	3	3	33	1,150
53 " 58	175 " 190	3	3	38	1,350
58 " 63	190 " 205	4	4	44	1,550
63 " 67	205 " 220	4	4	50	1,750
67 " 70	220 " 230	5	4	52	1,850
70 " 75	230 " 245	5	4	61	2,150
75 " 78	245 " 255	6	5	68	2,400
78 " 82	255 " 270	6	5	76	2,700
82 " 87	270 " 285	7	5	85	3,000
87 " 91	285 " 300	7	5	94	3,300
91 " 96	300 " 315	8	6	102	3,600
96 " 101	315 " 330	8	6	110	3,900
101 " 107	330 " 350	9	7	122	4,300
107 " 113	350 " 370	9	7	135	4,750
113 " 119	370 " 390	10	7	146	5,150
119 " 125	390 " 410	10	7	157	5,550
125 " 133	410 " 435	12	9	171	6,050
133 " 140	435 " 460	12	9	185	6,550
140 " 149	460 " 490	14	10	202	7,150
149 " 159	490 " 520	14	10	221	7,800
159 " 168	520 " 550	16	12	238	8,400

Note on (C): Where the length of the ship is under 31 metres (100 feet) or over 168 metres (550 feet) the minimum number of sets of davits and the cubic capacity of the lifeboats shall be prescribed by the Administration.

Regulation 29*Stowage and Handling of Lifeboats, Liferafts and Buoyant Apparatus*

- (a) Lifeboats and liferafts shall be stowed to the satisfaction of the Administration in such a way that:
- (i) they can all be launched in the shortest possible time and in not more than 30 minutes;
 - (ii) they will not impede in any way the prompt handling of any of the other lifeboats, liferafts or buoyant apparatus or the marshalling of the persons on board at the launching stations, or their embarkation;
 - (iii) the lifeboats, and the liferafts for which approved launching devices are required to be carried, shall be capable of being put into the water loaded with their full complement of persons and equipment even in unfavourable conditions of trim and of 15 degrees of list either way; and
 - (iv) the liferafts for which approved launching devices are not required to be carried, and the buoyant apparatus, shall be capable of being put into the water even in unfavourable conditions of trim and of 15 degrees of list either way.
- (b) Every lifeboat shall be attached to a separate set of davits.
- (c) Lifeboats may only be stowed on more than one deck if proper measures are taken to prevent lifeboats on a lower deck being fouled by those stowed on a deck above.
- (d) Lifeboats, and liferafts for which approved launching devices are required to be carried, shall not be placed in the bow of the ship. They shall be stowed in such positions as to ensure safe launching having particular regard to clearance from the propeller and steeply overhanging portions of the hull aft.
- (e) Davits shall be of approved design and shall be suitably placed to the satisfaction of the Administration. They shall be so disposed on one or more decks that the lifeboats placed under them can be safely lowered without interference from the operation of any other davits.
- (f) Davits shall be as follows:
- (i) luffing or gravity type for operating lifeboats weighing not more than 2,300 kilogrammes (2½ tons) in their turning out condition;
 - (ii) gravity type for operating lifeboats weighing more than 2,300 kilogrammes (2½ tons) in their turning out condition.
- (g) Davits, falls, blocks and all other gear shall be of such strength that the lifeboats can be turned out manned by a launching crew and then safely lowered with the full complement of persons and equipment, with the ship listed to 15 degrees either way and with a 10 degrees trim.
- (h) Skates or other suitable means shall be provided to facilitate launching the lifeboats against a list of 15 degrees.
- (i) Means shall be provided for bringing the lifeboats against the ship's side and there holding them so that persons may be safely embarked.

(j) Lifeboats, together with the emergency boats required by Regulation 27 of this Chapter, shall be served by wire rope falls, together with winches of an approved type which, in the case of the emergency boats, shall be capable of quick recovery of those boats. Exceptionally, the Administration may allow manila rope falls or falls of another approved material with or without winches (except that the emergency boats shall be required to be served by winches which are capable of quick recovery of those boats) where they are satisfied that manila rope falls or falls of another approved material are adequate.

(k) At least two lifelines shall be fitted to the davit span, and the falls and lifelines shall be long enough to reach the water with the ship at its lightest seagoing draught and listed to 15 degrees either way. Lower fall blocks shall be fitted with a suitable ring or long link for attaching to the sling hooks unless an approved type of disengaging gear is fitted.

(l) Where mechanically-powered appliances are fitted for the recovery of the lifeboats, efficient hand gear shall also be provided. Where davits are recovered by action of the falls by power, safety devices shall be fitted which will automatically cut off the power before the davits come against the stops in order to avoid overstressing the wire rope falls or davits.

(m) Lifeboats attached to davits shall have the falls ready for service and arrangements shall be made for speedily, but not necessarily simultaneously, detaching the lifeboats from the falls. The point of attachment of the lifeboats to the falls shall be at such height above the gunwale as to ensure stability when lowering the lifeboats.

(n) (i) In passenger ships engaged on international voyages which are not short international voyages in which there are carried lifeboats and liferafts in accordance with sub-paragraph (b)(i) of Regulation 27 of this Chapter, there shall be provided approved launching devices sufficient in number in the opinion of the Administration to enable that number of liferafts which, together with the lifeboats, is required in accordance with that sub-paragraph to provide accommodation for all on board, to be put into the water loaded with the number of persons they are permitted to accommodate, in not more than thirty minutes in calm conditions. Approved launching devices so provided shall, so far as practicable, be distributed equally on each side of the ship and there shall never be less than one such device on each side. No such devices need, however, be provided for the additional liferafts required to be carried by sub-paragraph (b)(ii) of Regulation 27 of this Chapter for 25 per cent of all on board, but every liferaft carried in accordance with that sub-paragraph shall, where an approved launching device is provided in the ship, be of a type which is capable of being launched from such a device.

(ii) In passenger ships engaged on short international voyages, the number of approved launching devices to be provided shall be at the discretion of the Administration. The number of liferafts allocated to each such device carried shall not be more than the number which, in the opinion of the Administration, can be put into the water fully loaded with the number of persons they are permitted to carry by that device in not more than 30 minutes in calm conditions.

Regulation 30*Lighting for Decks, Lifeboats, Liferafts, etc.*

(a) Provision shall be made for an electric or equivalent system of lighting sufficient for all the requirements of safety in the different parts of a passenger ship, and particularly for decks on which the lifeboats and liferafts are stowed. The self-contained emergency source of electrical power required by Regulation 25 of Chapter II-1 shall be capable of supplying where necessary this lighting system and also the lighting required by sub-paragraphs (a)(ii), (b)(ii) and (b)(iii) of Regulation 19 of this Chapter.

(b) The exit from every main compartment occupied by passengers or crew shall be continuously lighted by an emergency lamp. The power for these emergency lamps shall be so arranged that they will be supplied from the emergency source of power referred to in paragraph (a) of this Regulation in the event of failure of the main generating plant.

Regulation 31*Manning of Lifeboats and Liferafts*

(a) A deck officer or certified lifeboatman shall be placed in charge of each lifeboat and a second-in-command shall also be nominated. The person in charge shall have a list of the lifeboat's crew, and shall see that the men placed under his orders are acquainted with their several duties.

(b) A man capable of working the motor shall be assigned to each motor lifeboat.

(c) A man capable of working the radio and searchlight installations shall be assigned to each lifeboat carrying this equipment.

(d) A man practised in the handling and operation of liferafts shall be assigned to each liferaft carried, except where in ships engaged on short international voyages the Administration is satisfied that this is not practicable.

Regulation 32*Certificated Lifeboatmen*

(a) In passenger ships there shall be, for every lifeboat carried in order to comply with this Chapter, a number of lifeboatmen at least equal to that specified in the following table:

Prescribed complement of lifeboat	The minimum number of certificated lifeboatmen shall be
Less than 41 persons	2
From 41 to 61 persons	3
From 62 to 85 persons	4
Above 85 persons	5

(b) The allocation of the certificated lifeboatmen to each lifeboat remains within the discretion of the master.

(c) Certificates of efficiency shall be issued under the authority of the Administration. In order to obtain such a certificate an applicant shall prove that he has been trained in all the operations connected with launching lifeboats and other life-saving appliances and in the use of oars and propelling gear; that he is acquainted with the practical handling of lifeboats and of other life-saving equipment, and further, that he is capable of understanding and answering the orders relative to all kinds of life-saving appliances.

Regulation 33

Buoyant Apparatus

(a) No type of buoyant apparatus shall be approved unless it satisfies the following conditions:

- (i) It shall be of such size and strength that it can be thrown from the place where it is stowed into the water without being damaged.
- (ii) It shall not exceed 180 kilogrammes (400 lbs.) in weight unless suitable means to the satisfaction of the Administration are provided to enable it to be launched without lifting by hand.
- (iii) It shall be of approved material and construction.
- (iv) It shall be effective and stable when floating either way up.
- (v) The air cases or equivalent buoyancy shall be placed as near as possible to the sides of the apparatus, and such buoyancy shall not be dependent upon inflation.
- (vi) It shall be fitted with a painter and have a line securely becketed round the outside.

(b) The number of persons for which buoyant apparatus is certified shall be the number:

- (i) ascertained by dividing the number of kilogrammes of iron which it is capable of supporting in fresh water by 14.5 (or the number of pounds divided by 32), or
- (ii) equal to the number of millimetres in the perimeter divided by 305 (or the number of feet in the perimeter), whichever is the less.

Regulation 34

Number of Lifebuoys to be Provided

The minimum number of lifebuoys with which passenger ships are provided shall be fixed by the following table:

Length of ship		Minimum number of buoys
<i>in metres</i>	<i>in feet</i>	
Under 61	Under 200	8
61 and under 122	200 and under 400	12
122 and under 183	400 and under 600	18
183 and under 244	600 and under 800	24
244 and over	800 and over	30

PART C - CARGO SHIPS ONLY

Regulation 35

Number and Capacity of Lifeboats and Liferafts

- (a) (i) Every cargo ship, except ships employed as whale factory ships, fish processing or canning factory ships, and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries, shall carry lifeboats on each side of the ship of such aggregate capacity as will accommodate all persons on board, and in addition shall carry liferafts sufficient to accommodate half that number.
- Provided that, in the case of such cargo ships engaged on international voyages between near neighbouring countries, the Administration, if it is satisfied that the conditions of the voyage are such as to render the compulsory carriage of liferafts unreasonable or unnecessary, may to that extent exempt individual ships or classes of ships from this requirement.
- (ii) (1) Subject to the provisions of sub-paragraph (ii)(2) of this paragraph, every tanker of 3,000 tons gross tonnage and upwards shall carry not less than four lifeboats, two of which shall be carried aft and two amidships, except that in tankers which have no amidships superstructure all lifeboats shall be carried aft.
- (2) A tanker of 3,000 tons gross tonnage and upwards which has no amidships superstructure may be permitted by the Administration to carry two lifeboats only, provided that:
- (aa) one lifeboat is carried aft on each side of the ship;
- (bb) each such lifeboat shall not exceed 8.5 metres (28 feet) in length;
- (cc) each such lifeboat shall be stowed as far forward as practicable, but at least so far forward that the after end of the lifeboat is one-and-a-half times the length of the lifeboat forward of the propeller; and
- (dd) each such lifeboat shall be stowed as near sea level as is safe and practicable.
- (b) (i) Every ship employed as a whale factory ship, every ship employed as a fish processing or canning factory ship and every ship engaged in the carriage of persons employed in the whaling, fish processing or canning industries shall carry:
- (1) Lifeboats on each side of such aggregate capacity as will accommodate half the total number of persons on board; provided that the Administration may permit the substitution of lifeboats by liferafts of the same total capacity so however that there shall never be less than sufficient lifeboats on each side of the ship to accommodate 37½ per cent of all on board.
- (2) Liferafts of sufficient aggregate capacity to accommodate half the total number of persons on board. Provided that, if in ships employed as fish processing or canning factory ships, it is impracticable to carry lifeboats which comply fully with the

requirements of this Chapter, the Administration may permit instead the carriage of other boats, which shall however provide not less than the accommodation required by this Regulation and shall have at least the buoyancy and equipment required by this Chapter for lifeboats.

- (ii) Every ship employed as a whale factory ship, every ship employed as a fish processing or canning factory ship and every ship engaged in the carriage of persons employed in the whaling, fish processing or canning industries shall carry two boats – one on each side – for use in an emergency. These boats shall be of an approved type and shall be not more than 8.5 metres (28 feet) in length. They may be counted for the purposes of this paragraph provided that they comply fully with the requirements for lifeboats of this Chapter and for the purposes of Regulation 8 provided that in addition they comply with the requirements of Regulation 9, and, where appropriate, Regulation 14 of this Chapter. They shall be kept ready for immediate use while the ship is at sea. In ships in which the requirements of paragraph (g) of Regulation 36 of this Chapter are met by means of appliances fitted to the sides of the lifeboats, such appliances shall not be required to be fitted to the two boats provided to meet the requirements of this Regulation.
- (c) Every cargo ship with no amidships superstructure having a registered length of 150 metres (492 feet) and upwards shall carry, in addition to the lifeboats required under sub-paragraph (a)(i) of this Regulation, a liferaft capable of accommodating at least six persons which shall be stowed as far forward as is reasonable and practicable.

Regulation 36

Davits and Launching Arrangements

- (a) In cargo ships lifeboats and liferafts shall be stowed to the satisfaction of the Administration.
- (b) Every lifeboat shall be attached to a separate set of davits.
- (c) Lifeboats and liferafts for which approved launching devices are required to be carried shall preferably be positioned as close to accommodation and service spaces as possible. They shall be stowed in such positions as to ensure safe launching, having particular regard to clearance from the propeller and steeply overhanging portions of the hull, with the object of ensuring so far as practicable that they can be launched down the straight side of the ship. If positioned forward they shall be stowed abaft the collision bulkhead in a sheltered position and in this respect the Administration shall give special consideration to the strength of the davits.
- (d) Davits shall be of approved design and shall be suitably placed to the satisfaction of the Administration.
- (e) In tankers of 1,600 tons gross tonnage and upwards, ships employed as whale factory ships, ships employed as fish processing or canning factory ships

and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries, all davits shall be of the gravity type. In other ships, davits shall be as follows:

- (i) luffing or gravity type for operating lifeboats weighing not more than 2,300 kilogrammes (2½ tons) in their turning out condition;
 - (ii) gravity type for operating lifeboats weighing more than 2,300 kilogrammes (2½ tons) in their turning out condition.
- (f) Davits, falls, blocks and all other gear shall be of such strength that the lifeboats can be turned out manned by a launching crew and then safely lowered with the full complement of persons and equipment, with the ship listed to 15 degrees either way, and with a 10 degrees trim.
- (g) Skates or other suitable means shall be provided to facilitate launching the lifeboats against a list of 15 degrees.
- (h) Means shall be provided for bringing the lifeboats against the ship's side and there holding them so that persons may be safely embarked.
- (i) Lifeboats, together with the emergency boats required by sub-paragraph (b)(ii) of Regulation 35 of this Chapter, shall be served by wire rope falls, together with winches of an approved type which, in the case of the emergency boats, shall be capable of quick recovery of those boats. Exceptionally, the Administration may allow manila rope falls or falls of another approved material with or without winches (except that the emergency boats shall be required to be served by winches which are capable of quick recovery of those boats) where they are satisfied that manila rope falls or falls of another approved material are adequate.
- (j) At least two lifelines shall be fitted to the davit spans, and the falls and lifelines shall be long enough to reach the water with the ship at its lightest seagoing draught and listed to 15 degrees either way. Lower fall blocks shall be fitted with a suitable ring or long link for attaching to the sling hooks unless an approved type of disengaging gear is fitted.
- (k) Where mechanically powered appliances are fitted for the recovery of the lifeboats, efficient hand gear shall also be provided. Where davits are recovered by action of the falls by power, safety devices shall be fitted which will automatically cut off the power before the davits come against the stops in order to avoid overstressing the wire rope falls or davits.
- (l) Lifeboats shall have the falls ready for service, and arrangements shall be made for speedily, but not necessarily simultaneously, detaching the lifeboats from the falls. The point of attachment of the lifeboats to the falls shall be at such height above the gunwale as to ensure stability when lowering the lifeboats.
- (m) In ships employed as whale factory ships, ships employed as fish processing or canning factory ships and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries, in which there are carried lifeboats and liferafts in accordance with sub-paragraph (b)(i)(2) of Regulation 35 no approved launching devices need be provided for the liferafts, but there shall be provided such devices sufficient in number, in the opinion of the Ad-

ministration, to enable the liferafts carried in accordance with sub-paragraph (b)(i)(1) of that Regulation to be put into the water loaded with the number of persons they are permitted to accommodate, in not more than 30 minutes in calm conditions. Approved launching devices so provided shall, so far as practicable, be distributed equally on each side of the ship. Every liferaft carried on ships in which an approved launching device is required to be provided shall be of a type which is capable of being launched by such a device.

Regulation 37

Number of Lifebuoys to be Provided

At least eight lifebuoys of a type which satisfies the requirements of Regulation 21 of this Chapter shall be carried.

Regulation 38

Emergency Lighting

The lighting required by sub-paragraphs (a)(ii), (b)(ii) and (b)(iii) of Regulation 19 of this Chapter shall be capable of being supplied for at least three hours by the emergency source of power required by Regulation 26 of Chapter II-1. In cargo ships of 1,600 tons gross tonnage and upwards the Administration shall ensure that the lighting of the alleyways, stairways and exits is such that the access of all persons on board to the launching stations and stowage positions of lifeboats and liferafts is not impeded.

CHAPTER IV
RADIOTELEGRAPHY AND RADIOTELEPHONY

PART A – APPLICATION AND DEFINITIONS

Regulation 1

Application

- (a) Unless expressly provided otherwise, this Chapter applies to all ships to which the present Regulations apply.
- (b) This Chapter does not apply to ships to which present Regulations would otherwise apply while such ships are being navigated within the Great Lakes of North America and their connecting and tributary waters as far east as the lower exit of the St. Lambert Lock at Montreal in the Province of Quebec, Canada.*
- (c) No provision in this Chapter shall prevent the use by a ship or survival craft in distress of any means at its disposal to attract attention, make known its position and obtain help.

Regulation 2

Terms and Definitions

For the purpose of this Chapter the following terms shall have the meanings defined below. All other terms which are used in this Chapter and which are also defined in the Radio Regulations shall have the same meanings as defined in those Regulations:

- (a) “Radio Regulations” means the Radio Regulations annexed to, or regarded as being annexed to, the most recent International Telecommunication Convention which may be in force at any time.
- (b) “Radiotelegraph auto alarm” means an automatic alarm receiving apparatus which responds to the radiotelegraph alarm signal and has been approved.
- (c) “Radiotelephone auto alarm” means an automatic alarm receiving apparatus which responds to the radiotelephone alarm signal and has been approved.
- (d) “Radiotelephone station”, “Radiotelephone installation” and “Watches – radiotelephone” shall be considered as relating to the medium frequency band, unless expressly provided otherwise.
- (e) “Radio Officer” means a person holding at least a first or second class radiotelegraph operator’s certificate, or a radiocommunication operator’s

* Such ships are subject to special requirements relative to radio for safety purposes, as contained in the relevant agreement between Canada and the United States of America.

general certificate for the maritime mobile service, complying with the provisions of the Radio Regulations, who is employed in the radiotelegraph station of a ship which is provided with such a station in compliance with the provisions of Regulation 3 or Regulation 4 of this Chapter.

(f) "Radiotelephone operator" means a person holding an appropriate certificate complying with the provisions of the Radio Regulations.

(g) "Existing installation" means:

- (i) an installation wholly installed on board a ship before the date on which the present Convention enters into force irrespective of the date on which acceptance by the respective Administration takes effect; and
- (ii) an installation part of which was installed on board a ship before the date of entry into force of the present Convention and the rest of which consists either of parts installed in replacement of identical parts, or parts which comply with the requirements of this Chapter.

(h) "New installation" means any installation which is not an existing installation.

Regulation 3

Radiotelegraph Station

Passenger ships irrespective of size and cargo ships of 1,600 tons gross tonnage and upwards, unless exempted under Regulation 5 of this Chapter, shall be fitted with a radiotelegraph station complying with the provisions of Regulations 9 and 10 of this Chapter.

Regulation 4

Radiotelephone Station

Cargo ships of 300 tons gross tonnage and upwards but less than 1,600 tons gross tonnage, unless fitted with a radiotelegraph station complying with the provisions of Regulations 9 and 10 of this Chapter shall, provided they are not exempted under Regulation 5 of this Chapter, be fitted with a radiotelephone station complying with the provisions of Regulations 15 and 16 of this Chapter.

Regulation 5

Exemptions from Regulations 3 and 4

(a) The Contracting Governments consider it highly desirable not to deviate from the application of Regulations 3 and 4 of this Chapter; nevertheless the Administration may grant to individual passenger or cargo ships exemptions of a partial and/or conditional nature, or complete exemption from the requirements of Regulation 3 or Regulation 4 of this Chapter.

(b) The exemptions permitted under paragraph (a) of this Regulation shall be granted only to a ship engaged on a voyage where the maximum distance of the ship from the shore, the length of the voyage, the absence of general navigational hazards, and other conditions affecting safety are such as to render the full application of Regulation 3 or Regulation 4 of this Chapter unreasonable or unnecessary. When deciding whether or not to grant exemptions to individual ships, Administrations shall have regard to the effect that exemptions may have upon the general efficiency of the distress service for the safety of all ships. Administrations should bear in mind the desirability of requiring ships which are exempted from the requirement of Regulation 3 of this Chapter to be fitted with a radiotelephone station which complies with the provisions of Regulations 15 and 16 of this Chapter as a condition of exemption.

(c) Each Administration shall submit to the Organization as soon as possible after the first of January in each year a report showing all exemptions granted under paragraphs (a) and (b) of this Regulation during the previous calendar year and giving the reasons for granting such exemptions.

PART B - WATCHES

Regulation 6

Watches - Radiotelegraph

(a) Each ship which in accordance with Regulation 3 or Regulation 4 of this Chapter is fitted with a radiotelegraph station shall, while at sea, carry at least one radio officer and, if not fitted with a radiotelegraph auto alarm shall, subject to the provisions of paragraph (d) of this Regulation, listen continuously on the radiotelegraph distress frequency by means of a radio officer using headphones or a loudspeaker.

(b) Each passenger ship which in accordance with Regulation 3 of this Chapter is fitted with a radiotelegraph station, if fitted with a radiotelegraph auto alarm, shall, subject to the provisions of paragraph (d) of this Regulation, and while at sea, listen on the radiotelegraph distress frequency by means of a radio officer using headphones or a loudspeaker, as follows:

- (i) if carrying or certificated to carry 250 passengers or less, at least 8 hours listening a day in the aggregate;
- (ii) if carrying or certificated to carry more than 250 passengers and engaged on a voyage exceeding 16 hours' duration between two consecutive ports, at least 16 hours' listening a day in the aggregate. In this case the ship shall carry at least two radio officers;
- (iii) if carrying or certificated to carry more than 250 passengers and engaged on a voyage of less than 16 hours' duration between two consecutive ports, at least 8 hours' listening a day in the aggregate.

(c) (i) Each cargo ship which in accordance with Regulation 3 of this Chapter is fitted with a radiotelegraph station, if fitted with a radiotelegraph auto alarm, shall, subject to the provisions of paragraph (d) of this Regulation, and while at sea, listen on the radiotelegraph distress frequency by means of a radio officer using headphones or a loudspeaker, for at least 8 hours a day in the aggregate.

- (ii) Each cargo ship of 300 tons gross tonnage and upwards but less than 1,600 tons gross tonnage which is fitted with a radiotelegraph station as a consequence of Regulation 4 of this Chapter, if fitted with a radiotelegraph auto alarm shall, subject to the provisions of paragraph (d) of this Regulation, and while at sea, listen on the radiotelegraph distress frequency by means of a radio officer using headphones or a loudspeaker, during such periods as may be determined by the Administration. Administrations shall, however, have regard to the desirability of requiring, whenever practicable, a listening watch of at least 8 hours a day in the aggregate.
- (d) (i) During the period when a radio officer is required by this Regulation to listen on the radiotelegraph distress frequency, the radio officer may discontinue such listening during the time when he is handling traffic on other frequencies, or performing other essential radio duties, but only if it is impracticable to listen by split headphones or loudspeaker. The listening watch shall always be maintained by a radio officer using headphones or a loudspeaker during the silence periods provided for by the Radio Regulations.

The term "essential radio duties" in this paragraph includes urgent repairs of:

- (1) equipment for radiocommunication used for safety;
 - (2) radio navigational equipment by order of the master.
- (ii) In addition to the provisions of sub-paragraph (i) of this paragraph, on ships other than multi-radio officer passenger ships, the radio officer may, in exceptional cases, i.e. when it is impractical to listen by split headphones or loudspeaker, discontinue listening by order of the master in order to carry out maintenance required to prevent imminent malfunction of:

- equipment for radiocommunication used for safety;
- radio navigational equipment;
- other electronic navigational equipment including its repair;

provided that:

- (1) the radio officer, at the discretion of the Administration concerned, is appropriately qualified to perform these duties; and
- (2) the ship is fitted with a receiving selector which meets the requirements of the Radio Regulations;
- (3) the listening watch is always maintained by a radio officer using headphones or loudspeaker during the silence periods provided for by the Radio Regulations.

(e) In all ships fitted with a radiotelegraph auto alarm this radiotelegraph auto alarm shall, while the ship is at sea, be in operation whenever there is no listening being kept under paragraphs (b), (c) or (d) of this Regulation and, whenever practicable, during direction-finding operations.

(f) The listening periods provided for by this Regulation, including those which are determined by the Administration, should be maintained preferably during periods prescribed for the radiotelegraph service by the Radio Regulations.

Regulation 7*Watches – Radiotelephone*

(a) Each ship which is fitted with a radiotelephone station in accordance with Regulation 4 of this Chapter shall, for safety purposes, carry at least one radiotelephone operator (who may be the master, an officer or a member of the crew holding a certificate for radiotelephony) and shall, while at sea, maintain continuous watch on the radiotelephone distress frequency in the place on board from which the ship is usually navigated, by use of a radiotelephone distress frequency watch receiver, using a loudspeaker, a filtered loudspeaker or radiotelephone auto alarm.

(b) Each ship which in accordance with Regulation 3 or Regulation 4 of this Chapter is fitted with a radiotelegraph station shall, while at sea, maintain continuous watch on the radiotelephone distress frequency in a place to be determined by the Administration, by use of a radiotelephone distress frequency watch receiver, using a loudspeaker, a filtered loudspeaker or radiotelephone auto alarm.

Regulation 8*Watches – VHF Radiotelephone*

Each ship provided with a Very High Frequency (VHF) radiotelephone station, in accordance with Regulation 18 of Chapter V, shall maintain a listening watch on the bridge for such periods and on such channels as may be required by the Contracting Government referred to in that Regulation.

PART C – TECHNICAL REQUIREMENTS**Regulation 9***Radiotelegraph Stations*

(a) The radiotelegraph station shall be so located that no harmful interference from extraneous mechanical or other noise will be caused to the proper reception of radio signals. The station shall be placed as high in the ship as is practicable, so that the greatest possible degree of safety may be secured.

(b) The radiotelegraph operating room shall be of sufficient size and of adequate ventilation to enable the main and reserve radiotelegraph installations to be operated efficiently, and shall not be used for any purpose which will interfere with the operation of the radiotelegraph station.

(c) The sleeping accommodation of at least one radio officer shall be situated as near as practicable to the radiotelegraph operating room. In new ships, this sleeping accommodation shall not be within the radiotelegraph operating room.

(d) There shall be provided between the radiotelegraph operating room and the bridge and one other place, if any, from which the ship is navigated, an

efficient two-way system for calling and voice communication which shall be independent of the main communication system on the ship.

(e) The radiotelegraph installation shall be installed in such a position that it will be protected against the harmful effects of water or extremes of temperature. It shall be readily accessible both for immediate use in case of distress and for repair.

(f) A reliable clock with a dial not less than 12.5 centimetres (5 inches) in diameter and a concentric seconds hand, the face of which is marked to indicate the silence periods prescribed for the radiotelegraph service by the Radio Regulations, shall be provided. It shall be securely mounted in the radiotelegraph operating room in such a position that the entire dial can be easily and accurately observed by the radio officer from the radiotelegraph operating position and from the position for testing the radiotelegraph auto alarm receiver.

(g) A reliable emergency light shall be provided in the radiotelegraph operating room, consisting of an electric lamp permanently arranged so as to provide satisfactory illumination of the operating controls of the main and reserve radiotelegraph installations and of the clock required by paragraph (f) of this Regulation. In new installations, this lamp shall, if supplied from the reserve source of energy required by sub-paragraph (a)(iii) of Regulation 10 of this Chapter, be controlled by two-way switches placed near the main entrance to the radiotelegraph operating room and at the radiotelegraph operating position, unless the layout of the radiotelegraph operating room does not warrant it. These switches shall be clearly labelled to indicate their purpose.

(h) Either an electric inspection lamp, operated from the reserve source of energy required by sub-paragraph (a) (iii) of Regulation 10 of this Chapter and provided with a flexible lead of adequate length, or a flashlight shall be provided and kept in the radiotelegraph operating room.

(i) The radiotelegraph station shall be provided with such spare parts, tools and testing equipment as will enable the radiotelegraph installation to be maintained in efficient working condition while at sea. The testing equipment shall include an instrument or instruments for measuring A.C. volts, D.C. volts and ohms.

(j) If a separate emergency radiotelegraph operating room is provided the requirements of paragraphs (d), (e), (f), (g) and (h) of this Regulation shall apply to it.

Regulation 10

Radiotelegraph Installations

- (a) Except as otherwise expressly provided in this Regulation:
- (i) The radiotelegraph station shall include a main installation and reserve installation, electrically separate and electrically independent of each other.
 - (ii) The main installation shall include a main transmitter, main receiver, radiotelephone distress frequency watch receiver, and main source of energy.

- (iii) The reserve installation shall include a reserve transmitter, reserve receiver and reserve source of energy.
 - (iv) A main and a reserve antenna shall be provided and installed, provided that the Administration may except any ship from the provision of a reserve antenna if it is satisfied that the fitting of such an antenna is impracticable or unreasonable, but in such case a suitable spare antenna completely assembled for immediate installation shall be carried. In addition, sufficient antenna wire and insulators shall in all cases be provided to enable a suitable antenna to be erected. The main antenna, if suspended between supports liable to whipping, shall be suitably protected against breakage.
- (b) In installations on cargo ships (except those on cargo ships of 1,600 tons gross tonnage and upwards installed on or after 19 November 1952), if the main transmitter complies with all the requirements for the reserve transmitter, the latter is not obligatory.
- (c) (i) The main and reserve transmitters shall be capable of being quickly connected with and tuned to the main antenna, and the reserve antenna if one is fitted.
 - (ii) The main and reserve receivers shall be capable of being quickly connected with any antenna with which they are required to be used.
- (d) All parts of the reserve installation shall be placed as high in the ship as is practicable, so that the greatest possible degree of safety may be secured.
- (e) The main and reserve transmitters shall be capable of transmitting on the radiotelegraph distress frequency using a class of emission assigned by the Radio Regulations for that frequency. In addition, the main transmitter shall be capable of transmitting on at least two working frequencies in the authorized bands between 405 kHz and 535 kHz, using classes of emission assigned by the Radio Regulations for these frequencies. The reserve transmitter may consist of a ship's emergency transmitter, as defined in and limited in use by the Radio Regulations.
- (f) The main and reserve transmitters shall, if modulated emission is prescribed by the Radio Regulations, have a depth of modulation of not less than 70 per cent and a note frequency between 450 and 1,350 Hz.
- (g) The main and reserve transmitters shall, when connected to the main antenna, have a minimum normal range as specified below, that is to say, they must be capable of transmitting clearly perceptible signals from ship to ship by

	Minimum normal range in miles	
	Main transmitter	Reserve transmitter
All passenger ships, and cargo ships of 1,600 tons gross tonnage and upwards	150	100
Cargo ships below 1,600 tons gross tonnage	100	75

day and under normal conditions and circumstances over the specified ranges.* (Clearly perceptible signals will normally be received if the R.M.S. value of the field strength at the receiver is at least 50 microvolts per metre.)

- (h) (i) The main and reserve receivers shall be capable of receiving the radiotelegraph distress frequency and the classes of emission assigned by the Radio Regulations for that frequency.
- (ii) In addition, the main receiver shall permit the reception of such of the frequencies and classes of emission used for the transmission of time signals, meteorological messages and such other communications relating to safety of navigation as may be considered necessary by the Administration.
- (iii) The radiotelephone distress frequency watch receiver shall be preset to this frequency. It shall be provided with a filtering unit or a device to silence the loudspeaker if on the bridge in the absence of a radiotelephone alarm signal. The device shall be capable of being easily switched in and out and may be used when, in the opinion of the master, conditions are such that maintenance of the listening watch would interfere with the safe navigation of the ship.
- (iv) (1) A radiotelephone transmitter, if provided, shall be fitted with an automatic device for generating the radiotelephone alarm signal, so designed as to prevent actuation by mistake, and complying with the requirements of paragraph (e) of Regulation 16 of this Chapter. The device shall be capable of being taken out of operation at any time in order to permit the immediate transmission of a distress message.
- (2) Arrangements shall be made to check periodically the proper functioning of the automatic device for generating the radio-

* In the absence of a direct measurement of the field strength the following data may be used as a guide for approximately determining the normal range:

Normal range in miles	Metre-amperes ¹	Total antenna power (watts) ²
200	128	200
175	102	125
150	76	71
125	58	41
100	45	25
75	34	14

¹ This figure represents the product of the maximum height of the antenna above the deepest load water-line in metres and the antenna current in amperes (R.M.S. value). The values given in the second column of the table correspond to an average value of the ratio

$$\frac{\text{effective antenna height}}{\text{maximum antenna height}} = 0.47$$

This ratio varies with local conditions of the antenna and may vary between about 0.3 and 0.7.

² The values given in the third column of the table correspond to an average value of the ratio

$$\frac{\text{radiated antenna power}}{\text{total antenna power}} = 0.08$$

This ratio varies considerably according to the values of effective antenna height and antenna resistance.

telephone alarm signal on frequencies other than the radiotelephone distress frequency using a suitable artificial antenna.

(i) The main receiver shall have sufficient sensitivity to produce signals in headphones or by means of a loudspeaker when the receiver input is as low as 50 microvolts. The reserve receiver shall have sufficient sensitivity to produce such signals when the receiver input is as low as 100 microvolts.

(j) There shall be available at all times, while the ship is at sea, a supply of electrical energy sufficient to operate the main installation over the normal range required by paragraph (g) of this Regulation as well as for the purpose of charging any batteries forming part of the radiotelegraph station. The voltage of the supply for the main installation shall, in the case of new ships, be maintained within ± 10 per cent of the rated voltage. In the case of existing ships, it shall be maintained as near the rated voltage as possible and, if practicable, within ± 10 per cent.

(k) The reserve installation shall be provided with a source of energy independent of the propelling power of the ship and of the ship's electrical system.

(l) (i) The reserve source of energy shall preferably consist of accumulator batteries, which may be charged from the ship's electrical system, and shall under all circumstances be capable of being put into operation rapidly and of operating the reserve transmitter and receiver for at least six hours continuously under normal working conditions besides any of the additional loads mentioned in paragraphs (m) and (n) of this Regulation.*

(ii) The reserve source of energy is required to be of a capacity sufficient to operate simultaneously the reserve transmitter and the VHF installation, when fitted, for at least six hours unless a switching device is fitted to ensure alternate operation only. VHF usage of the reserve source of energy shall be limited to distress, urgency and safety communications. Alternatively, a separate reserve source of energy may be provided for the VHF installation.

(m) The reserve source of energy shall be used to supply the reserve installation and the automatic alarm signal keying device specified in paragraph (r) of this Regulation if it is electrically operated.

The reserve source of energy may also be used to supply:

- (i) the radiotelegraph auto alarm;
- (ii) the emergency light specified in paragraph (g) of Regulation 9 of this Chapter;
- (iii) the direction-finder;
- (iv) the VHF installation;

* For the purpose of determining the electrical load to be supplied by the reserve source of energy, the following formula is recommended as a guide:

- $\frac{1}{2}$ of the transmitter current consumption with the key down (mark)
- + $\frac{1}{2}$ of the transmitter current consumption with the key up (space)
- + current consumption of receiver and additional circuits connected to the reserve source of energy.

- (v) the device for generating the radiotelephone alarm signal, if provided;
- (vi) any device, prescribed by the Radio Regulations, to permit change-over from transmission to reception and vice versa.

Subject to the provisions of paragraph (n) of this Regulation, the reserve source of energy shall not be used other than for the purposes specified in this paragraph.

(n) Notwithstanding the provisions of paragraph (m) of this Regulation, the Administration may authorize the use in cargo ships of the reserve source of energy for a small number of low-power emergency circuits which are wholly confined to the upper part of the ship, such as emergency lighting on the boat deck, on condition that these can be readily disconnected if necessary, and that the source of energy is of sufficient capacity to carry the additional load or loads.

(o) The reserve source of energy and its switchboard shall be as high as practicable in the ship and readily accessible to the radio officer. The switchboard shall, wherever possible, be situated in a radio room; if it is not, it shall be capable of being illuminated.

(p) While the ship is at sea, accumulator batteries, whether forming part of the main installation or reserve installation, shall be brought up to the normal fully-charged condition daily.

(q) All steps shall be taken to eliminate so far as is possible the causes of, and to suppress, radio interference from electrical and other apparatus on board. If necessary, steps shall be taken to ensure that the antennae attached to broadcast receivers do not cause interference to the efficient or correct working of the radiotelegraph installation. Particular attention shall be paid to this requirement in the design of new ships.

(r) In addition to a means for manually transmitting the radiotelegraph alarm signal, an automatic radiotelegraph alarm signal keying device shall be provided, capable of keying the main and the reserve transmitters so as to transmit the radiotelegraph alarm signal. The device shall be capable of being taken out of operation at any time in order to permit immediate manual operation of the transmitter. If electrically operated, this keying device shall be capable of operation from the reserve source of energy.

(s) At sea, the reserve transmitter, if not used for communications, shall be tested daily using a suitable artificial antenna, and at least once during each voyage using the reserve antenna if installed. The reserve source of energy shall also be tested daily.

(t) All equipment forming part of the radiotelegraph installation shall be reliable, and shall be so constructed that it is readily accessible for maintenance purposes.

(u) Notwithstanding the provision of Regulation 4 of this Chapter, the Administration may, in the case of cargo ships of less than 1,600 tons gross tonnage, relax the full requirements of Regulation 9 of this Chapter and the

present Regulation, provided that the standard of the radiotelegraph station shall in no case fall below the equivalent of that prescribed under Regulation 15 and Regulation 16 of this Chapter for radiotelephone stations, so far as applicable. In particular, in the case of cargo ships of 300 tons gross tonnage and upwards but less than 500 tons gross tonnage, the Administration need not require:

- (i) a reserve receiver;
- (ii) a reserve source of energy in existing installations;
- (iii) protection of the main antenna against breakage by whipping;
- (iv) the means of communication between the radiotelegraph station and the bridge to be independent of the main communication system;
- (v) the range of the transmitter to be greater than 75 miles.

Regulation 11

Radiotelegraph Auto Alarms

- (a) Any radiotelegraph auto alarm installed after 26 May 1965 shall comply with the following minimum requirements:
- (i) In the absence of interference of any kind it shall be capable of being actuated, without manual adjustment, by any radiotelegraph alarm signal transmitted on the radiotelegraph distress frequency by any coast station, ship's emergency or survival craft transmitter operating in accordance with the Radio Regulations, provided that the strength of the signal at the receiver input is greater than 100 microvolts and less than 1 volt.
 - (ii) In the absence of interference of any kind, it shall be actuated by either three or four consecutive dashes when the dashes vary in length from 3.5 to as near 6 seconds as possible and the spaces vary in length between 1.5 seconds and the lowest practicable value, preferably not greater than 10 milliseconds.
 - (iii) It shall not be actuated by atmospherics or by any signal other than the radiotelegraph alarm signal, provided that the received signals do not in fact constitute a signal falling within the tolerance limits indicated in sub-paragraph (ii) above.
 - (iv) The selectivity of the radiotelegraph auto alarm shall be such as to provide a practically uniform sensitivity over a band extending not less than 4 kHz and not more than 8 kHz on each side of the radiotelegraph distress frequency and to provide outside this band a sensitivity which decreases as rapidly as possible in conformity with the best engineering practice.
 - (v) If practicable, the radiotelegraph auto alarm shall, in the presence of atmospherics or interfering signals, automatically adjust itself so that within a reasonably short time it approaches the condition in which it can most readily distinguish the radiotelegraph alarm signal.
 - (vi) When actuated by a radiotelegraph alarm signal, or in the event of failure of the apparatus, the radiotelegraph auto alarm shall cause

a continuous audible warning to be given in the radiotelegraph operating room, in the radio officer's sleeping accommodation and on the bridge. If practicable, warning shall also be given in the case of failure of any part of the whole alarm receiving system. Only one switch for stopping the warning shall be provided and this shall be situated in the radiotelegraph operating room.

- (vii) For the purpose of regularly testing the radiotelegraph auto alarm, the apparatus shall include a generator pre-tuned to the radiotelegraph distress frequency and a keying device by means of which a radiotelegraph alarm signal of the minimum strength indicated in sub-paragraph (i) above is produced. A means shall also be provided for attaching headphones for the purpose of listening to signals received on the radiotelegraph auto alarm.
 - (viii) The radiotelegraph auto alarm shall be capable of withstanding vibration, humidity and changes of temperature, equivalent to severe conditions experienced on board ships at sea, and shall continue to operate under such conditions.
- (b) Before a new type of radiotelegraph auto alarm is approved, the Administration concerned shall be satisfied, by practical tests made under operating conditions equivalent to those obtaining in practice, that the apparatus complies with paragraph (a) of this Regulation.
- (c) In ships fitted with a radiotelegraph auto alarm, its efficiency shall be tested by a radio officer at least once every 24 hours while at sea. If it is not in working order, the radio officer shall report that fact to the master or officer on watch on the bridge.
- (d) A radio officer shall periodically check the proper functioning of the radiotelegraph auto alarm receiver, with its normal antenna connected, by listening to signals and by comparing them with similar signals received on the radiotelegraph distress frequency on the main installation.
- (e) As far as practicable, the radiotelegraph auto alarm, when connected to an antenna shall not affect the accuracy of the direction-finder.

Regulation 12

Direction-Finders

- (a)
 - (i) The direction-finding apparatus required by Regulation 12 of Chapter V shall be efficient and capable of receiving signals with the minimum of receiver noise and of taking bearings from which the true bearing and direction may be determined.
 - (ii) It shall be capable of receiving signals on the radiotelegraph frequencies assigned by the Radio Regulations for the purposes of distress and direction-finding and for maritime radio beacons.
 - (iii) In the absence of interference the direction-finding apparatus shall have a sensitivity sufficient to permit accurate bearings being taken on a signal having a field strength as low as 50 microvolts per metre.

- (iv) As far as is practicable, the direction-finding apparatus shall be so located that as little interference as possible from mechanical or other noise will be caused to the efficient determination of bearings.
 - (v) As far as is practicable, the direction-finding antenna system shall be erected in such a manner that the efficient determination of bearings will be hindered as little as possible by the close proximity of other antennae, derricks, wire halyards or other large metal objects.
 - (vi) An efficient two-way means of calling and voice communication shall be provided between the direction-finder and the bridge.
 - (vii) All direction-finders shall be calibrated to the satisfaction of the Administration on first installation. The calibration shall be verified by check bearings or by a further calibration whenever any changes are made in the position of any antennae or of any structures on deck which might affect appreciably the accuracy of the direction-finder. The calibration particulars shall be checked at yearly intervals, or as near thereto as possible. A record shall be kept of the calibrations and of any checks made of their accuracy.
- (b)
- (i) Radio equipment for homing on the radiotelephone distress frequency shall be capable of taking direction-finding bearings on that frequency without ambiguity of sense within an arc of 30 degrees on either side of the bow.
 - (ii) When installing and testing the equipment referred to in this paragraph due regard should be given to the relevant recommendation of the International Radio Consultative Committee (CCIR).
 - (iii) All reasonable steps shall be taken to ensure the homing capability required by this paragraph. In cases where due to technical difficulties the homing capability cannot be achieved, Administrations may grant to individual ships exemptions from the requirements of this paragraph.

Regulation 13

Radiotelegraph Installation for Fitting in Motor Lifeboats

- (a) The radiotelegraph installation required by Regulation 14 of Chapter III shall include a transmitter, a receiver and a source of energy. It shall be so designed that it can be used in an emergency by an unskilled person.
- (b) The transmitter shall be capable of transmitting on the radiotelegraph distress frequency using a class of emission assigned by the Radio Regulations for that frequency. The transmitter shall also be capable of transmitting on the frequency, and of using a class of emission, assigned by the Radio Regulations for use by survival craft in the bands between 4,000 kHz and 27,500 kHz.
- (c) The transmitter shall, if modulated emission is prescribed by the Radio Regulations, have a depth of modulation of not less than 70 per cent and a note frequency between 450 and 1,350 Hz.

(d) In addition to a key for manual transmissions, the transmitter shall be fitted with an automatic keying device for the transmission of the radiotelegraph alarm and distress signals.

(e) On the radiotelegraph distress frequency the transmitter shall have a minimum normal range (as specified in paragraph (g) of Regulation 10 of this Chapter) of 25 miles using the fixed antenna.*

(f) The receiver shall be capable of receiving the radiotelegraph distress frequency and the classes of emission assigned by the Radio Regulations for that frequency.

(g) The source of energy shall consist of an accumulator battery with sufficient capacity to supply the transmitter for four hours continuously under normal working conditions. If the battery is of a type that requires charging, means shall be available for charging it from the ship's power supply. In addition there shall be a means for charging it after the lifeboat has been launched.

(h) When the power for the radiotelegraph installation and the searchlight required by Regulation 14 of Chapter III are drawn from the same battery, it shall have sufficient capacity to provide for the additional load of the searchlight.

(i) A fixed-type antenna will be provided together with means for supporting it at the maximum practicable height. In addition an antenna supported by a kite or balloon shall be provided if practicable.

(j) At sea a radio officer shall at weekly intervals test the transmitter using a suitable artificial antenna, and shall bring the battery up to full charge if it is of a type which requires charging.

Regulation 14

Portable Radio Apparatus for Survival Craft

(a) The apparatus required by Regulation 13 of Chapter III shall include a transmitter, a receiver, an antenna and a source of energy. It shall be so designed that it can be used in an emergency by an unskilled person.

(b) The apparatus shall be readily portable, watertight, capable of floating in sea water and capable of being dropped into the sea without damage. New equipment shall be as light-weight and compact as practicable and shall preferably be capable of use in both lifeboats and liferafts.

(c) The transmitter shall be capable of transmitting on the radiotelegraph distress frequency using a class of emission assigned by the Radio Regulations for that frequency, and, in the bands between 4,000 kHz and 27,500 kHz, of transmitting on the radiotelegraph frequency, and of using a class of emission assigned by the Radio Regulations for survival craft. However, the Administration may permit the transmitter to be capable of transmitting on the radiotelephone distress frequency, and of using a class of emission assigned by the

* In the absence of a measurement of the field strength, it may be assumed that this range will be obtained if the product of the height of the antenna above the water-line and the antenna current (R.M.S. value) is 10 metre-amperes.

Radio Regulations for that frequency, as an alternative or in addition to transmission on the radiotelegraph frequency assigned by the Radio Regulations for survival craft in the bands between 4,000 kHz and 27,500 kHz.

(d) The transmitter shall, if modulated emission is prescribed by the Radio Regulations, have a depth of modulation of not less than 70 per cent and in the case of radiotelegraph emission have a note frequency between 450 and 1,350 Hz.

(e) In addition to a key for manual transmissions, the transmitter shall be fitted with an automatic keying device for the transmission of the radiotelegraph alarm and distress signals. If the transmitter is capable of transmitting on the radiotelephone distress frequency, it shall be fitted with an automatic device, complying with the requirements of paragraph (e) of Regulation 16 of this Chapter, for transmitting the radiotelephone alarm signal.

(f) The receiver shall be capable of receiving the radiotelegraph distress frequency and the classes of emission assigned by the Radio Regulations for that frequency. If the transmitter is capable of transmitting on the radiotelephone distress frequency the receiver shall also be capable of receiving that frequency and a class of emission assigned by the Radio Regulations for that frequency.

(g) The antenna shall be either self-supporting or capable of being supported by the mast of a lifeboat at the maximum practicable height. In addition it is desirable that an antenna supported by a kite or balloon shall be provided if practicable.

(h) The transmitter shall supply an adequate radio frequency power* to the antenna required by paragraph (a) of this Regulation and shall preferably derive its supply from a hand generator. If operated from a battery, the battery shall comply with conditions laid down by the Administration to ensure that it is of a durable type and is of adequate capacity.

(i) At sea a radio officer or a radiotelephone operator, as appropriate, shall at weekly intervals test the transmitter, using a suitable artificial antenna and shall bring the battery up to full charge if it is of a type which requires charging.

(j) For the purpose of this Regulation, new equipment means equipment supplied to a ship after the date of entry into force of the present Convention.

Regulation 15

Radiotelephone Stations

(a) The radiotelephone station shall be in the upper part of the ship and so located that it is sheltered to the greatest possible extent from noise which might impair the correct reception of messages and signals.

* It may be assumed that the purposes of this Regulation will be satisfied by the following performance:

At least 10 watts input to the anode of the final stage or a radio-frequency output of at least 2.0 watts (A2 emission) at 500 kHz into an artificial antenna having an effective resistance of 15 ohms and 100×10^{-12} farads capacitance in series. The depth of modulation shall be at least 70 per cent.

- (b) There shall be efficient communication between the radiotelephone station and the bridge.
- (c) A reliable clock shall be securely mounted in such a position that the entire dial can be easily observed from the radiotelephone operating position.
- (d) A reliable emergency light shall be provided, independent of the system which supplies the normal lighting of the radiotelephone installation, and permanently arranged so as to be capable of providing adequate illumination of the operating controls of the radiotelephone installation, of the clock required by paragraph (c) of this Regulation and of the card of instructions required by paragraph (f).
- (e) Where a source of energy consists of a battery or batteries, the radiotelephone station shall be provided with a means of assessing the charge condition.
- (f) A card of instructions giving a clear summary of the radiotelephone distress procedure shall be displayed in full view of the radiotelephone operating position.

Regulation 16

Radiotelephone Installations

- (a) The radiotelephone installation shall include transmitting and receiving equipment, and appropriate sources of energy (referred to in the following paragraphs as "the transmitter", "the receiver", "the radiotelephone distress frequency watch receiver", and "the source of energy" respectively).
- (b) The transmitter shall be capable of transmitting on the radiotelephone distress frequency and on at least one other frequency in the bands between 1,605 kHz and 2,850 kHz, using the classes of emission assigned by the Radio Regulations for these frequencies. In normal operation a double sideband transmission or a single sideband transmission with full carrier (i.e., A3H) shall have a depth of modulation of at least 70 per cent at peak intensity. Modulation of a single sideband transmission with reduced or suppressed carrier (A3A, A3J) shall be such that the intermodulation products shall not exceed the values given in the Radio Regulations.
- (c)
 - (i) In the case of cargo ships of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage the transmitter shall have a minimum normal range of 150 miles, i.e., it shall be capable of transmitting clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over this range.* (Clearly perceptible signals will normally be received if the R.M.S. value of the field strength produced at the receiver by the unmodulated carrier is at least 25 microvolts per metre.)
 - (ii) In the case of cargo ships of 300 tons gross tonnage and upwards but less than 500 tons gross tonnage:

* In the absence of field strength measurements, it may be assumed that this range will be obtained by a power in the antenna of 15 watts (unmodulated carrier) with an antenna efficiency of 27 per cent.

- (1) for existing installations the transmitter shall have a minimum normal range of at least 75 miles; and
- (2) for new installations the transmitter shall produce a power in the antenna of at least 15 watts (unmodulated carrier).

(d) The transmitter shall be fitted with a device for generating the radiotelephone alarm signal by automatic means so designed as to prevent actuation by mistake. The device shall be capable of being taken out of operation at any time in order to permit the immediate transmission of a distress message. Arrangements shall be made to check periodically the proper functioning of the device on frequencies other than the radiotelephone distress frequency using a suitable artificial antenna.

(e) The device required by paragraph (d) of this Regulation shall comply with the following requirements:

- (i) The tolerance of the frequency of each tone shall be ± 1.5 per cent.
- (ii) The tolerance on the duration of each tone shall be ± 50 milliseconds.
- (iii) The interval between successive tones shall not exceed 50 milliseconds.
- (iv) The ratio of the amplitude of the stronger tone to that of the weaker shall be within the range 1 to 1.2.

(f) The receiver required by paragraph (a) of this Regulation shall be capable of receiving the radiotelephone distress frequency and at least one other frequency available for maritime radiotelephone stations in the bands between 1,605 kHz and 2,850 kHz, using the classes of emission assigned by the Radio Regulations for these frequencies. In addition the receiver shall permit the reception of such other frequencies, using the classes of emission assigned by the Radio Regulations, as are used for the transmission by radiotelephony of meteorological messages and such other communications relating to the safety of navigation as may be considered necessary by the Administration. The receiver shall have sufficient sensitivity to produce signals by means of a loudspeaker when the receiver input is as low as 50 microvolts.

(g) The radiotelephone distress frequency watch receiver shall be preset to this frequency. It shall be provided with a filtering unit or a device to silence the loudspeaker in the absence of a radiotelephone alarm signal. The device shall be capable of being easily switched in and out and may be used when, in the opinion of the master, conditions are such that maintenance of the listening watch would interfere with the safe navigation of the ship.

(h) To permit rapid change-over from transmission to reception when manual switching is used, the control for the switching device shall, where practicable, be located on the microphone or the telephone handset.

(i) While the ship is at sea, there shall be available at all times a main source of energy sufficient to operate the installation over the normal range required by paragraph (c) of this Regulation. If batteries are provided they shall under all circumstances have sufficient capacity to operate the transmitter and receiver for

at least six hours continuously under normal working conditions.* In installations in cargo ships of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage made on or after 19 November 1952, a reserve source of energy shall be provided in the upper part of the ship unless the main source of energy is so situated.

- (j) The reserve source of energy, if provided, may be used only to supply:
- (i) the radiotelephone installation;
 - (ii) the emergency light required by paragraph (d) of Regulation 15 of this Chapter;
 - (iii) the device required by paragraph (d) of this Regulation, for generating the radiotelephone alarm signal; and
 - (iv) the VHF installation.
- (k) Notwithstanding the provisions of paragraph (j) of this Regulation, the Administration may authorize the use of the reserve source of energy, if provided, for a direction-finder, if fitted, and for a number of low-power emergency circuits which are wholly confined to the upper part of the ship, such as emergency lighting on the boat deck, on condition that the additional loads can be readily disconnected, and that the source of energy is of sufficient capacity to carry them.
- (l) While at sea, any battery provided shall be kept charged so as to meet the requirements of paragraph (i) of this Regulation.
- (m) An antenna shall be provided and installed and, if suspended between supports liable to whipping, shall in the case of cargo ships of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage be protected against breakage. In addition, there shall be a spare antenna completely assembled for immediate replacement or, where this is not practicable, sufficient antenna wire and insulators to enable a spare antenna to be erected. The necessary tools to erect an antenna shall also be provided.

Regulation 17

VHF Radiotelephone Stations

- (a) When a VHF radiotelephone station is provided in accordance with Regulation 18 of Chapter V, it shall be in the upper part of the ship and include a VHF radiotelephone installation complying with the provisions of this Regulation and comprising a transmitter and receiver, a source of power capable of actuating them at their rated power levels, and an antenna suitable for efficient radiating and receiving signals at the operating frequencies.

* For the purpose of determining the electrical load to be supplied by batteries required to have six hours reserve capacity, the following formula is recommended as a guide:

- $\frac{1}{2}$ of the current consumption necessary for speech transmission
- + current consumption of receiver
- + current consumption of all additional loads to which the batteries may supply energy in time of distress or emergency.

(b) Such a VHF installation shall conform to the requirements laid down in the Radio Regulations for equipment used in the VHF Maritime Mobile Radiotelephone Service and shall be capable of operation on those channels specified by the Radio Regulations and as may be required by the Contracting Government referred to in Regulation 18 of Chapter V.

(c) The Contracting Government shall not require the transmitter R.F. carrier power output to be greater than 10 watts. The antenna shall, in so far as is practicable, have an unobstructed view in all directions.*

(d) Control of the VHF channels required for navigational safety shall be immediately available on the bridge convenient to the conning position and, where necessary, facilities should also be available to permit radiocommunications from the wings of the bridge.

Regulation 18

Radiotelephone Auto Alarms

(a) The radiotelephone auto alarm shall comply with the following minimum requirements:

- (i) the frequencies of maximum response of the tuned circuits, and other tone selecting devices, shall be subject to a tolerance of ± 1.5 per cent in each instance; and the response shall not fall below 50 per cent of the maximum response for frequencies within 3 per cent of the frequency of maximum response;
- (ii) in the absence of noise and interference, the automatic receiving equipment shall be capable of operating from the alarm signal in a period of not less than four and not more than six seconds;
- (iii) the automatic receiving equipment shall respond to the alarm signal, under conditions of intermittent interference caused by atmospheric and powerful signals other than the alarm signal, preferably without any manual adjustment being required during any period of watch maintained by the equipment;
- (iv) the automatic receiving equipment shall not be actuated by atmospheric or by strong signals other than the alarm signal;
- (v) the automatic receiving equipment shall be effective beyond the range at which speech transmission is satisfactory;
- (vi) the automatic receiving equipment shall be capable of withstanding vibration, humidity, changes of temperature and variations in power supply voltage equivalent to the severe conditions experienced on board ships at sea, and shall continue to operate under such conditions;

* For guidance purposes, it is assumed that each ship would be fitted with a vertically polarized unity gain antenna at a nominal height of 9.15 metres (30 feet) above water, a transmitter R.F. power output of 10 watts, and a receiver sensitivity of 2 microvolts across the input terminals for 20 db signal-to-noise ratio.

- (vii) the automatic receiving equipment should, as far as practicable, give warning of faults that would prevent the apparatus from performing its normal functions during watch hours.
- (b) Before a new type of radiotelephone auto alarm is approved, the Administration concerned shall be satisfied by practical tests, made under operating conditions equivalent to those obtained in practice, that the apparatus complies with paragraph (a) of this Regulation.

PART D – RADIO LOGS

Regulation 19

Radio Logs

- (a) The radio log (diary of the radio service) required by the Radio Regulations for a ship which is fitted with a radiotelegraph station in accordance with Regulation 3 or Regulation 4 of this Chapter shall be kept in the radiotelegraph operating room during the voyage. Every radio officer shall enter in the log his name, the times at which he goes on and off watch, and all incidents connected with the radio service which occur during his watch which may appear to be of importance to safety of life at sea. In addition, there shall be entered in the log:
- (i) the entries required by the Radio Regulations;
 - (ii) details of the maintenance, including a record of the charging of the batteries, in such form as may be prescribed by the Administration;
 - (iii) a daily statement that the requirement of paragraph (p) of Regulation 10 of this Chapter has been fulfilled;
 - (iv) details of the tests of the reserve transmitter and reserve source of energy made under paragraph (s) of Regulation 10 of this Chapter;
 - (v) in ships fitted with a radiotelegraph auto alarm details of tests made under paragraph (c) of Regulation 11 of this Chapter;
 - (vi) details of the maintenance of the batteries, including a record of the charging (if applicable) required by paragraph (j) of Regulation 13 of this Chapter, and details of the tests required by that paragraph in respect of the transmitters fitted in motor lifeboats;
 - (vii) details of the maintenance of the batteries, including a record of the charging (if applicable) required by paragraph (i) of Regulation 14 of this Chapter, and details of the tests required by that paragraph in respect of portable radio apparatus for survival craft;
 - (viii) the time at which the listening watch was discontinued in accordance with paragraph (d) of Regulation 6 of this Chapter, together with the reason and the time at which the listening watch was resumed.

(b) The radio log (diary of the radio service) required by the Radio Regulations for a ship which is fitted with a radiotelephone station in accordance with Regulation 4 of this Chapter shall be kept at the place where listening watch is maintained. Every qualified operator, and every master, officer or crew member carrying out a listening watch in accordance with Regulation 7 of this Chapter, shall enter in the log, with his name, the details of all incidents connected with the radio service which occur during his watch which may appear to be of importance to safety of life at sea. In addition, there shall be entered in the log:

- (i) the details required by the Radio Regulations;
 - (ii) the time at which listening watch begins when the ship leaves port, and the time at which it ends when the ship reaches port;
 - (iii) the time at which listening watch is for any reason discontinued, together with the reason, and the time at which listening watch is resumed;
 - (iv) details of the maintenance of the batteries (if provided), including a record of the charging required by paragraph (l) of Regulation 16 of this Chapter;
 - (v) details of the maintenance of the batteries, including a record of the charging (if applicable) required by paragraph (i) of Regulation 14 of this Chapter, and details of the tests required by that paragraph in respect of portable radio apparatus for survival craft.
- (c) Radio logs shall be available for inspection by the officers authorized by the Administration to make such inspection.

CHAPTER V
SAFETY OF NAVIGATION

Regulation 1

Application

This Chapter, unless otherwise expressly provided in this Chapter, applies to all ships on all voyages, except ships of war and ships solely navigating the Great Lakes of North America and their connecting and tributary waters as far east as the lower exit of the St. Lambert Lock at Montreal in the Province of Quebec, Canada.

Regulation 2

Danger Messages

- (a) The master of every ship which meets with dangerous ice, a dangerous derelict, or any other direct danger to navigation, or a tropical storm, or encounters sub-freezing air temperatures associated with gale force winds causing severe ice accretion on superstructures, or winds of force 10 or above on the Beaufort scale for which no storm warning has been received, is bound to communicate the information by all the means at his disposal to ships in the vicinity, and also to the competent authorities at the first point on the coast with which he can communicate. The form in which the information is sent is not obligatory. It may be transmitted either in plain language (preferably English) or by means of the International Code of Signals. It should be broadcast to all ships in the vicinity and sent to the first point on the coast to which communication can be made, with a request that it be transmitted to the appropriate authorities.
- (b) Each Contracting Government will take all steps necessary to ensure that when intelligence of any of the dangers specified in paragraph (a) of this Regulation is received, it will be promptly brought to the knowledge of those concerned and communicated to other interested Governments.
- (c) The transmission of messages respecting the dangers specified is free of cost to the ships concerned.
- (d) All radio messages issued under paragraph (a) of this Regulation shall be preceded by the Safety Signal, using the procedure as prescribed by the Radio Regulations as defined in Regulation 2 of Chapter IV.

Regulation 3

Information required in Danger Messages

The following information is required in danger messages:

- (a) *Ice, Derelicts and other Direct Dangers to Navigation*
- (i) The kind of ice, derelict or danger observed.

- (ii) The position of the ice, derelict or danger when last observed.
 - (iii) The time and date (Greenwich Mean Time) when danger last observed.
- (b) *Tropical Storms* (Hurricanes in the West Indies, Typhoons in the China Sea, Cyclones in Indian waters, and storms of a similar nature in other regions)
- (i) A statement that a tropical storm has been encountered. This obligation should be interpreted in a broad spirit, and information transmitted whenever the master has good reason to believe that a tropical storm is developing or exists in his neighbourhood.
 - (ii) Time, date (Greenwich Mean Time) and position of ship when the observation was taken.
 - (iii) As much of the following information as is practicable should be included in the message:
 - barometric pressure, preferably corrected (stating millibars, millimetres, or inches, and whether corrected or uncorrected);
 - barometric tendency (the change in barometric pressure during the past three hours);
 - true wind direction;
 - wind force (Beaufort scale);
 - state of the sea (smooth, moderate, rough, high);
 - swell (slight, moderate, heavy) and the true direction from which it comes. Period or length of swell (short, average, long) would also be of value;
 - true course and speed of ship.
- (c) *Subsequent Observations*
- When a master has reported a tropical or other dangerous storm, it is desirable, but not obligatory, that further observations be made and transmitted hourly, if practicable, but in any case at intervals of not more than three hours, so long as the ship remains under the influence of the storm.
- (d) *Winds of force 10 or above on the Beaufort scale for which no storm warning has been received*
- This is intended to deal with storms other than the tropical storms referred to in paragraph (b) of this Regulation; when such a storm is encountered, the message should contain similar information to that listed under that paragraph but excluding the details concerning sea and swell.
- (e) *Sub-freezing air temperatures associated with gale force winds causing severe ice accretion on superstructures*
- (i) Time and date (Greenwich Mean Time).
 - (ii) Air temperature.
 - (iii) Sea temperature (if practicable).
 - (iv) Wind force and direction.

*Examples**Ice*

TTT Ice. Large berg sighted in 4605 N., 4410 W., at 0800 GMT. May 15.

Derelicts

TTT Derelict. Observed derelict almost submerged in 4006 N., 1243 W., at 1630 GMT. April 21.

Danger to Navigation

TTT Navigation. Alpha lightship not on station. 1800 GMT. January 3.

Tropical Storm

TTT Storm. 0030 GMT. August 18. 2004 N., 11354 E. Barometer corrected 994 millibars, tendency down 6 millibars. Wind NW., force 9, heavy squalls. Heavy easterly swell. Course 067, 5 knots.

TTT Storm. Appearances indicate approach of hurricane. 1300 GMT. September 14. 2200 N., 7236 W. Barometer corrected 29.64 inches, tendency down .015 inches. Wind NE., force 8, frequent rain squalls. Course 035, 9 knots.

TTT Storm. Conditions indicate intense cyclone has formed. 0200 GMT. May 4. 1620 N., 9203 E. Barometer uncorrected 753 millimetres, tendency down 5 millimetres. Wind S. by W., force 5. Course 300, 8 knots.

TTT Storm. Typhoon to southeast. 0300 GMT. June 12. 1812 N., 12605 E. Barometer falling rapidly. Wind increasing from N.

TTT Storm. Wind force 11, no storm warning received. 0300 GMT. May 4. 4830 N., 30 W. Barometer corrected 983 millibars, tendency down 4 millibars. Wind SW., force 11 veering. Course 260, 6 knots.

Icing

TTT experiencing severe icing. 1400 GMT. March 2. 69 N., 10 W. Air temperature 18. Sea temperature 29. Wind NE., force 8.

Regulation 4*Meteorological Services*

(a) The Contracting Governments undertake to encourage the collection of meteorological data by ships at sea and to arrange for their examination, dissemination and exchange in the manner most suitable for the purpose of aiding navigation. Administrations shall encourage the use of instruments of a high degree of accuracy, and shall facilitate the checking of such instruments upon request.

(b) In particular, the Contracting Governments undertake to co-operate in carrying out, as far as practicable, the following meteorological arrangements:

- (i) To warn ships of gales, storms and tropical storms, both by the issue of radio messages and by the display of appropriate signals at coastal points.
- (ii) To issue daily, by radio, weather bulletins suitable for shipping, containing data of existing weather, waves and ice, forecasts and, when practicable, sufficient additional information to enable simple

weather charts to be prepared at sea and also to encourage the transmission of suitable facsimile weather charts.

- (iii) To prepare and issue such publications as may be necessary for the efficient conduct of meteorological work at sea and to arrange, if practicable, for the publication and making available of daily weather charts for the information of departing ships.
 - (iv) To arrange for selected ships to be equipped with tested instruments (such as a barometer, a barograph, a psychrometer, and suitable apparatus for measuring sea temperature) for use in this service, and to take meteorological observations at main standard times for surface synoptic observations (at least four times daily; whenever circumstances permit) and to encourage other ships to take observations in a modified form, particularly when in areas where shipping is sparse; these ships to transmit their observations by radio for the benefit of the various official meteorological services, repeating the information for the benefit of ships in the vicinity. When in the vicinity of a tropical storm, or of a suspected tropical storm, ships should be encouraged to take and transmit their observations at more frequent intervals whenever practicable, bearing in mind navigational preoccupations of ships' officers during storm conditions.
 - (v) To arrange for the reception and transmission by coast radio stations of weather messages from and to ships. Ships which are unable to communicate direct with shore shall be encouraged to relay their weather messages through ocean weather ships or through other ships which are in contact with shore.
 - (vi) To encourage all masters to inform ships in the vicinity and also shore stations whenever they experience a wind speed of 50 knots or more (force 10 on the Beaufort scale).
 - (vii) To endeavour to obtain a uniform procedure in regard to the international meteorological services already specified, and, as far as is practicable, to conform to the Technical Regulations and recommendations made by the World Meteorological Organization, to which the Contracting Governments may refer for study and advice any meteorological question which may arise in carrying out the present Convention.
- (c) The information provided for in this Regulation shall be furnished in form for transmission and transmitted in the order of priority prescribed by the Radio Regulations, and during transmission "to all stations" of meteorological information, forecasts and warnings, all ship stations must conform to the provisions of the Radio Regulations.
- (d) Forecasts, warnings, synoptic and other meteorological reports intended for ships shall be issued and disseminated by the national service in the best position to serve various zones and areas, in accordance with mutual arrangements made by the Contracting Governments concerned.

Regulation 5

Ice Patrol Service

- (a) The Contracting Governments undertake to continue an ice patrol and a service for study and observation of ice conditions in the North Atlantic. During

the whole of the ice season the south-eastern, southern and south-western limits of the regions of icebergs in the vicinity of the Grand Banks of Newfoundland shall be guarded for the purpose of informing passing ships of the extent of this dangerous region; for the study of ice conditions in general; and for the purpose of affording assistance to ships and crews requiring aid within the limits of operation of the patrol ships. During the rest of the year the study and observation of ice conditions shall be maintained as advisable.

(b) Ships and aircraft used for the ice patrol service and the study and observation of ice conditions may be assigned other duties by the managing Government, provided that such other duties do not interfere with their primary purpose or increase the cost of this service.

Regulation 6

Ice Patrol. Management and Cost

(a) The Government of the United States of America agrees to continue the management of the ice patrol service and the study and observation of ice conditions, including the dissemination of information received therefrom. The Contracting Governments specially interested in these services undertake to contribute to the expense of maintaining and operating these services; each contribution to be based upon the total gross tonnage of the vessels of each contributing Government passing through the regions of icebergs guarded by the Ice Patrol; in particular, each Contracting Government specially interested undertakes to contribute annually to the expense of maintaining and operating these services a sum determined by the ratio which the total gross tonnage of that Contracting Government's vessels passing during the ice season through the regions of icebergs guarded by the Ice Patrol bears to the combined total gross tonnage of the vessels of all contributing Governments passing during the ice season through the regions of icebergs guarded by the Ice Patrol. Non-contracting Governments specially interested may contribute to the expense of maintaining and operating these services on the same basis. The managing Government will furnish annually to each contributing Government a statement of the total cost of maintaining and operating the Ice Patrol and of the proportionate share of each contributing Government.

(b) Each of the contributing Governments has the right to alter or discontinue its contribution, and other interested Governments may undertake to contribute to the expense. The contributing Government which avails itself of this right will continue responsible for its current contribution up to 1 September following the date of giving notice of intention to alter or discontinue its contribution. To take advantage of the said right it must give notice to the managing Government at least six months before the said 1 September.

(c) If, at any time, the United States Government should desire to discontinue these services, or if one of the contributing Governments should express a wish to relinquish responsibility for its pecuniary contribution, or to have its contribution altered, or another Contracting Government should desire to undertake to contribute to the expense, the contributing Governments shall settle the question in accordance with their mutual interests.

(d) The contributing Governments shall have the right by common consent to make from time to time such alterations in the provisions of this Regulation and of Regulation 5 of this Chapter as appear desirable.

(e) Where this Regulation provides that a measure may be taken after agreement among the contributing Governments, proposals made by any Contracting Government for effecting such a measure shall be communicated to the managing Government which shall approach the other contributing Governments with a view to ascertaining whether they accept such proposals, and the results of the enquiries thus made shall be sent to the other contributing Governments and the Contracting Government making the proposals. In particular, the arrangements relating to contributions to the cost of the services shall be reviewed by the contributing Governments at intervals not exceeding three years. The managing Government shall initiate the action necessary to this end.

Regulation 7

Speed Near Ice

When ice is reported on or near his course the master of every ship at night is bound to proceed at a moderate speed or to alter his course so as to go well clear of the danger zone.

Regulation 8

Routeing

(a) The practice of following, particularly in converging areas, routes adopted for the purpose of separation of traffic including avoidance of passage through areas designated as areas to be avoided by ships or certain classes of ships, or for the purpose of avoiding unsafe conditions, has contributed to the safety of navigation and is recommended for use by all ships concerned.

(b) The Organization is recognized as the only international body for establishing and adopting measures on an international level concerning routeing and areas to be avoided by ships or certain classes of ships. It will collate and disseminate to Contracting Governments all relevant information.

(c) The selection of the routes and the initiation of action with regard to them, and the delineation of what constitutes converging areas, will be primarily the responsibility of the Governments concerned. In the development of routeing schemes which impinge upon international waters, or such other schemes they may wish adopted by the Organization, they will give due consideration to relevant information published by the Organization.

(d) Contracting Governments will use their influence to secure the appropriate use of adopted routes and will do everything in their power to ensure adherence to the measures adopted by the Organization in connexion with routeing of ships.

(e) Contracting Governments will also induce all ships proceeding on voyages in the vicinity of the Grand Banks of Newfoundland to avoid, as far as practicable, the fishing banks of Newfoundland north of latitude 43° N and to pass outside regions known or believed to be endangered by ice.

Regulation 9*Misuse of Distress Signals*

The use of an international distress signal, except for the purpose of indicating that a ship or aircraft is in distress, and the use of any signal which may be confused with an international distress signal, are prohibited on every ship or aircraft.

Regulation 10*Distress Messages – Obligations and Procedures*

(a) The master of a ship at sea, on receiving a signal from any source that a ship or aircraft or survival craft thereof is in distress, is bound to proceed with all speed to the assistance of the persons in distress informing them if possible that he is doing so. If he is unable or, in the special circumstances of the case, considers it unreasonable or unnecessary to proceed to their assistance, he must enter in the logbook the reason for failing to proceed to the assistance of the persons in distress.

(b) The master of a ship in distress, after consultation, so far as may be possible, with the masters of the ships which answer his call for assistance, has the right to requisition such one or more of those ships as he considers best able to render assistance, and it shall be the duty of the master or masters of the ship or ships requisitioned to comply with the requisition by continuing to proceed with all speed to the assistance of persons in distress.

(c) The master of a ship shall be released from the obligation imposed by paragraph (a) of this Regulation when he learns that one or more ships other than his own have been requisitioned and are complying with the requisition.

(d) The master of a ship shall be released from the obligation imposed by paragraph (a) of this Regulation, and, if his ship has been requisitioned, from the obligation imposed by paragraph (b) of this Regulation, if he is informed by the persons in distress or by the master of another ship which has reached such persons that assistance is no longer necessary.

(e) The provisions of this Regulation do not prejudice the Convention for the unification of certain rules of law relating to Assistance and Salvage at Sea, signed at Brussels on 23 September 1910, particularly the obligation to render assistance imposed by Article 11 of that Convention.

Regulation 11*Signalling Lamps*

All ships of over 150 tons gross tonnage, when engaged on international voyages, shall have on board an efficient daylight signalling lamp which shall not be solely dependent upon the ship's main source of electrical power.

Regulation 12*Shipborne Navigational Equipment*

- (a) All ships of 1,600 tons gross tonnage and upwards shall be fitted with a radar of a type approved by the Administration. Facilities for plotting radar readings shall be provided on the bridge in those ships.
- (b) All ships of 1,600 tons gross tonnage and upwards, when engaged on international voyages, shall be fitted with radio direction-finding apparatus complying with the provisions of Regulation 12 of Chapter IV. The Administration may, in areas where it considers it unreasonable or unnecessary for such apparatus to be carried, exempt any ship of less than 5,000 tons gross tonnage from this requirement, due regard being had to the fact that radio direction-finding apparatus is of value both as a navigational instrument and as an aid to locating ships, aircraft or survival craft.
- (c) All ships of 1,600 tons gross tonnage and upwards, when engaged on international voyages, shall be fitted with a gyro-compass in addition to the magnetic compass. The Administration, if it considers it unreasonable or unnecessary to require a gyro-compass, may exempt any ship of less than 5,000 tons gross tonnage from this requirement.
- (d) All new ships of 500 tons gross tonnage and upwards, when engaged on international voyages, shall be fitted with an echo-sounding device.
- (e) Whilst all reasonable steps shall be taken to maintain the apparatus in an efficient condition, malfunction of the radar equipment, the gyro-compass or the echo-sounding device shall not be considered as making the ship unseaworthy or as a reason for delaying the ship in ports where repair facilities are not readily available.
- (f) All new ships of 1,600 tons gross tonnage and upwards, when engaged on international voyages, shall be fitted with radio equipment for homing on the radiotelephone distress frequency complying with the relevant provisions of paragraph (b) of Regulation 12 of Chapter IV.

Regulation 13*Manning*

The Contracting Governments undertake, each for its national ships, to maintain, or, if it is necessary, to adopt, measures for the purpose of ensuring that, from the point of view of safety of life at sea, all ships shall be sufficiently and efficiently manned.

Regulation 14*Aids to Navigation*

The Contracting Governments undertake to arrange for the establishment and maintenance of such aids to navigation, including radio beacons and electronic aids as, in their opinion, the volume of traffic justifies and the degree of risk requires, and to arrange for information relating to these aids to be made available to all concerned.

Regulation 15*Search and Rescue*

(a) Each Contracting Government undertakes to ensure that any necessary arrangements are made for coast watching and for the rescue of persons in distress at sea round its coasts. These arrangements should include the establishment, operation and maintenance of such maritime safety facilities as are deemed practicable and necessary having regard to the density of the seagoing traffic and the navigational dangers and should, so far as possible, afford adequate means of locating and rescuing such persons.

(b) Each Contracting Government undertakes to make available information concerning its existing rescue facilities and the plans for changes therein, if any.

Regulation 16*Life-Saving Signals*

The following signals shall be used by life-saving stations and maritime rescue units when communicating with ships or persons in distress and by ships or persons in distress when communicating with life-saving stations and maritime rescue units. The signals used by aircraft engaged in search and rescue operations to direct ships are indicated in paragraph (d) below. An illustrated table describing the signals listed below shall be readily available to the officer of the watch of every ship to which this Chapter applies.

(a) Replies from life-saving stations or maritime rescue units to distress signals made by a ship or person:

<i>Signal</i>	<i>Signification</i>
<p><i>By day</i> – Orange smoke signal or combined light and sound signal (thunderlight) consisting of three single signals which are fired at intervals of approximately one minute.</p> <p><i>By night</i> – White star rocket consisting of three single signals which are fired at intervals of approximately one minute.</p>	}
	<p>“You are seen – assistance will be given as soon as possible.” (Repetition of such signals shall have the same meaning.)</p>

If necessary the day signals may be given at night or the night signals by day.

(b) Landing signals for the guidance of small boats with crews or persons in distress:

<i>Signal</i>	<i>Signification</i>
<p><i>By day</i> – Vertical motion of a white flag or the arms or firing of a green star-signal or signalling the code letter “K” (---) given by light or sound-signal apparatus.</p> <p><i>By night</i> – Vertical motion of a white light or flare, or firing of a green star-signal or signalling the code letter “K” (---) given by light or sound-signal apparatus. A range (indication of direction) may be given by placing a steady white light or flare at a lower level and in line with the observer.</p>	}
	<p>“This is the best place to land.”</p>

*Signal**Signification*

By day – Horizontal motion of a white flag or arms extended horizontally or firing of a red star-signal or signalling the code letter “S” (···) given by light or sound-signal apparatus.

By night – Horizontal motion of a white light or flare or firing of a red star-signal or signalling the code letter “S” (···) given by light or sound-signal apparatus.

“Landing here highly dangerous.”

By day – Horizontal motion of a white flag, followed by the placing of the white flag in the ground and the carrying of another white flag in the direction to be indicated or firing of a red star-signal vertically and a white star-signal in the direction towards the better landing place or signalling the code letter “S” (···) followed by the code letter “R” (·—·) if a better landing place for the craft in distress is located more to the right in the direction of approach or the code letter “L” (·—·) if a better landing place for the craft in distress is located more to the left in the direction of approach.

“Landing here highly dangerous.
A more favourable location for landing is in the direction indicated.”

By night – Horizontal motion of a white light or flare, followed by the placing of the white light or flare on the ground and the carrying of another white light or flare in the direction to be indicated or firing of a red star-signal vertically and a white star-signal in the direction towards the better landing place or signalling the code letter “S” (···) followed by code letter “R” (·—·) if a better landing place for the craft in distress is located more to the right in the direction of approach or the code letter “L” (·—·) if a better landing place for the craft in distress is located more to the left in the direction of approach.

“Landing here highly dangerous.
A more favourable location for landing is in the direction indicated.”

(c) Signals to be employed in connexion with the use of shore life-saving apparatus:

<i>Signal</i>	<i>Signification</i>
<p><i>By day</i> – Vertical motion of a white flag or the arms or firing of a green star-signal.</p> <p><i>By night</i> – Vertical motion of a white light or flare or firing of a green star-signal.</p>	<p>In general – “Affirmative.”</p> <p>Specifically: “Rocket line is held.” “Tail block is made fast.” “Hawser is made fast.” “Man is in the breeches buoy.” “Haul away.”</p>
<p><i>By day</i> – Horizontal motion of a white flag or arms extended horizontally or firing of a red star-signal.</p> <p><i>By night</i> – Horizontal motion of a white light or flare or firing of a red star-signal.</p>	<p>In general – “Negative.”</p> <p>Specifically: “Slack away.” “Avast hauling.”</p>

(d) Signals used by aircraft engaged on search and rescue operations to direct ships towards an aircraft, ship or person in distress (see explanatory Note below):

- (i) The following procedures performed in sequence by an aircraft mean that the aircraft is directing a surface craft towards an aircraft or a surface craft in distress:
 - (1) circling the surface craft at least once;
 - (2) crossing the projected course of the surface craft close ahead at a low altitude, opening and closing the throttle or changing the propeller pitch;
 - (3) heading in the direction in which the surface craft is to be directed.

Repetition of such procedures has the same meaning.
- (ii) The following procedure performed by an aircraft means that the assistance of the surface craft to which the signal is directed is no longer required:
 - crossing the wake of the surface craft close astern at a low altitude, opening and closing the throttle or changing the propeller pitch.

Note: Advance notification of changes in these signals will be given by the Organization as necessary.

Regulation 17

Pilot Ladders and Mechanical Pilot Hoists

Ships engaged on voyages in the course of which pilots are likely to be employed shall comply with the following requirements:

- (a) *Pilot Ladders*
 - (i) The ladder shall be efficient for the purpose of enabling pilots to embark and disembark safely, kept clean and in good order and may

be used by officials and other persons while a ship is arriving at or leaving a port.

- (ii) The ladder shall be secured in a position so that it is clear from any possible discharges from the ship, that each step rests firmly against the ship's side, that it is clear so far as is practicable of the finer lines of the ship and that the pilot can gain safe and convenient access to the ship after climbing not less than 1.5 metres (5 feet) and not more than 9 metres (30 feet). A single length of ladder shall be used capable of reaching the water from the point of access to the ship; in providing for this due allowance shall be made for all conditions of loading and trim of the ship and for an adverse list of 15 degrees. Whenever the distance from sea level to the point of access to the ship is more than 9 metres (30 feet), access from the pilot ladder to the ship shall be by means of an accommodation ladder or other equally safe and convenient means.
- (iii) The steps of the pilot ladder shall be:
 - (1) of hardwood, or other material of equivalent properties, made in one piece free of knots, having an efficient non-slip surface; the four lowest steps may be made of rubber of sufficient strength and stiffness or of other suitable material of equivalent characteristics;
 - (2) not less than 480 millimetres (19 inches) long, 115 millimetres (4½ inches) wide, and 25 millimetres (1 inch) in depth, excluding any non-slip device;
 - (3) equally spaced not less than 300 millimetres (12 inches) nor more than 380 millimetres (15 inches) apart and be secured in such a manner that they will remain horizontal.
- (iv) No pilot ladder shall have more than two replacement steps which are secured in position by a method different from that used in the original construction of the ladder and any steps so secured shall be replaced as soon as reasonably practicable by steps secured in position by the method used in the original construction of the ladder. When any replacement step is secured to the side ropes of the ladder by means of grooves in the sides of the step, such grooves shall be in the longer sides of the step.
- (v) The side ropes of the ladder shall consist of two uncovered manila ropes not less than 60 millimetres (2½ inches) in circumference on each side. Each rope shall be continuous with no joints below the top step. Two man-ropes properly secured to the ship and not less than 65 millimetres (2½ inches) in circumference and a safety line shall be kept at hand ready for use if required.
- (vi) Battens made of hardwood, or other material of equivalent properties, in one piece and not less than 1.80 metres (5 feet 10 inches) long shall be provided at such intervals as will prevent the pilot ladder from twisting. The lowest batten shall be on the fifth step from the bottom of the ladder and the interval between any batten and the next shall not exceed 9 steps.
- (vii) Means shall be provided to ensure safe and convenient passage on to or into and off the ship between the head of the pilot ladder or of

any accommodation ladder or other appliance provided. Where such passage is by means of a gateway in the rails or bulwark, adequate handholds shall be provided. Where such passage is by means of a bulwark ladder, such ladder shall be securely attached to the bulwark rail or platform and two handhold stanchions shall be fitted at the point of boarding or leaving the ship not less than 0.70 metre (2 feet 3 inches) nor more than 0.80 metre (2 feet 7 inches) apart. Each stanchion shall be rigidly secured to the ship's structure at or near its base and also at a higher point, shall be not less than 40 millimetres (1½ inches) in diameter and shall extend not less than 1.20 metres (3 feet 11 inches) above the top of the bulwark.

- (viii) Lighting shall be provided at night such that both the pilot ladder overside and also the position where the pilot boards the ship shall be adequately lit. A lifebuoy equipped with a self-igniting light shall be kept at hand ready for use. A heaving line shall be kept at hand ready for use if required.
- (ix) Means shall be provided to enable the pilot ladder to be used on either side of the ship.
- (x) The rigging of the ladder and the embarkation and disembarkation of a pilot shall be supervised by a responsible officer of the ship.
- (xi) Where on any ship constructional features such as rubbing bands would prevent the implementation of any of these provisions, special arrangements shall be made to the satisfaction of the Administration to ensure that persons are able to embark and disembark safely.

(b) *Mechanical Pilot Hoists*

- (i) A mechanical pilot hoist, if provided, and its ancillary equipment shall be of a type approved by the Administration. It shall be of such design and construction as to ensure that the pilot can be embarked and disembarked in a safe manner including a safe access from the hoist to the deck and *vice versa*.
- (ii) A pilot ladder complying with the provisions of paragraph (a) of this Regulation shall be kept on deck adjacent to the hoist and available for immediate use.

Regulation 18

VHF Radiotelephone Stations

When a Contracting Government requires ships navigating in an area under its sovereignty to be provided with a Very High Frequency (VHF) radiotelephone station to be used in conjunction with a system which it has established in order to promote safety of navigation, such station shall comply with the provisions of Regulation 17 of Chapter IV and shall be operated in accordance with Regulation 8 of Chapter IV.

Regulation 19

Use of the Automatic Pilot

- (a) In areas of high traffic density, in conditions of restricted visibility and in all other hazardous navigational situations where the automatic pilot is used, it shall be possible to establish human control of the ship's steering immediately.
- (b) In circumstances as above, it shall be possible for the officer of the watch to have available without delay the services of a qualified helmsman who shall be ready at all times to take over steering control.
- (c) The change-over from automatic to manual steering and *vice versa* shall be made by or under the supervision of a responsible officer.

Regulation 20

Nautical Publications

All ships shall carry adequate and up-to-date charts, sailing directions, lists of lights, notices to mariners, tide tables and all other nautical publications necessary for the intended voyage.

Regulation 21

International Code of Signals

All ships which in accordance with the present Convention are required to carry a radiotelegraph or a radiotelephone installation shall carry the International Code of Signals. This publication shall also be carried by any other ship which in the opinion of the Administration has a need to use it.

CHAPTER VI

CARRIAGE OF GRAIN

PART A – GENERAL PROVISIONS

Regulation 1

Application

Unless expressly provided otherwise, this Chapter, including Parts A, B and C, applies to the carriage of grain in all ships to which the present Regulations apply.

Regulation 2

Definitions

- (a) The term “grain” includes wheat, maize (corn), oats, rye, barley, rice, pulses, seeds and processed forms thereof, whose behaviour is similar to that of grain in its natural state.
- (b) The term “filled compartment” refers to any compartment in which, after loading and trimming as required under Regulation 3, the bulk grain is at its highest possible level.
- (c) The term “partly filled compartment” refers to any compartment wherein bulk grain is not loaded in the manner prescribed in paragraph (b) of this Regulation.
- (d) The term “angle of flooding” (θ_f) means an angle of heel at which openings in the hull, superstructures or deckhouses, which cannot be closed weathertight, immerse. In applying this definition, small openings through which progressive flooding cannot take place need not be considered as open.

Regulation 3

Trimming of Grain

All necessary and reasonable trimming shall be performed to level all free grain surfaces and to minimize the effect of grain shifting.

- (a) In any “filled compartment”, the bulk grain shall be trimmed so as to fill all the spaces under the decks and hatch covers to the maximum extent possible.
- (b) After loading, all free grain surfaces in “partly filled compartments” shall be level.

(c) The Administration issuing the document of authorization may, under Regulation 9 of this Chapter, grant dispensation from trimming in those cases where the underdeck void geometry resulting from free flowing grain into a compartment, which may be provided with feeding ducts, perforated decks or other similar means, is taken into account to its satisfaction when calculating the void depths.

Regulation 4

Intact Stability Requirements

(a) The calculations required by this Regulation shall be based upon the stability information provided in accordance with Regulation 19 of Chapter II-1, of the present Convention, or with the requirements of the Administration issuing the document of authorization under Regulation 10 of this Chapter.

(b) The intact stability characteristics of any ship carrying bulk grain shall be shown to meet, throughout the voyage, at least the following criteria after taking into account in the manner described in Part B, the heeling moments due to grain shift:

- (i) the angle of heel due to the shift of grain shall be not greater than 12 degrees except that an Administration giving authorization in accordance with Regulation 10 of this Chapter may require a lesser angle of heel if it considers that experience shows this to be necessary;*
- (ii) in the statical stability diagram, the net or residual area between the heeling arm curve and the righting arm curve up to the angle of heel of maximum difference between the ordinates of the two curves, or 40 degrees or the "angle of flooding" (θ_f), whichever is the least, shall in all conditions of loading be not less than 0.075 metre-radians; and
- (iii) the initial metacentric height, after correction for the free surface effects of liquids in tanks, shall be not less than 0.30 metre.

(c) Before loading bulk grain the master shall, if so required by the Contracting Government of the country of the port of loading, demonstrate the ability of the ship at all stages of any voyage to comply with the stability criteria required by paragraph (b) of this Regulation using the information approved and issued under Regulations 10 and 11 of this Chapter.

(d) After loading, the master shall ensure that the ship shall be upright before proceeding to sea.

Regulation 5

Longitudinal Divisions and Saucers

(a) In both "filled compartments" and "partly filled compartments", longitudinal divisions may be provided as a device either to reduce the adverse heeling effect of grain shift or to limit the depth of cargo used for securing the grain surface. Such divisions shall be fitted grain-tight and constructed in accordance with the provisions of Section I of Part C of this Chapter.

* For example, the permissible angle of heel might be limited to the angle of heel at which the edge of the weather deck would be immersed in still water.

(b) In a "filled compartment", a division, if fitted to reduce the adverse effects of grain shift, shall:

- (i) in a 'tween-deck compartment extend from deck to deck; and
- (ii) in a hold extend downwards from the underside of the deck or hatch covers as described in Section II of Part B of this Chapter.

Except in the case of linseed and other seeds having similar properties, a longitudinal division beneath a hatchway may be replaced by a saucer formed in the manner described in Section I of Part C of this Chapter.

(c) In a "partly filled compartment", a division, if fitted, shall extend from one-eighth of the maximum breadth of the compartment above the level of the grain surface and to the same distance below the grain surface. When used to limit the depth of overstowing, the height of the centreline division shall be at least 0.6 metre above the level grain surface.

(d) Furthermore, the adverse heeling effects of grain shift may be reduced by tightly stowing the wings and ends of a compartment with bagged grain or other suitable cargo adequately restrained from shifting.

Regulation 6

Securing

(a) Unless account is taken of the adverse heeling effect due to grain shift in accordance with these Regulations, the surface of the bulk grain in any "partly filled compartment" shall be level and topped off with bagged grain tightly stowed and extending to a height of not less than one-sixteenth of the maximum breadth of the free grain surface or 1.2 metres, whichever is the greater. Instead of bagged grain, other suitable cargo exerting at least the same pressure may be used.

(b) The bagged grain or such other suitable cargo shall be supported in the manner described in Section II of Part C of this Chapter. Alternatively, the bulk grain surface may be secured by strapping or lashing as described in that Section.

Regulation 7

Feeders and Trunks

If feeders or trunks are fitted, proper account shall be taken of the effects thereof when calculating the heeling moments as described in Section III of Part B of this Chapter. The strength of the divisions forming the boundaries of such feeders shall conform with the provisions of Section I of Part C of this Chapter.

Regulation 8

Combination Arrangements

Lower holds and 'tween-deck spaces in way thereof may be loaded as one compartment provided that, in calculating transverse heeling moments, proper account is taken of the flow of grain into the lower spaces.

Regulation 9*Application of Parts B and C*

An Administration or a Contracting Government on behalf of an Administration may authorize departure from the assumptions contained in Parts B and C of this Chapter in those cases where it considers this to be justified having regard to the provisions for loading or the structural arrangements, provided the stability criteria in paragraph (b) of Regulation 4 of this Chapter are met. Where such authorization is granted under this Regulation, particulars shall be included in the document of authorization or grain loading data.

Regulation 10*Authorization*

- (a) A document of authorization shall be issued for every ship loaded in accordance with the Regulations of this Chapter either by the Administration or an organization recognized by it or by a Contracting Government on behalf of the Administration. It shall be accepted as evidence that the ship is capable of complying with the requirements of these Regulations.
- (b) The document shall accompany and refer to the grain loading stability booklet provided to enable the master to meet the requirements of paragraph (c) of Regulation 4 of this Chapter. This booklet shall meet the requirements of Regulation 11 of this Chapter.
- (c) Such a document, grain loading stability data and associated plans may be drawn up in the official language or languages of the issuing country. If the language used is neither English nor French, the text shall include a translation into one of these languages.
- (d) A copy of such a document, grain loading stability data and associated plans shall be placed on board in order that the master, if so required, shall produce them for the inspection of the Contracting Government of the country of the port of loading.
- (e) A ship without such a document of authorization shall not load grain until the master demonstrates to the satisfaction of the Administration or the Contracting Government of the port of loading on behalf of the Administration that the ship in its proposed loaded condition will comply with the requirements of these Regulations.

Regulation 11*Grain Loading Information*

This information shall be sufficient to allow the master to determine in all reasonable loading conditions the heeling moments due to grain shift calculated in accordance with Part B of this Chapter. It shall include the following:

- (a) Information which shall be approved by the Administration or by a Contracting Government on behalf of the Administration:

- (i) curves or tables of grain heeling moments for every compartment, filled or partly filled, or combination thereof, including the effects of temporary fittings;
 - (ii) tables of maximum permissible heeling moments or other information sufficient to allow the master to demonstrate compliance with the requirements of paragraph (c) of Regulation 4 of this Chapter;
 - (iii) details of the scantlings of any temporary fittings and where applicable the provisions necessary to meet the requirements of Section I(E) of Part C of this Chapter;
 - (iv) typical loaded service departure and arrival conditions and where necessary, intermediate worst service conditions;
 - (v) a worked example for the guidance of the master;
 - (vi) loading instructions in the form of notes summarizing the requirements of this Chapter.
- (b) Information which shall be acceptable to the Administration or to a Contracting Government on behalf of the Administration:
- (i) ship's particulars;
 - (ii) lightship displacement and the vertical distance from the intersection of the moulded base line and midship section to the centre of gravity (KG);
 - (iii) table of free surface corrections;
 - (iv) capacities and centres of gravity.

Regulation 12

Equivalents

Where an equivalent accepted by the Administration in accordance with Regulation 5 of Chapter I of this Convention is applied, particulars shall be included in the document of authorization or grain loading data.

Regulation 13

Exemptions for Certain Voyages

The Administration, or a Contracting Government on behalf of the Administration may, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of any of the requirements of Regulations 3 to 12 of this Chapter unreasonable or unnecessary, exempt from those particular requirements individual ships or classes of ships.

PART B - CALCULATION OF ASSUMED HEELING MOMENTS

SECTION I - DESCRIPTION OF THE ASSUMED VOIDS AND METHOD OF CALCULATING INTACT STABILITY

SECTION II - ASSUMED VOLUMETRIC HEELING MOMENT OF A FILLED COMPARTMENT

SECTION III - ASSUMED VOLUMETRIC HEELING MOMENT OF FEEDERS AND TRUNKS

SECTION IV - ASSUMED VOLUMETRIC HEELING MOMENT OF PARTLY FILLED COMPARTMENTS

SECTION V - ALTERNATIVE LOADING ARRANGEMENTS FOR EXISTING SHIPS

SECTION I - DESCRIPTION OF THE ASSUMED VOIDS AND METHOD OF CALCULATING INTACT STABILITY

(A) GENERAL

(a) For the purpose of calculating the adverse heeling moment due to a shift of cargo surface in ships carrying bulk grain it shall be assumed that:

- (i) In "filled compartments" which have been trimmed in accordance with Regulation 3 of this Chapter a void exists under all boundary surfaces having an inclination to the horizontal less than 30 degrees and that the void is parallel to the boundary surface having an average depth calculated according to the formula:

$$Vd = Vd_1 + 0.75(d - 600) \text{ mm}$$

Where:

Vd = Average void depth in mm;

Vd₁ = Standard void depth from Table I below;

d = Actual girder depth in mm.

In no case shall Vd be assumed to be less than 100 mm.

TABLE I

Distance from hatchend or hatchside to boundary of compartment	Standard void depth Vd_1
<i>metres</i>	<i>mm</i>
0.5	570
1.0	530
1.5	500
2.0	480
2.5	450
3.0	440
3.5	430
4.0	430
4.5	430
5.0	430
5.5	450
6.0	470
6.5	490
7.0	520
7.5	550
8.0	590

Notes on Table I:

For distances greater than 8.0 metres the standard void depth Vd_1 shall be linearly extrapolated at 80 mm increase for each 1.0 metre increase in distance. Where there is a difference in depth between the hatchside girder or its continuation and the hatchend beam the greater depth shall be used except that:

- (1) when the hatchside girder or its continuation is shallower than the hatchend beam the voids abreast the hatchway may be calculated using the lesser depth; and
 - (2) when the hatchend beam is shallower than the hatchside girder or its continuation the voids fore and aft of the hatchway inboard of the continuation of the hatchside girder may be calculated using the lesser depth;
 - (3) where there is a raised deck clear of a hatchway the average void depth measured from the underside of the raised deck shall be calculated using the standard void depth in association with a girder depth of the hatchend beam plus the height of the raised deck.
- (ii) In "filled compartments" which are not trimmed in accordance with Regulation 3 of this Chapter and where the boundary surface has an inclination to the horizontal which is less than 30 degrees, the cargo surface has an inclination of 30 degrees to the horizontal after loading.

- (iii) Within filled hatchways and in addition to any open void within the hatch cover there is a void of average depth of 150 mm measured down to the grain surface from the lowest part of the hatch cover or the top of the hatchside coaming, whichever is the lower.
- (b) The description of the pattern of grain surface behaviour to be assumed in "partly filled compartments" is shown in Section IV of this Part.
- (c) For the purpose of demonstrating compliance with the stability criteria in paragraph (b) of Regulation 4 of this Chapter (see Figure 1), the ship's stability calculations shall be normally based upon the assumption that the centre of gravity of cargo in a "filled compartment" is at the volumetric centre of the whole cargo space. In those cases where the Administration authorizes account to be taken of the effect of assumed underdeck voids on the vertical position of the centre of gravity of the cargo in "filled compartments" it will be necessary to compensate for the adverse effect of the vertical shift of grain surfaces by increasing the assumed heeling moment due to the transverse shift of grain as follows:

$$\text{total heeling moment} = 1.06 \times \text{calculated transverse heeling moment.}$$

In all cases the weight of cargo in a "filled compartment" shall be the volume of the whole cargo space divided by the stowage factor.

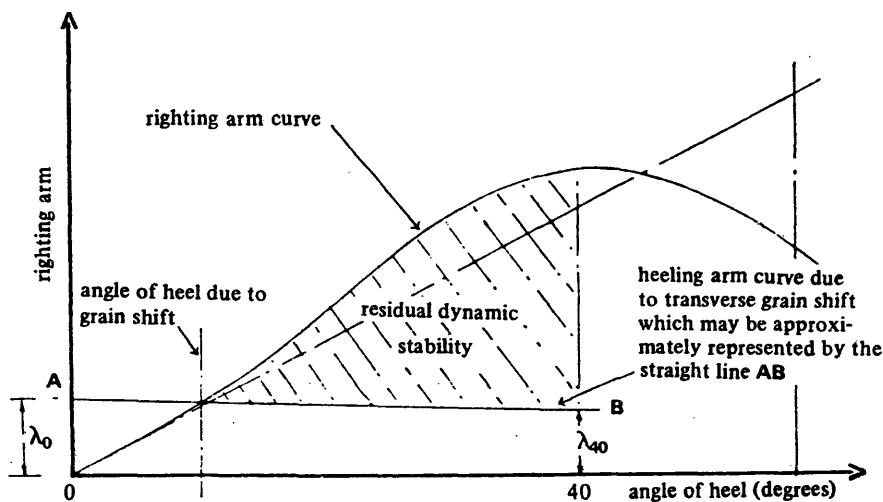


Figure 1

Notes on Figure 1:

- (1) Where:

$$\lambda_0 = \frac{\text{Assumed Volumetric Heeling Moment due to Transverse Shift}}{\text{Stowage Factor} \times \text{Displacement}};$$

$$\lambda_{40} = 0.8 \times \lambda_0;$$

Stowage factor = Volume per unit weight of grain cargo;

Displacement = Weight of ship, fuel, fresh water, stores etc. and cargo.

- (2) The righting arm curve shall be derived from cross-curves which are sufficient in number to accurately define the curve for the purpose of these requirements and shall include cross-curves at 12 degrees and 40 degrees.

(d) In "partly filled compartments" the adverse effect of the vertical shift of grain surfaces shall be taken into account as follows:

total heeling moment = 1.12 × calculated transverse heeling moment.

(e) Any other equally effective method may be adopted to make the compensation required in paragraphs (c) and (d) above.

SECTION II - ASSUMED VOLUMETRIC HEELING MOMENT OF A FILLED COMPARTMENT

(A) GENERAL

(a) The pattern of grain surface movement relates to a transverse section across the portion of the compartment being considered and the resultant heeling moment should be multiplied by the length to obtain the total moment for that portion.

(b) The assumed transverse heeling moment due to grain shifting is a consequence of final changes of shape and position of voids after grain has moved from the high side to the low side.

(c) The resulting grain surface after shifting shall be assumed to be at 15 degrees to the horizontal.

(d) In calculating the maximum void area that can be formed against a longitudinal structural member, the effects of any horizontal surfaces, e.g. flanges or face bars, shall be ignored.

(e) The total areas of the initial and final voids shall be equal.

(f) A discontinuous longitudinal division shall be considered effective over its full length.

(B) ASSUMPTIONS

In the following paragraphs it is assumed that the total heeling moment for a compartment is obtained by adding the results of separate considerations of the following portions:

(a) *Before and abaft hatchways:*

(i) If a compartment has two or more main hatchways through which loading may take place the depth of the underdeck void for the portion(s) between such hatchways shall be determined using the fore and aft distance to the midpoint between the hatchways.

- (ii) After the assumed shift of grain the final void pattern shall be as shown in Figure 2 below:

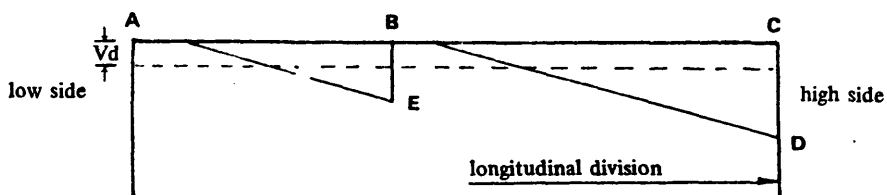


Figure 2

Notes on Figure 2:

- (1) If the maximum void area which can be formed against the girder at B is less than the initial area of the void under AB, i.e. $AB \times Vd$, the excess area shall be assumed to transfer to the final void on the high side.
- (2) If the longitudinal division at C is one which has been provided in accordance with sub-paragraph (b)(ii) of Regulation 5 of this Chapter it shall extend to at least 0.6 metre below D or E whichever gives the greater depth.

- (b) *In and abreast hatchways:*

After the assumed shift of grain the final void pattern shall be as shown in the following Figure 3 or Figure 4.

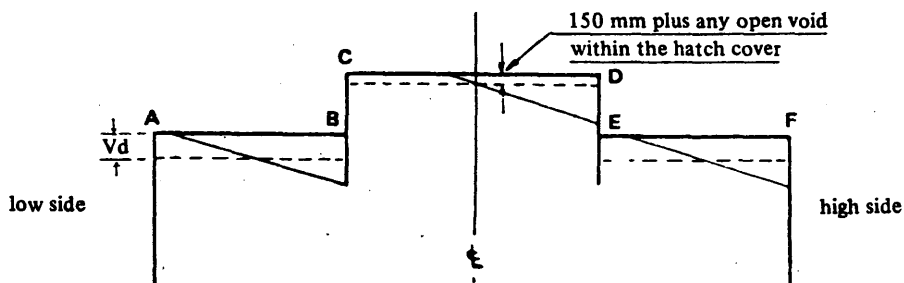


Figure 3

Notes on Figure 3:

- (1) AB Any area in excess of that which can be formed against the girder at B shall transfer to the final void area in the hatchway.
- (2) CD Any area in excess of that which can be formed against the girder at E shall transfer to the final void area on the high side.

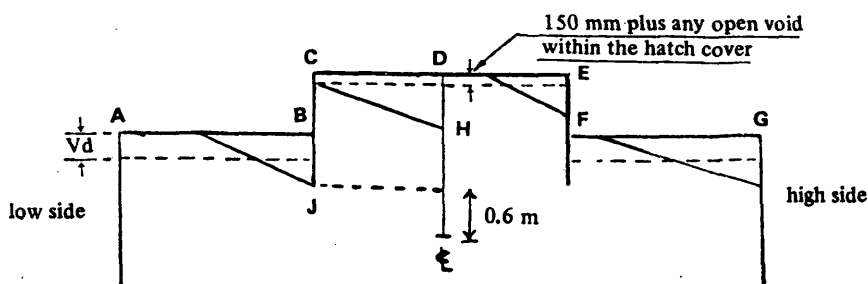


Figure 4

Notes on Figure 4:

- (1) If the centreline division is one which has been provided in accordance with subparagraph (b)(ii) of Regulation 5 of this Chapter it shall extend to at least 0.6 metre below H or J whichever gives the greater depth.
- (2) The excess void area from AB shall transfer to the low side half of the hatchway in which two separate final void areas will be formed viz. one against the centreline division and the other against the hatchside coaming and girder on the high side.
- (3) If a bagged saucer or bulk bundle is formed in a hatchway it shall be assumed, for the purpose of calculating transverse heeling moment, that such a device is at least equivalent to the centreline division.

(C) COMPARTMENTS LOADED IN COMBINATION

The following paragraphs describe the pattern of void behaviour which shall be assumed when compartments are loaded in combination:

(a) *Without effective centreline divisions:*

- (i) Under the upper deck – as for the single deck arrangement described in Section II(B) of this Part.
- (ii) Under the second deck – the area of void available for transfer from the low side, i.e. original void area less area against the hatchside girder, shall be assumed to transfer as follows:

one half to the upper deck hatchway and one quarter each to the high side under the upper and second deck.
- (iii) Under the third and lower decks – the void areas available for transfer from the low side of each of these decks shall be assumed to transfer in equal quantities to all the voids under the decks on the high side and the void in the upper deck hatchway.

(b) *With effective centreline divisions which extend into the upper deck hatchway:*

- (i) At all deck levels abreast the division the void areas available for transfer from the low side shall be assumed to transfer to the void under the low side half of the upper deck hatchway.
- (ii) At the deck level immediately below the bottom of the division the void area available for transfer from the low side shall be assumed to transfer as follows:

one half to the void under the low side half of the upper deck hatchway and the remainder in equal quantities to the voids under the decks on the high side.

(iii) At deck levels lower than those described in sub-paragraphs (i) and (ii) of this paragraph the void area available for transfer from the low side of each of those decks shall be assumed to transfer in equal quantities to the voids in each of the two halves of the upper deck hatchway on each side of the division and the voids under the decks on the high side.

(c) *With effective centreline divisions which do not extend into the upper deck hatchway:*

Since no horizontal transfer of voids may be assumed to take place at the same deck level as the division the void area available for transfer from the low side at this level shall be assumed to transfer above the division to voids on the high sides in accordance with the principles of paragraphs (a) and (b) above.

SECTION III - ASSUMED VOLUMETRIC HEELING MOMENT OF FEEDERS AND TRUNKS

(A) SUITABLY PLACED WING FEEDERS (See Figure 5)

It may be assumed that under the influence of ship motion underdeck voids will be substantially filled by the flow of grain from a pair of longitudinal feeders provided that:

(a) the feeders extend for the full length of the deck and that the perforations therein are adequately spaced;

(b) the volume of each feeder is equal to the volume of the underdeck void outboard of the hatchside girder and its continuation.

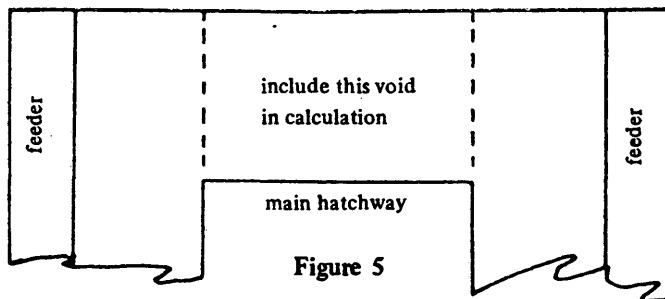


Figure 5

(B) TRUNKS SITUATED OVER MAIN HATCHWAYS

After the assumed shift of grain the final void pattern shall be as shown in Figure 6.

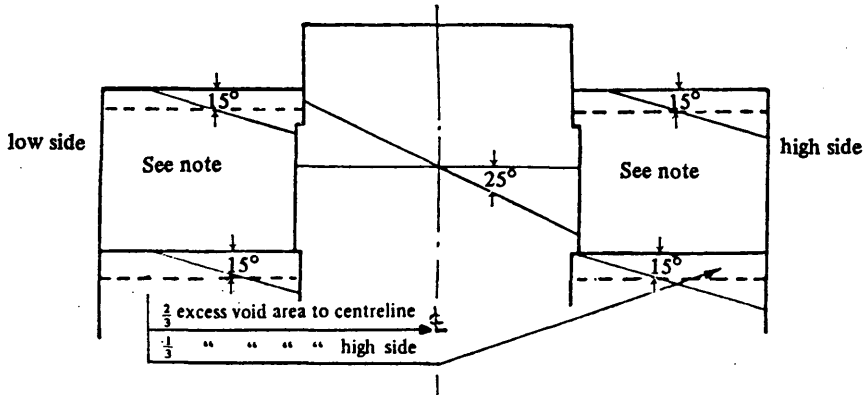


Figure 6

Note on Figure 6:

If the wing spaces in way of the trunk cannot be properly trimmed in accordance with Regulation 3 of this Chapter it shall be assumed that a 25 degree surface shift takes place.

SECTION IV - ASSUMED VOLUMETRIC HEELING MOMENT OF PARTLY FILLED COMPARTMENTS

(A) GENERAL

When the free surface of the bulk grain has not been secured in accordance with Regulation 6 of this Chapter it shall be assumed that the grain surface after shifting shall be at 25 degrees to the horizontal.

(B) DISCONTINUOUS LONGITUDINAL DIVISIONS

In a compartment in which the longitudinal divisions are not continuous between the transverse boundaries, the length over which any such divisions are effective as devices to prevent full width shifts of grain surfaces shall be taken to be the actual length of the portion of the division under consideration less two-sevenths of the greater of the transverse distances between the division and its adjacent division or ship's side.

This correction does not apply in the lower compartments of any combination loading in which the upper compartment is either a "filled compartment" or a "partly filled compartment".

**SECTION V - ALTERNATIVE LOADING ARRANGEMENTS FOR
EXISTING SHIPS****(A) GENERAL**

A ship loaded in accordance with either Sub-Section (B) or Sub-Section (C) below shall be considered to have intact stability characteristics at least equivalent to the requirements of paragraph (b) of Regulation 4 of this Chapter. Documents of authorization permitting such loadings shall be accepted under the provisions of paragraph (e) of Regulation 10 of this Chapter.

For the purpose of this Part, the term "Existing Ship" means a ship, the keel of which is laid before the date of coming into force of this Chapter.

(B) STOWAGE OF SPECIALLY SUITABLE SHIPS

(a) Notwithstanding anything contained in Part B of this Chapter, bulk grain may be carried without regard to the requirements specified therein in ships which are constructed with two or more vertical or sloping grain-tight longitudinal divisions suitably disposed to limit the effect of any transverse shift of grain under the following conditions:

- (i) as many holds and compartments as possible shall be full and trimmed full;
- (ii) for any specified arrangement of stowage the ship will not list to an angle greater than 5 degrees at any stage of the voyage where:
 - (1) in holds or compartments which have been trimmed full the grain surface settled 2 per cent by volume from the original surface and shifts to an angle of 12 degrees with that surface under all boundaries of these holds and compartments which have an inclination of less than 30 degrees to the horizontal;
 - (2) in "partly filled compartments or holds" free grain surfaces settle and shift as in sub-paragraph (ii)(1) of this paragraph or to such larger angle as may be deemed necessary by the Administration, or by a Contracting Government on behalf of the Administration, and grain surfaces if overstowed in accordance with Regulation 5 of this Chapter shift to an angle of 8 degrees with the original levelled surfaces. For the purpose of sub-paragraph (ii) of this paragraph shifting boards, if fitted, will be considered to limit the transverse shift of the surface of the grain;
- (iii) the master is provided with a grain loading plan covering the stowage arrangements to be adopted and a stability booklet, both approved by the Administration, or by a Contracting Government on behalf of the Administration, showing the stability conditions upon which the calculations given in sub-paragraph (ii) of this paragraph are based.

(b) The Administration, or a Contracting Government on behalf of the Administration, shall prescribe the precautions to be taken against shifting in all other conditions of loading of ships designed in accordance with paragraph (B)(a) of this Section which meet the requirements of sub-paragraphs (ii) and (iii) of that paragraph.

(C) SHIPS WITHOUT DOCUMENTS OF AUTHORIZATION

A ship not having on board documents of authorization issued in accordance with Regulations 4 and 10 of this Chapter may be permitted to load bulk grain under the requirements of Sub-Section (B) of this Section or provided that:

- (a) All "filled compartments" shall be fitted with centreline divisions extending for the full length of such compartments which extend downwards from the underside of the deck or hatch covers to a distance below the deck line of at least one-eighth of the maximum breadth of the compartment or 2.4 metres, whichever is the greater except that saucers constructed in accordance with Section II of Part C may be accepted in lieu of a centreline division in and beneath a hatchway, *except in the case of timber and other seeds having similar properties*
- (b) All hatches to "filled compartments" shall be closed and covers secured in place.
- (c) All free grain surfaces in "partly filled compartments" shall be trimmed level and secured in accordance with Section II of Part C.
- (d) Throughout the voyage the metacentric height after correction for the free surface effects of liquids in tanks shall be 0.3 metre or that given by the following formula, whichever is the greater:

$$GM_n = \frac{L B Vd (0.25 B - 0.645 \sqrt{Vd B})}{SF \times \Delta \times 0.0875}$$

Where:

- L = total combined length of all full compartments;
 B = moulded breadth of vessel;
 SF = stowage factor;
 Vd = calculated average void depth as per paragraph (a)(i) of Section I(A) of this Part;
 Δ = displacement.

PART C - GRAIN FITTINGS AND SECURING**SECTION I - STRENGTH OF GRAIN FITTINGS**

- (A) General (including working stresses)
 (B) Divisions loaded on both sides
 (C) Divisions loaded on one side only
 (D) Saucers
 (E) Bundling of bulk
 (F) Securing hatch covers of filled compartments

SECTION II - SECURING OF PARTLY FILLED COMPARTMENTS

- (A) Strapping or lashing
 (B) Overstowing arrangements
 (C) Bagged grain

SECTION I STRENGTH OF GRAIN FITTINGS

(A) GENERAL

(a) *Timber*

All timber used for grain fittings shall be of good sound quality and of a type and grade which has been proved to be satisfactory for this purpose. The actual finished dimensions of the timber shall be in accordance with the dimensions hereinafter specified in this Part. Plywood of an exterior type bonded with waterproof glue and fitted so that the direction of the grain in the face plies is perpendicular to the supporting uprights or binder may be used provided that its strength is equivalent to that of solid timber of the appropriate scantlings.

(b) *Working Stresses*

When calculating the dimensions of divisions loaded on one side, using the Tables in paragraphs (a) and (b) of Sub-Section (C) of this Section, the following working stresses should be adopted:

For divisions of steel.....2000 kg per square cm

For divisions of wood.....160 kg per square cm

(c) *Other Materials*

Materials other than wood or steel may be approved for such divisions provided that proper regard has been paid to their mechanical properties.

(d) *Uprights*

- (i) Unless means are provided to prevent the ends of uprights being dislodged from their sockets, the depth of housing at each end of each upright shall be not less than 75 mm. If an upright is not secured at the top, the uppermost shore or stay shall be fitted as near thereto as is practicable.
- (ii) The arrangements provided for inserting shifting boards by removing a part of the cross-section of an upright shall be such that the local level of stresses is not unduly high.
- (iii) The maximum bending moment imposed upon an upright supporting a division loaded on one side shall normally be calculated assuming that the ends of the uprights are freely supported. However, if an Administration is satisfied that any degree of fixity assumed will be achieved in practice, account may be taken of any reduction in the maximum bending moment arising from any degree of fixity provided at the ends of the upright.

(e) *Composite Section*

Where uprights, binders or any other strength members are formed by two separate sections, one fitted on each side of a division and inter-connected by through bolts at adequate spacing, the effective section modulus shall be taken as the sum of the two moduli of the separate sections.

(f) *Partial Division*

Where divisions do not extend to the full depth of the hold such divisions and their uprights shall be supported or stayed so as to be as efficient as those which do extend to the full depth of the hold.

(B) DIVISIONS LOADED ON BOTH SIDES**(a) *Shifting Boards***

- (i) Shifting boards shall have a thickness of not less than 50 mm and shall be fitted grain-tight and where necessary supported by uprights.
- (ii) The maximum unsupported span for shifting boards of various thicknesses shall be as follows:

<i>Thickness</i>	<i>Maximum Unsupported Span</i>
50 mm	2.5 metres
60 mm	3.0 metres
70 mm	3.5 metres
80 mm	4.0 metres

If thicknesses greater than these are provided the maximum unsupported span will vary directly with the increase in thickness.

- (iii) The ends of all shifting boards shall be securely housed with 75 mm minimum bearing length.

(b) *Other Materials*

Divisions formed by using materials other than wood shall have a strength equivalent to the shifting boards required in paragraph (a) of this Sub-Section.

(c) *Uprights*

- (i) Steel uprights used to support divisions loaded on both sides shall have a section modulus given by

$$W = a \times W_1$$

Where:

W = section modulus in cm³;

a = horizontal span between uprights in metres.

The section modulus per metre span W_1 shall be not less than that given by the formula:

$$W_1 = 14.8 (h_1 - 1.2) \text{ cm}^3 \text{ per metre};$$

Where:

h_1 is the vertical unsupported span in metres and shall be taken as the maximum value of the distance between any two adjacent stays or between the stay or either end of the upright. Where this distance is less than 2.4 metres the respective modulus shall be calculated as if the actual value was 2.4 metres.

- (ii) The moduli of wood uprights shall be determined by multiplying by 12.5 the corresponding moduli for steel uprights. If other materials are used their moduli shall be at least that required for steel increased in proportion to the ratio of the permissible stresses for steel to that of the material used. In such cases attention shall be paid also to the relative rigidity of each upright to ensure that the deflection is not excessive.

- (iii) The horizontal distance between uprights shall be such that the unsupported spans of the shifting boards do not exceed the maximum span specified in sub-paragraph (ii) of paragraph (a) of this Sub-Section.

(d) *Shores*

- (i) Wood shores, when used, shall be in a single piece and shall be securely fixed at each end and heeled against the permanent structure of the ship except that they shall not bear directly against the side plating of the ship.
- (ii) Subject to the provisions of sub-paragraphs (iii) and (iv) below, the minimum size of wood shores shall be as follows:

<i>Length of Shore in metres</i>	<i>Rectangular Section</i>	<i>Diameter of Circular Section</i>
	mm	mm
Not exceeding 3 m	150 × 100	140
Over 3 m but not exceeding 5 m	150 × 150	165
Over 5 m but not exceeding 6 m	150 × 150	180
Over 6 m but not exceeding 7 m	200 × 150	190
Over 7 m but not exceeding 8 m	200 × 150	200
Exceeding 8 m	200 × 150	215

Shores of 7 metres or more in length shall be securely bridged at approximately mid-length.

- (iii) When the horizontal distance between the uprights differs significantly from 4 metres, the moments of inertia of the shores may be changed in direct proportion.
- (iv) Where the angle of the shore to the horizontal exceeds 10 degrees the next larger shore to that required by sub-paragraph (ii) of this paragraph shall be fitted provided that in no case shall the angle between any shore and the horizontal exceed 45 degrees.

(e) *Stays*

Where stays are used to support divisions loaded on both sides, they shall be fitted horizontally or as near thereto as practicable, well secured at each end and formed of steel wire rope. The sizes of the wire rope shall be determined assuming that the divisions and upright which the stay supports are uniformly loaded at 500 kg/m². The working load so assumed in the stay shall not exceed one-third of its breaking load.

(C) DIVISIONS LOADED ON ONE SIDE ONLY

(a) *Longitudinal Divisions*

The load in kg per metre length of the division shall be taken to be as follows:

TABLE 1¹

B (m)

h (m)	2	3	4	5	6	7	8	10
1.5	850	900	1010	1225	1500	1770	2060	2645
2.0	1390	1505	1710	1985	2295	2605	2930	3590
2.5	1985	2160	2430	2740	3090	3435	3800	4535
3.0	2615	2845	3150	3500	3885	4270	4670	5480
3.5	3245	3525	3870	4255	4680	5100	5540	6425
4.0	3890	4210	4590	5015	5475	5935	6410	7370
4.5	4535	4890	5310	5770	6270	6765	7280	8315
5.0	5185	5570	6030	6530	7065	7600	8150	9260
6.0	6475	6935	7470	8045	8655	9265	9890	11150
7.0	7765	8300	8910	9560	10245	10930	11630	13040
8.0	9055	9665	10350	11075	11835	12595	13370	14930
9.0	10345	11030	11790	12590	13425	14260	15110	16820
10.0	11635	12395	13230	14105	15015	15925	16850	18710

h = height of grain in metres from the bottom of the division²

B = transverse extent of the bulk grain in metres

For other values of h or B the loads shall be determined by linear interpolation or extrapolation as necessary.

¹ For the purpose of converting the above loads into British units (ton/ft) 1 kg per metre length shall be taken to be equivalent to 0.0003 ton per foot length.

² Where the distance from a division to a feeder or hatchway is 1 metre or less, the height h shall be taken to the level of the grain within that hatchway or feeder. In all cases the height shall be taken to the overhead deck in way of the division.

(b) *Transverse Divisions*

The load in kg per metre length of the division shall be taken to be as follows:

TABLE II¹

L (m)

h (m)	2	3	4	5	6	7	8	10	12	14	16
1.5	670	690	730	780	835	890	935	1000	1040	1050	1050
2.0	1040	1100	1170	1245	1325	1400	1470	1575	1640	1660	1660
2.5	1460	1565	1675	1780	1880	1980	2075	2210	2285	2305	2305
3.0	1925	2065	2205	2340	2470	2590	2695	2845	2925	2950	2950
3.5	2425	2605	2770	2930	3075	3205	3320	3480	3570	3595	3595
4.0	2950	3160	3355	3535	3690	3830	3950	4120	4210	4235	4240
4.5	3495	3725	3940	4130	4295	4440	4565	4750	4850	4880	4885
5.0	4050	4305	4535	4735	4910	5060	5190	5385	5490	5525	5530
6.0	5175	5465	5720	5945	6135	6300	6445	6655	6775	6815	6825
7.0	6300	6620	6905	7150	7365	7445	7700	7930	8055	8105	8115
8.0	7425	7780	8090	8360	8590	8685	8950	9200	9340	9395	9410
9.0	8550	8935	9275	9565	9820	9930	10205	10475	10620	10685	10705
10.0	9680	10095	10460	10770	11045	11270	11460	11745	11905	11975	11997

h = height of grain in metres from the bottom of the division²

L = longitudinal extent of the bulk grain in metres

For other values of h or L the loads shall be determined by linear interpolation or extrapolation as necessary.

¹ For the purpose of converting the above loads into British units (ton/ft) 1 kg per metre length shall be taken to be equivalent to 0.0003 ton per foot length.

² Where the distance from a division to a feeder or hatchway is 1 metre or less, the height - h shall be taken to the level of the grain within that hatchway or feeder. In all cases the height shall be taken to the overhead deck in way of the division.

(c) *Vertical Distribution of the Loads*

The total load per unit length of divisions shown in the Tables I and II above may, if considered necessary, be assumed to have a trapezoidal distribution with height. In such cases, the reaction loads at the upper and lower ends of a vertical member or upright are not equal. The reaction loads at the upper end expressed as percentages of the total load supported by the vertical member or upright shall be taken to be those shown in Tables III and IV below.

TABLE III

LONGITUDINAL DIVISIONS LOADED ON ONE SIDE ONLY

Bearing Reaction at the Upper End of Upright as Percentage of Load (Table I)

B (m)

h (m)	2	3	4	5	6	7	8	10
1.5	43.3	45.1	45.9	46.2	46.2	46.2	46.2	46.2
2	44.5	46.7	47.6	47.8	47.8	47.8	47.8	47.8
2.5	45.4	47.6	48.6	48.8	48.8	48.8	48.8	48.8
3	46.0	48.3	49.2	49.4	49.4	49.4	49.4	49.4
3.5	46.5	48.8	49.7	49.8	49.8	49.8	49.8	49.8
4	47.0	49.1	49.9	50.1	50.1	50.1	50.1	50.1
4.5	47.4	49.4	50.1	50.2	50.2	50.2	50.2	50.2
5	47.7	49.4	50.1	50.2	50.2	50.2	50.2	50.2
6	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2
7	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2
8	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2
9	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2
10	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2

B = transverse extent of the bulk grain in metres

For other values of h or B the reaction loads shall be determined by linear interpolation or extrapolation as necessary.

TABLE IV

TRANSVERSE DIVISIONS LOADED ON ONE SIDE ONLY

Bearing Reaction at the Upper End of Upright as Percentage of Load (Table II)

h (m)	L (m)										
	2	3	4	5	6	7	8	10	12	14	16
1.5	37.3	38.7	39.7	40.6	41.4	42.1	42.6	43.6	44.3	44.8	45.0
2	39.6	40.6	41.4	42.1	42.7	43.1	43.6	44.3	44.7	45.0	45.2
2.5	41.0	41.8	42.5	43.0	43.5	43.8	44.2	44.7	45.0	45.2	45.2
3	42.1	42.8	43.3	43.8	44.2	44.5	44.7	45.0	45.2	45.3	45.3
3.5	42.9	43.5	43.9	44.3	44.6	44.8	45.0	45.2	45.3	45.3	45.3
4	43.5	44.0	44.4	44.7	44.9	45.0	45.2	45.4	45.4	45.4	45.4
5	43.9	44.3	44.6	44.8	45.0	45.2	45.3	45.5	45.5	45.5	45.5
6	44.2	44.5	44.8	45.0	45.2	45.3	45.4	45.6	45.6	45.6	45.6
7	44.3	44.6	44.9	45.1	45.3	45.4	45.5	45.6	45.6	45.6	45.6
8	44.3	44.6	44.9	45.1	45.3	45.4	45.5	45.6	45.6	45.6	45.6
9	44.3	44.6	44.9	45.1	45.3	45.4	45.5	45.6	45.6	45.6	45.6
10	44.3	44.6	44.9	45.1	45.3	45.4	45.5	45.6	45.6	45.6	45.6

L = longitudinal extent of the bulk grain in metres

For other values of h or L the reaction loads shall be determined by linear interpolation or extrapolation as necessary.

The strength of the end connexions of such vertical members or uprights may be calculated on the basis of the maximum load likely to be imposed at either end. These loads are as follows:

Longitudinal Divisions

- Maximum load at the top.....50% of the appropriate
total load from Table I
- Maximum load at the bottom.....55% of the appropriate
total load from Table I

Transverse Divisions

- Maximum load at the top.....45% of the appropriate
total load from Table II
- Maximum load at the bottom.....60% of the appropriate
total load from Table II

The thickness of horizontal wooden boards may also be determined having regard to the vertical distribution of the loading represented by Tables III and IV above and in such cases

$$t = 10a \sqrt{\frac{p \times k}{h \times 213.3}}$$

Where:

t = thickness of board in mm;

a = horizontal span of the board i.e. distance between uprights in metres;

h = head of grain to the bottom of the division in metres;

p = total load per unit length derived from Table I or II in kilogrammes;

k = factor dependent upon vertical distribution of the loading.

When the vertical distribution of the loading is assumed to be uniform, i.e. rectangular, k shall be taken as equal to 1.0. For a trapezoidal distribution

$$k = 1.0 + 0.06(50 - R)$$

Where:

R is the upper end bearing reaction taken from Table III or IV.

(d) *Stays or Shores*

The sizes of stays and shores shall be so determined that the loads derived from Tables I and II in the preceding paragraphs (a) and (b) shall not exceed one-third of the breaking loads.

(D) SAUCERS

When a saucer is used to reduce the heeling moments in a "filled compartment", its depth, measured from the bottom of the saucer to the deck line, shall be as follows:

For ships with a moulded breadth of up to 9.1 metres, not less than 1.2 metres.

For ships with a moulded breadth of 18.3 metres or more, not less than 1.8 metres.

For ships with a moulded breadth between 9.1 metres and 18.3 metres, the minimum depth of the saucer shall be calculated by interpolation.

The top (mouth) of the saucer shall be formed by the underdeck structure in the way of the hatchway, i.e. hatchside girders or coamings and hatchend beams. The saucer and hatchway above shall be completely filled with bagged grain or other suitable cargo laid down on a separation cloth or its equivalent and stowed tightly against adjacent structures and the portable hatchway beams if the latter are in place.

(E) BUNDLING OF BULK

As an alternative to filling the saucer with bagged grain or other suitable cargo a bundle of bulk grain may be used provided that:

(a) The saucer is lined with a material acceptable to the Administration having a tensile strength of not less than 274 kg per 5 cm strip and which is provided with suitable means for securing at the top.

(b) As an alternative to paragraph (a) above a material acceptable to the Administration having a tensile strength of not less than 137 kg per 5 cm strip may be used if the saucer is constructed as follows:

Atwartship lashings acceptable to the Administration shall be placed inside the saucer formed in the bulk grain at intervals of not more than 2.4 metres. These lashings shall be of sufficient length to permit being drawn up tight and secured at the top of the saucer.

Dunnage not less than 25 mm in thickness or other suitable material of equal strength and between 150 to 300 mm in width shall be placed fore and aft over these lashings to prevent the cutting or chafing of the material which shall be placed thereon to line the saucer.

(c) The saucer shall be filled with bulk grain and secured at the top except that when using material approved under paragraph (b) above further dunnage shall be laid on top after lapping the material before the saucer is secured by setting up the lashings.

(d) If more than one sheet of material is used to line the saucer they shall be joined at the bottom either by sewing or a double lap.

(e) The top of the saucer shall be coincidental with the bottom of the beams when these are in place and suitable general cargo or bulk grain may be placed between the beams on top of the saucer.

(F) SECURING HATCH COVERS OF FILLED COMPARTMENTS

If there is no bulk grain or other cargo above a "filled compartment" the hatch covers shall be secured in an approved manner having regard to the weight and permanent arrangements provided for securing such covers.

The documents of authorization issued under Regulation 10 of this Chapter shall include reference to the manner of securing considered necessary by the Administration issuing such documents.

SECTION II - SECURING OF PARTLY FILLED COMPARTMENTS**(A) STRAPPING OR LASHING**

(a) When, in order to eliminate heeling moments in "partly filled compartments", strapping or lashing is utilized, the securing shall be accomplished as follows:

- (i) The grain shall be trimmed and levelled to the extent that it is very slightly crowned and covered with burlap separation cloths, tarpaulins or the equivalent.
- (ii) The separation cloths and/or tarpaulins shall overlap at least 1.8 metres.
- (iii) Two solid floors of rough 25 mm by 150 mm to 300 mm lumber shall be laid with the top floor running longitudinally and nailed to an athwartships bottom floor. Alternatively, one solid floor of 50 mm lumber, running longitudinally and nailed over the top of a 50 mm bottom bearer not less than 150 mm wide, may be used. The bottom bearers shall extend the full breadth of the compartment and shall be spaced not more than 2.4 metres apart. Arrangements utilizing other materials and deemed by an Administration to be equivalent to the foregoing may be accepted.
- (iv) Steel wire rope (19 mm diameter or equivalent), doubled steel strapping (50 mm × 1.3 mm and having a breaking load of at least 5000 kg), or chain of equivalent strength, each of which shall be set tight by means of a 32 mm turnbuckle, may be used for lashings. A winch tightener, used in conjunction with a locking arm, may be substituted for the 32 mm turnbuckle when steel strapping is used, provided suitable wrenches are available for setting up as necessary. When steel strapping is used, not less than three crimp seals shall be used for securing the ends. When wire is used, not less than four clips shall be used for forming eyes in the lashings.
- (v) Prior to the completion of loading the lashing shall be positively attached to the framing at a point approximately 450 mm below the anticipated final grain surface by means of either a 25 mm shackle or beam clamp of equivalent strength.
- (vi) The lashings shall be spaced not more than 2.4 metres apart and each shall be supported by a bearer nailed over the top of the fore and aft floor. This bearer shall consist of not less than 25 mm by 150 mm lumber or its equivalent and shall extend the full breadth of the compartment.
- (vii) During the voyage the strapping shall be regularly inspected and set up where necessary.

(B) OVERSTOWING ARRANGEMENTS

Where bagged grain or other suitable cargo is utilized for the purpose of securing "partly filled compartments", the free grain surface shall be covered with a separation cloth or equivalent or by a suitable platform. Such platforms shall consist of bearers spaced not more than 1.2 metres apart and 25 mm boards laid thereon spaced not more than 100 mm apart. Platforms may be constructed of other materials provided they are deemed by an Administration to be equivalent.

(C) BAGGED GRAIN

Bagged grain shall be carried in sound bags which shall be well filled and securely closed.

CHAPTER VII
CARRIAGE OF DANGEROUS GOODS

Regulation 1

Application

- (a) Unless expressly provided otherwise, this Chapter applies to the carriage of dangerous goods in all ships to which the present Regulations apply.
- (b) The provisions of this Chapter do not apply to ship's stores and equipment or to particular cargoes carried in ships specially built or converted as a whole for that purpose, such as tankers.
- (c) The carriage of dangerous goods is prohibited except in accordance with the provisions of this Chapter.
- (d) To supplement the provisions of this Chapter each Contracting Government shall issue, or cause to be issued, detailed instructions on the safe packing and stowage of specific dangerous goods or categories of dangerous goods which shall include any precautions necessary in their relation to other cargo.

Regulation 2

Classification

Dangerous goods shall be divided into the following classes:

- Class 1 – Explosives.
- Class 2 – Gases: compressed, liquefied or dissolved under pressure.
- Class 3 – Inflammable* liquids.
- Class 4.1 – Inflammable solids.
- Class 4.2 – Inflammable solids, or substances, liable to spontaneous combustion.
- Class 4.3 – Inflammable solids, or substances, which in contact with water emit inflammable gases.
- Class 5.1 – Oxidizing substances.
- Class 5.2 – Organic peroxides.
- Class 6.1 – Poisonous (toxic) substances.
- Class 6.2 – Infectious substances.
- Class 7 – Radioactive substances.
- Class 8 – Corrosives.

* "Inflammable" has the same meaning as "flammable".

- Class 9 – Miscellaneous dangerous substances, that is any other substance which experience has shown, or may show, to be of such a dangerous character that the provisions of this Chapter should apply to it.

Regulation 3

Packing

- (a) The packing of dangerous goods shall be:
- (i) well made and in good condition;
 - (ii) of such a character that any interior surface with which the contents may come in contact is not dangerously affected by the substance being conveyed; and
 - (iii) capable of withstanding the ordinary risks of handling and carriage by sea.
- (b) Where the use of absorbent or cushioning material is customary in the packing of liquids in receptacles that material shall be:
- (i) capable of minimizing the dangers to which the liquid may give rise;
 - (ii) so disposed as to prevent movement and ensure that the receptacle remains surrounded; and
 - (iii) where reasonably possible of sufficient quantity to absorb the liquid in the event of breakage of the receptacle.
- (c) Receptacles containing dangerous liquids shall have an ullage at the filling temperature sufficient to allow for the highest temperature during the course of normal carriage.
- (d) Cylinders or receptacles for gases under pressure shall be adequately constructed, tested, maintained and correctly filled.
- (e) Empty receptacles which have been used previously for the carriage of dangerous goods shall themselves be treated as dangerous goods unless they have been cleaned and dried or, when the nature of the former contents permit with safety, have been closed securely.

Regulation 4

Marking and Labelling

Each receptacle containing dangerous goods shall be marked with the correct technical name (trade names shall not be used) and identified with a distinctive label or stencil of the label so as to make clear the dangerous character. Each receptacle shall be so labelled except receptacles containing chemicals packed in limited quantities and large shipments which can be stowed, handled and identified as a unit.

Regulation 5*Documents*

- (a) In all documents relating to the carriage of dangerous goods by sea where the goods are named the correct technical name of the goods shall be used (trade names shall not be used) and the correct description given in accordance with the classification set out in Regulation 2 of this Chapter.
- (b) The shipping documents prepared by the shipper shall include, or be accompanied by, a certificate or declaration that the shipment offered for carriage is properly packed, marked and labelled and in proper condition for carriage.
- (c) Each ship carrying dangerous goods shall have a special list or manifest setting forth, in accordance with Regulation 2 of this Chapter, the dangerous goods on board and the location thereof. A detailed stowage plan which identifies by class and sets out the location of all dangerous goods on board may be used in place of such special list or manifest.

Regulation 6*Stowage Requirements*

- (a) Dangerous goods shall be stowed safely and appropriately according to the nature of the goods. Incompatible goods shall be segregated from one another.
- (b) Explosives (except ammunition) which present a serious risk shall be stowed in a magazine which shall be kept securely closed while at sea. Such explosives shall be segregated from detonators. Electrical apparatus and cables in any compartment in which explosives are carried shall be designed and used so as to minimize the risk of fire or explosion.
- (c) Goods which give off dangerous vapours shall be stowed in a well ventilated space or on deck.
- (d) In ships carrying inflammable liquids or gases special precautions shall be taken where necessary against fire or explosion.
- (e) Substances which are liable to spontaneous heating or combustion shall not be carried unless adequate precautions have been taken to prevent the outbreak of fire.

Regulation 7*Explosives in Passenger Ships*

- (a) In passenger ships the following explosives only may be carried:
 - (i) safety cartridges and safety fuses;
 - (ii) small quantities of explosives not exceeding 9 kilogrammes (20 pounds) total net weight;
 - (iii) distress signals for use in ships or aircraft, if the total weight of such signals does not exceed 1,016 kilogrammes (2,240 pounds);

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(iv) except in ships carrying unberthed passengers, fireworks which are unlikely to explode violently.

(b) Notwithstanding the provisions of paragraph (a) of this Regulation additional quantities or types of explosives may be carried in passenger ships in which there are special safety measures approved by the Administration.

CHAPTER VIII
NUCLEAR SHIPS

Regulation 1

Application

This Chapter applies to all nuclear ships except ships of war.

Regulation 2

Application of other Chapters

The Regulations contained in the other Chapters of the present Convention apply to nuclear ships except as modified by this Chapter.

Regulation 3

Exemptions

A nuclear ship shall not, in any circumstances, be exempted from compliance with any Regulations of this Convention.

Regulation 4

Approval of Reactor Installation

The design, construction and standards of inspection and assembly of the reactor installation shall be subject to the approval and satisfaction of the Administration and shall take account of the limitations which will be imposed on surveys by the presence of radiation.

Regulation 5

Suitability of Reactor Installation for Service on Board Ship

The reactor installation shall be designed having regard to the special conditions of service on board ship both in normal and exceptional circumstances of navigation.

Regulation 6

Radiation Safety

The Administration shall take measures to ensure that there are no unreasonable radiation or other nuclear hazards, at sea or in port, to the crew, passengers or public, or to the waterways or food or water resources.

Regulation 7*Safety Assessment*

(a) A Safety Assessment shall be prepared to permit evaluation of the nuclear power plant and safety of the ship to ensure that there are no unreasonable radiation or other hazards, at sea or in port, to the crew, passengers or public, or to the waterways or food or water resources. The Administration, when satisfied, shall approve such Safety Assessment which shall always be kept up-to-date.

(b) The Safety Assessment shall be made available sufficiently in advance to the Contracting Governments of the countries which a nuclear ship intends to visit so that they may evaluate the safety of the ship.

Regulation 8*Operating Manual*

A fully detailed Operating Manual shall be prepared for the information and guidance of the operating personnel in their duties on all matters relating to the operation of the nuclear power plant and having an important bearing on safety. The Administration, when satisfied, shall approve such Operating Manual and a copy shall be kept on board the ship. The Operating Manual shall always be kept up-to-date.

Regulation 9*Surveys*

Survey of nuclear ships shall include the applicable requirements of Regulation 7 of Chapter I, or of Regulations 8, 9 and 10 of Chapter I, except in so far as surveys are limited by the presence of radiation. In addition, the surveys shall include any special requirements of the Safety Assessment. They shall in all cases, notwithstanding the provisions of Regulations 8 and 10 of Chapter I, be carried out not less frequently than once a year.

Regulation 10*Certificates*

(a) The provisions of paragraph (a) of Regulation 12 of Chapter I and of Regulation 14 of Chapter I shall not apply to nuclear ships.

(b) A Certificate, called a Nuclear Passenger Ship Safety Certificate shall be issued after inspection and survey to a nuclear passenger ship which complies with the requirements of Chapters II-1, II-2, III, IV and VIII, and any other relevant requirements of the present Regulations.

(c) A Certificate, called a Nuclear Cargo Ship Safety Certificate shall be issued after inspection and survey to a nuclear cargo ship which satisfies the requirements for cargo ships on survey set out in Regulation 10 of Chapter I, and

complies with the requirements of Chapters II-1, II-2, III, IV and VIII and any other relevant requirements of the present Regulations.

(d) Nuclear Passenger Ship Safety Certificates and Nuclear Cargo Ship Safety Certificates shall state: "That the ship, being a nuclear ship, complied with all requirements of Chapter VIII of the Convention and conformed to the Safety Assessment approved for the ship".

(e) Nuclear Passenger Ship Safety Certificates and Nuclear Cargo Ship Safety Certificates shall be valid for a period of not more than 12 months.

(f) Nuclear Passenger Ship Safety Certificates and Nuclear Cargo Ship Safety Certificates shall be issued either by the Administration or by any person or organization duly authorized by it. In every case, that Administration assumes full responsibility for the certificate.

Regulation 11

Special Control

In addition to the control established by Regulation 19 of Chapter I, nuclear ships shall be subject to special control before entering the ports and in the ports of Contracting Governments, directed towards verifying that there is on board a valid Nuclear Ship Safety Certificate and that there are no unreasonable radiation or other hazards at sea or in port, to the crew, passengers or public, or to the waterways or food or water resources.

Regulation 12

Casualties

In the event of any accident likely to lead to an environmental hazard the master of a nuclear ship shall immediately inform the Administration. The master shall also immediately inform the competent Governmental authority of the country in whose waters the ship may be, or whose waters the ship approaches in a damaged condition.

APPENDIX

Form of Safety Certificate for Passenger Ships

PASSENGER SHIP SAFETY CERTIFICATE

(Official Seal)

(Country)

for an
a short international voyage.

Issued under the provisions of the

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage	Particulars of voyages, if any, sanctioned under Regulation 27(c) (vii) of Chapter III	Date on which keel was laid (see NOTE below)

The
I, the undersigned

(Name) Government certifies
(Name) certify

I. That the above-mentioned ship has been duly surveyed in accordance with the provisions of the Convention referred to above.

II. That the survey showed that the ship complied with the requirements of the Regulations annexed to the said Convention as regards:

- (1) the structure, main and auxiliary boilers and other pressure vessels and machinery;
- (2) the watertight subdivision arrangements and details;
- (3) the following subdivision load lines:

Subdivision load lines assigned and marked on the ship's side at amidships (Regulation 11 of Chapter II-1)	Freeboard	To apply when the spaces in which passengers are carried include the following alternative spaces
C.1
C.2
C.3

III. That the life-saving appliances provide for a total number of persons and no more, viz.:

- lifeboats (including motor lifeboats) capable of accommodating persons, and motor lifeboats fitted with radiotelegraph installation and searchlight (included in the total lifeboats shown above) and motor lifeboats fitted with searchlight only (also included in the total lifeboats shown above), requiring certificated lifeboatmen;
- liferafts, for which approved launching devices are required, capable of accommodating persons; and
- liferafts, for which approved launching devices are not required, capable of accommodating persons;
- buoyant apparatus capable of supporting persons;
- lifebuoys;
- life-jackets.

IV. That the lifeboats and liferafts were equipped in accordance with the provisions of the Regulations.

V. That the ship was provided with a line-throwing appliance and portable radio apparatus for survival craft in accordance with the provisions of the Regulations.

VI. That the ship complied with the requirements of the Regulations as regards radiotelegraph installations, viz.:

	Requirements of Regulations	Actual provision
Hours of listening by operator
Number of operators
Whether auto alarm fitted
Whether main installation fitted
Whether reserve installation fitted
Whether main and reserve transmitters electrically separated or combined
Whether direction-finder fitted
Whether radio equipment for homing on the radio-telephone distress frequency fitted
Whether radar fitted
Number of passengers for which certificated

VII. That the functioning of the radiotelegraph installations for motor lifeboats and/or the portable radio apparatus for survival craft, if provided, complied with the provisions of the Regulations.

VIII. That the ship complied with the requirements of the Regulations as regards fire-detecting and fire-extinguishing appliances, radar, echo-sounding device and gyro-compass and was provided with navigation lights and shapes, pilot ladder, and means of making sound signals, and distress signals in accordance with the provisions of the Regulations and also the International Regulations for Preventing Collisions at Sea in force.

IX. That in all other respects the ship complied with the requirements of the Regulations, so far as these requirements apply thereto.

This certificate is issued under the authority of the Government. It will remain in force until

Issued at the day of 19

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Government to issue this certificate.

(Signature)

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for 1952, 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

In the case of a ship which is converted as provided in Regulation 1(b)(i) of Chapter II-1 or Regulations 1(a)(i) of Chapter II-2 of the Convention, the date on which the work of conversion was begun should be given.

*Form of Safety Construction Certificate for Cargo Ships***CARGO SHIP SAFETY CONSTRUCTION CERTIFICATE***(Official Seal)**(Country)*

Issued under the provisions of the

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage	Date on which keel was laid (see NOTE below)

The
I, the undersigned

(Name) Government certifies
(Name) certify

That the above-mentioned ship has been duly surveyed in accordance with the provisions of Regulation 10 of Chapter I of the Convention referred to above, and that the survey showed that the condition of the hull, machinery and equipment, as defined in the above Regulation, was in all respects satisfactory and that the ship complied with the applicable requirements of Chapter II-1 and Chapter II-2 (other than that relating to fire-extinguishing appliances and fire control plans).

This certificate is issued under the authority of the Government. It will remain in force until

Issued at the day of 19

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Government to issue this certificate.

(Signature)

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for 1952, 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

*Form of Safety Equipment Certificate for Cargo Ships***CARGO SHIP SAFETY EQUIPMENT CERTIFICATE***(Official Seal)**(Country)*

Issued under the provisions of the

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage	Date on which keel was laid (see NOTE below)

The
I, the undersigned

(Name) Government certifies
(Name) certify

I. That the above-mentioned ship has been duly inspected in accordance with the provisions of the Convention referred to above.

II. That the inspection showed that the life-saving appliances provided for a total number of persons and no more viz.:

- lifeboats on port side capable of accommodating persons;
- lifeboats on starboard side capable of accommodating persons;
- motor lifeboats (included in the total lifeboats shown above), including motor lifeboats fitted with radiotelegraph installation and searchlight, and motor lifeboats fitted with searchlight only;
- liferafts, for which approved launching devices are required, capable of accommodating persons; and
- liferafts, for which approved launching devices are not required, capable of accommodating persons;
- lifebuoys;
- life-jackets.

III. That the lifeboats and liferafts were equipped in accordance with the provisions of the Regulations annexed to the Convention.

IV. That the ship was provided with a line-throwing apparatus and portable radio apparatus for survival craft in accordance with the provisions of the Regulations.

V. That the inspection showed that the ship complied with the requirements of the said Convention as regards fire-extinguishing appliances and fire control plans, echo-sounding device and gyro-compass and was provided with navigation lights and shapes, pilot ladder, and means of making sound signals and distress signals, in accordance with the provisions of the Regulations and the International Regulations for Preventing Collisions at Sea in force.

VI. That in all other respects the ship complied with the requirements of the Regulations so far as these requirements apply thereto.

This certificate is issued under the authority of the Government. It will remain in force until

Issued at the day of 19

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Government to issue this certificate.

(Signature)

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for 1952, 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

Form of Safety Radiotelegraphy Certificate for Cargo Ships

CARGO SHIP SAFETY RADIOTELEGRAPHY CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage	Date on which keel was laid (see NOTE below)

The _____ (Name) Government certifies
 I, the undersigned _____ (Name) certify

I. That the above-mentioned ship complies with the provisions of the Regulations annexed to the Convention referred to above as regards radiotelegraphy and radar:

	Requirements of Regulations	Actual provision
Hours of listening by operator
Number of operators
Whether auto alarm fitted
Whether main installation fitted
Whether reserve installation fitted
Whether main and reserve transmitters electrically separated or combined
Whether direction-finder fitted
Whether radio equipment for homing on the radio-telephone distress frequency fitted
Whether radar fitted

II. That the functioning of the radiotelegraphy installation for motor lifeboats and/or the portable radio apparatus for survival craft, if provided, complies with the provisions of the said Regulations.

This certificate is issued under the authority of the _____ Govern-
 ment. It will remain in force until _____

Issued at _____ the _____ day of _____ 19 _____

Here follows the seal or signature of the authority entitled to issue this certificate:

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Govern-
 ment to issue this certificate.

(Signature)

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for 1952, 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

Form of Safety Radiotelephony Certificate for Cargo Ships

CARGO SHIP SAFETY RADIOTELEPHONY CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage	Date on which keel was laid (see NOTE below)

The
I, the undersigned

(Name) Government certifies
(Name) certify

I. That the above-mentioned ship complies with the provisions of the Regulations annexed to the Convention referred to above as regards Radiotelephony:

	Requirements of Regulations	Actual provision
Hours of listening.....
Number of operators

II. That the functioning of the portable radio apparatus for survival craft, if provided, complies with the provisions of the said Regulations.

This certificate is issued under the authority of the Government.
It will remain in force until

Issued at the day of 19

Here follows the seal or signature of the authority entitled to issue this certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Government to issue this certificate.

(Signature)

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for 1952, 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

Form of Exemption Certificate

EXEMPTION CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

Name of ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage

The
I, the undersigned

(Name) Government certifies
(Name) certify

That the above-mentioned ship is, under the authority conferred by Regulation of Chapter of the Regulations annexed to the Convention referred to above, exempted from the requirements of † of the Convention on the voyages to

* Insert here the conditions, *
if any, on which the exemption
certificate is granted.

This certificate is issued under the authority of the Government.
ment. It will remain in force until

Issued at the day of 19

Here follows the seal or signature of the authority entitled to issue this certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Government to issue this certificate.

(Signature)

† Insert here references to Chapters and Regulations, specifying particular paragraphs.

Form of Safety Certificate for Nuclear Passenger Ships

NUCLEAR PASSENGER SHIP SAFETY CERTIFICATE

*(Official Seal)**(Country)*

Issued under the provisions of the

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage	Particulars of voyages, if any, sanctioned under Regulation 27(c) (vii) of Chapter III	Date on which keel was laid (see NOTE below)

The
I, the undersigned

(Name) Government certifies
(Name) certify

I. That the above-mentioned ship has been duly surveyed in accordance with the provisions of the Convention referred to above.

II. That the ship, being a nuclear ship, complied with all requirements of Chapter VIII of the Convention and conformed to the Safety Assessment approved for the ship.

III. That the survey showed that the ship complied with the requirements of the Regulations annexed to the said Convention as regards:

- (1) the structure, main and auxiliary boilers and other pressure vessels and machinery;
- (2) the watertight subdivision arrangements and details;
- (3) the following subdivision load lines:

Subdivision load lines assigned and marked on the ship's side at amidships (Regulation 11 of Chapter II-1)	Freeboard	To apply when the spaces in which passengers are carried include the following alternative spaces
C.1 C.2 C.3

IV. That the life-saving appliances provided for a total number of persons and no more, viz.:

- lifeboats (including motor lifeboats) capable of accommodating persons, and motor lifeboats fitted with radiotelegraph installation and searchlight (included in the total lifeboats shown above) and motor lifeboats fitted with searchlight only (also included in the total lifeboats shown above), requiring certificated lifeboatmen;
- liferafts, for which approved launching devices are required, capable of accommodating persons; and
- liferafts, for which approved launching devices are not required, capable of accommodating persons;
- buoyant apparatus capable of supporting persons;
- lifebuoys;
- life-jackets.

V. That the lifeboats and liferafts were equipped in accordance with the provisions of the Regulations.

VI. That the ship was provided with a line-throwing appliance and portable radio apparatus for survival craft, in accordance with the provisions of the Regulations.

VII. That the ship complied with the requirements of the Regulations as regards radiotelegraph installations, viz.:

	Requirements of Regulations	Actual provision
Hours of listening by operator
Number of operators
Whether auto alarm fitted
Whether main installation fitted
Whether reserve installation fitted.....
Whether main and reserve transmitters electrically separated or combined
Whether direction-finder fitted
Whether radio equipment for homing on the radio-telephone distress frequency fitted.....
Whether radar fitted
Number of passengers for which certificated

VIII. That the functioning of the radiotelegraph installations for motor lifeboats and/or the portable radio apparatus for survival craft, if provided, complied with the provisions of the Regulations.

IX. That the ship complied with the requirements of the Regulations as regards fire-detecting and fire-extinguishing appliances, radar echo-sounding device and gyro-compass and was provided with navigation lights and shapes, pilot ladder, and means of making sound signals and distress signals in accordance with the provisions of the Regulations and also the International Regulations for Preventing Collisions at Sea in force.

X. That in all other respects the ship complied with the requirements of the Regulations, so far as these requirements apply thereto.

This certificate is issued under the authority of the _____ Govern-
ment. It will remain in force until _____

Issued at _____ the _____ day of _____ 19 _____

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Govern-
ment to issue this certificate.

(Signature)

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

In the case of a ship which is converted as provided in Regulation 1(b)(i) of Chapter II-1 or Regulation 1(a)(i) of Chapter II-2, the date on which the work of conversion was begun should be given.

*Form of Safety Certificate for Nuclear Cargo Ships***NUCLEAR CARGO SHIP SAFETY CERTIFICATE***(Official Seal)**(Country)*

Issued under the provisions of the
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage	Date on which keel was laid (see NOTE below)

The
I, the undersigned

(Name) Government certifies
(Name) certify

I. That the above-mentioned ship has been duly surveyed in accordance with the provisions of the Convention referred to above.

II. That the ship, being a nuclear ship, complied with all requirements of Chapter VIII of the Convention and conformed to the Safety Assessment approved for the ship.

III. That the survey showed that the ship satisfied the requirements set out in Regulation 10 of Chapter I of the Convention as to hull, machinery and equipment, and complied with the relevant requirements of Chapter II-1 and Chapter II-2.

IV. That the life-saving appliances provide for a total number of persons and no more, viz.:

- lifeboats on port side capable of accommodating persons;
- lifeboats on starboard side capable of accommodating persons;
- motor lifeboats (included in the total lifeboats shown above) including motor lifeboats fitted with radiotelegraph installation and searchlight, and motor lifeboats fitted with searchlight only;
- liferafts, for which approved launching devices are required, capable of accommodating persons; and
- liferafts for which approved launching devices are not required, capable of accommodating persons;
- lifebuoys;
- life-jackets.

V. That the lifeboats and liferafts were equipped in accordance with the provisions of the Regulations annexed to the Convention.

VI. That the ship was provided with a line-throwing apparatus and portable radio apparatus for survival craft in accordance with the provisions of the Regulations.

VII. That the ship complied with the requirements of the Regulations as regards radiotelegraph installations, viz.:

	Requirements of Regulations	Actual provision
Hours of listening by operator
Number of operators
Whether auto alarm fitted
Whether main installation fitted
Whether reserve installation fitted.....
Whether main and reserve transmitters electrically separated or combined
Whether direction-finder fitted
Whether radio equipment for homing on the radiotelephone distress frequency fitted.....
Whether radar fitted.....

VIII. That the functioning of the radiotelegraph installations for motor lifeboats, and/or the portable radio apparatus for survival craft, if provided, complied with the provisions of the Regulations.

IX. That the inspection showed that the ship complied with the requirements of the said Convention as regards fire-extinguishing appliances, radar, echo-sounding device and gyro-compass and was provided with navigation lights and shapes, pilot ladder, and means of making sound signals and distress signals in accordance with the provisions of the Regulations and the International Regulations for Preventing Collisions at Sea in force.

X. That in all other respects the ship complied with the requirements of the Regulations so far as these requirements apply thereto.

This certificate is issued under the authority of the _____ Govern-
ment. It will remain in force until

Issued at _____ the _____ day of _____ 19 _____

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:

The undersigned declares that he is duly authorized by the said Govern-
ment to issue this certificate.

(Signature)

NOTE: It will be sufficient to indicate the year in which the keel was laid or when the ship was at a similar stage of construction except for the year 1965 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1974, in which cases the actual date should be given.

PROTOCOL OF 1978 RELATING TO THE INTERNATIONAL CONVENTION
FOR THE SAFETY OF LIFE AT SEA, 1974

THE PARTIES TO THE PRESENT PROTOCOL,

BEING PARTIES to the International Convention for the Safety of Life at Sea, 1974, done at London on 1 November 1974,

RECOGNIZING the significant contribution which can be made by the above-mentioned Convention to the promotion of the safety of ships and property at sea and the lives of persons on board,

RECOGNIZING ALSO the need to improve further the safety of ships, particularly tankers,

CONSIDERING that this objective may best be achieved by the conclusion of a Protocol relating to the International Convention for the Safety of Life at Sea, 1974,

HAVE AGREED as follows:

ARTICLE I

General Obligations

The Parties to the present Protocol undertake to give effect to the provisions of the present Protocol and the Annex hereto which shall constitute an integral part of the present Protocol. Every reference to the present Protocol constitutes at the same time a reference to the Annex hereto.

ARTICLE II

Application

1. The provisions of Articles II, III (other than paragraph (a)), IV, VI(b), (c) and (d), VII and VIII of the International Convention for the Safety of Life at Sea, 1974 (hereinafter referred to as "the Convention") are incorporated in the present Protocol, provided that references in those Articles to the Convention and to Contracting Governments shall be taken to mean references to the present Protocol and to the Parties to the present Protocol, respectively.
2. Any ship to which the present Protocol applies shall comply with the provisions of the Convention, subject to the modifications and additions set out in the present Protocol.
3. With respect to the ships of non-parties to the Convention and the present Protocol, the Parties to the present Protocol shall apply the requirements of the Convention and the present Protocol as may be necessary to ensure that no more favourable treatment is given to such ships.

ARTICLE III

Communication of Information

The Parties to the present Protocol undertake to communicate to, and deposit with, the Secretary-General of the Inter-Governmental Maritime Consultative Organization (hereinafter referred to as "the Organization"), a list of nominated surveyors or recognized organizations which are authorized to act on their behalf in the administration of measures for safety of life at sea for circulation to the Parties for information of their officers. The Administration shall therefore notify the Organization of the specific responsibilities and conditions of the authority delegated to the nominated surveyors or recognized organizations.

ARTICLE IV

Signature, Ratification, Acceptance, Approval
and Accession

1. The present Protocol shall be open for signature at the Headquarters of the Organization from 1 June 1978 to 1 March 1979 and shall thereafter remain open for accession. Subject to the provisions of paragraph 3 of this Article, States may become Parties to the present Protocol by:

- (a) signature without reservation as to ratification, acceptance or approval; or
- (b) signature subject to ratification, acceptance or approval, followed by ratification, acceptance or approval; or
- (c) accession.

2. Ratification, acceptance, approval or accession shall be effected by the deposit of an instrument to that effect with the Secretary-General of the Organization.

3. The present Protocol may be signed without reservation, ratified, accepted, approved or acceded to only by States which have signed without reservation, ratified, accepted, approved or acceded to the Convention.

ARTICLE V

Entry into Force

1. The present Protocol shall enter into force six months after the date on which not less than fifteen States, the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant shipping, have become Parties to it in accordance with Article IV of the present Protocol, provided however that the present Protocol shall not enter into force before the Convention has entered into force.

2. Any instrument of ratification, acceptance, approval or accession deposited after the date on which the present Protocol enters into force shall take effect three months after the date of deposit.

3. After the date on which an amendment to the present Protocol is deemed to have been accepted under Article VIII of the Convention, any instrument of ratification, acceptance, approval or accession deposited shall apply to the present Protocol as amended.

ARTICLE VI

Denunciation

1. The present Protocol may be denounced by any Party at any time after the expiry of five years from the date on which the present Protocol enters into force for that Party.
2. Denunciation shall be effected by the deposit of an instrument of denunciation with the Secretary-General of the Organization.
3. A denunciation shall take effect one year, or such longer period as may be specified in the instrument of denunciation, after its receipt by the Secretary-General of the Organization.
4. A denunciation of the Convention by a Party shall be deemed to be a denunciation of the present Protocol by that Party.

ARTICLE VII

Depositary

1. The present Protocol shall be deposited with the Secretary-General of the Organization (hereinafter referred to as "the Depositary").
2. The Depositary shall:
 - (a) inform all States which have signed the present Protocol or acceded thereto of:
 - (i) each new signature or deposit of an instrument of ratification, acceptance, approval or accession, together with the date thereof;
 - (ii) the date of entry into force of the present Protocol;
 - (iii) the deposit of any instrument of denunciation of the present Protocol together with the date on which it was received and the date on which the denunciation takes effect;

(b) transmit certified true copies of the present Protocol to all States which have signed the present Protocol or acceded thereto.

3. As soon as the present Protocol enters into force, a certified true copy thereof shall be transmitted by the Depositary to the Secretariat of the United Nations for registration and publication in accordance with Article 102 of the Charter of the United Nations.

ARTICLE VIII

Languages

The present Protocol is established in a single original in the Chinese, English, French, Russian and Spanish languages, each text being equally authentic. Official translations in the Arabic, German and Italian languages shall be prepared and deposited with the signed original.

IN WITNESS WHEREOF the undersigned being duly authorized by their respective Governments for that purpose have signed the present Protocol.

DONE AT LONDON this seventeenth day of February one thousand nine hundred and seventy-eight.

MODIFICATIONS AND ADDITIONS TO THE INTERNATIONAL CONVENTION
FOR THE SAFETY OF LIFE AT SEA, 1974

CHAPTER I

GENERAL PROVISIONS

PART A - APPLICATION, DEFINITIONS, ETC.

Regulation 2

Definitions

The following paragraph is added to the existing text:

(n) "Age of a ship" means the elapsed period of time determined from the year of build as indicated on the ship's registry papers.

PART B - SURVEYS AND CERTIFICATES

Regulation 6

Inspection and Survey

The existing text of Regulation 6 is replaced by the following:

- (a) The inspection and survey of ships, so far as regards the enforcement of the provisions of the present Regulations and the granting of exemptions therefrom, shall be carried out by officers of the Administration. The Administration may, however, entrust the inspections and surveys either to surveyors nominated for the purpose or to organizations recognized by it.
- (b) The Administration shall institute arrangements for unscheduled inspections to be carried out during the period of validity of the certificate. Such inspections shall ensure that the ship and its equipment remain in all respects satisfactory for the service for which the ship is intended. These inspections may be carried out by the Administration's own inspection services, or by nominated surveyors, or

by recognized organizations, or by other Parties upon request of the Administration. Where the Administration, under the provisions of Regulations 8 and 10 of this Chapter, establishes mandatory annual surveys, the above unscheduled inspections shall not be obligatory.

(c) An Administration nominating surveyors or recognizing organizations to conduct inspections and surveys as set forth in paragraphs (a) and (b) of this Regulation shall as a minimum empower any nominated surveyor or recognized organization to:

- (i) require repairs to a ship, and
- (ii) carry out inspections and surveys if requested by the appropriate authorities of a Port State.

The Administration shall notify the Organization of the specific responsibilities and conditions of the authority delegated to nominated surveyors or recognized organizations.

(d) When a nominated surveyor or recognized organization determines that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificate or is such that the ship is not fit to proceed to sea without danger to the ship, or persons on board, such surveyor or organization shall immediately ensure that corrective action is taken and shall in due course notify the Administration. If such corrective action is not taken the relevant certificate should be withdrawn and the Administration shall be notified immediately; and, if the ship is in the port of another Party, the appropriate authorities of the Port State shall also be notified immediately. When an officer of the Administration, a nominated surveyor or recognized organization has notified the appropriate authorities of the Port State, the Government of the Port State concerned shall give such officer, surveyor or organization any necessary assistance to carry out their obligations under this Regulation. When applicable, the Government of the Port State concerned shall ensure that the ship shall not sail until it can proceed to sea, or leave port for the purpose of proceeding to the appropriate repair yard, without danger to the ship or persons on board.

(e) In every case, the Administration shall fully guarantee the completeness and efficiency of the inspection and survey, and shall undertake to ensure the necessary arrangements to satisfy this obligation.

Regulation 7

Surveys of Passenger Ships

The existing text of paragraph (b)(iii) is replaced by the following:

(iii) A survey either general or partial, according to the circumstances, shall be made after a repair resulting from investigations prescribed in Regulation 11 of this Chapter, or whenever any important repairs or renewals are made. The survey shall be such as to ensure that the necessary repairs or renewals have been effectively made, that the material and workmanship of such repairs or renewals are in all respects satisfactory, and that the ship complies in all respects with the provisions of the Convention and the present Protocol and of the International Regulations for Preventing Collisions at Sea in force, and of the laws, decrees, orders and regulations promulgated as a result thereof by the Administration.

Regulation 8

Surveys of Life-Saving Appliances and other
Equipment of Cargo Ships

The existing text of Regulation 8 is replaced by the following:

(a) The life-saving appliances, except a radiotelegraph installation in a motor lifeboat or a portable radio apparatus for survival craft, the echo-sounding device, the gyro-compass, the fire-extinguishing appliances and the inert gas system of cargo ships to which Chapters II-1, II-2, III and V of the Convention and the present Protocol apply, shall be subject to initial and subsequent surveys as prescribed for passenger ships in Regulation 7 of Chapter I of the Convention and the present Protocol with the substitution of 24 months for 12 months in sub-paragraph (a)(ii) of that Regulation. The fire control plans in new ships and the pilot ladders, mechanical

pilot hoists, lights, shapes and means of making sound signals carried by new and existing ships shall be included in the surveys for the purpose of ensuring that they comply fully with the requirements of the Convention and the present Protocol and, where applicable, the International Regulations for Preventing Collisions at Sea in force.

(b) Intermediate surveys shall be made for tankers of ten years of age and over, within three months before or after the anniversary date of the Cargo Ship Safety Equipment Certificate, to ensure that equipment specified in paragraph (a) of this Regulation has been maintained in accordance with Regulation 11 of this Chapter and that it is in good working condition. Such intermediate surveys shall be endorsed on the Cargo Ship Safety Equipment Certificate issued in accordance with Regulation 12(a)(iii) of Chapter I of the Convention.

Regulation 10

Surveys of Hull, Machinery and Equipment of Cargo Ships

The existing text of Regulation 10 is replaced by the following:

(a) The hull, machinery and equipment (other than items in respect of which Cargo Ship Safety Equipment Certificates, Cargo Ship Safety Radiotelegraphy Certificates or Cargo Ship Radiotelephony Certificates are issued) of a cargo ship shall be surveyed on completion and thereafter in such a manner as the Administration may consider necessary in order to ensure that their condition is in all respects satisfactory and at the following intervals:

- (i) at intervals specified by the Administration but not exceeding five years (periodical surveys);
- (ii) in addition to such periodical surveys a tanker of ten years of age and over shall undergo a minimum of one intermediate survey during the period of validity of its Cargo Ship Safety Construction Certificate. In cases where only one such intermediate survey is carried out in any one certificate validity period, it shall be held not before six months prior to, nor later than six months after, the half-way date of the certificate's period of validity.

(b) The initial and periodical survey shall be such as to ensure that the arrangements, material and scantlings of the structure, boilers and other pressure vessels, their appurtenances, main and auxiliary machinery including steering gear and associated control systems, electrical installation and other equipment are in all respects satisfactory for the service for which the ship is intended. Such surveys shall, in the case of tankers, also include inspection of the outside of the ship's bottom, pump rooms, cargo and bunker piping systems, vent piping, pressure vacuum valves and flame screens.

(c) The intermediate survey of tankers of ten years of age and over shall include inspection of steering gear equipment and associated control systems, pump rooms, cargo and bunker piping systems on deck and in pump rooms, vent piping, pressure vacuum valves and flame screens, the electrical installations in dangerous zones, and the outside of the ship's bottom. In addition to the visual inspection of the electrical installation, the insulation resistance of the electrical equipment in dangerous zones is to be tested. If, upon examination, there should be any doubt as to the condition of the piping, extra measures, such as pressure tests and thickness determination, shall be taken as necessary. Such intermediate surveys shall be endorsed on the Cargo Ship Safety Construction Certificate issued in accordance with Regulation 12(a)(ii) of Chapter I of the Convention.

(d) A survey, either general or partial according to the circumstances, shall be made when required after an investigation prescribed in Regulation 11 of this Chapter, or whenever any important repairs or renewals are made. The survey shall be such as to ensure that the necessary repairs or renewals have been effectively made, that the material and workmanship of such repairs or renewals are in all respects satisfactory, and that the ship is fit to proceed to sea without danger to the ship or persons on board.

Regulation 11

Maintenance of Conditions after Survey

The existing text of Regulation 11 is replaced by the following:

- (a) The condition of the ship and its equipment shall be maintained to conform with the provisions of the Convention and the present Protocol to ensure that the ship in all respects will remain fit to proceed to sea without danger to the ship or persons on board.
- (b) After any survey of the ship under Regulations 6, 7, 8, 9 or 10 of Chapter I of the Convention and the present Protocol has been completed, no change shall be made in the structural arrangement, machinery, equipment and other items covered by the survey, without the sanction of the Administration.
- (c) Whenever an accident occurs to a ship or a defect is discovered, either of which affects the safety of the ship or the efficiency or completeness of its life-saving appliances or other equipment, the master or owner of the ship shall report at the earliest opportunity to the Administration, the nominated surveyor or recognized organization responsible for issuing the relevant certificate, who shall cause investigations to be initiated to determine whether a survey, as required by Regulations 6, 7, 8, 9 or 10 of Chapter I of the Convention and the present Protocol, is necessary. If the ship is in a port of another Party, the master or owner shall also report immediately to the appropriate authorities of the Port State and the nominated surveyor or recognized organization shall ascertain that such a report has been made.

Regulation 14

Duration and Validity of Certificates

The existing text of Regulation 14 is replaced by the following:

- (a) Certificates other than the Cargo Ship Safety Construction Certificate, the Cargo Ship Safety Equipment Certificate and any Exemption Certificate shall be issued for a period not exceeding 12 months. The Cargo Ship Safety Construction Certificate shall be issued for a period not exceeding five years. The Cargo Ship Safety

Equipment Certificate shall be issued for a period not exceeding 24 months. Exemption Certificates shall not be valid for longer than the period of the certificates to which they refer.

(b) No extension of the five-year period of validity of the Cargo Ship Safety Construction Certificate shall be permitted.

(c) If a survey takes place within two months before the end of the period for which a Cargo Ship Safety Radiotelegraphy Certificate or a Cargo Ship Safety Radiotelephony Certificate issued in respect of cargo ships of 300 tons gross tonnage and upwards, but less than 500 tons gross tonnage, was originally issued, that certificate may be withdrawn, and a new certificate may be issued which shall expire 12 months after the end of the said period.

(d) If the ship at the time when a certificate, other than that referred to in paragraph (b) of this Regulation, expires is not in a port of the ~~State whose flag it is entitled to fly or in which it is~~ to be surveyed, the Administration may extend the certificate, but such extension shall be granted only for the purpose of allowing the ship to complete its voyage to the ~~State whose flag it is entitled to fly or in which it is~~ to be surveyed, and then only in cases where it appears proper and reasonable to do so.

(e) No certificate shall be extended under the provisions of paragraph (d) of this Regulation for a longer period than five months, and a ship to which an extension is granted shall not, on its arrival in the ~~State whose flag it is entitled to fly~~ or the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port or ~~State~~ without having obtained a new certificate.

(f) A certificate, other than that referred to in paragraph (b) of this Regulation, which has not been extended under the foregoing provisions of this Regulation, may be extended by the Administration for a period of grace up to one month from the date of expiry stated on it.

(g) A certificate shall cease to be valid:

- (i) if the inspections and surveys are not carried out within the periods specified under Regulations 7(a), 8, 9 and 10(a) of Chapter I of the Convention and the present Protocol or

as they may have been extended in accordance with paragraphs (d), (e) or (f) of this Regulation, or

(ii) upon transfer of the ship to the flag of another Government.

A new certificate shall only be issued when the Government issuing the new certificate is fully satisfied that the ship is in compliance with the requirements of Regulation 11(a) and (b) of this Chapter. In the case of a transfer between Parties, if requested within three months after the transfer has taken place, the Government of the Party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Administration copies of the certificates carried by the ship before the transfer and, if available, copies of the relevant survey reports.

Regulation 19

Control

The existing text of Regulation 19 is replaced by the following:

(a) Every ship when in a port of another Party is subject to control by officers duly authorized by such Government in so far as this control is directed towards verifying that the certificates issued under Regulation 12 or Regulation 13 of Chapter I of the Convention are valid.

(b) Such certificates, if valid, shall be accepted unless there are clear grounds for believing that the condition of the ship or of its equipment does not correspond substantially with the particulars of any of the certificates or that the ship and its equipment are not in compliance with the provisions of Regulation 11(a) and (b) of this Chapter.

(c) In the circumstances given in paragraph (b) of this Regulation or where a certificate has expired or ceased to be valid, the officer carrying out the control shall take steps to ensure that the ship shall not sail until it can proceed to sea or leave the port for the purpose of proceeding to the appropriate repair yard without danger to the ship or persons on board.

(d) In the event of this control giving rise to an intervention of any kind, the officer carrying out the control shall forthwith inform, in writing, the Consul or, in his absence, the nearest diplomatic representative of the State whose flag the ship is entitled to fly of all the circumstances in which intervention was deemed necessary. In addition, nominated surveyors or recognized organizations responsible for the issue of the certificates shall also be notified. The facts concerning the intervention shall be reported to the Organization.

(e) The Port State authority concerned shall notify all relevant information about the ship to the authorities of the next port of call, in addition to parties mentioned in paragraph (d) of this Regulation, if it is unable to take action as specified in paragraphs (c) and (d) of this Regulation or if the ship has been allowed to proceed to the next port of call.

(f) When exercising control under this Regulation all possible efforts shall be made to avoid a ship being unduly detained or delayed. If a ship is thereby unduly detained or delayed it shall be entitled to compensation for any loss or damage suffered.

CHAPTER II-1

CONSTRUCTION - SUBDIVISION AND STABILITY,
MACHINERY AND ELECTRICAL INSTALLATIONS

PART A - GENERAL

Regulation 1

Application

The following sub-paragraphs are added to the existing text of paragraph (b):

- (iii) Notwithstanding the provisions of sub-paragraph (ii) of this paragraph and sub-paragraph (a)(iii) of this Regulation, for the purposes of paragraph (d) of Regulation 29 of this Chapter, a new tanker means a tanker:
- (1) for which the building contract is placed after 1 June 1979; or
 - (2) in the absence of a building contract, the keel of which is laid, or which is at a similar stage of construction after 1 January 1980; or
 - (3) the delivery of which is after 1 June 1982; or
 - (4) which has undergone an alteration or modification of a major character:
 - (a) for which the contract is placed after 1 June 1979; or
 - (b) in the absence of a contract, the construction work of which is begun after 1 January 1980; or
 - (c) which is completed after 1 June 1982.
- (iv) For the purposes of paragraph (d) of Regulation 29 of this Chapter, an existing tanker is a tanker which is not a new tanker as defined in sub-paragraph (iii) of this paragraph.
- (v) For the purposes of sub-paragraph (iii) of this paragraph, conversion of an existing tanker of 20,000 metric tons deadweight and upwards to meet the requirements of the present Protocol or

the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973, shall not be deemed to constitute an alteration or modification of a major character.

Regulation 2

Definitions

The following paragraphs are added to the existing text:

(k) The remote steering gear control system is the means by which ~~rudder movement orders~~ are transmitted from the navigating bridge to the steering gear power unit controls.

(l) The main steering gear is the machinery, the steering gear power units, if any, and ancillary equipment and the means of applying torque to the rudder stock (e.g. tiller or quadrant) necessary for effecting movement of the rudder for the purpose of steering the ship under normal service conditions.

(m) The steering gear power unit is:

- (i) in the case of electric steering gear, an electric motor and its associated electrical equipment;
- (ii) in the case of electro-hydraulic steering gear, an electric motor and its associated electrical equipment and connected pump;
- (iii) in the case of other hydraulic steering gear, a driving engine and connected pump.

(n) The auxiliary steering gear is that equipment which is provided for effecting movement of the rudder for the purpose of steering the ship in the event of failure of the main steering gear.

PART C - MACHINERY AND ELECTRICAL INSTALLATIONS

Regulation 29

Steering Gear

The following paragraph is added to the existing text:

(d) Tankers only

- (i) The following shall apply to every new tanker of 10,000 tons gross tonnage and upwards and, not later than two years from the date of entry into force of the present Protocol, to every existing tanker of 10,000 tons gross tonnage and upwards:
- (1) two remote steering gear control systems shall be provided, each of which shall be operable separately from the navigating bridge. This does not require duplication of the steering wheel or steering lever. In the event of failure of the remote steering gear control system in operation, the other system shall be capable of being brought into immediate operation from a position on the navigating bridge. Each remote steering gear control system, if electric, shall be served by its own separate circuit supplied from the steering gear power circuit from a point within the steering gear compartment. In the event of failure of electrical power supply to a remote steering gear control system an alarm shall be given on the navigating bridge. The alarms required in this sub-paragraph shall be both audible and visual and situated in a position on the navigating bridge where they can be readily observed;
 - (2) control of the main steering gear shall also be provided in the steering gear compartment;
 - (3) means shall be provided in the steering gear compartment to disconnect the remote steering gear control system from the power circuit;
 - (4) a means of communication shall be provided between the navigating bridge and the steering gear compartment;

- (5) the exact angular position of the rudder shall be indicated on the navigating bridge. The rudder angle indication shall be independent of the remote steering gear control system; and
 - (6) the angular position of the rudder shall be recognizable in the steering gear compartment.
- (ii) In every new tanker of 10,000 tons gross tonnage and upwards, in addition to the requirements of paragraph (a) and sub-paragraph (d)(i) of this Regulation, the following shall apply:
- (1) the main steering gear shall comprise two or more identical power units and it shall be capable of operating the rudder as required by sub-paragraph (d)(ii)(2) of this Regulation while operating with one or more power units. As far as reasonable and practicable, the main steering gear shall be so arranged that a single failure in its piping or in one of the power units will not impair the integrity of the remaining part of the steering gear. All mechanical couplings which are part of the steering gear and the mechanical connexion with any remote steering gear control system, if any, shall be of sound and reliable construction to the satisfaction of the Administration;
 - (2) the main steering gear shall, with the ship at its deepest sea-going draught, be capable of putting the rudder over from 35 degrees on one side to 35 degrees on the other side with the ship running ahead at maximum service speed. The rudder shall be capable of being put over from 35 degrees on either side to 30 degrees on the other side in not more than 28 seconds, under the same conditions;
 - (3) the main steering gear shall be operated by power where necessary to fulfil the requirements of sub-paragraph (d)(ii)(2) of this Regulation;

- (4) the main steering gear power units shall be arranged to start automatically when power is restored after a power failure;
- (5) in the event of failure of any of the steering gear power units an alarm shall be given on the navigating bridge. Every steering gear power unit shall be capable of being brought into operation either automatically or manually from a position on the navigating bridge; and
- (6) an alternative power supply, at least sufficient to supply a steering gear power unit so as to enable it to move the rudder as specified below, and also to supply its associated remote steering gear control system and the rudder angle indicator, shall be provided, automatically, within 45 seconds, either from the emergency source of electrical power, or from another independent source of power located in the steering gear compartment. This independent source of power shall be used only for this purpose and shall have a capacity sufficient for half an hour of continuous operation. The steering gear power unit, when being supplied by the alternative power supply, shall at least be capable of putting the rudder over from 15 degrees on one side to 15 degrees on the other side in not more than 60 seconds with the ship at its deepest sea-going draught while running at one half of its maximum service speed ahead or 7 knots, whichever is the greater.

CHAPTER II-2

CONSTRUCTION - FIRE PROTECTION, FIRE DETECTION
AND FIRE EXTINCTION

PART A - GENERAL

Regulation 1

Application

The following sub-paragraphs are added to the existing text of paragraph (a):

- (iv) Notwithstanding the provisions of sub-paragraphs (ii) and (iii) of this paragraph, for the purposes of paragraph (a)(ii) of Regulation 55 and of Regulation 60 of this Chapter, a new tanker means a tanker:
- (1) for which the building contract is placed after 1 June 1979; or
 - or
 - (2) in the absence of a building contract, the keel of which is laid, or which is at a similar stage of construction after 1 January 1980; or
 - (3) the delivery of which is after 1 June 1982; or
 - (4) which has undergone an alteration or modification of a major character:
 - (a) for which the contract is placed after 1 June 1979; or
 - (b) in the absence of a contract, the construction work of which is begun after 1 January 1980; or
 - (c) which is completed after 1 June 1982.
- (v) For the purposes of paragraph (a)(ii) of Regulation 55 and of Regulation 60 of this Chapter, an existing tanker is a tanker which is not a new tanker as defined in sub-paragraph (iv) of this paragraph.

- (vi) For the purposes of sub-paragraph (iv) of this paragraph, conversion of an existing tanker of 20,000 metric tons deadweight and upwards to meet the requirements of the present Protocol or the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973 shall not be deemed to constitute an alteration or modification of a major character.

Regulation 3

Definitions

The existing text of paragraph (v) is replaced by the following:

- (v) "Lightweight" means the displacement of a ship in metric tons without cargo, fuel, lubricating oil, ballast water, fresh water and feed water in tanks, consumable stores, and passengers and crew and their effects.

The following paragraph is added to the existing text:

- (x) "Crude oil" means any oil occurring naturally in the earth whether or not treated to render it suitable for transportation and includes:
- (i) crude oil from which certain distillate fractions may have been removed; and
 - (ii) crude oil to which certain distillate fractions may have been added.

PART E - FIRE SAFETY MEASURES FOR TANKERS

Regulation 55

Application

The existing text of this Regulation is replaced by the following:

- (a) Unless expressly provided otherwise:
- (i) this Part shall apply to all new tankers carrying crude oil and petroleum products having a flashpoint not exceeding 60°C (140°F) (closed cup test) as determined by an approved flashpoint apparatus and a Reid vapour pressure which is below

atmospheric pressure and other liquid products having a similar fire hazard; and

(ii) in addition, all ships covered by this Part shall comply with the requirements of Regulations 52, 53 and 54 of Chapter II-2 of the Convention except that fixed gas fire-extinguishing systems for cargo spaces shall not be used for new tankers and for those existing tankers complying with Regulation 60 of this Chapter. For existing tankers not required to comply with Regulation 60, the Administration, in applying the requirements of paragraph (f) of Regulation 52, may accept a froth system capable of discharging froth internally or externally to the tanks. The details of the installation shall be to the satisfaction of the Administration.

(b) Where cargoes other than those referred to in sub-paragraph (a)(i) of this Regulation which introduce additional fire hazards are intended to be carried, additional safety measures shall be required to the satisfaction of the Administration.

(c) Combination carriers shall not carry solid cargoes unless all cargo tanks are empty of oil and gas freed or unless, in each case, the Administration is satisfied with the arrangements provided.

Regulation 60

Cargo Tank Protection

The existing text of this Regulation is replaced by the following:

(a) For new tankers of 20,000 metric tons deadweight and upwards, the protection of the cargo tanks deck area and cargo tanks shall be achieved by a fixed deck froth system and a fixed inert gas system in accordance with the requirements of Regulations 61 and 62 of Chapter II-2 of the Convention except that in lieu of the above installations the Administration, after having given consideration to the ship's arrangement and equipment, may accept other combinations of fixed installations if they afford protection equivalent to the above, in accordance with Regulation 5 of Chapter I of the Convention.

(b) To be considered equivalent, the system proposed in lieu of the deck froth system shall:

- (i) be capable of extinguishing spill fires and also preclude ignition of spilled oil not yet ignited; and
 - (ii) be capable of combating fires in ruptured tanks.
- (c) To be considered equivalent, the system proposed in lieu of the fixed inert gas system shall:
- (i) be capable of preventing dangerous accumulations of explosive mixtures in intact cargo tanks during normal service throughout the ballast voyage and necessary in-tank operations; and
 - (ii) be so designed as to minimize the risk of ignition from the generation of static electricity by the system itself.
- (d) Any existing tanker of 20,000 metric tons deadweight and upwards engaged in the trade of carrying crude oil shall be fitted with an inert gas system, complying with the requirements of paragraph (a) of this Regulation, not later than a date:
- (i) for a tanker of 70,000 metric tons deadweight and upwards, two years after the date of entry into force of the present Protocol; and
 - (ii) for a tanker of less than 70,000 metric tons deadweight, four years after the date of entry into force of the present Protocol, except that for tankers less than 40,000 tons deadweight not fitted with tank washing machines having an individual throughput of greater than 60 cubic metres per hour, the Administration may exempt existing tankers from the requirements of this paragraph, if it would be unreasonable and impracticable to apply these requirements, taking into account the ship's design characteristics.
- (e) Any existing tanker of 40,000 metric tons deadweight and upwards engaged in the trade of carrying oil other than crude oil and any such tanker of 20,000 metric tons deadweight and upwards engaged in the trade of carrying oil other than crude oil fitted with tank washing machines having an individual throughput of greater than 60 cubic metres per hour shall be fitted with an inert gas system, complying with the requirements of paragraph (a) of this Regulation, not later than a date:

- (i) for a tanker of 70,000 metric tons deadweight and upwards, two years after the date of entry into force of the present Protocol; and
 - (ii) for a tanker of less than 70,000 metric tons deadweight, four years after the date of entry into force of the present Protocol.
- (f) Any tanker operating with a cargo tank cleaning procedure using crude oil washing shall be fitted with an inert gas system complying with the requirements of Regulation 62 of Chapter II-2 of the Convention and with fixed tank washing machines.
- (g) All tankers fitted with a fixed inert gas system shall be provided with a closed ullage system.
- (h) Any new tanker of 2,000 tons gross tonnage and upwards not covered by paragraph (a) of this Regulation shall be provided with a froth system, capable of discharging froth internally or externally, to the tanks. The details of such installation shall be to the satisfaction of the Administration.

CHAPTER V

SAFETY OF NAVIGATION

Regulation 12

Shipborne Navigational Equipment

The existing text of paragraph (a) is replaced by the following:

(a) All ships of 1,600 tons gross tonnage and upwards but less than 10,000 tons gross tonnage shall be fitted with at least one radar. All ships of 10,000 tons gross tonnage and upwards shall be fitted with at least two radars, each capable of operating independently of the other. All radars fitted in compliance with this Regulation shall be of a type approved by the Administration and shall conform to operational standards not inferior to those adopted by the Organization. Facilities for plotting radar readings shall be provided on the bridge in those ships.

Regulation 19

Use of the Automatic Pilot

The following paragraph is added to the existing text:

(d) The manual steering shall be tested after prolonged use of the automatic pilot, and before entering areas where navigation demands special caution.

The following new Regulations are added to this Chapter:

Regulation 19-1

Operation of Steering Gear

In areas where navigation demands special caution, ships shall have more than one steering gear power unit in operation when such units are capable of simultaneous operation.

Regulation 19-2

Steering Gear - Testing and Drills

- (a) Within 12 hours before departure, the ship's steering gear shall be checked and tested by the ship's crew. The test procedure shall include, where applicable, the operation of the following:
- (i) the main steering gear;
 - (ii) the auxiliary steering gear;
 - (iii) the remote steering gear control systems;
 - (iv) the steering positions located on the navigating bridge;
 - (v) the emergency power supply;
 - (vi) the rudder angle indicators in relation to the actual position of the rudder;
 - (vii) the remote steering gear control system power failure alarms;
and
 - (viii) the steering gear power unit failure alarms.
- (b) The checks and tests shall include:
- (i) the full movement of the rudder according to the required capabilities of the steering gear;
 - (ii) a visual inspection of the steering gear and its connecting linkage; and
 - (iii) the operation of the means of communication between the navigating bridge and steering gear compartment.
- (c) (i) Simple operating instructions with a block diagram showing the change-over procedures for remote steering gear control systems and steering gear power units shall be permanently displayed on the navigating bridge and in the steering gear compartment.
- (ii) All officers concerned with the operation and/or maintenance of steering gear shall be familiar with the operation of the steering systems fitted on the ship and with the procedures for changing from one system to another.

d) In addition to the routine checks and tests prescribed in paragraphs (a) and (b) of this Regulation, emergency steering drills shall take place at least once every three months in order to practise emergency steering procedures. These drills shall include direct control from within the steering gear compartment, the communications procedure with the navigating bridge and, where applicable, the operation of alternative power supplies.

e) The Administration may waive the requirement to carry out the checks and tests prescribed in paragraphs (a) and (b) of this Regulation for ships which regularly ply on voyages of short duration. Such ships shall carry out these checks and tests at least once every week.

f) The date upon which the checks and tests prescribed in paragraphs (a) and (b) of this Regulation are carried out and the date and details of emergency steering drills carried out under paragraph (d) of this Regulation, shall be recorded in the log book as may be prescribed by the Administration.

APPENDIX

Form of Safety Construction Certificate for Cargo Ships

The following form of Supplement is added to the existing form:

SUPPLEMENT TO THE CARGO SHIP SAFETY CONSTRUCTION CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the
 PROTOCOL OF 1978 RELATING TO THE INTERNATIONAL CONVENTION FOR
 THE SAFETY OF LIFE AT SEA, 1974

Name of Ship	Distinctive Number or Letters	Port of Registry	Deadweight of Ship (metric tons)	Year of Build

Type of ship:

Tanker engaged in the trade of carrying crude oil*

Tanker engaged in the trade of carrying oil other than crude oil*

Tanker engaged in the trade of carrying crude/other oil*

Cargo ship other than a tanker engaged in the trade of carrying oil*

Date of contract for building or alteration or modification of
 a major character

Date on which keel was laid or ship was at a similar stage of
 construction or on which an alteration or modification of
 a major character was commenced

Date of delivery or completion of an alteration or modification
 of a major character

* Delete as appropriate.

This Supplement shall be permanently attached to the Cargo Ship
 Safety Construction Certificate.

THIS IS TO CERTIFY:

That the ship has been surveyed in accordance with Regulation 10 of Chapter I of the Protocol of 1978 Relating to the International Convention for the Safety of Life at Sea, 1974; and

that the survey showed that the condition of the hull, machinery and equipment as defined in the above Regulation was in all respects satisfactory and that the ship complied with the requirements of that Protocol.

This certificate is valid until subject to intermediate survey(s) at intervals of

Issued at
(Place of issue of certificate)

..... 19..
(Signature of duly authorized official issuing the certificate)

(Seal or stamp of the issuing Authority, as appropriate)

INTERMEDIATE SURVEY

This is to certify that at an intermediate survey required by Regulation 10 of Chapter I of the Protocol of 1978 Relating to the International Convention for the Safety of Life at Sea, 1974, this ship was found to comply with the relevant provisions of that Protocol.

Signed.....
(Signature of duly authorized official)

Place.....

Date.....

Next intermediate survey due.....

(Seal or stamp of the Authority, as appropriate)

Signed.....
(Signature of duly authorized official)

Place.....

Date.....

Next intermediate survey due.....

(Seal or stamp of the Authority, as appropriate)

Signed.....
(Signature of duly authorized official)

Place.....

Date.....

Next intermediate survey due.....

(Seal or stamp of the Authority, as appropriate)

Signed.....
(Signature of duly authorized official)

Place.....

Date.....

(Seal or stamp of the Authority, as appropriate)

Form of Safety Equipment Certificate for Cargo Ships

The following form of Supplement is added to the existing form:

SUPPLEMENT TO THE CARGO SHIP SAFETY EQUIPMENT CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the
 PROTOCOL OF 1978 RELATING TO THE INTERNATIONAL CONVENTION FOR
 THE SAFETY OF LIFE AT SEA, 1974

Name of Ship	Distinctive Number or Letters	Port of Registry	Deadweight of Ship (metric tons)	Year of Build

Type of ship:

Tanker engaged in the trade of carrying crude oil*

Tanker engaged in the trade of carrying oil other than crude oil*

Tanker engaged in the trade of carrying crude/other oil*

Cargo ship other than a tanker engaged in the trade of carrying oil*

Date of contract for building or alteration or modification of a major character

Date on which keel was laid or ship was at a similar stage of construction or on which an alteration or modification of a major character was commenced

Date of delivery or completion of an alteration or modification of a major character

* Delete as appropriate.

This Supplement shall be permanently attached to the Cargo Ship Safety Equipment Certificate.

THIS IS TO CERTIFY:

That the ship has been surveyed in accordance with Regulation 8 of Chapter I of the Protocol of 1978 Relating to the International Convention for the Safety of Life at Sea, 1974; and

that the survey showed that the condition of the safety equipment as defined in the above Regulation was in all respects satisfactory and that the ship complied with the requirements of that Protocol.

This certificate is valid until subject to intermediate survey(s) at intervals of

Issued at
(Place of issue of certificate)

..... 19..
(Signature of duly authorized official issuing the certificate)

(Seal or stamp of the issuing Authority, as appropriate)

INTERMEDIATE SURVEY

This is to certify that at an intermediate survey required by Regulation 8 of Chapter I of the Protocol of 1978 Relating to the International Convention for the Safety of Life at Sea, 1974, the ship was found to comply with the relevant provisions of that Protocol.

Signed
(Signature of duly authorized official)

Place

Date

Next intermediate survey due

(Seal or stamp of the Authority, as appropriate)

Signed
(Signature of duly authorized official)

Place

Date

(Seal or stamp of the Authority, as appropriate)

Under the provisions of Regulation 14 of Chapter I of the Protocol the validity of this Certificate is extended until

.....

Signed
(Signature of duly authorized official)

Place

Date

(Seal or stamp of the Authority, as appropriate)

RESOLUTION MSC.1(XLV)
adopted on 20 November 1981

**ADOPTION OF AMENDMENTS TO THE
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT
SEA, 1974**

THE MARITIME SAFETY COMMITTEE,

NOTING Article VIII(b) of the International Convention for the Safety of Life at Sea, 1974, hereafter referred to as "the Convention", concerning the procedure for amending the Annex to the Convention, other than the provisions of Chapter I thereof,

NOTING FURTHER the functions which the Convention confers upon the Maritime Safety Committee for the consideration and adoption of amendments to the Convention,

HAVING CONSIDERED at its forty-fifth session amendments to the Convention proposed and circulated in accordance with Article VIII(b)(i) thereof,

1 ADOPTS in accordance with Article VIII(b)(iv) of the Convention amendments to Chapters II-1, II-2, III, IV, V and VI of the Convention, the texts of which are given in the Annex to the present resolution;

2 DETERMINES in accordance with Article VIII(b)(vi)(2)(bb) of the Convention that all of the above-mentioned amendments shall be deemed to have been accepted unless, prior to 1 March 1984, more than one third of Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;

3 INVITES Contracting Governments to note that in accordance with Article VIII(b)(vii)(2) of the Convention the amendments, upon their acceptance in accordance with paragraph 2 above, shall enter into force on 1 September 1984;

4 REQUESTS the Secretary-General in conformity with Article VIII(b)(v) of the Convention to transmit certified copies of the present resolution and the texts of the amendments contained in the Annex to all Contracting Governments to the International Convention for the Safety of Life at Sea, 1974;

5 FURTHER REQUESTS the Secretary-General to transmit copies of the resolution and its Annex to Members of the Organization which are not Contracting Governments to the Convention.

CHAPTER II-1**CONSTRUCTION – SUBDIVISION AND STABILITY,
MACHINERY AND ELECTRICAL INSTALLATIONS**

The existing text of Chapter II-1 is replaced by the following:

PART A – GENERAL**Regulation 1***Application*

- 1.1 Unless expressly provided otherwise, this Chapter shall apply to ships the keels of which are laid or which are at a similar stage of construction on or after 1 September 1984.
- 1.2 For the purpose of this Chapter, the term “a similar stage of construction” means the stage at which:
- .1 construction identifiable with a specific ship begins; and
 - .2 assembly of that ship has commenced comprising at least 50 tonnes or one per cent of the estimated mass of all structural material, whichever is less.
- 1.3 For the purpose of this Chapter:
- .1 the expression “ships constructed” means “ships the keels of which are laid or which are at a similar stage of construction”;
 - .2 the expression “all ships” means “ships constructed before, on or after 1 September 1984”;
 - .3 a cargo ship, whenever built, which is converted to a passenger ship shall be treated as a passenger ship constructed on the date on which such a conversion commences.
- 2 Unless expressly provided otherwise:
- .1 for ships constructed before 1 September 1984, the Administration shall ensure that subject to the provisions of paragraph 2.2 the requirements which are applicable under Chapter II-1 of the International Convention for the Safety of Life at Sea, 1974*, to new or existing ships as defined in that Chapter are complied with;

* The text as adopted by the International Conference on Safety of Life at Sea, 1974.

- .2 for tankers constructed before 1 September 1984, the Administration shall ensure that the requirements which are applicable under Chapter II-1 of the Annex to the Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974, as amended in 1981 to new or existing ships as defined in that Chapter are complied with.

3 All ships which undergo repairs, alterations, modifications and outfitting related thereto shall continue to comply with at least the requirements previously applicable to these ships. Such ships if constructed before 1 September 1984 shall, as a rule, comply with the requirements for ships constructed on or after that date to at least the same extent as they did before undergoing such repairs, alterations, modifications or outfitting. Repairs, alterations and modifications of a major character and outfitting related thereto shall meet the requirements for ships constructed on or after 1 September 1984 in so far as the Administration deems reasonable and practicable.

4 The Administration of a State may, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of any specific requirements of this Chapter unreasonable or unnecessary, exempt from those requirements individual ships or classes of ships entitled to fly the flag of that State which, in the course of their voyage, do not proceed more than 20 miles from the nearest land.

5 Any passenger ship which is permitted under Regulation III/27(c) to carry a number of persons in excess of the lifeboat capacity provided, shall comply with the special standards of subdivision set out in Regulation 6.5, and the associated special provisions regarding permeability in Regulation 5.4, unless the Administration is satisfied that, having regard to the nature and conditions of the voyage, compliance with the other provisions of the Regulations of this Chapter and Chapter II-2 is sufficient.

6 In the case of passenger ships which are employed in special trades for the carriage of large numbers of special trade passengers, such as the pilgrim trade, the Administration of the State whose flag such ships are entitled to fly, if satisfied that it is impracticable to enforce compliance with the requirements of this Chapter, may exempt such ships from those requirements, provided that they comply fully with the provisions of:

- .1 the Rules annexed to the Special Trade Passenger Ships Agreement, 1971; and
- .2 the Rules annexed to the Protocol on Space Requirements for Special Trade Passenger Ships, 1973.

Regulation 2

Definitions

For the purpose of this Chapter, unless expressly provided otherwise:

1.1 "Subdivision load line" is a water-line used in determining the subdivision of the ship.

1.2 "Deepest subdivision load line" is the water-line which corresponds to the greatest draught permitted by the subdivision requirements which are applicable.

2 "Length of the ship" is the length measured between perpendiculars taken at the extremities of the deepest subdivision load line.

3 "Breadth of the ship" is the extreme width from outside of frame to outside of frame at or below the deepest subdivision load line.

4 "Draught" is the vertical distance from the moulded base line amidships to the subdivision load line in question.

5 "Bulkhead deck" is the uppermost deck up to which the transverse watertight bulkheads are carried.

6 "Margin line" is a line drawn at least 76 mm below the upper surface of the bulkhead deck at side.

7 "Permeability of a space" is the percentage of that space which can be occupied by water. The volume of a space which extends above the margin line shall be measured only to the height of that line.

8 "Machinery space" is to be taken as extending from the moulded base line to the margin line and between the extreme main transverse watertight bulkheads, bounding the spaces containing the main and auxiliary propulsion machinery, boilers serving the needs of propulsion, and all permanent coal bunkers. In the case of unusual arrangements, the Administration may define the limits of the machinery spaces.

9 "Passenger spaces" are those spaces which are provided for the accommodation and use of passengers, excluding baggage, store, provision and mail rooms. For the purposes of Regulations 5 and 6, spaces provided below the margin line for the accommodation and use of the crew shall be regarded as passenger spaces.

10 In all cases volumes and areas shall be calculated to moulded lines.

11 "Weathertight" means that in any sea conditions water will not penetrate into the ship.

Regulation 3

Definitions relating to Parts C, D and E

For the purpose of Parts C, D and E, unless expressly provided otherwise:

1 "Steering gear control system" is the equipment by which orders are transmitted from the navigating bridge to the steering gear power units. Steering gear control systems comprise transmitters, receivers, hydraulic control pumps and their associated motors, motor controllers, piping and cables.

2 “Main steering gear” is the machinery, rudder actuators, steering gear power units, if any, and ancillary equipment and the means of applying torque to the rudder stock (e.g. tiller or quadrant) necessary for effecting movement of the rudder for the purpose of steering the ship under normal service conditions.

3 “Steering gear power unit” is:

- .1 in the case of electric steering gear, an electric motor and its associated electrical equipment;
- .2 in the case of electrohydraulic steering gear, an electric motor and its associated electrical equipment and connected pump;
- .3 in the case of other hydraulic steering gear, a driving engine and connected pump.

4 “Auxiliary steering gear” is the equipment other than any part of the main steering gear necessary to steer the ship in the event of failure of the main steering gear but not including the tiller, quadrant or components serving the same purpose.

5 “Normal operational and habitable condition” is a condition under which the ship as a whole, the machinery, services, means and aids ensuring propulsion, ability to steer, safe navigation, fire and flooding safety, internal and external communications and signals, means of escape, and emergency boat winches, as well as the designed comfortable conditions of habitability are in working order and functioning normally.

6 “Emergency condition” is a condition under which any services needed for normal operational and habitable conditions are not in working order due to failure of the main source of electrical power.

7 “Main source of electrical power” is a source intended to supply electrical power to the main switchboard for distribution to all services necessary for maintaining the ship in normal operational and habitable conditions.

8 “Dead ship condition” is the condition under which the main propulsion plant, boilers and auxiliaries are not in operation due to the absence of power.

9 “Main generating station” is the space in which the main source of electrical power is situated.

10 “Main switchboard” is a switchboard which is directly supplied by the main source of electrical power and is intended to distribute electrical energy to the ship’s services.

11 “Emergency switchboard” is a switchboard which in the event of failure of the main electrical power supply system is directly supplied by the emergency source of electrical power or the transitional source of emergency power and is intended to distribute electrical energy to the emergency services.

12 “Emergency source of electrical power” is a source of electrical power, intended to supply the emergency switchboard in the event of failure of the supply from the main source of electrical power.

13 “Power actuating system” is the hydraulic equipment provided for supplying power to turn the rudder stock, comprising a steering gear power unit or units, together with the associated pipes and fittings, and a rudder actuator. The power actuating systems may share common mechanical components, i.e., tiller, quadrant and rudder stock, or components serving the same purpose.

14 “Maximum ahead service speed” is the greatest speed which the ship is designed to maintain in service at sea at the deepest sea-going draught.

15 “Maximum astern speed” is the speed which it is estimated the ship can attain at the designed maximum astern power at the deepest sea-going draught.

16 “Machinery spaces” are all machinery spaces of category A and all other spaces containing propelling machinery, boilers, oil fuel units, steam and internal combustion engines, generators and major electrical machinery, oil filling stations, refrigerating, stabilizing, ventilation and air conditioning machinery, and similar spaces, and trunks to such spaces.

17 “Machinery spaces of category A” are those spaces and trunks to such spaces which contain:

- .1 internal combustion machinery used for main propulsion; or
- .2 internal combustion machinery used for purposes other than main propulsion where such machinery has in the aggregate a total power output of not less than 375 kW; or
- .3 any oil-fired boiler or oil fuel unit.

18 “Control stations” are those spaces in which the ship’s radio or main navigating equipment or the emergency source of power is located or where the fire recording or fire control equipment is centralized.

19 “Chemical tanker” is a cargo ship constructed or adapted and used for the carriage in bulk of any liquid product listed in the summary of minimum requirements of the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk to be adopted by the Maritime Safety Committee under the authority of the Assembly of the Organization conferred by resolution A.490(XII), hereinafter referred to as “Bulk Chemical Code”, as may be amended by the Organization, or any liquid substance listed or provisionally assessed as category A, B or C in Appendix II to Annex II of the International Convention for the Prevention of Pollution from Ships in force.

20 “Gas carrier” is a cargo ship constructed or adapted and used for the carriage in bulk of any liquefied gas or other substance listed in Chapter XIX of the Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk adopted by the Assembly of the Organization by resolution

A.328(IX), hereinafter referred to as “Gas Carrier Code” as has been or may be amended by the Organization.

21 “Deadweight” is the difference in tonnes between the displacement of a ship in water of a specific gravity of 1.025 at the load water-line corresponding to the assigned summer freeboard and the lightweight of the ship.

22 “Lightweight” is the displacement of a ship in tonnes without cargo, fuel, lubricating oil, ballast water, fresh water and feedwater in tanks, consumable stores, and passengers and crew and their effects.

PART B – SUBDIVISION AND STABILITY*

(Part B applies to passenger ships and to cargo ships, as indicated in the regulations)

Regulation 4

Floodable length in passenger ships

1 The floodable length at any point of the length of a ship shall be determined by a method of calculation which takes into consideration the form, draught and other characteristics of the ship in question.

2 In a ship with a continuous bulkhead deck, the floodable length at a given point is the maximum portion of the length of the ship, having its centre at the point in question, which can be flooded under the definite assumptions set forth in Regulation 5 without the ship being submerged beyond the margin line.

3.1 In the case of a ship not having a continuous bulkhead deck, the floodable length at any point may be determined to an assumed continuous margin line which at no point is less than 76 mm below the top of the deck (at side) to which the bulkheads concerned and the shell are carried watertight.

3.2 Where a portion of an assumed margin line is appreciably below the deck to which bulkheads are carried, the Administration may permit a limited relaxation in the watertightness of those portions of the bulkheads which are above the margin line and immediately under the higher deck.

* Instead of the requirements in this Part, the Regulations on Subdivision and Stability of Passenger Ships as an Equivalent to Part B of Chapter II of the International Convention for the Safety of Life at Sea, 1960, adopted by the Organization by resolution A.265(VIII), may be used, if applied in their entirety.

Regulation 5*Permeability in passenger ships*

1.1 The definite assumptions referred to in Regulation 4 relate to the permeabilities of the spaces below the margin line.

1.2 In determining the floodable length, a uniform average permeability shall be used throughout the whole length of each of the following portions of the ship below the margin line:

- .1 the machinery space as defined in Regulation 2;
- .2 the portion forward of the machinery space; and
- .3 the portion abaft the machinery space.

2.1 The uniform average permeability throughout the machinery space shall be determined from the formula:

$$85 + 10 \left(\frac{a - c}{v} \right)$$

where:

a = the volume of the passenger spaces, as defined in Regulation 2, which are situated below the margin line within the limits of the machinery space;

c = the volume of between deck spaces below the margin line within the limits of the machinery space which are appropriated to cargo, coal or stores;

v = the whole volume of the machinery space below the margin line.

2.2 Where it is shown to the satisfaction of the Administration that the average permeability as determined by detailed calculation is less than that given by the formula, the detailed calculated value may be used. For the purpose of such calculation, the permeability of passenger spaces, as defined in Regulation 2, shall be taken as 95, that of all cargo, coal and store spaces as 60, and that of double bottom, oil fuel and other tanks at such value as may be approved in each case.

3 Except as provided in paragraph 4, the uniform average permeability throughout the portion of the ship forward of or abaft the machinery space shall be determined from the formula:

$$63 + 35 \frac{a}{v}$$

where:

a = the volume of the passenger spaces, as defined in Regulation 2, which are situated below the margin line, forward of or abaft the machinery space; and

v = the whole volume of the portion of the ship below the margin line forward of or abaft the machinery space.

4.1 In the case of a ship which is permitted under Regulation III/27(c) to carry a number of persons on board in excess of the lifeboat capacity provided, and is required under Regulation 1.5 to comply with special provisions, the uniform average permeability throughout the portion of the ship forward of or abaft the machinery space shall be determined from the formula:

$$95 - 35 \frac{b}{v}$$

where:

b = the volume of the spaces below the margin line and above the tops of floors, inner bottom, or peak tanks, as the case may be, which are appropriated to and used as cargo spaces, coal or oil fuel bunkers, store-rooms, baggage and mail rooms, chain lockers and fresh water tanks, forward of or abaft the machinery space; and

v = the whole volume of the portion of the ship below the margin line forward of or abaft the machinery space.

4.2 In the case of ships engaged on services where the cargo holds are not generally occupied by any substantial quantities of cargo, no part of the cargo spaces is to be included in calculating "b".

5 In the case of unusual arrangements the Administration may allow, or require, a detailed calculation of average permeability for the portions forward of or abaft the machinery space. For the purpose of such calculation, the permeability of passenger spaces as defined in Regulation 2 shall be taken as 95, that of spaces containing machinery as 85, that of all cargo, coal and store spaces as 60, and that of double bottom, oil fuel and other tanks at such value as may be approved in each case.

6 Where a between deck compartment between two watertight transverse bulkheads contains any passenger or crew space, the whole of that compartment, less any space completely enclosed within permanent steel bulkheads and appropriated to other purposes, shall be regarded as passenger space. Where, however, the passenger or crew space in question is completely enclosed within permanent steel bulkheads, only the space so enclosed need be considered as passenger space.

Regulation 6

Permissible length of compartments in passenger ships

1 Ships shall be as efficiently subdivided as is possible having regard to the nature of the service for which they are intended. The degree of subdivision shall vary with the length of the ship and with the service, in such manner that the highest degree of subdivision corresponds with the ships of greatest length, primarily engaged in the carriage of passengers.

2 Factor of subdivision

2.1 The maximum permissible length of a compartment having its centre at any point in the ship's length is obtained from the floodable length by multiplying the latter by an appropriate factor called the factor of subdivision.

2.2 The factor of subdivision shall depend on the length of the ship, and for a given length shall vary according to the nature of the service for which the ship is intended. It shall decrease in a regular and continuous manner:

- .1 as the length of the ship increases, and
- .2 from a factor A, applicable to ships primarily engaged in the carriage of cargo, to a factor B, applicable to ships primarily engaged in the carriage of passengers.

2.3 The variations of the factors A and B shall be expressed by the following formulae (1) and (2) where L is the length of the ship as defined in Regulation 2:

$$A = \frac{58.2}{L-60} + .18 \quad (L = 131 \text{ m and upwards}) \dots\dots\dots (1)$$

$$B = \frac{30.3}{L-42} + .18 \quad (L = 79 \text{ m and upwards}) \dots\dots\dots (2)$$

3. Criterion of service

3.1 For a ship of given length the appropriate factor of subdivision shall be determined by the criterion of service numeral (hereinafter called the criterion numeral) as given by the following formulae (3) and (4) where:

C_s = the criterion numeral;

L = the length of the ship (metres), as defined in Regulation 2;

M = the volume of the machinery space (cubic metres), as defined in Regulation 2; with the addition thereto of the volume of any permanent oil fuel bunkers which may be situated above the inner bottom and forward of or abaft the machinery space;

P = the whole volume of the passenger spaces below the margin line (cubic metres), as defined in Regulation 2;

V = the whole volume of the ship below the margin line (cubic metres);

P_1 = KN where:

N = the number of passengers for which the ship is to be certified, and

$$K = 0.056L$$

3.2 Where the value of KN is greater than the sum of P and the whole volume of the actual passenger spaces above the margin line, the figure to be taken as P_1 is that sum or two-thirds KN, whichever is the greater.

When P_1 is greater than P –

$$C_s = 72 \frac{M + 2P_1}{V + P_1 - P} \dots\dots\dots (3)$$

and in other cases –

$$C_s = 72 \frac{M + 2P}{V} \dots\dots\dots (4)$$

3.3 For ships not having a continuous bulkhead deck the volumes are to be taken up to the actual margin lines used in determining the floodable lengths.

4 *Rules for subdivision of ships other than those covered by paragraph 5*

4.1 The subdivision abaft the forepeak of ships of 131 m in length and upwards having a criterion numeral of 23 or less shall be governed by the factor A given by formula (1); of those having a criterion numeral of 123 or more by the factor B given by formula (2); and of those having a criterion numeral between 23 and 123 by the factor F obtained by linear interpolation between the factors A and B, using the formula:

$$F = A - \frac{(A - B)(C_s - 23)}{100} \dots\dots\dots (5)$$

Nevertheless, where the criterion numeral is equal to 45 or more and simultaneously the computed factor of subdivision as given by formula (5) is .65 or less, but more than .50, the subdivision abaft the forepeak shall be governed by the factor .50.

4.2 Where the factor F is less than .40 and it is shown to the satisfaction of the Administration to be impracticable to comply with the factor F in a machinery compartment of the ship, the subdivision of such compartment may be governed by an increased factor, which, however, shall not exceed .40.

4.3 The subdivision abaft the forepeak of ships of less than 131 m but not less than 79 m in length having a criterion numeral equal to S, where:

$$S = \frac{3,574 - 25L}{13}$$

shall be governed by the factor unity; of those having a criterion numeral of 123 or more by the factor B given by the formula (2); of those having a criterion numeral between S and 123 by the factor F obtained by linear interpolation between unity and the factor B using the formula:

$$F = 1 - \frac{(1 - B)(C_s - S)}{123 - S} \dots\dots\dots (6)$$

4.4 The subdivision abaft the forepeak of ships of less than 131 m but not less than 79 m in length and having a criterion numeral less than S, and of ships of less than 79 m in length shall be governed by the factor unity, unless, in either case, it is shown to the satisfaction of the Administration to be

impracticable to comply with this factor in any part of the ship, in which case the Administration may allow such relaxation as may appear to be justified, having regard to all the circumstances.

4.5 The provisions of paragraph 4.4 shall apply also to ships of whatever length, which are to be certified to carry a number of passengers exceeding 12 but not exceeding –

$$\frac{L^2}{650}, \text{ or } 50, \text{ whichever is the less.}$$

5 *Special standards of subdivision for ships which are permitted under Regulation III/27(c) to carry a number of persons on board in excess of the lifeboat capacity provided and are required under Regulation 1.5 to comply with special provisions*

5.1.1 In the case of ships primarily engaged in the carriage of passengers, the subdivision abaft the forepeak shall be governed by a factor of .50 or by the factor determined according to paragraphs 3 and 4, if less than .50.

5.1.2 In the case of such ships of less than 91.5 m in length, if the Administration is satisfied that compliance with such factor would be impracticable in a compartment, it may allow the length of that compartment to be governed by a higher factor provided the factor used is the lowest that is practicable and reasonable in the circumstances.

5.2 Where, in the case of any ship whether of less than 91.5 m or not, the necessity of carrying appreciable quantities of cargo makes it impracticable to require the subdivision abaft the forepeak to be governed by a factor not exceeding .50, the standard of subdivision to be applied shall be determined in accordance with the following sub-paragraphs .1 to .5, subject to the condition that where the Administration is satisfied that insistence on strict compliance in any respect would be unreasonable, it may allow such alternative arrangement of the watertight bulkheads as appears to be justified on merits and will not diminish the general effectiveness of the subdivision.

- .1 The provisions of paragraph 3 relating to the criterion numeral shall apply with the exception that in calculating the value of P_1 for berthed passengers K is to have the value defined in paragraph 3, or 3.5 m^3 , whichever is the greater, and for unberthed passengers K is to have the value 3.5 m^3 .
- .2 The factor B in paragraph 2 shall be replaced by the factor BB determined by the following formula:

$$BB = \frac{17.6}{L - 33} + .20 \text{ (L = 55 m and upwards)}$$

- .3 The subdivision abaft the forepeak of ships of 131 m in length and upwards having a criterion numeral of 23 or less shall be governed by the factor A given by formula (1) in paragraph 2.3; of those having a criterion numeral of 123 or more by the factor BB given by the formula in paragraph 5.2.2; and of those having a criterion numeral between 23 and 123 by the factor F obtained by linear

interpolation between the factors A and BB, using the formula:

$$F = A - \frac{(A - BB)(C_s - 23)}{100}$$

except that if the factor F so obtained is less than .50 the factor to be used shall be either .50 or the factor calculated according to the provisions of paragraph 4.1, whichever is the smaller.

- .4 The subdivision abaft the forepeak of ships of less than 131 m but not less than 55 m in length having a criterion numeral equal to S_1 where –

$$S_1 = \frac{3,712 - 25L}{19}$$

shall be governed by the factor unity; of those having a criterion numeral of 123 or more by the factor BB given by the formula in paragraph 5.2.2; of those having a criterion numeral between S_1 and 123 by the factor F obtained by linear interpolation between unity and the factor BB using the formula:

$$F = 1 - \frac{(1 - BB)(C_s - S_1)}{123 - S_1}$$

except that in either of the two latter cases if the factor so obtained is less than .50 the subdivision may be governed by a factor not exceeding .50.

- .5 The subdivision abaft the forepeak of ships of less than 131 m but not less than 55 m in length and having a criterion numeral less than S_1 and of ships of less than 55 m in length shall be governed by the factor unity, unless it is shown to the satisfaction of the Administration to be impracticable to comply with this factor in particular compartments, in which event the Administration may allow such relaxations in respect of those compartments as appear to be justified, having regard to all the circumstances, provided that the aftermost compartment and as many as possible of the forward compartments (between the forepeak and the after end of the machinery space) shall be kept within the floodable length.

Regulation 7

Special requirements concerning passenger ship subdivision

1 Where in a portion or portions of a ship the watertight bulkheads are carried to a higher deck than in the remainder of the ship and it is desired to take advantage of this higher extension of the bulkheads in calculating the floodable length, separate margin lines may be used for each such portion of the ship provided that:

- .1 the sides of the ship are extended throughout the ship's length to the deck corresponding to the upper margin line and all openings in the

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shell plating below this deck throughout the length of the ship are treated as being below a margin line, for the purposes of Regulation 17; and

- .2 the two compartments adjacent to the “step” in the bulkhead deck are each within the permissible length corresponding to their respective margin lines, and, in addition, their combined length does not exceed twice the permissible length based on the lower margin line.

2.1 A compartment may exceed the permissible length determined by the rules of Regulation 6 provided the combined length of each pair of adjacent compartments to which the compartment in question is common does not exceed either the floodable length or twice the permissible length, whichever is the less.

2.2 If one of the two adjacent compartments is situated inside the machinery space, and the second is situated outside the machinery space, and the average permeability of the portion of the ship in which the second is situated differs from that of the machinery space, the combined length of the two compartments shall be adjusted to the mean average permeability of the two portions of the ship in which the compartments are situated.

2.3 Where the two adjacent compartments have different factors of subdivision, the combined length of the two compartments shall be determined proportionately.

3 In ships of 100 m in length and upwards, one of the main transverse bulkheads abaft the forepeak shall be fitted at a distance from the forward perpendicular which is not greater than the permissible length.

4 A main transverse bulkhead may be recessed provided that all parts of the recess lie inboard of vertical surfaces on both sides of the ship, situated at a distance from the shell plating equal to one-fifth the breadth of the ship, as defined in Regulation 2, and measured at right angles to the centre line at the level of the deepest subdivision load line. Any part of a recess which lies outside these limits shall be dealt with as a step in accordance with paragraph 5.

5 A main transverse bulkhead may be stepped provided that it meets one of the following conditions:

- .1 the combined length of the two compartments, separated by the bulkhead in question, does not exceed either 90 per cent of the floodable length or twice the permissible length, except that, in ships having a factor of subdivision greater than .9, the combined length of the two compartments in question shall not exceed the permissible length;
- .2 additional subdivision is provided in way of the step to maintain the same measure of safety as that secured by a plane bulkhead;
- .3 the compartment over which the step extends does not exceed the permissible length corresponding to a margin line taken 76 mm below the step.

6 Where a main transverse bulkhead is recessed or stepped, an equivalent plane bulkhead shall be used in determining the subdivision.

7 If the distance between two adjacent main transverse bulkheads, or their equivalent plane bulkheads, or the distance between the transverse planes passing through the nearest stepped portions of the bulkheads, is less than 3.0 m plus 3 per cent of the length of the ship, or 11.0 m whichever is the less, only one of these bulkheads shall be regarded as forming part of the subdivision of the ship in accordance with the provisions of Regulation 6.

8 Where a main transverse watertight compartment contains local subdivision and it can be shown to the satisfaction of the Administration that, after any assumed side damage extending over a length of 3.0 m plus 3 per cent of the length of the ship, or 11.0 m whichever is the less, the whole volume of the main compartment will not be flooded, a proportionate allowance may be made in the permissible length otherwise required for such compartment. In such a case the volume of effective buoyancy assumed on the undamaged side shall not be greater than that assumed on the damaged side.

9 Where the required factor of subdivision is .50 or less, the combined length of any two adjacent compartments shall not exceed the floodable length.

Regulation 8

Stability of passenger ships in damaged condition

1.1 Sufficient intact stability shall be provided in all service conditions so as to enable the ship to withstand the final stage of flooding of any one main compartment which is required to be within the floodable length.

1.2 Where two adjacent main compartments are separated by a bulkhead which is stepped under the conditions of Regulation 7.5.1 the intact stability shall be adequate to withstand the flooding of those two adjacent main compartments.

1.3 Where the required factor of subdivision is .50 or less but more than .33 intact stability shall be adequate to withstand the flooding of any two adjacent main compartments.

1.4 Where the required factor of subdivision is .33 or less the intact stability shall be adequate to withstand the flooding of any three adjacent main compartments.

2.1 The requirements of paragraph 1 shall be determined by calculations which are in accordance with paragraphs 3, 4 and 6 and which take into consideration the proportions and design characteristics of the ship and the arrangement and configuration of the damaged compartments. In making these calculations the ship is to be assumed in the worst anticipated service condition as regards stability.

2.2 Where it is proposed to fit decks, inner skins or longitudinal bulkheads of sufficient tightness to seriously restrict the flow of water, the Administration shall be satisfied that proper consideration is given to such restrictions in the calculations.

2.3 In cases where the Administration considers the range of stability in the damaged condition to be doubtful, it may require investigation thereof.

3 For the purpose of making damage stability calculations the volume and surface permeabilities shall be in general as follows:

Spaces	Permeability
Appropriated to cargo, coal or stores	60
Occupied by accommodation	95
Occupied by machinery	85
Intended for liquids	0 or 95*

* Whichever results in the more severe requirements.

Higher surface permeabilities are to be assumed in respect of spaces which, in the vicinity of the damage waterplane, contain no substantial quantity of accommodation or machinery and spaces which are not generally occupied by any substantial quantity of cargo or stores.

4 Assumed extent of damage shall be as follows:

- .1 longitudinal extent: 3.0 m plus 3 per cent of the length of the ship, or 11.0 m whichever is the less. Where the required factor of subdivision is .33 or less the assumed longitudinal extent of damage shall be increased as necessary so as to include any two consecutive main transverse watertight bulkheads;
- .2 transverse extent (measured inboard from the ship's side, at right angles to the centre line at the level of the deepest subdivision load line): a distance of one-fifth of the breadth of the ship, as defined in Regulation 2; and
- .3 vertical extent: from the base line upwards without limit;
- .4 if any damage of lesser extent than that indicated in paragraphs 4.1, 4.2 and 4.3 would result in a more severe condition regarding heel or loss of metacentric height, such damage shall be assumed in the calculations.

5 Unsymmetrical flooding is to be kept to a minimum consistent with efficient arrangements. Where it is necessary to correct large angles of heel, the means adopted shall, where practicable, be self-acting, but in any case where controls to cross-flooding fittings are provided they shall be operable from above the bulkhead deck. These fittings together with their controls as well as the maximum heel before equalization shall be acceptable to the Administration. Where cross-flooding fittings are required the time for equalization shall not exceed 15 minutes. Suitable information concerning the use of cross-flooding fittings shall be supplied to the master of the ship.*

* Reference is made to the Recommendation on a Standard Method for Establishing Compliance with the Requirements for Cross-Flooding Arrangements in Passenger Ships, adopted by the Organization by resolution A.266(VIII).

6 The final conditions of the ship after damage and, in the case of unsymmetrical flooding, after equalization measures have been taken shall be as follows:

- .1 in the case of symmetrical flooding there shall be a positive residual metacentric height of at least 50 mm as calculated by the constant displacement method;
- .2 in the case of unsymmetrical flooding the total heel shall not exceed 7°, except that, in special cases, the Administration may allow additional heel due to the unsymmetrical moment, but in no case shall the final heel exceed 15°;
- .3 in no case shall the margin line be submerged in the final stage of flooding. If it is considered that the margin line may become submerged during an intermediate stage of flooding, the Administration may require such investigations and arrangements as it considers necessary for the safety of the ship.

7 The master of the ship shall be supplied with the data necessary to maintain sufficient intact stability under service conditions to enable the ship to withstand the critical damage. In the case of ships requiring cross-flooding the master of the ship shall be informed of the conditions of stability on which the calculations of heel are based and be warned that excessive heeling might result should the ship sustain damage when in a less favourable condition.

8.1 No relaxation from the requirements for damage stability may be considered by the Administration unless it is shown that the intact metacentric height in any service condition necessary to meet these requirements is excessive for the service intended.

8.2 Relaxations from the requirements for damage stability shall be permitted only in exceptional cases and subject to the condition that the Administration is to be satisfied that the proportions, arrangements and other characteristics of the ship are the most favourable to stability after damage which can practically and reasonably be adopted in the particular circumstances.

Regulation 9

Ballasting of passenger ships

1 Water ballast should not in general be carried in tanks intended for oil fuel. In ships in which it is not practicable to avoid putting water in oil fuel tanks, oily-water separating equipment to the satisfaction of the Administration shall be fitted, or other alternative means, such as discharge to shore facilities, acceptable to the Administration shall be provided for disposing of the oily-water ballast.

2 The provisions of this Regulation are without prejudice to the provisions of the International Convention for the Prevention of Pollution from Ships in force.

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Regulation 10

Peak and machinery space bulkheads, shaft tunnels, etc. in passenger ships

1 A forepeak or collision bulkhead shall be fitted which shall be watertight up to the bulkhead deck. This bulkhead shall be located at a distance from the forward perpendicular of not less than 5 per cent of the length of the ship and not more than 3 m plus 5 per cent of the length of the ship.

2 Where any part of the ship below the water-line extends forward of the forward perpendicular, e.g. a bulbous bow, the distances stipulated in paragraph 1 shall be measured from a point either:

- .1 at the mid-length of such extension; or
- .2 at a distance 1.5 per cent of the length of the ship forward of the forward perpendicular; or
- .3 at a distance 3 m forward of the forward perpendicular;

whichever gives the smallest measurement.

3 Where a long forward superstructure is fitted, the forepeak or collision bulkhead shall be extended weathertight to the deck next above the bulkhead deck. The extension need not be fitted directly above the bulkhead below provided it is located within the limits specified in paragraph 1 or 2 with the exemption permitted by paragraph 4 and the part of the deck which forms the step is made effectively weathertight.

4 Where bow doors are fitted and a sloping loading ramp forms part of the extension of the collision bulkhead above the bulkhead deck the part of the ramp which is more than 2.3 m above the bulkhead deck may extend forward of the limit specified in paragraphs 1 and 2. The ramp shall be weathertight over its complete length.

5 An afterpeak bulkhead, and bulkheads dividing the machinery space, as defined in Regulation 2, from the cargo and passenger spaces forward and aft, shall also be fitted and made watertight up to the bulkhead deck. The afterpeak bulkhead may, however, be stepped below the bulkhead deck, provided the degree of safety of the ship as regards subdivision is not thereby diminished.

6 In all cases stern tubes shall be enclosed in watertight spaces of moderate volume. The stern gland shall be situated in a watertight shaft tunnel or other watertight space separate from the stern tube compartment and of such volume that, if flooded by leakage through the stern gland, the margin line will not be submerged.

Regulation 11

Collision bulkheads in cargo ships

1 For the purpose of this Regulation “freeboard deck”, “length of ship” and “forward perpendicular” have the meanings as defined in the International Convention on Load Lines in force.

2 A collision bulkhead shall be fitted which shall be watertight up to the freeboard deck. This bulkhead shall be located at a distance from the forward perpendicular of not less than 5 per cent of the length of the ship or 10 m, whichever is the less, and, except as may be permitted by the Administration, not more than 8 per cent of the length of the ship.

3 Where any part of the ship below the water-line extends forward of the forward perpendicular, e.g. a bulbous bow, the distances stipulated in paragraph 2 shall be measured from a point either:

- .1 at the mid-length of such extension; or
- .2 at a distance 1.5 per cent of the length of the ship forward of the forward perpendicular; or
- .3 at a distance 3 m forward of the forward perpendicular;

whichever gives the smallest measurement.

4 The bulkhead may have steps or recesses provided they are within the limits prescribed in paragraph 2 or 3. Pipes piercing the collision bulkhead shall be fitted with suitable valves operable from above the freeboard deck and the valve chest shall be secured at the bulkhead inside the forepeak. The valves may be fitted on the after side of the collision bulkhead provided that the valves are readily accessible under all service conditions and the space in which they are located is not a cargo space. All valves shall be of steel, bronze or other approved ductile material. Valves of ordinary cast iron or similar material are not acceptable. No door, manhole, ventilation duct or any other opening shall be fitted in this bulkhead.

5 Where a long forward superstructure is fitted the collision bulkhead shall be extended weathertight to the deck next above the freeboard deck. The extension need not be fitted directly above the bulkhead below provided it is located within the limits prescribed in paragraph 2 or 3 with the exemption permitted by paragraph 6 and the part of the deck which forms the step is made effectively weathertight.

6 Where bow doors are fitted and a sloping loading ramp forms part of the extension of the collision bulkhead above the freeboard deck the part of the ramp which is more than 2.3 m above the freeboard deck may extend forward of the limit specified in paragraph 2 or 3. The ramp shall be weathertight over its complete length.

7 The number of openings in the extension of the collision bulkhead above the freeboard deck shall be restricted to the minimum compatible with the design and normal operation of the ship. All such openings shall be capable of being closed weathertight.

Regulation 12*Double bottoms in passenger ships*

1 A double bottom shall be fitted extending from the forepeak bulkhead to the afterpeak bulkhead as far as this is practicable and compatible with the design and proper working of the ship.

- 1 In ships of 50 m and upwards but less than 61 m in length a double bottom shall be fitted at least from the machinery space to the forepeak bulkhead, or as near thereto as practicable.
- 2 In ships of 61 m and upwards but less than 76 m in length a double bottom shall be fitted at least outside the machinery space, and shall extend to the fore and after peak bulkheads, or as near thereto as practicable.
- 3 In ships of 76 m in length and upwards, a double bottom shall be fitted amidships, and shall extend to the fore and after peak bulkheads, or as near thereto as practicable.

2 Where a double bottom is required to be fitted its depth shall be to the satisfaction of the Administration and the inner bottom shall be continued out to the ship's sides in such a manner as to protect the bottom to the turn of the bilge. Such protection will be deemed satisfactory if the line of intersection of the outer edge of the margin plate with the bilge plating is not lower at any part than a horizontal plane passing through the point of intersection with the frame line amidships of a transverse diagonal line inclined at 25° to the base line and cutting it at a point one-half the ship's moulded breadth from the middle line.

3 Small wells constructed in the double bottom in connexion with drainage arrangements of holds, etc., shall not extend downwards more than necessary. The depth of the well shall in no case be more than the depth less 460 mm of the double bottom at the centre line, nor shall the well extend below the horizontal plane referred to in paragraph 2. A well extending to the outer bottom is, however, permitted at the after end of the shaft tunnel. Other wells (e.g., for lubricating oil under main engines) may be permitted by the Administration if satisfied that the arrangements give protection equivalent to that afforded by a double bottom complying with this Regulation.

4 A double bottom need not be fitted in way of watertight compartments of moderate size used exclusively for the carriage of liquids, provided the safety of the ship, in the event of bottom or side damage, is not, in the opinion of the Administration, thereby impaired.

5 In the case of ships to which the provisions of Regulation 1.5 apply and which are engaged on regular service within the limits of a short international voyage as defined in Regulation III/2, the Administration may permit a double bottom to be dispensed with in any part of the ship which is subdivided by a factor not exceeding .50, if satisfied that the fitting of a double bottom in that part would not be compatible with the design and proper working of the ship.

Regulation 13

*Assigning, marking and recording of subdivision load lines
for passenger ships*

- 1 In order that the required degree of subdivision shall be maintained, a load line corresponding to the approved subdivision draught shall be assigned and marked on the ship's sides. A ship having spaces which are specially adapted for the accommodation of passengers and the carriage of cargo alternatively may, if the owners desire, have one or more additional load lines assigned and marked to correspond with the subdivision draughts which the Administration may approve for the alternative service conditions.
- 2 The subdivision load lines assigned and marked shall be recorded in the Passenger Ship Safety Certificate, and shall be distinguished by the notation C.1 for the principal passenger condition, and C.2, C.3, etc. for the alternative conditions.
- 3 The freeboard corresponding to each of these load lines shall be measured at the same position and from the same deck line as the freeboards determined in accordance with the International Convention on Load Lines in force.
- 4 The freeboard corresponding to each approved subdivision load line and the conditions of service for which it is approved, shall be clearly indicated on the Passenger Ship Safety Certificate.
- 5 In no case shall any subdivision load line mark be placed above the deepest load line in salt water as determined by the strength of the ship or the International Convention on Load Lines in force.
- 6 Whatever may be the position of the subdivision load line marks, a ship shall in no case be loaded so as to submerge the load line mark appropriate to the season and locality as determined in accordance with the International Convention on Load Lines in force.
- 7 A ship shall in no case be so loaded that when it is in salt water the subdivision load line mark appropriate to the particular voyage and condition of service is submerged.

Regulation 14

*Construction and initial testing of watertight bulkheads, etc.,
in passenger ships and cargo ships*

- 1 Each watertight subdivision bulkhead, whether transverse or longitudinal, shall be constructed in such a manner that it shall be capable of supporting, with a proper margin of resistance, the pressure due to the maximum head of water which it might have to sustain in the event of damage to the ship but at least the pressure due to a head of water up to the margin line. The construction of these bulkheads shall be to the satisfaction of the Administration.

- 2.1 Steps and recesses in bulkheads shall be watertight and as strong as the bulkhead at the place where each occurs.
- 2.2 Where frames or beams pass through a watertight deck or bulkhead, such deck or bulkhead shall be made structurally watertight without the use of wood or cement.
- 3 Testing main compartments by filling them with water is not compulsory. When testing by filling with water is not carried out, a hose test is compulsory; this test shall be carried out in the most advanced stage of the fitting out of the ship. In any case, a thorough inspection of the watertight bulkheads shall be carried out.
- 4 The forepeak, double bottoms (including duct keels) and inner skins shall be tested with water to a head corresponding to the requirements of paragraph 1.
- 5 Tanks which are intended to hold liquids, and which form part of the subdivision of the ship, shall be tested for tightness with water to a head up to the deepest subdivision load line or to a head corresponding to two-thirds of the depth from the top of keel to the margin line in way of the tanks, whichever is the greater; provided that in no case shall the test head be less than 0.9 m above the top of the tank.
- 6 The tests referred to in paragraphs 4 and 5 are for the purpose of ensuring that the subdivision structural arrangements are watertight and are not to be regarded as a test of the fitness of any compartment for the storage of oil fuel or for other special purposes for which a test of a superior character may be required depending on the height to which the liquid has access in the tank or its connexions.

Regulation 15

Openings in watertight bulkheads in passenger ships

- 1 The number of openings in watertight bulkheads shall be reduced to the minimum compatible with the design and proper working of the ship; satisfactory means shall be provided for closing these openings.
- 2.1 Where pipes, scuppers, electric cables, etc. are carried through watertight subdivision bulkheads, arrangements shall be made to ensure the watertight integrity of the bulkheads.
- 2.2 Valves not forming part of a piping system shall not be permitted in watertight subdivision bulkheads.
- 2.3 Lead or other heat sensitive materials shall not be used in systems which penetrate watertight subdivision bulkheads, where deterioration of such systems in the event of fire would impair the watertight integrity of the bulkheads.

- 3.1 No doors, manholes, or access openings are permitted:
- .1 in the collision bulkhead below the margin line;
 - .2 in watertight transverse bulkheads dividing a cargo space from an adjoining cargo space or from a permanent or reserve bunker, except as provided in paragraph 12 and in Regulation 16.
- 3.2 Except as provided in paragraph 3.3 the collision bulkhead may be pierced below the margin line by not more than one pipe for dealing with fluid in the forepeak tank, provided that the pipe is fitted with a screwdown valve capable of being operated from above the bulkhead deck, the valve chest being secured inside the forepeak to the collision bulkhead.
- 3.3 If the forepeak is divided to hold two different kinds of liquids the Administration may allow the collision bulkhead to be pierced below the margin line by two pipes, each of which is fitted as required by paragraph 3.2, provided the Administration is satisfied that there is no practical alternative to the fitting of such a second pipe and that, having regard to the additional subdivision provided in the forepeak, the safety of the ship is maintained.
- 4.1 Watertight doors fitted in bulkheads between permanent and reserve bunkers shall be always accessible, except as provided in paragraph 11.2 for between deck bunker doors.
- 4.2 Satisfactory arrangements shall be made by means of screens or otherwise to prevent the coal from interfering with the closing of watertight bunker doors.
- 5 Within spaces containing the main and auxiliary propulsion machinery including boilers serving the needs of propulsion and all permanent bunkers, not more than one door apart from the doors to bunkers and shaft tunnels may be fitted in each main transverse bulkhead. Where two or more shafts are fitted the tunnels shall be connected by an inter-communicating passage. There shall be only one door between the machinery space and the tunnel spaces where two shafts are fitted and only two doors where there are more than two shafts. All these doors shall be of the sliding type and shall be so located as to have their sills as high as practicable. The hand gear for operating these doors from above the bulkhead deck shall be situated outside the spaces containing the machinery if this is consistent with a satisfactory arrangement of the necessary gearing.
- 6.1 Watertight doors shall be sliding doors or hinged doors or doors of an equivalent type. Plate doors secured only by bolts and doors required to be closed by dropping or by the action of a dropping weight are not permitted.
- 6.2 Sliding doors may be either:
- Hand-operated only, or
 - power-operated as well as hand-operated.

6.3 Authorized watertight doors may therefore be divided into three classes:

Class 1 – hinged doors;

Class 2 – hand-operated sliding doors;

Class 3 – sliding doors which are power-operated as well as hand-operated.

6.4 The means of operation of any watertight door whether power-operated or not shall be capable of closing the door with the ship listed to 15° either way.

6.5 In all classes of watertight doors indicators shall be fitted which show, at all operating stations from which the doors are not visible, whether the doors are open or closed. If any of the watertight doors, of whatever class, is not fitted so as to enable it to be closed from a central control station, it shall be provided with a mechanical, electrical, telephonic, or any other suitable direct means of communication, enabling the officer of the watch promptly to contact the person who is responsible for closing the door in question, under previous orders.

7 Hinged doors (class 1) shall be fitted with quick action closing devices, such as catches, workable from each side of the bulkhead.

8 Hand-operated sliding doors (class 2) may have a horizontal or vertical motion. It shall be possible to operate the mechanism at the door itself from either side, and in addition, from an accessible position above the bulkhead deck, with an all round crank motion, or some other movement providing the same guarantee of safety and of an approved type. Departures from the requirement of operation on both sides may be allowed, if this requirement is impossible owing to the layout of the spaces. When operating a hand gear the time necessary for the complete closure of the door with the vessel upright, shall not exceed 90 seconds.

9.1 Power-operated sliding doors (class 3) may have a vertical or horizontal motion. If a door is required to be power-operated from a central control, the gearing shall be so arranged that the door can be operated by power also at the door itself from both sides. The arrangement shall be such that the door will close automatically if opened by local control after being closed from the central control, and also such that any door can be kept closed by local systems which will prevent the door from being opened from the upper control. Local control handles in connexion with the power gear shall be provided each side of the bulkhead and shall be so arranged as to enable persons passing through the doorway to hold both handles in the open position without being able to set the closing mechanism in operation accidentally. Power-operated sliding doors shall be provided with hand gear workable at the door itself on either side and from an accessible position above the bulkhead deck, with an all round crank motion or some other movement providing the same guarantee of safety and of an approved type. Provision shall be made to give warnings by sound signal that the door has begun to close and will continue to move until it is completely closed. The door shall take a sufficient time to close to ensure safety.

9.2 There shall be at least two independent power sources capable of opening and closing all the doors under control, each of them capable of operating all the doors simultaneously. The two power sources shall be controlled from the central station on the navigating bridge provided with all the necessary indicators for checking that each of the two power sources is capable of giving the required service satisfactorily.

9.3 In the case of hydraulic operation, each power source shall consist of a pump capable of closing all doors in not more than 60 seconds. In addition, there shall be for the whole installation hydraulic accumulators of sufficient capacity to operate all the doors at least three times, i.e., closed-open-closed. The fluid used shall be one which does not freeze at any of the temperatures liable to be encountered by the ship during its service.

10.1 Hinged watertight doors (class 1) in passenger, crew and working spaces are only permitted above a deck the underside of which, at its lowest point at side, is at least 2.0 m above the deepest subdivision load line.

10.2 Watertight doors, the sills of which are above the deepest load line and below the line specified in paragraph 10.1 shall be sliding doors and may be hand-operated (class 2), except in vessels engaged on short international voyages and required to have a factor of subdivision of .50 or less in which all such doors shall be power-operated. When trunkways in connexion with refrigerated cargo and ventilation or forced draught ducts are carried through more than one main watertight subdivision bulkhead, the doors at such openings shall be operated by power.

11.1 Watertight doors which may sometimes be opened at sea, and the sills of which are below the deepest subdivision load line shall be sliding doors. The following rules shall apply:

- .1 when the number of such doors (excluding doors at entrances to shaft tunnels) exceeds five, all of these doors and those at the entrance to shaft tunnels or ventilation or forced draught ducts, shall be power-operated (class 3) and shall be capable of being simultaneously closed from a central station situated on the navigating bridge;
- .2 when the number of such doors (excluding doors at entrances to shaft tunnels) is greater than one, but does not exceed five,
 - .2.1 where the ship has no passenger spaces below the bulkhead deck, all the above-mentioned doors may be hand-operated (class 2);
 - .2.2 where the ship has passenger spaces below the bulkhead deck all the above-mentioned doors shall be power-operated (class 3) and shall be capable of being simultaneously closed from a central station situated on the navigating bridge;
- .3 in any ship where there are only two such watertight doors and they are situated in the machinery space or in the bulkheads bounding such space, the Administration may allow these two doors to be hand-operated only (class 2).

11.2 If sliding watertight doors which have sometimes to be open at sea for the purpose of trimming coal are fitted between bunkers in the between decks below the bulkhead deck, these doors shall be operated by power. The opening and closing of these doors shall be recorded in such log book as may be prescribed by the Administration.

12.1 If the Administration is satisfied that such doors are essential, watertight doors of satisfactory construction may be fitted in watertight bulkheads dividing cargo between deck spaces. Such doors may be hinged, rolling or sliding doors but shall not be remotely controlled. They shall be fitted at the highest level and as far from the shell plating as practicable, but in no case shall the outboard vertical edges be situated at a distance from the shell plating which is less than one-fifth of the breadth of the ship, as defined in Regulation 2, such distance being measured at right angles to the centre line of the ship at the level of the deepest subdivision load line.

12.2 Such doors shall be closed before the voyage commences and shall be kept closed during navigation; the time of opening such doors in port and of closing them before the ship leaves port shall be entered in the log book. Should any of the doors be accessible during the voyage, they shall be fitted with a device which prevents unauthorized opening. When it is proposed to fit such doors, the number and arrangements shall receive the special consideration of the Administration.

13 Portable plates on bulkheads shall not be permitted except in machinery spaces. Such plates shall always be in place before the ship leaves port, and shall not be removed during navigation except in case of urgent necessity. The necessary precautions shall be taken in replacing them to ensure that the joints shall be watertight.

14 All watertight doors shall be kept closed during navigation except when necessarily opened for the working of the ship, in which case they shall always be ready to be immediately closed.

15.1 Where trunkways or tunnels for access from crew accommodation to the stokehold, for piping, or for any other purpose are carried through main transverse watertight bulkheads, they shall be watertight and in accordance with the requirements of Regulation 19. The access to at least one end of each such tunnel or trunkway, if used as a passage at sea, shall be through a trunk extending watertight to a height sufficient to permit access above the margin line. The access to the other end of the trunkway or tunnel may be through a watertight door of the type required by its location in the ship. Such trunkways or tunnels shall not extend through the first subdivision bulkhead abaft the collision bulkhead.

15.2 Where it is proposed to fit tunnels or trunkways for forced draught, piercing main transverse watertight bulkheads, these shall receive the special consideration of the Administration.

Regulation 16

Passenger ships carrying goods vehicles and accompanying personnel

1 This Regulation applies to passenger ships regardless of the date of construction designed or adapted for the carriage of goods vehicles and accompanying personnel where the total number of persons on board, other than those specified in Regulation I/2(e)(i) and (ii), exceeds 12.

2 If in such a ship the total number of passengers which include personnel accompanying vehicles does not exceed $N = 12 + A/25$, where A = total deck area (square metres) of spaces available for the stowage of goods vehicles and where the clear height at the stowage position and at the entrance to such spaces is not less than 4 m, the provisions of Regulation 15.12 in respect of watertight doors apply except that the doors may be fitted at any level in watertight bulkheads dividing cargo spaces. Additionally, indicators are required on the navigating bridge to show automatically when each door is closed and all door fastenings are secured.

3 When applying the provisions of this Chapter to such a ship, N shall be taken as the maximum number of passengers for which the ship may be certified in accordance with this Regulation.

4 In applying Regulation 8 for the worst operating conditions, the permeability for cargo spaces intended for the stowage of goods vehicles and containers shall be derived by calculation in which the goods vehicles and containers shall be assumed to be non-watertight and their permeability taken as 65. For ships engaged in dedicated services the actual value of permeability for goods vehicles or containers may be applied. In no case shall the permeability of the cargo spaces in which the goods vehicles and containers are carried be taken as less than 60.

Regulation 17

Openings in the shell plating of passenger ships below the margin line

1 The number of openings in the shell plating shall be reduced to the minimum compatible with the design and proper working of the ship.

2 The arrangement and efficiency of the means for closing any opening in the shell plating shall be consistent with its intended purpose and the position in which it is fitted and generally to the satisfaction of the Administration.

3.1 Subject to the requirements of the International Convention on Load Lines in force, no sidescuttle shall be fitted in such a position that its sill is below a line drawn parallel to the bulkhead deck at side and having its lowest point 2.5 per cent of the breadth of the ship above the deepest subdivision load line, or 500 mm, whichever is the greater.

3.2 All sidescuttles the sills of which are below the margin line, as permitted by paragraph 3.1 shall be of such construction as will effectively prevent any person opening them without the consent of the master of the ship.

3.3.1 Where in a between decks, the sills of any of the sidescuttles referred to in paragraph 3.2 are below a line drawn parallel to the bulkhead deck at side and having its lowest point 1.4 m plus 2.5 per cent of the breadth of the ship above the water when the ship departs from any port, all the sidescuttles in that between decks shall be closed watertight and locked before the ship leaves port, and they shall not be opened before the ship arrives at the next port. In the application of this paragraph the appropriate allowance for fresh water may be made when applicable.

3.3.2 The time of opening such sidescuttles in port and of closing and locking them before the ship leaves port shall be entered in such log book as may be prescribed by the Administration.

3.3.3 For any ship that has one or more sidescuttles so placed that the requirements of paragraph 3.3.1 would apply when it was floating at its deepest subdivision load line, the Administration may indicate the limiting mean draught at which these sidescuttles will have their sills above the line drawn parallel to the bulkhead deck at side, and having its lowest point 1.4 m plus 2.5 per cent of the breadth of the ship above the water-line corresponding to the limiting mean draught, and at which it will therefore be permissible to depart from port without previously closing and locking them and to open them at sea on the responsibility of the master during the voyage to the next port. In tropical zones as defined in the International Convention on Load Lines in force, this limiting draught may be increased by 0.3 m.

4 Efficient hinged inside deadlights so arranged that they can be easily and effectively closed and secured watertight, shall be fitted to all sidescuttles except that abaft one-eighth of the ship's length from the forward perpendicular and above a line drawn parallel to the bulkhead deck at side and having its lowest point at a height of 3.7 m plus 2.5 per cent of the breadth of the ship above the deepest subdivision load line, the deadlights may be portable in passenger accommodation other than that for steerage passengers, unless the deadlights are required by the International Convention on Load Lines in force to be permanently attached in their proper positions. Such portable deadlights shall be stowed adjacent to the sidescuttles they serve.

5 Sidescuttles and their deadlights which will not be accessible during navigation shall be closed and secured before the ship leaves port.

6.1 No sidescuttles shall be fitted in any spaces which are appropriated exclusively to the carriage of cargo or coal.

6.2 Sidescuttles may, however, be fitted in spaces appropriated alternatively to the carriage of cargo or passengers, but they shall be of such construction as will effectively prevent any person opening them or their deadlights without the consent of the master.

6.3 If cargo is carried in such spaces, the sidescuttles and their deadlights shall be closed watertight and locked before the cargo is shipped and such closing and locking shall be recorded in such log book as may be prescribed by the Administration.

7 Automatic ventilating sidescuttles shall not be fitted in the shell plating below the margin line without the special sanction of the Administration.

8 The number of scuppers, sanitary discharges and other similar openings in the shell plating shall be reduced to the minimum either by making each discharge serve for as many as possible of the sanitary and other pipes, or in any other satisfactory manner.

9.1 All inlets and discharges in the shell plating shall be fitted with efficient and accessible arrangements for preventing the accidental admission of water into the ship.

9.2.1 Subject to the requirements of the International Convention on Load Lines in force, and except as provided in paragraph 9.3, each separate discharge led through the shell plating from spaces below the margin line shall be provided with either one automatic non-return valve fitted with a positive means of closing it from above the bulkhead deck or with two automatic non-return valves without positive means of closing, provided that the inboard valve is situated above the deepest subdivision load line and is always accessible for examination under service conditions. Where a valve with positive means of closing is fitted, the operating position above the bulkhead deck shall always be readily accessible and means shall be provided for indicating whether the valve is open or closed.

9.2.2 The requirements of the International Convention on Load Lines in force shall apply to discharges led through the shell plating from spaces above the margin line.

9.3 Machinery space main and auxiliary sea inlets and discharges in connexion with the operation of machinery shall be fitted with readily accessible valves between the pipes and the shell plating or between the pipes and fabricated boxes attached to the shell plating. The valves may be controlled locally and shall be provided with indicators showing whether they are open or closed.

9.4 All shell fittings and valves required by this Regulation shall be of steel, bronze or other approved ductile material. Valves of ordinary cast iron or similar material are not acceptable. All pipes to which this Regulation refers shall be of steel or other equivalent material to the satisfaction of the Administration.

10.1 Gangway, cargo and coaling ports fitted below the margin line shall be of sufficient strength. They shall be effectively closed and secured watertight before the ship leaves port, and shall be kept closed during navigation.

10.2 Such ports shall in no case be so fitted as to have their lowest point below the deepest subdivision load line.

11.1 The inboard opening of each ash-shoot, rubbish-shoot, etc. shall be fitted with an efficient cover.

11.2 If the inboard opening is situated below the margin line, the cover shall be watertight, and in addition an automatic non-return valve shall be fitted in

the shoot in an easily accessible position above the deepest subdivision load line. When the shoot is not in use both the cover and the valve shall be kept closed and secured.

Regulation 18

*Construction and initial tests of watertight doors, sidescuttles, etc.,
in passenger ships and cargo ships*

- 1 In passenger ships:
 - .1 the design, materials and construction of all watertight doors, sidescuttles, gangway, cargo and coaling ports, valves, pipes, ash-shoots and rubbish-shoots referred to in these Regulations shall be to the satisfaction of the Administration;
 - .2 the frames of vertical watertight doors shall have no groove at the bottom in which dirt might lodge and prevent the door closing properly.
- 2 In passenger ships and cargo ships each watertight door shall be tested by water pressure to a head up to the bulkhead deck or freeboard deck respectively. The test shall be made before the ship is put into service, either before or after the door is fitted.

Regulation 19

*Construction and initial tests of watertight decks, trunks, etc.
in passenger ships and cargo ships*

- 1 Watertight decks, trunks, tunnels, duct keels and ventilators shall be of the same strength as watertight bulkheads at corresponding levels. The means used for making them watertight, and the arrangements adopted for closing openings in them, shall be to the satisfaction of the Administration. Watertight ventilators and trunks shall be carried at least up to the bulkhead deck in passenger ships and up to the freeboard deck in cargo ships.
- 2 After completion, a hose or flooding test shall be applied to watertight decks and a hose test to watertight trunks, tunnels and ventilators.

Regulation 20

Watertight integrity of passenger ships above the margin line

- 1 The Administration may require that all reasonable and practicable measures shall be taken to limit the entry and spread of water above the bulkhead deck. Such measures may include partial bulkheads or webs. When partial watertight bulkheads and webs are fitted on the bulkhead deck, above or in the immediate vicinity of main subdivision bulkheads, they shall have

watertight shell and bulkhead deck connexions so as to restrict the flow of water along the deck when the ship is in a heeled damaged condition. Where the partial watertight bulkhead does not line up with the bulkhead below, the bulkhead deck between shall be made effectively watertight.

2 The bulkhead deck or a deck above it shall be weathertight. All openings in the exposed weather deck shall have coamings of ample height and strength and shall be provided with efficient means for expeditiously closing them weathertight. Freeing ports, open rails and scuppers shall be fitted as necessary for rapidly clearing the weather deck of water under all weather conditions.

3 Sidescuttles, gangway, cargo and coaling ports and other means for closing openings in the shell plating above the margin line shall be of efficient design and construction and of sufficient strength having regard to the spaces in which they are fitted and their positions relative to the deepest subdivision load line.

4 Efficient inside deadlights, so arranged that they can be easily and effectively closed and secured watertight, shall be provided for all sidescuttles to spaces below the first deck above the bulkhead deck.

Regulation 21

Bilge pumping arrangements

1 *Passenger ships and cargo ships*

1.1 An efficient bilge pumping system shall be provided, capable of pumping from and draining any watertight compartment other than a space permanently appropriated for the carriage of fresh water, water ballast, oil fuel or liquid cargo and for which other efficient means of pumping are provided, under all practical conditions. Efficient means shall be provided for draining water from insulated holds.

1.2 Sanitary, ballast and general service pumps may be accepted as independent power bilge pumps if fitted with the necessary connexions to the bilge pumping system.

1.3 All bilge pipes used in or under coal bunkers or fuel storage tanks or in boiler or machinery spaces, including spaces in which oil-settling tanks or oil fuel pumping units are situated, shall be of steel or other suitable material.

1.4 The arrangement of the bilge and ballast pumping system shall be such as to prevent the possibility of water passing from the sea and from water ballast spaces into the cargo and machinery spaces, or from one compartment to another. Provision shall be made to prevent any deep tank having bilge and ballast connexions being inadvertently flooded from the sea when containing cargo, or being discharged through a bilge pipe when containing water ballast.

1.5 All distribution boxes and manually operated valves in connexion with the bilge pumping arrangements shall be in positions which are accessible under ordinary circumstances.

2 *Passenger ships*

2.1 The bilge pumping system required by paragraph 1.1 shall be capable of operation under all practicable conditions after a casualty whether the ship is upright or listed. For this purpose wing suction shall generally be fitted except in narrow compartments at the end of the ship where one suction may be sufficient. In compartments of unusual form, additional suction may be required. Arrangements shall be made whereby water in the compartment may find its way to the suction pipes. Where, for particular compartments, the Administration is satisfied that the provision of drainage may be undesirable, it may allow such provision to be dispensed with if calculations made in accordance with the conditions laid down in Regulation 8.2.1 to 8.2.3 show that the survival capability of the ship will not be impaired.

2.2 At least three power pumps shall be fitted connected to the bilge main, one of which may be driven by the propulsion machinery. Where the criterion numeral is 30 or more, one additional independent power pump shall be provided.

2.3 Where practicable, the power bilge pumps shall be placed in separate watertight compartments and so arranged or situated that these compartments will not be flooded by the same damage. If the main propulsion machinery, auxiliary machinery and boilers are in two or more watertight compartments, the pumps available for bilge service shall be distributed as far as is possible throughout these compartments.

2.4 On a ship of 91.5 m in length and upwards or having a criterion numeral of 30 or more, the arrangements shall be such that at least one power bilge pump shall be available for use in all flooding conditions which the ship is required to withstand, as follows:

- .1 one of the required bilge pumps shall be an emergency pump of a reliable submersible type having a source of power situated above the bulkhead deck; or
- .2 the bilge pumps and their sources of power shall be so distributed throughout the length of the ship that at least one pump in an undamaged compartment will be available.

2.5 With the exception of additional pumps which may be provided for peak compartments only, each required bilge pump shall be so arranged as to draw water from any space required to be drained by paragraph 1.1.

2.6 Each power bilge pump shall be capable of pumping water through the required main bilge pipe at a speed of not less than 2 m/sec. Independent power bilge pumps situated in machinery spaces shall have direct suction from these spaces, except that not more than two such suction shall be required in any one space. Where two or more such suction are provided there shall be at least one on each side of the ship. The Administration may require independent power bilge pumps situated in other spaces to have

separate direct suction. Direct suction shall be suitably arranged and those in a machinery space shall be of a diameter not less than that required for the bilge main.

2.7.1 In addition to the direct bilge suction or suction required by paragraph 2.6 a direct suction from the main circulating pump leading to the drainage level of the machinery space and fitted with a non-return valve shall be provided in the machinery space. The diameter of this direct suction pipe shall be at least two-thirds of the diameter of the pump inlet in the case of steamships, and of the same diameter as the pump inlet in the case of motorships.

2.7.2 Where in the opinion of the Administration the main circulating pump is not suitable for this purpose, a direct emergency bilge suction shall be led from the largest available independent power driven pump to the drainage level of the machinery space; the suction shall be of the same diameter as the main inlet of the pump used. The capacity of the pump so connected shall exceed that of a required bilge pump by an amount deemed satisfactory by the Administration.

2.7.3 The spindles of the sea inlet and direct suction valves shall extend well above the engine room platform.

2.8 All bilge suction piping up to the connexion to the pumps shall be independent of other piping.

2.9 The diameter d of the bilge main shall be calculated according to the following formula. However, the actual internal diameter of the bilge main may be rounded off to the nearest standard size acceptable to the Administration:

$$d = 25 + 1.68 \sqrt{L(B + D)}$$

where d is the internal diameter of the bilge main (millimetres);

L and B are the length and the breadth of the ship (metres) as defined in Regulation 2; and

D is the moulded depth of the ship to bulkhead deck (metres).

The diameter of the bilge branch pipes shall meet the requirements of the Administration.

2.10 Provision shall be made to prevent the compartment served by any bilge suction pipe being flooded in the event of the pipe being severed or otherwise damaged by collision or grounding in any other compartment. For this purpose, where the pipe is at any part situated nearer the side of the ship than one-fifth of the breadth of the ship (as defined in Regulation 2 and measured at right angles to the centreline at the level of the deepest subdivision load line), or is in a duct keel, a non-return valve shall be fitted to the pipe in the compartment containing the open end.

2.11 Distribution boxes, cocks and valves in connexion with the bilge pumping system shall be so arranged that, in the event of flooding, one of the bilge pumps may be operative on any compartment; in addition, damage to a pump or its pipe connecting to the bilge main outboard of a line drawn at

one-fifth of the breadth of the ship shall not put the bilge system out of action. If there is only one system of pipes common to all the pumps, the necessary valves for controlling the bilge suction must be capable of being operated from above the bulkhead deck. Where in addition to the main bilge pumping system an emergency bilge pumping system is provided, it shall be independent of the main system and so arranged that a pump is capable of operating on any compartment under flooding condition as specified in paragraph 2.1; in that case only the valves necessary for the operation of the emergency system need be capable of being operated from above the bulkhead deck.

2.12 All cocks and valves referred to in paragraph 2.11 which can be operated from above the bulkhead deck shall have their controls at their place of operation clearly marked and shall be provided with means to indicate whether they are open or closed.

3 *Cargo ships*

At least two power pumps connected to the main bilge system shall be provided, one of which may be driven by the propulsion machinery. If the Administration is satisfied that the safety of the ship is not impaired, bilge pumping arrangements may be dispensed with in particular compartments.

Regulation 22

*Stability information for passenger ships and cargo ships**

1 Every passenger ship regardless of size and every cargo ship having a length, as defined in the International Convention on Load Lines in force, of 24 m and upwards, shall be inclined upon its completion and the elements of its stability determined. The master shall be supplied with such information satisfactory to the Administration as is necessary to enable him by rapid and simple processes to obtain accurate guidance as to the stability of the ship under varying conditions of service. A copy of the stability information shall be furnished to the Administration.

2 Where any alterations are made to a ship so as to materially affect the stability information supplied to the master, amended stability information shall be provided. If necessary the ship shall be re-inclined.

3 The Administration may allow the inclining test of an individual ship to be dispensed with provided basic stability data are available from the inclining test of a sister ship and it is shown to the satisfaction of the Administration that reliable stability information for the exempted ship can be obtained from such basic data.

* Reference is made to the Recommendation on Intact Stability for Passenger and Cargo Ships under 100 metres in length, adopted by the Organization by resolution A.167(ES.IV) and Amendments to this Recommendation, adopted by the Organization by resolution A.206(VII).

4 The Administration may also allow the inclining test of an individual ship or class of ships especially designed for the carriage of liquids or ore in bulk to be dispensed with when reference to existing data for similar ships clearly indicates that due to the ship's proportions and arrangements more than sufficient metacentric height will be available in all probable loading conditions.

Regulation 23

Damage control plans in passenger ships

There shall be permanently exhibited, for the guidance of the officer in charge of the ship, plans showing clearly for each deck and hold the boundaries of the watertight compartments, the openings therein with the means of closure and position of any controls thereof, and the arrangements for the correction of any list due to flooding. In addition, booklets containing the aforementioned information shall be made available to the officers of the ship.

Regulation 24

Marking, periodical operation and inspection of watertight doors, etc. in passenger ships

1 This Regulation applies to all ships.

2.1 Drills for the operating of watertight doors, sidescuttles, valves and closing mechanisms of scuppers, ash-shoots and rubbish-shoots shall take place weekly. In ships in which the voyage exceeds one week in duration a complete drill shall be held before leaving port, and others thereafter at least once a week during the voyage.

2.2 All watertight doors, both hinged and power operated, in main transverse bulkheads, in use at sea, shall be operated daily.

3.1 The watertight doors and all mechanisms and indicators connected therewith, all valves, the closing of which is necessary to make a compartment watertight, and all valves the operation of which is necessary for damage control cross connexions shall be periodically inspected at sea at least once a week.

3.2 Such valves, doors and mechanisms shall be suitably marked to ensure that they may be properly used to provide maximum safety.

Regulation 25

Entries in log of passenger ships

1 This Regulation applies to all ships.

2 Hinged doors, portable plates, sidescuttles, gangway, cargo and coaling ports and other openings, which are required by these Regulations to be kept closed during navigation, shall be closed before the ship leaves port. The time of closing and the time of opening (if permissible under these Regulations) shall be recorded in such log book as may be prescribed by the Administration.

3 A record of all drills and inspections required by Regulation 24 shall be entered in the log book with an explicit record of any defects which may be disclosed.

PART C – MACHINERY INSTALLATIONS

(Except where expressly provided otherwise Part C applies to passenger ships and cargo ships)

Regulation 26

General

1 The machinery, boilers and other pressure vessels, associated piping systems and fittings shall be of a design and construction adequate for the service for which they are intended and shall be so installed and protected as to reduce to a minimum any danger to persons on board, due regard being paid to moving parts, hot surfaces and other hazards. The design shall have regard to materials used in construction, the purpose for which the equipment is intended, the working conditions to which it will be subjected and the environmental conditions on board.

2 The Administration shall give special consideration to the reliability of single essential propulsion components and may require a separate source of propulsion power sufficient to give the ship a navigable speed, especially in the case of unconventional arrangements.

3 Means shall be provided whereby normal operation of propulsion machinery can be sustained or restored even though one of the essential auxiliaries becomes inoperative. Special consideration shall be given to the malfunctioning of:

- .1 a generating set which serves as a main source of electrical power;
- .2 the sources of steam supply;
- .3 the boiler feed water systems;
- .4 the fuel oil supply systems for boilers or engines;
- .5 the sources of lubricating oil pressure;
- .6 the sources of water pressure;

- .7 a condensate pump and the arrangements to maintain vacuum in condensers;
- .8 the mechanical air supply for boilers;
- .9 an air compressor and receiver for starting or control purposes;
- .10 the hydraulic, pneumatic or electrical means for control in main propulsion machinery including controllable pitch propellers.

However, the Administration, having regard to overall safety considerations, may accept a partial reduction in propulsion capability from normal operation.

4 Means shall be provided to ensure that the machinery can be brought into operation from the dead ship condition without external aid.

5 All boilers, all parts of machinery, all steam, hydraulic, pneumatic and other systems and their associated fittings which are under internal pressure shall be subjected to appropriate tests including a pressure test before being put into service for the first time.

6 Main propulsion machinery and all auxiliary machinery essential to the propulsion and the safety of the ship shall, as fitted in the ship, be designed to operate when the ship is upright and when inclined at any angle of list up to and including 15° either way under static conditions and 22.5° under dynamic conditions (rolling) either way and simultaneously inclined dynamically (pitching) 7.5° by bow or stern. The Administration may permit deviation from these angles, taking into consideration the type, size and service conditions of the ship.

7 Provision shall be made to facilitate cleaning, inspection and maintenance of main propulsion and auxiliary machinery including boilers and pressure vessels.

8 Special consideration shall be given to the design, construction and installation of propulsion machinery systems so that any mode of their vibrations shall not cause undue stresses in this machinery in the normal operating ranges.

Regulation 27

Machinery

1 Where risk from overspeeding of machinery exists, means shall be provided to ensure that the safe speed is not exceeded.

2 Where main or auxiliary machinery including pressure vessels or any parts of such machinery are subject to internal pressure and may be subject to dangerous overpressure, means shall be provided where practicable to protect against such excessive pressure.

3 All gearing and every shaft and coupling used for transmission of power to machinery essential for the propulsion and safety of the ship or for the safety of persons on board shall be so designed and constructed that they will withstand the maximum working stresses to which they may be subjected in all service conditions, and due consideration shall be given to the type of engines by which they are driven or of which they form part.

4 Internal combustion engines of a cylinder diameter of 200 mm or a crankcase volume of 0.6 m³ and above shall be provided with crankcase explosion relief valves of a suitable type with sufficient relief area. The relief valves shall be arranged or provided with means to ensure that discharge from them is so directed as to minimize the possibility of injury to personnel.

5 Main turbine propulsion machinery and, where applicable, main internal combustion propulsion machinery and auxiliary machinery shall be provided with automatic shut-off arrangements in the case of failures such as lubricating oil supply failure which could lead rapidly to complete breakdown, serious damage or explosion. The Administration may permit provisions for overriding automatic shut-off devices.

Regulation 28

Means of going astern

1 Sufficient power for going astern shall be provided to secure proper control of the ship in all normal circumstances.

2 The ability of the machinery to reverse the direction of thrust of the propeller in sufficient time, and so to bring the ship to rest within a reasonable distance from maximum ahead service speed, shall be demonstrated and recorded.*

3 The stopping times, ship headings and distances recorded on trials, together with the results of trials to determine the ability of ships having multiple propellers to navigate and manoeuvre with one or more propellers inoperative, shall be available on board for the use of the master or designated personnel.*

4 Where the ship is provided with supplementary means for manoeuvring or stopping, the effectiveness of such means shall be demonstrated and recorded as referred to in paragraphs 2 and 3.

* Reference is made to the Recommendation on Information to be Included in the Manoeuvring Booklets adopted by the Organization by resolution A.209(VII).

Regulation 29

Steering gear

1 Unless expressly provided otherwise, every ship shall be provided with a main steering gear and an auxiliary steering gear to the satisfaction of the Administration. The main steering gear and the auxiliary steering gear shall be so arranged that the failure of one of them will not render the other one inoperative.

2.1 All the steering gear components and the rudder stock shall be of sound and reliable construction to the satisfaction of the Administration. Special consideration shall be given to the suitability of any essential component which is not duplicated. Any such essential component shall, where appropriate, utilize anti-friction bearings such as ball bearings, roller bearings or sleeve bearings which shall be permanently lubricated or provided with lubrication fittings.

2.2 The design pressure for calculations to determine the scantlings of piping and other steering gear components subjected to internal hydraulic pressure shall be at least 1.25 times the maximum working pressure to be expected under the operational conditions specified in paragraph 3.2, taking into account any pressure which may exist in the low pressure side of the system. At the discretion of the Administration, fatigue criteria shall be applied for the design of piping and components, taking into account pulsating pressures due to dynamic loads.

2.3 Relief valves shall be fitted to any part of the hydraulic system which can be isolated and in which pressure can be generated from the power source or from external forces. The setting of the relief valves shall not exceed the design pressure. The valves shall be of adequate size and so arranged as to avoid an undue rise in pressure above the design pressure.

3 The main steering gear and rudder stock shall be:

- .1 of adequate strength and capable of steering the ship at maximum ahead service speed which shall be demonstrated;
- .2 capable of putting the rudder over from 35° on one side to 35° on the other side with the ship at its deepest seagoing draught and running ahead at maximum ahead service speed and, under the same conditions, from 35° on either side to 30° on the other side in not more than 28 seconds;
- .3 operated by power where necessary to meet the requirements of paragraph 3.2 and in any case when the Administration requires a rudder stock of over 120 mm diameter in way of the tiller, excluding strengthening for navigation in ice; and
- .4 so designed that they will not be damaged at maximum astern speed; however, this design requirement need not be proved by trials at maximum astern speed and maximum rudder angle.

- 4 The auxiliary steering gear shall be:
 - .1 of adequate strength and capable of steering the ship at navigable speed and of being brought speedily into action in an emergency;
 - .2 capable of putting the rudder over from 15° on one side to 15° on the other side in not more than 60 seconds with the ship at its deepest seagoing draught and running ahead at one half of the maximum ahead service speed or 7 knots, whichever is the greater; and
 - .3 operated by power where necessary to meet the requirements of paragraph 4.2 and in any case when the Administration requires a rudder stock of over 230 mm diameter in way of the tiller, excluding strengthening for navigation in ice.
- 5 Main and auxiliary steering gear power units shall be:
 - .1 arranged to re-start automatically when power is restored after a power failure; and
 - .2 capable of being brought into operation from a position on the navigating bridge. In the event of a power failure to any one of the steering gear power units, an audible and visual alarm shall be given on the navigating bridge.
- 6.1 Where the main steering gear comprises two or more identical power units, an auxiliary steering gear need not be fitted, provided that:
 - .1 in a passenger ship, the main steering gear is capable of operating the rudder as required by paragraph 3.2 while any one of the power units is out of operation;
 - .2 in a cargo ship, the main steering gear is capable of operating the rudder as required by paragraph 3.2 while operating with all power units;
 - .3 the main steering gear is so arranged that after a single failure in its piping system or in one of the power units the defect can be isolated so that steering capability can be maintained or speedily regained.
- 6.2 The Administration may, until 1 September 1986, accept the fitting of a steering gear which has a proven record of reliability but does not comply with the requirements of paragraph 6.1.3 for a hydraulic system.
- 6.3 Steering gears, other than of the hydraulic type, shall achieve standards equivalent to the requirements of this paragraph to the satisfaction of the Administration.
- 7 Steering gear control shall be provided:
 - .1 for the main steering gear, both on the navigating bridge and in the steering gear compartment;
 - .2 where the main steering gear is arranged in accordance with paragraph 6, by two independent control systems, both operable from the navigating bridge. This does not require duplication of the

steering wheel or steering lever. Where the control system consists of an hydraulic telemotor, a second independent system need not be fitted, except in a tanker, chemical tanker or gas carrier of 10,000 tons gross tonnage and upwards;

- .3 for the auxiliary steering gear, in the steering gear compartment and, if power operated, it shall also be operable from the navigating bridge and shall be independent of the control system for the main steering gear.

8 Any main and auxiliary steering gear control system operable from the navigating bridge shall comply with the following:

- .1 if electric, it shall be served by its own separate circuit supplied from a steering gear power circuit from a point within the steering gear compartment, or directly from switchboard busbars supplying that steering gear power circuit at a point on the switchboard adjacent to the supply to the steering gear power circuit;
- .2 means shall be provided in the steering gear compartment for disconnecting any control system operable from the navigating bridge from the steering gear it serves;
- .3 the system shall be capable of being brought into operation from a position on the navigating bridge;
- .4 in the event of a failure of electrical power supply to the control system, an audible and visual alarm shall be given on the navigating bridge; and
- .5 short circuit protection only shall be provided for steering gear control supply circuits.

9 The electric power circuits and the steering gear control systems with their associated components, cables and pipes required by this Regulation and by Regulation 30 shall be separated as far as is practicable throughout their length.

10 A means of communication shall be provided between the navigating bridge and the steering gear compartment.

11 The angular position of the rudder shall:

- .1 if the main steering gear is power operated, be indicated on the navigating bridge. The rudder angle indication shall be independent of the steering gear control system;
- .2 be recognizable in the steering gear compartment.

12 Hydraulic power-operated steering gear shall be provided with the following:

- .1 arrangements to maintain the cleanliness of the hydraulic fluid taking into consideration the type and design of the hydraulic system;

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- .2 a low level alarm for each hydraulic fluid reservoir to give the earliest practicable indication of hydraulic fluid leakage. Audible and visual alarms shall be given on the navigating bridge and in the machinery space where they can be readily observed; and
 - .3 a fixed storage tank having sufficient capacity to recharge at least one power actuating system including the reservoir, where the main steering gear is required to be power operated. The storage tank shall be permanently connected by piping in such a manner that the hydraulic systems can be readily recharged from a position within the steering gear compartment and shall be provided with a contents gauge.
- 13 The steering gear compartment shall be:
- .1 readily accessible and, as far as practicable, separated from machinery spaces; and
 - .2 provided with suitable arrangements to ensure working access to steering gear machinery and controls. These arrangements shall include handrails and gratings or other non-slip surfaces to ensure suitable working conditions in the event of hydraulic fluid leakage.
- 14 Where the rudder stock is required to be over 230 mm diameter in way of the tiller, excluding strengthening for navigation in ice, an alternative power supply, sufficient at least to supply the steering gear power unit which complies with the requirements of paragraph 4.2 and also its associated control system and the rudder angle indicator, shall be provided automatically, within 45 seconds, either from the emergency source of electrical power or from an independent source of power located in the steering gear compartment. This independent source of power shall be used only for this purpose. In every ship of 10,000 tons gross tonnage and upwards, the alternative power supply shall have a capacity for at least 30 minutes of continuous operation and in any other ship for at least 10 minutes.
- 15 In every tanker, chemical tanker or gas carrier of 10,000 tons gross tonnage and upwards and in every other ship of 70,000 tons gross tonnage and upwards, the main steering gear shall comprise two or more identical power units complying with the provisions of paragraph 6.
- 16 Every tanker, chemical tanker or gas carrier of 10,000 tons gross tonnage and upwards shall, subject to paragraph 17, comply with the following:
- .1 the main steering gear shall be so arranged that in the event of loss of steering capability due to a single failure in any part of one of the power actuating systems of the main steering gear, excluding the tiller, quadrant or components serving the same purpose, or seizure of the rudder actuators, steering capability shall be regained in not more than 45 seconds after the loss of one power actuating system;
 - .2 the main steering gear shall comprise either:
 - .2.1 two independent and separate power actuating systems, each capable of meeting the requirements of paragraph 3.2; or

- .2.2 at least two identical power actuating systems which, acting simultaneously in normal operation, shall be capable of meeting the requirements of paragraph 3.2. Where necessary to comply with this requirement, inter-connexion of hydraulic power actuating systems shall be provided. Loss of hydraulic fluid from one system shall be capable of being detected and the defective system automatically isolated so that the other actuating system or systems shall remain fully operational;
 - .3 steering gears other than of the hydraulic type shall achieve equivalent standards.
- 17 For tankers, chemical tankers or gas carriers of 10,000 tons gross tonnage and upwards, but of less than 100,000 tonnes deadweight, solutions other than those set out in paragraph 16, which need not apply the single failure criterion to the rudder actuator or actuators, may be permitted provided that an equivalent safety standard is achieved and that:
- .1 following loss of steering capability due to a single failure of any part of the piping system or in one of the power units, steering capability shall be regained within 45 seconds; and
 - .2 where the steering gear includes only a single rudder actuator, special consideration is given to stress analysis for the design including fatigue analysis and fracture mechanics analysis, as appropriate, to the material used, to the installation of sealing arrangements and to testing and inspection and to the provision of effective maintenance. In consideration of the foregoing, the Administration shall adopt regulations which include the provisions of the Guidelines for Acceptance of Non-Duplicated Rudder Actuators for Tankers, Chemical Tankers and Gas Carriers of 10,000 Tons Gross Tonnage and Above but Less than 100,000 Tonnes Deadweight, adopted by the Organization.*
- 18 For a tanker, chemical tanker or gas carrier of 10,000 tons gross tonnage and upwards, but less than 70,000 tonnes deadweight, the Administration may, until 1 September 1986, accept a steering gear system with a proven record of reliability which does not comply with the single failure criterion required for a hydraulic system in paragraph 16.
- 19 Every tanker, chemical tanker or gas carrier of 10,000 tons gross tonnage and upwards, constructed before 1 September 1984, shall comply, not later than 1 September 1986, with the following:
- .1 the requirements of paragraphs 7.1, 8.2, 8.4, 10, 11, 12.2, 12.3 and 13.2;
 - .2 two independent steering gear control systems shall be provided each of which can be operated from the navigating bridge. This does not require duplication of the steering wheel or steering lever;

* Reference is made to the Guidelines for Acceptance of Non-Duplicated Rudder Actuators for Tankers, Chemical Tankers and Gas Carriers of 10,000 Tons Gross Tonnage and Above but Less than 100,000 Tonnes Deadweight, adopted by the Organization by resolution A.467(XII).

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- .3 if the steering gear control system in operation fails, the second system shall be capable of being brought into immediate operation from the navigating bridge; and
- .4 each steering gear control system, if electric, shall be served by its own separate circuit supplied from the steering gear power circuit or directly from switchboard busbars supplying that steering gear power circuit at a point on the switchboard adjacent to the supply to the steering gear power circuit.

20 In addition to the requirements of paragraph 19, in every tanker, chemical tanker or gas carrier of 40,000 tons gross tonnage and upwards, constructed before 1 September 1984, the steering gear shall, not later than 1 September 1988, be so arranged that, in the event of a single failure of the piping or of one of the power units, steering capability can be maintained or the rudder movement can be limited so that steering capability can be speedily regained. This shall be achieved by:

- .1 an independent means of restraining the rudder; or
- .2 fast acting valves which may be manually operated to isolate the actuator or actuators from the external hydraulic piping together with a means of directly refilling the actuators by a fixed independent power-operated pump and piping system; or
- .3 an arrangement such that, where hydraulic power systems are interconnected, loss of hydraulic fluid from one system shall be detected and the defective system isolated either automatically or from the navigating bridge so that the other system remains fully operational.

Regulation 30

Additional requirements for electric and electrohydraulic steering gear

- 1 Means for indicating that the motors of electric and electrohydraulic steering gear are running shall be installed on the navigating bridge and at a suitable main machinery control position.
- 2 Each electric or electrohydraulic steering gear comprising one or more power units shall be served by at least two exclusive circuits fed directly from the main switchboard; however, one of the circuits may be supplied through the emergency switchboard. An auxiliary electric or electrohydraulic steering gear associated with a main electric or electrohydraulic steering gear may be connected to one of the circuits supplying this main steering gear. The circuits supplying an electric or electrohydraulic steering gear shall have adequate rating for supplying all motors which can be simultaneously connected to them and may be required to operate simultaneously.
- 3 Short circuit protection and an overload alarm shall be provided for such circuits and motors. Protection against excess current, including starting current, if provided, shall be for not less than twice the full load current of the motor or circuit so protected, and shall be arranged to permit the passage of

the appropriate starting currents. Where a three-phase supply is used an alarm shall be provided that will indicate failure of any one of the supply phases. The alarms required in this paragraph shall be both audible and visual and shall be situated in a conspicuous position in the main machinery space or control room from which the main machinery is normally controlled and as may be required by Regulation 51.

4 When in a ship of less than 1,600 tons gross tonnage an auxiliary steering gear which is required by Regulation 29.4.3 to be operated by power is not electrically powered or is powered by an electric motor primarily intended for other services, the main steering gear may be fed by one circuit from the main switchboard. Where such an electric motor primarily intended for other services is arranged to power such an auxiliary steering gear, the requirement of paragraph 3 may be waived by the Administration if satisfied with the protection arrangement together with the requirements of Regulation 29.5.1 and .2 and 29.7.3 applicable to auxiliary steering gear.

Regulation 31

Machinery controls

1 Main and auxiliary machinery essential for the propulsion and safety of the ship shall be provided with effective means for its operation and control.

2 Where remote control of propulsion machinery from the navigating bridge is provided and the machinery spaces are intended to be manned, the following shall apply:

- .1 the speed, direction of thrust and, if applicable, the pitch of the propeller shall be fully controllable from the navigating bridge under all sailing conditions, including manoeuvring;
- .2 the remote control shall be performed, for each independent propeller, by a control device so designed and constructed that its operation does not require particular attention to the operational details of the machinery. Where multiple propellers are designed to operate simultaneously, they may be controlled by one control device;
- .3 the main propulsion machinery shall be provided with an emergency stopping device on the navigating bridge which shall be independent of the navigating bridge control system;
- .4 propulsion machinery orders from the navigating bridge shall be indicated in the main machinery control room or at the manoeuvring platform as appropriate;
- .5 remote control of the propulsion machinery shall be possible only from one location at a time; at such locations interconnected control positions are permitted. At each location there shall be an indicator showing which location is in control of the propulsion machinery. The transfer of control between the navigating bridge and machinery spaces shall be possible only in the main machinery space or the

main machinery control room. This system shall include means to prevent the propelling thrust from altering significantly when transferring control from one location to another;

- .6 it shall be possible to control the propulsion machinery locally, even in the case of failure in any part of the remote control system;
- .7 the design of the remote control system shall be such that in case of its failure an alarm will be given. Unless the Administration considers it impracticable the preset speed and direction of thrust of the propeller shall be maintained until local control is in operation;
- .8 indicators shall be fitted on the navigating bridge for:
 - .8.1 propeller speed and direction of rotation in the case of fixed pitch propellers;
 - .8.2 propeller speed and pitch position in the case of controllable pitch propellers;
- .9 an alarm shall be provided on the navigating bridge and in the machinery space to indicate low starting air pressure which shall be set at a level to permit further main engine starting operations. If the remote control system of the propulsion machinery is designed for automatic starting, the number of automatic consecutive attempts which fail to produce a start shall be limited in order to safeguard sufficient starting air pressure for starting locally.

3 Where the main propulsion and associated machinery, including sources of main electrical supply, are provided with various degrees of automatic or remote control and are under continuous manual supervision from a control room the arrangements and controls shall be so designed, equipped and installed that the machinery operation will be as safe and effective as if it were under direct supervision; for this purpose Regulations 46 to 50 shall apply as appropriate. Particular consideration shall be given to protect such spaces against fire and flooding.

4 In general, automatic starting, operational and control systems shall include provisions for manually overriding the automatic controls. Failure of any part of such systems shall not prevent the use of the manual override.

Regulation 32

Steam boilers and boiler feed systems

1 Every steam boiler and every unfired steam generator shall be provided with not less than two safety valves of adequate capacity. However, having regard to the output or any other features of any boiler or unfired steam generator, the Administration may permit only one safety valve to be fitted if it is satisfied that adequate protection against overpressure is thereby provided.

- 2 Each oil-fired boiler which is intended to operate without manual supervision shall have safety arrangements which shut off the fuel supply and give an alarm in the case of low water level, air supply failure or flame failure.
- 3 Water tube boilers serving turbine propulsion machinery shall be fitted with a high-water-level alarm.
- 4 Every steam generating system which provides services essential for the safety of the ship, or which could be rendered dangerous by the failure of its feed water supply, shall be provided with not less than two separate feed water systems from and including the feed pumps, noting that a single penetration of the steam drum is acceptable. Unless overpressure is prevented by the pump characteristics means shall be provided which will prevent overpressure in any part of the systems.
- 5 Boilers shall be provided with means to supervise and control the quality of the feed water. Suitable arrangements shall be provided to preclude, as far as practicable, the entry of oil or other contaminants which may adversely affect the boiler.
- 6 Every boiler essential for the safety of the ship and designed to contain water at a specified level shall be provided with at least two means for indicating its water level, at least one of which shall be a direct reading gauge glass.

Regulation 33

Steam pipe systems

- 1 Every steam pipe and every fitting connected thereto through which steam may pass shall be so designed, constructed and installed as to withstand the maximum working stresses to which it may be subjected.
- 2 Means shall be provided for draining every steam pipe in which dangerous water hammer action might otherwise occur.
- 3 If a steam pipe or fitting may receive steam from any source at a higher pressure than that for which it is designed a suitable reducing valve, relief valve and pressure gauge shall be fitted.

Regulation 34

Air pressure systems

- 1 In every ship means shall be provided to prevent overpressure in any part of compressed air systems and wherever water jackets or casings of air compressors and coolers might be subjected to dangerous overpressure due to leakage into them from air pressure parts. Suitable pressure relief arrangements shall be provided for all systems.

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2 The main starting air arrangements for main propulsion internal combustion engines shall be adequately protected against the effects of backfiring and internal explosion in the starting air pipes.

3 All discharge pipes from starting air compressors shall lead directly to the starting air receivers, and all starting pipes from the air receivers to main or auxiliary engines shall be entirely separate from the compressor discharge pipe system.

4 Provision shall be made to reduce to a minimum the entry of oil into the air pressure systems and to drain these systems.

Regulation 35

Ventilating systems in machinery spaces

Machinery spaces of category A shall be adequately ventilated so as to ensure that when machinery or boilers therein are operating at full power in all weather conditions including heavy weather, an adequate supply of air is maintained to the spaces for the safety and comfort of personnel and the operation of the machinery. Any other machinery space shall be adequately ventilated appropriate for the purpose of that machinery space.

Regulation 36

*Protection against noise**

Measures shall be taken to reduce machinery noise in machinery spaces to acceptable levels as determined by the Administration. If this noise cannot be sufficiently reduced the source of excessive noise shall be suitably insulated or isolated or a refuge from noise shall be provided if the space is required to be manned. Ear protectors shall be provided for personnel required to enter such spaces, if necessary.

Regulation 37

Communication between navigating bridge and machinery space

At least two independent means shall be provided for communicating orders from the navigating bridge to the position in the machinery space or in the control room from which the engines are normally controlled: one of these shall be an engine room telegraph which provides visual indication of the orders and responses both in the machinery space and on the navigating bridge. Appropriate means of communication shall be provided to any other positions from which the engines may be controlled.

* Reference is made to the Code on Noise Levels on Board Ships, adopted by the Organization by resolution A.468(XII).

Regulation 38

Engineers' alarm

An engineers' alarm shall be provided to be operated from the engine control room or at the manoeuvring platform as appropriate, and shall be clearly audible in the engineers' accommodation.

Regulation 39

Location of emergency installations in passenger ships

Emergency sources of electrical power, fire pumps, bilge pumps except those specifically serving the spaces forward of the collision bulkhead, any fixed fire-extinguishing system required by Chapter II-2 and other emergency installations which are essential for the safety of the ship, except anchor windlasses, shall not be installed forward of the collision bulkhead.

PART D – ELECTRICAL INSTALLATIONS

(Except where expressly provided otherwise Part D applies to passenger ships and cargo ships)

Regulation 40

General

- 1 Electrical installations shall be such that:
 - .1 all electrical auxiliary services necessary for maintaining the ship in normal operational and habitable conditions will be ensured without recourse to the emergency source of electrical power;
 - .2 electrical services essential for safety will be ensured under various emergency conditions; and
 - .3 the safety of passengers, crew and ship from electrical hazards will be ensured.
- 2 The Administration shall take appropriate steps to ensure uniformity in the implementation and application of the provisions of this Part in respect of electrical installations*.

* Reference is made to the Recommendations published by the International Electrotechnical Commission and, in particular, Publication 92 – Electrical Installations in Ships.

Regulation 41*Main source of electrical power and lighting systems*

1.1 A main source of electrical power of sufficient capacity to supply all those services mentioned in Regulation 40.1.1 shall be provided. This main source of electrical power shall consist of at least two generating sets.

1.2 The capacity of these generating sets shall be such that in the event of any one generating set being stopped it will still be possible to supply those services necessary to provide normal operational conditions of propulsion and safety. Minimum comfortable conditions of habitability shall also be ensured which include at least adequate services for cooking, heating, domestic refrigeration, mechanical ventilation, sanitary and fresh water.

1.3 The arrangements of the ship's main source of electrical power shall be such that the services referred to in Regulation 40.1.1 can be maintained regardless of the speed and direction of the propulsion machinery or shafting.

1.4 In addition, the generating sets shall be such as to ensure that with any one generator or its primary source of power out of operation, the remaining generating sets shall be capable of providing the electrical services necessary to start the main propulsion plant from a dead ship condition. The emergency source of electrical power may be used for the purpose of starting from a dead ship condition if its capability either alone or combined with that of any other source of electrical power is sufficient to provide at the same time those services required to be supplied by Regulations 42.2.1 to 42.2.3 or 43.2.1 to 43.2.4.

1.5 Where transformers constitute an essential part of the electrical supply system required by this paragraph, the system shall be so arranged as to ensure the same continuity of the supply as is stated in this paragraph.

2.1 A main electric lighting system which shall provide illumination throughout those parts of the ship normally accessible to and used by passengers or crew shall be supplied from the main source of electrical power.

2.2 The arrangement of the main electric lighting system shall be such that a fire or other casualty in spaces containing the main source of electrical power, associated transforming equipment, if any, the main switchboard and the main lighting switchboard, will not render the emergency electric lighting system required by Regulations 42.2.1 and 42.2.2 or 43.2.1, 43.2.2 and 43.2.3 inoperative.

2.3 The arrangement of the emergency electric lighting system shall be such that a fire or other casualty in spaces containing the emergency source of electrical power, associated transforming equipment, if any, the emergency switchboard and the emergency lighting switchboard will not render the main electric lighting system required by this Regulation inoperative.

3 The main switchboard shall be so placed relative to one main generating station that, as far as is practicable, the integrity of the normal electrical supply may be affected only by a fire or other casualty in one space. An

environmental enclosure for the main switchboard, such as may be provided by a machinery control room situated within the main boundaries of the space, is not to be considered as separating the switchboards from the generators.

4 Where the total installed electrical power of the main generating sets is in excess of 3 MW, the main busbars shall be subdivided into at least two parts which shall normally be connected by removable links or other approved means; so far as is practicable, the connexion of generating sets and any other duplicated equipment shall be equally divided between the parts. Equivalent arrangements may be permitted to the satisfaction of the Administration.

Regulation 42

Emergency source of electrical power in passenger ships

1.1 A self-contained emergency source of electrical power shall be provided.

1.2 The emergency source of electrical power, associated transforming equipment, if any, transitional source of emergency power, emergency switchboard and emergency lighting switchboard shall be located above the uppermost continuous deck and shall be readily accessible from the open deck. They shall not be located forward of the collision bulkhead.

1.3 The location of the emergency source of electrical power and associated transforming equipment, if any, the transitional source of emergency power, the emergency switchboard and the emergency electric lighting switchboards in relation to the main source of electrical power, associated transforming equipment, if any, and the main switchboard shall be such as to ensure to the satisfaction of the Administration that a fire or other casualty in spaces containing the main source of electrical power, associated transforming equipment, if any, and the main switchboard or in any machinery space of category A will not interfere with the supply, control and distribution of emergency electrical power. As far as practicable, the space containing the emergency source of electrical power, associated transforming equipment, if any, the transitional source of emergency electrical power and the emergency switchboard shall not be contiguous to the boundaries of machinery spaces of category A or those spaces containing the main source of electrical power, associated transforming equipment, if any, or the main switchboard.

1.4 Provided that suitable measures are taken for safeguarding independent emergency operation under all circumstances, the emergency generator may be used exceptionally, and for short periods, to supply non-emergency circuits.

2 The electrical power available shall be sufficient to supply all those services that are essential for safety in an emergency, due regard being paid to such services as may have to be operated simultaneously. The emergency source of electrical power shall be capable, having regard to starting currents and the transitory nature of certain loads, of supplying simultaneously at least the following services for the periods specified hereinafter, if they depend upon an electrical source for their operation:

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2.1 For a period of 36 hours, emergency lighting:

- .1 at every embarkation station on deck and over sides as required by Regulations III/19 and III/30;
- .2 in all service and accommodation alleyways, stairways and exits, personnel lift cars;
- .3 in the machinery spaces and main generating stations including their control positions;
- .4 in all control stations, machinery control rooms, and at each main and emergency switchboard;
- .5 at all stowage positions for firemen's outfits;
- .6 at the steering gear; and
- .7 at the fire pump, the sprinkler pump and the emergency bilge pump referred to in paragraph 2.4 and at the starting position of their motors.

2.2 For a period of 36 hours, the navigation lights and other lights required by the International Regulations for Preventing Collisions at Sea in force.

2.3 For a period of 36 hours:

- .1 all internal communication equipment required in an emergency;
- .2 the navigational aids as required by Regulation V/12; where such provision is unreasonable or impracticable the Administration may waive this requirement for ships of less than 5,000 tons gross tonnage;
- .3 the fire detection and fire alarm system, and the fire door holding and release system; and
- .4 for intermittent operation of the daylight signalling lamp, the ship's whistle, the manually operated ^{cast} ~~operated~~ and all internal signals that are required in an emergency;

unless such services have an independent supply for the period of 36 hours from an accumulator battery suitably located for use in an emergency.

2.4 For a period of 36 hours:

- .1 one of the fire pumps required by Regulation II-2/4.3.1 and 4.3.3;
- .2 the automatic sprinkler pump, if any; and
- .3 the emergency bilge pump and all the equipment essential for the operation of electrically powered remote controlled bilge valves.

2.5 For the period of time required by Regulation 29.14 the steering gear if required to be so supplied by that Regulation.

2.6 For a period of half an hour:

- .1 any watertight doors required by Regulation 15 to be power operated together with their indicators and warning signals. Provided the requirements of Regulation 15.9.2 are complied with, sequential operation of the doors may be permitted providing all doors can be closed in 60 seconds;
- .2 the emergency arrangements to bring the lift cars to deck level for the escape of persons. The passenger lift cars may be brought to deck level sequentially in an emergency.

2.7 In a ship engaged regularly on voyages of short duration, the Administration if satisfied that an adequate standard of safety would be attained may accept a lesser period than the 36 hour period specified in paragraphs 2.1 to 2.5 but not less than 12 hours.

3 The emergency source of electrical power may be either a generator or an accumulator battery, which shall comply with the following:

3.1 Where the emergency source of electrical power is a generator, it shall be:

- .1 driven by a suitable prime-mover with an independent supply of fuel having a flashpoint (closed cup test) of not less than 43°C;
- .2 started automatically upon failure of the electrical supply from the main source of electrical power and shall be automatically connected to the emergency switchboard; those services referred to in paragraph 4 shall then be transferred automatically to the emergency generating set. The automatic starting system and the characteristic of the prime-mover shall be such as to permit the emergency generator to carry its full rated load as quickly as is safe and practicable, subject to a maximum of 45 seconds; unless a second independent means of starting the emergency generating set is provided, the single source of stored energy shall be protected to preclude its complete depletion by the automatic starting system; and
- .3 provided with a transitional source of emergency electrical power according to paragraph 4.

3.2 Where the emergency source of electrical power is an accumulator battery, it shall be capable of:

- .1 carrying the emergency electrical load without recharging while maintaining the voltage of the battery throughout the discharge period within 12 per cent above or below its nominal voltage;
- .2 automatically connecting to the emergency switchboard in the event of failure of the main source of electrical power; and
- .3 immediately supplying at least those services specified in paragraph 4.

4 The transitional source of emergency electrical power required by paragraph 3.1.3 shall consist of an accumulator battery suitably located for use in an emergency which shall operate without recharging while maintaining the voltage of the battery throughout the discharge period within 12 per cent above or below its nominal voltage and be of sufficient capacity and so arranged as to supply automatically in the event of failure of either the main or emergency source of electrical power at least the following services, if they depend upon an electrical source for their operation:

4.1 For half an hour:

- .1 the lighting required by paragraphs 2.1 and 2.2;
- .2 all services required by paragraphs 2.3.1, 2.3.3 and 2.3.4 unless such services have an independent supply for the period specified from an accumulator battery suitably located for use in an emergency.

4.2 Power to close the watertight doors but not necessarily all of them simultaneously, together with their indicators and warning signals as required by paragraph 2.6.1.

5.1 The emergency switchboard shall be installed as near as is practicable to the emergency source of electrical power.

5.2 Where the emergency source of electrical power is a generator, the emergency switchboard shall be located in the same space unless the operation of the emergency switchboard would thereby be impaired.

5.3 No accumulator battery fitted in accordance with this Regulation shall be installed in the same space as the emergency switchboard. An indicator shall be mounted in a suitable place on the main switchboard or in the machinery control room to indicate when the batteries constituting either the emergency source of electrical power or the transitional source of emergency electrical power referred to in paragraph 3.1.3 or 4 are being discharged.

5.4 The emergency switchboard shall be supplied during normal operation from the main switchboard by an interconnector feeder which is to be adequately protected at the main switchboard against overload and short circuit and which is to be disconnected automatically at the emergency switchboard upon failure of the main source of electrical power. Where the system is arranged for feedback operation, the interconnector feeder is also to be protected at the emergency switchboard at least against short circuit.

5.5 In order to ensure ready availability of the emergency source of electrical power, arrangements shall be made where necessary to disconnect automatically non-emergency circuits from the emergency switchboard to ensure that power shall be available to the emergency circuits.

6 The emergency generator and its prime-mover and any emergency accumulator battery shall be so designed and arranged as to ensure that they will function at full rated power when the ship is upright and when inclined at any angle of list up to 22.5° or when inclined up to 10° either in the fore or aft direction, or is in any combination of angles within those limits.

7 Provision shall be made for the periodic testing of the complete emergency system and shall include the testing of automatic starting arrangements.

Regulation 43

Emergency source of electrical power in cargo ships

1.1 A self-contained emergency source of electrical power shall be provided.

1.2 The emergency source of electrical power, associated transforming equipment, if any, transitional source of emergency power, emergency switchboard and emergency lighting switchboard shall be located above the uppermost continuous deck and shall be readily accessible from the open deck. They shall not be located forward of the collision bulkhead, except where permitted by the Administration in exceptional circumstances.

1.3 The location of the emergency source of electrical power, associated transforming equipment, if any, the transitional source of emergency power, the emergency switchboard and the emergency lighting switchboard in relation to the main source of electrical power, associated transforming equipment, if any, and the main switchboard shall be such as to ensure to the satisfaction of the Administration that a fire or other casualty in the space containing the main source of electrical power, associated transforming equipment, if any, and the main switchboard, or in any machinery space of category A will not interfere with the supply, control and distribution of emergency electrical power. As far as practicable the space containing the emergency source of electrical power, associated transforming equipment, if any, the transitional source of emergency electrical power and the emergency switchboard shall not be contiguous to the boundaries of machinery spaces of category A or those spaces containing the main source of electrical power, associated transforming equipment, if any, and the main switchboard.

1.4 Provided that suitable measures are taken for safeguarding independent emergency operation under all circumstances, the emergency generator may be used, exceptionally, and for short periods, to supply non-emergency circuits.

2 The electrical power available shall be sufficient to supply all those services that are essential for safety in an emergency, due regard being paid to such services as may have to be operated simultaneously. The emergency source of electrical power shall be capable, having regard to starting currents and the transitory nature of certain loads, of supplying simultaneously at least the following services for the periods specified hereinafter, if they depend upon an electrical source for their operation:

2.1 For a period of 3 hours, emergency lighting at every embarkation station on deck and over sides as required by Regulations III/19 and III/38.

2.2 For a period of 18 hours, emergency lighting:

- .1 in all service and accommodation, alleyways, stairways and exits, personnel lift cars and personnel lift trunks;
- .2 in the machinery spaces and main generating stations including their control positions;
- .3 in all control stations, machinery control rooms, and at each main and emergency switchboard;
- .4 at all stowage positions for firemen's outfits;
- .5 at the steering gear; and
- .6 at the fire pump referred to in paragraph 2.5, at the sprinkler pump, if any, and at the emergency bilge pump, if any, and at the starting positions of their motors.

2.3 For a period of 18 hours, the navigation lights and other lights required by the International Regulations for Preventing Collisions at Sea in force.

2.4 For a period of 18 hours:

- .1 all internal communication equipment as required in an emergency;
- .2 the navigational aids as required by Regulation V/12; where such provision is unreasonable or impracticable the Administration may waive this requirement for ships of less than 5,000 tons gross tonnage;
- .3 the fire detection and fire alarm system; and
- .4 intermittent operation of the daylight signalling lamp, the ship's whistle, the manually operated bell and all internal signals that are required in an emergency;

unless such services have an independent supply for the period of 18 hours from an accumulator battery suitably located for use in an emergency.

2.5 For a period of 18 hours one of the fire pumps required by Regulation II-2/4.3.1 and 4.3.3 if dependent upon the emergency generator for its source of power.

2.6.1 For the period of time required by Regulation 29.14 the steering gear where it is required to be so supplied by that Regulation.

2.6.2 In a ship engaged regularly in voyages of short duration, the Administration if satisfied that an adequate standard of safety would be attained may accept a lesser period than the 18 hour period specified in paragraphs 2.2 to 2.5 but not less than 12 hours.

3 The emergency source of electrical power may be either a generator or an accumulator battery, which shall comply with the following:

3.1 Where the emergency source of electrical power is a generator, it shall be:

- .1 driven by a suitable prime-mover with an independent supply of fuel, having a flashpoint (closed cup test) of not less than 43°C;
- .2 started automatically upon failure of the main source of electrical power supply unless a transitional source of emergency electrical power in accordance with paragraph 3.1.3 is provided; where the emergency generator is automatically started, it shall be automatically connected to the emergency switchboard; those services referred to in paragraph 4 shall then be connected automatically to the emergency generator; and unless a second independent means of starting the emergency generator is provided the single source of stored energy shall be protected to preclude its complete depletion by the automatic starting system; and
- .3 provided with a transitional source of emergency electrical power as specified in paragraph 4 unless an emergency generator is provided capable both of supplying the services mentioned in that paragraph and of being automatically started and supplying the required load as quickly as is safe and practicable subject to a maximum of 45 seconds.

3.2 Where the emergency source of electrical power is an accumulator battery it shall be capable of:

- .1 carrying the emergency electrical load without recharging while maintaining the voltage of the battery throughout the discharge period within 12 per cent above or below its nominal voltage;
- .2 automatically connecting to the emergency switchboard in the event of failure of the main source of electrical power; and
- .3 immediately supplying at least those services specified in paragraph 4.

4 The transitional source of emergency electrical power where required by paragraph 3.1.3 shall consist of an accumulator battery suitably located for use in an emergency which shall operate without recharging while maintaining the voltage of the battery throughout the discharge period within 12 per cent above or below its nominal voltage and be of sufficient capacity and shall be so arranged as to supply automatically in the event of failure of either the main or the emergency source of electrical power for half an hour at least the following services if they depend upon an electrical source for their operation:

- .1 the lighting required by paragraphs 2.1, 2.2 and 2.3. For this transitional phase, the required emergency electric lighting, in respect of the machinery space and accommodation and service spaces may be provided by permanently fixed, individual, automatically charged, relay operated accumulator lamps; and
- .2 all services required by paragraphs 2.4.1, 2.4.3 and 2.4.4 unless such services have an independent supply for the period specified from an accumulator battery suitably located for use in an emergency.

5.1 The emergency switchboard shall be installed as near as is practicable to the emergency source of electrical power.

5.2 Where the emergency source of electrical power is a generator, the emergency switchboard shall be located in the same space unless the operation of the emergency switchboard would thereby be impaired.

5.3 No accumulator battery fitted in accordance with this Regulation shall be installed in the same space as the emergency switchboard. An indicator shall be mounted in a suitable place on the main switchboard or in the machinery control room to indicate when the batteries constituting either the emergency source of electrical power or the transitional source of electrical power referred to in paragraph 3.2 or 4 are being discharged.

5.4 The emergency switchboard shall be supplied during normal operation from the main switchboard by an interconnector feeder which is to be adequately protected at the main switchboard against overload and short circuit and which is to be disconnected automatically at the emergency switchboard upon failure of the main source of electrical power. Where the system is arranged for feedback operation, the interconnector feeder is also to be protected at the emergency switchboard at least against short circuit.

5.5 In order to ensure ready availability of the emergency source of electrical power, arrangements shall be made where necessary to disconnect automatically non-emergency circuits from the emergency switchboard to ensure that electrical power shall be available automatically to the emergency circuits.

6 The emergency generator and its prime-mover and any emergency accumulator battery shall be so designed and arranged as to ensure that they will function at full rated power when the ship is upright and when inclined at any angle of list up to 22.5° or when inclined up to 10° either in the fore or aft direction, or is in any combination of angles within those limits.

7 Provision shall be made for the periodic testing of the complete emergency system and shall include the testing of automatic starting arrangements.

Regulation 44

Starting arrangements for emergency generating sets

1 Emergency generating sets shall be capable of being readily started in their cold condition at a temperature of 0°C. If this is impracticable, or if lower temperatures are likely to be encountered, provision acceptable to the Administration shall be made for the maintenance of heating arrangements, to ensure ready starting of the generating sets.

2 Each emergency generating set arranged to be automatically started shall be equipped with starting devices approved by the Administration with a stored energy capability of at least three consecutive starts. A second source of energy shall be provided for an additional three starts within 30 minutes unless manual starting can be demonstrated to be effective.

- 3 The stored energy shall be maintained at all times, as follows:
 - .1 electrical and hydraulic starting systems shall be maintained from the emergency switchboard;
 - .2 compressed air starting systems may be maintained by the main or auxiliary compressed air receivers through a suitable non-return valve or by an emergency air compressor which, if electrically driven, is supplied from the emergency switchboard;
 - .3 all of these starting, charging and energy storing devices shall be located in the emergency generator space; these devices are not to be used for any purpose other than the operation of the emergency generating set. This does not preclude the supply to the air receiver of the emergency generating set from the main or auxiliary compressed air system through the non-return valve fitted in the emergency generator space.
- 4.1 Where automatic starting is not required, manual starting is permissible, such as manual cranking, inertia starters, manually charged hydraulic accumulators, or powder charge cartridges, where they can be demonstrated as being effective.
- 4.2 When manual starting is not practicable, the requirements of paragraphs 2 and 3 shall be complied with except that starting may be manually initiated.

Regulation 45

Precautions against shock, fire and other hazards of electrical origin

- 1.1 Exposed metal parts of electrical machines or equipment which are not intended to be live but which are liable under fault conditions to become live shall be earthed unless the machines or equipment are:
 - .1 supplied at a voltage not exceeding 55 V direct current or 55 V, root mean square between conductors; auto-transformers shall not be used for the purpose of achieving this voltage; or
 - .2 supplied at a voltage not exceeding 250 V by safety isolating transformers supplying only one consuming device; or
 - .3 constructed in accordance with the principle of double insulation.
- 1.2 The Administration may require additional precautions for portable electrical equipment for use in confined or exceptionally damp spaces where particular risks due to conductivity may exist.
- 1.3 All electrical apparatus shall be so constructed and so installed as not to cause injury when handled or touched in the normal manner.
- 2 Main and emergency switchboards shall be so arranged as to give easy access as may be needed to apparatus and equipment, without danger to personnel. The sides and the rear and, where necessary, the front of

switchboards shall be suitably guarded. Exposed live parts having voltages to earth exceeding a voltage to be specified by the Administration shall not be installed on the front of such switchboards. Where necessary, non-conducting mats or gratings shall be provided at the front and rear of the switchboard.

3.1 The hull return system of distribution shall not be used for any purpose in a tanker, or for power, heating, or lighting in any other ship of 1,600 tons gross tonnage and upwards.

3.2 The requirement of paragraph 3.1 does not preclude under conditions approved by the Administration the use of:

- .1 impressed current cathodic protective systems;
- .2 limited and locally earthed systems; or
- .3 insulation level monitoring devices provided the circulation current does not exceed 30 mA under the most unfavourable conditions.

3.3 Where the hull return system is used, all final subcircuits, i.e. all circuits fitted after the last protective device, shall be two-wire and special precautions shall be taken to the satisfaction of the Administration.

4.1 Earthed distribution systems shall not be used in a tanker. The Administration may exceptionally permit in a tanker the earthing of the neutral for alternating current power networks of 3,000 V (line to line) and over, provided that any possible resulting current does not flow directly through any of the dangerous spaces.

4.2 When a distribution system, whether primary or secondary, for power, heating or lighting, with no connexion to earth is used, a device capable of continuously monitoring the insulation level to earth and of giving an audible or visual indication of abnormally low insulation values shall be provided.

5.1 Except as permitted by the Administration in exceptional circumstances, all metal sheaths and armour of cables shall be electrically continuous and shall be earthed.

5.2 All electric cables and wiring external to equipment shall be at least of a flame retardant type and shall be so installed as not to impair their original flame retarding properties. Where necessary for particular applications the Administration may permit the use of special types of cables such as radio frequency cables, which do not comply with the foregoing.

5.3 Cables and wiring serving essential or emergency power, lighting, internal communications or signals shall so far as practicable be routed clear of galleys, laundries, machinery spaces of category A and their casings and other high fire risk areas. Cables connecting fire pumps to the emergency switchboard shall be of a fire resistant type where they pass through high fire risk areas. Where practicable all such cables should be run in such a manner as to preclude their being rendered unserviceable by heating of the bulkheads that may be caused by a fire in an adjacent space.

5.4 Where cables which are installed in hazardous areas introduce the risk of fire or explosion in the event of an electrical fault in such areas, special

precautions against such risks shall be taken to the satisfaction of the Administration.

5.5 Cables and wiring shall be installed and supported in such a manner as to avoid chafing or other damage.

5.6 Terminations and joints in all conductors shall be so made as to retain the original electrical, mechanical, flame retarding and, where necessary, fire resisting properties of the cable.

6.1 Each separate circuit shall be protected against short circuit and against overload, except as permitted in Regulations 29 and 30 or where the Administration may exceptionally otherwise permit.

6.2 The rating or appropriate setting of the overload protective device for each circuit shall be permanently indicated at the location of the protective device.

7 Lighting fittings shall be so arranged as to prevent temperature rises which could damage the cables and wiring, and to prevent surrounding material from becoming excessively hot.

8 All lighting and power circuits terminating in a bunker or cargo space shall be provided with a multiple pole switch outside the space for disconnecting such circuits.

9.1 Accumulator batteries shall be suitably housed, and compartments used primarily for their accommodation shall be properly constructed and efficiently ventilated.

9.2 Electrical or other equipment which may constitute a source of ignition of flammable vapours shall not be permitted in these compartments except as permitted in paragraph 10.

9.3 Accumulator batteries shall not be located in sleeping quarters except where hermetically sealed to the satisfaction of the Administration.

10 No electrical equipment shall be installed in any space where flammable mixtures are liable to collect including those on board tankers or in compartments assigned principally to accumulator batteries, in paint lockers, acetylene stores or similar spaces, unless the Administration is satisfied that such equipment is:

- .1 essential for operational purposes;
- .2 of a type which will not ignite the mixture concerned;
- .3 appropriate to the space concerned; and
- .4 appropriately certified for safe usage in the dusts, vapours or gases likely to be encountered.

11 In a passenger ship, distribution systems shall be so arranged that fire in any main vertical zone as is defined in Regulation II-2/3.9 will not interfere with services essential for safety in any other such zone. This requirement will

be met if main and emergency feeders passing through any such zone are separated both vertically and horizontally as widely as is practicable.

PART E – ADDITIONAL REQUIREMENTS FOR PERIODICALLY UNATTENDED MACHINERY SPACES

(Part E applies to cargo ships except that Regulation 54 refers to passenger ships)

Regulation 46

General

- 1 The arrangements provided shall be such as to ensure that the safety of the ship in all sailing conditions, including manoeuvring, is equivalent to that of a ship having the machinery spaces manned.
- 2 Measures shall be taken to the satisfaction of the Administration to ensure that the equipment is functioning in a reliable manner and that satisfactory arrangements are made for regular inspections and routine tests to ensure continuous reliable operation.
- 3 Every ship shall be provided with documentary evidence, to the satisfaction of the Administration, of its fitness to operate with periodically unattended machinery spaces.

Regulation 47

Fire precautions

- 1 Means shall be provided to detect and give alarms at an early stage in case of fires:
 - .1 in boiler air supply casings and exhausts (uptakes); and
 - .2 in scavenging air belts of propulsion machinery,unless the Administration considers this to be unnecessary in a particular case.
- 2 Internal combustion engines of 2250 kW and above or having cylinders of more than 300 mm bore shall be provided with crankcase oil mist detectors or engine bearing temperature monitors or equivalent devices.

Regulation 48

Protection against flooding

1 Bilge wells in periodically unattended machinery spaces shall be located and monitored in such a way that the accumulation of liquids is detected at normal angles of trim and heel, and shall be large enough to accommodate easily the normal drainage during the unattended period.

2 Where the bilge pumps are capable of being started automatically, means shall be provided to indicate when the influx of liquid is greater than the pump capacity or when the pump is operating more frequently than would normally be expected. In these cases, smaller bilge wells to cover a reasonable period of time may be permitted. Where automatically controlled bilge pumps are provided, special attention shall be given to oil pollution prevention requirements.

3 The location of the controls of any valve serving a sea inlet, a discharge below the water-line or a bilge injection system shall be so sited as to allow adequate time for operation in case of influx of water to the space, having regard to the time likely to be required in order to reach and operate such controls. If the level to which the space could become flooded with the ship in the fully loaded condition so requires, arrangements shall be made to operate the controls from a position above such level.

Regulation 49

Control of propulsion machinery from the navigating bridge

1 Under all sailing conditions, including manoeuvring, the speed, direction of thrust and, if applicable, the pitch of the propeller shall be fully controllable from the navigating bridge.

1.1 Such remote control shall be performed by a single control device for each independent propeller, with automatic performance of all associated services, including, where necessary, means of preventing overload of the propulsion machinery.

1.2 The main propulsion machinery shall be provided with an emergency stopping device on the navigating bridge which shall be independent of the navigating bridge control system.

2 Propulsion machinery orders from the navigating bridge shall be indicated in the main machinery control room or at the propulsion machinery control position as appropriate.

3 Remote control of the propulsion machinery shall be possible only from one location at a time; at such locations interconnected control positions are permitted. At each location there shall be an indicator showing which location is in control of the propulsion machinery. The transfer of control between the navigating bridge and machinery spaces shall be possible only in

the/^{main}machinery space or in the/^{main}machinery control room. The system shall include means to prevent the propelling thrust from altering significantly when transferring control from one location to another.

4 It shall be possible for all machinery essential for the safe operation of the ship to be controlled from a local position, even in the case of failure in any part of the automatic or remote control systems.

5 The design of the remote automatic control system shall be such that in case of its failure an alarm will be given. Unless the Administration considers it impracticable, the preset speed and direction of thrust shall be maintained until local control is in operation. ^{of the propeller}

6 Indicators shall be fitted on the navigating bridge for:

- .1 propeller speed and direction of rotation in/^{the}case of fixed pitch propellers; or
- .2 propeller speed and pitch position in/^{the}case of controllable pitch propellers.

7 The number of consecutive automatic attempts which fail to produce a start shall be limited to safeguard sufficient starting air pressure. An alarm shall be provided to indicate low starting air pressure set at a level which still permits starting operations of the propulsion machinery.

Regulation 50

Communication

A reliable means of vocal communication shall be provided between the main machinery control room or the propulsion machinery control position as appropriate, the navigating bridge and the engineer officers' accommodation.

Regulation 51

Alarm system

1 An alarm system shall be provided indicating any fault requiring attention and shall:

- .1 be capable of sounding an audible alarm in the main machinery control room or at the propulsion machinery control position, and indicate visually each separate alarm function at a suitable position;
- .2 have a connexion to the engineers' public rooms and to each of the engineers' cabins through a selector switch, to ensure connexion to at least one of those cabins. Administrations may permit equivalent arrangements;
- .3 activate an audible and visual alarm on the navigating bridge for any situation which requires action by or attention of the officer on watch;

- .4 as far as is practicable be designed on the fail-to-safety principle; and
 - .5 activate the engineers' alarm required by Regulation 38 if an alarm function has not received attention locally within a limited time.
- 2.1 The alarm system shall be continuously powered and shall have an automatic change-over to a stand-by power supply in case of loss of normal power supply.
 - 2.2 Failure of the normal power supply of the alarm system shall be indicated by an alarm.
 - 3.1 The alarm system shall be able to indicate at the same time more than one fault and the acceptance of any alarm shall not inhibit another alarm.
 - 3.2 Acceptance at the position referred to in paragraph 1 of any alarm condition shall be indicated at the positions where it was shown. Alarms shall be maintained until they are accepted and the visual indications of individual alarms shall remain until the fault has been corrected, when the alarm system shall automatically reset to the normal operating condition.

Regulation 52

Safety systems

A safety system shall be provided to ensure that serious malfunction in machinery or boiler operations, which presents an immediate danger, shall initiate the automatic shut-down of that part of the plant and that an alarm shall be given. Shut-down of the propulsion system shall not be automatically activated except in cases which could lead to serious damage, complete breakdown, or explosion. Where arrangements for overriding the shut-down of the main propelling machinery are fitted, these shall be such as to preclude inadvertent operation. Visual means shall be provided to indicate when the override has been activated.

Regulation 53

Special requirements for machinery, boiler and electrical installations

- 1 The special requirements for the machinery, boiler and electrical installations shall be to the satisfaction of the Administration and shall include at least the requirements of this Regulation.
- 2 The main source of electrical power shall comply with the following:
 - 2.1 Where the electrical power can normally be supplied by one generator, suitable load shedding arrangements shall be provided to ensure the integrity of supplies to services required for propulsion and steering as well as the safety of the ship. In the case of loss of the generator in operation, adequate provision shall be made for automatic starting and connecting to the main

switchboard of a stand-by generator of sufficient capacity to permit propulsion and steering and to ensure the safety of the ship with automatic re-starting of the essential auxiliaries including, where necessary, sequential operations. The Administration may dispense with this requirement for a ship of less than 1,600 tons gross tonnage, if it is considered impracticable.

2.2 If the electrical power is normally supplied by more than one generator simultaneously in parallel operation, provision shall be made, for instance by load shedding, to ensure that, in case of loss of one of these generating sets, the remaining ones are kept in operation without overload to permit propulsion and steering, and to ensure the safety of the ship.

3 Where stand-by machines are required for other auxiliary machinery essential to propulsion, automatic change-over devices shall be provided.

4 *Automatic control and alarm system*

4.1 The control system shall be such that the services needed for the operation of the main propulsion machinery and its auxiliaries are ensured through the necessary automatic arrangements.

4.2 An alarm shall be given on the automatic change-over.

4.3 An alarm system complying with Regulation 51 shall be provided for all important pressures, temperatures and fluid levels and other essential parameters.

4.4 A centralized control^p position shall be arranged with the necessary alarm panels and instrumentation indicating any alarm.

5 Means shall be provided to keep the starting air pressure at the required level where internal combustion engines are used for main propulsion.

Regulation 54

Special consideration in respect of passenger ships

Passenger ships shall be specially considered by the Administration as to whether or not their machinery spaces may be periodically unattended and if so whether additional requirements to those stipulated in these Regulations are necessary to achieve equivalent safety to that of normally attended machinery spaces.

CHAPTER II-2

CONSTRUCTION – FIRE PROTECTION, FIRE DETECTION AND FIRE EXTINCTION

The existing text of Chapter II-2 is replaced by the following:

PART A – GENERAL

Regulation 1

Application

1.1 Unless expressly provided otherwise, this Chapter shall apply to ships the keels of which are laid or which are at a similar stage of construction on or after 1 September 1984.

1.2 For the purpose of this Chapter the term “a similar stage of construction” means the stage at which:

- .1 construction identifiable with a specific ship begins; and
- .2 assembly of that ship has commenced comprising at least 50 tonnes or one per cent of the estimated mass of all structural material, whichever is less.

1.3 For the purpose of this Chapter:

- .1 the expression “ships constructed” means “ships the keels of which are laid or which are at a similar stage of construction”;
- .2 the expression “all ships” means “ships constructed before, on or after 1 September 1984”;
- .3 a cargo ship, whenever built, which is converted to a passenger ship shall be treated as a passenger ship constructed on the date on which such a conversion commences.

2 Unless expressly provided otherwise:

- .1 for ships constructed before 1 September 1984, the Administration shall ensure that, subject to the provisions of paragraph 2.2, the requirements which are applicable under Chapter II-2 of the International Convention for the Safety of Life at Sea, 1974* to new or existing ships as defined in that Chapter are complied with;
- .2 for tankers constructed before 1 September 1984, the Administration shall ensure that the requirements which are applicable under

* The text as adopted by the International Conference on Safety of Life at Sea, 1974.

Chapter II-2 of the Annex to the Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974, to new or existing ships as defined in that Chapter are complied with.

3 All ships which undergo repairs, alterations, modifications and outfitting related thereto shall continue to comply with at least the requirements previously applicable to these ships. Such ships, if constructed before 1 September 1984 shall, as a rule, comply with the requirements for ships constructed on or after that date to at least the same extent as they did before undergoing such repairs, alterations, modifications or outfitting. Repairs, alterations and modifications of a major character and outfitting related thereto shall meet the requirements for ships constructed on or after 1 September 1984 in so far as the Administration deems reasonable and practicable.

4.1 The Administration of a State may, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of any specific requirements of this Chapter unreasonable or unnecessary, exempt from those requirements individual ships or classes of ships entitled to fly the flag of that State which, in the course of their voyage, do not proceed more than 20 miles from the nearest land.

4.2 In the case of passenger ships which are employed in special trades for the carriage of large numbers of special trade passengers, such as the pilgrim trade, the Administration of the State whose flag such ships are entitled to fly, if satisfied that it is impracticable to enforce compliance with the requirements of this Chapter, may exempt such ships from those requirements, provided that they comply fully with provisions of:

- .1 the Rules annexed to the Special Trade Passenger Ships Agreement, 1971; and
- .2 the Rules annexed to the Protocol on Space Requirements for Special Trade Passenger Ships, 1973.

Regulation 2

Basic principles

1 The purpose of this Chapter is to require the fullest practicable degree of fire protection, fire detection and fire extinction in ships.

2 The following basic principles underlie the Regulations in this Chapter and are embodied in the Regulations as appropriate, having regard to the type of ships and the potential fire hazard involved:

- .1 division of ship into main vertical zones by thermal and structural boundaries;
- .2 separation of accommodation spaces from the remainder of the ship by thermal and structural boundaries;

- .3 restricted use of combustible materials;
- .4 detection of any fire in the zone of origin;
- .5 containment and extinction of any fire in the space of origin;
- .6 protection of means of escape or access for fire fighting;
- .7 ready availability of fire-extinguishing appliances;
- .8 minimization of possibility of ignition of flammable cargo vapour.

Regulation 3

Definitions

For the purpose of this Chapter, unless expressly provided otherwise:

1 “Non-combustible material” is a material which neither burns nor gives off flammable vapours in sufficient quantity for self-ignition when heated to approximately 750°C, this being determined to the satisfaction of the Administration by an established test procedure.* Any other material is a combustible material.

2 “A standard fire test” is one in which specimens of the relevant bulkheads or decks are exposed in a test furnace to temperatures corresponding approximately to the standard time-temperature curve. The specimen shall have an exposed surface of not less than 4.65 m² and height (or length of deck) of 2.44 m, resembling as closely as possible the intended construction and including where appropriate at least one joint. The standard time-temperature curve is defined by a smooth curve drawn through the following temperature points measured above the initial furnace temperature:

at the end of the first	5 minutes	556°C
" " " " " "	10 minutes	659°C
" " " " " "	15 minutes	718°C
" " " " " "	30 minutes	821°C
" " " " " "	60 minutes	925°C

3 “‘A’ class divisions” are those divisions formed by bulkheads and decks which comply with the following:

- .1 they shall be constructed of steel or other equivalent material;
- .2 they shall be suitably stiffened;
- .3 they shall be so constructed as to be capable of preventing the passage of smoke and flame to the end of the one-hour standard fire test;

* Reference is made to Improved Recommendation on Test Method for Qualifying Marine Construction Materials as Non-Combustible, adopted by the Organization by resolution A.472(XII).

- .4 they shall be insulated with approved non-combustible materials such that the average temperature of the unexposed side will not rise more than 139°C above the original temperature, nor will the temperature, at any one point, including any joint, rise more than 180°C above the original temperature, within the time listed below:

class "A-60"	60 minutes
class "A-30"	30 minutes
class "A-15"	15 minutes
class "A-0"	0 minutes

- .5 the Administration may require a test of a prototype bulkhead or deck to ensure that it meets the above requirements for integrity and temperature rise.*

4 "B" class divisions" are those divisions formed by bulkheads, decks, ceilings or linings which comply with the following:

- .1 they shall be so constructed as to be capable of preventing the passage of flame to the end of the first half hour of the standard fire test;
- .2 they shall have an insulation value such that the average temperature of the unexposed side will not rise more than 139°C above the original temperature, nor will the temperature at any one point, including any joint, rise more than 225°C above the original temperature, within the time listed below:

class "B-15"	15 minutes
class "B-0"	0 minutes

- .3 they shall be constructed of approved non-combustible materials and all materials entering into the construction and erection of "B" class divisions shall be non-combustible, with the exception that combustible veneers may be permitted provided they meet other requirements of this Chapter;
- .4 the Administration may require a test of a prototype division to ensure that it meets the above requirements for integrity and temperature rise.*

5 "C" class divisions" are divisions constructed of approved non-combustible materials. They need meet neither requirements relative to the passage of smoke and flame nor limitations relative to the temperature rise. Combustible veneers are permitted provided they meet other requirements of this Chapter.

6 "Continuous 'B' class ceilings or linings" are those "B" class ceilings or linings which terminate only at an "A" or "B" class division.

7 "Steel or other equivalent material". Where the words "steel or other equivalent material" occur, "equivalent material" means any non-

* Reference is made to Recommendation for Fire Test Procedures for "A" and "B" Class Divisions, adopted by the Organization by resolutions A.163(ES.IV) and A.215(VII).

combustible material which, by itself or due to insulation provided, has structural and integrity properties equivalent to steel at the end of the applicable exposure to the standard fire test (e.g. aluminium alloy with appropriate insulation).

8 “Low flame spread” means that the surface thus described will adequately restrict the spread of flame, this being determined to the satisfaction of the Administration by an established test procedure.

9 “Main vertical zones” are those sections into which the hull, superstructure, and deckhouses are divided by “A” class divisions, the mean length of which on any deck does not in general exceed 40 m.

10 “Accommodation spaces” are those spaces used for public spaces, corridors, lavatories, cabins, offices, hospitals, cinemas, games and hobbies rooms, barber shops, pantries containing no cooking appliances and similar spaces.

11 “Public spaces” are those portions of the accommodation which are used for halls, dining rooms, lounges and similar permanently enclosed spaces.

12 “Service spaces” are those spaces used for galleys, pantries containing cooking appliances, lockers, mail and specie rooms, store-rooms, workshops other than those forming part of the machinery spaces, and similar spaces and trunks to such spaces.

13 “Cargo spaces” are all spaces used for cargo (including cargo oil tanks) and trunks to such spaces.

14 “Ro/ro cargo spaces” are spaces not normally subdivided in any way and extending to either a substantial length or the entire length of the ship in which goods (packaged or in bulk, in or on rail or road cars, vehicles (including road or rail tankers), trailers, containers, pallets, demountable tanks or in or on similar stowage units or other receptacles) can be loaded and unloaded normally in a horizontal direction.

15 “Open ro/ro cargo spaces” are ro/ro cargo spaces either open at both ends, or open at one end and provided with adequate natural ventilation effective over their entire length through permanent openings in the side plating or deckhead to the satisfaction of the Administration.

16 “Closed ro/ro cargo spaces” are ro/ro cargo spaces which are neither open ro/ro cargo spaces nor weather decks.

17 “Weather deck” is a deck which is completely exposed to the weather from above and from at least two sides.

18 “Special category spaces” are those enclosed spaces above or below the bulkhead deck intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion, into and from which such vehicles can be driven and to which passengers have access.

19 “Machinery spaces of category A” are those spaces and trunks to such

spaces which contain:

- .1 internal combustion machinery used for main propulsion; or
- .2 internal combustion machinery used for purposes other than main propulsion where such machinery has in the aggregate a total power output of not less than 375 kW; or
- .3 any oil-fired boiler or oil fuel unit.

20 "Machinery spaces" are all machinery spaces of category A and all other spaces containing propulsion machinery, boilers, oil fuel units, steam and internal combustion engines, generators and major electrical machinery, oil filling stations, refrigerating, stabilizing, ventilation and air conditioning machinery, and similar spaces, and trunks to such spaces.

21 "Oil fuel unit" is the equipment used for the preparation of oil fuel for delivery to an oil-fired boiler, or equipment used for the preparation for delivery of heated oil to an internal combustion engine, and includes any oil pressure pumps, filters and heaters dealing with oil at a pressure of more than 0.18 N/mm².

22 "Control stations" are those spaces in which the ship's radio or main navigating equipment or the emergency source of power is located or where the fire recording or fire control equipment is centralized.

23 "Rooms containing furniture and furnishings of restricted fire risk" are, for the purpose of Regulation 26, those rooms containing furniture and furnishings of restricted fire risk (whether cabins, public spaces, offices or other types of accommodation) in which:

- .1 all case furniture such as desks, wardrobes, dressing tables, bureaux, dressers, is constructed entirely of approved non-combustible materials, except that a combustible veneer not exceeding 2 mm may be used on the working surface of such articles;
- .2 all free-standing furniture such as chairs, sofas, tables, is constructed with frames of non-combustible materials;
- .3 all draperies, curtains and other suspended textile materials have, to the satisfaction of the Administration, qualities of resistance to the propagation of flame not inferior to those of wool of mass 0.8 kg/m²*;
- .4 all floor coverings have, to the satisfaction of the Administration, qualities of resistance to the propagation of flame not inferior to those of an equivalent woollen material used for the same purpose;
- .5 all exposed surfaces of bulkheads, linings and ceilings have low flame-spread characteristics; and

* Reference is made to Recommendation on Test Method for Determining the Resistance to Flame of Vertically Supported Textiles and Films, adopted by the Organization by resolution A.471(XII).

- .6 all upholstered furniture has qualities of resistance to the ignition and propagation of flame to the satisfaction of the Administration.
- 24 “Bulkhead deck” is the uppermost deck up to which the transverse watertight bulkheads are carried.
- 25 “Deadweight” is the difference in tonnes between the displacement of a ship in water of a specific gravity of 1.025 at the load water-line corresponding to the assigned summer freeboard and the lightweight of the ship.
- 26 “Lightweight” is the displacement of a ship in tonnes without cargo, fuel, lubricating oil, ballast water, fresh water and feedwater in tanks, consumable stores, and passengers and crew and their effects.
- 27 “Combination carrier” is a tanker designed to carry oil or alternatively solid cargoes in bulk.
- 28 “Crude oil” is any oil occurring naturally in the earth whether or not treated to render it suitable for transportation and includes:
- .1 crude oil from which certain distillate fractions may have been removed; and
 - .2 crude oil to which certain distillate fractions may have been added.
- 29 “Dangerous goods” are those goods referred to in Regulation VII/2.
- 30 “Chemical tanker” is a tanker constructed or adapted and used for the carriage in bulk of any liquid product of a flammable nature listed in the summary of minimum requirements of the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk to be adopted by the Maritime Safety Committee under the authority of the Assembly of the Organization conferred by resolution A.490(XII), hereinafter referred to as “Bulk Chemical Code”, as may be amended by the Organization.
- 31 “Gas carrier” is a tanker constructed or adapted and used for the carriage in bulk of any liquefied gas or certain other substances of a flammable nature listed in Chapter XIX of the Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk adopted by the Organization by resolution A.328(IX), hereinafter referred to as “Gas Carrier Code”, as has been or may be amended by the Organization.

Regulation 4

Fire pumps, fire mains, hydrants and hoses

- 1 Every ship shall be provided with fire pumps, fire mains, hydrants and hoses complying as applicable with the requirements of this Regulation.
- 2 *Capacity of fire pumps*
- 2.1 The required fire pumps shall be capable of delivering for fire-fighting

purposes a quantity of water, at the pressure specified in paragraph 4, as follows:

- .1 pumps in passenger ships, not less than two-thirds of the quantity required to be dealt with by the bilge pumps when employed for bilge pumping; and
- .2 pumps in cargo ships, other than any emergency pump, not less than four-thirds of the quantity required under Regulation II-1/21 to be dealt with by each of the independent bilge pumps in a passenger ship of the same dimension when employed in bilge pumping, provided that in no cargo ship need the total required capacity of the fire pumps exceed 180 m³/hour.

2.2 Each of the required fire pumps (other than any emergency pump required in paragraph 3.3.2 for cargo ships) shall have a capacity not less than 80 per cent of the total required capacity divided by the minimum number of required fire pumps but in any case not less than 25 m³/hour and each such pump shall in any event be capable of delivering at least the two required jets of water. These fire pumps shall be capable of supplying the fire main system under the required conditions. Where more pumps than the minimum of required pumps are installed the capacity of such additional pumps shall be to the satisfaction of the Administration.

3 *Arrangements of fire pumps and of fire mains*

3.1 Ships shall be provided with independently driven fire pumps as follows:

- | | |
|--|---|
| .1 Passenger ships of 4,000 tons gross tonnage and upwards | at least three |
| .2 Passenger ships of less than 4,000 tons gross tonnage and cargo ships of 1,000 tons gross tonnage and upwards | at least two |
| .3 Cargo ships of less than 1,000 tons gross tonnage | to the satisfaction of the Administration |

3.2 Sanitary, ballast, bilge or general service pumps may be accepted as fire pumps, provided that they are not normally used for pumping oil and that if they are subject to occasional duty for the transfer or pumping of oil fuel, suitable change-over arrangements are fitted.

3.3 The arrangement of sea connexions, fire pumps and their sources of power shall be such as to ensure that:

- .1 In passenger ships of 1,000 tons gross tonnage and upwards, in the event of a fire in any one compartment all the fire pumps will not be put out of action.
- .2 In cargo ships of 2,000 tons gross tonnage and upwards if a fire in any one compartment could put all the pumps out of action there shall be an alternative means consisting of a fixed independently driven emergency pump which shall be capable of supplying two jets

of water to the satisfaction of the Administration. The pump and its location shall comply with the following requirements:

- .2.1 The capacity of the pump shall not be less than 40 per cent of the total capacity of the fire pumps required by this Regulation and in any case not less than 25 m³/hour.
 - .2.2 When the pump is delivering the quantity of water required by paragraph 3.3.2.1 the pressure at any hydrant shall be not less than the minimum pressures given in paragraph 4.2.
 - .2.3 Any diesel driven power source for the pump shall be capable of being readily started in its cold condition down to a temperature of 0°C by hand (manual) cranking. If this is impracticable, or if lower temperatures are likely to be encountered, consideration is to be given to the provision and maintenance of heating arrangements, acceptable to the Administration, so that ready starting will be assured. If hand (manual) starting is impracticable the Administration may permit other means of starting. These means shall be such as to enable the diesel driven power source to be started at least 6 times within a period of 30 minutes, and at least twice within the first 10 minutes.
 - .2.4 Any service fuel tank shall contain sufficient fuel to enable the pump to run on full load for at least three hours and sufficient reserves of fuel shall be available outside the main machinery space to enable the pump to be run on full load for an additional 15 hours.
 - .2.5 The total suction head of the pump shall not exceed 4.5 m under all conditions of list and trim likely to be encountered in service and the suction piping shall be designed to minimize suction losses.
 - .2.6 The boundaries of the space containing the fire pump shall be insulated to a standard of structural fire protection equivalent to that required for a control station in Regulation 44.
 - .2.7 No direct access shall be permitted between the machinery space and the space containing the emergency fire pump and its source of power. When this is impracticable an Administration may accept an arrangement where the access is by means of an airlock, each of the two doors being self-closing, or through a watertight door capable of being operated from a space remote from the machinery space and the space containing the emergency fire pump and unlikely to be cut off in the event of fire in those spaces. In such cases a second means of access to the space containing the emergency fire pump and its source of power shall be provided.
 - .2.8 Ventilation arrangements to the space containing the independent source of power for the emergency fire pump shall be such as to preclude, as far as practicable, the possibility of smoke from a machinery space fire entering or being drawn into that space.
- .3 In passenger ships of less than 1,000 tons gross tonnage and cargo

ships of less than 2,000 tons gross tonnage, if a fire in any one compartment could put all the pumps out of action the alternative means of providing water for fire-fighting purposes are to the satisfaction of the Administration.

- .4 In addition, in cargo ships where other pumps, such as general service, bilge and ballast, etc., are fitted in a machinery space, arrangements shall be made to ensure that at least one of these pumps, having the capacity and pressure required by paragraphs 2.2 and 4.2, is capable of providing water to the fire main.

3.4 The arrangements for the ready availability of water supply shall be:

- .1 in passenger ships of 1,000 tons gross tonnage and upwards such that at least one effective jet of water is immediately available from any hydrant in an interior location and so as to ensure the continuation of the output of water by the automatic starting of a required fire pump;
- .2 in passenger ships of less than 1,000 tons gross tonnage and in cargo ships to the satisfaction of the Administration;
- .3 in cargo ships with a periodically unattended machinery space or when only one person is required on watch there shall be immediate water delivery from the fire main system at a suitable pressure, either by remote starting of one of the main fire pumps with remote starting from the navigating bridge and fire control station, if any, or permanent pressurization of the fire main system by one of the main fire pumps, except that the Administration may waive this requirement for cargo ships of less than 1,600 tons gross tonnage if the arrangement of the machinery space access makes it unnecessary;
- .4 in passenger ships, if fitted with periodically unattended machinery spaces in accordance with Regulation II-1/54, the Administration shall determine provisions for fixed water fire-extinguishing arrangement for such spaces equivalent to those required for normally attended machinery spaces.

3.5 Relief valves shall be provided in conjunction with all fire pumps if the pumps are capable of developing a pressure exceeding the design pressure of the water service pipes, hydrants and hoses. These valves shall be so placed and adjusted as to prevent excessive pressure in any part of the fire main system.

3.6 In tankers isolation valves shall be fitted in the fire main at poop front in a protected position and on the tank deck at intervals of not more than 40 m to preserve the integrity of the fire main system in case of fire or explosion.

4 *Diameter of and pressure in the fire mains*

4.1 The diameter of the fire main and water service pipes shall be sufficient for the effective distribution of the maximum required discharge from two fire pumps operating simultaneously, except that in the case of cargo ships the diameter need only be sufficient for the discharge of 140 m³/hour.

4.2 With the two pumps simultaneously delivering through nozzles specified in paragraph 8 the quantity of water specified in paragraph 4.1, through any adjacent hydrants, the following minimum pressures shall be maintained at all hydrants:

Passenger ships:

4,000 tons gross tonnage and upwards	0.31 N/mm ²
1,000 tons gross tonnage and upwards but under 4,000 tons gross tonnage	0.27 N/mm ²
Under 1,000 tons gross tonnage	To the satisfaction of the Administration

Cargo ships:

6,000 tons gross tonnage and upwards	0.27 N/mm ²
1,000 tons gross tonnage and upwards but under 6,000 tons gross tonnage	0.25 N/mm ²
Under 1,000 tons gross tonnage	To the satisfaction of the Administration

4.3 The maximum pressure at any hydrant shall not exceed that at which the effective control of a fire hose can be demonstrated.

5 Number and position of hydrants

5.1 The number and position of hydrants shall be such that at least two jets of water not emanating from the same hydrant, one of which shall be from a single length of hose, may reach any part of the ship normally accessible to the passengers or crew while the ship is being navigated and any part of any cargo space when empty, any ro/ro cargo space or any special category space in which latter case the two jets shall reach any part of such space, each from a single length of hose. Furthermore, such hydrants shall be positioned near the accesses to the protected spaces.

5.2 In the accommodation, service and machinery spaces of passenger ships the number and position of hydrants shall be such that the requirements of paragraph 5.1 may be complied with when all watertight doors and all doors in main vertical zone bulkheads are closed.

5.3 Where, in a passenger ship, access is provided to a machinery space of category A at a low level from an adjacent shaft tunnel, two hydrants shall be provided external to, but near the entrance to that machinery space. Where such access is provided from other spaces, in one of those spaces two hydrants shall be provided near the entrance to the machinery space of category A. Such provision need not be made where the tunnel or adjacent spaces are not part of the escape route.

6 Pipes and hydrants

6.1 Materials readily rendered ineffective by heat shall not be used for fire

mains and hydrants unless adequately protected. The pipes and hydrants shall be so placed that the fire hoses may be easily coupled to them. The arrangement of pipes and hydrants shall be such as to avoid the possibility of freezing. In ships where deck cargo may be carried, the positions of the hydrants shall be such that they are always readily accessible and the pipes shall be arranged as far as practicable to avoid risk of damage by such cargo. Unless one hose and nozzle is provided for each hydrant in the ship, there shall be complete interchangeability of hose couplings and nozzles.

6.2 A valve shall be fitted to serve each fire hose so that any fire hose may be removed while the fire pumps are at work.

6.3 Isolating valves to separate the section of the fire main within the machinery space containing the main fire pump or pumps from the rest of the fire main shall be fitted in an easily accessible and tenable position outside the machinery spaces. The fire main shall be so arranged that when the isolating valves are shut all the hydrants on the ship, except those in the machinery space referred to above, can be supplied with water by a fire pump not located in this machinery space through pipes which do not enter this space. Exceptionally, the Administration may permit short lengths of the emergency fire pump suction and discharge piping to penetrate the machinery space if it is impracticable to route it externally provided that the integrity of the fire main is maintained by the enclosure of the piping in a substantial steel casing.

7 *Fire hoses*

7.1 Fire hoses shall be of material approved by the Administration and shall be sufficient in length to project a jet of water to any of the spaces in which they may be required to be used. Their maximum length shall be to the satisfaction of the Administration. Each hose shall be provided with a nozzle and the necessary couplings. Hoses specified in this Chapter as "fire hoses" shall together with any necessary fittings and tools be kept ready for use in conspicuous positions near the water service hydrants or connexions. Additionally in interior locations in passenger ships carrying more than 36 passengers fire hoses shall be connected to the hydrants at all times.

7.2 Ships shall be provided with fire hoses the number and diameter of which shall be to the satisfaction of the Administration.

7.3 In passenger ships there shall be at least one fire hose for each of the hydrants required by paragraph 5 and these hoses shall be used only for the purposes of extinguishing fires or testing the fire-extinguishing apparatus at fire drills and surveys.

7.4.1 In cargo ships of 1,000 tons gross tonnage and upwards the number of fire hoses to be provided shall be one for each 30 m length of the ship and one spare but in no case less than five in all. This number does not include any hoses required in any engine or boiler room. The Administration may increase the number of hoses required so as to ensure that hoses in sufficient number are available and accessible at all times, having regard to the type of ship and the nature of trade in which the ship is employed.

7.4.2 In cargo ships of less than 1,000 tons gross tonnage the number of fire hoses to be provided shall be to the satisfaction of the Administration.

8 *Nozzles*

8.1 For the purposes of this Chapter, standard nozzle sizes shall be 12 mm, 16 mm and 19 mm or as near thereto as possible. Larger diameter nozzles may be permitted at the discretion of the Administration.

8.2 For accommodation and service spaces, a nozzle size greater than 12 mm need not be used.

8.3 For machinery spaces and exterior locations, the nozzle size shall be such as to obtain the maximum discharge possible from two jets at the pressure mentioned in paragraph 4 from the smallest pump, provided that a nozzle size greater than 19 mm need not be used.

8.4 All nozzles shall be of an approved dual purpose type (i.e. spray/jet type) incorporating a shut-off.

9 *Location and arrangement of water pumps, etc., for other fire-extinguishing systems*

Pumps required for the provision of water for other fire-extinguishing systems required by this Chapter, their sources of power and their controls shall be installed outside the space or spaces protected by such systems and shall be so arranged that a fire in the space or spaces protected will not put any such system out of action.

Regulation 5

Fixed gas fire-extinguishing systems

1 *General*

1.1 The use of a fire-extinguishing medium which, in the opinion of the Administration, either by itself or under expected conditions of use gives off toxic gases in such quantities as to endanger persons shall not be permitted.

1.2 The necessary pipes for conveying fire-extinguishing medium into protected spaces shall be provided with control valves so marked as to indicate clearly the spaces to which the pipes are led. Suitable provision shall be made to prevent inadvertent admission of the medium to any space. Where a cargo space fitted with a gas fire-extinguishing system is used as a passenger space the gas connexion shall be blanked during such use.

1.3 The piping for the distribution of fire-extinguishing medium shall be arranged and discharge nozzles so positioned that a uniform distribution of medium is obtained.

1.4 Means shall be provided to close all openings which may admit air to or allow gas to escape from a protected space.

1.5 Where the volume of free air contained in air receivers in any space is such that, if released in such space in the event of fire, such release of air

within that space would seriously affect the efficiency of the fixed fire-extinguishing system, the Administration shall require the provision of an additional quantity of fire-extinguishing medium.

1.6 Means shall be provided for automatically giving audible warning of the release of fire-extinguishing medium into any space in which personnel normally work or to which they have access. The alarm shall operate for a suitable period before the medium is released.

1.7 The means of control of any fixed gas fire-extinguishing system shall be readily accessible and simple to operate and shall be grouped together in as few locations as possible at positions not likely to be cut off by a fire in a protected space. At each location there shall be clear instructions relating to the operation of the system having regard to the safety of personnel.

1.8 Automatic release of fire-extinguishing medium shall not be permitted, except as permitted by paragraph 3.3.5 and in respect of local automatically operated units referred to in paragraphs 3.4 and 3.5.

1.9 Where the quantity of extinguishing medium is required to protect more than one space, the quantity of medium available need not be more than the largest quantity required for any one space so protected.

1.10 Except as otherwise permitted by paragraphs 3.3, 3.4 or 3.5 pressure containers required for the storage of fire-extinguishing medium, other than steam, shall be located outside protected spaces in accordance with paragraph 1.13.

1.11 Means shall be provided for the crew to safely check the quantity of medium in the containers.

1.12 Containers for the storage of fire-extinguishing medium and associated pressure components shall be designed to pressure codes of practice to the satisfaction of the Administration having regard to their locations and maximum ambient temperatures expected in service.

1.13 When the fire-extinguishing medium is stored outside a protected space, it shall be stored in a room which shall be situated in a safe and readily accessible position and shall be effectively ventilated to the satisfaction of the Administration. Any entrance to such a storage room shall preferably be from the open deck and in any case shall be independent of the protected space. Access doors shall open outwards, and bulkheads and decks including doors and other means of closing any opening therein, which form the boundaries between such rooms and adjoining enclosed spaces shall be gastight. For the purpose of the application of the integrity tables in Regulations 26, 27, 44 and 58, such storage rooms shall be treated as control stations.

1.14 Spare parts for the system shall be stored on board and be to the satisfaction of the Administration.

2 *Carbon dioxide systems*

2.1 For cargo spaces the quantity of carbon dioxide available shall, unless

otherwise provided, be sufficient to give a minimum volume of free gas equal to 30 per cent of the gross volume of the largest cargo space so protected in the ship.

2.2 For machinery spaces the quantity of carbon dioxide carried shall be sufficient to give a minimum volume of free gas equal to the larger of the following volumes, either:

- .1 40 per cent of the gross volume of the largest machinery space so protected, the volume to exclude that part of the casing above the level at which the horizontal area of the casing is 40 per cent or less of the horizontal area of the space concerned taken midway between the tank top and the lowest part of the casing; or
- .2 35 per cent of the gross volume of the largest machinery space protected, including the casing;

provided that the above-mentioned percentages may be reduced to 35 per cent and 30 per cent respectively for cargo ships of less than 2,000 tons gross tonnage; provided also that if two or more machinery spaces are not entirely separate they shall be considered as forming one space.

2.3 For the purpose of this paragraph the volume of free carbon dioxide shall be calculated at 0.56 m³/kg.

2.4 For machinery spaces the fixed piping system shall be such that 85 per cent of the gas can be discharged into the space within 2 minutes.

3 *Halogenated hydrocarbon systems*

3.1 The use of halogenated hydrocarbons as fire-extinguishing media is only permitted in machinery spaces, pumprooms and in cargo spaces intended solely for the carriage of vehicles which are not carrying any cargo.

3.2 When halogenated hydrocarbons are used as the fire-extinguishing media in total flooding systems:

- .1 The system shall be arranged for manual initiation of power release only.
- .2 If the charge of halogenated hydrocarbon is required to supply more than one space, the arrangements for its storage and release shall be such that compliance with paragraphs 3.2.9 or 3.2.10 respectively, is obtained.
- .3 Means shall be provided for automatically stopping all ventilation fans serving the protected space before the medium is released.
- .4 Means shall be provided to manually close all dampers in the ventilation system serving a protected space.
- .5 The discharge arrangements shall be so designed that the minimum quantity of medium required for cargo spaces or machinery spaces in paragraphs 3.2.9 or 3.2.10 respectively can be substantially discharged in a nominal 20 seconds or less based on the discharge of

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the liquid phase.

- .6 The system shall be designed to operate within a temperature range to the satisfaction of the Administration.
- .7 The discharge shall not endanger personnel engaged on maintenance of equipment or using the normal access ladders and escapes serving the space.
- .8 Means shall be provided for the crew to safely check the pressure within containers.
- .9 The quantity of extinguishing medium for cargo spaces intended solely for the carriage of vehicles which are not carrying any cargo shall be calculated in accordance with table 5.1. This quantity shall be based on the gross volume of the protected space. In respect of Halon 1301 and 1211, the quantity shall be calculated on a volumetric ratio basis, and in respect of Halon 2402 on a mass per unit volume basis.

TABLE 5.1

Halon	Minimum	Maximum
1301	5 per cent	7 per cent
1211	5 per cent	5.5 per cent
2402	0.23 kg/m ³	0.30 kg/m ³

- .10 The quantity of extinguishing media for machinery spaces shall be calculated in accordance with table 5.2. This quantity shall be based on the gross volume of the space in respect of the minimum concentration and the net volume of the space in respect of the maximum concentration, including the casing. In respect of Halon 1301 and 1211, the quantity shall be calculated on a volumetric ratio basis, and in respect of Halon 2402 on a mass per unit volume basis.

TABLE 5.2

Halon	Minimum	Maximum
1301	4.25 per cent	7 per cent
1211	4.25 per cent	5.5 per cent
2402	0.20 kg/m ³	0.30 kg/m ³

- .11 For the purpose of paragraphs 3.2.9 and 3.2.10, the volume of Halon 1301 shall be calculated at 0.16 m³/kg and the volume of Halon 1211 shall be calculated at 0.14 m³/kg.

3.3 Only Halon 1301 may be stored within a protected machinery space. Containers shall be individually distributed throughout that space and the following requirements shall be complied with:

- .1 A manually initiated power release, located outside the protected space, shall be provided. Duplicate sources of power shall be provided for this release and shall be located outside the protected space and be immediately available except that for machinery spaces, one of the sources of power may be located inside the protected space.
- .2 Electric power circuits connecting the containers shall be monitored for fault conditions and loss of power. Visual and audible alarms shall be provided to indicate this.
- .3 Pneumatic or hydraulic power circuits connecting the containers shall be duplicated. The sources of pneumatic or hydraulic pressure shall be monitored for loss of pressure. Visual and audible alarms shall be provided to indicate this.
- .4 Within the protected space, electrical circuits essential for the release of the system shall be heat resistant e.g. mineral insulated cable or equivalent. Piping systems essential for the release of systems designed to be operated hydraulically or pneumatically shall be of steel or other equivalent heat-resisting material to the satisfaction of the Administration.
- .5 Each pressure container shall be fitted with an automatic over-pressure release device which, in the event of the container being exposed to the effects of fire and the system not being operated, will safely vent the contents of the container into the protected space.
- .6 The arrangement of containers and the electrical circuits and piping essential for the release of any system shall be such that in the event of damage to any one power release line through fire or explosion in a protected space, i.e. a single fault concept, at least two-thirds of the fire-extinguishing charge required by paragraphs 3.2.9 or 3.2.10 for that space can still be discharged having regard to the requirement for uniform distribution of medium throughout the space. The arrangements in respect of systems for spaces requiring only one or two containers shall be to the satisfaction of the Administration.
- .7 Not more than two discharge nozzles shall be fitted to any pressure container and the maximum quantity of agent in each container shall be to the satisfaction of the Administration having regard to the requirement for uniform distribution of medium throughout the space.
- .8 The containers shall be monitored for decrease in pressure due to leakage and discharge. Visual and audible alarms in the protected area and on the navigating bridge or in the space where the fire control equipment is centralized shall be provided to indicate this condition, except that for cargo spaces, alarms are only required on the navigating bridge or the space where the fire control equipment is centralized.

3.4 Local automatically operated fixed fire-extinguishing units containing Halon 1301 or 1211, fitted in enclosed areas of high fire risk within machinery

spaces, in addition to, and independent of, any required fixed fire-extinguishing system may be accepted subject to compliance with the following:

- .1 The space in which such additional local protection is provided shall preferably be on one working level and on the same level as the access. At the discretion of the Administration more than one working level may be permitted subject to an access being provided on each level.
- .2 The size of the space and arrangements of accesses thereto and machinery therein, shall be such that escape from anywhere in the space can be effected in not more than 10 seconds.
- .3 The operation of any unit shall be signalled both visually and audibly outside each access to the machinery space and at the navigating bridge or in the space where the fire control equipment is centralized.
- .4 A notice indicating that the space contains one or more automatically operated fire-extinguishing units and stating which medium is used, shall be displayed outside each access thereto.
- .5 Discharge nozzles shall be so positioned that the discharge does not endanger personnel using the normal access ladders and escapes serving the compartment. Provision shall also be made to protect personnel engaged in maintenance of machinery from inadvertent discharge of the medium.
- .6 The fire-extinguishing units shall be designed to operate within a temperature range to the satisfaction of the Administration.
- .7 Means shall be provided for the crew to safely check the pressure within the containers.
- .8 The total quantity of extinguishing medium provided in the local automatically operated units shall be such that a concentration of 7 per cent in respect of Halon 1301 and 5.5 per cent in respect of Halon 1211 at 20°C based on the net volume of the enclosed space is not exceeded. This requirement applies when either a local automatically operated unit or a fixed system fitted in compliance with paragraph 3.2 has operated, but not when both have operated. The volume of Halon 1301 shall be calculated at 0.16 m³/kg and the volume of Halon 1211 shall be calculated at 0.14 m³/kg.
- .9 The time of discharge of a unit, based on the discharge of the liquid phase, shall be 10 seconds or less.
- .10 The arrangement of local automatically operated fire-extinguishing units shall be such that their release does not result in loss of electrical power or reduction of the manoeuvrability of the ship.

3.5 Automatically operated fire-extinguishing units, as described in paragraph 3.4, fitted in machinery spaces over equipment having a high fire risk, in addition to and independent of any required fixed fire-extinguishing system, may be accepted subject to compliance with paragraphs 3.4.3 to

3.4.6, 3.4.9 and 3.4.10 and with the following:

- .1 The quantity of medium provided in local automatically operated units shall be such that a vapour in air concentration not greater than 1.25 per cent at 20°C based on the gross volume of the machinery space is obtained in the event of their simultaneous operation.
- .2 The volume of Halon 1301 shall be calculated at 0.16 m³/kg and the volume of Halon 1211 shall be calculated at 0.14 m³/kg.

4 *Steam systems*

In general, the Administration shall not permit the use of steam as a fire-extinguishing medium in fixed fire-extinguishing systems. Where the use of steam is permitted by the Administration it shall be used only in restricted areas as an addition to the required fire-extinguishing medium and with the proviso that the boiler or boilers available for supplying steam shall have an evaporation of at least 1.0 kg of steam per hour for each 0.75 m³ of the gross volume of the largest space so protected. In addition to complying with the foregoing requirements the systems in all respects shall be as determined by, and to the satisfaction of, the Administration.

5 *Other gas systems*

5.1 Where gas other than carbon dioxide or halogenated hydrocarbons, or steam as permitted by paragraph 4 is produced on the ship and is used as a fire-extinguishing medium, it shall be a gaseous product of fuel combustion in which the oxygen content, the carbon monoxide content, the corrosive elements and any solid combustible elements have been reduced to a permissible minimum.

5.2 Where such gas is used as the fire-extinguishing medium in a fixed fire-extinguishing system for the protection of machinery spaces it shall afford protection equivalent to that provided by a fixed system using carbon dioxide as the medium.

5.3 Where such gas is used as a fire-extinguishing medium in a fixed fire-extinguishing system for the protection of cargo spaces, a sufficient quantity of such gas shall be available to supply hourly a volume of free gas at least equal to 25 per cent of the gross volume of the largest space protected in this way for a period of 72 hours.

Regulation 6

Fire extinguishers

1 All fire extinguishers shall be of approved types and designs.

1.1 The capacity of required portable fluid extinguishers shall be not more than 13.5 ℓ and not less than 9 ℓ. Other extinguishers shall be at least as portable as the 13.5 ℓ fluid extinguisher and shall have a fire-extinguishing capability at least equivalent to that of a 9 ℓ fluid extinguisher.

- 1.2 The Administration shall determine the equivalents of fire extinguishers.
- 2 Spare charges shall be provided in accordance with requirements to be specified by the Administration.
- 3 Fire extinguishers containing an extinguishing medium which, in the opinion of the Administration, either by itself or under expected conditions of use gives off toxic gases in such quantities as to endanger persons shall not be permitted.
- 4 A portable foam applicator unit shall consist of an air-foam nozzle of an inductor type capable of being connected to the fire main by a fire hose, together with a portable tank containing at least 20 ℓ of foam-making liquid and one spare tank. The nozzle shall be capable of producing effective foam suitable for extinguishing an oil fire, at the rate of at least 1.5 m³/minute.
- 5 Fire extinguishers shall be periodically examined and subjected to such tests as the Administration may require.
- 6 One of the portable fire extinguishers intended for use in any space shall be stowed near the entrance to that space.
- 7 Accommodation spaces, service spaces and control stations shall be provided with portable fire extinguishers of appropriate types and in sufficient number to the satisfaction of the Administration. Ships of 1,000 tons gross tonnage and upwards shall carry at least five portable fire extinguishers.

Regulation 7

Fire-extinguishing arrangements in machinery spaces

1 *Spaces containing oil-fired boilers or oil fuel units*

1.1 Machinery spaces of category A containing oil-fired boilers or oil fuel units shall be provided with any one of the following fixed fire-extinguishing systems:

- .1 a gas system complying with the provisions of Regulation 5;
- .2 a high expansion foam system complying with the provisions of Regulation 9;
- .3 a pressure water-spraying system complying with the provisions of Regulation 10.

In each case if the engine and boiler rooms are not entirely separate, or if fuel oil can drain from the boiler room into the engine room, the combined engine and boiler rooms shall be considered as one compartment.

1.2 There shall be in each boiler room at least one set of portable foam applicator unit complying with the provisions of Regulation 6.4.

1.3 There shall be at least two portable foam extinguishers or equivalent in each firing space in each boiler room and in each space in which a part of the oil fuel installation is situated. There shall be not less than one approved foam-type extinguisher of at least 135 ℓ capacity or equivalent in each boiler room. These extinguishers shall be provided with hoses on reels suitable for reaching any part of the boiler room. In the case of domestic boilers of less than 175 kW in cargo ships the Administration may consider relaxing the requirements of this paragraph.

1.4 In each firing space there shall be a receptacle containing sand, sawdust impregnated with soda, or other approved dry material in such quantity as may be required by the Administration. An approved portable extinguisher may be substituted as an alternative.

2 *Spaces containing internal combustion machinery*

Machinery spaces of category A containing internal combustion machinery shall be provided with:

- .1 One of the fire-extinguishing systems required by paragraph 1.1.
- .2 At least one set of portable air-foam equipment complying with the provisions of Regulation 6.4.
- .3 In each such space approved foam type fire extinguishers, each of at least 45 ℓ capacity or equivalent, sufficient in number to enable foam or its equivalent to be directed on to any part of the fuel and lubricating oil pressure systems, gearing and other fire hazards. In addition, there shall be provided a sufficient number of portable foam extinguishers or equivalent which shall be so located that no point in the space is more than 10 m walking distance from an extinguisher and that there are at least two such extinguishers in each such space. For smaller spaces of cargo ships the Administration may consider relaxing this requirement.

3 *Spaces containing steam turbines or enclosed steam engines*

In spaces containing steam turbines or enclosed steam engines used either for main propulsion or for other purposes when such machinery has in the aggregate a total power output of not less than 375 kW there shall be provided:

- .1 Approved foam fire extinguishers each of at least 45 ℓ capacity or equivalent sufficient in number to enable foam or its equivalent to be directed on to any part of the pressure lubrication system, on to any part of the casings enclosing pressure lubricated parts of the turbines, engines or associated gearing, and any other fire hazards. However, such extinguishers shall not be required if protection at least equivalent to that required by this sub-paragraph is provided in such spaces by a fixed fire-extinguishing system fitted in compliance with paragraph 1.1.
- .2 A sufficient number of portable foam extinguishers or equivalent which shall be so located that no point in the space is more than 10 m walking distance from an extinguisher and that there are at

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least two such extinguishers in each such space, except that such extinguishers shall not be required in addition to any provided in compliance with paragraph 1.3.

- .3 One of the fire-extinguishing systems required by paragraph 1.1, where such spaces are periodically unattended.

4 *Fire-extinguishing appliances in other machinery spaces*

Where, in the opinion of the Administration, a fire hazard exists in any machinery space for which no specific provisions for fire-extinguishing appliances are prescribed in paragraphs 1, 2 and 3, there shall be provided in, or adjacent to, that space such a number of approved portable fire extinguishers or other means of fire extinction as the Administration may deem sufficient.

5 *Fixed fire-extinguishing systems not required by this Chapter*

Where a fixed fire-extinguishing system not required by this Chapter is installed, such a system shall be to the satisfaction of the Administration.

6 *Machinery spaces of category A in passenger ships*

In passenger ships carrying more than 36 passengers each machinery space of category A shall be provided with at least two suitable water fog applicators.*

Regulation 8

Fixed low-expansion foam fire-extinguishing systems in machinery spaces

1 Where in any machinery space a fixed low-expansion foam fire-extinguishing system is fitted in addition to the requirements of Regulation 7, such system shall be capable of discharging through fixed discharge outlets in not more than five minutes a quantity of foam sufficient to cover to a depth of 150 mm the largest single area over which oil fuel is liable to spread. The system shall be capable of generating foam suitable for extinguishing oil fires. Means shall be provided for effective distribution of the foam through a permanent system of piping and control valves or cocks to suitable discharge outlets, and for the foam to be effectively directed by fixed sprayers on other main fire hazards in the protected space. The expansion ratio of the foam shall not exceed 12 to 1.

2 The means of control of any such systems shall be readily accessible and simple to operate and shall be grouped together in as few locations as possible at positions not likely to be cut off by a fire in the protected space.

* A water fog applicator might consist of a metal "L"-shaped pipe, the long limb being about 2 m in length capable of being fitted to a fire hose and the short limb being about 250 mm in length fitted with a fixed water fog nozzle or capable of being fitted with a water spray nozzle.

Regulation 9

*Fixed high-expansion foam fire-extinguishing systems
in machinery spaces*

1.1 Any required fixed high-expansion foam system in machinery spaces shall be capable of rapidly discharging through fixed discharge outlets a quantity of foam sufficient to fill the greatest space to be protected at a rate of at least 1 m in depth per minute. The quantity of foam-forming liquid available shall be sufficient to produce a volume of foam equal to five times the volume of the largest space to be protected. The expansion ratio of the foam shall not exceed 1,000 to 1.

1.2 The Administration may permit alternative arrangements and discharge rates provided that it is satisfied that equivalent protection is achieved.

2 Supply ducts for delivering foam, air intakes to the foam generator and the number of foam-producing units shall in the opinion of the Administration be such as will provide effective foam production and distribution.

3 The arrangement of the foam generator delivery ducting shall be such that a fire in the protected space will not affect the foam generating equipment.

4 The foam generator, its sources of power supply, foam-forming liquid and means of controlling the system shall be readily accessible and simple to operate and shall be grouped in as few locations as possible at positions not likely to be cut off by a fire in the protected space.

Regulation 10

*Fixed pressure water-spraying fire-extinguishing systems
in machinery spaces*

1 Any required fixed pressure water-spraying fire-extinguishing system in machinery spaces shall be provided with spraying nozzles of an approved type.

2 The number and arrangement of the nozzles shall be to the satisfaction of the Administration and shall be such as to ensure an effective average distribution of water of at least 5 ℓ/m² per minute in the spaces to be protected. Where increased application rates are considered necessary, these shall be to the satisfaction of the Administration. Nozzles shall be fitted above bilges, tank tops and other areas over which oil fuel is liable to spread and also above other specific fire hazards in the machinery spaces.

3 The system may be divided into sections, the distribution valves of which shall be operated from easily accessible positions outside the spaces to be protected and will not be readily cut off by a fire in the protected space.

4 The system shall be kept charged at the necessary pressure and the pump supplying the water for the system shall be put automatically into action

by a pressure drop in the system.

5 The pump shall be capable of simultaneously supplying at the necessary pressure all sections of the system in any one compartment to be protected. The pump and its controls shall be installed outside the space or spaces to be protected. It shall not be possible for a fire in the space or spaces protected by the water-spraying system to put the system out of action.

6 The pump may be driven by independent internal combustion machinery but, if it is dependent upon power being supplied from the emergency generator fitted in compliance with the provisions of Regulation II-1/44 or Regulation II-1/45, as appropriate, that generator shall be so arranged as to start automatically in case of main power failure so that power for the pump required by paragraph 5 is immediately available. When the pump is driven by independent internal combustion machinery it shall be so situated that a fire in the protected space will not affect the air supply to the machinery.

7 Precautions shall be taken to prevent the nozzles from becoming clogged by impurities in the water or corrosion of piping, nozzles, valves and pump.

Regulation 11

Special arrangements in machinery spaces

1 The provisions of this Regulation shall apply to machinery spaces of category A and, where the Administration considers it desirable, to other machinery spaces.

2.1 The number of skylights, doors, ventilators, openings in funnels to permit exhaust ventilation and other openings to machinery spaces shall be reduced to a minimum consistent with the needs of ventilation and the proper and safe working of the ship.

2.2 Skylights shall be of steel and shall not contain glass panels. Suitable arrangements shall be made to permit the release of smoke in the event of fire, from the space to be protected.

2.3 In passenger ships, doors other than power-operated watertight doors, shall be so arranged that positive closure is assured in case of fire in the space, by power-operated closing arrangements or by the provision of self-closing doors capable of closing against an inclination of 3.5° opposing closure and having a fail-safe hook-back facility, provided with a remotely operated release device.

3 Windows shall not be fitted in machinery space boundaries. This does not preclude the use of glass in control rooms within the machinery spaces.

4 Means of control shall be provided for:

- .1 opening and closure of skylights; closure of openings in funnels which normally allow exhaust ventilation, and closure of ventilator dampers;

- .2 permitting the release of smoke;
- .3 closing power-operated doors or actuating release mechanism on doors other than power-operated watertight doors;
- .4 stopping ventilating fans; and
- .5 stopping forced and induced draught fans, oil fuel transfer pumps, oil fuel unit pumps and other similar fuel pumps.

5 The controls required in paragraph 4 and in Regulation 15.2.5 shall be located outside the space concerned, where they will not be cut off in the event of fire in the space they serve. In passenger ships such controls and the controls for any required fire-extinguishing system shall be situated at one control position or grouped in as few positions as possible to the satisfaction of the Administration. Such positions shall have a safe access from the open deck.

6 When access to any machinery space of category A is provided at a low level from an adjacent shaft tunnel, there shall be provided in the shaft tunnel, near the watertight door, a light steel fire-screen door operable from each side.

7 For periodically unattended machinery spaces in cargo ships, the Administration shall give special consideration to maintaining fire integrity of the machinery spaces, the location and centralization of the fire-extinguishing system controls, the required shut-down arrangements (e.g. ventilation, fuel pumps, etc.) and may require additional fire-extinguishing appliances and other fire-fighting equipment and breathing apparatus. In passenger ships these requirements shall be at least equivalent to those of machinery spaces normally attended.

8 A **fixed** fire detection and alarm system complying with the provisions of Regulation 14 shall be fitted in any machinery space:

- .1 where the installation of automatic and remote control systems and equipment has been approved in lieu of continuous manning of the space; and
- .2 where the main propulsion and associated machinery including sources of main electrical supply are provided with various degrees of automatic or remote control and are under continuous manned supervision from a control room.

Regulation 12

Automatic sprinkler, fire detection and fire alarm systems

1.1 Any required automatic sprinkler, fire detection and fire alarm system shall be capable of immediate operation at all times and no action by the crew shall be necessary to set it in operation. It shall be of the wet pipe type but small exposed sections may be of the dry pipe type where in the opinion of the Administration this is a necessary precaution. Any parts of the system which

may be subjected to freezing temperatures in service shall be suitably protected against freezing. It shall be kept charged at the necessary pressure and shall have provision for a continuous supply of water as required in this Regulation.

1.2 Each section of sprinklers shall include means for giving a visual and audible alarm signal automatically at one or more indicating units whenever any sprinkler comes into operation. Such alarm systems shall be such as to indicate if any fault occurs in the system.

1.2.1 In passenger ships such units shall give an indication of any fire and its location in any space served by the system and shall be centralized on the navigating bridge or in the main fire control station, which shall be so manned or equipped as to ensure that any alarm from the system is immediately received by a responsible member of the crew.

1.2.2 In cargo ships such units shall indicate in which section served by the system fire has occurred and shall be centralized on the navigating bridge and in addition, visible and audible alarms from the unit shall be placed in a position other than on the navigating bridge, so as to ensure that the indication of fire is immediately received by the crew.

2.1 Sprinklers shall be grouped into separate sections, each of which shall contain not more than 200 sprinklers. In passenger ships any section of sprinklers shall not serve more than two decks and shall not be situated in more than one main vertical zone. However, the Administration may permit such a section of sprinklers to serve more than two decks or be situated in more than one main vertical zone, if it is satisfied that the protection of the ship against fire will not thereby be reduced.

2.2 Each section of sprinklers shall be capable of being isolated by one stop valve only. The stop valve in each section shall be readily accessible and its location shall be clearly and permanently indicated. Means shall be provided to prevent the operation of the stop valves by any unauthorized person.

2.3 A gauge indicating the pressure in the system shall be provided at each section stop valve and at a central station.

2.4 The sprinklers shall be resistant to corrosion by marine atmosphere. In accommodation and service spaces the sprinklers shall come into operation within the temperature range from 68° to 79°C, except that in locations such as drying rooms, where high ambient temperatures might be expected, the operating temperature may be increased by not more than 30°C above the maximum deckhead temperature.

2.5 A list or plan shall be displayed at each indicating unit showing the spaces covered and the location of the zone in respect of each section. Suitable instructions for testing and maintenance shall be available.

3 Sprinklers shall be placed in an overhead position and spaced in a suitable pattern to maintain an average application rate of not less than 5 ℓ/m^2 per minute over the nominal area covered by the sprinklers. However, the Administration may permit the use of sprinklers providing such an alternative amount of water suitably distributed as has been shown to the satisfaction of

the Administration to be not less effective.

4.1 A pressure tank having a volume equal to at least twice that of the charge of water specified in this sub-paragraph shall be provided. The tank shall contain a standing charge of fresh water, equivalent to the amount of water which would be discharged in one minute by the pump referred to in paragraph 5.2, and the arrangements shall provide for maintaining an air pressure in the tank such as to ensure that where the standing charge of fresh water in the tank has been used the pressure will be not less than the working pressure of the sprinkler, plus the pressure exerted by a head of water measured from the bottom of the tank to the highest sprinkler in the system. Suitable means of replenishing the air under pressure and of replenishing the fresh water charge in the tank shall be provided. A glass gauge shall be provided to indicate the correct level of the water in the tank.

4.2 Means shall be provided to prevent the passage of sea-water into the tank.

5.1 An independent power pump shall be provided solely for the purpose of continuing automatically the discharge of water from the sprinklers. The pump shall be brought into action automatically by the pressure drop in the system before the standing fresh water charge in the pressure tank is completely exhausted.

5.2 The pump and the piping system shall be capable of maintaining the necessary pressure at the level of the highest sprinkler to ensure a continuous output of water sufficient for the simultaneous coverage of a minimum area of 280 m² at the application rate specified in paragraph 3.

5.3 The pump shall have fitted on the delivery side a test valve with a short open-ended discharge pipe. The effective area through the valve and pipe shall be adequate to permit the release of the required pump output while maintaining the pressure in the system specified in paragraph 4.1.

5.4 The sea inlet to the pump shall wherever possible be in the space containing the pump and shall be so arranged that when the ship is afloat it will not be necessary to shut off the supply of sea-water to the pump for any purpose other than the inspection or repair of the pump.

6 The sprinkler pump and tank shall be situated in a position reasonably remote from any machinery space of category A and shall not be situated in any space required to be protected by the sprinkler system.

7.1 In passenger ships there shall be not less than two sources of power supply for the sea-water pump and automatic alarm and detection system. Where the sources of power for the pump are electrical, these shall be a main generator and an emergency source of power. One supply for the pump shall be taken from the main switchboard, and one from the emergency switchboard by separate feeders reserved solely for that purpose. The feeders shall be so arranged as to avoid galleys, machinery spaces and other enclosed spaces of high fire risk except in so far as it is necessary to reach the appropriate switchboards, and shall be run to an automatic change-over switch situated near the sprinkler pump. This switch shall permit the supply of power from the main switchboard so long as a supply is available therefrom,

and be so designed that upon failure of that supply it will automatically change over to the supply from the emergency switchboard. The switches on the main switchboard and the emergency switchboard shall be clearly labelled and normally kept closed. No other switch shall be permitted in the feeders concerned. One of the sources of power supply for the alarm and detection system shall be an emergency source. Where one of the sources of power for the pump is an internal combustion engine it shall, in addition to complying with the provisions of paragraph 6, be so situated that a fire in any protected space will not affect the air supply to the machinery.

7.2 In cargo ships there shall not be less than two sources of power supply for the sea-water pump and automatic alarm and detection system. If the pump is electrically driven it shall be connected to the main source of electrical power, which shall be capable of being supplied by at least two generators. The feeders shall be so arranged as to avoid galleys, machinery spaces and other enclosed spaces of high fire risk except in so far as it is necessary to reach the appropriate switchboards. One of the sources of power supply for the alarm and detection system shall be an emergency source. Where one of the sources of power for the pump is an internal combustion engine it shall, in addition to complying with the provisions of paragraph 6, be so situated that a fire in any protected space will not affect the air supply to the machinery.

8 The sprinkler system shall have a connexion from the ship's fire main by way of a lockable screw-down non-return valve at the connexion which will prevent a backflow from the sprinkler system to the fire main.

9.1 A test valve shall be provided for testing the automatic alarm for each section of sprinklers by a discharge of water equivalent to the operation of one sprinkler. The test valve for each section shall be situated near the stop valve for that section.

9.2 Means shall be provided for testing the automatic operation of the pump on reduction of pressure in the system.

9.3 Switches shall be provided at one of the indicating positions referred to in paragraph 1.2 which will enable the alarm and the indicators for each section of sprinklers to be tested.

10 Spare sprinkler heads shall be provided for each section of sprinklers to the satisfaction of the Administration.

Regulation 13

Fixed fire detection and fire alarm systems

1 General requirements

1.1 Any required fixed fire detection and fire alarm system with manually operated call points shall be capable of immediate operation at all times.

1.2 Power supplies and electric circuits necessary for the operation of the system shall be monitored for loss of power or fault conditions as appropriate.

Occurrence of a fault condition shall initiate a visual and audible fault signal at the control panel which shall be distinct from a fire signal.

1.3 There shall be not less than two sources of power supply for the electrical equipment used in the operation of the fire detection and fire alarm system, one of which shall be an emergency source. The supply shall be provided by separate feeders reserved solely for that purpose. Such feeders shall run to an automatic change-over switch situated in or adjacent to the control panel for the fire detection system.

1.4 Detectors and manually operated call points shall be grouped into sections. The activation of any detector or manually operated call point shall initiate a visual and audible fire signal at the control panel and indicating units. If the signals have not received attention within two minutes an audible alarm shall be automatically sounded throughout the crew accommodation and service spaces, control stations and machinery spaces of category A. This alarm sounder system need not be an integral part of the detection system.

1.5 The control panel shall be located on the navigating bridge or in the main fire control station.

1.6 Indicating units shall denote the section in which a detector or manually operated call point has operated. At least one unit shall be so located that it is easily accessible to responsible members of the crew at all times, when at sea or in port except when the ship is out of service. One indicating unit shall be located on the navigating bridge if the control panel is located in the main fire control station.

1.7 Clear information shall be displayed on or adjacent to each indicating unit about the spaces covered and the location of the sections.

1.8 No section covering more than one deck within accommodation, service and control stations shall normally be permitted except a section which covers an enclosed stairway. In order to avoid delay in identifying the source of fire, the number of enclosed spaces included in each section shall be limited as determined by the Administration. In no case shall more than fifty enclosed spaces be permitted in any section.

1.9 In passenger ships a section of detectors shall not serve spaces on both sides of the ship nor on more than one deck and neither shall it be situated in more than one main vertical zone except that the Administration, if it is satisfied that the protection of the ship against fire will not thereby be reduced, may permit such a section of detectors to serve both sides of the ship and more than one deck.

1.10 A section of fire detectors which covers a control station, a service space or an accommodation space shall not include a machinery space of category A.

1.11 Detectors shall be operated by heat, smoke or other products of combustion, flame, or any combination of these factors. Detectors operated by other factors indicative of incipient fires may be considered by the Administration provided that they are no less sensitive than such detectors. Flame detectors shall only be used in addition to smoke or heat detectors.

1.12 Suitable instructions and components spares for testing and maintenance shall be provided.

1.13 The function of the detection system shall be periodically tested to the satisfaction of the Administration by means of equipment producing hot air at the appropriate temperature, or smoke or aerosol particles having the appropriate range of density or particle size, or other phenomena associated with incipient fires to which the detector is designed to respond. All detectors shall be of a type such that they can be tested for correct operation and restored to normal surveillance without the renewal of any component.

1.14 The fire detection system shall not be used for any other purpose, except that closing of fire doors and similar functions may be permitted at the control panel.

2 Installation requirements

2.1 Manual^{operated} call points shall be installed throughout the accommodation spaces, service spaces and control stations. One manual^{operated} call point shall be located at each exit. Manual^{operated} call points shall be readily accessible in the corridors of each deck such that no part of the corridor is more than 20 m from a manual^{operated} call point.

2.2 Smoke detectors shall be installed in all stairways, corridors and escape routes within accommodation spaces. Consideration shall be given to the installation of special purpose smoke detectors within ventilation ducting.

2.3 Where a fixed fire detection and fire alarm system is required for the protection of spaces other than those specified in paragraph 2.2, at least one detector complying with paragraph 1.11 shall be installed in each such space.

2.4 Detectors shall be located for optimum performance. Positions near beams and ventilation ducts or other positions where patterns of air flow could adversely affect performance and positions where impact or physical damage is likely shall be avoided. In general, detectors which are located on the overhead shall be a minimum distance of 0.5 m away from bulkheads.

2.5 The maximum spacing of detectors shall be in accordance with the table below:

Type of detector	Maximum floor area per detector	Maximum distance apart between centres	Maximum distance away from bulkheads
Heat	37 m ²	9 m	4.5 m
Smoke	74 m ²	11 m	5.5 m

The Administration may require or permit other spacings based upon test data which demonstrate the characteristics of the detectors.

2.6 Electrical wiring which forms part of the system shall be so arranged as to avoid galleys, machinery spaces of category A, and other enclosed spaces of high fire risk except where it is necessary to provide for fire detection or

fire alarm in such spaces or to connect to the appropriate power supply.

3 *Design requirements*

3.1 The system and equipment shall be suitably designed to withstand supply voltage variation and transients, ambient temperature changes, vibration, humidity, shock, impact and corrosion normally encountered in ships.

3.2 Smoke detectors required by paragraph 2.2 shall be certified to operate before the smoke density exceeds 12.5 per cent obscuration per metre, but not until the smoke density exceeds 2 per cent obscuration per metre. Smoke detectors to be installed in other spaces shall operate within sensitivity limits to the satisfaction of the Administration having regard to the avoidance of detector insensitivity or oversensitivity.

3.3 Heat detectors shall be certified to operate before the temperature exceeds 78°C but not until the temperature exceeds 54°C, when the temperature is raised to those limits at a rate less than 1°C per minute. At higher rates of temperature rise, the heat detector shall operate within temperature limits to the satisfaction of the Administration having regard to the avoidance of detector insensitivity or oversensitivity.

3.4 At the discretion of the Administration, the permissible temperature of operation of heat detectors may be increased to 30°C above the maximum deckhead temperature in drying rooms and similar spaces of a normal high ambient temperature.

Regulation 14

Fixed fire detection and fire alarm systems for periodically unattended machinery spaces

1 A fixed fire detection and fire alarm system in accordance with the relevant provisions of Regulation 13 shall be installed in periodically unattended machinery spaces.

2 This fire detection system shall be so designed and the detectors so positioned as to detect rapidly the onset of fire in any part of those spaces and under any normal conditions of operation of the machinery and variations of ventilation as required by the possible range of ambient temperatures. Except in spaces of restricted height and where their use is specially appropriate, detection systems using only thermal detectors shall not be permitted. The detection system shall initiate audible and visual alarms distinct in both respects from the alarms of any other system not indicating fire, in sufficient places to ensure that the alarms are heard and observed on the navigating bridge and by a responsible engineer officer. When the navigating bridge is unmanned the alarm shall sound in a place where a responsible member of the crew is on duty.

3 After installation the system shall be tested under varying conditions of engine operation and ventilation.

Regulation 15*Arrangements for oil fuel, lubricating oil and other flammable oils***1** *Limitations in the use of oil as fuel*

The following limitations shall apply to the use of oil as fuel:

- .1 Except as otherwise permitted by this paragraph, no oil fuel with a flashpoint of less than 60°C shall be used.
- .2 In emergency generators oil fuel with a flashpoint of not less than 43°C may be used.
- .3 Subject to such additional precautions as it may consider necessary and on condition that the ambient temperature of the space in which such oil fuel is stored or used shall not be allowed to rise to within 10°C below the flashpoint of the oil fuel, the Administration may permit the general use of oil fuel having a flashpoint of less than 60°C but not less than 43°C.
- .4 In cargo ships the use of fuel having a lower flashpoint than otherwise specified in this paragraph, for example crude oil, may be permitted provided that such fuel is not stored in any machinery space and subject to the approval by the Administration of the complete installation.

The flashpoint of oils shall be determined by an approved closed cup method.

2 *Oil fuel arrangements*

In a ship in which oil fuel is used, the arrangements for the storage, distribution and utilization of the oil fuel shall be such as to ensure the safety of the ship and persons on board and shall at least comply with the following provisions:

- .1 As far as practicable, parts of the oil fuel system containing heated oil under pressure exceeding 0.18 N/mm² shall not be placed in a concealed position such that defects and leakage cannot readily be observed. The machinery spaces in way of such parts of the oil fuel system shall be adequately illuminated.
- .2 The ventilation of machinery spaces shall be sufficient under all normal conditions to prevent accumulation of oil vapour.
- .3 As far as practicable, oil fuel tanks shall be part of the ship's structure and shall be located outside machinery spaces of category A. Where oil fuel tanks, other than double bottom tanks, are necessarily located adjacent to or within machinery spaces of category A, at least one of their vertical sides shall be contiguous to the machinery space boundaries, and shall preferably have a common boundary with the double bottom tanks, and the area of the tank boundary common with the machinery spaces shall be kept to a minimum. Where such tanks are situated within the boundaries of machinery spaces of category A they shall not contain oil fuel

having a flashpoint of less than 60°C. In general the use of free standing oil fuel tanks shall be avoided. When such tanks are employed their use shall be prohibited in category A machinery spaces on passenger ships. Where permitted, they shall be placed in an oil-tight spill tray of ample size having a suitable drain pipe leading to a suitably sized spill oil tank.

- .4 No oil fuel tank shall be situated where spillage or leakage therefrom can constitute a hazard by falling on heated surfaces. Precautions shall be taken to prevent any oil that may escape under pressure from any pump, filter or heater from coming into contact with heated surfaces.
- .5 Every oil fuel pipe, which, if damaged, would allow oil to escape from a storage, settling or daily service tank situated above the double bottom shall be fitted with a cock or valve directly on the tank capable of being closed from a safe position outside the space concerned in the event of a fire occurring in the space in which such tanks are situated. In the special case of deep tanks situated in any shaft or pipe tunnel or similar space, valves on the tank shall be fitted but control in the event of fire may be effected by means of an additional valve on the pipe or pipes outside the tunnel or similar space. If such additional valve is fitted in the machinery space it shall be operated from a position outside this space.
- .6 Safe and efficient means of ascertaining the amount of oil fuel contained in any oil fuel tank shall be provided. Sounding pipes shall not terminate in any space where the risk of ignition of spillage from the sounding pipe might arise. In particular, they shall not terminate in passenger or crew spaces. Other means of ascertaining the amount of oil fuel contained in any oil fuel tank may be permitted:
 - 6.1 in passenger ships, if such means do not require penetration below the top of the tank, and providing their failure or over-filling of the tanks will not permit release of fuel;
 - 6.2 in cargo ships, providing the failure of such means or over-filling of the tanks will not permit release of fuel. The use of cylindrical gauge glasses is prohibited. The Administration may permit the use of oil level gauges with flat glasses and self-closing valves between the gauges and oil tanks.

Such other means shall be acceptable to the Administration and shall be maintained in the proper condition to ensure their continued accurate functioning in service.

- .7 Provision shall be made to prevent overpressure in any oil tank or in any part of the oil fuel system, including the filling pipes. Any relief valves and air or overflow pipes shall discharge to a position which, in the opinion of the Administration, is safe.
- .8 Oil fuel pipes and their valves and fittings shall be of steel or other approved material, except that restricted use of flexible pipes shall be permissible in positions where the Administration is satisfied that

they are necessary. Such flexible pipes and end attachments shall be of approved fire-resisting materials of adequate strength and shall be constructed to the satisfaction of the Administration.

3 *Lubricating oil arrangements*

The arrangements for the storage, distribution and utilization of oil used in pressure lubrication systems shall be such as to ensure the safety of the ship and persons on board, and such arrangements in machinery spaces of category A and whenever practicable in other machinery spaces shall at least comply with the provisions of paragraphs 2.1, 2.4, 2.5, 2.6, 2.7 and 2.8, except that this does not preclude the use of sight flow glasses in lubricating systems provided that they are shown by test to have a suitable degree of fire resistance.

4 *Arrangements for other flammable oils*

The arrangements for the storage, distribution and utilization of other flammable oils employed under pressure in power transmission systems, control and activating systems and heating systems shall be such as to ensure the safety of the ship and persons on board. In locations where means of ignition are present, such arrangements shall at least comply with the provisions of paragraphs 2.4 and 2.6, and with the provisions of paragraphs 2.7 and 2.8 in respect of strength and construction.

5 *Periodically unattended machinery spaces*

In addition to the requirements of paragraphs 1 to 4, the oil fuel and lubricating oil systems shall comply with the following:

- .1 Where necessary, oil fuel and lubricating oil pipelines shall be screened or otherwise suitably protected to avoid as far as practicable oil spray or oil leakages on to hot surfaces or into machinery air intakes. The number of joints in such piping systems shall be kept to a minimum and, where practicable, leakages from high pressure oil fuel pipes shall be collected and arrangements provided for an alarm to be given.
- .2 Where daily service oil fuel tanks are filled automatically, or by remote control, means shall be provided to prevent overflow spillages. Other equipment which treats flammable liquids automatically, e.g. oil fuel purifiers, which, whenever practicable, shall be installed in a special space reserved for purifiers and their heaters, shall have arrangements to prevent overflow spillages.
- .3 Where daily service oil fuel tanks or settling tanks are fitted with heating arrangements, a high temperature alarm shall be provided if the flashpoint of the oil fuel can be exceeded.

Regulation 16

*Ventilation systems in ships other than passenger ships
carrying more than 36 passengers*

1 Ventilation ducts shall be of non-combustible material. Short ducts, however, not generally exceeding 2 m in length and with a cross-section not exceeding 0.02 m² need not be non-combustible, subject to the following conditions:

- .1 these ducts shall be of a material which, in the opinion of the Administration, has a low fire risk;
- .2 they may only be used at the end of the ventilation device;
- .3 they shall not be situated less than 600 mm, measured along the duct, from an opening in an "A" or "B" class division including continuous "B" class ceilings.

2 Where the ventilation ducts with a free-sectional area exceeding 0.02 m² pass through class "A" bulkheads or decks, the opening shall be lined with a steel sheet sleeve unless the ducts passing through the bulkheads or decks are of steel in the vicinity of passage through the deck or bulkhead and the ducts and sleeves shall comply in this part with the following:

- .1 The sleeves shall have a thickness of at least 3 mm and a length of at least 900 mm. When passing through bulkheads, this length shall be divided preferably into 450 mm on each side of the bulkhead. These ducts, or sleeves lining such ducts, shall be provided with fire insulation. The insulation shall have at least the same fire integrity as the bulkhead or deck through which the duct passes. Equivalent penetration protection may be provided to the satisfaction of the Administration.
- .2 Ducts with a free cross-sectional area exceeding 0.075 m² shall be fitted with fire dampers in addition to the requirements of paragraph 2.1. The fire damper shall operate automatically but shall also be capable of being closed manually from both sides of the bulkhead or deck. The damper shall be provided with an indicator which shows whether the damper is open or closed. Fire dampers are not required, however, where ducts pass through spaces surrounded by "A" class divisions, without serving those spaces, provided those ducts have the same fire integrity as the divisions which they pierce.

3 Ducts provided for the ventilation of machinery spaces of category A, galleys, car deck spaces, ro/ro cargo spaces or special category spaces shall not pass through accommodation spaces, service spaces or control stations unless they comply with the conditions specified in subparagraphs 1.1 to 1.4 or 2.1 and 2.2 below:

- .1.1 ^{the ducts are} constructed of steel having a thickness of at least 3 mm and 5 mm for ducts the widths or diameters of which are up to and including 300 mm and 760 mm and over respectively and, in the case of such ducts, the widths or diameters of which are between 300 mm and 760 mm having a thickness to be obtained by interpolation;

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- .1.2 ^{the ducts are} /suitably supported and stiffened;
- .1.3 ^{the ducts are} /fitted with automatic fire dampers close to the boundaries penetrated; and
- .1.4 ^{the ducts are} /insulated to "A-60" standard from the machinery spaces, galleys, car deck spaces, ro/ro cargo spaces or special category spaces to a point at least 5 m beyond each fire damper;

or

- .2.1 ^{the ducts are} /constructed of steel in accordance with paragraphs 3.1.1 and 3.1.2; and
- .2.2 ^{the ducts are} /insulated to "A-60" standard throughout the accommodation spaces, service spaces or control stations;

except that penetrations of main zone divisions shall also comply with the requirements of paragraph 8.

4 Ducts provided for ventilation to accommodation spaces, service spaces or control stations shall not pass through machinery spaces of category A, galleys, car deck spaces, ro/ro cargo spaces or special category spaces unless ^{they comply with the conditions specified in subparagraphs 1.1 to 1.3 or 2.1 and 2.2 below:}

- .1.1 the ducts where they pass through a machinery space of category A, galley, car deck space, ro/ro cargo space or special category space are constructed of steel in accordance with paragraphs 3.1.1 and 3.1.2;
- .1.2 automatic fire dampers are fitted close to the boundaries penetrated; and
- .1.3 the integrity of the machinery space, galley, car deck space, ro/ro cargo space or special category space boundaries is maintained at the penetrations;

or

- .2.1 the ducts where they pass through a machinery space of category A, galley, car deck space, ro/ro cargo space or special category space are constructed of steel in accordance with paragraphs 3.1.1 and 3.1.2; and
- .2.2 ^{the ducts are} /are insulated to "A-60" standard within the machinery space, galley, car deck space, ro/ro cargo space or special category space;

except that penetrations of main zone divisions shall also comply with the requirements of paragraph 8.

5 Ventilation ducts with a free cross-sectional area exceeding 0.02 m² passing through "B" class bulkheads shall be lined with steel sheet sleeves of 900 mm in length divided preferably into 450 mm on each side of the bulkheads unless the duct is of steel for this length.

6 Such measures as are practicable shall be taken in respect of control

stations outside machinery spaces in order to ensure that ventilation, visibility and freedom from smoke are maintained, so that in the event of fire the machinery and equipment contained therein may be supervised and continue to function effectively. Alternative and separate means of air supply shall be provided; air inlets of the two sources of supply shall be so disposed that the risk of both inlets drawing in smoke simultaneously is minimized. At the discretion of the Administration, such requirements need not apply to control stations situated on, and opening on to, an open deck, or where local closing arrangements would be equally effective.

7 Where they pass through accommodation spaces or spaces containing combustible materials, the exhaust ducts from galley ranges shall be constructed of "A" class divisions. Each exhaust duct shall be fitted with:

- .1 a grease trap readily removable for cleaning;
- .2 a fire damper located in the lower end of the duct;
- .3 arrangements, operable from within the galley, for shutting off the exhaust fans; and
- .4 fixed means for extinguishing a fire within the duct.

8 Where in a passenger ship it is necessary that a ventilation duct passes through a main vertical zone division, a fail-safe automatic closing fire damper shall be fitted adjacent to the division. The damper shall also be capable of being manually closed from each side of the division. The operating position shall be readily accessible and be marked in red light-reflecting colour. The duct between the division and the damper shall be of steel or other equivalent material and, if necessary, insulated to comply with the requirements of Regulation 18.1.1. The damper shall be fitted on at least one side of the division with a visible indicator showing whether the damper is in the open position.

9 The main inlets and outlets of all ventilation systems shall be capable of being closed from outside the spaces being ventilated.

10 Power ventilation of accommodation spaces, service spaces, cargo spaces, control stations and machinery spaces shall be capable of being stopped from an easily accessible position outside the space being served. This position should not be readily cut off in the event of a fire in the spaces served. The means provided for stopping the power ventilation of the machinery spaces shall be entirely separate from the means provided for stopping ventilation of other spaces.

Regulation 17

Fireman's outfit

1 A fireman's outfit shall consist of:

1.1 Personal equipment comprising:

- .1 Protective clothing of material to protect the skin from the heat

radiating from the fire and from burns and scalding by steam. The outer surface shall be water-resistant.

- .2 Boots and gloves of rubber or other electrically non-conducting material.
 - .3 A rigid helmet providing effective protection against impact.
 - .4 An electric safety lamp (hand lantern) of an approved type with a minimum burning period of three hours.
 - .5 An axe to the satisfaction of the Administration.
- 1.2 A breathing apparatus of an approved type which may be either:
- .1 a smoke helmet or smoke mask which shall be provided with a suitable air pump and a length of air hose sufficient to reach from the open deck, well clear of hatch or doorway, to any part of the holds or machinery spaces. If, in order to comply with this sub-paragraph, an air hose exceeding 36 m in length would be necessary, a self-contained breathing apparatus shall be substituted or provided in addition as determined by the Administration; or
 - .2 a self-contained compressed air-operated breathing apparatus, the volume of air contained in the cylinders of which shall be at least 1,200 ℓ, or other self-contained breathing apparatus which shall be capable of functioning for at least 30 minutes. A number of spare charges, suitable for use with the apparatus provided, shall be available on board to the satisfaction of the Administration.
- 2 For each breathing apparatus a fireproof lifeline of sufficient length and strength shall be provided capable of being attached by means of a snaphook to the harness of the apparatus or to a separate belt in order to prevent the breathing apparatus becoming detached when the lifeline is operated.
- 3 All ships shall carry at least two fireman's outfits complying with the requirements of paragraph 1.
- 3.1 In addition, there shall be provided:
- .1 in passenger ships for every 80 m, or part thereof, of the aggregate of the lengths of all passenger spaces and service spaces on the deck which carries such spaces or, if there is more than one such deck, on the deck which has the largest aggregate of such lengths, two fireman's outfits and two sets of personal equipment, each set comprising the items stipulated in paragraphs 1.1.1, 1.1.2 and 1.1.3;
 - .2 in tankers, two fireman's outfits.
- 3.2 In passenger ships carrying more than 36 passengers for each pair of breathing apparatus there shall be provided one water fog applicator which shall be stored adjacent to such apparatus.
- 3.3 The Administration may require additional sets of personal equipment and breathing apparatus, having due regard to the size and type of the ship.

4 The fireman's outfits or sets of personal equipment shall be so stored as to be easily accessible and ready for use and, where more than one fireman's outfit or more than one set of personal equipment is carried, they shall be stored in widely separated positions. In passenger ships at least two fireman's outfits and one set of personal equipment shall be available at any one position.

Regulation 18

Miscellaneous items

1.1 Where "A" class divisions are penetrated for the passage of electric cables, pipes, trunks, ducts, etc., or for girders, beams or other structural members, arrangements shall be made to ensure that the fire resistance is not impaired, subject to the provisions of Regulation 30.5.

1.2 Where "B" class divisions are penetrated for the passage of electric cables, pipes, trunks, ducts, etc., or for the fitting of ventilation terminals, lighting fixtures and similar devices, arrangements shall be made to ensure that the fire resistance is not impaired.

2.1 Pipes penetrating "A" or "B" class divisions shall be of materials approved by the Administration having regard to the temperature such divisions are required to withstand.

2.2 Where the Administration may permit the conveying of oil and combustible liquids through accommodation and service spaces, the pipes conveying oil or combustible liquids shall be of a material approved by the Administration having regard to the fire risk.

2.3 Materials readily rendered ineffective by heat shall not be used for overboard scuppers, sanitary discharges, and other outlets which are close to the water-line and where the failure of the material in the event of fire would give rise to danger of flooding.

3 Electric radiators, if used, shall be fixed in position and so constructed as to reduce fire risks to a minimum. No such radiators shall be fitted with an element so exposed that clothing, curtains, or other similar materials can be scorched or set on fire by heat from the element.

4 Cellulose-nitrate based films shall not be used for cinematograph installations.

5 All waste-receptacles shall be constructed of non-combustible materials with no openings in the sides or bottom.

6 In spaces where penetration of oil products is possible, the surface of insulation shall be impervious to oil or oil vapours.

Regulation 19

*International shore connexion**

- 1 Ships of 500 tons gross tonnage and upwards shall be provided with at least one international shore connexion, complying with provisions of paragraph 3.
- 2 Facilities shall be available enabling such a connexion to be used on either side of the ship.
- 3 Standard dimensions of flanges for the international shore connexion shall be in accordance with the following table:

Description	Dimension
Outside diameter	178 mm
Inside diameter	64 mm
Bolt circle diameter	132 mm
Slots in flange	4 holes 19 mm in diameter spaced equidistantly on a bolt circle of the above diameter, slotted to the flange periphery
Flange thickness	14.5 mm minimum
Bolts and nuts	4, each of 16 mm diameter, 50 mm in length

- 4 The connexion shall be of steel or other suitable material and shall be designed for 1.0 N/mm² services. The flange shall have a flat face on one side and on the other shall be permanently attached to a coupling that will fit the ship's hydrant and hose. The connexion shall be kept aboard the ship together with a gasket of any material suitable for 1.0 N/mm² services, together with four 16 mm bolts, 50 mm in length and eight washers.

Regulation 20

Fire control plans

- 1 In all ships general arrangement plans shall be permanently exhibited for the guidance of the ship's officers, showing clearly for each deck the control stations, the various fire sections enclosed by "A" class divisions, the sections enclosed by "B" class divisions together with particulars of the fire detection and fire alarm systems, the sprinkler installation, the fire-extinguishing appliances, means of access to different compartments, decks, etc. and the ventilating system including particulars of the fan control positions, the position of dampers and identification numbers of the

* Reference is made to the recommendation contained in resolution A.470(XII) adopted by the Organization entitled "International Shore Connexion (shore side)".

ventilating fans serving each section. Alternatively, at the discretion of the Administration, the aforementioned details may be set out in a booklet, a copy of which shall be supplied to each officer, and one copy shall at all times be available on board in an accessible position. Plans and booklets shall be kept up to date, any alterations being recorded thereon as soon as practicable. Description in such plans and booklets shall be in the official language. If the language is neither English nor French, a translation into one of those languages shall be included. In addition, instructions concerning the maintenance and operation of all the equipment and installations on board for the fighting and containment of fire shall be kept under one cover, readily available in an accessible position.

2 In all ships a duplicate set of fire control plans or a booklet containing such plans shall be permanently stored in a prominently marked weathertight enclosure outside the deckhouse for the assistance of shoreside fire-fighting personnel.

Regulation 21

Ready availability of fire-extinguishing appliances

In all ships, fire-extinguishing appliances shall be kept in good order and available for immediate use at all times during the voyage.

Regulation 22

Acceptance of substitutes

1 This Regulation applies to all ships.

2 Where in this Chapter any special type of appliance, apparatus, extinguishing medium or arrangement is specified in any ship, any other type of appliance etc., may be allowed, provided the Administration is satisfied that it is not less effective.

PART B – FIRE SAFETY MEASURES FOR PASSENGER SHIPS

Regulation 23

Structure

1 The hull, superstructure, structural bulkheads, decks and deckhouses shall be constructed of steel or other equivalent material. For the purpose of applying the definition of steel or other equivalent material as given in Regulation 3.7 the “applicable fire exposure” shall be according to the integrity and insulation standards given in the tables of Regulations 26 and 27. For example where divisions such as decks or sides and ends of deckhouses

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are permitted to have “B-0” fire integrity, the “applicable fire exposure” shall be half an hour.

2 However, in cases where any part of the structure is of aluminium alloy, the following shall apply:

- .1 The insulation of aluminium alloy components of “A” or “B” class divisions, except structure which, in the opinion of the Administration, is non-load-bearing, shall be such that the temperature of the structural core does not rise more than 200°C above the ambient temperature at any time during the applicable fire exposure to the standard fire test.
- .2 Special attention shall be given to the insulation of aluminium alloy components of columns, stanchions and other structural members required to support lifeboat and liferaft stowage, launching and embarkation areas, and “A” and “B” class divisions to ensure:
 - .2.1 that for such members supporting lifeboat and liferaft areas and “A” class divisions, the temperature rise limitation specified in paragraph 2.1 shall apply at the end of one hour; and
 - .2.2 that for such members required to support “B” class divisions, the temperature rise limitation specified in paragraph 2.1 shall apply at the end of half an hour.

3 Crowns and casings of machinery spaces of category A shall be of steel construction adequately insulated and openings therein, if any, shall be suitably arranged and protected to prevent the spread of fire.

Regulation 24

Main vertical zones and horizontal zones

1.1 For ships carrying more than 36 passengers, the hull, superstructure and deckhouses shall be subdivided into main vertical zones by “A” class divisions. Steps and recesses shall be kept to a minimum, but where they are necessary they shall also be “A” class divisions. These divisions shall have insulation values in accordance with tables in Regulation 26.

1.2 For ships carrying not more than 36 passengers, the hull, superstructure and deckhouses in way of accommodation and service spaces shall be subdivided into main vertical zones by “A” class divisions. These divisions shall have insulation values in accordance with tables in Regulation 27.

2 As far as practicable, the bulkheads forming the boundaries of the main vertical zones above the bulkhead deck shall be in line with watertight subdivision bulkheads situated immediately below the bulkhead deck.

3 Such bulkheads shall extend from deck to deck and to the shell or other boundaries.

4 Where a main vertical zone is subdivided by horizontal “A” class

divisions into horizontal zones for the purpose of providing an appropriate barrier between sprinklered and non-sprinklered zones of the ship, the divisions shall extend between adjacent main vertical zone bulkheads and to the shell or exterior boundaries of the ship and shall be insulated in accordance with the fire insulation and integrity values given in table 26.3 or in table 27.2.

5.1 On ships designed for special purposes, such as automobile or railroad car ferries, where the provision of main vertical zone bulkheads would defeat the purpose for which the ship is intended, equivalent means for controlling and limiting a fire shall be substituted and specifically approved by the Administration.

5.2 However, in a ship with special category spaces, any such space shall comply with the applicable provisions of Regulation 37 and in so far as such compliance would be inconsistent with compliance with other requirements of this Part, the requirements of Regulation 37 shall prevail.

Regulation 25

Bulkheads within a main vertical zone

1.1 For ships carrying more than 36 passengers all bulkheads which are not required to be "A" class divisions shall be at least "B" class or "C" class divisions as prescribed in the tables in Regulation 26.

1.2 For ships carrying not more than 36 passengers all bulkheads within accommodation and service spaces which are not required to be "A" class divisions shall be at least "B" class or "C" class divisions as prescribed in the tables in Regulation 27.

1.3 All such divisions may be faced with combustible materials in accordance with the provisions of Regulation 34.

2 All corridor bulkheads where not required to be "A" class shall be "B" class divisions which shall extend from deck to deck except:

- .1 when continuous "B" class ceilings or linings are fitted on both sides of the bulkhead, the portion of the bulkhead behind the continuous ceiling or lining shall be of material which, in thickness and composition, is acceptable in the construction of "B" class divisions but which shall be required to meet "B" class integrity standards only in so far as is reasonable and practicable in the opinion of the Administration;
- .2 in the case of a ship protected by an automatic sprinkler system complying with the provisions of Regulation 12 the corridor bulkheads of "B" class materials may terminate at a ceiling in the corridor provided such a ceiling is of material which, in thickness and composition, is acceptable in the construction of "B" class divisions. Notwithstanding the requirements of Regulations 26 and 27 such bulkheads and ceilings shall be required to meet "B" class integrity standards only in so far as is reasonable and practicable in

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the opinion of the Administration. All doors and frames in such bulkheads shall be of non-combustible materials and shall be so constructed and erected as to provide substantial fire resistance to the satisfaction of the Administration.

3 All bulkheads required to be “B” class divisions, except corridor bulkheads, shall extend from deck to deck and to the shell or other boundaries unless continuous “B” class ceilings or linings are fitted on both sides of the bulkhead, in which case the bulkhead may terminate at the continuous ceiling or lining.

Regulation 26

Fire integrity of bulkheads and decks in ships carrying more than 36 passengers

1 In addition to complying with the specific provisions for fire integrity of bulkheads and decks mentioned elsewhere in this Part, the minimum fire integrity of all bulkheads and decks shall be as prescribed in tables 26.1 to 26.4. Where, due to any particular structural arrangements in the ship, difficulty is experienced in determining from the tables the minimum fire integrity value of any divisions, such values shall be determined to the satisfaction of the Administration.

2 The following requirements shall govern application of the tables:

.1 Table 26.1 shall apply to bulkheads bounding main vertical zones or horizontal zones.

Table 26.2 shall apply to bulkheads not bounding either main vertical zones or horizontal zones.

Table 26.3 shall apply to decks forming steps in main vertical zones or bounding horizontal zones.

Table 26.4 shall apply to decks not forming steps in main vertical zones nor bounding horizontal zones.

.2 For determining the appropriate fire integrity standards to be applied to boundaries between adjacent spaces, such spaces are classified according to their fire risk as shown in categories (1) to (14) below. Where the contents and use of a space are such that there is a doubt as to its classification for the purpose of this Regulation, it shall be treated as a space within the relevant category having the most stringent boundary requirements. The title of each category is intended to be typical rather than restrictive. The number in parentheses preceding each category refers to the applicable column or row in the tables.

(1) *Control stations*

Spaces containing emergency sources of power and lighting.

Wheelhouse and chartroom.

Spaces containing the ship's radio equipment.

Fire-extinguishing rooms, fire control rooms and fire-recording stations.

Control room for propulsion machinery when located outside the propulsion machinery space.

Spaces containing centralized fire alarm equipment.

Spaces containing centralized emergency public address system stations and equipment.

(2) *Stairways*

Interior stairways, lifts and escalators (other than those wholly contained within the machinery spaces) for passengers and crew and enclosures thereto.

In this connexion a stairway which is enclosed at only one level shall be regarded as part of the space from which it is not separated by a fire door.

(3) *Corridors*

Passenger and crew corridors and lobbies.

(4) *Lifeboat and liferaft handling and embarkation stations*

Open deck spaces and enclosed promenades forming lifeboat and liferaft embarkation and lowering stations.

(5) *Open deck spaces*

Open deck spaces and enclosed promenades clear of lifeboat and liferaft embarkation and lowering stations.

Air spaces (the space outside superstructures and deckhouses).

(6) *Accommodation spaces of minor fire risk*

Cabins containing furniture and furnishings of restricted fire risk.

Offices and dispensaries containing furniture and furnishings of restricted fire risk.

Public spaces containing furniture and furnishings of restricted fire risk and having a deck area of less than 50 m².

(7) *Accommodation spaces of moderate fire risk*

Spaces as in category (6) above but containing furniture and furnishings of other than restricted fire risk.

Public spaces containing furniture and furnishings of restricted fire risk and having a deck area of 50 m² or more.

Isolated lockers and small store-rooms in accommodation spaces.

Sale shops.

Motion picture projection and film stowage rooms.

Diet kitchens (containing no open flame).

Cleaning gear lockers (in which flammable liquids are not stowed).

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Laboratories (in which flammable liquids are not stowed).
 Pharmacies.
 Small drying rooms (having a deck area of 4 m² or less).
 Specie rooms.

(8) *Accommodation spaces of greater fire risk*

Public spaces containing furniture and furnishings of other than restricted fire risk and having a deck area of 50 m² or more.
 Barber shops and beauty parlours.

(9) *Sanitary and similar spaces*

Communal sanitary facilities, showers, baths, water closets, etc.

Small laundry rooms.

Indoor swimming, pool area.

Operating rooms.

Isolated pantries containing no cooking appliances in accommodation spaces.

Private sanitary facilities shall be considered a portion of the space in which they are located.

(10) *Tanks, voids and auxiliary machinery spaces having little or no fire risk*

Water tanks forming part of the ship's structure.

Voids and cofferdams.

Auxiliary machinery spaces which do not contain machinery having a pressure lubrication system and where storage of combustibles is prohibited, such as:

ventilation and air-conditioning rooms; windlass room; steering gear room; stabilizer equipment room; electrical propulsion motor room; rooms containing section switchboards and purely electrical equipment other than oil-filled electrical transformers (above 10 kVA); shaft alleys and pipe tunnels; spaces for pumps and refrigeration machinery (not handling or using flammable liquids).

Closed trunks serving the spaces listed above.

Other closed trunks such as pipe and cable trunks.

(11) *Auxiliary machinery spaces, cargo spaces, special category spaces, cargo and other oil tanks and other similar spaces of moderate fire risk*

Cargo oil tanks.

Cargo holds, trunkways and hatchways.

Refrigerated chambers.

Oil fuel tanks (where installed in a separate space with no machinery).

Shaft alleys and pipe tunnels allowing storage of combustibles.

Auxiliary machinery spaces as in category (10) which contain machinery having a pressure lubrication system or where storage of combustibles is permitted.

Oil fuel filling stations.

Spaces containing oil-filled electrical transformers (above 10 kVA).

Spaces containing turbine and reciprocating steam engine driven auxiliary generators and small internal combustion engines of power output up to 110 kW driving emergency generators, sprinkler, drencher or fire pumps, bilge pumps, etc.

Special category spaces (tables 26.1 and 26.3 only apply).

Closed trunks serving the spaces listed above.

(12) *Machinery spaces and main galleys*

Main propulsion machinery rooms (other than electric propulsion motor rooms) and boiler rooms.

Auxiliary machinery spaces other than those in categories (10) and (11) which contain internal combustion machinery or other oil-burning, heating or pumping units.

Main galleys and annexes.

Trunks and casings to the spaces listed above.

(13) *Store-rooms, workshops, pantries, etc.*

Main pantries not annexed to galleys.

Main laundry.

Large drying rooms (having a deck area of more than 4 m²).

Miscellaneous stores.

Mail and baggage rooms.

Garbage rooms.

Workshops (not part of machinery spaces, galleys, etc.)

(14) *Other spaces in which flammable liquids are stowed*

Lamp rooms.

Paint rooms.

Store-rooms containing flammable liquids (including dyes, medicines, etc.).

Laboratories (in which flammable liquids are stowed).

- .3 Where a single value is shown for the fire integrity of a boundary between two spaces, that value shall apply in all cases.
- .4 In determining the applicable fire integrity standard of a boundary between two spaces within a main vertical zone or horizontal zone which is not protected by an automatic sprinkler system complying

TABLE 26.1 -- BULKHEADS BOUNDING MAIN VERTICAL ZONES OR HORIZONTAL ZONES

Spaces	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Control stations	A-60	A-30	A-30	A-0	A-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60
Stairways		A-0	A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-60 A-15	A-0	A-0	A-30	A-60	A-15 A-0	A-60
Corridors			A-0	A-0	A-0	A-0	A-30 A-0	A-30 A-0	A-0	A-0	A-30	A-60	A-15 A-0	A-60
Lifeboat and liferaft handling and embarkation stations				-	-	A-0	A-0	A-0	A-0	A-0	A-0	A-60	A-0	A-60
Open deck spaces				-	-	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Accommodation spaces of minor fire risk						A-15 A-0	A-30 A-0	A-30 A-0	A-0	A-0	A-15 A-0	A-30	A-15 A-0	A-30
Accommodation spaces of moderate fire risk							A-30 A-0	A-60 A-15	A-0	A-0	A-30 A-0	A-60	A-30 A-0	A-60
Accommodation spaces of greater fire risk								A-60 A-15	A-0	A-0	A-60 A-15	A-60	A-30 A-0	A-60
Sanitary and similar spaces									A-0	A-0	A-0	A-0	A-0	A-0
Tanks, voids and auxiliary machinery spaces having little or no fire risk										A-0	A-0	A-0	A-0	A-0
Auxiliary machinery spaces, cargo spaces, special category spaces, cargo and other oil tanks and other similar spaces of moderate fire risk											A-0	A-60	A-0	A-60
Machinery spaces and main galleys												A-60	A-30 ^b / A-15	A-60
Store-rooms, workshops, pantries etc.													A-0	A-30
Other spaces in which flammable liquids are stowed														A-60

See notes under table 26.4

TABLE 26.2 – BULKHEADS NOT BOUNDING EITHER MAIN VERTICAL ZONES OR HORIZONTAL ZONES

Spaces	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Control stations	B-0 ^a	A-0	A-0	A-0	A-0 B-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60
Stairways		A-0 ^a	A-0	A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-15	A-30	A-15 A-0	A-30
Corridors			C	A-0	A-0 B-0	B-0	B-15 B-0	B-15 B-0	B-0	A-0	A-15	A-30	A-0	A-30 A-0
Lifeboat and liferaft handling and embarkation stations				–	–	A-0	A-0	A-0	A-0	A-0	A-0	A-15	A-0	A-15 A-0
Open deck spaces					–	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0	A-0 B-0
Accommodation spaces of minor fire risk						B-0 C	B-15 C	B-15 C	B-0 C	A-0	A-15 A-0	A-30	A-0	A-30 A-0
Accommodation spaces of moderate fire risk							B-15 C	B-15 C	B-0 C	A-0	A-15 A-0	A-60	A-15	A-60 A-15
Accommodation spaces of greater fire risk								B-15 C	B-0 C	A-0	A-30 A-0	A-60	A-15	A-60 A-15
Sanitary and similar spaces									C	A-0	A-0	A-0	A-0	A-0
Tanks, voids and auxiliary machinery spaces having little or no fire risk										A-0 ^a	A-0	A-0	A-0	A-0
Auxiliary machinery spaces, cargo spaces, cargo and other oil tanks and other similar spaces of moderate fire risk											A-0 ^a	A-0	A-0	A-30 ^b / A-15
Machinery spaces and main galleys												A-0 ^a	A-0	A-60
Store-rooms, workshops, pantries, etc.													A-0 ^a	A-0
Other spaces in which flammable liquids are stowed														A-30 ^b / A-15

See notes under table 26.4

TABLE 26.3 - DECKS FORMING STEPS IN MAIN VERTICAL ZONES OR BOUNDING HORIZONTAL ZONES

Space below ↴	Space above →	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Control stations	(1)	A-60	A-60	A-30	A-0	A-0	A-15	A-30	A-60	A-0	A-0	A-30	A-60	A-15	A-60
Stairways	(2)	A-15	A-0	A-0	A-0	A-0	A-0	A-15 A-0	A-15 A-0	A-0	A-0	A-0	A-60	A-0	A-60
Corridors	(3)	A-30	A-0	A-0	A-0	A-0	A-0	A-15 A-0	A-15 A-0	A-0	A-0	A-0	A-60	A-0	A-60
Lifeboat and liferaft handling and embarkation stations	(4)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Open deck spaces	(5)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Accommodation spaces of minor fire risk	(6)	A-60	A-30 A-0	A-15 A-0	A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-15 A-0	A-15	A-0	A-15
Accommodation spaces of moderate fire risk	(7)	A-60	A-60 A-15	A-30 A-0	A-15 A-0	A-0	A-15 A-0	A-30 A-0	A-60 A-15	A-0	A-0	A-30 A-0	A-30	A-0	A-30
Accommodation spaces of greater fire risk	(8)	A-60	A-60 A-15	A-60 A-15	A-60 A-15	A-0	A-30 A-0	A-60 A-15	A-60 A-15	A-0	A-0	A-30 A-0	A-60	A-15 A-0	A-60
Sanitary and similar spaces	(9)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Tanks, voids and auxiliary machinery spaces having little or no fire risk	(10)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Auxiliary machinery spaces, cargo spaces, special category spaces, cargo and other oil tanks and other similar spaces of moderate fire risk	(11)	A-60	A-60	A-60	A-60	A-0	A-30 A-0	A-60 A-15	A-60 A-15	A-0	A-0	A-0	A-30	A-30 A-0	A-30
Machinery spaces and main galleys	(12)	A-60	A-60	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60
Store-rooms, workshops, pantries, etc.	(13)	A-60	A-60 A-15	A-30 A-0	A-15	A-0	A-15 A-0	A-30 A-0	A-60 A-15	A-0	A-0	A-0	A-30	A-0	A-30
Other spaces in which flammable liquids are stowed	(14)	A-60	A-60	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60

See notes under table 26.4

TABLE 26.4 - DECKS NOT FORMING STEPS IN MAIN VERTICAL ZONES NOR BOUNDING HORIZONTAL ZONES

Space below →	Space above →	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Control stations	(1)	A-30 A-0	A-30 A-0	A-15 A-0	A-0 B-0	A-0 B-0	A-0 B-0	A-15 A-0	A-30 A-0	A-0	A-0	A-0	A-60	A-0	A-60 A-15
Stairways	(2)	A-0	A-0	A-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0	A-0	A-0	A-30	A-0	A-30 A-0
Corridors	(3)	A-15 A-0	A-0	A-0 ^{a/} B-0 ^{a/}	A-0 B-0	A-0 B-0	A-0 B-0	A-15 B-0	A-15 B-0	A-0 B-0	A-0	A-0	A-30	A-0	A-30 A-0
Lifeboat and liferaft handling and embarkation stations	(4)	A-0	A-0	A-0	-	-	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0	A-0
Open deck spaces	(5)	A-0	A-0	A-0 B-0	A-0	-	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0 B-0	A-0
Accommodation spaces of minor fire risk	(6)	A-60	A-15 A-0	A-0	A-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-15 A-0	A-0	A-15 A-0
Accommodation spaces of moderate fire risk	(7)	A-60	A-30 A-0	A-15 A-0	A-15 A-0	A-0 B-0	A-0 B-0	A-15 B-0	A-30 B-0	A-0 B-0	A-0	A-15 A-0	A-30 A-0	A-0	A-30 A-0
Accommodation spaces of greater fire risk	(8)	A-60	A-60 A-15	A-60 A-0	A-30 A-0	A-0 B-0	A-15 B-0	A-30 B-0	A-60 B-0	A-0 B-0	A-0	A-30 A-0	A-30 A-0	A-0	A-30 A-0
Sanitary spaces and similar spaces	(9)	A-0	A-0	A-0 B-0	A-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0	A-0
Tanks, voids and auxiliary machinery spaces having little or no fire risk	(10)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0 ^{a/}	A-0	A-0	A-0	A-0
Auxiliary machinery spaces, cargo spaces, cargo and other oil tanks and other similar spaces of moderate fire risk	(11)	A-60	A-60 A-15	A-60 A-15	A-30 A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-0 ^{a/}	A-0	A-0	A-30 ^{b/} A-15
Machinery spaces and main galleys	(12)	A-60	A-60	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0	A-30	A-30 ^{a/}	A-0	A-60
Store-rooms, workshops, pantries, etc.	(13)	A-60	A-30 A-0	A-15 A-0	A-15 A-0	A-0 B-0	A-15 A-0	A-30 A-0	A-30 A-0	A-0 B-0	A-0	A-0	A-0	A-0	A-15 ^{b/} A-0
Other spaces in which flammable liquids are stowed	(14)	A-60	A-60 A-30	A-60 A-30	A-60 A-0	A-0	A-30 A-0	A-60 A-15	A-60 A-15	A-0	A-0	A-30 ^{b/} A-0	A-30 ^{b/} A-0	A-0	A-30 ^{b/} A-0

Notes: To be applied to tables 26.1 to 26.4, as appropriate.

a/ Where adjacent spaces are in the same numerical category and superscript a/ appears, a bulkhead or deck between such spaces need not be fitted if deemed unnecessary by the Administration. For example, in category (12) a bulkhead need not be required between a galley and its annexed pantries provided the pantry bulkheads and decks maintain the integrity of the galley boundaries. A bulkhead is, however, required between a galley and a machinery space even though both spaces are in category (12).

b/ Where superscript b/ appears the lesser insulation value may be permitted only if at least one of the adjoining spaces is protected by an automatic sprinkler system complying with the provisions of Regulation 12.

with the provisions of Regulation 12 or between such zones neither of which is so protected, the higher of the two values given in the tables shall apply.

- .5 In determining the applicable fire integrity standard of a boundary between two spaces within a main vertical zone or horizontal zone which is protected by an automatic sprinkler system complying with the provisions of Regulation 12 or between such zones both of which are so protected, the lesser of the two values given in the tables shall apply. Where a sprinklered zone and a non-sprinklered zone meet within accommodation and service spaces, the higher of the two values given in the tables shall apply to the division between the zones.
 - .6 Notwithstanding the provisions of Regulation 35 there are no special requirements for material or integrity of boundaries where only a dash appears in the tables.
 - .7 The Administration shall determine in respect of category (5) spaces whether the insulation values in table 26.1 or 26.2 shall apply to ends of deckhouses and superstructures, and whether the insulation values in table 26.3 or 26.4 shall apply to weather decks. In no case shall the requirements of category (5) of tables 26.1 to 26.4 necessitate enclosure of spaces which in the opinion of the Administration need not be enclosed.
- 3 Continuous “B” class ceilings or linings, in association with the relevant decks or bulkheads, may be accepted as contributing wholly or in part, to the required insulation and integrity of a division.
 - 4 In approving structural fire protection details, the Administration shall have regard to the risk of heat transmission at intersections and terminal points of required thermal barriers.

Regulation 27

Fire integrity of bulkheads and decks in ships carrying not more than 36 passengers

- 1 In addition to complying with the specific provisions for fire integrity of bulkheads and decks mentioned elsewhere in this Part, the minimum fire integrity of bulkheads and decks shall be as prescribed in table 27.1 and table 27.2.
- 2 The following requirements shall govern application of the tables:
 - .1 Tables 27.1 and 27.2 shall apply respectively to the bulkheads and decks separating adjacent spaces.
 - .2 For determining the appropriate fire integrity standards to be applied to divisions between adjacent spaces, such spaces are classified according to their fire risk as shown in categories (1) to (11) below. The title of each category is intended to be typical

rather than restrictive. The number in parentheses preceding each category refers to the applicable column or row in the tables.

(1) *Control stations*

Spaces containing emergency sources of power and lighting.
Wheelhouse and chartroom.

Spaces containing the ship's radio equipment.

Fire-extinguishing rooms, fire control rooms and fire-recording stations.

Control room for propulsion machinery when located outside the machinery space.

Spaces containing centralized fire alarm equipment.

(2) *Corridors*

Passenger and crew corridors and lobbies.

(3) *Accommodation spaces*

Spaces as defined in Regulation 3.10 excluding corridors.

(4) *Stairways*

Interior stairways, lifts and escalators (other than those wholly contained within the machinery spaces) and enclosures thereto.

In this connexion, a stairway which is enclosed only at one level shall be regarded as part of the space from which it is not separated by a fire door.

(5) *Service spaces (low risk)*

Lockers and store-rooms having areas of less than 2 m², drying rooms and laundries.

(6) *Machinery spaces of category A*

Spaces as defined in Regulation 3.19.

(7) *Other machinery spaces*

Spaces as defined in Regulation 3.20 excluding machinery spaces of category A.

(8) *Cargo spaces*

All spaces used for cargo (including cargo oil tanks) and trunkways and hatchways to such spaces, other than special category spaces.

(9) *Service spaces (high risk)*

Galleys, pantries containing cooking appliances, paint and lamp rooms, lockers and store-rooms having areas of 2 m² or more and workshops other than those forming part of the machinery spaces.

TABLE 27.1 – FIRE INTEGRITY OF BULKHEADS SEPARATING ADJACENT SPACES

Spaces	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Control stations (1)	A-0 ^{c/}	A-0	A-60	A-0	A-15	A-60	A-15	A-60	A-60	*	A-60
Corridors (2)		C ^{e/}	B-0 ^{e/}	A-0 ^{d/} B-0 ^{d/}	B-0 ^{e/}	A-60	A-0	A-0	A-15 A-0 ^{d/}	*	A-15
Accommodation spaces (3)			C ^{e/}	A-0 ^{d/} B-0 ^{d/}	B-0 ^{e/}	A-60	A-0	A-0	A-15 A-0 ^{d/}	*	A-30 A-0 ^{d/}
Stairways (4)				A-0 ^{d/} B-0 ^{d/}	A-0 ^{d/} B-0 ^{d/}	A-60	A-0	A-0	A-15 A-0 ^{d/}	*	A-15
Service spaces (low risk) (5)					C ^{e/}	A-60	A-0	A-0	A-0	*	A-0
Machinery spaces (6) of category A						*	A-0	A-0	A-60	*	A-60
Other machinery spaces (7)							A-0 ^{b/}	A-0	A-0	*	A-0
Cargo spaces (8)								*	A-0	*	A-0
Service spaces (high risk) (9)									A-0 ^{b/}	*	A-30
Open decks (10)										–	A-0
Special category (11) spaces											A-0

Notes: To be applied to both tables 27.1 and 27.2, as appropriate.

a/ For clarification as to which applies see Regulations 25 and 29.

b/ Where spaces are of the same numerical category and superscript b appears, a bulkhead or deck of the ratings shown in the tables is only required when the adjacent spaces are for a different purpose, e.g. in category (9). A galley next to a galley does not require a bulkhead but a galley next to a paint room requires an "A-0" bulkhead.

c/ Bulkheads separating the wheelhouse and chartroom from each other may be "B-0" rating.

d/ See 2.3 and 2.4 of this Regulation.

e/ For the application of Regulation 24.1.2, "B-0" and "C", where appearing in table 27.1, shall be read as "A-0".

f/ Fire insulation need not be fitted if the machinery space of category (7), in the opinion of the Administration, has little or no fire risk.

* Where an asterisk appears in the tables, the division is required to be of steel or other equivalent material but is not required to be of "A" class standard. For the application of Regulation 24.1.2 an asterisk, where appearing in table 27.2, except for categories (8) and (10), shall be read as "A-0".

TABLE 27.2 – FIRE INTEGRITY OF DECKS SEPARATING ADJACENT SPACES

Space below ↓	Space above →	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Control stations	(1)	A-0	A-0	A-0	A-0	A-0	A-60	A-0	A-0	A-0	*	A-30
Corridors	(2)	A-0	*	*	A-0	*	A-60	A-0	A-0	A-0	*	A-0
Accommodation spaces	(3)	A-60	A-0	*	A-0	*	A-60	A-0	A-0	A-0	*	A-30 A-0 d
Stairways	(4)	A-0	A-0	A-0	*	A-0	A-60	A-0	A-0	A-0	*	A-0
Service spaces (low risk)	(5)	A-15	A-0	A-0	A-0	*	A-60	A-0	A-0	A-0	*	A-0
Machinery spaces of category A	(6)	A-60	A-60	A-60	A-60	A-60	*	A-60 f/	A-30	A-60	*	A-60
Other machinery spaces	(7)	A-15	A-0	A-0	A-0	A-0	A-0	*	A-0	A-0	*	A-0
Cargo spaces	(8)	A-60	A-0	A-0	A-0	A-0	A-0	A-0	*	A-0	*	A-0
Service spaces (high risk)	(9)	A-60	A-30 A-0 d	A-30 A-0 d	A-30 A-0 d	A-0	A-60	A-0	A-0	A-0	*	A-30
Open decks	(10)	*	*	*	*	*	*	*	*	*	–	A-0
Special category spaces	(11)	A-60	A-15	A-30 A-0 d	A-15	A-0	A-30	A-0	A-0	A-30	A-0	A-0

(10) *Open decks*

Open deck spaces and enclosed promenades having no fire risk. Air spaces (the space outside superstructures and deck-houses).

(11) *Special category spaces*

Spaces as defined in Regulation 3.18.

- 3 In determining the applicable fire integrity standard of a boundary between two spaces within a main vertical zone or horizontal zone which is not protected by an automatic sprinkler system complying with the provisions of Regulation 12 or between such zones neither of which is so protected, the higher of the two values given in the tables shall apply.
- 4 In determining the applicable fire integrity standard of a boundary between two spaces within a main vertical zone or horizontal zone

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which is protected by an automatic sprinkler system complying with the provisions of Regulation 12 or between such zones both of which are so protected, the lesser of the two values given in the tables shall apply. Where a sprinklered zone and a non-sprinklered zone meet within accommodation and service spaces, the higher of the two values given in the tables shall apply to the division between the zones.

3 Continuous “B” class ceilings or linings, in association with the relevant decks or bulkheads, may be accepted as contributing, wholly or in part, to the required insulation and integrity of a division.

4 External boundaries which are required in Regulation 23.1 to be of steel or other equivalent material may be pierced for the fitting of windows and sidescuttles provided that there is no requirement for such boundaries to have “A” class integrity elsewhere in this Part. Similarly, in such boundaries which are not required to have “A” class integrity, doors may be of materials to the satisfaction of the Administration.

Regulation 28

Means of escape

1 Stairways and ladders shall be arranged to provide ready means of escape to the lifeboat and liferaft embarkation deck from all passenger and crew spaces and from spaces in which the crew is normally employed, other than machinery spaces. In particular, the following provisions shall be complied with:

- .1 Below the bulkhead deck two means of escape, at least one of which shall be independent of watertight doors, shall be provided from each watertight compartment or similarly restricted space or group of spaces. Exceptionally, the Administration may dispense with one of the means of escape, due regard being paid to the nature and location of spaces and to the number of persons who might normally be accommodated or employed there.
- .2 Above the bulkhead deck there shall be at least two means of escape from each main vertical zone or similarly restricted space or group of spaces at least one of which shall give access to a stairway forming a vertical escape.
- .3 If a radiotelegraph station has no direct access to the open deck, two means of escape from or access to such station shall be provided, one of which may be a porthole or window of sufficient size or another means to the satisfaction of the Administration.
- .4 A corridor or part of a corridor from which there is only one route of escape shall not exceed:
13 m in length for ships carrying more than 36 passengers, and
7 m in length for ships carrying not more than 36 passengers.
- .5 At least one of the means of escape required by paragraphs 1.1 and

1.2 shall consist of a readily accessible enclosed stairway, which shall provide continuous fire shelter from the level of its origin to the appropriate lifeboat and liferaft embarkation decks or the highest level served by the stairway, whichever level is the highest. However, where the Administration has granted dispensation under the provisions of paragraph 1.1 the sole means of escape shall provide safe escape to the satisfaction of the Administration. The width, number and continuity of the stairways shall be to the satisfaction of the Administration.

- .6 Protection of access from the stairway enclosures to the lifeboat and liferaft embarkation areas shall be to the satisfaction of the Administration.
- .7 Stairways serving only a space and a balcony in that space shall not be considered as forming one of the required means of escape.

2.1 In special category spaces the number and disposition of the means of escape both below and above the bulkhead deck shall be to the satisfaction of the Administration and in general the safety of access to the embarkation deck shall be at least equivalent to that provided for under paragraphs 1.1, 1.2, 1.5 and 1.6.

2.2 One of the escape routes from the machinery spaces where the crew is normally employed shall avoid direct access to any special category space.

3.1 Two means of escape shall be provided from each machinery space. In particular, the following provisions shall be complied with:

- .1 Where the space is below the bulkhead deck the two means of escape shall consist of either:
 - .1.1 two sets of steel ladders as widely separated as possible, leading to doors in the upper part of the space similarly separated and from which access is provided to the appropriate lifeboat and liferaft embarkation decks. One of these ladders shall provide continuous fire shelter from the lower part of the space to a safe position outside the space; or
 - .1.2 one steel ladder leading to a door in the upper part of the space from which access is provided to the embarkation deck and additionally, in the lower part of the space and in a position well separated from the ladder referred to, a steel door capable of being operated from each side and which provides access to a safe escape route from the lower part of the space to the embarkation deck.
- .2 Where the space is above the bulkhead deck, the two means of escape shall be as widely separated as possible and the doors leading from such means of escape shall be in a position from which access is provided to the appropriate lifeboat and liferaft embarkation decks. Where such means of escape require the use of ladders, these shall be of steel.

3.2 In a ship of less than 1,000 tons gross tonnage, the Administration may

dispense with one of the means of escape, due regard being paid to the width and disposition of the upper part of the space; and in a ship of 1,000 tons gross tonnage and above, the Administration may dispense with one means of escape from any such space so long as either a door or a steel ladder provides a safe escape route to the embarkation deck, due regard being paid to the nature and location of the space and whether persons are normally employed in that space.

4 In no case shall lifts be considered as forming one of the required means of escape.

Regulation 29

Protection of stairways and lifts in accommodation and service spaces

1 All stairways shall be of steel frame construction except where the Administration sanctions the use of other equivalent material, and shall be within enclosures formed of "A" class divisions, with positive means of closure at all openings, except that:

- .1 a stairway connecting only two decks need not be enclosed, provided the integrity of the deck is maintained by proper bulkheads or doors in one 'tweendeck space. When a stairway is closed in one 'tweendeck space, the stairway enclosure shall be protected in accordance with the tables for decks in Regulations 26 or 27;
- .2 stairways may be fitted in the open in a public space, provided they lie wholly within such public space.

2 Stairway enclosures shall have direct communication with the corridors and be of sufficient area to prevent congestion, having in view the number of persons likely to use them in an emergency. In so far as is practicable, stairway enclosures shall not give direct access to cabins, service lockers, or other enclosed spaces containing combustibles in which a fire is likely to originate.

3 Lift trunks shall be so fitted as to prevent the passage of smoke and flame from one 'tweendeck to another and shall be provided with means of closing so as to permit the control of draught and smoke.

Regulation 30

Openings in "A" class divisions

1 Except for hatches between cargo, special category, store, and baggage spaces, and between such spaces and the weather decks, all openings shall be provided with permanently attached means of closing which shall be at least as effective for resisting fires as the divisions in which they are fitted.

2 The construction of all doors and door frames in "A" class divisions,

with the means of securing them when closed, shall provide resistance to fire as well as to the passage of smoke and flame, as far as practicable, equivalent to that of the bulkheads in which the doors are situated. Such doors and door frames shall be constructed of steel or other equivalent material. Watertight doors need not be insulated.

3 It shall be possible for each door to be opened and closed from each side of the bulkhead by one person only.

4 Fire doors in main vertical zone bulkheads and stairway enclosures, other than power-operated watertight doors and those which are normally locked, shall be of the self-closing type capable of closing against an inclination of 3.5° opposing closure. The speed of door closure shall, if necessary, be controlled so as to prevent undue danger to persons. All such doors, except those that are normally closed, shall be capable of release from a control station, either simultaneously or in groups, and also individually from a position at the door. The release mechanism shall be so designed that the door will automatically close in the event of disruption of the control system; however, approved power-operated watertight doors will be considered acceptable for this purpose. Hold-back hooks not subject to control station release will not be permitted. When double swing doors are permitted, they shall have a latch arrangement which is automatically engaged by the operation of the door release system.

5 Where a space is protected by an automatic sprinkler system complying with the provisions of Regulation 12 or fitted with a continuous “B” class ceiling, openings in decks not forming steps in main vertical zones nor bounding horizontal zones shall be closed reasonably tight and such decks shall meet the “A” class integrity requirements in so far as is reasonable and practicable in the opinion of the Administration.

6 The requirements for “A” class integrity of the outer boundaries of a ship shall not apply to glass partitions, windows and sidescuttles. Similarly, the requirements for “A” class integrity shall not apply to exterior doors in superstructures and deckhouses.

Regulation 31

Openings in “B” class divisions

1 Doors and door frames in “B” class divisions and means of securing them shall provide a method of closure which shall have resistance to fire as far as practicable equivalent to that of the divisions except that ventilation openings may be permitted in the lower portion of such doors. Where such opening is in or under a door the total net area of any such opening or openings shall not exceed 0.05 m². When such opening is cut in a door it shall be fitted with a grill made of non-combustible material. Doors shall be non-combustible.

2 The requirements for “B” class integrity of the outer boundaries of a ship shall not apply to glass partitions, windows and sidescuttles. Similarly, the requirements for “B” class integrity shall not apply to exterior doors in

superstructures and deckhouses. For ships carrying not more than 36 passengers, the Administration may permit the use of combustible materials in doors separating cabins from the individual interior sanitary spaces such as showers.

3 Where an automatic sprinkler system complying with the provisions of Regulation 12 is fitted:

- .1 openings in decks not forming steps in main vertical zones nor bounding horizontal zones shall be closed reasonably tight and such decks shall meet the "B" class integrity requirements in so far as is reasonable and practicable in the opinion of the Administration; and
- .2 openings in corridor bulkheads of "B" class materials shall be protected in accordance with the provisions of Regulation 25.

Regulation 32

Ventilation systems

1 *Passenger ships carrying more than 36 passengers*

1.1 The ventilation system of a passenger ship carrying more than 36 passengers shall, in addition to this part of this Regulation, also be in compliance with the requirements of Regulation 16.2 to 16.9.

1.2 In general, the ventilation fans shall be so disposed that the ducts reaching the various spaces remain within the main vertical zone.

1.3 Where ventilation systems penetrate decks, precautions shall be taken, in addition to those relating to the fire integrity of the deck required by Regulations 18.1.1 and 30.5, to reduce the likelihood of smoke and hot gases passing from one 'tweendeck space to another through the system. In addition to insulation requirements contained in this Regulation, vertical ducts shall, if necessary, be insulated as required by the appropriate tables in Regulation 26.

1.4 Except in cargo spaces, ventilation ducts shall be constructed of the following materials:

- .1 ducts not less than 0.075 m^2 in sectional area and all vertical ducts serving more than a single 'tweendeck space shall be constructed of steel or other equivalent material;
- .2 ducts less than 0.075 m^2 in sectional area other than the vertical ducts referred to in paragraph 1.4.1, shall be constructed of non-combustible materials. Where such ducts penetrate "A" or "B" class divisions due regard shall be given to ensuring the fire integrity of the division;
- .3 short lengths of duct, not in general exceeding 0.02 m^2 in sectional area nor 2 m in length, need not be non-combustible provided that

all of the following conditions are met:

- .3.1 the duct is constructed of a material of low fire risk to the satisfaction of the Administration;
- .3.2 the duct is used only at the terminal end of the ventilation system; and
- .3.3 the duct is not located closer than 600 mm measured along its length to a penetration of an “A” or “B” class division, including continuous “B” class ceilings.

1.5 Where a stairway enclosure is ventilated, the duct or ducts shall be taken from the fan room independently of other ducts in the ventilation system and shall not serve any other space.

1.6 All power ventilation, except machinery space and cargo space ventilation and any alternative system which may be required under Regulation 16.6, shall be fitted with controls so grouped that all fans may be stopped from either of two separate positions which shall be situated as far apart as practicable. Controls provided for the power ventilation serving machinery spaces shall also be grouped so as to be operable from two positions, one of which shall be outside such spaces. Fans serving power ventilation systems to cargo spaces shall be capable of being stopped from a safe position outside such spaces.

2 *Passenger ships carrying not more than 36 passengers*

2.1 The ventilation system of passenger ships carrying not more than 36 passengers shall be in compliance with Regulation 16.

Regulation 33

Windows and sidescuttles

1 All windows and sidescuttles in bulkheads within accommodation and service spaces and control stations other than those to which the provisions of Regulation 30.6 and of Regulation 31.2 apply, shall be so constructed as to preserve the integrity requirements of the type of bulkheads in which they are fitted.

2 Notwithstanding the requirements of the tables in Regulations 26 and 27:

- .1 all windows and sidescuttles in bulkheads separating accommodation and service spaces and control stations from weather shall be constructed with frames of steel or other suitable material. The glass shall be retained by a metal glazing bead or angle;
- .2 special attention shall be given to the fire integrity of windows facing open or enclosed lifeboat and liferaft embarkation areas and to the fire integrity of windows situated below such areas in such a position that their failure during a fire would impede the launching of, or embarkation into, lifeboats or liferafts.

Regulation 34

Restricted use of combustible materials

- 1 Except in cargo spaces, mail rooms, baggage rooms, or refrigerated compartments of service spaces, all linings, grounds, ceilings and insulations shall be of non-combustible materials. Partial bulkheads or decks used to subdivide a space for utility or artistic treatment shall also be of non-combustible material.
- 2 Vapour barriers and adhesives used in conjunction with insulation, as well as insulation of pipe fittings, for cold service systems need not be non-combustible, but they shall be kept to the minimum quantity practicable and their exposed surfaces shall have qualities of resistance to the propagation of flame to the satisfaction of the Administration.
- 3 The following surfaces shall have low flame-spread characteristics:
 - .1 exposed surfaces in corridors and stairway enclosures, and of bulkheads, wall and ceiling linings in all accommodation and service spaces and control stations;
 - .2 concealed or inaccessible spaces in accommodation, service spaces and control stations.
- 4 The total volume of combustible facings, mouldings, decorations and veneers in any accommodation and service space shall not exceed a volume equivalent to 2.5 mm veneer on the combined area of the walls and ceilings. In the case of ships fitted with an automatic sprinkler system complying with the provisions of Regulation 12, the above volume may include some combustible material used for erection of "C" class divisions.
- 5 Veneers used on surfaces and linings covered by the requirements of paragraph 3 shall have a calorific value not exceeding 45 MJ/m² of the area for the thickness used.
- 6 Furniture in the corridors and stairway enclosures shall be kept to a minimum.
- 7 Paints, varnishes and other finishes used on exposed interior surfaces shall not be capable of producing excessive quantities of smoke and toxic products.
- 8 Primary deck coverings, if applied within accommodation and service spaces and control stations, shall be of approved material which will not readily ignite, or give rise to toxic or explosive hazards at elevated temperatures.**

* Reference is made to Guidelines on the Evaluation of Fire Hazard Properties of Materials, adopted by the Organization by resolution A.166(ES.IV).

** Reference is made to Improved/Provisional/Guidelines on Test Procedures for Primary Deck/Coverings, adopted by the Organization by resolution A.214(VII).

Regulation 35

Details of construction

1 In accommodation and service spaces, control stations, corridors and stairways:

- .1 air spaces enclosed behind ceilings, panelling or linings shall be suitably divided by close-fitting draught stops not more than 14 m apart;
- .2 in the vertical direction, such enclosed air spaces, including those behind linings of stairways, trunks, etc. shall be closed at each deck.

2 The construction of ceiling and bulkheading shall be such that it will be possible, without impairing the efficiency of the fire protection, for the fire patrols to detect any smoke originating in concealed and inaccessible places, except where in the opinion of the Administration there is no risk of fire originating in such places.

Regulation 36

*Automatic sprinkler, fire detection and fire alarm systems or
fixed fire detection and fire alarm systems*

1 In any ship to which this Part applies there shall be installed throughout each separate zone, whether vertical or horizontal, in all accommodation and service spaces and, where it is considered necessary by the Administration, in control stations, except spaces which afford no substantial fire risk (such as void spaces, sanitary spaces, etc.) either:

- .1 an automatic sprinkler, fire detection and fire alarm system of an approved type, complying with the provisions of Regulation 12 and so installed and arranged as to protect such spaces; or
- .2 a fixed fire detection and fire alarm system of an approved type, complying with the provisions of Regulation 13 and so installed and arranged as to detect the presence of fire in such spaces, except that the smoke detectors required by Regulation 13.2.2 need not be provided.

Regulation 37

Protection of special category spaces

1 *Provisions applicable to special category spaces whether above or below the bulkhead deck*

1.1 General

1.1.1 The basic principle underlying the provisions of this Regulation is that as normal main vertical zoning may not be practicable in special category

spaces, equivalent protection must be obtained in such spaces on the basis of a horizontal zone concept and by the provision of an efficient fixed fire-extinguishing system. Under this concept a horizontal zone for the purpose of this Regulation may include special category spaces on more than one deck provided that the total overall clear height for vehicles does not exceed 10 m.

1.1.2 The requirements of Regulations 16, 18, 30 and 32 for maintaining the integrity of vertical zones shall be applied equally to decks and bulkheads forming the boundaries separating horizontal zones from each other and from the remainder of the ship.

1.2 Structural protection

1.2.1 Boundary bulkheads of special category spaces shall be insulated as required for category (11) spaces in table 26.1 or in table 27.1 and the horizontal boundaries as required for category (11) spaces in table 26.3 or in table 27.2.

1.2.2 Indicators shall be provided on the navigating bridge which shall indicate when any fire door leading to or from the special category spaces is closed.

1.3 Fixed fire-extinguishing system*

Each special category space shall be fitted with an approved fixed pressure water-spraying system for manual operation which shall protect all parts of any deck and vehicle platform in such space, provided that the Administration may permit the use of any other fixed fire-extinguishing system that has been shown by full-scale test in conditions simulating a flowing petrol fire in a special category space to be not less effective in controlling fires likely to occur in such a space.

1.4 Patrols and detection

1.4.1 An efficient patrol system shall be maintained in special category spaces. In any such space in which the patrol is not maintained by a continuous fire watch at all times during the voyage there shall be provided a fixed fire detection system of an approved type.

1.4.2 Manually operated call points shall be provided as necessary throughout the special category spaces and one shall be placed close to each exit from such spaces.

1.5 Fire-extinguishing equipment

There shall be provided in each special category space:

- .1 at least three water fog applicators;
- .2 one portable foam applicator unit complying with the provisions of Regulation 6.4, provided that at least two such units are available in

* Reference is made to Recommendation on Fixed Fire-Extinguishing Systems for Special Category Spaces, adopted by the Organization by resolution A.123(V).

the ship for use in such spaces; and

- .3 such number of portable fire extinguishers as the Administration may deem sufficient, provided that at least one portable extinguisher is located at each access to such spaces.

1.6 Ventilation system

1.6.1 There shall be provided an effective power ventilation system for the special category spaces sufficient to give at least 10 air changes per hour. The system for such spaces shall be entirely separated from other ventilation systems and shall be operating at all times when vehicles are in such spaces. The Administration may require an increased number of air changes when vehicles are being loaded and unloaded. Ventilation ducts serving special category spaces capable of being effectively sealed shall be separated for each such space. The system shall be capable of being controlled from a position outside such spaces.

1.6.2 The ventilation shall be such as to prevent air stratification and the formation of air pockets.

1.6.3 Means shall be provided to indicate on the navigating bridge any loss or reduction of the required ventilating capacity.

1.6.4 Arrangements shall be provided to permit a rapid shut-down and effective closure of the ventilation system in case of fire, taking into account the weather and sea conditions.

1.6.5 Ventilation ducts, including dampers, shall be made of steel and their arrangement shall be to the satisfaction of the Administration.

2 *Additional provisions applicable only to special category spaces above the bulkhead deck*

2.1 Scuppers

In view of the serious loss of stability which could arise due to large quantities of water accumulating on the deck or decks consequent on the operation of the fixed pressure water-spraying system, scuppers shall be fitted so as to ensure that such water is rapidly discharged directly overboard.

2.2 Precautions against ignition of flammable vapours

2.2.1 On any deck on which vehicles are carried and on which explosive vapours might be expected to accumulate, equipment which may constitute a source of ignition of flammable vapours and, in particular, electrical equipment and wiring, shall be installed at least 450 mm above the deck. Electrical equipment installed at more than 450 mm above the deck shall be of a type so enclosed and protected as to prevent the escape of sparks. However, if the Administration is satisfied that the installation of electrical equipment and wiring at less than 450 mm above the deck is necessary for the safe operation of the ship, such electrical equipment and wiring may be installed provided that it is of a type approved for use in an explosive petrol and air mixture.

2.2.2 Electrical equipment and wiring, if installed in an exhaust ventilation duct, shall be of a type approved for use in explosive petrol and air mixtures and the outlet from any exhaust duct shall be sited in a safe position, having regard to other possible sources of ignition.

3 *Additional provisions applicable only to special category spaces below the bulkhead deck*

3.1 Bilge pumping and drainage

In view of the serious loss of stability which could arise due to large quantities of water accumulating on the deck or tank top consequent on the operation of the fixed pressure water-spraying system, the Administration may require pumping and drainage facilities to be provided additional to the requirements of Regulation II-1/21.

3.2 Precautions against ignition of flammable vapours

3.2.1 Electrical equipment and wiring, if fitted, shall be of a type suitable for use in explosive petrol and air mixtures. Other equipment which may constitute a source of ignition of flammable vapours shall not be permitted.

3.2.2 Electrical equipment and wiring, if installed in an exhaust ventilation duct, shall be of a type approved for use in explosive petrol and air mixtures and the outlet from any exhaust duct shall be sited in a safe position, having regard to other possible sources of ignition.

Regulation 38

Protection of cargo spaces, other than special category spaces, intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion

In any cargo space (other than special category spaces) containing motor vehicles with fuel in their tanks for their own propulsion, the following provisions shall be complied with.

1 *Fire detection*

There shall be provided an approved automatic fire detection and fire alarm system. The design and arrangements of this system shall be considered in conjunction with the ventilation requirements referred to in paragraph 3.

2 *Fire-extinguishing arrangements*

2.1 There shall be fitted a fixed fire-extinguishing system which shall comply with the provisions of Regulation 5, except that, if a carbon dioxide system is fitted, the quantity of gas available shall be at least sufficient to give a minimum volume of free gas equal to 45 per cent of the gross volume of the largest such cargo space which is capable of being sealed, and the arrangements shall be such as to ensure that at least two thirds of the gas required for the relevant space shall be introduced during 10 minutes. Any

other fixed gas fire-extinguishing system or fixed high expansion foam fire-extinguishing system may be fitted provided it gives equivalent protection. Furthermore, any cargo space designated only for vehicles which are not carrying any cargo may be fitted with fixed halogenated hydrocarbon fire-extinguishing systems which shall comply with the provisions of Regulation 5.

2.2 As an alternative, a system meeting the requirements of Regulation 37.1.3 may be fitted, provided that Regulation 37.2.1 or 37.3.1, as appropriate, is also complied with.

2.3 There shall be provided for use in any such space such number of portable fire extinguishers as the Administration may deem sufficient. At least one portable extinguisher shall be located at each access to such spaces.

3 *Ventilation system*

3.1 There shall be provided an effective power ventilation system sufficient to give at least 10 air changes per hour for ships carrying more than 36 passengers, and 6 air changes per hour for ships carrying not more than 36 passengers. The system for such cargo spaces shall be entirely separate from other ventilation systems and shall be operating at all times when vehicles are in such spaces. Ventilation ducts serving such cargo spaces capable of being effectively sealed shall be separated for each such space. The system shall be capable of being controlled from a position outside such spaces.

3.2 The ventilation shall be such as to prevent air stratification and the formation of air pockets.

3.3 Means shall be provided to indicate on the navigating bridge any loss or reduction of the required ventilating capacity.

3.4 Arrangements shall be provided to permit a rapid shut-down and effective closure of the ventilation system in case of fire, taking into account the weather and sea conditions.

3.5 Ventilation ducts, including dampers, shall be made of steel and their arrangement shall be to the satisfaction of the Administration.

4 *Precautions against ignition of flammable vapours*

4.1 Electrical equipment and wiring, if fitted, shall be of a type suitable for use in explosive petrol and air mixtures. Other equipment which may constitute a source of ignition of flammable vapours shall not be permitted.

4.2 Electrical equipment and wiring, if installed in an exhaust ventilation duct, shall be of a type approved for use in explosive petrol and air mixtures and the outlet from any exhaust duct shall be sited in a safe position, having regard to other possible sources of ignition.

4.3 Scuppers shall not be led to machinery or other spaces where sources of ignition may be present.

Regulation 39*Fixed fire-extinguishing arrangements in cargo spaces*

1 Except as provided for in paragraph 3, the cargo spaces of ships of 1,000 tons gross tonnage and upwards shall be protected by a fixed gas fire-extinguishing system complying with the provisions of Regulation 5, or by a fixed high expansion foam fire-extinguishing system which gives equivalent protection.

2 Where it is shown to the satisfaction of the Administration that a ship is engaged on voyages of such short duration that it would be unreasonable to apply the requirements of paragraph 1 and also in ships of less than 1,000 tons gross tonnage, the arrangements in cargo spaces shall be to the satisfaction of the Administration.

3 A ship engaged in the carriage of dangerous goods shall be provided in any cargo spaces with a fixed gas fire-extinguishing system complying with the provisions of Regulation 5 or with a fire-extinguishing system which in the opinion of the Administration gives equivalent protection for the cargoes carried.

Regulation 40*Fire patrols, detection, alarms and public address systems*

1 Manually ^{call points} operated shall be fitted throughout the accommodation and service spaces to transmit an alarm immediately to the navigating bridge or main fire control station.

2 An approved fire detection and fire alarm system shall be provided which will automatically indicate at one or more suitable points or stations the presence or indication of fire and its location in any cargo space which, in the opinion of the Administration, is not accessible except where it is shown to the satisfaction of the Administration that the ship is engaged on voyages of such short duration that it would be unreasonable to apply this requirement.

3 All ships shall at all times when at sea, or in port (except when out of service), be so manned or equipped as to ensure that any initial fire alarm is immediately received by a responsible member of the crew.

4 A special alarm, operated from the navigating bridge or fire control station, shall be fitted to summon the crew. This alarm may be part of the ship's general alarm system but it shall be capable of being sounded independently of the alarm to the passenger spaces.

5 A public address system or other effective means of communication shall be available throughout the accommodation and service spaces and control stations.

6 For ships carrying more than 36 passengers an efficient patrol system shall be maintained so that an outbreak of fire may be promptly detected. Each member of the fire patrol shall be trained to be familiar with the

arrangements of the ship as well as the location and operation of any equipment he may be called upon to use.

Regulation 41

Special requirements for ships carrying dangerous goods

The requirements of Regulation 54 shall apply, as appropriate, to passenger ships carrying dangerous goods.

PART C – FIRE SAFETY MEASURES FOR CARGO SHIPS

(Regulation 54 of this Part also applies to passenger ships as appropriate).

Regulation 42

Structure

1 Subject to the provisions of paragraph 4, the hull, superstructure, structural bulkheads, decks and deckhouses shall be constructed of steel or other equivalent material.

2 The insulation of aluminium alloy components of "A" or "B" class divisions, except structure which in the opinion of the Administration is non-load-bearing, shall be such that the temperature of the structural core does not rise more than 200°C above the ambient temperature at any time during the applicable exposure to the standard fire test.

3 Special attention shall be given to the insulation of aluminium alloy components of columns, stanchions and other structural members required to support lifeboat and liferaft stowage, launching and embarkation areas, and "A" and "B" class divisions, to ensure:

- .1 that for such members supporting lifeboat and liferaft areas and "A" class divisions, the temperature rise limitation specified in paragraph 2 shall apply at the end of one hour;
and
- .2 that for such members required to support "B" class divisions, the temperature rise limitation specified in paragraph 2 shall apply at the end of half an hour.

4 Crowns and casings of machinery spaces of category A shall be of steel construction adequately insulated and openings therein, if any, shall be suitably arranged and protected to prevent the spread of fire.

5 One of the following methods of protection shall be adopted in accommodation and service areas:

- 1 *Method IC* – The construction of all internal divisional bulkheading of non-combustible “B” or “C” class divisions generally without the installation of an automatic sprinkler, fire detection and fire alarm system in the accommodation and service spaces, except as required by Regulation 52.1; or
- 2 *Method IIC* – The fitting of an automatic sprinkler, fire detection and fire alarm system as required by Regulation 52.2 for the detection and extinction of fire in all spaces in which fire might be expected to originate, generally with no restriction on the type of internal divisional bulkheading; or
- 3 *Method IIIC* – The fitting of a fixed fire detection and fire alarm system, as required by Regulation 52.3, in all spaces in which a fire might be expected to originate, generally with no restriction on the type of internal divisional bulkheading, except that in no case must the area of any accommodation space or spaces bounded by an “A” or “B” class division exceed 50 m². Consideration may be given by the Administration to increasing this area for public spaces.

6 The requirements for the use of non-combustible materials in construction and insulation of the boundary bulkheads of machinery spaces, control stations, service spaces, etc., and the protection of stairway enclosures and corridors will be common to all three methods outlined in paragraph 5.

Regulation 43

Bulkheads within the accommodation and service spaces

1 All bulkheads required to be “B” class divisions shall extend from deck to deck and to the shell or other boundaries, unless continuous “B” class ceilings or linings are fitted on both sides of the bulkhead in which case the bulkhead may terminate at the continuous ceiling or lining.

2 *Method IC* – All bulkheads not required by this or other Regulations of this Part to be “A” or “B” class divisions, shall be of at least “C” class construction.

3 *Method IIC* – There shall be no restriction on the construction of bulkheads not required by this or other regulations of this Part to be “A” or “B” class divisions except in individual cases where “C” class bulkheads are required in accordance with table 44.1.

4 *Method IIIC* – There shall be no restriction on the construction of bulkheads not required by this Part to be “A” or “B” class divisions except that the area of any accommodation space or spaces bounded by a continuous “A” or “B” class division must in no case exceed 50 m² except in individual cases where “C” class bulkheads are required in accordance with table 44.1. Consideration may be given by the Administration to increasing this area for public space.

Regulation 44

Fire integrity of bulkheads and decks

1 In addition to complying with the specific provisions for fire integrity of bulkheads and decks mentioned elsewhere in this Part, the minimum fire integrity of bulkheads and decks shall be as prescribed in tables 44.1 and 44.2.

- 2 The following requirements shall govern application of the tables:
- .1 Tables 44.1 and 44.2 shall apply respectively to the bulkheads and decks separating adjacent spaces.
 - .2 For determining the appropriate fire integrity standards to be applied to divisions between adjacent spaces, such spaces are classified according to their fire risk as shown in categories (1) to (11) below. The title of each category is intended to be typical rather than restrictive. The number in parentheses preceding each category refers to the applicable column or row in the tables.
 - (1) *Control stations*

Spaces containing emergency sources of power and lighting.
Wheelhouse and chartroom.
Spaces containing the ship's radio equipment.
Fire-extinguishing rooms, fire control rooms and fire-recording stations.
Control room for propulsion machinery when located outside the machinery space.
Spaces containing centralized fire alarm equipment.
 - (2) *Corridors*

Corridors and lobbies.
 - (3) *Accommodation spaces*

Spaces as defined in Regulation 3.10, excluding corridors.
 - (4) *Stairways*

Interior stairways, lifts and escalators (other than those wholly contained within the machinery spaces) and enclosures thereto.
In this connexion, a stairway which is enclosed only at one level shall be regarded as part of the space from which it is not separated by a fire door.
 - (5) *Service spaces (low risk)*

Lockers and store-rooms having an area of less than 2 m², drying rooms and laundries.
 - (6) *Machinery spaces of category A*

Spaces as defined in Regulation 3.19.

TABLE 44.1 – FIRE INTEGRITY OF BULKHEADS SEPARATING ADJACENT SPACES

Spaces	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Control stations (1)	A-0 ^{e/}	A-0	A-60	A-0	A-15	A-60	A-15	A-60	A-60	*	A-60
Corridors (2)		C	B-0	B-0 A-0 ^{c/}	B-0	A-60	A-0	A-0	A-0	*	A-30
Accommodation spaces (3)			Ca _{b/}	B-0 A-0 ^{c/}	B-0	A-60	A-0	A-0	A-0	*	A-30
Stairways (4)				B-0 A-0 ^{c/}	B-0 A-0 ^{c/}	A-60	A-0	A-0	A-0	*	A-30
Service spaces (low risk) (5)					C	A-60	A-0	A-0	A-0	*	A-0
Machinery spaces of category A (6)						*	A-0	A-0 ^{g/}	A-60	*	A-60 ^{f/}
Other machinery spaces (7)							A-0 ^{d/}	A-0	A-0	*	A-0
Cargo spaces (8)								*	A-0	*	A-0
Service spaces (high risk) (9)									A-0 ^{d/}	*	A-30
Open decks (10)										–	A-0
Ro/ro cargo spaces (11)											*h/

Notes: To be applied to tables 44.1 and 44.2, as appropriate.

a/ No special requirements are imposed upon bulkheads in methods IIC and IIIC fire protection.

b/ In case of method IIIC "B" class bulkheads of "B-0" rating shall be provided between spaces or groups of spaces of 50 m² and over in area.

c/ For clarification as to which applies, see Regulations 43 and 46.

d/ Where spaces are of the same numerical category and superscript d appears, a bulkhead or deck of the rating shown in the tables is only required when the adjacent spaces are for a different purpose, e.g. in category (9). A galley next to a galley does not require a bulkhead but a galley next to a paint room requires an "A-0" bulkhead.

e/ Bulkheads separating the wheelhouse, chartroom and radio room from each other may be "B-0" rating.

f/ A-0 rating may be used if no dangerous goods are intended to be carried or if such goods are stowed not less than 3 m horizontally from such bulkhead.

g/ For cargo spaces in which dangerous goods are intended to be carried, Regulation 54.2.8 applies.

h/ Bulkheads and decks separating ro/ro cargo spaces shall be capable of being closed reasonably gastight and such divisions shall have "A" class integrity in so far as is reasonable and practicable in the opinion of the Administration.

i/ Fire insulation need not be fitted if the machinery space in category (7), in the opinion of the Administration, has little or no fire risk.

* Where an asterisk appears in the tables, the division is required to be of steel or other equivalent material but is not required to be of "A" class standard.

TABLE 44.2 – FIRE INTEGRITY OF DECKS SEPARATING ADJACENT SPACES

Space below ↓	Space above →	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Control stations	(1)	A-0	A-0	A-0	A-0	A-0	A-60	A-0	A-0	A-0	*	A-60
Corridors	(2)	A-0	*	*	A-0	*	A-60	A-0	A-0	A-0	*	A-30
Accommodation spaces	(3)	A-60	A-0	*	A-0	*	A-60	A-0	A-0	A-0	*	A-30
Stairways	(4)	A-0	A-0	A-0	*	A-0	A-60	A-0	A-0	A-0	*	A-30
Service spaces (low risk)	(5)	A-15	A-0	A-0	A-0	*	A-60	A-0	A-0	A-0	*	A-0
Machinery spaces of category A	(6)	A-60	A-60	A-60	A-60	A-60	*	A-60 i/	A-30	A-60	*	A-60
Other machinery spaces	(7)	A-15	A-0	A-0	A-0	A-0	A-0	*	A-0	A-0	*	A-0
Cargo spaces	(8)	A-60	A-0	A-0	A-0	A-0	A-0	A-0	*	A-0	*	A-0
Service spaces (high risk)	(9)	A-60	A-0	A-0	A-0	A-0	A-60	A-0	A-0	A-0 ^{d/}	*	A-30
Open decks	(10)	*	*	*	*	*	*	*	*	*	–	*
Ro/ro cargo spaces	(11)	A-60	A-30	A-30	A-30	A-0	A-60	A-0	A-0	A-30	*	*h/

- (7) *Other machinery spaces*
Spaces as defined in Regulation 3.20 excluding machinery spaces of category A.
- (8) *Cargo spaces*
All spaces used for cargo (including cargo oil tanks) and trunkways and hatchways to such spaces.
- (9) *Service spaces (high risk)*
Galley, pantries containing cooking appliances, paint and lamp rooms, lockers and store-rooms having an area of 2 m² or more, workshops other than those forming part of the machinery spaces.
- (10) *Open decks*
Open deck spaces and enclosed promenades having no fire risk. Air spaces (the space outside superstructures and deck-houses).
- (11) *Rollo cargo spaces*
Spaces as defined in Regulation 3.14. Cargo spaces intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion.

3 Continuous "B" class ceilings or linings, in association with the relevant decks or bulkheads, may be accepted as contributing, wholly or in part, to the required insulation and integrity of a division.

4 External boundaries which are required in Regulation 42.1 to be of steel or other equivalent material may be pierced for the fitting of windows and sidescuttles provided that there is no requirement for such boundaries to have "A" class integrity elsewhere in this Part. Similarly, in such boundaries which are not required to have "A" class integrity, doors may be of materials to the satisfaction of the Administration.

Regulation 45

Means of escape

1 Stairways and ladders shall be so arranged as to provide, from all accommodation spaces and from spaces in which the crew is normally employed, other than machinery spaces, ready means of escape to the open deck and thence to the lifeboats and liferafts. In particular the following general provisions shall be complied with:

- .1 At all levels of accommodation there shall be provided at least two widely separated means of escape from each restricted space or group of spaces.
- .2.1 Below the lowest open deck the main means of escape shall be a stairway and the second escape may be a trunk or a stairway.

- .2.2 Above the lowest open deck the means of escape shall be stairways or doors to an open deck or a combination thereof.
 - .3 Exceptionally the Administration may dispense with one of the means of escape, due regard being paid to the nature and location of spaces and to the numbers of persons who normally might be quartered or employed there.
 - .4 No dead-end corridors having a length of more than 7 m shall be accepted. A dead-end corridor is a corridor or part of a corridor from which there is only one escape route.
 - .5 The width and continuity of the means of escape shall be to the satisfaction of the Administration.
 - .6 If a radiotelegraph station has no direct access to the open deck, two means of access to or egress from such station shall be provided, one of which may be a porthole or window of sufficient size or other means to the satisfaction of the Administration, to provide an emergency escape.
- 2 In all ro/ro cargo spaces where the crew is normally employed the number and locations of escape routes to the open deck shall be to the satisfaction of the Administration, but shall in no case be less than two and shall be widely separated.
- 3 Except as provided in paragraph 4, two means of escape shall be provided from each machinery space of category A. In particular, one of the following provisions shall be complied with:
- .1 two sets of steel ladders as widely separated as possible leading to doors in the upper part of the space similarly separated and from which access is provided to the open deck. In general, one of these ladders shall provide continuous fire shelter from the lower part of the space to a safe position outside the space. However, the Administration may not require the shelter if, due to the special arrangement or dimensions of the machinery space, a safe escape route from the lower part of this space is provided. This shelter shall be of steel, insulated, where necessary, to the satisfaction of the Administration and be provided with a self-closing steel door at the lower end; or
 - .2 one steel ladder leading to a door in the upper part of the space from which access is provided to the open deck and additionally, in the lower part of the space and in a position well separated from the ladder referred to, a steel door capable of being operated from each side and which provides access to a safe escape route from the lower part of the space to the open deck.
- 4 In a ship of less than 1,000 tons gross tonnage, the Administration may dispense with one of the means of escape required under paragraph 3, due regard being paid to the dimension and disposition of the upper part of the space.
- 5 From machinery spaces other than those of category A, escape routes

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shall be provided to the satisfaction of the Administration having regard to the nature and location of the space and whether persons are normally employed in that space.

6 Lifts shall not be considered as forming one of the required means of escape as required by this Regulation.

Regulation 46

Protection of stairways and lift trunks in accommodation spaces, service spaces and control stations

1 Stairways which penetrate only a single deck shall be protected at least at one level by at least "B-0" class divisions and self-closing doors. Lifts which penetrate only a single deck shall be surrounded by "A-0" class divisions with steel doors at both levels. Stairways and lift trunks which penetrate more than a single deck shall be surrounded by at least "A-0" class divisions and be protected by self-closing doors at all levels.

2 On ships having accommodation for 12 persons or less, where stairways penetrate more than a single deck and where there are at least two escape routes direct to the open deck at every accommodation level, consideration may be given by the Administration to reducing the "A-0" requirements of paragraph 1 to "B-0".

3 All stairways shall be of steel frame construction except where the Administration sanctions the use of other equivalent material.

Regulation 47

Doors in fire resisting divisions

1 The fire resistance of doors shall, as far as practicable, be equivalent to that of the division in which they are fitted. Doors and door frames in "A" class divisions shall be constructed of steel. Doors in "B" class divisions shall be non-combustible. Doors fitted in boundary bulkheads of machinery spaces of category A shall be reasonably gastight and self-closing. In ships constructed according to method IC, an Administration may permit the use of combustible materials in doors separating cabins from individual interior sanitary accommodation such as showers.

2 Doors required to be self-closing shall not be fitted with hold-back hooks. However, hold-back arrangements fitted with remote release devices of the fail-safe type may be utilized.

3 In corridor bulkheads ventilation openings may be permitted only in and under the doors of cabins and public spaces. The openings shall be provided only in the lower half of a door. Where such opening is in or under a door the total net area of any such opening or openings shall not exceed 0.05 m^2 . When such opening is cut in a door it shall be fitted with a grille made of non-combustible material.

- 4 Watertight doors need not be insulated.

Regulation 48

Ventilation systems

The ventilation systems of cargo ships shall be in compliance with the provisions of Regulation 16, except paragraph 8.

Regulation 49

Restricted use of combustible materials

1 All exposed surfaces in corridors and stairway enclosures and surfaces including grounds in concealed or inaccessible spaces in accommodation and service spaces and control stations shall have low flame-spread characteristics.* Exposed surfaces of ceilings in accommodation and service spaces and control stations shall have low flame-spread characteristics.

2 Paints, varnishes and other finishes used on exposed interior surfaces shall not offer an undue fire hazard in the judgement of the Administration and shall not be capable of producing excessive quantities of smoke.

3 Primary deck coverings, if applied in accommodation and service spaces and control stations shall be of an approved material which will not readily ignite.**

Regulation 50

Details of construction

1 *Method IC* – In accommodation and service spaces and control stations all linings, draught stops, ceilings and their associated grounds shall be of non-combustible materials.

2 *Methods IIC and IIIC* – In corridors and stairway enclosures serving accommodation and service spaces and control stations, ceilings, linings, draught stops and their associated grounds shall be of non-combustible materials.

3 *Methods IC, IIC and IIIC*

3.1 Except in cargo spaces or refrigerated compartments of service spaces, insulating materials shall be non-combustible. Vapour barriers and adhesives used in conjunction with insulation, as well as the insulation of pipe fittings,

* Reference is made to Guidelines on the Evaluation of Fire Hazard Properties of Materials, adopted by the Organization by resolution A.166(ES.IV).

** Reference is made to Improved Provisional Guidelines on Test Procedures for Primary Deck Coverings, adopted by the Organization by resolution A.214(VII).

for cold service systems, need not be of non-combustible materials, but they shall be kept to the minimum quantity practicable and their exposed surfaces shall have qualities of resistance to the propagation of flame to the satisfaction of the Administration.

3.2 Where non-combustible bulkheads, linings and ceilings are fitted in accommodation and service spaces they may have a combustible veneer not exceeding 2.0 mm in thickness within any such space except corridors, stairway enclosures and control stations, where the veneer shall not exceed 1.5 mm in thickness.

3.3 Air spaces enclosed behind ceilings, panellings, or linings, shall be divided by close-fitting draught stops spaced not more than 14 m apart. In the vertical direction, such air spaces, including those behind linings of stairways, trunks, etc., shall be closed at each deck.

Regulation 51

Arrangements for gaseous fuel for domestic purposes

Where gaseous fuel is used for domestic purposes the arrangements for the storage, distribution and utilization of the fuel shall be such that, having regard to the hazards of fire and explosion which the use of such fuel may entail, the safety of the ship and the persons on board is preserved.

Regulation 52

Fixed fire detection and fire alarm systems Automatic sprinkler, fire detection and fire alarm systems

1 In ships in which method IC is adopted, a smoke detection system in accordance with the relevant provisions of Regulation 13 shall be so installed and arranged as to protect all corridors, stairways and escape routes within accommodation spaces.

2 In ships in which method IIC is adopted, an automatic sprinkler, fire detection and fire alarm system of an approved type and complying with the relevant provisions of Regulation 12 shall be so installed and arranged as to protect accommodation spaces, galleys and other service spaces, except spaces which afford no substantial fire risk such as void spaces, sanitary spaces, etc. In addition, a smoke detection system in accordance with the relevant provisions of Regulation 13 shall be so arranged and installed as to protect corridors, stairways and escape routes within accommodation spaces.

3 In ships in which method IIIC is adopted, a fixed fire detection and fire alarm system of an approved type and complying with the relevant provisions of Regulation 13 shall be so installed and arranged as to detect the presence of fire in all accommodation spaces and service spaces, except spaces which afford no substantial fire risk such as void spaces, sanitary spaces, etc.

4 Notwithstanding the provisions of the above, the Administration need

not require the installation of detectors required in accordance with the provisions of Regulation 13.2.2 until 1 September 1985.

Regulation 53

Fire protection arrangements in cargo spaces

1 General

1.1 Except for cargo spaces covered in paragraphs 2 and 3, cargo spaces of ships of 2,000 tons gross tonnage and upwards shall be protected by a fixed gas fire-extinguishing system complying with the provisions of Regulation 5 or by a fire-extinguishing system which gives equivalent protection.

1.2 The Administration may exempt from the requirements of paragraph 1.1 cargo spaces of any ship if constructed and solely intended for carrying ore, coal, grain, unseasoned timber and non-combustible cargoes or cargoes which, in the opinion of the Administration, constitute a low fire risk. Such exemptions may be granted only if the ship is fitted with steel hatch covers and effective means of closing all ventilators and other openings leading to the cargo spaces.

1.3 Notwithstanding the provisions of paragraph 1.1, any ship engaged in the carriage of dangerous goods shall be provided in any cargo spaces with a fixed gas fire-extinguishing system complying with the provisions of Regulation 5 or with a fire-extinguishing system which in the opinion of the Administration give equivalent protection for the cargoes carried.

2 Ro/ro cargo spaces

2.1 Fire detection

There shall be provided a *fixed* fire detection and fire alarm system. The design and arrangements of this system shall be considered in conjunction with the ventilation requirements referred to in 2.3.

2.2 Fire-extinguishing arrangements

2.2.1 Ro/ro cargo spaces capable of being sealed shall be fitted with a fixed gas fire-extinguishing system which shall comply with the provisions of Regulation 5, except that:

- .1 if a carbon dioxide system is fitted, the quantity of gas available shall be at least sufficient to give a minimum volume of free gas equal to 45 per cent of the gross volume of the largest such cargo space which is capable of being sealed, and the arrangements shall be such as to ensure that at least two thirds of the gas required for the relevant space shall be introduced during 10 minutes;
- .2 a halogenated hydrocarbon system may be used only for spaces designated only for vehicles which are not carrying any cargo;
- .3 any other fixed gas fire-extinguishing system or fixed high expansion

foam fire-extinguishing system may be fitted provided the Administration is satisfied that an equivalent protection is achieved;

- .4 as an alternative, a system meeting the requirements of Regulation 37.1.3 may be fitted. However, the drainage and pumping arrangements shall be such as to prevent the build-up of free surfaces. If this is not possible the adverse effect upon stability of the added weight and free surface of water shall be taken into account to the extent deemed necessary by the Administration in its approval of the stability information.* Such information shall be included in the stability information supplied to the master as required by Regulation II-1/22.

2.2.2 Ro/ro cargo spaces not capable of being sealed shall be fitted with a system meeting the requirements of Regulation 37.1.3. However, the drainage and pumping arrangements shall be such as to prevent the build-up of free surfaces. If this is not possible the adverse effect upon stability of the added weight and free surface of water shall be taken into account to the extent deemed necessary by the Administration in its approval of the stability information*. Such information shall be included in the stability information supplied to the master as required by Regulation II-1/22.

2.2.3 There shall be provided for use in any ro/ro cargo space such number of portable fire extinguishers as the Administration may deem sufficient. At least one portable extinguisher shall be located at each access to such a cargo space.

2.2.4 Each ro/ro cargo space intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion shall be provided with:

- .1 at least three water fog applicators;
- .2 one portable foam applicator unit complying with the provisions of Regulation 6.4 provided that at least two such units are available in the ship for use in such ro/ro cargo spaces.

2.3 Ventilation system

2.3.1 Closed ro/ro cargo spaces shall be provided with an effective power ventilation system sufficient to provide at least six air changes per hour based on an empty hold. Ventilation fans shall normally be run continuously whenever vehicles are on board. Where this is impracticable, they shall be operated for a limited period daily as weather permits and in any case for a reasonable period prior to discharge, after which period the ro/ro cargo space shall be proved gas free. One or more portable combustible gas detecting instruments shall be carried for this purpose. The system shall be entirely separate from other ventilating systems. Ventilation ducts serving ro/ro cargo spaces capable of being effectively sealed shall be separated for each cargo space. The Administration may require an increased number of air changes when vehicles are being loaded or unloaded. The system shall be capable of being controlled from a position outside such spaces.

* Reference is made to Recommendation on Fixed Fire-Extinguishing Systems for Special Category Spaces, adopted by the Organization by resolution A.123(V).

2.3.2 The ventilation shall be so arranged as to prevent air stratification and the formation of air pockets.

2.3.3 Means shall be provided to indicate any loss of the required ventilating capacity on the navigating bridge.

2.3.4 Arrangements shall be provided to permit a rapid shut-down and effective closure of the ventilation system in case of fire, taking into account the weather and sea conditions.

2.3.5 Ventilation ducts, including dampers, shall be made of steel and their arrangement shall be to the satisfaction of the Administration.

2.4 Precautions against ignition of flammable vapours

Closed ro/ro cargo spaces carrying motor vehicles with fuel in their tanks for their own propulsion shall comply with the following additional provisions:

- .1 Except as provided in paragraph 2.4.2, electrical equipment and wiring shall be of a type suitable for use in explosive petrol and air mixtures.
 - .2 Above a height of 450 mm from the deck, electrical equipment of a type so enclosed and protected as to prevent the escape of sparks shall be permitted as an alternative on condition that the ventilating system is so designed and operated as to provide continuous ventilation of the cargo spaces at the rate of at least ten air changes per hour whenever vehicles are on board.
 - .3 Other equipment which may constitute a source of ignition of flammable vapours shall not be permitted.
 - .4 Electrical equipment and wiring in an exhaust ventilation duct shall be of a type approved for use in explosive petrol and air mixtures and the outlet from any exhaust duct shall be sited in a safe position, having regard to other possible sources of ignition.
 - .5 Scuppers shall not be led to machinery or other spaces where sources of ignition may be present.
- 3 *Cargo spaces, other than ro/ro cargo spaces, intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion*

Spaces intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion shall comply with requirements of paragraph 2, except that paragraph 2.2.4 need not be complied with.

Regulation 54*Special requirements for ships carrying dangerous goods***1 General**

1.1 In addition to complying with the requirements of Regulation 53 for cargo ships and with the requirements of Regulations 38 and 39 for passenger ships as appropriate, ship types and cargo spaces, referred to in paragraph 1.2, intended for the carriage of dangerous goods shall comply with the requirements of this Regulation, as appropriate, except when carrying dangerous goods in limited quantities* unless such requirements have already been met by compliance with the requirements elsewhere in this Chapter. The types of ships and modes of carriage of dangerous goods are referred to in paragraph 1.2 and in table 54.1, where the numbers appearing in paragraph 1.2 are referred to in the top line.

1.2 The following ship types and cargo spaces shall govern the application of tables 54.1 and 54.2:

- .1 Ships and cargo spaces not specifically designed for the carriage of freight containers but intended for the carriage of dangerous goods in packaged form including goods in freight containers and portable tanks.
- .2 Purpose built container ships and cargo spaces intended for the carriage of dangerous goods in freight containers and portable tanks.
- .3 Ro/ro ships and ro/ro cargo spaces intended for the carriage of dangerous goods.
- .4 Ships and cargo spaces intended for the carriage of solid dangerous goods in bulk.
- .5 Ships and cargo spaces intended for carriage of dangerous goods other than liquids and gases in bulk in shipborne barges.

2 Special requirements

Unless otherwise specified the following requirements shall govern the application of tables 54.1, 54.2 and 54.3 to both “on deck” and “under deck” stowage of dangerous goods where the numbers of the following paragraphs are indicated in the first column.

2.1 Water supplies

2.1.1 Arrangements shall be made to ensure immediate availability of a supply of water from the fire main at the required pressure either by permanent pressurization or by suitably placed remote starting arrangements for the fire pumps.

* Reference is made to Section 18 of the General Introduction to the International Maritime Dangerous Goods Code (the IMDG Code) for a definition of the term “limited quantities”.

TABLE 54.1 – APPLICATION OF THE REQUIREMENTS TO DIFFERENT MODES OF CARRIAGE OF DANGEROUS GOODS IN SHIPS AND CARGO SPACES

Wherever “x” appears in table 54.1 it means that this requirement is applicable to all classes of dangerous goods as given in the appropriate line of table 54.3, except as indicated by the notes.

Regulation 54.1.2 Regulation 54.2	.1 Not specifically designed	.2 Container cargo spaces	.3			.4 Solid dangerous goods in bulk	.5 Shipborne barges
			Closed ro/ro cargo spaces	Open ro/ro cargo spaces	Weather decks		
.1.1	x	x	x	x	x	For application of requirements of Regulation 54 to different classes of dangerous goods – see Table 54.2	x
.1.2	x	x	x	x	x		—
.1.3	x	x	x	x	—		x
.1.4	x	x	x	x	—		x
.2	x	x	x	x	—		x ^{d/}
.3	x	x	x	—	—		x ^{d/}
.4.1	x	x ^{a/}	x	—	—		x ^{d/}
.4.2	x	x ^{a/}	x	—	—		x ^{d/}
.5	x	x	x	—	—		—
.6.1	x	x	x	x	x		—
.6.2	x	x	x	x	x		—
.7	x	—	—	x	x		—
.8	x	x ^{b/}	x	x	x		—
.9	—	—	x ^{c/}	x	—	—	

Notes

- a/ For classes 4 and 5.1 not applicable to closed freight containers. For classes 2, 3, 6.1 and 8 when carried in closed freight containers the ventilation rate may be reduced to not less than two air changes. For the purpose of this requirement a portable tank is a closed freight container.
- b/ Applicable to decks only.
- c/ Applies only to closed ro/ro cargo spaces, not capable of being sealed.
- d/ In the special case where the barges are capable of containing flammable vapours or alternatively if they are capable of discharging flammable vapours to a safe space outside the barge carrier compartment by means of ventilation ducts connected to the barges, these requirements may be reduced or waived to the satisfaction of the Administration.

TABLE 54.2 – APPLICATION OF THE REQUIREMENTS TO DIFFERENT CLASSES OF DANGEROUS GOODS FOR SHIPS AND CARGO SPACES CARRYING SOLID DANGEROUS GOODS IN BULK

Class – Chapter VII Regulation 54.2	4.1	4.2	4.3 ^{f/}	5.1	6.1	8	9
.1.1	x	x	–	x	x ^{g/}	x ^{g/}	x
.1.2 ^{e/}	x	x	–	x	–	–	x
.2	x	x ^{g/}	x	x ^{g/}	–	–	x ^{g/}
.4.1 ^{h/}	x ^{g/}	x ^{g/}	x	x ^{g/}	–	–	x ^{g/}
.4.2 ^{h/}	x	x ^{g/}	x	x ^{g/}	–	–	x ^{g/}
.6	x	x	x	x	x	x	x
.8	x	x	x	x ^{g/}	x ^{g/}	x ^{g/}	x

Notes

- e/** This requirement is applicable when the characteristics of the substance call for large quantities of water for fire fighting.
- f/** The hazards of substances in this class which may be carried in bulk are such that special consideration must be given by the Administration to the construction and equipment of the ships involved in addition to ^{meeting the requirements} enumerated in this table.
- g/** Reference is made to the International Maritime Dangerous Goods Code (resolution A.81(IV) as amended) or the Code of Safe Practice for Solid Bulk Cargoes (resolution A.434(XI) as amended), as appropriate.
- h/** At least natural ventilation is required in enclosed cargo spaces intended for carriage of solid dangerous goods in bulk. In cases where power ventilation is required in the Code of Safe Practice for Solid Bulk Cargoes (resolution A.434(XI) as amended), the use of portable ventilation units (equipment) to the satisfaction of the Administration may suffice.

TABLE 54.3 – APPLICATION OF THE REQUIREMENTS TO DIFFERENT CLASSES OF DANGEROUS GOODS EXCEPT SOLID DANGEROUS GOODS IN BULK

Class -- Chapter VII Regulation 54.2	1	2	3	4	5.1	5.2	6.1	8
.1.1	x	x	x	x ^{p/}	x	x ^{p/}	x	x
.1.2 ^{i/}	x	x	x	x ^{p/}	x	x ^{p/}	–	–
.1.3	x ^{k/}	–	–	–	–	–	–	–
.1.4	x ^{k/}	–	–	–	–	–	–	–
.2	x ^{k/}	x ^{l/}	x ^{m/}	–	–	–	x ^{m/} x ^{p/}	x ^{m/} x ^{p/}
.3	x	x	x	x	x	–	x	x
.4.1	–	x ^{j/}	x ^{m/}	x ^{p/}	x ^{p/}	–	x ^{m/} x ^{p/}	x ^{m/} x ^{p/}
.4.2	–	x ^{l/}	x ^{m/}	–	–	–	x ^{m/} x ^{p/}	x ^{m/} x ^{p/}
.5	–	–	x ^{m/}	–	–	–	x ^{n/}	x ^{m/}
.6	–	x	x	x	x	x ^{p/}	x	x
.7	–	–	x	x	x	x ^{p/}	x ^{p/}	x ^{p/}
.8	x ^{k/} x ^{o/}	x	x	x	x ^{p/}	–	x ^{p/}	x ^{p/}
.9	x	x	x ^{m/}	x ^{p/}	x	–	x ^{m/}	x ^{m/}

Notes

i/ This requirement is applicable when the characteristics of the substance call for large quantities of water for fire fighting.

j/ Applicable to flammable or poisonous gases.

k/ Except goods of class 1 in division 1.4, compatibility group S.

l/ All flammable gases.

m/ All liquids having a flashpoint below 23°C (closed cup test).

n/ Liquids only.

o/ Goods of class 1 shall be stowed 3 m horizontally away from the machinery space boundaries in all cases.

p/ Reference is made to the International Maritime Dangerous Goods Code (resolution A.81(IV) as amended) or the Code of Safe Practice for Solid Bulk Cargoes (resolution A.434(XI) as amended), as appropriate.

2.1.2 The quantity of water delivered shall be capable of supplying four nozzles of a size and at pressures as specified in Regulation 4, capable of being trained on any part of the cargo space when empty. This amount of water may be applied by equivalent means to the satisfaction of the Administration.

2.1.3 Means of effectively cooling the designated under deck cargo space by copious quantities of water, either by a fixed arrangement of spraying nozzles, or flooding the cargo space with water, shall be provided. Hoses may be used for this purpose in small cargo spaces and in small areas of larger cargo spaces at the discretion of the Administration. In any event the drainage and pumping arrangements shall be such as to prevent the build-up of free surfaces. If this is not possible the adverse effect upon stability of the added weight and free surface of water shall be taken into account to the extent deemed necessary by the Administration in its approval of the stability information.*

2.1.4 Provision to flood a designated under deck cargo space with suitable specified media may be substituted for the requirements in paragraph 2.1.3.

2.2 Sources of ignition

Electrical equipment and wiring shall not be fitted in enclosed cargo spaces, closed vehicle deck spaces, or open vehicle deck spaces unless it is essential for operational purposes in the opinion of the Administration. However, if electrical equipment is fitted in such spaces, it shall be of a certified safe type** for use in the dangerous environments to which it may be exposed unless it is possible to completely isolate the electrical system (by removal of links in the system, other than fuses). Cable penetrations of the decks and bulkheads shall be sealed against the passage of gas or vapour. Through runs of cables and cables within the cargo spaces shall be protected against damage from impact. Any other equipment which may constitute a source of ignition of flammable vapour shall not be permitted.

2.3 Detection system

An approved fire detection and fire alarm system shall be fitted to all enclosed cargo spaces including closed vehicle deck spaces. Where the detection system utilizes samples of atmosphere drawn from such cargo spaces provision shall be made to prevent, in the event of cargo leakage, the discharge of contaminated atmosphere through the sampling system into the space in which the detection apparatus is situated. A notice stating that the samples shall be discharged to the open air when cargoes giving off toxic fumes are being carried shall be permanently exhibited at the equipment.

2.4 Ventilation

2.4.1 Adequate power ventilation shall be provided in enclosed cargo spaces. The arrangement shall be such as to provide for at least six air changes per

* Reference is made to Recommendation on Fixed Fire-Extinguishing Systems for Special Category Spaces, adopted by the Organization by resolution A.123(V).

** Reference is made to Recommendations published by the International Electrotechnical Commission and, in particular, Publication 92 – Electrical Installations in Ships.

hour in the cargo space based on an empty cargo space and for removal of vapours from the upper or lower parts of the cargo space, as appropriate.

2.4.2 The fans shall be such as to avoid the possibility of ignition of flammable gas air mixtures. Suitable wire mesh guards shall be fitted over inlet and outlet ventilation openings.

2.5 Bilge pumping

Where it is intended to carry flammable or toxic liquids in enclosed cargo spaces the bilge pumping system shall be designed to ensure against inadvertent pumping of such liquids through machinery space piping or pumps. Where large quantities of such liquids are carried, consideration shall be given to the provision of additional means of draining those cargo spaces. These means shall be to the satisfaction of the Administration.

2.6 Personnel protection

2.6.1 Four sets of full protective clothing resistant to chemical attack shall be provided in addition to the fireman's outfits required by Regulation 17. The protective clothing shall cover all skin, so that no part of the body is unprotected.

2.6.2 At least two self-contained breathing apparatuses additional to those required by Regulation 17 shall be provided.

2.7 Portable fire extinguishers

Portable fire extinguishers with a total capacity of at least 12 kg of dry powder or equivalent shall be provided for the cargo spaces. These extinguishers shall be in addition to any portable fire extinguishers required elsewhere in this Chapter.

2.8 Insulation of machinery space boundaries

Bulkheads forming boundaries between cargo spaces and machinery spaces of category A shall be insulated to "A-60" standard, unless the dangerous goods are stowed at least 3 m horizontally away from such bulkheads. Other boundaries between such spaces shall be insulated to "A-60" standard.

2.9 Water spray system

Each open ro/ro cargo space having a deck above it and each space deemed to be a closed ro/ro cargo space not capable of being sealed shall be fitted with an approved fixed pressure water-spraying system for manual operation which shall protect all parts of any deck and vehicle platform in such space, except that the Administration may permit the use of any other fixed fire-extinguishing system that has been shown by full-scale test to be no less effective. In any event the drainage and pumping arrangements shall be such as to prevent the build-up of free surfaces. If this is not possible the adverse effect upon stability of the added weight and free surface of water shall be taken into account to the extent deemed necessary by the Administration in its approval of the stability information.*

* Reference is made to Recommendation on Fixed Fire-Extinguishing Systems for Special Category Spaces, adopted by the Organisation by resolution A.123(V).

3 *Document of compliance*

The Administration shall provide the ship with an appropriate document as evidence of compliance of construction and equipment with the requirements of this Regulation.

PART D – FIRE SAFETY MEASURES FOR TANKERS

(The requirements of this Part are additional to those of Part C except for Regulations 53 and 54 which do not apply to tankers and except as provided otherwise in Regulations 57 and 58)

Regulation 55

Application

1 Unless expressly provided otherwise, this Part shall apply to tankers carrying crude oil and petroleum products having a flashpoint not exceeding 60°C (closed cup test), as determined by an approved flashpoint apparatus, and a Reid vapour pressure which is below atmospheric pressure and other liquid products having a similar fire hazard.

2 Where liquid cargoes other than those referred to in paragraph 1 or liquefied gases which introduce additional fire hazards are intended to be carried, additional safety measures shall be required to the satisfaction of the Administration, having due regard to the provisions of the Bulk Chemical Code and the Gas Carrier Code.

3 This paragraph applies to all ships which are combination carriers. Such ships shall not carry solid cargoes unless all cargo tanks are empty of oil and gas freed or unless the arrangements provided in each case are to the satisfaction of the Administration and in accordance with the relevant operational requirements contained in the Guidelines for Inert Gas Systems*.

4 Tankers carrying petroleum products having a flashpoint exceeding 60°C (closed cup test) as determined by an approved flashpoint apparatus shall comply with the provisions of Part C, except that in lieu of the fixed fire-extinguishing system required in Regulation 53 they shall be fitted with a fixed deck foam system which shall comply with the provisions of Regulation 61.

5 The requirements for inert gas systems of Regulation 60 need not be applied to all chemical tankers or gas carriers when carrying cargoes described in paragraph 1, provided that alternative arrangements, to be developed by the Organization, are fitted.**

* Reference is made to Guidelines for Inert Gas Systems, adopted by the Maritime Safety Committee at its forty-second session in May 1980 (MSC/Circ.282).

** Reference is made to Interim Regulation for Inert Gas Systems on Chemical Tankers Carrying Petroleum Products, adopted by the Organization by resolution A.473(XII).

6 Chemical tankers and gas carriers shall comply with the requirements of this Part, except where alternative and supplementary arrangements are provided to the satisfaction of the Administration, having due regard to the provisions of the Bulk Chemical Code and the Gas Carrier Code.

Regulation 56

Location and separation of spaces.

1 Machinery spaces of category A other than such spaces for bow thrusters and their associated equipment shall be positioned aft of cargo tanks and slop tanks; they shall also be situated aft of cargo pump rooms and cofferdams, but not necessarily aft of the oil fuel bunker tanks. Any machinery space of category A shall be isolated from cargo tanks and slop tanks by a cofferdam, a cargo pump room, or an oil fuel bunker tank. However, the lower portion of the pump room may be recessed into machinery spaces of category A to accommodate pumps provided that the deckhead of the recess is in general not more than one third of the moulded depth above the keel except that in the case of ships of not more than 25,000 tonnes deadweight, where it can be demonstrated that for reasons of access and satisfactory piping arrangements this is impracticable, the Administration may permit a recess in excess of such height, but not exceeding one half of the moulded depth above the keel.

2 Accommodation spaces, main cargo control stations, control stations and service spaces (excluding isolated cargo handling gear lockers) shall be positioned aft of all cargo tanks, slop tanks, cargo pump rooms and cofferdams which isolate cargo or slop tanks from machinery spaces of category A. Any common bulkheads separating a cargo pump room, including the cargo pump room entrance, from accommodation and service spaces and control stations shall be constructed to "A-60" standard. Where deemed necessary, accommodation spaces, control stations, machinery spaces other than those of category A, and service spaces may be permitted forward of all cargo tanks, slop tanks, cargo pump rooms and cofferdams subject to an equivalent standard of safety and appropriate availability of fire-extinguishing arrangements being provided to the satisfaction of the Administration.

3 Where the fitting of a navigation position above the cargo tank area is shown to be necessary it shall be for navigation purposes only and it shall be separated from the cargo tank deck by means of an open space with a height of at least 2 m. The fire protection of such navigation position shall in addition be as required for control spaces as set forth in Regulation 58.1 and 58.2 and other provisions, as applicable, of this Part.

4 Means shall be provided to keep deck spills away from the accommodation and service areas. This may be accomplished by provision of a permanent continuous coaming of a suitable height extending from side to side. Special consideration shall be given to the arrangements associated with stern loading.

5 Exterior boundaries of superstructures and deckhouses enclosing accommodation and service spaces and including any overhanging decks which support such accommodation, shall be insulated to "A-60" standard for the whole of the portions which face cargo oil tanks and for 3 m aft of the front boundary. In the case of the sides of these superstructures and deckhouses, such insulation shall be carried as high as is deemed necessary by the Administration.

6.1 Entrances, air inlets and openings to accommodation spaces, service spaces and control stations shall not face the cargo area. They shall be located on the end bulkhead not facing the cargo area and/or on the outboard side of the superstructure or deckhouse at a distance of at least 4 per cent of the length of the ship but not less than 3 m from the end of the superstructure or deckhouse facing the cargo area. This distance, however, need not exceed 5 m.

6.2 No doors shall be permitted within the limits mentioned in paragraph 6.1, except that doors to those spaces not having access to accommodation spaces, service spaces and control stations, such as cargo control stations, provision rooms and store-rooms may be permitted by the Administration. Where such doors are fitted, the boundaries of the space shall be insulated to "A-60" standard. Bolted plates for removal of machinery may be fitted within the limits specified in paragraph 6.1. ~~Wheelhouse~~ doors and wheelhouse windows may be located within the limits specified in paragraph 6.1 so long as they are so designed that a rapid and efficient gas and vapour tightening of the ~~wheelhouse~~ can be ensured.

6.3 Port lights facing the cargo area and on the sides of the superstructures and deckhouses within the limits specified in paragraph 6.1 shall be of the fixed (non-opening) type. Such port lights in the first tier on the main deck shall be fitted with inside covers of steel or other equivalent material.

Regulation 57

Structure, bulkheads within accommodation and service spaces and details of construction

1 For the application of the requirements of Regulations 42, 43 and 50 to tankers, only method IC as defined in Regulation 42.5.1 shall be used.

2 Skylights to cargo pump rooms shall be of steel, shall not contain any glass and shall be capable of being closed from outside the pump room.

Regulation 58

Fire integrity of bulkheads and decks

1 In lieu of Regulation 44 and in addition to complying with the specific provisions for fire integrity of bulkheads and decks mentioned elsewhere in this Part the minimum fire integrity of bulkheads and decks shall be as prescribed in tables 58.1 and 58.2.

TABLE 58.1 – FIRE INTEGRITY OF BULKHEADS SEPARATING ADJACENT SPACES

Spaces	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Control stations	(1) A-0 ^{c/}	A-0	A-60	A-0	A-15	A-60	A-15	A-60	A-60	*
Corridors	(2)	C	B-0	B-0 A-0 ^{a/}	B-0	A-60	A-0	A-60	A-0	*
Accommodation spaces	(3)		C	B-0 A-0 ^{a/}	B-0	A-60	A-0	A-60	A-0	*
Stairways	(4)			B-0 A-0 ^{a/}	B-0 A-0 ^{a/}	A-60	A-0	A-60	A-0	*
Service spaces (low risk)	(5)				C	A-60	A-0	A-60	A-0	*
Machinery spaces of category A	(6)					*	A-0	A-0 ^{d/}	A-60	*
Other machinery spaces	(7)						A-0 ^{b/}	A-0	A-0	*
Cargo pump rooms	(8)							*	A-60	*
Service spaces (high risk)	(9)								A-0 ^{b/}	*
Open decks	(10)									–

Notes: To be applied to tables 58.1 and 58.2, as appropriate.

- a/ For clarification as to which applies, see Regulations 43 and 46 of this Chapter.
- b/ Where spaces are of the same numerical category and superscript *b/* appears, a bulkhead or deck of the rating shown in the tables is only required when the adjacent spaces are for a different purpose, e.g. in category (9). A galley next to a galley does not require a bulkhead but a galley next to a paint room requires an "A-0" bulkhead.
- c/ Bulkheads separating the wheelhouse, chartroom and radio room from each other may be "B-0" rating.
- d/ Bulkheads and decks between cargo pump rooms and machinery spaces of category A may be penetrated by cargo pump shaft glands and similar glanded penetrations, provided that gastight seals with efficient lubrication or other means of ensuring the permanence of the gas seal are fitted in way of the bulkhead or deck.
- e/ Fire insulation need not be fitted if the machinery space in category (7), in the opinion of the Administration, has little or no fire risk.
- * Where an asterisk appears in the tables, the division is required to be of steel or other equivalent material but is not required to be of "A" class standard.

- 2 The following requirements shall govern application of the tables:
 - .1 Tables 58.1 and 58.2 shall apply respectively to the bulkhead and decks separating adjacent spaces.
 - .2 For determining the appropriate fire integrity standards to be applied to divisions between adjacent spaces, such spaces are classified according to their fire risk as shown in categories (1) to (10) below. The title of each category is intended to be typical rather than restrictive. The number in parentheses preceding each category refers to the applicable column or row in the tables.
 - (1) *Control stations*
 - Spaces containing emergency sources of power and lighting.
 - Wheelhouse and chartroom.
 - Spaces containing the ship's radio equipment.
 - Fire-extinguishing rooms, fire control rooms and fire-recording stations.
 - Control room for propulsion machinery when located outside the machinery space.
 - Spaces containing centralized fire alarm equipment.
 - (2) *Corridors*
 - Corridors and lobbies.
 - (3) *Accommodation spaces*
 - Spaces as defined in Regulation 3.10, excluding corridors.
 - (4) *Stairways*
 - Interior stairways, lifts and escalators (other than those wholly contained within the machinery spaces) and enclosures thereto.
 - In this connexion, a stairway which is enclosed only at one level shall be regarded as part of the space from which it is not separated by a fire door.
 - (5) *Service spaces (low risk)*
 - Lockers and store-rooms having areas of less than 2 m², drying rooms and laundries.
 - (6) *Machinery spaces of category A*
 - Spaces as defined in Regulation 3.19.
 - (7) *Other machinery spaces*
 - Spaces as defined in Regulation 3.20 excluding machinery spaces of category A.
 - (8) *Cargo pump rooms*
 - Spaces containing cargo pumps and entrances and trunks to such spaces.

(9) Service spaces (high risk)

Galleys, pantries containing cooking appliances, paint and lamp rooms, lockers and store-rooms having an area of 2 m² or more, workshops other than those forming part of the machinery spaces.

(10) Open decks

Open deck spaces and enclosed promenades having no fire risk. Air spaces (the space outside superstructures and deck-houses).

3 Continuous "B" class ceilings or linings, in association with the relevant decks or bulkheads, may be accepted as contributing, wholly or in part, to the required insulation and integrity of a division.

4 External boundaries which are required in Regulation 57.1 to be of steel or other equivalent material may be pierced for the fitting of windows and sidescuttles provided that there is no requirement for such boundaries to have "A" class integrity elsewhere in the part. Similarly, in such boundaries which are not required to have "A" class integrity, doors may be of materials to the satisfaction of the Administration.

5 Permanent approved gastight lighting enclosures for illuminating cargo pump rooms may be permitted in bulkheads and decks separating cargo pump rooms and other spaces provided they are of adequate strength and the integrity and gastightness of the bulkhead or deck is maintained.

Regulation 59

Venting, purging, gas freeing and ventilation

1 Cargo tank venting

1.1 The venting systems of cargo tanks are to be entirely distinct from the air pipes of the other compartments of the ship. The arrangements and position of openings in the cargo tank deck from which emission of flammable vapours can occur shall be such as to minimize the possibility of flammable vapours being admitted to enclosed spaces containing a source of ignition, or collecting in the vicinity of deck machinery and equipment which may constitute an ignition hazard. In accordance with this general principle the criteria in paragraphs 1.2 to 1.10 will apply.

1.2 The venting arrangements shall be so designed and operated as to ensure that neither pressure nor vacuum in cargo tanks shall exceed design parameters and be such as to provide for:

- .1 the flow of the small volumes of vapour, air or inert gas mixtures caused by thermal variations in a cargo tank in all cases through pressure/vacuum valves; and
- .2 the passage of large volumes of vapour, air or inert gas mixtures during cargo loading and ballasting, or during discharging.

1.3.1 The venting arrangements in each cargo tank may be independent or combined with other cargo tanks and may be incorporated into the inert gas piping.

1.3.2 Where the arrangements are combined with other cargo tanks either stop valves or other acceptable means shall be provided to isolate each cargo tank. Where stop valves are fitted, they shall be provided with locking arrangements which shall be under the control of the responsible ship's officer. Any isolation must continue to permit the flow caused by thermal variations in a cargo tank in accordance with paragraph 1.2.1.

1.4 The venting arrangements shall be connected to the top of each cargo tank and shall be self-draining to the cargo tanks under all normal conditions of trim and list of the ship. Where it may not be possible to provide self-draining lines permanent arrangements shall be provided to drain the vent lines to a cargo tank.

1.5 The venting system shall be provided with devices to prevent the passage of flame into the cargo tanks. The design, testing and locating of these devices shall comply with the requirements established by the Administration which shall contain at least the standards adopted by the Organization.

1.6 Provision shall be made to guard against liquid rising in the venting system to a height which would exceed the design head of cargo tanks. This shall be accomplished by high level alarms or overflow control systems or other equivalent means, together with gauging devices and cargo tank filling procedures.

1.7 Openings for pressure release required by paragraph 1.2.1 shall:

- .1 have as great a height as is practicable above the cargo tank deck to obtain maximum dispersal of flammable vapours but in no case less than 2 m above the cargo tank deck;
- .2 be arranged at the furthest distance practicable but not less than 5 m from the nearest air intakes and openings to enclosed spaces containing a source of ignition and from deck machinery and equipment which may constitute an ignition hazard.

1.8 Pressure/vacuum valves required by paragraph 1.2.1 may be provided with a by-pass arrangement when they are located in a vent main or masthead riser. Where such an arrangement is provided there shall be suitable indicators to show whether the by-pass is open or closed.

1.9 Vent outlets for cargo loading, discharging and ballasting required by paragraph 1.2.2 shall:

- .1.1 permit the free flow of vapour mixtures; or
- .1.2 permit the throttling of the discharge of the vapour mixtures to achieve a velocity of not less than 30 m/sec;
- .2 be so arranged that the vapour mixture is discharged vertically upwards;

- .3 where the method is by free flow of vapour mixtures, be such that the outlet shall be not less than 6 m above the cargo tank deck or fore and aft gangway if situated within 4 m of the gangway and located not less than 10 m measured horizontally from the nearest air intakes and openings to enclosed spaces containing a source of ignition and from deck machinery and equipment which may constitute an ignition hazard;
- .4 where the method is by high velocity discharge, be located at a height not less than 2 m above the cargo tank deck and not less than 10 m measured horizontally from the nearest air intakes and openings to enclosed spaces containing a source of ignition and from deck machinery and equipment which may constitute an ignition hazard. These outlets shall be provided with high velocity devices of an approved type;
- .5 be designed on the basis of the maximum designed loading rate multiplied by a factor of at least 1.25 to take account of gas evolution, in order to prevent the pressure in any cargo tank from exceeding the design pressure. The master shall be provided with information regarding the maximum permissible loading rate for each cargo tank and in the case of combined venting systems, for each group of cargo tanks.

1.10 In combination carriers, the arrangement to isolate slop tanks containing oil or oil residues from other cargo tanks shall consist of blank flanges which will remain in position at all times when cargoes other than liquid cargoes referred to in Regulation 55.1 are carried.

2 *Cargo tank purging and/or gas freeing*

Arrangements for purging and/or gas freeing shall be such as to minimize the hazards due to the dispersal of flammable vapours in the atmosphere and to flammable mixtures in a cargo tank. Accordingly:

- .1 When the ship is provided with an inert gas system the cargo tanks shall first be purged in accordance with the provisions of Regulation 62.13 until the concentration of hydrocarbon vapours in the cargo tanks has been reduced to less than 2 per cent by volume. Thereafter, venting may be at the cargo tank deck level.
- .2 When the ship is not provided with an inert gas system, the operation shall be such that the flammable vapour is initially discharged:
 - .2.1 through the vent outlets as specified in paragraph 1.9; or
 - .2.2 with a vertical exit velocity of at least 20 m/sec through outlets at least 2 m above the cargo tank deck level and which are protected by suitable devices to prevent the passage of flame.
 - ← When the flammable vapour concentration in the outlet has been reduced to 30 per cent of the lower flammable limit the discharge of
 - ← the vapour mixture may be at the cargo tank deck level.

3 Ventilation

3.1 Cargo pump rooms shall be mechanically ventilated and discharges from the exhaust fans shall be led to a safe place on the open deck. The ventilation of these rooms shall have sufficient capacity to minimize the possibility of accumulation of flammable vapours. The number of changes of air shall be at least 20 per hour, based upon the gross volume of the space. The air ducts shall be arranged so that all of the space is effectively ventilated. The ventilation shall be of the suction type using fans of the non-sparking type.

3.2 The arrangement of ventilation inlets and outlets and other deckhouse and superstructure boundary space openings shall be such as to complement the provisions of paragraph 1. Such vents especially for machinery spaces shall be situated as far aft as practicable. Due consideration in this regard should be given when the ship is equipped to load or discharge at the stern. Sources of ignition such as electrical equipment shall be so arranged as to avoid an explosion hazard.

3.3 In combination carriers all cargo spaces and any enclosed spaces adjacent to cargo spaces shall be capable of being mechanically ventilated. The mechanical ventilation may be provided by portable fans. An approved fixed gas warning system capable of monitoring flammable vapours shall be provided in cargo pump rooms and pipe ducts and cofferdams referred to in Regulation 56.1 adjacent to slop tanks. Suitable arrangements shall be made to facilitate measurement of flammable vapours in all other spaces within the cargo area. Such measurements shall be made possible from open deck or easily accessible positions.

Regulation 60

Cargo tank protection

1 For tankers of 20,000 tonnes deadweight and upwards the protection of the cargo tanks deck area and cargo tanks shall be achieved by a fixed deck foam system and a fixed inert gas system in accordance with the requirements of Regulations 61 and 62, except that, in lieu of the above installations, the Administration, after having given consideration to the ship's arrangement and equipment, may accept other combinations of fixed installations if they afford protection equivalent to the above, in accordance with Regulation I/5.

2 To be considered equivalent, the system proposed in lieu of the deck foam system shall:

- .1 be capable of extinguishing spill fires and also preclude ignition of spilled oil not yet ignited; and
- .2 be capable of combating fires in ruptured tanks.

3 To be considered equivalent, the system proposed in lieu of the fixed inert gas system shall:

- .1 be capable of preventing dangerous accumulations of explosive mixtures in intact cargo tanks during normal service throughout the

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ballast voyage and necessary in-tank operations; and

- .2 be so designed as to minimize the risk of ignition from the generation of static electricity by the system itself.

4 Tankers of 20,000 tonnes deadweight and upwards constructed before 1 September 1984 which are engaged in the trade of carrying crude oil shall be fitted with an inert gas system, complying with the requirements of paragraph 1, not later than:

- .1 for a tanker of 70,000 tonnes deadweight and upwards 1 September 1984 or the date of delivery of the ship, whichever occurs later; and
- .2 for a tanker of less than 70,000 tonnes deadweight 1 May 1985 or the date of delivery of the ship, whichever occurs later except that for tankers of less than 40,000 tonnes deadweight not fitted with tank washing machines having an individual throughput of greater than 60 m³/hour the Administration may exempt such tankers from the requirements of this paragraph, if it would be unreasonable and impracticable to apply these requirements, taking into account the ship's design characteristics.

5 Tankers of 40,000 tonnes deadweight and upwards constructed before 1 September 1984 which are engaged in the trade of carrying oil other than crude oil and any such tanker of 20,000 tonnes deadweight and upwards engaged in the trade of carrying oil other than crude oil fitted with tank washing machines having an individual throughput of greater than 60 m³/hour shall be fitted with an inert gas system, complying with the requirements of paragraph 1, not later than:

- .1 for a tanker of 70,000 tonnes deadweight and upwards 1 September 1984 or the date of delivery of the ship, whichever occurs later; and
- .2 for a tanker of less than 70,000 tonnes deadweight 1 May 1985 or the date of delivery of the ship, whichever occurs later.

6 All tankers operating with a cargo tank cleaning procedure using crude oil washing shall be fitted with an inert gas system complying with the requirements of Regulation 62 and with fixed tank washing machines.

7 All tankers fitted with a fixed inert gas system shall be provided with a closed ullage system.

8 Tankers of less than 20,000 tonnes deadweight shall be provided with a deck foam system complying with the requirements of Regulation 61.

Regulation 61

Fixed deck foam systems

1 The arrangements for providing foam shall be capable of delivering foam to the entire cargo tanks ^{deck} area as well as into any cargo tank the deck of which has been ruptured.

2 The deck foam system shall be capable of simple and rapid operation. The main control station for the system shall be suitably located outside the cargo area, adjacent to the accommodation spaces and readily accessible and operable in the event of fire in the areas protected.

3 The rate of supply of foam solution shall be not less than the greatest of the following:

- 1 0.6 ℓ/minute per square metre of cargo^{tanks}deck area, where cargo^{tanks}deck area means the maximum breadth of the ship multiplied by the total longitudinal extent of the cargo tank spaces;
- 2 6 ℓ/minute per square metre of the horizontal sectional area of the single tank having the largest such area; or
- 3 3 ℓ/minute per square metre of the area protected by the largest monitor, such area being entirely forward of the monitor, but not less than 1,250 ℓ/minute.

4 Sufficient foam concentrate shall be supplied to ensure at least 20 minutes of foam generation in tankers fitted with an inert gas installation or 30 minutes of foam generation in tankers not fitted with an inert gas installation when using solution rates stipulated in paragraphs 3.1, 3.2 or 3.3, whichever is the greatest. The foam expansion ratio (i.e. the ratio of the volume of foam produced to the volume of the mixture of water and foam-making concentrate supplied) shall not generally exceed 12 to 1. Where systems essentially produce low expansion foam but at an expansion ratio slightly in excess of 12 to 1 the quantity of foam solution available shall be calculated as for 12 to 1 expansion ratio systems. When medium expansion ratio foam (between 50 to 1 and 150 to 1 expansion ratio) is employed the application rate of the foam and the capacity of a monitor installation shall be to the satisfaction of the Administration.

5 Foam from the fixed foam system shall be supplied by means of monitors and foam applicators. At least 50 per cent of the foam solution supply rate required in paragraphs 3.1 and 3.2 shall be delivered from each monitor. On tankers of less than 4,000 tonnes deadweight the Administration may not require installation of monitors but only applicators. However, in such a case the capacity of each applicator shall be at least 25 per cent of the foam solution supply rate required in paragraphs 3.1 or 3.2.

6.1 The number and position of monitors shall be such as to comply with paragraph 1. The capacity of any monitor shall be at least 3 ℓ/minute of foam solution per square metre of deck area protected by that monitor, such area being entirely forward of the monitor. Such capacity shall be not less than 1,250 ℓ/minute.

6.2 The distance from the monitor to the farthest extremity of the protected area forward of that monitor shall not be more than 75 per cent of the monitor throw in still air conditions.

7 A monitor and hose connexion for a foam applicator shall be situated both port and starboard at the front of the poop or accommodation spaces facing the cargo deck. On tankers of less than 4,000 tonnes deadweight a hose

connexion for a foam applicator shall be situated both port and starboard at the front of the poop or accommodation spaces facing the cargo deck.

8 Applicators shall be provided to ensure flexibility of action during fire-fighting operations and to cover areas screened from the monitors. The capacity of any applicator shall be not less than 400 l/minute and the applicator throw in still air conditions shall be not less than 15 m. The number of foam applicators provided shall be not less than four. The number and disposition of foam main outlets shall be such that foam from at least two applicators can be directed on to any ^{part of the} cargo tanks deck area.

9 Valves shall be provided in the foam main, and in the fire main when this is an integral part of the deck foam system, immediately forward of any monitor position to isolate damaged sections of those mains.

10 Operation of a deck foam system at its required output shall permit the simultaneous use of the minimum required number of jets of water at the required pressure from the fire main.

Regulation 62

Inert gas systems

1 The inert gas system referred to in Regulation 60 shall be designed, constructed and tested to the satisfaction of the Administration. It shall be so designed and operated as to render and maintain the atmosphere of the cargo tanks* non-flammable at all times, except when such tanks are required to be gas free. In the event that the inert gas system is unable to meet the operational requirement set out above and it has been assessed that it is impractical to effect a repair, then cargo discharge, deballasting and necessary tank cleaning shall only be resumed when the "emergency conditions" laid down in the Guidelines on Inert Gas Systems** are complied with.

- 2 The system shall be capable of:
- .1 inerting empty cargo tanks by reducing the oxygen content of the atmosphere in each tank to a level at which combustion cannot be supported;
 - .2 maintaining the atmosphere in any part of any cargo tank with an oxygen content not exceeding 8 per cent by volume and at a positive pressure at all times in port and at sea except when it is necessary for such a tank to be gas free;
 - .3 eliminating the need for air to enter a tank during normal operations except when it is necessary for such a tank to be gas free;
 - .4 purging empty cargo tanks of hydrocarbon gas, so that subsequent

* Throughout this Regulation the term "cargo tank" includes also "slop tanks".

** Reference is made to Guidelines for Inert Gas Systems, adopted by the Maritime Safety Committee at its forty-second session in May 1980 (MSC/Circ.282).

gas freeing operations will at no time create a flammable atmosphere within the tank.

3.1 The system shall be capable of delivering inert gas to the cargo tanks at a rate of at least 125 per cent of the maximum rate of discharge capacity of the ship expressed as a volume.

3.2 The system shall be capable of delivering inert gas with an oxygen content of not more than 5 per cent by volume in the inert gas supply main to the cargo tanks at any required rate of flow.

4 The inert gas supply may be treated flue gas from main or auxiliary boilers. The Administration may accept systems using flue gases from one or more separate gas generators or other sources or any combination thereof, provided that an equivalent standard of safety is achieved. Such systems should, as far as practicable, comply with the requirements of this Regulation. Systems using stored carbon dioxide shall not be permitted unless the Administration is satisfied that the risk of ignition from generation of static electricity by the system itself is minimized.

5 Flue gas isolating valves shall be fitted in the inert gas supply mains between the boiler uptakes and the flue gas scrubber. These valves shall be provided with indicators to show whether they are open or shut, and precautions shall be taken to maintain them gastight and keep the seatings clear of soot. Arrangements shall be made to ensure that boiler soot blowers cannot be operated when the corresponding flue gas valve is open.

6.1 A flue gas scrubber shall be fitted which will effectively cool the volume of gas specified in paragraph 3 and remove solids and sulphur combustion products. The cooling water arrangements shall be such that an adequate supply of water will always be available without interfering with any essential services on the ship. Provision shall also be made for an alternative supply of cooling water.

6.2 Filters or equivalent devices shall be fitted to minimize the amount of water carried over to the inert gas blowers.

6.3 The scrubber shall be located aft of all cargo tanks, cargo pump rooms and cofferdams separating these spaces from machinery spaces of category A.

7.1 At least two blowers shall be fitted which together shall be capable of delivering to the cargo tanks at least the volume of gas required by paragraph 3. In the system with gas generator the Administration may permit only one blower if that system is capable of delivering the total volume of gas required by paragraph 3 to the protected cargo tanks, provided that sufficient spares for the blower and its prime mover are carried on board to enable any failure of the blower and its prime mover to be rectified by the ship's crew.

7.2 Two fuel oil pumps shall be fitted to the inert gas generator. The Administration may permit only one fuel oil pump on condition that sufficient spares for the fuel oil pump and its prime mover are carried on board to enable any failure of the fuel oil pump and its prime mover to be rectified by the ship's crew.

7.3 The inert gas system shall be so designed that the maximum pressure which it can exert on any cargo tank will not exceed the test pressure of any cargo tank. Suitable shut-off arrangements shall be provided on the suction and discharge connexions of each blower. Arrangements shall be provided to enable the functioning of the inert gas plant to be stabilized before commencing cargo discharge. If the blowers are to be used for gas freeing, their air inlets shall be provided with blanking arrangements.

7.4 The blowers shall be located aft of all cargo tanks, cargo pump rooms and cofferdams separating these spaces from machinery spaces of category A.

8.1 Special consideration shall be given to the design and location of scrubber and blowers with relevant piping and fittings in order to prevent flue gas leakages into enclosed spaces.

8.2 To permit safe maintenance, an additional water seal or other effective means of preventing flue gas leakage shall be fitted between the flue gas isolating valves and scrubber or incorporated in the gas entry to the scrubber.

9.1 A gas regulating valve shall be fitted in the inert gas supply main. This valve shall be automatically controlled to close as required in paragraphs 19.3 and 19.4. It shall also be capable of automatically regulating the flow of inert gas to the cargo tanks unless means are provided to automatically control the speed of the inert gas blowers required in paragraph 7.

9.2 The valve referred to in paragraph 9.1 shall be located at the forward bulkhead of the forwardmost gas safe space* through which the inert gas supply main passes.

10.1 At least two non-return devices, one of which shall be a water seal, shall be fitted in the inert gas supply main, in order to prevent the return of hydrocarbon vapour to the machinery space uptakes or to any gas safe spaces under all normal conditions of trim, list and motion of the ship. They shall be located between the automatic valve required by paragraph 9.1 and the aftermost connexion to any cargo tank or cargo pipeline.

10.2 The devices referred to in paragraph 10.1 shall be located in the cargo area on deck.

10.3 The water seal referred to in paragraph 10.1 shall be capable of being supplied by two separate pumps, each of which shall be capable of maintaining an adequate supply at all times.

10.4 The arrangement of the seal and its associated fittings shall be such that it will prevent backflow of hydrocarbon vapours and will ensure the proper functioning of the seal under operating conditions.

10.5 Provision shall be made to ensure that the water seal is protected against freezing, in such a way that the integrity of seal is not impaired by overheating.

* Gas safe space is a space in which the entry of hydrocarbon gases would produce hazards with regard to flammability or toxicity.

10.6 A water loop or other approved arrangement shall also be fitted to each associated water supply and drain pipe and each venting or pressure-sensing pipe leading to gas safe spaces. Means shall be provided to prevent such loops from being emptied by vacuum.

10.7 The deck water seal and all loop arrangements shall be capable of preventing return of hydrocarbon vapours at a pressure equal to the test pressure of the cargo tanks.

10.8 The second device shall be a non-return valve or equivalent capable of preventing the return of vapours or liquids and fitted forward of the deck water seal required in paragraph 10.1. It shall be provided with positive means of closure. As an alternative to positive means of closure, an additional valve having such means of closure may be provided forward of the non-return valve to isolate the deck water seal from the inert gas main to the cargo tanks.

10.9 As an additional safeguard against the possible leakage of hydrocarbon liquids or vapours back from the deck main, means shall be provided to permit this section of the line between the valve having positive means of closure referred to in paragraph 10.8 and the valve referred to in paragraph 9 to be vented in a safe manner when the first of these valves is closed.

11.1 The inert gas main may be divided into two or more branches forward of the non-return devices required by paragraph 10.

11.2.1 The inert gas supply mains shall be fitted with branch piping leading to each cargo tank. Branch piping for inert gas shall be fitted with either stop valves or equivalent means of control for isolating each tank. Where stop valves are fitted, they shall be provided with locking arrangements, which shall be under the control of a responsible ship's officer.

11.2.2 In combination carriers, the arrangement to isolate the slop tanks containing oil or oil residues from other tanks shall consist of blank flanges which will remain in position at all times when cargoes other than oil are being carried except as provided for in the relevant section of the Guidelines on Inert Gas Systems.

11.3 Means shall be provided to protect cargo tanks against the effect of overpressure or vacuum caused by thermal variations when the cargo tanks are isolated from the inert gas mains.

11.4 Piping systems shall be so designed as to prevent the accumulation of cargo or water in the pipelines under all normal conditions.

11.5 Suitable arrangements shall be provided to enable the inert gas main to be connected to an external supply of inert gas.

12 The arrangements for the venting of all vapours displaced from the cargo tanks during loading and ballasting shall comply with Regulation 59.1 and shall consist of either one or more mast risers, or a number of high velocity vents. The inert gas supply mains may be used for such venting.

13 The arrangements for inerting, purging or gas freeing of empty tanks as

required in paragraph 2 shall be to the satisfaction of the Administration and shall be such that the accumulation of hydrocarbon vapours in pockets formed by the internal structural members in a tank is minimized and that:

- .1 on individual cargo tanks the gas outlet pipe, if fitted, shall be positioned as far as practicable from the inert gas/air inlet and in accordance with Regulation 59.1. The inlet of such outlet pipes may be located either at deck level or at not more than 1 m above the bottom of the tank;
- .2 the cross sectional area of such gas outlet pipe referred to in paragraph 13.1 shall be such that an exit velocity of at least 20 m/sec can be maintained when any three tanks are being simultaneously supplied with inert gas. Their outlets shall extend not less than 2 m above deck level;
- .3 each gas outlet referred to in paragraph 13.2 shall be fitted with suitable blanking arrangements;
- .4.1 if a connexion is fitted between the inert gas supply mains and the cargo piping system, arrangements shall be made to ensure an effective isolation having regard to the large pressure difference which may exist between the systems. This shall consist of two shut-off valves with an arrangement to vent the space between the valves in a safe manner or an arrangement consisting of a spool-piece with associated blanks;
- .4.2 the valve separating the inert gas supply main from the cargo main and which is on the cargo main side shall be a non-return valve with a positive means of closure.

14.1 One or more pressure-vacuum breaking devices shall be provided on the inert gas supply main to prevent the cargo tanks from being subject to:

- .1 a positive pressure in excess of the test pressure of the cargo tank if the cargo were to be loaded at the maximum specified rate and all other outlets were left shut; or
- .2 a negative pressure in excess of 700 mm water gauge if cargo were to be discharged at the maximum rated capacity of the cargo pumps and the inert gas blowers were to fail.

14.2 The location and design of the devices referred to in paragraph 14.1 shall be in accordance with Regulation 59.1.

15 Means shall be provided for continuously indicating the temperature and pressure of the inert gas at the discharge side of the gas blowers, whenever the gas blowers are operating.

16.1 Instrumentation shall be fitted for continuously indicating and permanently recording, when the inert gas is being supplied:

- .1 the pressure of the inert gas supply mains forward of the non-return devices required by paragraph 10.1; and
- .2 the oxygen content of the inert gas in the inert gas supply mains on

the discharge side of the gas blowers.

16.2 The devices referred to in paragraph 16.1 shall be placed in the cargo control room where provided. But where no cargo control room is provided, they shall be placed in a position easily accessible to the officer in charge of cargo operations.

16.3 In addition, meters shall be fitted:

- .1 in the navigating bridge to indicate at all times the pressure referred to in paragraph 16.1.1 and the pressure in the slop tanks of combination carriers, whenever those tanks are isolated from the inert gas supply main; and
- .2 in the machinery control room or in the machinery space to indicate the oxygen content referred to in paragraph 16.1.2.

17 Portable instruments for measuring oxygen and flammable vapour concentration shall be provided. In addition, suitable arrangement shall be made on each cargo tank such that the condition of the tank atmosphere can be determined using these portable instruments.

18 Suitable means shall be provided for the zero and span calibration of both fixed and portable gas concentration measurement instruments, referred to in paragraphs 16 and 17.

19.1 Audible and visual alarms shall be provided to indicate:

- .1 low water pressure or low water flow rate to the flue gas scrubber as referred to in paragraph 6.1;
- .2 high water level in the flue gas scrubber as referred to in paragraph 6.1;
- .3 high gas temperature as referred to in paragraph 15;
- .4 failure of the inert gas blowers referred to in paragraph 7;
- .5 oxygen content in excess of 8 per cent by volume as referred to in paragraph 16.1.2;
- .6 failure of the power supply to the automatic control system for the gas regulating valve and to the indicating devices as referred to in paragraphs 9 and 16.1;
- .7 low water level in the water seal as referred to in paragraph 10.1;
- .8 gas pressure less than 100 mm water gauge as referred to in paragraph 16.1.1. The alarm arrangement shall be such as to ensure that the pressure in slop tanks in combination carriers can be monitored at all times; and
- .9 high gas pressure as referred to in paragraph 16.1.1.

19.2 In the system with gas generators audible and visual alarms shall be provided in accordance with 19.1.1, 19.1.3, 19.1.5 to 19.1.9 and additional

alarms to indicate:

- .1 insufficient fuel oil supply;
- .2 failure of the power supply to the generator;
- .3 failure of the power supply to the automatic control system for the generator.

19.3 Automatic shut-down of the inert gas blowers and gas regulating valve shall be arranged on predetermined limits being reached in respect of paragraphs 19.1.1, 19.1.2 and 19.1.3.

19.4 Automatic shut-down of the gas regulating valve shall be arranged in respect of paragraph 19.1.4.

19.5 In respect of paragraph 19.1.5, when the oxygen content of the inert gas exceeds 8 per cent by volume, immediate action shall be taken to improve the gas quality. Unless the quality of the gas improves, all cargo tank operations shall be suspended so as to avoid air being drawn in to the tanks and the isolation valve referred to in paragraph 10.8 shall be closed.

19.6 The alarms required in paragraphs 19.1.5, 19.1.6 and 19.1.8 shall be fitted in the machinery space and cargo control room, where provided, but in each case in such a position that they are immediately received by responsible members of the crew.

19.7. In respect of paragraph 19.1.7 the Administration shall be satisfied as to the maintenance of an adequate reserve of water at all times and the integrity of the arrangements to permit the automatic formation of the water seal when the gas flow ceases. The audible and visual alarm on the low level of water in the water seal shall operate when the inert gas is not being supplied.

19.8 An audible alarm system independent of that required in paragraph 19.1.8 or automatic shut-down of cargo pumps shall be provided to operate on predetermined limits of low pressure in the inert gas mains being reached.

20 . Tankers constructed before 1 September 1984 which are required to have an inert gas system shall at least comply with the requirements of Regulation 62 of Chapter II-2 of the International Convention for the Safety of Life at Sea, 1974*. In addition they shall comply with the requirements of this Regulation, except that:

- .1 inert gas systems fitted on board such tankers before 1 June 1981 need not comply with the following paragraphs: 3.2, 6.3, 7.4, 8, 9.2, 10.2, 10.7, 10.9, 11.3, 11.4, 13.2, 13.4.2 and 19.8;
- .2 inert gas systems fitted on board such tankers on or after 1 June 1981 need not comply with the following paragraphs: 3.2, 6.3, 7.4, 12, 13.1, 13.2 and 14.2.

21 Detailed instruction manuals shall be provided on board, covering the

* The text as adopted by the International Conference on Safety of Life at Sea, 1974.

operations, safety and maintenance requirements and occupational health hazards relevant to the inert gas system and its application to the cargo tank system*. The manuals shall include guidance on procedures to be followed in the event of a fault or failure of the inert gas system.

Regulation 63

Cargo pump rooms

1 Each cargo pump room shall be provided with one of the following fixed fire-extinguishing systems operated from a readily accessible position outside the pump room. Cargo pump rooms should be provided with a system suitable for machinery spaces of category A.

1.1 Either a carbon dioxide or a halogenated hydrocarbon system complying with the provisions of Regulation 5 and with the following:

- .1 the alarms referred to in Regulation 5.1.6 shall be safe for use in a flammable cargo vapour/air mixture;
- .2 a notice shall be exhibited at the controls stating that due to the electrostatic ignition hazard, the system is to be used only for fire extinguishing and not for inerting purposes.

1.2 A high expansion foam system complying with the provisions of Regulation 9, provided that the foam concentrate supply is suitable for extinguishing fires involving the cargoes carried.

1.3 A fixed pressure water-spraying system complying with the provisions of Regulation 10.

2 Where the extinguishing medium used in the cargo pump room system is also used in systems serving other spaces, the quantity of medium provided or its delivery rate need not be more than the maximum required for the largest compartment.

* Reference is made to Guidelines for Inert Gas Systems, adopted by the Maritime Safety Committee at its forty-second session in May 1980 (MSC/Circ.282).

CHAPTER III

LIFE-SAVING APPLIANCES, ETC.

Regulation 1

Application

The existing text of sub-paragraph (c)(iii)(2) is replaced by the following:

- (2) Regulations II-2/28.1.5 and II-2/28.1.6; and

Regulation 27

Lifeboats, liferafts and buoyant apparatus

In sub-paragraph (c)(iii), reference to “paragraph (d) of Regulation 1 of Chapter II-1” is amended to read:

Regulation II-1/1.5

In sub-paragraph (c)(vii), the reference to “paragraph (d) of Regulation 1 of Chapter II-1” is amended to read:

Regulation II-1/1.5

Regulation 30

Lighting for deck, lifeboats, liferafts, etc.

In paragraph (a), the reference to “Regulation 25 of Chapter II-1” is amended to read:

Regulation II-1/42

Regulation 38

Emergency lighting

The reference to “Regulation 26 of Chapter II-1” is amended to read:

Regulation II-1/43

CHAPTER IV

RADIOTELEGRAPHY AND RADIOTELEPHONY

The following new Regulation is added:

Regulation 4-1

VHF radiotelephone installation

- (a) Passenger ships irrespective of size and cargo ships of 300 tons gross tonnage and upwards shall be fitted with a VHF radiotelephone installation complying with the provisions of Regulation 17.
- (b) The provisions of Regulation 17 shall also apply for VHF radiotelephone installations required by a Contracting Government for all ships to which Chapter V applies navigating in an area under its jurisdiction and for which a VHF radiotelephone installation is not made compulsory by paragraph (a).

The existing text of Regulation 7 is replaced by the following:

Regulation 7

Watches – radiotelephone

- (a) Each ship which is fitted with a radiotelephone station in accordance with Regulation 4 shall, for safety purposes while at sea, maintain continuous watch on the radiotelephone distress frequency in the place on board from which the ship is usually navigated, by use of a radiotelephone distress frequency watch receiver, using a loudspeaker, a filtered loudspeaker or radiotelephone auto alarm.
- (b) Each ship referred to in paragraph (a) shall carry qualified radiotelephone operators (who may be the master, an officer or a member of the crew) as follows:
 - (i) if of 300 tons gross tonnage and upwards but less than 500 tons gross tonnage, at least one operator;
 - (ii) if of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage, at least two operators. If such a ship carries one

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radiotelephone operator exclusively employed for duties related to radiotelephony, a second operator is not obligatory.

(c) Each ship which in accordance with Regulation 3 or Regulation 4 is fitted with a radiotelegraph station shall, while at sea, maintain continuous watch on the radiotelephone distress frequency in a place to be determined by the Administration, by use of a radiotelephone distress frequency watch receiver, using a loudspeaker, a filtered loudspeaker or radiotelephone auto alarm.

The existing text of Regulation 8 is replaced by the following:

Regulation 8

Watches – VHF radiotelephone

Each ship which is fitted with a VHF radiotelephone installation in accordance with Regulation 4-1 shall at sea maintain a continuous listening watch on the navigating bridge:

- (i) on 156.8 MHz (channel 16) when practicable; and/or
- (ii) for such periods and on such channels as may be required by the Contracting Government referred to in Regulation 4-1(b).

Regulation 10

Radiotelegraph installations

The existing text of paragraph (g) is replaced by the following:

(g-1) The main and reserve transmitters shall, when connected to the main antenna, have a minimum normal range as specified below, that is to say, they must be capable of transmitting clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over the specified

	Minimum normal range in miles	
	Main transmitter	Reserve transmitter
All passenger ships and cargo ships of 1,600 tons gross tonnage and upwards	150	100
Cargo ships below 1,600 tons gross tonnage	100	75

ranges.* (Clearly perceptible signals will normally be received if the R.M.S. value of the field strength at the receiver is at least 50 microvolts per metre.)

(g-2) The radiotelegraph installation shall include facilities for radio-telephone transmission and reception on the radiotelephone distress frequency. This requirement may be fulfilled by including such facilities in the main or reserve installation or other installed equipment. The transmitter power and receiver sensitivity of the radiotelephony part of the installation shall comply with Regulation 16(c)(i) and (f) respectively if that part is fitted after 1 September 1986. For installations fitted prior to that date, such transmitter power and receiver sensitivity shall be as determined by the Administration. The location and other conditions of the radiotelephony facilities required by this Regulation shall be as determined by the Administration, except when they form part of the main or reserve radiotelegraph installation.

* In the absence of a direct measurement of the field strength the following data may be used as a guide for approximately determining the normal range:

A. In the case of antennae other than self-supporting types:

Normal range in miles	Metre-amperes ^{1/}
200	128
175	102
150	76
125	58
100	45
75	34

^{1/} The product of the distance (in metres) from the highest part of the antenna to the deepest load water-line and the antenna current (in amperes).

The values given in the second column of the table correspond to an average value of the ratio

$$\frac{\text{effective antenna height}}{\text{maximum antenna height}} = 0.47$$

This ratio varies with local conditions of the antenna and may vary between about 0.3 and 0.7.

B. In the case of self-supporting transmitting antennae:

Normal range in miles	Metre-amperes ^{2/}
200	305
175	215
150	150
125	110
100	85
75	55

^{2/} The product of the distance (in metres) from the highest part of the antenna to the deepest load water-line and the current (in amperes) measured at the base of the radiating portion of the antenna. The values given in the second column are based on the propagation curves given in CCIR Recommendation 368-2 and also the method, experimental results and calculations in CCIR Report 502-1 and Opinion 43-1. The necessary value of metre-amperes varies considerably with local conditions of the antenna.

The existing text of sub-paragraph (h)(iv) is replaced by the following:

- (h)(iv)(1) The radiotelephone transmitting facility required by paragraph (g-2) shall be fitted with an automatic device for generating the radiotelephone alarm signal, so designed as to prevent actuation by mistake, and complying with the requirements of Regulation 16(e). The device shall be capable of being taken out of operation at any time in order to permit the immediate transmission of a distress message. For installations fitted prior to 1 September 1986, the fitting of automatic devices for generating the radiotelephone alarm signal shall be as determined by the Administration.
- (2) Arrangements shall be made to check periodically the proper functioning of the automatic device for generating the radiotelephone alarm signal on frequencies other than the radiotelephone distress frequency using a suitable artificial antenna. An exception shall be made for radiotelephone emergency equipment having only the radiotelephone distress frequency in which case a suitable artificial antenna shall be employed.

Note: While all reasonable steps shall be taken to maintain the apparatus in an efficient condition, malfunction of the radiotelephone transmitting facilities required by this Regulation shall not be considered as making the ship unseaworthy or as a reason for delaying the ship in ports where repair facilities are not readily available.

The existing text of sub-paragraph (1)(ii) is deleted.

The existing text of sub-paragraph (m)(iv) is replaced by the following:

- (m)(iv) the VHF installation in accordance with the provisions of Regulation 17(c);

Regulation 16

Radiotelephone installations

The existing text of paragraph (b) is amended by deleting A3H, A3A and A3J.

The existing text of paragraph (c) is replaced by the following:

- (c) (i) In the case of cargo ships of 300 tons gross tonnage and upwards but less than 1,600 tons gross tonnage the transmitter shall have a minimum normal range of 150 miles, i.e. it shall be capable of transmitting clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over this range.*

* In the absence of field strength measurements, it may be assumed that this range will be obtained by a power in the antenna of 15 watts (unmodulated carrier) with an antenna efficiency of 27 per cent for double sideband emissions or 60 watts peak envelope power for single sideband full carrier emissions when 100 per cent modulated by a single sinusoidal oscillation.

(Clearly perceptible signals will normally be received if the R.M.S. value of the field strength produced at the receiver by an unmodulated carrier is at least 25 microvolts per metre for double sideband and single sideband full carrier emissions.)

- (ii) In the case of existing installations using double sideband emissions on cargo ships of 300 tons gross tonnage and upwards but less than 500 tons gross tonnage, the transmitter shall have a minimum normal range of at least 75 miles.

The existing text of sub-paragraph (j)(iv) is replaced by:

- (iv) the VHF installation in accordance with the provisions of Regulation 17(c).

The existing text of Regulation 17 is replaced by the following:

Regulation 17

VHF radiotelephone installation

- (a) The VHF radiotelephone installation shall be in the upper part of the ship complying with the provisions of this Regulation and comprising a transmitter and receiver, a source of energy capable of actuating them at their rated power levels, and an antenna suitable for efficient radiating and receiving signals at the operating frequencies.
- (b) On board passenger ships irrespective of size and cargo ships of 500 tons gross tonnage and upwards it shall be possible to operate the VHF radiotelephone installation from a source of energy which is situated in the upper part of the ship and has sufficient capacity for at least six hours of operation.
- (c) The Administration may authorize the use of the reserve source of energy of the radiotelegraph installation or the radiotelephone installation respectively referred to in Regulation 10(m) and Regulation 16(j) to supply the VHF radiotelephone installation. In this case the reserve source of energy is required to be of a capacity sufficient to operate simultaneously the VHF radiotelephone installation and:
 - (i) the reserve radiotelegraph transmitter and receiver for at least six hours unless a switching device is fitted to ensure alternate operation only; or
 - (ii) the radiotelephone transmitter and receiver for at least six hours unless a switching device is fitted to ensure alternate operation only.
- (d) The VHF radiotelephone installation shall conform to the requirements laid down in the Radio Regulations for equipment used in the VHF maritime mobile radiotelephone service and shall be capable of operation on those channels specified by the Radio Regulations and as may be required by the Contracting Government referred to in Regulation 4-1(b).

(e) The Contracting Government referred to in Regulation 4-1(b) shall not require the transmitter R.F. carrier power output to be greater than 10 watts. The antenna shall, in so far as is practicable, have an unobstructed view in all directions.*

(f) Control of the channels required for navigational safety shall be immediately available on the navigating bridge convenient to the conning position and, where necessary, facilities should be available to permit radiocommunications from the wings of the navigating bridge.

Regulation 19

Radio logs

The following paragraph is added to the existing text and the existing paragraph (c) is relettered as paragraph (d):

(c) On each ship fitted with a VHF radiotelephone installation in accordance with Regulation 4-1:

- (i) the entries required by the Radio Regulations shall be recorded in the radio log in accordance with the requirements of the Administration;
- (ii) a summary of all communications relating to distress, urgency and safety traffic shall be recorded in the ship's log.

* For guidance purposes, it is assumed that each ship is fitted with a vertically polarized unity gain antenna at a nominal height of 9.15 m above water, a transmitter R.F. power output of 10 watts, and a receiver sensitivity of 2 microvolts across the input terminals for 20 dB signal-to-noise ratio.

CHAPTER V

SAFETY OF NAVIGATION

The existing text of Regulation 12 is replaced by the following:

Regulation 12

Shipborne navigational equipment

- (a) For the purpose of this Regulation “constructed” in respect of a ship means a stage of construction where:
- (i) the keel is laid; or
 - (ii) construction identifiable with a specific ship begins; or
 - (iii) assembly of that ship has commenced comprising at least 50 tonnes or 1 per cent of the estimated mass of all structural material, whichever is less.
- (b) (i) Ships of 150 tons gross tonnage and upwards shall be fitted with:
- (1) a standard magnetic compass, except as provided in sub-paragraph (iv);
 - (2) a steering magnetic compass, unless heading information provided by the standard compass required under (1) is made available and is clearly readable by the helmsman at the main steering position;
 - (3) adequate means of communication between the standard compass position and the normal navigation control position to the satisfaction of the Administration; and
 - (4) means for taking bearings as nearly as practicable over an arc of the horizon of 360°.
- (ii) Each magnetic compass referred to in sub-paragraph (i) shall be properly adjusted and its table or curve of residual deviations shall be available at all times.
- (iii) A spare magnetic compass, interchangeable with the standard compass, shall be carried, unless the steering compass mentioned in sub-paragraph (i)(2) or a gyro compass is fitted.
- (iv) The Administration, if it considers it unreasonable or unnecessary to require a standard magnetic compass, may exempt individual ships or classes of ships from these requirements if the nature of the voyage, the ship’s proximity to land or the type of ship does not warrant a standard compass, provided that a suitable steering compass is in all cases carried.

(c) Ships of less than 150 tons gross tonnage shall, as far as the Administration considers it reasonable and practicable, be fitted with a steering compass and have means for taking bearings.

(d) Ships of 500 tons gross tonnage and upwards constructed on or after 1 September 1984 shall be fitted with a gyro compass complying with the following requirements:

- (i) the master gyro compass or a gyro repeater shall be clearly readable by the helmsman at the main steering position;
- (ii) on ships of 1,600 tons gross tonnage and upwards a gyro repeater or gyro repeaters shall be provided and shall be suitably placed for taking bearings as nearly as practicable over an arc of the horizon of 360°.

(e) Ships of 1,600 tons gross tonnage and upwards, constructed before 1 September 1984 when engaged on international voyages, shall be fitted with a gyro compass complying with the requirements of paragraph (d).

(f) On ships provided with emergency steering positions, arrangements shall be made to supply heading information to such positions.

(g) Ships of 500 tons gross tonnage and upwards constructed on or after 1 September 1984 and ships of 1,600 tons gross tonnage and upwards constructed before 1 September 1984 shall be fitted with a radar installation.

(h) Ships of 10,000 tons gross tonnage and upwards shall be fitted with two radar installations, each capable of being operated independently* of the other.

(i) Facilities for plotting radar readings shall be provided on the navigating bridge of ships required by paragraph (g) or (h) to be fitted with a radar installation. In ships of 1,600 tons gross tonnage and upwards constructed on or after 1 September 1984 the plotting facilities shall be at least as effective as a reflection plotter.

(j) (i) An automatic radar plotting aid shall be fitted on:

- (1) ships of 10,000 tons gross tonnage and upwards, constructed on or after 1 September 1984;
- (2) tankers constructed before 1 September 1984 as follows:
 - (aa) if of 40,000 tons gross tonnage and upwards by 1 January 1985;
 - (bb) if of 10,000 tons gross tonnage and upwards but less than 40,000 tons gross tonnage, by 1 January 1986;

* Reference is made to section 4 of the Recommendation on Performance Standards for Radar Equipment, adopted by the Organization by resolution A.477(XII).

- (3) ships constructed before 1 September 1984, that are not tankers, as follows:
 - (aa) if of 40,000 tons gross tonnage and upwards by 1 September 1986;
 - (bb) if of 20,000 tons gross tonnage and upwards, but less than 40,000 tons gross tonnage, by 1 September 1987;
 - (cc) if of 15,000 tons gross tonnage and upwards, but less than 20,000 tons gross tonnage, by 1 September 1988.
- (ii) Automatic radar plotting aids fitted prior to 1 September 1984 which do not fully conform to the performance standards adopted by the Organization may, at the discretion of the Administration, be retained until 1 January 1991.
- (iii) The Administration may exempt ships from the requirements of this paragraph, in cases where it considers it unreasonable or unnecessary for such equipment to be carried, or when the ships will be taken permanently out of service within two years of the appropriate implementation date.
- (k) When engaged on international voyages ships of 1,600 tons gross tonnage and upwards constructed before 25 May 1980 and ships of 500 tons gross tonnage and upwards constructed on or after 25 May 1980 shall be fitted with an echo-sounding device.
- (l) When engaged on international voyages ships of 500 tons gross tonnage and upwards constructed on or after 1 September 1984 shall be fitted with a device to indicate speed and distance. Ships required by paragraph (j) to be fitted with an automatic radar plotting aid shall be fitted with a device to indicate speed and distance through the water.
- (m) Ships of 1,600 tons gross tonnage and upwards constructed before 1 September 1984 and ships of 500 tons gross tonnage and upwards constructed on or after 1 September 1984 shall be fitted with indicators showing the rudder angle, the rate of revolution of each propeller and in addition, if fitted with variable pitch propellers or lateral thrust propellers, the pitch and operational mode of such propellers. All these indicators shall be readable from the conning position.
- (n) Ships of 100,000 tons gross tonnage and upwards constructed on or after 1 September 1984 shall be fitted with a rate-of-turn indicator.
- (o) Except as provided in Regulations I/7(b)(ii), I/8 and I/9, while all reasonable steps shall be taken to maintain the apparatus referred to in paragraphs (d) to (n) in efficient working order, malfunctions of the equipment shall not be considered as making a ship unseaworthy or as a reason for delaying the ship in ports where repair facilities are not readily available.
- (p) When engaged on international voyages ships of 1,600 tons gross tonnage and upwards shall be fitted with a radio direction-finding apparatus complying with the provisions of Regulation IV/12(a). The Administration

may, in areas where it considers it unreasonable or unnecessary for such apparatus to be carried, exempt any ship of less than 5,000 tons gross tonnage from this requirement, due regard being had to the fact that radio direction-finding apparatus is of value both as a navigational instrument and as an aid to locating ships, aircraft or survival craft.

(q) When engaged on international voyages ships of 1,600 tons gross tonnage and upwards constructed on or after 25 May 1980 shall be fitted with radio equipment for homing on the radiotelephone distress frequency, complying with the relevant provisions of Regulation IV/12(b).

(r) All equipment fitted in compliance with this Regulation shall be of a type approved by the Administration. Equipment installed on board ships on or after 1 September 1984 shall conform to appropriate performance standards not inferior to those adopted by the Organization. Equipment fitted prior to the adoption of related performance standards may be exempted from full compliance with those standards at the discretion of the Administration, having due regard to the recommended criteria which the Organization might adopt in connexion with the standards concerned.

(s) A rigidly connected composite unit of a pushing vessel and associated pushed vessel, when designed as a dedicated and integrated tug and barge combination, shall be regarded as a single ship for the purpose of this Regulation.

(t) If the application of the requirements of this Regulation necessitates structural alterations to a ship constructed before 1 September 1984, the Administration may allow extension of the time limit for fitting the required equipment not later than 1 September 1989, taking into account the first scheduled dry-docking of such a ship required by the present Regulations.

(u) Except as provided elsewhere in this Regulation, the Administration may grant to individual ships exemptions of a partial or conditional nature, when any such ship is engaged on a voyage where the maximum distance of the ship from the shore, the length and nature of the voyage, the absence of general navigation hazards, and other conditions affecting safety are such as to render the full application of this Regulation unreasonable or unnecessary. When deciding whether or not to grant exemptions to an individual ship, the Administration shall have regard to the effect that an exemption may have upon the safety of all other ships.

Regulation 16

Life-saving signals

The existing text of paragraph (d) is replaced by the following:

(d) Signals used by aircraft engaged on search and rescue operations to direct ships towards an aircraft, ship or person in distress:

(i) The following manoeuvres performed in sequence by an aircraft

mean that the aircraft wishes to direct a surface craft towards an aircraft or a surface craft in distress:

- (1) circling the surface craft at least once;
- (2) crossing the projected course of the surface craft close ahead at low altitude, and:
 - rocking the wings; or
 - opening and closing the throttle; or
 - changing the propeller pitch;(Due to high noise level on board surface craft, the sound signals may be less effective than the visual signal and are regarded as alternative means of attracting attention.)
- (3) heading in the direction in which the surface craft is to be directed.

Repetition of such manoeuvres has the same meaning.

- (ii) The following manoeuvre by an aircraft means that the assistance of the surface craft to which the signal is directed is no longer required:

crossing the wake of the surface craft close astern at a low altitude, and:

- rocking the wings; or
- opening and closing the throttle; or
- changing the propeller pitch.

(Due to high noise level on board surface craft, the sound signals may be less effective than the visual signal and are regarded as an alternative means of attracting attention.)

Note: Advance notification of changes in these signals will be given by the Organization as necessary.

Regulation 18

VHF radiotelephone stations

The existing text of this Regulation is deleted (see Regulation IV/4-1(b)).

Regulation 19

Use of the automatic pilot

The following paragraph is added to the existing text:

- (d) The manual steering shall be tested after prolonged use of the automatic pilot, and before entering areas where navigation demands special caution.

The following Regulations are added to this Chapter:

Regulation 19-1

Operation of steering gear

In areas where navigation demands special caution, ships shall have more than one steering gear power unit in operation when such units are capable of simultaneous operation.

Regulation 19-2

Steering gear – testing and drills

(a) Within 12 hours before departure, the ship's steering gear shall be checked and tested by the ship's crew. The test procedure shall include, where applicable, the operation of the following:

- (i) the main steering gear;
- (ii) the auxiliary steering gear;
- (iii) the remote steering gear control systems;
- (iv) the steering positions located on the navigating bridge;
- (v) the emergency power supply;
- (vi) the rudder angle indicators in relation to the actual position of the rudder;
- (vii) the remote steering gear control system power failure alarms;
- (viii) the steering gear power unit failure alarms; and
- (ix) automatic isolating arrangements and other automatic equipment.

(b) The checks and tests shall include:

- (i) the full movement of the rudder according to the required capabilities of the steering gear;
- (ii) a visual inspection of the steering gear and its connecting linkage; and
- (iii) the operation of the means of communication between the navigating bridge and steering gear compartment.

(c) (i) Simple operating instructions with a block diagram showing the change-over procedures for remote steering gear control systems and steering gear power units shall be permanently displayed on the navigating bridge and in the steering gear compartment.

- (ii) All ships' officers concerned with the operation or maintenance of steering gear shall be familiar with the operation of the steering systems fitted on the ship and with the procedures for changing from one system to another.

(d) In addition to the routine checks and tests prescribed in paragraphs (a) and (b), emergency steering drills shall take place at least once every three months in order to practise emergency steering procedures. These drills shall include direct control from within the steering gear compartment, the communications procedure with the navigating bridge and, where applicable, the operation of alternative power supplies.

(e) The Administration may waive the requirement to carry out the checks and tests prescribed in paragraphs (a) and (b) for ships which regularly engage on voyages of short duration. Such ships shall carry out these checks and tests at least once every week.

(f) The date upon which the checks and tests prescribed in paragraphs (a) and (b) are carried out and the date and details of emergency steering drills carried out under paragraph (d), shall be recorded in the log book as may be prescribed by the Administration.

CHAPTER VI

CARRIAGE OF GRAIN

PART A – GENERAL PROVISIONS

The existing text of Regulation 1 is replaced by the following:

Regulation 1

Application

Unless expressly provided otherwise this Chapter applies to the carriage of grain in all ships to which the present Regulations apply and in cargo ships of less than 500 tons gross tonnage.

PART B – CALCULATION OF ASSUMED HEELING MOMENTS

SECTION V – ALTERNATIVE LOADING ARRANGEMENTS FOR EXISTING SHIPS

(A) GENERAL

Amend the second paragraph to read:

For the purpose of this Part the term “Existing Ship” means “a ship, the keel of which is laid before 25 May 1980.”

(B) STOWAGE OF SPECIALLY SUITABLE SHIPS

The existing text of sub-paragraph (a)(ii)(2) is replaced by the following:

- (2) in partly filled compartments or holds free grain surfaces settle and shift as in sub-paragraph (1) or to such larger angle as may be deemed necessary by the Administration, or by a Contracting Government on behalf of the Administration, and grain surfaces, if overstowed, with the bulk grain levelled and topped off with bagged grain or other suitable cargo tightly stowed and extending to a height of not less than 1.22 m above the top of the bulk grain within spaces divided by a longitudinal bulkhead or shifting board, and not less than 1.52 m within spaces not so divided and the bagged grain or other suitable cargo supported on suitable platforms laid over the whole surface of the bulk grain, such platforms consisting of bearers spaced not more than 1.22 m apart and 25 mm boards laid thereon spaced not more than 0.10 m apart or of strong separation cloths with adequate overlapping, will shift to an angle of 8 degrees with the original levelled surfaces. For the purpose of this paragraph shifting boards, if fitted, will be considered to limit the transverse shift of the surface of the grain;

RESOLUTION MSC.2(XLV)

adopted on 20 November 1981

ADOPTION OF AMENDMENTS TO THE PROTOCOL OF 1978
RELATING TO THE INTERNATIONAL CONVENTION
FOR THE SAFETY OF LIFE AT SEA, 1974

THE MARITIME SAFETY COMMITTEE,

NOTING Article II of the Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974, hereinafter referred to as "the Protocol", under which the Protocol, other than the provisions of Chapter I thereof, may be amended by the procedure specified in Article VIII(b) of the International Convention for the Safety of Life at Sea, 1974, hereinafter referred to as "the Convention",

NOTING FURTHER the functions which the Protocol confers upon the Maritime Safety Committee for the consideration and adoption of amendments to the Protocol.

HAVING CONSIDERED at its forty-fifth session amendments to the Protocol, proposed and circulated in accordance with Article VIII(b) (i) of the Convention,

1 ADOPTS, in accordance with Article VIII(b)(iv) of the Convention, amendments to Regulation 29(d)(i) of Chapter II-1, the texts of which are given in the Annex to the present resolution;

2 DECIDES in accordance with Article VIII(b)(vi)(2)(bb) of the Convention that the above-mentioned amendments shall be deemed to have been accepted unless, prior to 1 March 1984, more than one-third of Parties to the Protocol or Parties the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;

3 INVITES Governments to note that, in accordance with Article VIII(b)(vii)(2) of the Convention, the amendments to the Protocol, upon their acceptance in accordance with paragraph 2 above, shall enter into force on 1 September 1984;

4 REQUESTS the Secretary-General in conformity with Article VIII(p)(v) of the Convention to transmit certified copies of the present resolution and its Annex to all Parties to the Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974;

5 FURTHER REQUESTS the Secretary-General to transmit copies of the resolution and its Annex to Members of the Organization which are not Parties to the Protocol.

ANNEX

AMMENDMENTS TO THE PROTOCOL OF 1978 RELATING
TO THE INTERNATIONAL CONVENTION FOR
THE SAFETY OF LIFE AT SEA, 1974Regulation 29 of Chapter II-1
Steering Gear

Replace the fourth sentence of sub-paragraph (d)(i)(1) by the following:

Each steering gear control system, if electric, shall be served by its own separate circuit supplied from the steering gear power circuit or directly from switchboard busbars supplying that steering gear power circuit at a point on the switchboard adjacent to the supply to the steering gear power circuit.

Replace sub-paragraph (d)(i)(3) by the following:

- (3) means shall be provided in the steering gear compartment for disconnecting any control system operable from the navigating bridge from the steering gear it serves;

ΜΕΡΟΣ ΙΙ

ΔΙΕΘΝΗΣ ΣΥΜΒΑΣΙΣ ΠΕΡΙ ΑΣΦΑΛΕΙΑΣ ΤΗΣ
ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ ΕΝ ΘΑΛΑΣΣΗ 1974

ΤΑ ΣΥΜΒΑΛΛΟΜΕΝΑ ΚΡΑΤΗ,

ΕΠΙΘΥΜΟΥΝΤΑ ὅπως προαγάγουν τὴν ἀσφάλειαν τῆς ἀνθρωπίνης ζωῆς ἐν θαλάσῃ, διὰ τοῦ καθορισμοῦ κοινῆ συμφωνία ὁμοιομόρων ἀρχῶν καὶ κανόνων τεινόντων εἰς τοῦτο,

ΘΕΩΡΟΥΝΤΑ ὅτι τὸ ἔργον τοῦτο δύναται νὰ ἐπιτευχθῆ κατὰ τὸν καλλίτερον τρόπον διὰ τῆς συνάψεως Συμβάσεως, ἣτις θὰ ἀντικαταστήσῃ τὴν Διεθνή Σύμβασιν Περὶ Ἀσφαλείας τῆς Ἀνθρωπίνης Ζωῆς ἐν Θαλάσῃ, 1960, λαβόντα ὑπ' ὄψιν τὰς ἐξελίξεις ἀπὸ τῆς συνάψεως τῆς Συμβάσεως ταύτης,

ΣΥΝΕΦΩΝΗΣΑΝ τὰ κάτωθι :

ΑΡΘΡΟΝ Ι

Γενικαὶ ὑποχρεώσεις ἐκ τῆς Συμβάσεως

(α) Τὰ συμβαλλόμενα Κράτη ἀναλαμβάνουν τὴν ὑποχρέωσιν ὅπως ἐφαρμόσουσι τὰς διατάξεις τῆς παρούσης Συμβάσεως καὶ τοῦ συνημμένου ταύτῃ Παραρτήματος, ὅπερ θὰ ἀποτελῆ ἀναπόσπαστον μέρος αὐτῆς. Μνεία τῆς παρούσης Συμβάσεως συνιστᾶ ἐν ταυτῷ καὶ μνείαν τοῦ Παραρτήματος.

(β) Τὰ συμβαλλόμενα Κράτη ἀναλαμβάνουν ὅπως ἐκδώσουσι ὅλους τοὺς Νόμους, τὰ Διατάγματα, τὰς Ἀποφάσεις καὶ τοὺς Κανονισμοὺς καὶ λάβουσι ἅπαντα τὰ λοιπὰ μέτρα ἅτινα θὰ ἦτο δυνατόν νὰ θεωρηθοῦν ἀπαραίτητα ἵνα ἡ παρούσα Σύμβασις ἐφαρμοσθῆ πλήρως, εἰς τρόπον ὥστε νὰ καταστή βέβαιον ὅτι ἐξ ἐπόψεως ἀσφαλείας τῆς ἀνθρωπίνης ζωῆς, ἐν πλοῖον εἶναι κατάλληλον διὰ τὸν σκοπὸν διὰ τὸν ὁποῖον προορίζεται.

ΑΡΘΡΟΝ ΙΙ

Ἐφαρμογή

Ἡ παρούσα Σύμβασις θὰ ἐφαρμόζεται ἐπὶ πλοίων ἅτινα δικαιούνται ὅπως φέρουσι τὴν σημαίαν τῶν χωρῶν τῶν συμβαλλομένων Κρατῶν.

ΑΡΘΡΟΝ ΙΙΙ

Νόμοι, Κανονισμοί

Τὰ συμβαλλόμενα Κράτη ἀναλαμβάνουν νὰ ἀνακοινοῦσι καὶ καταθέτουσι παρὰ τῷ Γενικῷ Γραμματεῖ τοῦ Διακυβερνητικοῦ Ναυτιλιακοῦ Συμβουλευτικοῦ Ὄργανισμοῦ (ἐφ' ἑξῆς ἀναφερομένου ὡς "ὁ Ὄργανισμός") :

(α) Πίνακα τῶν μὴ κυβερνητικῶν ὀργανισμῶν οἵτινες ἔχουσι ἐξουσιοδοτηθῆ νὰ ἐνεργοῦσι διὰ λογαριασμὸν τῶν εἰς τὴν ἐφαρμογὴν τῶν μέτρων τῶν ἀφορώντων τὴν ἀσφάλειαν τῆς ἀνθρωπίνης ζωῆς ἐν θαλάσῃ πρὸς τὸν σκοπὸν ὅπως κοινοποιηθῆ οὕτως εἰς τὰ συμβαλλόμενα Κράτη διὰ τὴν ἐνημέρωσιν τῶν ἀρμοδίων ὀργάνων τῶν.

(β) Τὰ κείμενα τῶν ἐκδοθησομένων Νόμων, Διαταγμάτων καὶ Κανονισμῶν οἵτινες θὰ ἐκδοθοῦσι ἐπὶ τῶν διαφόρων θεμάτων ἐπιπιτόντων εἰς τὴν παρούσαν Σύμβασιν.

(γ) Ἐπαρκῆ ἀριθμὸν ὑποδειγμάτων τῶν Πιστοποιητικῶν τῶν ὑπ' αὐτῶν ἐκδοθησομένων συμφώνως πρὸς τὰς διατάξεις τῆς παρούσης Συμβάσεως, πρὸς διανομὴν εἰς τὰ συμβαλλόμενα Κράτη δι' ἐνημέρωσιν τῶν ἀρμοδίων ὀργάνων τῶν.

ΑΡΘΡΟΝ ΙV

Περιπτώσεις ἀνωτέρας βίας

(α) Πλοῖον, ὅπερ κατὰ τὴν στιγμὴν τοῦ ἀπόπλου δὲν ὑπόκειται εἰς τὰς διατάξεις τῆς παρούσης Συμβάσεως, δὲν δύναται νὰ λογισθῆ ὡς ὑποκείμενον εἰς ταύτας, ἐὰν ἤθελε παρεκκλίνει ἐκ τῆς προδιαγεγραμμένης πορείας του συνεπεὶα κακοκαιρίας ἢ ἄλλης περιπτώσεως ἀνωτέρας βίας.

(β) Πρόσωπα έπιβαίνοντα πλοίου τινός, λόγω άνωτέρας βίας ή συνεπεία της υποχρέωσης των πλοιαρχών να παραλαμβάνουν ναυαγούς ή άλλα πρόσωπα, δέν λαμβάνονται υπ' έψιν προκειμένου να έξακριβωθής κατά πόσον τό πλοίοι τοϋτο έχει συμμορφωθής προς οίανδήποτε διάταξιν της παρούσης Συμβάσεως.

ΑΡΘΡΟΝ V

Μεταφορά κινδυνευόντων προσώπων

(α) Συμβαλλόμενον Κράτος δύναται να έπιτρέψη τήν μεταφοράν ^{των αϋτου} έπί πλοίων ή αριθμού προσώπων μεγαλύτερου τοϋ, υπό άλλας περιστάσεις, έπιτρεπομένου υπό της παρούσης Συμβάσεως, έφ' όσον πρόκειται περί μεταφοράς προσώπων έκ περιοχής τινος ένθα άπειλείται ή προσωπική των ασφάλεια.

(β) Η τοιαύτη άδεια δέν στερεί άλλα συμβαλλόμενα Κράτη τοϋ δικαιώματος να άσκήσουν έλεγχοι δυνάμει της παρούσης Συμβάσεως έπί των πλοίων τούτων όταν ταϋτα εύρισκονται είς τούς λιμένας των.

(γ) Γνωστοποίησης της τοιαύτης άδειας, μετά έκδόσεως των πραγματικών συνθηκών, δέον ν' άποστέλληται είς τόν Όργανισμόν υπό τοϋ χορηγήσαντος τήν άδειαν ταϋτην συμβαλλόμενου Κράτους.

ΑΡΘΡΟΝ VI

Προϋφιστάμεναι Συνθήκαι καί Συμβάσεις

(α) Η παρούσα Σύμβασις άντικαθιστά καί καταργεί μεταξύ των συμβαλλομένων Κρατών τήν Διεθνή Σύμβασιν περί Άσφαλείας της Άνθρωπίνης Ζωής έν θαλάσση, ύπογραφείσαν έν Λονδίνω τήν 17ην Ιουνίου 1960.

(β) Πάσα άλλη συνθήκη, σύμβασις ή συμφωνία άφορώσα είς τήν ασφάλειαν της άνθρωπίνης ζωής έν θαλάσση ή ζητήματα σχετιζόμενα προς ταϋτην καί ήτις εύρίσκεται έν ίσχύι σήμερον μεταξύ των συμβαλλομένων έν τή παρούση Συμβάσει Κρατών θέλει έξακολουθήσει να έχη πλήρη ίσχύν, καθ' όλην αϋτής τήν διάρκειαν, όσον άφορά είς :

(i) Τά πλοία έφ' όν δέν εφαρμόζεται ή παρούσα Σύμβασις.

(ii) Τά πλοία, έφ' όν εφαρμόζεται μέν ή παρούσα Σύμβασις, άλλ' έπί των ζητημάτων μόνον εκείνων διά τά όποια δέν προβλέπει αϋτη ρητώς.

(γ) Καθ' ήν έκτασιν, όμως, αί τοιαϋται συνθήκαι, συμβάσεις ή συμφωνίαι συγκροούνται προς τās διατάξεις της παρούσης συμβάσεως, αί διατάξεις της τελευταίας ύπερισχύουν.

(δ) Πάν θέμα, δι' όδ δέν προβλέπει ή παρούσα Σύμβασις, ρυθμίζεται υπό της νομοθεσίας των συμβαλλομένων Κρατών.

ΑΡΘΡΟΝ VII

Είδικοί Κανόνες θεσπιζόμενοι κατόπιν συμφωνίας

Όσάκις κατά τήν παρούσαν σύμβασιν θεσπίζονται είδικοί Κανόνες διά συμφωνίας μεταξύ όλων των συμβαλλομένων Κρατών ή τινών έξ αϋτών, οί Κανόνες οϋτοι δέον να γνωστοποιούνται είς τόν Γενικόν Γραμματέα τοϋ Όργανισμού, ίνα διανεμηθούν είς τά συμβαλλόμενα Κράτη.

ΑΡΘΡΟΝ VIII

Τροποποιήσεις

(α) Η παρούσα Σύμβασις δύναται να τροποποιηθής καθ' έκατέραν των διαδικασιών αίτινες καθορίζονται είς τās άκολουθούσους παραγράφους.

(β) Τροποποιήσεις κατόπιν έξετάσεως υπό τοϋ Όργανισμού.

i) Οίανδήποτε τροποποίησης προτεινομένη υπό συμβαλλόμενου Κράτους δέον όπως υποβάλλεται είς τόν Γενικόν Γραμματέα τοϋ Όργανισμού όστις θα κοινοποιή ταϋτην είς άπαντα τās Μέλη τοϋ Όργανισμού καί άπαντα τά συμβαλλόμενα Κράτη τουλάχιστον έξ (6) μήνας πρό της είσαγωγής της προς έξέτασιν.

ii) Οίανδήποτε τροποποίησης προταθείσα καί κοινοποιηθείσα κατά τά άνωτέρω δέον όπως τίθεται υπ' όψιν της Έπιτροπής Ναυτικής Άσφαλείας τοϋ Όργανισμού προς έξέτασιν.

iii) Συμβαλλόμενα Κράτη, άνεξαρτήτως τοϋ άν ταϋτα είναι μέλη τοϋ Όργανισμού ή όχι, θα δικαιούνται όπως λάβουν μέρος είς τās εργασίας της Έπιτροπής Ναυτικής Άσφαλείας κατά τήν έξέτασιν καί υιοθέτησιν των τροποποιήσεων.

- iv) Αί τροποποιήσεις θά υιοθετούνται κατόπιν πλειοψηφίας τών δύο τρίτων (2/3) τών συμβαλλομένων Κρατῶν ἄτινα παρίστανται κατά τήν ψηφοφορίαν εἰς τήν Ἐπιτροπήν Ναυτικῆς Ἀσφαλείας ἀνεπτυγμένης συνθέσεως κατά τά ἐν τῇ προηγουμένη ὑποπαραγράφῳ (iii) ὀριζόμενα (ἐφεξῆς καλουμένη ὡς "ἀνεπτυγμένη Ἐπιτροπή Ναυτικῆς Ἀσφαλείας") ὑπό τήν προϋπόθεσιν ὅτι τοῦλάχιστον τό ἐν τρίτον (1/3) τών συμβαλλομένων Κρατῶν θά παρίσταται εἰς τήν ψηφοφορίαν.
- v) Τροποποιήσεις υιοθετηθεῖσαι συμφώνως πρὸς τήν ὑποπαραγράφον (iv) ἀνωτέρω δεόν ὅπως γνωστοποιῶνται ὑπό τοῦ Γενικοῦ Γραμματέως τοῦ Ὁργανισμοῦ εἰς ἅπαντα τὰ συμβαλλόμενα Κράτη δι' ἀποδοχῆν.
- vi) 1) Τροποποιήσεις Ἀρθροῦ τῆς Συμβάσεως ἢ τοῦ Κεφαλαίου I τοῦ Παραρτήματος θά θεωρῆται ὅτι ἔχει γίνει ἀποδεκτὴ κατά τήν ἡμερομηνίαν συμπληρώσεως ἀριθμοῦ ἀνακοινώσεων ἀποδοχῆς ἐκ μέρους τών δύο τρίτων (2/3) τών συμβαλλομένων Κρατῶν.
- 2) Τροποποιήσεις τοῦ Παραρτήματος ἐκτός τοῦ Κεφαλαίου I θά θεωρῆται ὅτι ἔχει γίνει ἀποδεκτὴ :
- αα) ἐπὶ τῇ συμπληρώσει διαιτίας ἀπὸ τῆς ἡμερομηνίας καθ' ἣν αὕτη ἐγνωστοποιήθη εἰς τὰ συμβαλλόμενα Κράτη δι' ἀποδοχῆν, ἢ
- ββ) ἐπὶ τῇ συμπληρώσει ἑτέρας τινός χρονικῆς περιόδου, ἥτις δέν δύναται νά εἶναι βραχυτέρα τοῦ ἑνὸς ἔτους ἐφ' ὅσον ἀποφασισθῇ οὕτω κατά τόν χρόνον τῆς υιοθετήσεως τῆς τροποποιήσεως ἀπὸ τήν πλειοψηφίαν τών δύο τρίτων (2/3) τών συμβαλλομένων Κρατῶν ἄτινα παρίστανται εἰς τήν ψηφοφορίαν εἰς τήν ἀνεπτυγμένην Ἐπιτροπήν Ναυτικῆς Ἀσφαλείας.
- "Ὅμως, ἐάν ἐντός τῆς καθορισθείσης περιόδου, συμβαλλόμενα Κράτη ἀντιπροσωπεύοντα συνολικῶς ποσοστόν μείζον τοῦ ἑνὸς τρίτου (1/3), ἢ συνολικῶς καλύπτοντα διὰ τῆς Ἐμπορικῆς Ναυτιλίας τῶν ἀπὸ 50% καί ἄνω τοῦ παγκοσμίου ἐμπορικοῦ στόλου εἰς ὀλικήν χωρητικότητα, γνωστοποιήσουν εἰς τόν Γενικόν Γραμματέα τοῦ Ὁργανισμοῦ τήν ἀντίθεσιν των πρὸς τήν τροποποίησιν, αὕτη θά θεωρηθῇ ὡς μὴ γενομένη ἀποδεκτὴ.
- vii) 1) Τροποποιήσεις Ἀρθροῦ τῆς Συμβάσεως ἢ τοῦ Κεφαλαίου I τοῦ Παραρτήματος θά τίθεται ἐν ἰσχύϊ διὰ τὰ συμβαλλόμενα Κράτη ἄτινα ἀπεδέχθησαν ταύτην ἔξ (6) μῆνας μετὰ τήν ἡμερομηνίαν καθ' ἣν ἡ τροποποιήσις θά θεωρηθῇ ὡς γενομένη ἀποδεκτὴ. Δι' ἕκαστον ἐκ τῶν συμβαλλομένων Κρατῶν ἄτινα ἀπεδέχθησαν τήν τροποποίησιν μετὰ τήν ὡς ἄνω ἡμερομηνίαν αὕτη θά τίθεται ἐν ἰσχύϊ ἔξ (6) μῆνας μετὰ τήν ἡμερομηνίαν καθ' ἣν τό συμβαλλόμενον Κράτος ἐδήλωσε τήν ἀποδοχῆν τῆς.
- 2) Τροποποιήσεις τοῦ Παραρτήματος ἐκτός τοῦ Κεφαλαίου I θά τίθεται ἐν ἰσχύϊ δι' ἅπαντα τὰ συμβαλλόμενα Κράτη, ἐκτός ἐκείνων ἄτινα διαιτύπωσαν ἀντίθεσιν κατά τά ἐν τῇ ὑποπαραγράφῳ (vi) (2) ἀνωτέρω ὀριζόμενα καί ἄτινα δέν ἀπέσυραν ταύτην μεταγενεστέρως, ἔξ (6) μῆνας μετὰ τήν ἡμερομηνίαν καθ' ἣν ἡ τροποποιήσις θά θεωρηθῇ ὡς γενομένη ἀποδεκτὴ. Ὅμως πρὸ τῆς προκαθορισθείσης ἡμερομηνίας θέσεως ἐν ἰσχύϊ, οἷονδῆποτε συμβαλλόμενον Κράτος δύναται νά γνωστοποιήσῃ εἰς τόν Γενικόν Γραμματέα τοῦ Ὁργανισμοῦ ὅτι ἐξαιρεῖ ἑαυτόν ἀπὸ τῆς ἐφαρμογῆς τῆς τροποποιήσεως κατὰ χρονικόν διάστημα οὐχὶ μείζον τοῦ ἑνὸς ἔτους ἀπὸ τήν ἡμερομηνίαν τῆς θέσεως τῆς ἐν ἰσχύϊ, ἢ κατὰ χρονικόν διάστημα τόσον μεγαλύτερον ὅσον θά ἀποφασισθῇ ἀπὸ τήν πλειοψηφίαν τών δύο τρίτων (2/3) τών συμβαλλομένων Κρατῶν ἄτινα θά παρίστανται εἰς τήν ψηφοφορίαν εἰς τήν ἀνεπτυγμένην Ἐπιτροπήν Ναυτικῆς Ἀσφαλείας κατὰ τόν χρόνον τῆς υιοθετήσεως τῆς τροποποιήσεως.
- (γ) Τροποποιήσεις ὑπὸ Διασκέψεως. :
- i) Κατόπιν αἰτήσεως συμβαλλομένου Κράτους πρὸς ἣν συγκατετέθη τό ἐν τρίτον (1/3) τών συμβαλλομένων Κρατῶν, ὁ Ὁργανισμός δεόν ὅπως συγκαλῆ Διάσκεψιν συμβαλλομένων Κρατῶν διὰ τήν ἐξέτασιν τροποποιήσεων τῆς παρούσης Συμβάσεως.
- ii) Οἰαδήποτε τροποποιήσεις υιοθετηθεῖσα ὑπὸ μιᾶς τοιαύτης Διασκέψεως ὑπὸ τῶν δύο τρίτων (2/3) τῆς πλειοψηφίας τῶν συμβαλλομένων Κρατῶν παρισταμένων καί μετεχόντων εἰς τήν ψηφοφορίαν, δεόν ὅπως γνωστοποιῶνται ὑπό τοῦ Γενικοῦ Γραμματέως τοῦ Ὁργανισμοῦ εἰς ἅπαντα τὰ συμβαλλόμενα Κράτη δι' ἀποδοχῆν.
- iii) Ἐκτός τῆς περιπτώσεως καθ' ἣν ἡ Διάσκεψις θά ἀποφασίσῃ ἄλλως, ἡ τροποποιήσις θά θεωρῆται ὡς γενομένη ἀποδεκτὴ καί θά τίθεται ἐν ἰσχύϊ συμφώνως πρὸς τήν διαδικασίαν ἥτις καθορίζεται ὑπὸ τῶν ἀνωτέρω ὑποπαραγράφων (β) (vi) καί (β) (vii) ἀντιστοίχως, λαμβανομένου ὑπ' ὄψιν ὅτι ὅπου-

δήποτε ποιείται μνεία εις τας ως άνω παραγράφους περι άνεπτυγμένης Έπιτροπής Ναυτικής Άσφαλείας θά θεωρηται ως μνεία περι της Διασκέψεως.

- (δ) i) Συμβαλλόμενον Κράτος τό όποιον έχει άποδεχθή τροποποίησην του Παραρτήματος ητις έτέθη έν ισχύι δέν θά υποχρεοϋται εις τήν επέκτασιν των προνομίων της παρούσης Συμβάσεως έν σχέσει προς τά Πιστοποιητικά άτινα έξεδόθησαν διά λογαριασμόν ένός πλοίου δικαιουμένου όπως φέρη τήν σημαίαν χώρας τό Κράτος της όποίας, συμφώνως προς τας διατάξεις της υποπαραγράφου (β) (vi) (2) του παρόντος Άρθρου, διευτύπων έντίθεσιν προς τήν τροποποίησην καί δέν απέσυρε ταύτην μεταγενεστώς. Τοϋτο όμως μόνον καθ' ό μέρος τά έν λόγω Πιστοποιητικά έχουν σχέσιν προς θέματα άτινα καλύπτονται υπό της ειρημής τροποποιήσεως.
- ii) Συμβαλλόμενον Κράτος τό όποιον έχει άποδεχθή τροποποίησην του Παραρτήματος ητις έτέθη έν ισχύι θά επεκτείνη τά προνόμια της παρούσης Συμβάσεως έν σχέσει προς τά Πιστοποιητικά άτινα έξεδόθησαν διά λογαριασμόν ένός πλοίου δικαιουμένου όπως φέρη τήν σημαίαν χώρας, τό Κράτος της όποίας, συμφώνως προς τας διατάξεις της υποπαραγράφου (β) (vii) (2) του παρόντος Άρθρου έγνωστοποίησεν εις τόν Γενικόν Γραμματέα του Όργανισμου ότι έξαιρεί έαυτόν από της εφαρμογής της τροποποιήσεως.
- (ε) Έκτός εάν άλλως ρητώς όρίζεται, οιαδήποτε τροποποιήσις εις τήν παρούσαν Σύμβασιν γενομένη συμφώνως προς τό παρόν Άρθρον καί σχετιζόμενη προς τό κατασκευαστικόν μέρος του πλοίου, θά εφαρμόζεται μόνον επί πλοίων η τρόπις των όποίων έτέθη κατά τήν η μετά τήν ήμερομηνίαν θέσεως έν ισχύι της τροποποιήσεως η πλοίων άτινα κατά τήν ήμερομηνίαν ταύτην εύρισκονται εις παρεμφερές προς τό άνωτέρω στάδιον κατασκευής.
- (στ) Οιαδήποτε άνακοίνωσις άποδοχής η αντίθέσεως προς τροποποίησην η γνωστοποίησης ένεργουμένη κατά έν τή υποπαραγράφω (β) (vii) (2) του παρόντος Άρθρου όριζόμενα, δέον όπως υποβάλλεται γραπτώς εις τόν Γενικόν Γραμματέα του Όργανισμου, όστις θά πληροφορη άπαντα τά συμβαλλόμενα Κράτη περι της τοιαύτης υποβολής όμοϋ μετά της ήμερομηνίας της λήψεως της.
- (ζ) Ό Γενικός Γραμματέας του Όργανισμου θά πληροφορη άπαντα τά συμβαλλόμενα Κράτη περι της θέσεως έν ισχύι οιασδήποτε τροποποιήσεως συμφώνως προς τό παρόν Άρθρον όμοϋ μετά της ήμερομηνίας καθ' ην η τοιαύτη τροποποίησης τίθεται έν ισχύι.

ΑΡΘΡΟΝ ΙΧ

Υπογραφή, Κύρωσις, Άποδοχή, Συμφωνία καί Προσχώρησις

(α) Η παρούσα Σύμβασις θά παραμείνη άνοικτη προς υπογραφήν εις τά Κεντρικά Γραφεία του Όργανισμου από της 1ης Νοεμβρίου 1974 μέχρι 1ης Ιουλίου 1975 καί άκολούθως θά παραμείνη άνοικτη προς προσχώρησιν. Αι χώραι δύνανται όπως άποτελέσουν μέρη της παρούσης Συμβάσεως διά :

- i) της υπογραφής άνευ επιφυλάξεως όσον άφορᾷ τήν κύρωσιν, άποδοχήν η συμφωνίαν, η
- ii) της υπογραφής μετ' επιφυλάξεως ως προς τήν κύρωσιν, άποδοχήν η συμφωνίαν, άκολουθουμένης υπό κυρώσεως, άποδοχής η συμφωνίας η
- iii) της προσχώρησεως.

(β) Κύρωσις, άποδοχή, συμφωνία η προσχώρησις θά θεωρηται η πραγματοποιηθεΐσα διά της καταθέσεως όργάνου, άποσκοπουντος προς τοϋτο, εις τόν Γενικόν Γραμματέα του Όργανισμου.

(γ) Ό Γενικός Γραμματέας του Όργανισμου θά πληροφορη τά Κράτη άπασών των χωρών αΐτινες υπέγραψαν τήν παρούσαν Σύμβασιν η προσεχώρησαν εις αυτήν, περι της υπογραφής η της καταθέσεως όργάνου κυρώσεως, άποδοχής, συμφωνίας η προσχώρησεως όμοϋ μετά της ήμερομηνίας καταθέσεώς του.

ΑΡΘΡΟΝ Χ

Θέσις έν ισχύι

(α) Η παρούσα Σύμβασις θά τεθῆ έν ισχύι δώδεκα μήνας μετά τήν ήμερομηνία καθ' ην οχι λιγώτεροι των είκοσι πέντε (25) χωρών συνολικώς καλυπτουσών διά της Έμπορικῆς Ναυτιλίας των από 50% καί άνω του παγκοσμίου έμπορικου στόλου εις όλικήν χωρητικότητα, θά άποτελέσουν μέρη αυτής συμφώνως προς τό Άρθρον ΙΧ.

(β) Οιονδήποτε οργανον κυρώσεως, αποδοχής, συμφωνίας ή προσχωρήσεως κατατεθέν μετά την ημερομηνίαν θέσεως εν ισχύι της παρούσης Συμβάσεως θά ισχύη τρείς μήνας μετά την ημερομηνίαν της καταθέσεως.

(γ) Μετά την ημερομηνίαν κατά την οποίαν τροποποιήσῃς της παρούσης Συμβάσεως θά θεωρηθῇ ὡς γενομένη ἀποδεκτή συμφώνως πρὸς τὰ ἐν ἀρθρῷ ΙΙ καθοριζόμενα, οιονδήποτε οργανον κυρώσεως, αποδοχής, συμφωνίας ή προσχωρήσεως ὅπερ ἤθελεν κατατεθῆ θά ἀφορᾷ εἰς τὴν Σύμβασιν ὡς αὕτη ἐτροποποιήθη.

ΑΡΘΡΟΝ ΧΙ

Καταγγελία

(α) Ἡ παρούσα Σύμβασις δύναται νά καταγγελθῇ ὑπὸ οιονδήποτε συμβαλλομένου Κράτους καί εἰς οιονδήποτε χρόνον μετά παρέλευσιν πέντε ἐτῶν ἀπὸ τὴν ημερομηνίαν καθ' ἣν ἡ Σύμβασις τίθεται ἐν ισχύι διὰ τὸ Κράτος τοῦτο.

(β) Ἡ καταγγελία θά ισχύη διὰ τῆς καταθέσεως ὀργάνου καταγγελίας εἰς τὸν Γενικὸν Γραμματέα τοῦ Ὄργανισμοῦ ὅστις θά γνωστοποιῇ τοῦτο εἰς ἅπαντα τὰ λοιπὰ συμβαλλόμενα Κράτη μετά τῆς ημερομηνίας λήψεως ὁμοῦ τοῦ ὀργάνου καί τῆς ημερομηνίας καθ' ἣν ἡ καταγγελία θά ισχύσῃ.

(γ) Καταγγελία θά ισχύη ἐν ἔτος μετά τὴν λήψιν τοῦ ὀργάνου καταγγελίας ὑπὸ τοῦ Γενικοῦ Γραμματέως τοῦ Ὄργανισμοῦ ἢ μετά παρέλευσιν μεγαλυτέρου χρονικοῦ διαστήματος τὸ ὅποιον ἐνδεχομένως καθορίζεται ὑπὸ τοῦ ὀργάνου.

ΑΡΘΡΟΝ ΧΙΙ

Κατάθεσις καί Ὑπογραφή

(α) Ἡ παρούσα Σύμβασις θά κατατεθῇ εἰς τὸν Γενικὸν Γραμματέα τοῦ Ὄργανισμοῦ ὅστις θά διαβιβάσῃ ἐπικυρωμένα ἀντίγραφα εἰς τὰ Κράτη ἁπασῶν τῶν Χωρῶν αἰτίνας ὑπέγραψαν ταύτην ἢ προσεχώρησαν εἰς αὐτήν.

(β) Εὐθύς ὡς ἡ παρούσα Σύμβασις τεθῇ ἐν ισχύι, τὸ κείμενον αὐτῆς θά διαβιβασθῇ ὑπὸ τοῦ Γενικοῦ Γραμματέως τοῦ Ὄργανισμοῦ εἰς τὸν Γενικὸν Γραμματέα τῶν Ἠνωμένων Ἐθνῶν δι' ὑπογραφὴν καί δημοσίευσιν, συμφώνως πρὸς τὸ Ἄρθρον 102 τοῦ Χάρτου τῶν Ἠνωμένων Ἐθνῶν.

ΑΡΘΡΟΝ ΧΙΙΙ

Γλώσσαι

Ἡ παρούσα Σύμβασις διευτυπώθη εἰς ἄπλοῦν εἰς τὰς γλώσσας Κινεζικὴν, Ἀγγλικὴν, Γαλλικὴν, Ρωσικὴν καί Ἰσπανικὴν ἕκαστον δὲ τῶν ὡς ἄνω κειμένων θεωρεῖται ἕξ ἴσου ἀθεντικόν. Ἐπίσημοι μεταφράσεις εἰς τὴν Ἀραβικὴν, Γερμανικὴν καί Ἰταλικὴν γλῶσσαν θά ἐτοιμασθοῦν καί θά κατατεθοῦν ὁμοῦ μετά τοῦ ὑπογεγραμμένου πρωτοτύπου.

ΕἰΣ ΠΙΣΤΩΣΙΝ ΤΩΝ ΑΝΩΤΕΡΩ ὀι ὑπογεγραμμένοι, ὄντες ἀρμοδίως ἐξουσιοδοτημένοι ὑπὸ τῶν ἀντιστοιχῶν Κυβερνήσεῶν των, πρὸς τὸν σκοπὸν αὐτόν, ὑπέγραψαν τὴν παρούσαν Σύμβασιν.

ΕΓΕΝΕΤΟ ΕΝ ΛΟΝΔΙΝῶ τὴν πρώτην Νοεμβρίου χίλια ἐννεακόσια ἐβδομήκοντα τέσσαρα.

ΚΕΦΑΛΑΙΟΝ Ι

ΓΕΝΙΚΑΙ ΔΙΑΤΑΞΕΙΣ

ΜΕΡΟΣ Α' - ΕΦΑΡΜΟΓΗ, ΟΡΙΣΜΟΙ Κ.Α.Π.

Κανονισμός 1

Εφαρμογή

(α) Οί παρόντες Κανονισμοί εφαρμόζονται μόνον επί πλοίων εκτελούντων διεθνείς πλόας, εκτός εάν άλλως ρητώς προβλέπεται.

(β) Είς έκαστον κεφάλαιον καθορίζονται λεπτομερέστερον αί κατηγορίαι πλοίων εφ'ών εφαρμόζονται αί διατάξεις του, ως και η έκτασις τής εφαρμογής των.

Κανονισμός 2

Όρισμοί

Κατά τήν εφαρμογήν τών παρόντων κανονισμών, εκτός εάν άλλως ρητώς προβλέπεται :

(α) "Κανονισμοί" σημαίνει τούς Κανονισμούς τούς περιλαμβανομένους εις τό Παράρτημα τής παρούσης Συμβάσεως.

(β) "Αρχή" σημαίνει τήν Κυβέρνησιν τής Χώρας τήν σημαίαν τής οποίας τό πλοϊον δικαιούται νά φέρη.

(γ) "Έγκριμένος" σημαίνει έγκριμένος παρ' Αρχής τινος.

(δ) "Διεθνής πλοΰς" είναι ο πλοΰς από χώρας, εις ην εφαρμόζεται η παρούσα Σύμβασις, εις τινά λιμένα εκτός τής χώρας ταύτης η και αντιστρόφως.

(ε) "Επιβάτης θεωρείται πᾶν πρόσωπον εκτός :

i) του Πλοιάρχου και τών μελών του πληρώματος η άλλων προσώπων χρησιμοποιουμένων η ασχολουμένων υπό οιαδήποτε ιδιότητα εν τῷ πλοίῳ διά τās ανάγκας του πλοίου τούτου, και

ii) τών κάτω του ενός έτους παιδιών.

(στ) "Επιβατηγόν πλοϊον είναι τό πλοϊον, οπερ μεταφέρει πλείονας τών δώδεκα επιβατῶν.

(ζ) Φορτηγόν πλοϊον είναι πᾶν πλοϊον μή επιβατηγόν.

(η) Δεξαμενόπλοιο είναι φορτηγόν πλοϊον, κατεσκευασμένον η διασκευασμένον διά τήν μεταφοράν εις χυμα υγρῶν φορτίων ευφλέκτου φύσεως.

(θ) "Αλιευτικόν πλοϊον είναι τό πλοϊον οπερ χρησιμοποιεΐται διά τήν αλιείαν ιχθύων, φαλινῶν, φωκῶν, θαλασσίων ἰππων η άλλων υπάρξεων του ζωϊκού βασιλείου εν θαλάσση.

(ι) Πυρηνοκίνητον πλοϊον είναι τό πλοϊον οπερ είναι εφωδιασμένον μέ εγκατάστασιν πυρηνικῆς ενεργείας.

(ια) "Νέον πλοϊον" σημαίνει πλοϊον του οποίου η τρόπις έτέθη κατά η μετά τήν ημερομηνίαν θέσεως εν ισχύι τής παρούσης Συμβάσεως η πλοϊον τό οποίον κατά τήν ημερομηνίαν ταύτην ευρίσκεται εις παρεμφερές προς τό άνωτέρω στάδιον κατασκευῆς.

(ιβ) "Υπάρχον πλοϊον" σημαίνει πᾶν πλοϊον τό οποίον δέν είναι νέον.

(ιγ) Τό μέλιον λαμβάνεται ἴσον προς 1852 μέτρα η 6080 πόδας.

Κανονισμός 3

Έξαιρέσεις

(α) Εάν άλλως ρητώς δέν προβλέπεται, οι παρόντες Κανονισμοί δέν εφαρμόζονται επί :

- i) τών πολεμικών πλοίων καί όπλιταγωγών.
- ii) τών φορτηγών κάτω τών 500 κ.ο.χ.
- iii) τών άνευ μηχανικής προώσεως πλοίων.
- iv) τών ξυλίνων πλοίων πρωτογόνου κατασκευής.
- v) τών πλοίων ψυχαγωγίας, μή χρησιμοποιουμένων δι' έμπορικές μεταφορές.
- vi) τών άλιευτικών πλοίων.

(β) Έξαιρουμένων τών διατάξεων τών προβλεπομένων εις τό Κεφάλαιον V, ούδέν τών άναφερομένων εις τούς παρόντας Κανονισμούς θά εφαρμόζεται εις τά πλοία τά άποκλειστικώς ναυσιπλοούντα έντός τών Μεγάλων Λιμνών τής Βορείου Αμερικής καί του ποταμού του Άγίου Λαυρεντίου, έντός όρίων όριζομένων άνατολικώς ύπό εύθείας γραμμής χαρασσομένης έκ του Άκρωτηρίου des Rosiers μέχρι του δυτικού άκρου (West Point) τής νήσου Anticosti Island καί εις τήν Βορείαν πλευράν τής νήσου Anticosti διά του 63ου μεσημβριού.

Κανονισμός 4

Απαλλαγή

(α) Εάν λόγω έξαιρετικών περιστάσεων, πλοϊον μή έκτελούν κανονικώς διεθνείς πλόας, διατεθή όπως έκτελέση μεμονωμένον διεθνές ταξίδιον δύναται νά άπαλλαγή ύπό τής Άρχής διατάξεων τινων τών παρόντων Κανονισμών, ύπό τόν όρον ότι συμμορφούται προς τās άπαιτήσεις Ασφαλείας, αίτινες, κατά τήν γνώμη τής Άρχής, είναι έπαρκείς διά τήν έκτέλεσιν του ταξιδίου τούτου.

(β) Η Άρχή δύναται νά άπαλλάξη ολονδήποτε πλοϊον τό όποϊον περιλαμβάνει εις τήν κατασκευήν του χαρακτηριστικά καινοφανούς τύπου από οϊανδήποτε τών διατάξεων τών Κεφαλαίων II-1, II-2, III καί IV τών παρόντων Κανονισμών ή εφαρμογή τών όποιων είναι δυνατόν νά παρεμποδίση σοβαρώς τήν έρευναν διά τήν εξέλιξιν τών χαρακτηριστικών τούτων καί τήν ένσωμάτωσίν των εις πλοία έκτελούντα διεθνείς πλόας. Όμως, οϊονδήποτε τοιοϋτο πλοϊον δέν όπως συμμορφούται προς εκείνας τās άπαιτήσεις ασφαλείας αίτινες κατά τήν κρίσιν τής Άρχής είναι έπαρκείς διά τόν σκοπόν τόν όποϊον προορίζεται νά εκπληρώση καί είναι τοιαύτης φύσεως ώστε νά εξασφαλίζουν τήν καθ' όλοκληρίαν ασφαλειαν του πλοϊου καί προς τούτοις τυγχάνουν άποδεκταί ύπό τών Κυβερνήσεων τών Χωρών τās όποιās τό πλοϊον πρόκειται νά έπισκεφθή. Η Άρχή ή έπιτρέπουσα τοιαύτην άπαλλαγήν δέον όπως αναφέρει εις τόν Όργανισμόν στοιχεΐα καί λόγους οϊτινες θά άφοροϋν εις τό θέμα, προς ένήμερωσιν ύπό του Όργανισμοϋ τών συμβαλλομένων Κρατών.

Κανονισμός 5

Ισοδύναμα

(α) Όπου οι παρόντες Κανονισμοί άπαιτούν όπως ειδικόν τι έξάρτημα, όλικόν, όργανον ή συσκευή ή άνάλογος τύπος τούτων εφαρμόζεται ή φέρεται επί ενός πλοϊου, ή ότι ειδική τις διάταξις πρέπει νά ακολουθήται, δύναται ή Άρχή νά έπιτρέψη άντ' αυτών πάν έτερον έξάρτημα, όλικόν, όργανον ή συσκευήν ή άνάλογον τύπον τούτων, όπως εφαρμόζεται ή φέρεται ως καί άλλον τρόπον διατάξεως επί του πλοϊου, ύπό τόν όρον ότι ή Άρχή θά πεισθή διά καταλλήλου δοκιμής ή άλλως πως ότι, τό αντικαθιστών έξάρτημα, όλικόν, όργανον ή συσκευή ή άνάλογος τύπος ή ό νέος τρόπος διατάξεως είναι τουλάχιστον τής αύτής άποδόσεως προς τά ύπό τής Συμβάσεως άπαιτούμενα.

(β) Η Άρχή ήτις κατά τά άνωτέρω άποδέχεται έξάρτημα, όλικόν, όργανον ή συσκευήν ή άνάλογον τύπον τούτων ή ειδικόν τρόπον διατάξεως, όφείλει νά γνωστοποιή εις τόν Όργανισμόν τά χαρακτηριστικά τούτων όμοϋ μετ' εκθέσεως επί τών γενομένων δοκιμών καί ό Όργανισμός θά κοινοποιήση ταϋτα εις τά άλλα συμβαλλόμενα Κράτη διά τήν ένήμερωσιν τών όργάνων των.

ΜΕΡΟΣ Β' - ΕΠΙΘΕΩΡΗΣΕΙΣ ΚΑΙ ΠΙΣΤΟΠΟΙΗΤΙΚΑ

Κανονισμός 6

Επιθεώρησης και Έξέτασις

Ἡ ἐπιθεώρησης καὶ ἡ ἐξέτασις τῶν πλοίων, εἰς ὅ,τι ἀφορᾷ τὴν ἐφαρμογὴν τῶν παρόντων Κανονισμῶν καὶ ἡ χορήγησις ἀπαλλαγῶν θὰ ἐνεργῶνται παρὰ τῶν ὀργάνων τοῦ Κράτους τοῦ ὁποῖου τὴν ἐνημέρωσιν ἐπὶ πλείων δικαιῶται νὰ γένη, νοουμένου ὅτι ἡ Κυβέρνησις ἐκάστωι Κράτει δύνатаι νὰ ἐμπιστευθῆ τὴν ἐπιθεώρησιν καὶ τὴν ἐξέτασιν εἴτε εἰς ἐντεταλιμένους πρὸς τοῦτο Ἐπιθεωρητὰς εἴτε εἰς Ὀργανισμοὺς ἀνεγνωρισμένους παρ' αὐτῆς. Εἰς πάσας τὰς περιπτώσεις ἡ ἐνδιαφερομένη Κυβέρνησις ἐγγυᾶται τὴν πληρότητα καὶ ἀριότητα τῆς ἐπιθεωρήσεως καὶ ἐξετάσεως.

Κανονισμός 7

Επιθεωρήσεις Ἐπιβατηγῶν Πλοίων

(α) Πᾶν ἐπιβατηγὸν πλοῖον δεόν νὰ ὑποβάλληται εἰς τὰς κατωτέρω ἀναφερομένας ἐπιθεωρήσεις :

- i) Ἐπιθεωρήσεις προτοῦ τὸ πλοῖον τεθῆ ἐν ὑπηρεσίᾳ.
- ii) Περιοδικὴ Ἐπιθεωρήσις ἀνά δώδεκα μῆνας.
- iii) Συμπληρωματικαὶ Ἐπιθεωρήσεις, ὁσάκις παρίσταται ἀνάγκη.

(β) Αἱ ἀνωτέρω Ἐπιθεωρήσεις δεόν νὰ ἐκτελῶνται ὡς ἀκολούθως :

- i) Ἡ Ἐπιθεωρήσις προτοῦ τὸ πλοῖον τεθῆ ἐν ὑπηρεσίᾳ δεόν νὰ περιλαμβάνη πλήρη ἐπιθεώρησιν τοῦ σκάφους, τῶν μηχανῶν καὶ τοῦ ἐξαρτισμοῦ, περιλαμβανομένων τοῦ ἐξωτερικοῦ τῆς γάστρας, καθὼς καὶ τοῦ ἐσωτερικοῦ καὶ ἐξωτερικοῦ τῶν λεβήτων. Ἡ Ἐπιθεωρήσις δεόν νὰ εἶναι τοιαύτη ὥστε νὰ ἐξασφαλίσῃ ὅτι αἱ διατάξεις, τὸ ποιὸν τοῦ ὕλικου καὶ αἱ διαστάσεις τοῦ ὕλικου τοῦ σκάφους, οἱ λέβητες καὶ τὰ λοιπὰ σκευὴ πίεσεως καὶ τὰ ἐξαρτήματα αὐτῶν, αἱ κύριαι μηχαναὶ καὶ τὰ βοηθητικὰ μηχανήματα, αἱ ἠλεκτρικαὶ ἐγκαταστάσεις, ἡ ἐγκαταστάσις ἀσυρμάτου, αἱ ραδιοηλεκτρονικαὶ ἐγκαταστάσεις τῶν μετὰ κινητῆρος σωσιβίων λέμβων, αἱ φορηταὶ συσκευαὶ ἀσυρμάτου τῶν σωσιβίων μέσων, τὰ σωστικά μέσα, τὰ μέσα προστασίας, ἐντοπισμοῦ καὶ σβέσεως πυρκαϊᾶς, τὸ radar ἢ ἠχοβολιστικὴ συσκευὴ, ἡ γυροσκοπικὴ πυξίς, αἱ κλίμακες πλοηγῶν, οἱ μηχανικοὶ ἀνελκυστήρες πλοηγῶν καὶ τὰ λοιπὰ ἐφόδια, ἀνταποκρίνονται πλήρως πρὸς τὰς ἀπαιτήσεις τῆς παρούσης Συμβάσεως, ὡς καὶ τῶν Νόμων, Διαταγμάτων, Διαταγῶν καὶ Κανονισμῶν τῶν ἐκδιδομένων ὑπὸ τῆς Ἀρχῆς εἰς ἐφαρμογὴν τῆς Συμβάσεως ἀναλόγως τῆς κατηγορίας εἰς τὴν ὁποίαν τὸ πλοῖον τοῦτο ὑπάγεται. Ἡ ἐπιθεωρήσις θὰ εἶναι ἐπίσης τοιαύτη ὥστε νὰ ἐξασφαλίζηται ὅτι ἡ κατάσταση ἐπάνω τῶν μερῶν τοῦ πλοίου καὶ τοῦ ἐξαρτισμοῦ αὐτοῦ εἶναι καθ' ὅλα ἱκανοποιητικὴ καὶ ὅτι τὸ πλοῖον εἶναι ἐφωδισμένον διὰ πλοϊκῶν φῶτων, σχημάτων, μέσων ἐκπομπῆς ἠχητικῶν σημάτων καὶ σημάτων κινδύνου καθὼς προβλέπεται ὑπὸ τῆς παρούσης Συμβάσεως καὶ ὑπὸ τῶν ἐν ἰσχύϊ Διεθνῶν Κανονισμῶν πρὸς Ἀποφυγὴν Συγκρούσεως ἐν θαλάσσῃ.
- ii) Ἡ περιοδικὴ ἐπιθεωρήσις δεόν νὰ περιλαμβάνη ἐπιθεώρησιν τοῦ σκάφους, τῶν λεβήτων καὶ τῶν λοιπῶν σκευῶν πίεσεως, τῶν μηχανημάτων καὶ τοῦ ἐξαρτισμοῦ, συμπεριλαμβανομένου καὶ τοῦ ἐξωτερικοῦ τῆς γάστρας τοῦ πλοίου. Ἡ ἐπιθεωρήσις θὰ εἶναι τοιαύτη ὥστε νὰ ἐξασφαλίσῃ ὅτι τὸ πλοῖον ἀπὸ πάσης ἀπόψεως σκάφους, λεβήτων καὶ λοιπῶν σκευῶν πίεσεως καὶ τῶν ἐξαρτημάτων αὐτῶν, κυρίων μηχανῶν καὶ βοηθητικῶν μηχανημάτων, ἠλεκτρικῶν ἐγκαταστάσεων, ἐγκαταστάσεως ἀσυρμάτου καὶ ραδιοηλεκτρονικῶν ἐγκαταστάσεων τῶν μετὰ κινητῆρος σωσιβίων λέμβων, τῶν φορητῶν συσκευῶν ἀσυρμάτου σωστικῶν μέσων, τῶν σωστικῶν μέσων, τῶν μέσων ἐντοπισμοῦ καὶ σβέσεως πυρκαϊᾶς, τῶν μέσων προστασίας πυρκαϊᾶς, τοῦ radar, τῆς ἠχοβολιστικῆς συσκευῆς, τῆς γυροσκοπικῆς πυξίδος, τῶν κλιμάκων πλοηγῶν, τῶν μηχανικῶν ἀνελκυστήρων πλοηγῶν καὶ λοιποῦ ἐξαρτισμοῦ, εὐρίσκειται εἰς ἱκανοποιητικὴν κατάστασιν καὶ εἶναι κατάλληλον διὰ τὴν ὑπηρεσίαν δι' ἣν προορίζεται, καὶ ὅτι συμμορφοῦται πρὸς τὰς διατάξεις τῆς παρούσης Συμβάσεως ὡς καὶ τῶν Νόμων, Διαταγμάτων Διαταγῶν καὶ Κανονισμῶν τῶν ἐκδιδομένων ὑπὸ τῆς Ἀρχῆς διὰ τὴν ἐφαρμογὴν τῆς παρούσης Συμβάσεως. Τὰ πλοϊκὰ φῶτα, τὰ σχήματα καὶ τὰ μέσα ἐκπομπῆς ἠχητικῶν σημάτων καὶ σημάτων κινδύνου τὰ φερόμενα ἐπὶ τοῦ πλοίου θὰ ὑπέκεινται ἐπίσης εἰς τὴν ἀνωτέρω ἀναφερομένην ἐπιθεώρησιν ἵνα ἐξασφαλισθῆ ὅτι ἀνταποκρίνονται πρὸς τὰς ἀπαιτήσεις τῆς παρούσης συμβάσεως καὶ τῶν ἐν ἰσχύϊ Διεθνῶν Κανονισμῶν πρὸς ἀποφυγὴν Συγκρούσεως ἐν θαλάσσῃ.

- iii) 'Επιθεώρησις γενική ή μερική, αναλόγως τών περιστάσεων, δέον νά ενεργήται εις πάσαν περίπτωσιν άτυχήματος ή ανακαλύψεως έλαττώματος έπηρεάζοντος τήν ασφάλειαν του πλοίου ή τήν άποδοτικότητα ή πληρότητα τών σωστικών αούτου μέσων ή λοιπού έξαρτισμού ή δσάκις έκτελούνται σοβαράί έπισκευαί ή άντικαταστάσεις. 'Η επιθεώρησις δέον νά είναι τοιαύτη ώστε νά εξασφαλίζεται ότι αι άπαραίτητοι έπισκευαί ή άντικαταστάσεις εξετέλεσθησαν ικανοποιητικώς, ότι τό ύλικόν και ή έκτέλεσις τής έργασίας τών τοιούτων έπισκευών γίνεται από πάσης άπόψεως ικανοποιητική και ότι τό πλοιον συμμορφούται από πάσης άπόψεως προς τās διατάξεις τής παρούσης Συμβάσεως και τών εν ισχύϊ Διεθνών Κανονισμών προς 'Αποφυγήν Συγκρούσεων εν θαλάσση και τόν εις έφαρμογήν ταύτης Νόμων, Διαταγμάτων, Διαταγών και Κανονισμών τών έκδιδομένων υπό τής 'Αρχής.
- (γ) i) Οί νόμοι, τά Διατάγματα, αι Διαταγαί και οι Κανονισμοί, περί ών ή παράγραφος (β) του παρόντος Κανονισμού, δέον καθ' όλα νά εξασφαλίζουν ότι, από άπόψεως ασφαλείας τής ανθρώπινης ζωής εν θαλάσση, τό πλοιον είναι κατάλληλον διά τήν ύπηρεσίαν δι' ήν προορίζεται.
- ii) Οί Νόμοι, τά Διατάγματα, αι Διαταγαί και οι Κανονισμοί ούτοι δέον νά καθορίζουν μεταξύ άλλων, τούς τηρητέους κανόνες κατά τās αρχικές και μεταγενεστέρας ύδραυλικάς δοκιμάς ή άλλας έναλλακτικώς άποδεκτάς δοκιμάς εις άς θά υποβάλλωνται οι κύριοι και οι βοηθητικοί λέβητες, αι συνδέσεις, οι άτμαγωγοί σωλήνες, οι συλλέκται ύψηλης πίεσεως και αι δεξαμεναί καυσίμου τών μηχανών έσωτερικής καύσεως, περιλαμβανομένων τών τηρητέων μεθόδων έκτελέσεως τών δοκιμών και του χρονικού διαστήματος μεταξύ δύο διαδοχικών δοκιμών.

Κανονισμός 8

'Επιθεωρήσεις Σωστικών Μέσων και λοιπού
έξαρτισμού τών Φορτηγών Πλοίων

Τά σωστικά μέσα, εξαιρέσει τής ραδιοηλεγραφικής έγκαταστάσεως επί τών μετά κινητήρος σωσιβίων λέμβων ή τής φορητής συσκευής άσυριμάτου τών σωστικών μέσων, ή ήχοβολιστική συσκευή, ή γυροσκοπική πυξίς και τά μέσα σβέσεως πυρκαϊάς τών φορτηγών πλοίων έφ' ών εφαρμόζονται τά Κεφάλαια II-1, II-2, III και VI, δέον νά υποβάλλωνται εις αρχικές και μεταγενεστέρας επιθεωρήσεις καθώς προβλέπεται διά τά έπιβατηγά πλοία εις τόν Κανονισμόν 7 του παρόντος Κεφαλαίου, μέ άντικατάστασιν τών δώδεκα μηνών διά 24 εις τό έδάφιον (α) (ii) του Κανονισμού τούτου. Τά σχέδια έλέγχου πυρκαϊάς εις τά νέα πλοία και αι κλίμακες τών πλοηγών, οι μηχανικοί άνελακυστήρες πλοηγών, τά πλοϊκά φώτα, τά σχήματα και τά μέσα έκπυμής ήχητικών σημάτων τά φερόμενα επί τών νέων και τών ύπαρχόντων πλοίων θά περιλαμβάνωνται εις τās επιθεωρήσεις προς τόν σκοπόν νά εξασφαλισθῃ ότι ταίτα άνταποκρίνονται πλήρως προς τās απαιτήσεις τής παρούσης Συμβάσεως και, όπου ούτοι εφαρμόζονται, προς τούς εν ισχύϊ Διεθνείς Κανονισμούς προς 'Αποφυγήν Συγκρούσεων εν θαλάσση.

Κανονισμός 9

'Επιθεωρήσεις τών 'Εγκαταστάσεων 'Ασυριμάτου και
Radar τών Φορτηγών Πλοίων

Αί εγκαταστάσεις άσυριμάτου και αι εγκαταστάσεις Radar τών φορτηγών πλοίων δι' άς εφαρμόζονται τά Κεφάλαια IV και V, καθώς και πάσα ραδιοηλεγραφική εγκατάστασις τών μετά κινητήρος σωσιβίων λέμβων ή αι φορητάί συσκευαί άσυριμάτου τών σωστικών μέσων άτινα φέρονται συμφώνως προς τās απαιτήσεις του Κεφαλαίου III, δέον νά υποβάλλωνται εις αρχικές και μεταγενεστέρας επιθεωρήσεις ως προβλέπεται διά τά έπιβατηγά πλοία εν τῷ Κανονισμῷ 7 του παρόντος Κεφαλαίου.

Κανονισμός 10

'Επιθεώρησις Σκάφους, Μηχανής και 'Εξαρτισμού Φορτηγών Πλοίων

Τό σκάφος, αι μηχαναί και ο έξαρτισμός (έκτός τών μερών εκείνων διά τά όποια έχουν έκδοθῃ Πιστοποιητικά 'Ασφαλείας 'Εξαρτισμού φορτηγών πλοίων, Πιστοποιητικά 'Ασφαλείας Ραδιοηλεγραφίας ή Πιστοποιητικά 'Ασφαλείας Ραδιοηλεφωνίας) ενός φορτηγού πλοίου θά επιθεωροϋνται μετά τήν συμπλήρωσιν τής κατασκευής αυτών και κατόπιν κατά τοιοϋτον τρόπον και κατά χρονικά διαστήματα ως ή 'Αρχή ήθελε κρίνει αναγκαϊον, ίνα εξασφαλισθῃ ότι ή κατάστασις αυτών είναι από πάσης άπόψεως ικανοποιητική. 'Η επιθεώρησις θά είναι τοιαύτη

ώστε να εξασφαλίζεται ότι η διάταξις, τό υλικόν και αι διαστάσεις του υλικού της κατασκευής, οι λέβητες και τά λοιπά σκευή πίεσεως και τά εξαρτήματα αυτών, αι κύρια και βοηθητικά μηχαναί, αι ηλεκτρικά έγκαταστάσεις και λοιπός εξαρτισμός είναι από πάσης απόψεως ικανοποιητικά διά τήν υπηρεσίαν δι' ην τό πλοϊον προορίζεται.

Κανονισμός 11

Τήρησις τών Όρων κατόπιν τής Έπιθεωρήσεως

Μετά τήν συμπλήρωσιν μιᾶς έπιθεωρήσεως κατά τόν Κανονισμόν 7, 8, 9 ή 10 του παρόντος Κεφαλαίου, ούδεμία μεταβολή επιτρέπεται επί τών κατασκευαστικῶν διατάξεων του σκάφους, τών μηχανῶν, του εξαρτισμοῦ κ.λ.π. τών καλυπτομένων ὑπό τής έπιθεωρήσεως, άνευ έγκρίσεως τής Αρχής.

Κανονισμός 12

Έκδοσις Πιστοποιητικῶν

- (α) i) Πιστοποιητικόν, καλούμενον Πιστοποιητικόν Ασφαλείας Έπιβατηγοῦ πλοίου, θά εκδίδεται κατόπιν εξέτασεως και έπιθεωρήσεως εις πᾶν έπιβατηγόν πλοϊον ὄπερ πληροῖ τās απαιτήσεις τών Κεφαλαίων II-1, II-2, III και IV και τās λοιπās σχετικās απαιτήσεις τών παρόντων Κανονισμῶν.
- ii) Πιστοποιητικόν, καλούμενον Πιστοποιητικόν Ασφαλείας Κατασκευῆς Φορτηγοῦ πλοίου, θά εκδίδεται κατόπιν έπιθεωρήσεως εις πᾶν φορτηγόν πλοϊον ὄπερ πληροῖ τās απαιτήσεις έπιθεωρήσεως τās καθοριζομένης διά του Κανονισμοῦ 10 του παρόντος Κεφαλαίου και τό ὄποιον πληροῖ τās εφαρμοστέας απαιτήσεις του Κεφαλαίου II-1 και II-2 εξαιρέσει τών σχετικῶν πρὸς τά σχέδια έλέγχου και σβέσεως πυρκαϊᾶς.
- iii) Πιστοποιητικόν, καλούμενον Πιστοποιητικόν Ασφαλείας Έξαρτισμοῦ Φορτηγοῦ πλοίου, θά εκδίδεται κατόπιν έπιθεωρήσεως εις πᾶν φορτηγόν πλοϊον τό ὄποιον πληροῖ τās σχετικās απαιτήσεις τών Κεφαλαίων II-1, II-2 και III και πᾶσαν ἄλλην σχετικήν ἀπαίτησιν τών παρόντων Κανονισμῶν.
- iv) Πιστοποιητικόν, καλούμενον Πιστοποιητικόν Ασφαλείας Ραδιοτηλεγραφίας Φορτηγοῦ πλοίου, θά εκδίδεται κατόπιν έπιθεωρήσεως εις πᾶν φορτηγόν πλοϊον, ὄπερ φέρει ραδιοτηλεγραφικήν έγκατάστασιν ητις πληροῖ τās απαιτήσεις του Κεφαλαίου IV και πᾶσαν ἄλλην σχετικήν ἀπαίτησιν τών παρόντων Κανονισμῶν.
- v) Πιστοποιητικόν, καλούμενον Πιστοποιητικόν Ασφαλείας Ραδιοτηλεφωνίας Φορτηγοῦ πλοίου, θά εκδίδεται κατόπιν έπιθεωρήσεως εις πᾶν φορτηγόν πλοϊον ὄπερ φέρει ραδιοτηλεφωνικήν έγκατάστασιν ητις πληροῖ τās απαιτήσεις του Κεφαλαίου IV και πᾶσαν ἄλλην σχετικήν ἀπαίτησιν τών παρόντων Κανονισμῶν.
- vi) Όταν χορηγηθῆται ἀπαλλαγῆ εις πλοϊον δυνάμει και συμφώνως πρὸς τās απαιτήσεις τών παρόντων Κανονισμῶν, θά εκδίδεται πιστοποιητικόν καλούμενον Πιστοποιητικόν Απαλλαγῆς επί πλοϊον τών πιστοποιητικῶν τών καθοριζομένων εις τήν παρούσαν παράγραφον.
- vii) Πιστοποιητικά Ασφαλείας Έπιβατηγοῦ πλοίου, Πιστοποιητικά Ασφαλείας Κατασκευῆς Φορτηγοῦ πλοίου, Πιστοποιητικά Ασφαλείας Έξαρτισμοῦ Φορτηγοῦ πλοίου, Πιστοποιητικά Ασφαλείας Ραδιοτηλεγραφίας Φορτηγοῦ πλοίου, Πιστοποιητικά Ασφαλείας Ραδιοτηλεφωνίας Φορτηγοῦ πλοίου και Πιστοποιητικά Απαλλαγῆς θά εκδίδωνται είτε ὑπό τής Αρχής είτε ὑπό προσώπου ή Όργανισμοῦ δεόντως ὑπ' αὐτῆς εξουσιοδοτημένων. Εις πᾶσαν περιπτώσιν ή Αρχή αὐτή ἀναλαμβάνει πᾶσαν εὐθύνην διά τό πιστοποιητικόν.
- (β) Ανεξαρτήτως πάσης ἄλλης διατάξεως τής παρούσης Συμβάσεως, πᾶν πιστοποιητικόν εκδοθέν δυνάμει και συμφώνως πρὸς τās διατάξεις τής Διεθνούς Συμβάσεως Ασφαλείας τής Ανθρωπίνης Ζωῆς ἐν θαλάσση του 1960, ὄπερ εὐρίσκεται ἐν ἰσχύι καθ' ὄν χρόνον ἀρχεται ή ἰσχύς τής παρούσης Συμβάσεως διά τήν Αρχήν ητις τό εξέδωσε, θά παραμείνη ἐν ἰσχύι μέχρι λήξεώς του κατά τούς ὄρους του Κανονισμοῦ 14 του Κεφαλαίου I τής Συμβάσεως ταύτης.
- (γ) Συμβαλλομένη Κυβέρνησις δέν θά εκδίδῃ Πιστοποιητικά δυνάμει και συμφώνως πρὸς τās απαιτήσεις τής Διεθνούς Συμβάσεως Ασφαλείας τής Ανθρωπίνης Ζωῆς ἐν θαλάσση του 1960, του 1948 ή του 1929 μετά τήν ἡμερομηνίαν κατά τήν ὄποιαν ή ἀποδοχή τής παρούσης Συμβάσεως ὑπό τής ἐν λόγω Κυβερνήσεως λαμβάνει ἰσχύον.

Κανονισμός 13

Έκδοσις Πιστοποιητικού παρ' άλλης Κυβερνήσεως

Συμβαλλομένη Κυβέρνησις δύναται, αίτησει τής 'Αρχής, να διατάξη τήν επιθεώρησιν πλοίου τινός καί εάν πεισθῇ ὅτι πληροῦνται αἱ ἀπαιτήσεις τῶν παρόντων Κανονισμῶν, νά προβῇ εἰς τήν ἔκδοσιν πιστοποιητικῶν διὰ τὸ πλοῖον τοῦτο, συμφώνως πρὸς τοὺς παρόντας Κανονισμούς. Πᾶν πιστοποιητικὸν ἐκδιδόμενον κατὰ τὰ ἀνωτέρω δέον ν' ἀναφέρῃ ὅτι ἐξεδόθη τῇ αἰτήσει τῆς Κυβερνήσεως τοῦ Κράτους, *τοῦ ἔπειν ἐν ἡμεῖς καὶ πρὶν εἰκοθεῖται ἢ θα δικαιεῖται νά φέρῃ*. Τὸ πιστοποιητικὸν τοῦτο θά ἔχη τήν αὐτὴν ἰσχὺν καί ἀναγνώρισιν ἢν καί πιστοποιητικὸν ἐκδιδόμενον κατὰ τὸν Κανονισμὸν 12 τοῦ παρόντος Κεφαλαίου.

Κανονισμός 14

Διάρκεια ἰσχύος Πιστοποιητικῶν

(α) Τὰ πιστοποιητικά, ἐκτός τῶν Πιστοποιητικῶν Ἀσφαλείας Κατασκευῆς Φορτηγοῦ Πλοίου, τῶν Πιστοποιητικῶν Ἀσφαλείας Ἐξαρτισμοῦ Φορτηγοῦ Πλοίου καί τῶν Πιστοποιητικῶν Ἀπαλλαγῆς, θά ἐκδίδονται διὰ χρονικὴν περίοδον οὐχὶ μείζονα τῶν 24 μηνῶν. Τὰ Πιστοποιητικά Ἀπαλλαγῆς δέν θά ἰσχύουν διὰ χρονικὴν περίοδον μείζονα τῆς χρονικῆς περιόδου τῶν Πιστοποιητικῶν εἰς τὰ ὁποῖα ἀναφέρονται.

(β) Ἐάν μία ἐπιθεώρησις λάβῃ χώραν ἐντός δύο μηνῶν πρὸ τῆς λήξεως τῆς χρονικῆς περιόδου διὰ τὴν ὁποίαν ἐξεδόθη ἀρχικῶς Πιστοποιητικὸν Ἀσφαλείας Ραδιοηλεκτρονικῆς Φορτηγοῦ πλοίου ἢ Πιστοποιητικὸν Ἀσφαλείας Ραδιοηλεκτρονικῆς Φορτηγοῦ πλοίου, ἔσθ' ἐν δὲ Φορτηγὸν Πλοῖον ὀλικῆς χωρητικότητος 300 κάρων καί ἄνω ἀλλὰ μικρῶν τῶν 500 κάρων, τὸ πιστοποιητικὸν τοῦτο δύναται νά ἀνακληθῇ καί νά ἐκδοθῇ νέον πιστοποιητικὸν τοῦ ὁποῖου ἡ ἰσχὺς θά λήγῃ 12 μῆνας μετὰ τὸ τέλος τῆς περιόδου ταύτης.

(γ) Ἐάν πλοῖον τι κατὰ τὴν λήξιν τῆς ἰσχύος τοῦ πιστοποιητικοῦ του δέν εὑρίσκειται εἰς λιμένα τοῦ Κράτους *καὶ ὅπου τὴν ἡμεῖς δικαιεῖται νά φέρῃ*, δύναται ἡ ἰσχὺς τοῦ πιστοποιητικοῦ νά παραταθῇ ὑπὸ τῆς Ἀρχῆς, ἀλλὰ τοιαύτη παράτασις θά χορηγῆται μόνον πρὸς τὸν σκοπὸν ὅπως ἐπιτρέψῃ εἰς τὸ πλοῖον νά συμπληρωθῇ τὸν πλοῦν ἐπιστροφῆς εἰς τὸ Κράτος *καὶ ἔπειν ἐν ἡμεῖς δικαιεῖται νά φέρῃ*, ἢ πρόκειται νά ἐπιθεωρηθῇ καί τοῦτο μόνον εἰς ἄς περιπτώσεις κρίνεται πρέπον καί λογικὸν νά χορηγηθῇ ἢ παράτασις αὕτη.

(δ) Οὐδενὸς πιστοποιητικοῦ ἡ ἰσχὺς δύναται νά παραταθῇ πέραν τῶν πέντε μηνῶν, τὸ δὲ πλοῖον εἰς τὸ ὁποῖον ἐχορηγήθη τοιαύτη παράτασις, ἐπιστρέφει εἰς τὸ Κράτος *καὶ ὅπου τὴν ἡμεῖς δικαιεῖται νά φέρῃ*, ἢ εἰς τὸν λιμένα εἰς τὸν ὁποῖον πρόκειται νά ἐπιθεωρηθῇ, δέν δύναται δυνάμει τῆς παρατάσεως ταύτης νά ἀπυλευθῇ ἐκ νέου ἐκ τοῦ λιμένος τούτου ἢ ἐκ τοῦ Κράτους τοῦ πρὶν ἢ ἐφοδιασθῇ διὰ νέου πιστοποιητικοῦ.

(ε) Πιστοποιητικὸν μὴ παραταθῆν κατὰ τὰς ἀνωτέρω διατάξεις τοῦ παρόντος Κανονισμοῦ δύναται νά παραταθῇ ὑπὸ τῆς Ἀρχῆς χαριστικῶς μέχρις ἐνός μηνός ἀπὸ τῆς ἡμερομηνίας λήξεως τῆς ἀναγραφομένης ἐν τῷ πιστοποιητικῷ.

Κανονισμός 15

Τύπος Πιστοποιητικῶν

(α) Πάντα τὰ πιστοποιητικά δέον νά εἶναι συντεταγμένα εἰς τὴν ἐπίσημον γλώσσαν ἢ γλώσσας τοῦ Κράτους ὑπὸ τοῦ ὁποῖου ἐκδίδονται.

(β) Ὁ τύπος τῶν πιστοποιητικῶν δέον νά εἶναι σύμφωνος πρὸς τὰ ἐν τῷ Προσαρτήματι τῶν παρόντων Κανονισμῶν παρατιθέμενα ὑποδείγματα. Ἡ διάταξις τοῦ ἐντύπου μέρους τῶν ἐκδιδόμενων πιστοποιητικῶν ἢ τῶν κεκυρωμένων ἀντιγράφων τούτων δέον νά εἶναι ἀκριβῶς ὁμοία πρὸς τὴν τῶν προτύπων πιστοποιητικῶν, αἱ δὲ καταχωρούμεναι ἐνδείξεις τῶν εἰς τὰ ἐκδιδόμενα πιστοποιητικά, δέον καί εἰς τὰ κεκυρωμένα ἀντίγραφα τούτων, δέον νά ἀναγράφονται διὰ λατινικῶν χαρακτήρων καί ἀραβικῶν ἀριθμῶν.

Κανονισμός 16

Ἀνάρτησις Πιστοποιητικῶν

Πάντα τὰ πιστοποιητικά ἢ τὰ κεκυρωμένα ἀντίγραφα τούτων τὰ ἐκδιδόμενα κατὰ τοὺς παρόντας Κανονισμούς δέον νά ἀναρτῶνται ἐν τῷ πλοίῳ εἰς ἐμφανῆ καί προσιτὴν θέσιν.

Κανονισμός 17

Παραδοχή Πιστοποιητικών

Πιστοποιητικά εκδιδόμενα υπό τινος Συμβαλλομένης Κυβερνήσεως θά ανα-
ωρίζονται υπό τών λοιπών Συμβαλλομένων Κυβερνήσεων διά πάν ό,τι άφορά είς
ν παρούσαν Σύμβασιν. Ταύτα δέον νά θεωρούνται υπό τών λοιπών συμβαλλομένων
βερνήσεων ότι έχουσι τήν αúτην Ισχύν ήν καί τά Πιστοποιητικά τά εκδιδόμενα
ό' αúτων.

Κανονισμός 18

Τροποποιητικόν Παράρτημα Πιστοποιητικού

1) Έάν κατά τήν έκτέλεσιν ταξιδίου τινός, πλοίον τι φέρη άριθμόν προ-
πών μικρότερον του μεγίστου έπιτρεπομένου άριθμού υπό του Πιστοποιητικού
ισφαλείας Έπιβατηγού πλοίου καί ώς έκ τούτου, κατά τάς διατάξεις τών πα-
ντων Κανονισμών, τό πλοίον δύναται νά φέρη μικρότερον άριθμόν οσειβίων
έμβων καί λοιπών οσωτικών μέσων από τόν άναγραφόμενον είς τό Πιστοποιητικόν,
Κυβέρνησις, τέ πρόσωπον ή ό Όργανισμός περί όν οι Κανονισμοί 12 καί 13
ού παρόντος Κεφαλαίου, δύνανται νά εκδίδουν περί τούτου τροποποιητικόν πα-
ρίρτημα του Πιστοποιητικού.

3) Τό παράρτημα τούτο δέον νά αναφέρη ότι υπό τάς ύφισταμένες συνθήκας δέν
ρίσταται παρόβσεις τών διατάξεων τών παρόντων Κανονισμών. Τούτο έπισυνάπτεται
ίς τό Πιστοποιητικόν καί ύποκαθιστά τούτο είς ό,τι άφορά τά οσωτικά μέσα,
χýει δέ μόνον διά τό συγκεκριμένον ταξίδιον διά τό όποίον έξεδόθη.

Κανονισμός 19

Έλεγχος

Πάν πλοίον έφωδιασμένον διά πιστοποιητικού εκδοθέντος συμφώνως προς τόν
ινονισμόν 12 ή τόν Κανονισμόν 13 του παρόντος Κεφαλαίου ύπόκειται είς έλεγχον
ίς τούς λιμένας τών λοιπών Συμβαλλομένων Κυβερνήσεων υπό έξουσιοδοτημένων
ρός τούτο ύπαλλήλων των, περιοριζόμενον είς τήν έξακρίβωσιν ύπάρξεως επί
ού πλοίου πιστοποιητικού έν Ισχύϊ. Τό πιστοποιητικόν τούτο δέον νά άναγνω-
ίξεται, έκτός εάν ύπάρχουν σαφείς ένδείξεις πείθουσαι ότι ή κατάσταση του
λοίου ή του έξαρτισμού αúτου δέν ανταποκρίνονται ούσιωδώς προς τάς ένδείξεις
ού πιστοποιητικού τούτου. Έν τή περιπτώσει ταύτη, ό ένεργών τόν έλεγχον
πάλληλος όφείλει νά λάβη τά άναγκαία μέτρα, ώστε νά παρεμποδισθ ή απόπλους
ού πλοίου μέχρις ότου τούτο καταστή Ικανόν νά εκτελέση πλοΐν άνευ κινδύνου
ιά τούς έπιβάτας ή τό πλήρωμα. Έάν κατά τήν ένεργειαν του έλέγχου τούτου
εννηθ ή ζητήμα οίασδήποτε παρεμβάσεως, ό ένεργών τόν έλεγχον ύπάλληλος ύπο-
ρεούται νά είδοποιή τό ταχύτερον έγγραφως τόν Πρόξενον του Κράτους, *καί σπείρω τήν
ημείων τό πλέον δικαιούται νά φέρη* περί όλων τών συνηκών, ώς ή τοιαύτη παρεμ-
ασίς κατέστη άναγκαία καί επί πλέον νά αναφέρη τά περιστατικά είς τόν Όργα-
ισμόν.

Κανονισμός 20

Προνόμια

Τά έκ τής Σύμβασεως προνόμια δέν δύνανται νά διεκδικηθοΐν ύπερ πλοίου
ινός, έκτός εάν τούτο κέκτηται κανονικά καί έγκυρα Πιστοποιητικά.

ΜΕΡΟΣ Γ' - ΑΤΥΧΗΜΑΤΑ

Κανονισμός 21

Άτυχήματα

(α) Έκάστη Αρχή άναλαμβάνει τήν ύποχρέωσιν νά έπιλαμβάνεται άνακρίσεων
πί παντός ναυτικού άτυχήματος έπισυμβαίνοντος είς πλοίον αúτης, όπερ ύπό-
είται είς τάς διατάξεις τής παρούσης Σύμβασεως, όταν αúτη κρίνη ότι αι άνα-
ρίσεις αúται δύνανται νά συμβάλουν είς τόν καθορισμόν τών μεταβολών εκείνων
άτινες θά ήτο έπιθυμητόν νά έπενεχθοΐν είς τούς παρόντας Κανονισμούς.

(β) Έκάστη Συμβαλλομένη Κυβέρνησις άναλαμβάνει τήν ύποχρέωσιν νά μεταβιβάξη
εις τόν Όργανισμόν πάσαν κατάλληλον πληροφορίαν σχετικήν προς τά συμπεράσματα

τῶν ἀνακρίσεων τούτων. Οὐδεμίᾳ ἐκθεσίᾳ ἢ σύστασις τοῦ Ὄργανισμοῦ βασιζο-
μένη εἰς τὰς πληροφορίες ταύτας θά ἀποκαλύπτῃ τήν ταυτότητα ἢ τήν ἐθνικότητα
τῶν περί ὧν πρόκειται πλοίων, οὐδέ θά καταλογίξῃ ἢ θά ἐπιτρέπῃ καθ' οἰονδήποτε
τρόπον τήν εὐθύνην τοῦ ἀτυχήματος εἰς πλοῖον ἢ πρόσωπόν τι.

ΚΕΦΑΛΑΙΟΝ ΙΙ - 1

ΚΑΤΑΣΚΕΥΗ - ΥΠΟΔΙΑΙΡΕΣΙΣ ΚΑΙ ΕΥΣΤΑΘΕΙΑ
ΜΗΧΑΝΟΛΟΓΙΚΑΙ ΚΑΙ ΗΛΕΚΤΡΟΛΟΓΙΚΑΙ ΕΓΚΑΤΑΣΤΑΣΕΙΣ

ΜΕΡΟΣ Α' - ΓΕΝΙΚΑ

Κανονισμός 1

Εφαρμογή

- (α) i) Τό παρόν Κεφάλαιον εφαρμόζεται επί νέων πλοίων έκτός εάν άλλως ρηθώς όρίζεται.
- ii) Ὑπάρχοντα έπιβατηγά πλοία καί φορτηγά πλοία δέον όπως συμμορφούνται πρὸς τὰ ακόλουθα :
- (1) διά πλοία τῶν ὁποίων ἡ τρόπις έτέθη κατά ἢ μετά τήν ἡμερομηνίαν θέσεως έν ισχύϊ τῆς Διεθνοῦς Συμβάσεως περί Ἀσφαλείας τῆς Ἀνθρωπίνης Ζωῆς έν θαλάσση 1960 ἢ κατά τήν ἡμερομηνίαν ταύτην εύρίσκοντο εἰς παρεμφερές πρὸς τό άνωτέρω στάδιον κατασκευῆς, ἡ Ἀρχή θά έξασφαλίζη ὅτι πληροῦνται αἱ άπαιτήσεις αἱ ὁποῖαι δυνάμει τοῦ Κεφαλαίου ΙΙ τῆς έν λόγω Συμβάσεως εφαρμόζοντο επί νέων πλοίων ὡς ταῦτα καθορίζονται εἰς τό έν λόγω Κεφάλαιον
 - (2) διά πλοία τῶν ὁποίων ἡ τρόπις έτέθη κατά ἢ μετά τήν ἡμερομηνίαν θέσεως έν ισχύϊ τῆς Διεθνοῦς Συμβάσεως Περί Ἀσφαλείας τῆς Ἀνθρωπίνης Ζωῆς έν θαλάσση 1948 ἢ κατά τήν ἡμερομηνίαν ταύτην εύρίσκοντο εἰς παρεμφερές πρὸς τό άνωτέρω στάδιον κατασκευῆς, πάντως πρὸ τῆς ἡμερομηνίας θέσεως έν ισχύϊ τῆς Διεθνοῦς Συμβάσεως περί Ἀσφαλείας τῆς Ἀνθρωπίνης Ζωῆς έν θαλάσση 1960, ἡ Ἀρχή θά έξασφαλίζη ὅτι πληροῦνται αἱ άπαιτήσεις αἱ ὁποῖαι δυνάμει τοῦ Κεφαλαίου ΙΙ τῆς Συμβάσεως τοῦ 1948 εφαρμόζοντο επί νέων πλοίων ὡς ταῦτα καθορίζονται εἰς τό έν λόγω Κεφάλαιον
 - (3) διά πλοία τῶν ὁποίων ἡ τρόπις έτέθη πρὸ τῆς ἡμερομηνίας θέσεως έν ισχύϊ τῆς Διεθνοῦς Συμβάσεως περί Ἀσφαλείας τῆς Ἀνθρωπίνης Ζωῆς έν θαλάσση 1948 ἢ εύρίσκοντο εἰς παρεμφερές πρὸς τό άνωτέρω στάδιον κατασκευῆς πρὸ τῆς ἡμερομηνίας ταύτης, ἡ Ἀρχή θά έξασφαλίζη ὅτι πληροῦνται αἱ άπαιτήσεις αἱ ὁποῖαι δυνάμει τοῦ Κεφαλαίου ΙΙ τῆς έν λόγω Συμβάσεως εφαρμόζοντο επί ὑπαρχόντων πλοίων ὡς ταῦτα καθορίζονται εἰς τό έν λόγω Κεφάλαιον
 - (4) ὅσον άφορᾷ εἰς εκείνας τὰς άπαιτήσεις τοῦ Κεφαλαίου ΙΙ-1 τῆς παρούσης Συμβάσεως αἵτινες δέν περιλαμβάνονται εἰς τό Κεφάλαιον ΙΙ τῶν Συμβάσεων 1948 καί 1960, ἡ Ἀρχή θά αποφασίζη ποῖαι εκ τῶν άπαιτήσεων αὐτῶν δέον όπως εφαρμόζονται επί ὑπαρχόντων πλοίων ὡς ταῦτα καθορίζονται εἰς τήν παρούσαν Σύμβασιν.
- iii) Πλοῖον επί τοῦ ὁποῖου λαμβάνουν χώραν έπισκευαί, μετατροπαί, μετασκευαί καί έξοπλισμοί σχετικοί πρὸς τὰ άνωτέρω δέον όπως συνεχίση νά συμμορφῶται τολάχιστον πρὸς τὰς άπαιτήσεις αἵτινες ισχύουν προηγουμένως επί αὐτοῦ. Ὑπάρχον πλοῖον εἰς μίαν τοιαύτην περίπτωσιν, κατὰ κανόνα, δέον όπως μή συμμορφῶται εἰς μικροτέραν έκτασιν πρὸς τὰς άπαιτήσεις διά τὰ νέα πλοία άπ' ὅ,τι συνεμορφῶτο προγενεστέρως. Έπισκευαί, μετατροπαί καί μετασκευαί μείζονος έκτάσεως καί έξοπλισμοί σχετικοί πρὸς τὰ άνωτέρω δέον όπως έναρμονίζονται πρὸς τὰς άπαιτήσεις διά νέα πλοία εἰς τοιαύτην έκτασιν οἷαν ἡ Ἀρχή θά κρίνη ὡς εύλογον καί εφαρμόσιμον.
- (β) Διά τούς σκοπούς τοῦ Κεφαλαίου τούτου :
- i) Ἐπιβατηγόν πλοῖον θεωρεῖται ὡς νέον έφ' ὅσον ἡ τρόπις αὐτοῦ έτέθη κατά ἢ μετά τήν ἡμερομηνίαν θέσεως έν ισχύϊ τῆς παρούσης Συμβάσεως ἢ κατά τήν ἡμερομηνίαν ταύτην εύρίσκεται εἰς παρεμφερές πρὸς τό άνωτέρω στάδιον κατασκευῆς ἢ φορτηγόν πλοῖον, έφ' ὅσον ἡ μετασκευή τούτου εἰς έπιβατηγόν πλοῖον ἤρξατο κατά ἢ μετά τήν ἡμερομηνίαν ταύτην. Πάντα λοιπά έπιβατηγά πλοία θεωροῦνται ὡς ὑπάρχοντα έπιβατηγά πλοία.
 - ii) Φορτηγόν πλοῖον θεωρεῖται ὡς νέον έφ' ὅσον ἡ τρόπις αὐτοῦ έτέθη κατά ἢ μετά τήν ἡμερομηνίαν τῆς θέσεως έν ισχύϊ τῆς παρούσης Συμβάσεως ἢ κατά τήν ἡμερομηνίαν ταύτην εύρίσκεται εἰς παρεμφερές πρὸς τό άνωτέρω στάδιον κατασκευῆς.
- (γ) Ἡ Ἀρχή έφ' ὅσον ἤθελε κρίνει ὅτι αἱ συνθήκαι άσφαλείας καί αἱ γενικώτεραι συνθήκαι τοῦ ταξιδίου εἶναι τοιαῦται ὥστε νά καθιστοῦν τήν εφαρμογήν εἰδικῶν τινῶν άπαιτήσεων τοῦ Κεφαλαίου τούτου άσκοπον ἢ μή αναγκαίαν, δύναται

νά εξαιρέση της εφαρμογής τούτων συγκεκριμένα πλοία ή κατηγορίας πλοίων ἀνηκόντων εἰς τὴν χώραν της, ἐφ' ὅσον ταῦτα δὲν ἀπομακρύνονται κατα τὸν πλοῦν πλέον τῶν 20 μιλίων ἀπὸ τῆς πλησιεστέρας Ἑλλάδος.

(δ) Εἰς τὴν περίπτωσιν ἐπιβατηγῶν πλοίου τὸ ὁποῖον δύναται δυνάμει τῆς παραγράφου (γ) τοῦ Κανονισμοῦ 27 τοῦ Κεφαλαίου III νά φέρῃ ἀριθμὸν προσώπων μείζονα τῆς προβλεπομένης χωρητικότητος τῶν σωσιβίων λέμβων αὐτοῦ, τοῦτο ὑποχρεοῦται νά συμμορφοῦται πρὸς τοὺς εἰδικούς κανόνας ὑποδιαιρέσεως περὶ ὧν ἡ παράγραφος (ε) τοῦ Κανονισμοῦ 5 τοῦ Κεφαλαίου τούτου καὶ πρὸς τὰς εἰδικὰς διατάξεις σχετικὰς πρὸς τὴν διαχωρητικότητα περὶ ὧν ἡ παράγραφος (δ) τοῦ Κανονισμοῦ 4 τοῦ Κεφαλαίου τούτου, ἐκτός ἐάν ἡ Ἀρχή, λαμβάνουσα ὑπ' ὄψιν τὴν φύσιν καὶ τὰς συνθήκας τοῦ ταξιδίου, θεωρήσῃ ἐπαρκῆ τὴν τήρησιν τῶν λοιπῶν διατάξεων τῶν Κανονισμῶν τοῦ παρόντος Κεφαλαίου καὶ τοῦ Κεφαλαίου II-2 τῆς παρουσίας Συμβάσεως.

(ε) Εἰς τὴν περίπτωσιν ἐπιβατηγῶν πλοίων χρησιμοποιουμένων εἰς εἰδικὰ ταξίδια διὰ τὴν μεταφορὰν μεγάλων ἀριθμῶν ἐπιβατῶν εἰδικῶν ταξιδίων, ὡς λ.χ. ταξίδια προσκυνητῶν, ἡ Ἀρχή, ἐάν κρίνῃ ὅτι εἶναι πρακτικῶς ἀδύνατον νά ἐπιβάλῃ συμμόρφωσιν πρὸς τὰς ἀπαιτήσεις τοῦ παρόντος Κεφαλαίου, δύναται νά ἐξαιρέσῃ τὰ πλοία ταῦτα, ὅταν ἀνήκουν εἰς τὴν χώραν της, ἐκ τῶν ἀπαιτήσεων τούτων, ὑπὸ τὸν ὅρον ὅτι ταῦτα συμμορφοῦνται πλήρως πρὸς τὰς διατάξεις -

- i) τῶν Κανόνων τῶν προσηρτημένων εἰς τὴν Συμφωνίαν τοῦ 1971 περὶ Ἐπιβατηγῶν Πλοίων Εἰδικῶν Μεταφορῶν, καὶ
- ii) τῶν Κανόνων τῶν προσηρτημένων εἰς τὸ Πρωτόκολλον τοῦ 1973, περὶ τῶν Ἀπαιτήσεων Χώρων δι' ἐπιβατηγὰ Πλοία Εἰδικῶν Μεταφορῶν, ὅτε τοῦτο θά τεθῆ ἐν ἰσχύϊ.

Κανονισμός 2

Ὅρισμοί

Ἐκτός ἐάν ἄλλως ρητῶς προβλέπεται διὰ τὴν ἐφαρμογὴν τοῦ παρόντος Κεφαλαίου :

- (α) i) Ἐμφορτος ἰσαλος γραμμῆ ὑποδιαιρέσεως εἶναι ἡ ἰσαλος γραμμῆ ἢ λαμβανομένη ὑπ' ὄψιν κατὰ τὸν προσδιορισμὸν τῆς ὑποδιαιρέσεως τοῦ πλοίου.
- ii) Ἡ κατωτάτη ἐμφορτος ἰσαλος γραμμῆ ὑποδιαιρέσεως εἶναι ἡ ἰσαλος ἢ ἀντιστοιχοῦσα εἰς τὸ μέγιστον βύθισμα τὸ ἐπιτρεπόμενον ὑπὸ τῶν ἐφαρμοστέων κανόνων ὑποδιαιρέσεως.

(β) Τὸ μήκος τοῦ πλοίου εἶναι τὸ μήκος τὸ μετρούμενον μεταξύ τῶν ὀρθίων τῶν λαμβανομένων εἰς τὰ ἄκρα τῆς ἀνωτάτης ἐμφόρτου ἰσάλου γραμμῆς ὑποδιαιρέσεως.

(γ) Τὸ πλάτος τοῦ πλοίου εἶναι τὸ μέγιστον πλάτος ἐξωθι τῶν νομέων, μετρούμενον ἐπὶ ἢ κάτωθεν τῆς ἀνωτάτης ἐμφόρτου ἰσάλου γραμμῆς ὑποδιαιρέσεως.

(δ) Τὸ βύθισμα εἶναι ἡ κατακόρυφος ἀπόστασις εἰς τὸ μέσον τοῦ πλοίου, μετρούμενη ἀπὸ τῆς ἀνω ὀψεως τῆς τροπίδος τῆς ἐμφόρτου ἰσάλου γραμμῆς ὑποδιαιρέσεως.

(ε) Τὸ κατάστρωμα στεγανῶν διαφραγμάτων εἶναι τὸ ἀνώτατον κατάστρωμα μέχρι τοῦ ὁποίου ἐξικνοῦνται τὰ ἐγκάρσια στεγανὰ διαφράγματα.

(στ) Ἡ γραμμὴ ὀρίου βυθίσεως εἶναι μία γραμμὴ χαρασσομένη τουλάχιστον 76 χιλιοστόμετρα (ἢ 3 δακτύλους) κάτωθι τῆς ἀνω ἐπιφανείας τοῦ καταστρώματος στεγανῶν εἰς τὴν πλευράν τοῦ πλοίου.

(ζ) Ἡ διαχωρητικότης ἐνός χώρου εἶναι τὸ ποσοστὸν ἐπὶ τοῖς ἑκατὸν τοῦ χώρου τούτου ὅπερ δύναται νά πληρωθῇ δι' ὕδατος. Ὁ ὄγκος ἐνός χώρου, ὅστις ἐκτείνεται ἀνωθεν τῆς γραμμῆς ὀρίου βυθίσεως, θά μετρεῖται μόνον μέχρι τοῦ ὕψους τῆς γραμμῆς ταύτης.

(η) Ὡς χώρος μηχανῶν λαμβάνεται ὁ ἐκτεινόμενος ἀπὸ τῆς ἀνω ὀψεως τῆς τροπίδος μέχρι τῆς γραμμῆς ὀρίου βυθίσεως καὶ μεταξύ τῶν ἀκραίων κυρίων ἐγκαρσίων στεγανῶν διαφραγμάτων ἅτινα περιβάλλουν τοὺς χώρους τοὺς καταλαμβανομένους ὑπὸ τῶν κυρίων καὶ βοηθητικῶν μηχανῶν πρόωσεως, τῶν λεβητῶν τῶν χρησιμοποιουμένων διὰ τὴν πρόωσιν καὶ τῶν μονίμων γαιανθρακαποθηκῶν.

Εἰς περίπτωσιν ἀσυνήθους διατάξεως τῶν χώρων, ἡ Ἀρχὴ δύναται νά καθορίσῃ τὰ ὅρια τῶν χώρων μηχανῶν.

(θ) Χώροι έπιβατών είναι οι χώροι οίτινες προορίζονται διά τήν ένδιαίτησιν καί χρήςιν τών έπιβατών, έξαιρουμένων τών χώρων άποσκευών, άποθηκών, τροφαποθηκών καί χώρων ταχυδρομείου. Διά τήν έφαρμογήν τών Κανονισμών 4 καί 5, χώροι εύρισκόμενοι κάτωθεν τής γραμμής όριού βυθίσεως καί προοριζόμενοι διά τήν ένδιαίτησιν καί χρήςιν του πληρώματος λογίζονται ως χώροι έπιβατών.

(ι) Είς πάσας τάς περιπτώσεις οι όγκοι καί αι έπιφάνειαι θά υπολογίζονται μέχρι τών έξωτερικών τών νομέων καί ζυγών γραμμών του σκάφους.

ΜΕΡΟΣ Β' - ΥΠΟΔΙΑΙΡΕΣΙΣ ΚΑΙ ΕΥΣΤΑΘΕΙΑ*
(Τό Μέρος Β' έφαρμόζεται μόνον επί έπιβατηγών πλοίων
έξαιρέσει του Κανονισμού 19, οστις έφαρμόζεται καί
επί φορτηγών πλοίων)

Κανονισμός 3

Κατακλύσιμον Μήκος

(α) Τό κατακλύσιμον μήκος είς πάν σημείον του μήκους του πλοίου θέλει υπολογίζεται διά μεθόδου υπολογισμού, ήτις λαμβάνει υπ' όψιν τό σχήμα, τό βύθισμα καί άλλα χαρακτηριστικά του συγκεκριμένου πλοίου.

(β) Είς πλοϊον μετά συνεχούς καταστρώματος στεγανών διαφραγμάτων, τό κατακλύσιμον μήκος είς δεδομένον σημείον είναι τό μέγιστον τμήμα του μήκους του πλοίου, όπερ, έχον ως κέντρον τό έν λόγφ σημείον, δύναται νά κατακλυσθή υπό τάς υπό του Κανονισμού 4 του Κεφαλαίου τούτου καθοριζόμενας προϋποθέσεις, χωρίς τό πλοϊοννά βυθισθή πέραν της γραμμής του όριού βυθίσεως.

(γ) 1) 'Επί πλοίου μή έχοντος συνεχές κατάστρωμα στεγανών διαφραγμάτων, τό κατακλύσιμον μήκος είς οίονδήποτε σημείον δύναται νά προσδιορισθή διά μιάς συνεχούς υποθετικής γραμμής όριού βυθίσεως τής οποίας ούδέν σημείον είναι χαμηλότερον τών 76 χιλιοστομέτρων (ή 3 δακτύλων) κάτωδι του άνω μέρους τής έπιφανείας του καταστρώματος (είς τήν πλευράν) μέχρι του όποιου τά έν λόγφ στεγανά διαφράγματα καί τό έξωτερικόν περίβλημα διατηρούνται στεγανά.

11) 'Όταν τμήμα τής υποθετικής γραμμής όριού βυθίσεως είναι αισθητώς κάτωθεν του καταστρώματος μέχρι του όποιου εκτείνονται τά στεγανά διαφράγματα, ή 'Αρχή δύναται νά επιτρέψη περιορισμένην μείωσιν τής στεγανότητας τών τμημάτων εκείνων τών διαφραγμάτων, άτινα κείνται άνωθεν τής γραμμής όριού βυθίσεως καί άμέσως κάτωθεν του άνωτέρου καταστρώματος.

Κανονισμός 4

Διαχωρητότης

(α) Αί έν τφ Κανονισμό 3 του παρόντος Κεφαλαίου άναφερόμεναι ώρισμέναί προϋποθέσεις άφορούν τάς διαχωρητότητας τών χώρων τών κάτωδι τής γραμμής όριού βυθίσεως.

Κατά τόν προσδιορισμόν του κατακλύσιμου μήκους, δέον νά λαμβάνηται μία μέση όμοιόμορφος διαχωρητότης καθ' όλον τό μήκος έκάστου τών άκολουθών τμημάτων του πλοίου κάτωθεν τής γραμμής όριού βυθίσεως :

1) του χώρου μηχανών ως ούτος ώρίσθη είς τόν Κανονισμόν 2 του Κεφαλαίου τούτου*

11) του τμήματος πρόωθεν του χώρου μηχανών*

111) του τμήματος πρόμνηθεν του χώρου μηχανών.

(β) 1) 'Η μέση όμοιόμορφος διαχωρητότης καθ' όλην τήν έκτασιν του χώρου μηχανών δέον νά υπολογίζεται διά του τύπου :

$$85+10\left(\frac{a-c}{v}\right)$$

* 'Αντί τών άκατήσεων του παρόντος Μέρους, οι Κανονισμοί υποδιαίρέσεως καί εύσταθείας έπιβατηγών πλοίων οι υιοθετηθέντες υπό του 'Οργανισμού διά τής 'Ακοφάσεως Α. 265 (VIII) ως 'Ισοδύναμον του Μέρους Β' του Κεφαλαίου II τής Διεθνούς Συμβάσεως περί 'Ασφαλείας τής 'Ανθρωπίνης Ζωής έν θαλάσση 1960, δύναται νά χρησιμοποιούνται έφ' όσον έφαρμόζονται πλήρως.

ένθα :

a="Όγκος τών χώρων έπιβατών, ώς όρίζονται είς τόν Κανονισμόν 2 του Κεφαλαίου τούτου, τών εύρισκομένων κάτωθεν τής γραμμής όρίου βυθίσεως και έντός τών όρίων του χώρου μηχανών.

c="Όγκος τών χώρων τών ύποφραγμάτων κάτωθεν τής γραμμής όρίου βυθίσεως και έντός τών όρίων του χώρου μηχανών, οίτινες διατίθενται διά φορτίον, γαιάνθρακας ή προμηθείας.

v="Ολόκληρος ό όγκος του χώρου μηχανών κάτωθεν τής γραμμής όρίου βυθίσεως.

- ii) Όταν ή Αρχή πεισθή ότι ή μέση διαχωρητότης, ώς αύτη προσδιορίσθη διά λεπτομεροϋς ύπολογισμού, είναι μικροτέρα τής διά του τύπου διδομένης, τότε δύναται νά γίνη χρήςις τής ύπολογιζομένης διά λεπτομεροϋς ύπολογισμού. Διά τόν ύπολογισμόν τούτον αι διαχωρητότητες τών χώρων έπιβατών, ώς καθορίζονται έν τή Κανονισμό 2 του Κεφαλαίου τούτου, θά λαμβάνωνται ώς 95, αι τών χώρων του δλου φορτίου, γαιανθράκων και άποθηκών θά λαμβάνωνται ώς 60, αι δέ τών διπυθμένων δεξαμενών πετρελαίου καυσίμου και λοιπών δεξαμενών θά λαμβάνονται είς τοιαύτας τιμάς ώς δυνατόν νά έγκρίνωνται έν έκάστη περιπτώσει.

(γ) Έκτός τών περιπτώσεων τών προβλεπομένων ύπό τής παραγράφου (δ) του παρόντος Κανονισμού, ή όμοιόμορφος μέση διαχωρητότης έφ' δλου του τμήματος του πλοίου, του εύρισκομένου πώραθεν (ή πρύμνηθεν) του χώρου μηχανών, θά προσδιορίζεται διά του τύπου :

$$63+35\frac{a}{v}$$

ένθα :

a="Όγκος χώρων έπιβατών, ώς όρίζονται είς τόν Κανονισμόν 2 του παρόντος Κεφαλαίου, τών εύρισκομένων κάτωθεν τής γραμμής όρίου βυθίσεως πώραθεν (ή πρύμνηθεν) του χώρου μηχανών, και

v="Ολόκληρος ό όγκος του τμήματος του πλοίου κάτωθεν τής γραμμής όρίου βυθίσεως πώραθεν (ή πρύμνηθεν) του χώρου μηχανών.

(δ) Προκειμένου περί πλοίου είς ό επιτρέπεται, κατά τήν παράγραφον (γ) του Κανονισμού 27 του Κεφαλαίου III, νά μεταφέρη άριθμόν έπιβατών άνωτερον τής χωρητικότητος τών ωσσιβίων λέμβων του, και όπερ όφείλει, δύναται τής παραγράφου (δ) του Κανονισμού I του παρόντος Κεφαλαίου, νά συμμορφούται πρός είδικάς διατάξεις, ή όμοιόμορφος μέση διαχωρητότης έφ' όλων τών τμημάτων του πλοίου πώραθεν (ή πρύμνηθεν) του χώρου μηχανών θά προσδιορίζεται διά του τύπου :

$$95-35\frac{b}{v}$$

ένθα :

b="Ο όγκος τών χώρων κάτωθι τής γραμμής όρίου βυθίσεως και άνωθεν τής άνω όψεως τών έδρών, του έσωτερικού πυθμένου ή τών άκρικών δεξαμενών ζυγοσταθμίσεως (peak tanks), αναλόγως τής περιπτώσεως, οίτινες διατίθενται και χρησιμοποιούνται ώς χώροι φορτίου, γαιανθρακαποθήκαι ή δεξαμενάι καυσίμου πετρελαίου, άποθήκαι, άποθήκαι άποθήκαι άποσκευών, ταχυδρομικών σάκκων, φρεάτια άλύσεων και δεξαμενάι γλυκέος ύδατος πώραθεν (ή πρύμνηθεν) του χώρου μηχανών, και

v="Ολόκληρος ό όγκος του τμήματος του πλοίου κάτωθεν τής γραμμής όρίου βυθίσεως πώραθεν (ή πρύμνηθεν) του χώρου μηχανών.

Είς περιπτώσεις πλοίων χρησιμοποιουμένων είς μεταφοράς καθ' ός τά κύτη φορτίου δέν καταλαμβάνονται γενικώς ύπό σημαντικών ποσοτήτων φορτίου, ούδέν τμήμα τών χώρων φορτίου θά συμπεριλαμβάνεται κατά τόν ύπολογισμόν του (β).

(ε) Είς περίπτωσιν καθ' ήν ή διαφύρθησις του πλοίου είναι άσυνήθης, ή Αρχή δύναται νά επιτρέψη ή νά ζητήση λεπτομερή ύπολογισμόν τής μέσης διαχωρητότητος διά τά τμήματα πώραθεν ή πρύμνηθεν τών χώρων μηχανών. Διά τόν ύπολογισμόν τούτον ή διαχωρητότης τών χώρων έπιβατών, ώς όρίζονται έν τή Κανονισμό 2 του παρόντος Κεφαλαίου, θά λαμβάνηται ώς 95, ή τών χώρων τών περιεχόντων τας μηχανάς ώς 85, ή τών χώρων του δλου φορτίου, γαιανθράκων και άποθηκών ώς 60, ή δέ τών διπυθμένων, τών δεξαμενών πετρελαίου καυσίμου και λοιπών δεξαμενών θά όρίζεται είς άριθμόν όστις θά τυγχάνη τής έγκρίσεως είς έκάστην περίπτωσηιν.

(στ) 'Εάν υπόφραγμα τι ευρισκόμενον μεταξύ δύο έγκαρσίων στεγανών διαφραγμάτων περιλαμβάνη χώρον τινά έπιβατών ή πληρώματος, δλόκληρον τό υπόφραγμα τούτο θά λογίζεται ως χώρος έπιβατών, πλήν παντός χώρου τελείως περιωραγμένου διά μονίμων χαλυβδίνων διαφραγμάτων καί προοριζομένου δι' άλλους σκοπούς. 'Αν, έν τούτοις ό συγκεκριμένος χώρος έπιβατών ή πληρώματος είναι τελείως περιωραγμένος διά μονίμων χαλυβδίνων διαφραγμάτων, μόνον ό ούτω περιωραγμένος χώρος δέον νά λογίζεται ως χώρος έπιβατών.

Κανονισμός 5

Έπιτρεπόμενον μήκος διαμερισμάτων

(α) Τά πλοία δέον νά είναι δσον τό δυνατόν Ικανοποιητικώς υποδηρημένα, λαμβανομένης ύπ' όψιν τής φύσεως τής ύπηρεσίας δι' ήν προορίζονται. 'Ο βαθμός υποδιαίρεσεως θά ποικίλλη ανάλόγως του μήκους του πλοίου καί τής ύπηρεσίας δι' ήν προορίζεται καί εις τοιοούτον τρόπον ώστε ό άνώτατος βαθμός υποδιαίρεσεως νά άνταποκρίνεται πρός τά πλοία μεγίστου μήκους, χρησιμοποιούμενα κυρίως διά μεταφοράς έπιβατών.

(β) Συντελεστής υποδιαίρεσεως : Τό μέγιστον έπιτρεπόμενον μήκος διαμερισμάτωνός τινος, έχοντος τό κέντρον αύτου εις οιονδήποτε σημείον του μήκους του πλοίου, εύρίσκεται εκ του κατακλισίμου μήκους πολλαπλασιαζομένου επί συντελεστήν τινά, καλούμενον "συντελεστήν υποδιαίρεσεως". 'Ο συντελεστής υποδιαίρεσεως έξαρτάται εκ του μήκους του πλοίου καί δι' έν δεδομένον μήκος μεταβάλλεται ανάλόγως τής φύσεως τής ύπηρεσίας δι' ήν τό πλοϊον προορίζεται. 'Ο συντελεστής ούτος βάλνει μειούμενος προοδευτικώς καί κατά τρόπον συνεχή :

1) Σύν τή αύξήσει του μήκους του πλοίου, καί

ii) άπό ένός συντελεστού Α, έξαρμοζομένου επί πλοίων πρωτίστως προοριζομένων διά μεταφοράς φορτίων, εις συντελεστήν Β έξαρμοζομένον επί πλοίων πρωτίστως προοριζομένων διά μεταφοράς έπιβατών.

Αί μεταβολαί των συντελεστών Α καί Β έξαφράζονται διά των κατωτέρω τύπων (I) καί (II), ένθα L είναι τό μήκος του πλοίου, ως τούτο όρίζεται έν τῷ Κανονισμῷ 2 του παρόντος Κεφαλαίου.

L εις μέτρα

$$A = \frac{58,2}{L-60} + 0,18 \quad (L = 131 \text{ μέτρα καί άνω}) \dots\dots\dots (I)$$

L εις πόδας

$$A = \frac{190}{L-198} + 0,18 \quad (L = 430 \text{ πόδες καί άνω})$$

L εις μέτρα

$$B = \frac{30,3}{L-42} + 0,18 \quad (L = 79 \text{ μέτρα καί άνω}) \dots\dots\dots (II)$$

L εις πόδας

$$B = \frac{100}{L-138} + 0,18 \quad (L = 260 \text{ πόδες καί άνω})$$

(γ) Κριτήριον ύπηρεσίας. Δι' έν πλοϊον δεδομένου μήκους, ό άρμόζων συντελεστής υποδιαίρεσεως προσδιορίζεται τή βοηθεία Δείκτου Κριτηρίου 'Υπηρεσίας (έφεξής καλούμενον Δείκτου Κριτηρίου) συμφώνως πρός τούς κάτωθι τύπους (III) καί (IV), ένθα :

Cs= Δείκτης Κριτηρίου

L = Τό μήκος του πλοίου, ως όρίζεται έν τῷ Κανονισμῷ 2 του παρόντος Κεφαλαίου.

M = 'Ο όγκος του χώρου μηχανών, ως όρίζεται έν τῷ Κανονισμῷ 2 του παρόντος Κεφαλαίου, σύν τή προσθήκη του όγκου όλων των μονίμων δεξαμενών καυσίμου πετρελαίου των τυχόν ύπαρχουσών άνωθεν του έσωτερικού πυθμένου καί πρόραθεν ή πρόμνηθεν του χώρου μηχανών.

P = 'Ολόκληρος ό όγκος των χώρων έπιβατών κάτωθι τής γραμμής όριου βυθίσεως, ως όρίζονται έν τῷ Κανονισμῷ 2 του παρόντος Κεφαλαίου.

V = Όδλος όγκος του πλοίου κάτωθι τής γραμμής όριου βυθίσεως.

P_I = Τό γινόμενον ΚΝ ένθα :

N = Ό άριθμός έπιβατών, δι' όν πρόκειται τό πλοϊον νά λάβη πιστοποιητικόν, καί

K έχει τάς έξής τιμάς :

	Τιμή Κ
Μήκος είς μέτρα καί όγκοι είς κυβικά μέτρα	0,056L
Μήκος είς πόδας καί όγκοι είς κυβικούς πόδας	0,6 L

Έάν τό γινόμενον του ΚΝ είναι μεγαλύτερον του άθροίσματος P καί του όλου όγκου τών πραγματικών χώρων έπιβατών, τών άνωθεν τής γραμμής όριου βυθίσεως, ώς τιμή διά τό P_I νά ληφθή τό άνωτέρω άθροισμα ή τά $2/3$ ΚΝ, οίον-δήποτε έκ τών δύο είναι τό μεγαλύτερον.

Όταν τό P_I είναι μεγαλύτερον του P

$$C_S = 72 \frac{M + 2P_I}{V + P_I - P} \dots \dots \dots (III)$$

καί είς τάς λοιπάς περιπτώσεις

$$C_S = 72 \frac{M + 2P}{V} \dots \dots \dots (IV)$$

Διά πλοία μή έχοντα συνεχές κατάστρωμα στεγανών διαφραγμάτων, οί όγκοι λαμβάνονται μέχρι τών πραγματικών γραμμών όριου βυθίσεως, αίτινες έλήφθησαν ύπ' όψιν κατά τόν προσδιορισμόν τών κατακλισίμων μηκών.

(6) Κανόνες ύποδιαιρέσεως πλοίων μή ύπαγομένων είς τήν παράγραφον (ε) του παρόντος Κανονισμού.

- (i) Η ύποδιαιρέσις πρύμνηθεν του διαφράγματος συγκρούσεως τών πλοίων μήκους 131 μέτρων (ή 430 ποδών) καί άνω, τών έχόντων δείκτην κριτηρίου 23 ή μικρότερον, δέον νά προσδιορίζεται επί τή βάσει του συντελεστού A του διδομένου διά του τύπου (I), τών έχόντων δείκτην κριτηρίου 123 καί άνω επί τή βάσει του συντελεστού B του διδομένου διά του τύπου (II) καί τών έχόντων δείκτην κριτηρίου μεταξύ 23 καί 123 επί τή βάσει του συντελεστού F εύρισκομένου διά γραμμικής παρεμβολής μεταξύ τών συντελεστών A καί B , τή βοηθεία του τύπου :

$$F = A - \frac{(A - B) (C_S - 23)}{100} \dots \dots \dots (V)$$

Όχι ήττον, όταν ό δείκτης κριτηρίου είναι ίσος ή μεγαλύτερος του 45, συγχρόνως δέ, ό συντελεστής ύποδιαιρέσεως όστις δίδεται ύπό του τύπου (V) είναι μικρότερος ή ίσος του 0,65, αλλά μεγαλύτερος του 0,5, ή ύποδιαιρέσις του πλοίου πρύμνηθεν του διαφράγματος συγκρούσεως δά προσδιορίζεται μέ συντελεστήν ύποδιαιρέσεως 0,5. Έάν ό συντελεστής F είναι κατώτερος του 0,40 καί ή Αρχή πεισθή ότι είναι πρακτικώς άδύνατον νά έφαρμοσθή ό συντελεστής F διά διαμέρισμα του χώρου μηχανών του πλοίου, ή ύποδιαιρέσις του διαμερίσματος τούτου δύναται νά προσδιορισθή επί τή βάσει έμπυξημένου συντελεστού, όστις όμως δέον νά μή είναι μεγαλύτερος του 0,40.

- (ii) Η ύποδιαιρέσις πρύμνηθεν του διαφράγματος συγκρούσεως πλοίων μήκους μικρότερου τών 131 μέτρων (ή 430 ποδών), άλλ' ούχι μικρότερου τών 79 μέτρων (ή 260 ποδών) έχόντων δείκτην κριτηρίου ίσον πρός S , ένθα :

$$S = \frac{3,574 - 25L}{13} (L \text{ είς μέτρα}) = \frac{9,382 - 20L}{34} (L \text{ είς πόδας})$$

δέον νά προσδιορίζεται επί τή βάσει συντελεστού ίσου πρός τήν μονάδα, τών έχόντων δείκτην κριτηρίου 123 καί άνω επί τή βάσει του συντελεστού B διδομένου διά του τύπου (II), τών δέ έχόντων δείκτην κριτηρίου μεταξύ S καί 123 επί τή βάσει του συντελεστού F εύρισκομένου διά γραμμικής

παρεμβολής μεταξύ της μονάδος και του συντελεστού Β, χρησιμοποιουμένου του τύπου :

$$F = I - \frac{(I - B)(C_g - S)}{123 - S} \dots \dots \dots (VI)$$

(iii) Ἡ υποδιαίρεσις πρὸς μνηθὲν τοῦ διαφράγματος συγκρούσεως πλοίων μήκους μικροτέρου τῶν 131 μέτρων (ἢ 430 ποδῶν) ἀλλ' οὐχὶ μικροτέρου τῶν 79 μέτρων (ἢ 260 ποδῶν), ἐχόντων δείκτην κριτηρίου κατώτερον τοῦ S, ὡς καὶ ὄλων τῶν πλοίων μήκους μικροτέρου τῶν 79 μέτρων (ἢ 260 ποδῶν), δέον νὰ προσδιορίζεται ἐπὶ τῆς βάσει συντελεστοῦ [σου πρὸς τὴν μονάδα, ἐκτός ἐάν ἡ Ἀρχή, εἰς τὴν μίαν ἢ τὴν ἄλλην περίπτωσιν, πεισθῆ ὅτι εἶναι πρακτικῶς ἀδύνατον νὰ τηρηθῆ ὁ συντελεστής οὗτος εἰς ἓν οἰουδήποτε μέρος τοῦ πλοίου, ὁπότε ἡ Ἀρχή δύναται νὰ ἐπιτρέψῃ παρέκκλισιν τινα, ἐφ' ὅσον ἡ παρέκκλισις αὕτη δικαιολογεῖται ὑπὸ τῶν περιστάσεων.

(iv) Αἱ διατάξεις τοῦ ἐδαφίου (iii) τῆς παρούσης παραγράφου θὰ ἐφαρμόζονται ἐπίσης ἐπὶ πλοίων οἰουδήποτε μήκους, ἀτινα πρόκειται νὰ λάβουν πιστοποιητικὸν διὰ τὴν μεταφορὰν ἀριθμοῦ ἐπιβατῶν ὑπερβαίνοντος τοὺς 12, ἀλλὰ μὴ ὑπερβαίνοντος τὸν μικρότερον ἐκ τῶν δύο ἐξῆς ἀριθμῶν :

$$\frac{L^2}{650} (L \text{ εἰς μέτρα}) = \frac{L^2}{7000} (L \text{ εἰς πόδας}) \text{ ἢ } 50 \text{ οἰουδήποτε εἶναι ὁ μικρότερος.}$$

Εἰδικὸι κανόνες υποδιαίρεσεως πλοίων εἰς ἃ ἐπιτρέπεται, δυνάμει τοῦ Κανονισμοῦ 27 τοῦ Κεφαλαίου III νὰ μεταφέρουν ἀριθμὸν προσώπων ἀνώτερον τῆς διατιθεμένης χωρητικότητος τῶν σωσιβίων λέμβων, καὶ ὑπόχρεων δυνάμει τῆς παραγράφου (δ) τοῦ Κανονισμοῦ I τοῦ παρόντος Κεφαλαίου, νὰ συμμορφοῦνται πρὸς εἰδικὰς διατάξεις :

(i) (1) Διὰ πλοῖα χρησιμοποιούμενα κυρίως εἰς μεταφορὰς ἐπιβατῶν, ἡ υποδιαίρεσις πρὸς μνηθὲν τοῦ διαφράγματος συγκρούσεως δέον νὰ προσδιορίζεται διὰ τοῦ συντελεστοῦ 0,50 ἢ διὰ τοῦ συντελεστοῦ τοῦ προσδιοριζομένου συμφώνως πρὸς τὰς παραγράφους (γ) καὶ (δ) τοῦ παρόντος Κανονισμοῦ, ἐφ' ὅσον εἶναι κατώτερος τοῦ 0,50.

(2) Διὰ πλοῖα, ὡς τὰ ἀνωτέρω, μήκους μικροτέρου τῶν 91,5 μέτρων (ἢ 300 ποδῶν), ἐάν ἡ Ἀρχὴ πεισθῆ ὅτι εἶναι πρακτικῶς ἀδύνατον νὰ τηρηθῆ ὁ τοιοῦτος συντελεστής εἰς ἓν διαμέρισμα, δύναται νὰ ἐπιτρέψῃ ὅπως τὸ μήκος τοῦ διαμερίσματος τούτου ὑπολογισθῆ ἐπὶ τῆς βάσει μεγαλύτερου συντελεστοῦ, ὑπὸ τὸν ὅρον ὅπως ὁ χρησιμοποιούμενος συντελεστής εἶναι ὁ μικρότερος ἀπὸ ὃ, τι πρακτικῶς καὶ λογικῶς ἐπιτρέπουν αἱ περιστάσεις.

(ii) Ἐάν εἰς περίπτωσιν οἰουδήποτε πλοίου μήκους μικροτέρου ἢ οὐχὶ τῶν 91,5 μέτρων (ἢ 300 ποδῶν), ἡ ἀνάγκη μεταφορᾶς σημαντικῶν ποσοτήτων φορτίου καθιστᾷ πρακτικῶς ἀδύνατον τὸν ὑπολογισμὸν τῆς υποδιαίρεσεως πρὸς μνηθὲν τοῦ διαφράγματος συγκρούσεως ἐπὶ τῆς βάσει συντελεστοῦ μὴ ὑπερβαίνοντος τοῦ 0,50, ὁ ἐφαρμοστέος βαθμὸς υποδιαίρεσεως θὰ ὑπολογισθῆ συμφώνως πρὸς τὰς ἐπομένους ὑποπαραγράφους (1) ἕως (5), ὑπὸ τὸν ὅρον ὅτι, ὅπου ἡ Ἀρχὴ ἤθελε πεισθῆ ὅτι ἡ ἐμμονὴ ἐπὶ τῆς αὐστηρᾶς ἐφαρμογῆς ἀπὸ πάσης ἀπόψεως εἶναι ἀδικαιολόγητος, δύναται νὰ ἐπιτρέψῃ πᾶσαν ἄλλην διάταξιν τῶν στεγανῶν διαφραγμάτων δικαιολογουμένην ἐκ τῶν χαρακτηριστικῶν τῆς, ἀλλὰ μὴ μειοῦσαν τὴν γενικὴν ἀποτελεσματικότητά τῆς υποδιαίρεσεως.

(1) Αἱ διατάξεις τῆς παραγράφου (γ) τοῦ παρόντος Κανονισμοῦ αἱ σχετικαὶ πρὸς τὸν δείκτην κριτηρίου δέον νὰ ἐφαρμόζονται μὲ τὴν ἐξαίρεσιν ὅτι κατὰ τὸν ὑπολογισμὸν τῆς τιμῆς τοῦ P₁, τὸ K δέον νὰ ἔχη, διὰ τοὺς ἐπιβάτας μετὰ κλίνης, τὴν μεγαλύτεραν ἐκ τῶν δύο ἐπομένων τιμῶν, δηλαδὴ εἴτε τὴν καθοριζομένην τιμὴν ἐν τῇ παραγράφῳ (γ) τοῦ παρόντος Κανονισμοῦ ἢ 3,55 κυβικὰ μέτρα (ἢ 125 κυβικοὺς πόδας), διὰ δὲ τοὺς ἀνευ κλίνης ἐπιβάτας τὸ K δέον νὰ ἔχη τὴν τιμὴν τῶν 3,55 κυβικῶν μέτρων (ἢ 125 κυβικῶν ποδῶν).

(2) Ὁ συντελεστής Β ἐν παραγράφῳ (β) τοῦ παρόντος Κανονισμοῦ δέον νὰ ἀντικαθίσταται διὰ τοῦ συντελεστοῦ ΒΒ προκύπτοντος διὰ τοῦ ἐπομένου τύπου :

L εἰς μέτρα

$$BB = \frac{17,6}{L - 33} + 0,20 \quad (L = 55 \text{ καὶ ἀνω})$$

L εις πόδας

$$BB = \frac{57,6}{L - 108} + 0,20 \quad (L = 180 \text{ καί άνω})$$

- (3) Ἡ ύποδιαίρεσις πρύνθηθεν τοῦ διαφράγματος συγκρούσεως πλοίων μήκους 131 μέτρων (ἢ 430 ποδῶν) καί άνω τῶν ἐχόντων δείκτην κριτηρίου 23 ἢ ὀλιγώτερον, θά προσδιορίζεται ἐπί τῆς βάσει τοῦ συντελεστοῦ A τοῦ διδομένου διά τοῦ τύπου (I) ἐν παραγράφῳ (β) τοῦ παρόντος Κανονισμοῦ, τῶν ἐχόντων δείκτην κριτηρίου 123 καί άνω ἐπί τῆς βάσει τοῦ συντελεστοῦ BB τοῦ διδομένου διά τοῦ τύπου τοῦ ἔδαφιου (ii) (2) τῆς παρούσης παραγράφου καί τῶν ἐχόντων δείκτην κριτηρίου μεταξύ 23 καί 123, ἐπί τῆς βάσει τοῦ συντελεστοῦ F τοῦ εὑρισκομένου διά γραμμικῆς παρεμβολῆς μεταξύ τῶν συντελεστῶν A καί BB τῆς βοηθεία τοῦ κάτωθι τύπου :

$$F = A - \frac{(A - BB) (C_B - 23)}{100}$$

ὑπό τήν ἐπιφύλαξιν ὅτι ἐάν ὁ οὕτω εὑρισκόμενος συντελεστής F εἶναι κατώτερος τοῦ 0,50 ὁ χρησιμοποιηθησόμενος συντελεστής θά εἶναι ὁ μικρότερος τῶν δύο ὁριζῶν, δηλαδή εἶτε ὁ 0,50 ἢ ὁ συντελεστής ὁ ὑπολογισθεὶς συμβάλλας πρὸς τὰς διατάξεις τῆς ὑποπαραγράφου (δ) (i) τοῦ παρόντος Κανονισμοῦ.

- (4) Ἡ ύποδιαίρεσις πρύνθηθεν τοῦ διαφράγματος συγκρούσεως πλοίων μήκους μικροτέρου τῶν 131 μέτρων (ἢ 430 ποδῶν) ἀλλ' οὐχί μικροτέρου τῶν 55 μέτρων (ἢ 180 ποδῶν) τῶν ἐχόντων δείκτην κριτηρίου ἴσον πρὸς τὸ S¹ ἔνθα :

$$S_1 = \frac{3,712 - 25L}{19} \quad (L \text{ εις μέτρα})$$

$$S_1 = \frac{1,950 - 4L}{10} \quad (L \text{ εις πόδας})$$

θά προσδιορίζεται ἐπί τῆς βάσει συντελεστοῦ ἴσου πρὸς τὴν μονάδα, τῶν ἐχόντων δείκτην κριτηρίου 123 καί άνω ἐπί τῆς βάσει τοῦ συντελεστοῦ BB διδομένου διά τοῦ τύπου τοῦ ἔδαφιου (II) (2) τῆς παρούσης παραγράφου, τῶν δέ ἐχόντων δείκτην κριτηρίου μεταξύ S₁ καί 123 ἐπί τῆς βάσει τοῦ συντελεστοῦ F εὑρισκομένου διά γραμμικῆς παρεμβολῆς μεταξύ τῆς μονάδος καί τοῦ συντελεστοῦ BB τῆς βοηθεία τοῦ τύπου :

$$F = I - \frac{(I - BB) (C_B - S_1)}{123 - S_1}$$

ὑπό τήν ἐπιφύλαξιν ὅτι εἰς ἐκάστην τῶν δύο τελευταίων περιπτώσεων, ἐάν ὁ οὕτω εἰρηθησόμενος συντελεστής εἶναι κατώτερος τοῦ 0,50, ἡ ύποδιαίρεσις δύναται νά προσδιορισθῆ διά συντελεστοῦ μὴ ὑπερβαίνοντος τὸ 0,50.

- (5) Ἡ ύποδιαίρεσις πρύνθηθεν τοῦ διαφράγματος συγκρούσεως πλοίων μήκους μικροτέρου τῶν 131 μέτρων (ἢ 430 ποδῶν) ἀλλ' οὐχί μικροτέρου τῶν 55 μέτρων (ἢ τῶν 180 ποδῶν) ἐχόντων δείκτην κριτηρίου κατώτερον τοῦ S₁ καί ὅλων τῶν πλοίων μήκους μικροτέρου τῶν 55 μέτρων (ἢ τῶν 180 ποδῶν) θά προσδιορίζεται ἐπί τῆς βάσει συντελεστοῦ ἴσου πρὸς τὴν μονάδα, ἐκτός ἐάν ἡ Ἀρχὴ ἤθελε πεισθῆ ὅτι εἶναι πρακτικῶς ἀδύνατον νά ἐφαρμοσθῆ ὁ συντελεστής οὗτος εἰς ὁρισμένα διαμερίσματα ἐν σχέσει μὲ τὰ διαμερίσματα ταῦτα, ἐφ' ὅσον ἡ παρέκκλισις αὕτη δικαιολογεῖται ὑπὸ τῶν περιστάσεων, ἀλλ' ὑπὸ τὸν ὅρον ὅπως τὸ ἀκρότατον πρὸς πρύννην διαμερίσμα καί ὅσον τὸ δυνατόν περισσότερα πρῶρατὰ διαμερίσματα (μεταξύ τοῦ διαφράγματος συγκρούσεως καί τοῦ πρυμναίου ἄκρου τῶν χώρων μηχανῶν) θά διατηροῦνται ἐντός τῶν ὁρίων τοῦ κατακλισίμου μήκους.

Είδικοί κανόνες άφορώντες εις τήν ύποδιαίρεσιν

(α) Όταν εις έν ή πλείονα τμήματα του πλοίου, τά στεγανά διαφράγματα έξι-
κνούνται μέχρις ενός ύψηλοτέρου καταστρώματος ή εις τό ύπόλοιπον τμήμα του
πλοίου καί είναι επιθυμητόν όπως προκύψη ώφέλεια ή τής εις ύψος έπεκτάσεως
ταύτης των διαφραγμάτων, δύναται κατά τόν ύπολογισμόν του κατακλισίμου μήκους
νά γίνη χρήςις κεχωρισμένων γραμμών όριου βυθίσεως δι' έκαστον των τμημάτων
τούτων του πλοίου, υπό τόν όρον όπως :

- (i) αί πλευραί του πλοίου επεκτείνονται καθ' όλον τό μήκος του πλοίου
μέχρι του καταστρώματος του αντίστοιχούτος εις τήν άνωτέραν γραμμήν
όριου βυθίσεως καί όλα τά άνοίγματα επί του έξωτερικού περιβλήματος
τά εύρισκόμενα κάτωθι του καταστρώματος τούτου καθ' όλον τό μήκος του
πλοίου, θεωρώνται ότι εύρίσκονται, έν τή έννοία του Κανονισμού 14 του
Κεφαλαίου τούτου, κάτωθι τής γραμμής όριου βυθίσεως, καί
 - (ii) τά δύο διαμερίσματα τά παρακείμενα εις τήν βαθμίδα του καταστρώματος
στεγανών διαφραγμάτων είναι έκαστον έντός των όριων του έπιτρεπομένου
μήκους του ανταποκρινομένου εις τάς αντίστοιχούς των γραμμών όριου
βυθίσεως καί επιπροσθέτως τό συνδεδεασμένον μήκος των μή υπερβαίνη τό
διπλάσιον του έπιτρεπομένου μήκους, ύπολογιζομένου επί τής κατωτέρας
γραμμής όριου βυθίσεως.
- (β) (i) Διαμερίσμα τι δύναται νά υπερβαίνη τό έπιτρεπόμενον μήκος τό όριζό-
μενον υπό των διατάξεων του Κανονισμού 5 του παρόντος Κεφαλαίου, υπό
τόν όρον ότι τό συνδεδεασμένον μήκος εκάστου ζεύγους παρακειμένων δια-
μερισμάτων προς τά όποια τό έν λόγω διαμερίσμα είναι κοινόν, δέν υπερ-
βαίνει τό κατακλισίμου μήκος ή τό διπλάσιον του έπιτρεπομένου μήκους,
οιονδήποτε εκ των δύο είναι τό μικρότερον.
- (ii) Έάν τό έν εκ των δύο παρακειμένων διαμερισμάτων εύρίσκεται έντός του
χώρου μηχανών καί τό έτερον εύρίσκεται εκτός του χώρου μηχανών, ή δέ
μέση διαχωρητότης του τμήματος του πλοίου έν φ εύρίσκεται τό δεύτερον
διαφέρει τής του χώρου μηχανών, τό συνδεδεασμένον μήκος των δύο διαμερισμάτων
δέον νά διορθούται, λαμβανομένης ως βάσεως τής μέσης τιμής των διαχωρη-
τοτήτων των δύο τμημάτων του πλοίου έντός των όποιων κείνται τά δύο
διαμερίσματα.
- (iii) Όταν τά δύο παρακείμενα διαμερίσματα έχουν διαφόρους συντελεστάς ύπο-
διαίρέσεως, τό συνδεδεασμένον μήκος των δύο διαμερισμάτων προσδιορίζεται
κατ' αναλογίαν.

(γ) Εις πλοία μήκους 100 μέτρων (ή 330 ποδών) καί άνω, έν των κυρίων έγκαρσίων
διαφραγμάτων πρόμνηθεν του διαφράγματος συγκρούσεως δέον νά τοποθετηται εις
άπόστασιν άπό τής πρωταίας όρθίας μή υπερβαίνουσαν τό έπιτρεπόμενον μήκος.

(δ) Κύριον έγκάρσιον διάφραγμα δύναται νά έχει έσοχήν, υπό τόν όρον όπως πάντα
τά τμήματα τής έσοχής εύρίσκονται έσωτερικώς κατακορύφων επιφανειών εις άμφο-
τέρας τάς πλευράς του πλοίου, εύρισκομένων εις άπόστασιν άπό των έλασμάτων του
περιβλήματος ίσων προς τό έν πέμπτον του πλάτους του πλοίου, ως τουτο όρίζεται
έν τῷ Κανονισμό 2 του παρόντος Κεφαλαίου, καί μετρουμένην καθέτως προς τόν
άξονα του πλοίου εις τό ύψος τής κατωτάτης έμφόρτου ίσάλου γραμμής τής ύπο-
διαίρέσεως.

Πάν τμήμα τής έσοχής κείμενον εκτός των όριων τούτων θά θεωρηται ως βαθμής
συμώνως προς τήν παράγραφον (ε) του παρόντος Κανονισμού.

(ε) Κύριον έγκάρσιον διάφραγμα δύναται νά σχηματίζη βαθμίδα, εάν πληροί ένα
των ακόλουθων όρων :

- (i) τό συνδεδεασμένον μήκος των δύο διαμερισμάτων, των χωριζομένων υπό του
έν προκειμένου διαφράγματος, μή υπερβαίνη τά 90 τοίς εκατόν του κατα-
κλισίμου μήκους ή τό διπλάσιον του έπιτρεπομένου μήκους, εκτός εάν,
προκειμένου περί πλοίων έχόντων συντελεστήν ύποδιαίρέσεως άνωτερον
του 0,9, τό συνδεδεασμένον μήκος των δύο έν προκειμένου διαμερισμάτων
δέν υπερβαίνει τό έπιτρεπόμενον μήκος.
- (ii) ύπάρχει πρόσθετος ύποδιαίρεσις παρά τήν βαθμίδα, εις τρόπον ώστε νά
τηρηται ο αυτός βαθμός ασφαλείας οίως θά ύπήρχε μετά έπιπέδου διαφράγ-
ματος.

(iii) τό διαμέρισμα, άνωθεν τοϋ όποίου εκτείνεται ή βαθμής, μή υπερβαίνη τό επιτρεπόμενον μήκος τό άντιστοιχούσιν προς μίαν γραμμήν όρου βυθίσεως λαμβανομένην 76 χιλιοστόμετρα (ή 3 δακτύλους) κάτωθι τής βαθμίδος.

(στ) *Όταν κύριον έγκάρσιον διάφραγμα παρουσιάζει έσοχήν ή σχηματίζη βαθμίδα, δέον διά τόν ύπολογισμόν τής ύποδιαιρέσεως νά λαμβάνηται ύπ' όψιν έν ίσοδύναμον επίπεδον διάφραγμα.

(ζ) *Εάν ή απόστασις μεταξύ δύο παρακειμένων κυρίων έγκαρσίων διαφραγμάτων ή τών ίσοδυνάμων προς αυτά επίπεδων διαφραγμάτων, ή ή απόστασις μεταξύ τών έγκαρσίων επίπεδων τών διερχομένων διά τών πλησιεστέρων σημείων τών βαθμίδων τών διαφραγμάτων είναι μικρότερα τών 3,05 μέτρων (ή 10 ποδών) σύν 3 τοίς εκατόν τοϋ μήκους τοϋ πλοίου, ή τών 10,67 μέτρων (ή 35 ποδών), οίονδήποτε είναι τό μικρότερον, τότε μόνον έν εκ τών διαφραγμάτων τούτων θά λογίζεται ως άποτελούν μέρος τής ύποδιαιρέσεως τοϋ πλοίου συμφώνως προς τούς όρισμούς τοϋ Κανονισμού 5 τοϋ παρόντος Κεφαλαίου.

(η) *Όταν κύριον έγκάρσιον στεγανόν διαμέρισμα περιέχη τοπικήν ύποδιάρεισιν καί ή Αρχή πεισθή ότι, μετά βλάβην τής πλευράς τοϋ πλοίου λαμβανομένην καθ' ύπόθεσιν καί εκτεινομένην επί μήκους 3,05 μέτρων (ή 10 ποδών) σύν 3 τοίς εκατόν τοϋ μήκους τοϋ πλοίου ή 10,67 μέτρων (ή 35 ποδών) οίονδήποτε είναι τό μικρότερον, όλόκληρος ό όγκος τοϋ κυρίου διαμερίσματος δέν θέλει κατακλυσθή, δύναται νά επιτρέψη άνάλογον έπαύξησιν τοϋ επιτρεπομένου μήκους όπερ θά άπητείτο άλλως διά τό έν λόγω διαμέρισμα. *Έν τοιαύτη περιπτώσει ό όγκος τής ένεργού άντώσεως, ό λαμβανόμενος επί τής μή βεβλαμμένης πλευράς, δέν δύναται νά είναι μεγαλύτερος τοϋ όγκου τοϋ λαμβανομένου επί τής βεβλαμμένης τοιαύτης.

(θ) *Όταν ό άπαιτούμενος συντελεστής ύποδιαιρέσεως είναι 0,50 ή μικρότερος, τό συνδευασμένον μήκος δύο παρακειμένων διαμερισμάτων δέον νά μή υπερβαίνη τό κατακλύσιμον μήκος.

Κανονισμός 7

Ευστάθεια πλοίων έν περιπτώσει βλάβης.

(α) Δέον νά προβλεφθή έπαρκής ευστάθεια διά τό πλοιον εις τήν άθικτον κατάστασιν, ώστε δι' όλας τάς συνθήκας ύπηρεσίας του νά δύναται νά άντιμετωπίζη τό τελικόν στάδιον κατακλύσεως οίονδήποτε κυρίου διαμερίσματος τοϋ όποίου τό μήκος άπαιτείται νά είναι έντός τοϋ κατακλύσιμου μήκους.

*Όταν δύο παρακειμένα κύρια διαμερίσματα χωρίζονται διά διαφράγματος μετά βαθμίδος, συμφώνως προς τάς διατάξεις τοϋ έδαφίου (ε) (i) τοϋ Κανονισμού 6 τοϋ παρόντος Κεφαλαίου, ή ευστάθεια εις τήν άθικτον κατάστασιν δέον νά είναι τοιαύτη, ώστε νά δύναται νά άνθέξη τήν κατάκλυσιν τών δύο τούτων παρακειμένων κυρίων διαμερισμάτων.

*Όταν ό άπαιτούμενος συντελεστής στεγανής ύποδιαιρέσεως είναι 0,50 ή μικρότερος, άλλά μεγαλύτερος τοϋ 0,33, ή ευστάθεια εις τήν άθικτον κατάστασιν δέον νά είναι τοιαύτη ώστε νά δύναται νά άνθέξη τήν κατάκλυσιν δύο οίονδήποτε παρακειμένων κυρίων διαμερισμάτων.

*Όταν ό άπαιτούμενος συντελεστής ύποδιαιρέσεως είναι 0,33 ή μικρότερος, ή ευστάθεια εις τήν άθικτον κατάστασιν δέον νά είναι τοιαύτη ώστε νά δύναται νά άνθέξη τήν κατάκλυσιν τριών οίονδήποτε παρακειμένων κυρίων διαμερισμάτων.

(β) (i) Αί άπαιτήσεις τής παραγράφου (α) τοϋ παρόντος Κανονισμού θά προσδιορίζονται δι' ύπολογισμών συμφώνως προς τάς έπομένους παραγράφους (γ), (δ), καί (στ) τοϋ παρόντος Κανονισμού, οίτινες ύπολογισμοί λαμβάνουν ύπ' όψιν τάς αναλογίας καί τά χαρακτηριστικά τοϋ σχεδίου τοϋ πλοίου, ως καί τήν διάταξιν καί διαμόρφωσιν τών ύποστάντων βλάβην διαμερισμάτων. Κατά τήν εκτέλεσιν τών ύπολογισμών τούτων, τό πλοίον δέον νά θεωρηται ότι ευρίσκεται υπό τάς χειρίστας προσδοκόμενας συνθήκας ύπηρεσίας από άπόψεως ευσταθείας.

(ii) *Όταν προτίθενται νά έγκατασταθούσιν καταστρώματα, έσωτερικά περιβλήματα, ή διαμήκη διαφράγματα έπαρκούς στεγανότητας προς τόν σκοπόν νά περιορίζουσιν σημαντικώς τήν εισροήν ύδατος, ή Αρχή δέον νά πείθεται ότι κατά τούς ύπολογισμούς έλήφθησαν έπαρκώς ύπ' όψιν οι τοιοϋτοι περιορισμοί.

(iii) Είς περιπτώσιν κατά τήν ὁποίαν ἡ Ἀρχή ἔχει ἀμφιβολίας ὡς πρός τήν ἔκτασιν, ἤτοι τό ὄριον τῆς εὐσταθείας κατόπιν βλάβης, δύναται νά ζητήσῃ τήν ἔρευναν ὡς πρός τό σημεῖον τοῦτο.

(γ) Διά τόν ὑπολογισμόν τῆς εὐσταθείας ἐν περιπτώσει βλάβης, αἱ διαχωρη-
τότητες ὄγκου καί ἐπιφανείας δέον νά εἶναι γενικῶς αἱ ἑξῆς :

Χῶροι	Διαχωριτότης
Προοριζόμενοι διά φορτίον, γαϊάνθρακα ἢ ἀποθήκας ἐφοδίων.	60
Καταλαμβανόμενοι ὑπό ἐνδαιτημάτων	95
Καταλαμβανόμενοι ὑπό μηχανῶν	85
Προοριζόμενοι δι' ὑγρά	0 ἢ 95*

Μεγαλύτεραι διαχωρητότητες ἐπιφανείας δέον νά λαμβάνωνται διά τούς χώρους ἐκείνους οἵτινες εἶναι εἰς τήν περιοχὴν τῆς ἐπιφανείας τοῦ ὕδατος μετά τήν βλάβην καί δέν περιέχουν σημαντικόν ἀριθμόν ἐνδαιτημάτων ἢ μηχανῶν, καθὼς καί χῶροι οἵτινες δέν καταλαμβάνονται γενικῶς ὑπό σημαντικῆς ποσότητος φορτίου ἢ ἐφοδίων.

(δ) Ἡ ὑποτιθεμένη ἔκτασις βλάβης δέον νά εἶναι ὡς ἑξῆς :

- (i) Διαμήκης ἔκτασις : 3,05 μέτρα (ἢ 10 πόδες) σὺν 3 τοῖς ἑκατόν τοῦ μήκους τοῦ πλοίου ἢ 10,67 μέτρα (ἢ 35 πόδες), οἰαδήποτε ἐκ τῶν δύο εἶναι ἢ μικρότερα. Ὄταν ὁ ἀπαιτούμενος συντελεστής ὑποδιαίρεσεως εἶναι 0,33 ἢ μικρότερος, ἡ ὑποτιθεμένη διαμήκης ἔκτασις τῆς βλάβης θά ἀυξάνεται ὅσον ἀπαιτεῖται, εἰς τρόπον ὥστε νά περιλάβῃ δύο οἰαδήποτε συνεχόμενα κύρια ἐγκάρσια στεγανά διαφράγματα.
- (ii) Ἐγκάρσια ἔκτασις (μετρουμένη ἐκ τοῦ ἐσωτερικοῦ τῆς πλευρᾶς τοῦ πλοίου κατ' ὀρθᾶς γωνίας πρὸς τήν μέσην γραμμὴν εἰς τό ὕψος τῆς κατωτάτης ἐμφόρτου [σάλου γραμμῆς τῆς ὑποδιαίρεσεως] : ἡ ἀπόστασις τοῦ ἐνόος ἐμπιτου τοῦ πλάτους τοῦ πλοίου, ὡς τοῦτο καθορίζεται ἐν τῷ Κανονισμῷ 2 τοῦ παρόντος Κεφαλαίου, καί
- (iii) Κάθετος ἔκτασις : ἀπὸ τῆς ἀνω ἀκμῆς τῆς τρόπιδος πρὸς τὰ ἀνω ἀπεριορίστως.
- (iv) Ἐάν βλάβη μικροτέρας ἐκτάσεως τῆς ἀναφερομένης εἰς τὰ προηγούμενα ἐδάφια (i), (ii) καί (iii) τῆς παρουσίας παραγόφου (δ) ἤθελε συντελέσει εἰς τήν δημιουργίαν κρισιμωτέρας καταστάσεως ἀπὸ ἀπόψεως πλευρικῆς κλίσεως ἢ ἀπωλείας τοῦ μετακεντρικοῦ ὕψους, ἡ τοιαύτη βλάβη δέον νά ληφθῇ ὑπ' ὄψιν κατὰ τούς ὑπολογισμούς.

(ε) Ἡ ἀσύμμετρος κατάκλισις δέον νά τηρῆται εἰς τό ἐλάχιστον δι' ἱκανοποιητικῶν διατάξεων. Ὄταν ἀπαιτῆται ἡ διόρθωσις μεγάλων γωνιῶν ἐγκαρσίας κλίσεως, τὰ χρησιμοποιούμενα μέσα διά τήν ἐπαναφορᾶν δέον νά εἶναι αὐτόματα, ἐφ' ὅσον τοῦτο εἶναι πρακτικῶς δυνατόν. Εἰς πάσας ὁμως τὰς περιπτώσεις ὅπου προβλέπονται χειριστήρια τῶν ἐξαρτημάτων διά τήν ἀντίρροπον κατάκλισιν, ταῦτα θά χειρίζονται ἀνωθεν τοῦ καταστράματος τῶν στεγανῶν διαφραγμάτων. Τὰ ἐξαρτήματα ταῦτα ὁμοῦ μέ τὰ χειριστήρια αὐτῶν δέον νά εἶναι παραδεκτά ὑπὸ τῆς Ἀρχῆς, ὁμοίως καί ἡ μεγίστη κλίσις τοῦ πλοίου πρὸ τῆς χρησιμοποιήσεως τῶν μέσων ἐπαναφορᾶς. Ὄταν ἀπαιτοῦνται ἐξαρτήματα διά τήν ἀντίρροπον κατάκλισιν, ὁ χρόνος ἐπαναφορᾶς δέον νά μὴ ὑπερβαίῃ τὰ 15 πρῶτα λεπτά. Κατάλληλοι ὁδηγίαι σχετικῶς μέ τήν χρῆσιν τῶν ἐξαρτημάτων ἀντίρροπου κατακλύσεως δέον νά παρέχωνται εἰς τόν πλοίαρχον τοῦ πλοίου.**

(στ) Ἡ τελικὴ κατάσταση τοῦ πλοίου μετά τήν βλάβην καί εἰς τήν περίπτωσιν ἀσύμμετρου κατακλύσεως μετά τήν λήσιν τῶν μέτρων ἐπαναφορᾶς, δέον νά πληροῖ τούς ἀκολουθοῦς ὁρους :

- (i) Εἰς τήν περίπτωσιν συμμετρικῆς κατακλύσεως, τό ἀπομένον μετακεντρικόν ὄψος νά εἶναι θετικόν καί τουλάχιστον ἴσον πρὸς 0,05 μέτρα (ἢ 2 δακτύλους), ὡς τοῦτο ὑπολογίζεται διά τῆς μεθόδου σταθεροῦ ἐκτοπίσματος*

* Οἰοσδήποτε ἐκ τῶν δύο ἀριθμῶν ἀνακοκρύνεται πρὸς τὰς πλέον αὐστηρὰς ἀπαιτήσεις.

** Γίνεται μνεῖα τῆς Συστάσεως ἥτις υἱοθετήθη ὑπὸ τοῦ Ὄργανισμοῦ διά τῆς Ἀποφάσεως Α 266(VIII) ἐπὶ τῆς Προτύπου Μεθόδου διά τήν καθιέρωσιν Συμμορφώσεως πρὸς τὰς Ἀπαιτήσεις διά τὰς Διατάξεις Ἀντίρροκου Κατακλύσεως εἰς τὰ ἐπιβατηγὰ πλοῖα.

- (ii) εις τήν περίπτωσιν άσυμμέτρου κατακλύσεως, ή όλική κλίσις δέον νά μή υπερβαίη τās έπτά μοίρας, πλήν ειδικών περιπτώσεων δι' ας ή 'Αρχή δύναται νά επιτρέψη επιπρόσθετον κλίσιν προκύπτουσαν εκ τής άσυμμέτρου κατακλύσεως, έν ούδεμιγá όμως περιπτώσει ή τελική κλίσις δύναται νά υπερβαίη τās δέκα πέντε μοίρας·
- (iii) εις ούδεμίαν περίπτωσιν ή γραμμή όριου βυθίσεως δύναται νά βυθισθί κατά τό τελικόν στάδιον κατακλύσεως. 'Εάν θεωρηθί ότι ή γραμμή όριου βυθίσεως είναι δυνατόν νά βυθισθί κατ' ένδιάμεσον στάδιον κατακλύσεως, ή 'Αρχή δύναται νά απαιτήση όπως γίνουσι όλαί αι σχετικαί έρευναι καί διευθετήσεις ας αυτη κρίνει αναγκαίας διά τήν ασφάλειαν του πλοίου.
- (ζ) 'Ο πλοίαρχος του πλοίου δέον νά έφοδιαζήται μέ τά αναγκαία δεδομένα, ίνα έξασφαλίζη κατά τās συνθήκας ύπηρεσίας έπαρκή ευστάθειαν εις τήν άθικτον κατάστασιν ούτως ώστε τό πλοϊον νά δύναται νά άνθέξη εις περίπτωσιν σοβαράς βλάβης. Προκειμένου περί πλοίων έφοδιασμένων διά διατάξεως προς αντίρροπον κατάκλυσιν, ό πλοίαρχος δέον νά είναι ένήμερος των συνθηκών ευσταθείας επί των όποιων βασίζονται οι ύπολογισμοί κλίσεως καί νά έπιστάται ή προσοχή του επί του ότι τό πλοϊον δύναται, ύφιστάμενον βλάβην, νά λάβη υπερβολικήν κλίσιν όταν εύρεθί υπό όλιγότερον εύμενεϊς συνθήκας.
- (η) (i) 'Η 'Αρχή δέν δύναται νά φανή έλαστική ως προς τās απαιτήσεις σχετικώς μέ τήν ευστάθειαν εις περίπτωσιν βλάβης, εκτός εάν αποδειχθί ότι τό μετακεντρικόν ύψος του πλοίου εις άθικτον κατάστασιν εις οϊανδήποτε συνθήκην ύπηρεσίας, τό απαιτούμενον διά νά άντιμετωπίση τās ανώτερω απαιτήσεις, είναι υπεραρκετόν διά τήν σκοπούμενην συνθήκην ύπηρεσίας.
- (ii) Παρεκκλίσεις ως προς τās απαιτήσεις σχετικώς μέ τήν ευστάθειαν έν περιπτώσει βλάβης επιτρέπονται μόνον εις έξαιρετικās περιπτώσεις καί υπό τήν προϋπόθεσιν ότι ή 'Αρχή θέλει πεισθί ότι αι αναλογίαι, αι διατάξεις καί τά λοιπά χαρακτηριστικά του πλοίου είναι τά πλέον εύνοϊκά διά τήν ευστάθειαν έν περιπτώσει βλάβης καί δύνανται πρακτικώς καί λογικώς νά υιοθετηθούσι υπό τās συγκεκριμένας περιστάσεις.

Κανονισμός 8

'Ερματισμός

"Όταν απαιτηται έρματισμός δι' ύδατος, τό ύδατινον έρμα δέν θά τοποθετηται γενικώς έντός των δεξαμενών των προοριζόμενων διά πετρέλαιον καύσιμον. Εις τά πλοία έκεινα εις τά όποια δέν είναι πρακτικώς δυνατόν νά αποφευχθί ή τοποθέτησις ύδατος έντός των πετρελαιαποθηκών, θά έγκαθίσταται άποχωριστήρ του ύδατος καί πετρελαίου κατά τρόπον ικανοποιούντα τήν 'Αρχήν, ή θά προβλέπωνται έτερα μέσα δεκτά υπό τής 'Αρχής διά τήν εκκένωσιν του αναμίκτου ύδατινου έρματος.

Κανονισμός 9

'Ακραϊα διαφράγματα, Διαφράγματα Χώρου Μηχανών. Σήραγγες
έλικοφόρων άτράκτων κ.λ.π.

- (α) (i) Πάν πλοϊον δέον νά έχη διάφραγμα πρωϊας δεξαμενής ζυγοσταθμίσεως ή συγκρούσεως, τό όποϊον δέον νά είναι στεγανόν μέχρι του καταστρώματος στεγανών διαφραγμάτων. Τό διάφραγμα τουτο δέον νά είναι τοποθετημένον εις απόστασιν ούχι μικροτέραν των 5 τοϊς εκατόν του μήκους του πλοίου καί ούχι μεγαλυτέραν των 3,05 μέτρων (ή 10 ποδών) σύν 5 τοϊς εκατόν του μήκους του πλοίου από τής πρωϊας όρθίας.
- (ii) 'Εάν τό πλοϊον έχη μικρόν πρωϊον υπερκατασκεύασμα, τό διάφραγμα συγκρούσεως δέον νά επεκτείνηται στεγανώς μέχρι του καταστρώματος άμέσως άνωθεν του καταστρώματος των στεγανών διαφραγμάτων. 'Η επέκτασις δέν είναι απαραίτητον νά εύρισκίται άμέσως άνωθεν του ύποκειμένου διαφράγματος, ήπό τόν όρον όμως όπως ή επέκτασις αυτη απέχη τουλάχιστον απόστασιν ίσην προς τά 5 τοϊς εκατόν του μήκους του πλοίου από τής πρωϊας όρθίας καί τό τμήμα του καταστρώματος των στεγανών, όπερ σχηματίζει τήν βαθμίδα, είναι άποτελεσματικώς άδιαπέραστον υπό ύδάτων κακοκαιρίας.
- (β) 'Επίσης, πάν πλοϊον δέον νά έχη διάφραγμα πρυμναίας δεξαμενής ζυγοσταθμίσεως, ως καί διαφράγματα χωρίζοντα τόν χώρον μηχανών, ως ούτος καθορίζεται εις τόν Κανονισμόν 2 του παρόντος Κεφαλαίου, από τούς χώρους φορτίου καί έπιβατών πρώραθεν καί πρύμνηθεν. Τά διαφράγματα ταυτα θά είναι στεγανά μέχρι

του καταστρώματος στεγανών. Παρά ταυτα τὸ διάφραγμα τῆς πρυμναίας δεξαμενῆς ζυγοσταθμίσεως δύναται νὰ ἐξικνηθῆται μέχρι σημείου κατωτέρου τοῦ καταστρώματος στεγανῶν, ἐφ' ὅσον ὁ βαθμὸς ἀσφαλείας τοῦ πλοίου, ὅσον ἀφορᾷ τὴν ὑποδιαίρεσιν, δὲν μειοῦται ἐκ τούτου.

(γ) Εἰς ὅλας τὰς περιπτώσεις αἱ χοάναι τῶν ἐλικοφόρων ἀτράκτων δέον νὰ εἶναι ἐγκλεισμέναι ἐντὸς στεγανῶν χώρων περιωρισμένου ὄγκου. Ὁ στυπιοθλίπτῃς τῆς ἐλικοφόρου ἀτράκτου δέον νὰ τοποθετῆται ἐντὸς στεγανῆς σήραγγος ἢ ἄλλου στεγανοῦ χώρου κεχωρισμένου ἀπὸ τοῦ χώρου τῆς χοάνης τῆς ἐλικοφόρου ἀτράκτου. Ὁ χώρος ὅμως οὗτος δέον νὰ εἶναι τοιούτου ὄγκου ὥστε, ἐάν κατακλυσθῇ οὗτος λόγῳ διαρροῆς τοῦ στυπιοθλίπτου, ἢ γραμμῆ ὀρίου βυθίσεως νὰ μὴ κατέλθῃ ὑπὸ τὴν ἐπιφάνειαν τῆς θαλάσσης.

Κανονισμὸς 10

Διπύθμενα

(α) Ἐν διπύθμενον δέον νὰ ὑπάρχῃ καὶ νὰ ἐκτείνηται ἀπὸ τοῦ διαφράγματος τῆς πρωραίας δεξαμενῆς ζυγοσταθμίσεως μέχρι τοῦ διαφράγματος τῆς πρυμναίας δεξαμενῆς ζυγοσταθμίσεως, καθ' ὃ μέτρον εἶναι τοῦτο πρακτικὸν καὶ συμβιβάζεται πρὸς τὰ χαρακτηριστικὰ καὶ τὴν κανονικὴν χρῆσιμοποίησιν τοῦ πλοίου.

- (i) Εἰς πλοῖα μήκους 50 μέτρων (ἢ 165 ποδῶν) καὶ κάτω τῶν 61 μέτρων (ἢ 200 ποδῶν) δέον νὰ ὑπάρχῃ διπύθμενον τοῦλάχιστον ἀπὸ τοῦ χώρου μηχανῶν μέχρι τοῦ διαφράγματος τῆς πρωραίας δεξαμενῆς ζυγοσταθμίσεως, ἢ ὅσον τὸ πρακτικῶς δυνατόν ἐγγύς πρὸς αὐτό.
- (ii) Εἰς πλοῖα μήκους 61 μέτρων (ἢ 200 ποδῶν) καὶ κάτω τῶν 76 μέτρων (ἢ 249 ποδῶν) δέον νὰ ὑπάρχῃ διπύθμενον τοῦλάχιστον ἐκτὸς τοῦ χώρου μηχανῶν καὶ νὰ ἐκτείνηται μέχρι τῶν διαφραγμάτων τῆς πρωραίας καὶ πρυμναίας δεξαμενῆς ζυγοσταθμίσεως, ἢ ὅσον τὸ πρακτικῶς δυνατόν ἐγγύς πρὸς αὐτά.
- (iii) Εἰς πλοῖα μήκους 76 μέτρων (ἢ 249 ποδῶν) καὶ ἀνω δέον νὰ ὑπάρχῃ διπύθμενον εἰς τὸ μέσον τοῦ πλοίου καὶ νὰ ἐκτείνηται μέχρι τοῦ διαφράγματος τῆς πρωραίας καὶ τῆς πρυμναίας δεξαμενῆς ζυγοσταθμίσεως ἢ ὅσον τὸ πρακτικῶς δυνατόν ἐγγύς πρὸς αὐτά.

(β) Ὅπου ἀπαιτεῖται ἡ ὑπαρξίς διπυθμένου, τὸ ὕψος τούτου θὰ ὀρίζεται κατὰ τρόπον ἰκανοποιούντα τὴν Ἀρχὴν καὶ ὁ ἐσωτερικὸς πυθμὴν θὰ συνεχίζεται μέχρι τῶν πλευρῶν τοῦ πλοίου, εἰς τρόπον ὥστε ὁ πυθμὴν νὰ προστατεύεται μέχρι τοῦ κυρτοῦ τῆς γάστρας. Ἡ τοιαύτη προστασία θεωρεῖται ἐπαρκὴς ἐάν ἡ γραμμὴ τομῆς τῆς ἐξωτερικῆς ἀκμῆς τοῦ ἐλάσματος τῆς πλευρᾶς τοῦ διπυθμένου μετὰ τῶν ἐλασμάτων τῆς γάστρας δὲν εὐρίσκεται εἰς οἰονδήποτε σημεῖον χαμηλότερον ἐνὸς ὀριζοντίου ἐπιπέδου διερχομένου διὰ τοῦ σημείου τομῆς εἰς τὸ μέσον νομέα μετὰ ἐγκαρσίας διαγωνίου γραμμῆς κεκλιμένης κατὰ 25 μοίρας ὡς πρὸς τὸ ὀριζόντιον ἐπίπεδον τὸ διερχόμενον διὰ τῆς ἀνω ὀψεως τῆς τρόπιδος καὶ τεμνούσης τὸ ἐπίπεδον εἰς σημεῖον εὐρισκόμενον εἰς ἀπόστασιν, ἀπὸ τοῦ ἀξονος τοῦ πλοίου, ἴση πρὸς τὸ ἥμισυ τοῦ πλάτους τοῦ πλοίου.

(γ) Φρεάτια μικρὰ κατασκευαζόμενα ἐντὸς τοῦ διπυθμένου σχετικὰ πρὸς τὰς διατάξεις ἀπαντήσεως τῶν κυτῶν κ.λ.π. δέον νὰ μὴ εἶναι βαθύτερα ἢ ὅσον ἀπαραίτητον. Τὸ βάθος τοῦ φρεατίου εἰς οὐδεμίαν περίπτωσιν θὰ εἶναι μεγαλύτερον τοῦ βάθους τοῦ διπυθμένου κατὰ τὸν ἀξονα τοῦ πλοίου μειωμένον κατὰ 457 χιλιοστόμετρα (ἢ 18 δακτύλους), τὸ δὲ φρεάτιον δὲν θὰ ἐπεκτείνεται κάτωθεν τοῦ ὀριζοντίου ἐπιπέδου τοῦ ἀναφερομένου εἰς τὴν παράγραφον (β) τοῦ παρόντος Κανονισμοῦ. Εἰς τὸ πρυμναῖον ἐν τούτοις ἀκρον τῆς σήραγγος τῶν ἐλικοκινήτων πλοίων, ἐπιτρέπεται ἡ ὑπαρξίς φρεατίου ἐκτεινομένου μέχρι τοῦ ἐξωτερικοῦ πυθμένου. Ἡ Ἀρχὴ δύναται νὰ ἐπιτρέψῃ ἕτερα φρεάτια (π.χ. διὰ λιπαντικὸν ἔλαιον κάτωθεν τῶν κυρίων μηχανῶν) ἐάν ἤθελε πεισθῇ ὅτι αἱ διατάξεις τοῦ συνόλου παρέχουν προστασίαν ἰσοδύναμον πρὸς τὴν παρεχομένην ὑπὸ διπυθμένου συμφώνως πρὸς τὸν παρόντα Κανονισμόν.

(δ) Δὲν εἶναι ἀναγκαῖα ἡ ἐγκατάστασις διπυθμένου κατὰ μήκος τῶν στεγανῶν διαμερισμάτων μετρίου μεγέθους, χρησιμοποιουμένων ἀποκλειστικῶς διὰ τὴν μεταφορὰν ὕδρων, ὑπὸ τὸν ὄρον ὅπως, κατὰ τὴν γνώμην τῆς Ἀρχῆς, ἡ ἀσφάλεια τοῦ πλοίου ἐν περιπτώσει βλάβης τοῦ πυθμένου ἢ τῶν πλευρῶν δὲν θέλει μειωθῆ ἐκ τοῦ λόγου τούτου.

(ε) Προκειμένου περὶ πλοίων δι' ἃ ἔχουν ἐφαρμογὴν αἱ διατάξεις τῆς παραγράφου (δ) τοῦ Κανονισμοῦ 1 τοῦ παρόντος Κεφαλαίου καὶ ἄτινα ἐκτελοῦν τακτικὰ δρομολόγια ἐντὸς τῶν ὀρίων βραχέος διεθνούς πλοῦ, ὡς καθορίζεται ἐν τῷ Κανονισμῷ 2 τοῦ Κεφαλαίου ΙΙΙ, ἡ Ἀρχὴ δύναται νὰ ἐπιτρέψῃ ἀπαλλαγὴν ἐκ τῆς ὑπο-

χρεώσεως υπάρξεως διπυθμένου εις πᾶν τμήμα τοῦ πλοίου ἕπερ ὑποδιαιρεῖται ἐπὶ τῇ βάσει συντελεστοῦ μὴ ὑπερβαίνοντος τὸ 0,50, ἐάν πεισθῇ ὅτι ἡ ἐγκατάστασις διπυθμένου εις τὸ τμήμα τοῦτο δὲν θά ἦτο σύμφωνος πρὸς τὰ βασικὰ χαρακτηριστικὰ καὶ τὴν κατάλληλον λειτουργίαν τοῦ πλοίου.

Κανονισμός 11

Προσδιορισμός, Χάραξις καὶ Ἐγγραφή τῶν Γραμμῶν φορτώσεως τῆς Ὑποδιαιρέσεως

(α) Πρὸς τὸν σκοπὸν τηρήσεως τοῦ ἀπαιτουμένου βαθμοῦ ὑποδιαιρέσεως, δέον νὰ προσδιορισθῇ καὶ χαραχθῇ ἐπὶ τῶν πλευρῶν τοῦ πλοίου γραμμὴ φορτώσεως ἀντιστοιχοῦσα πρὸς τὸ ὑπὸ τοῦ βαθμοῦ ὑποδιαιρέσεως προβλεπόμενον βύθισμα. Πλοῖον διαθέτον χώρους εἰδικῶς διασκευασμένους διὰ τὴν ἐναλλάξ μεταφορὰν ἐπιβατῶν καὶ φορτίου δύναται, κατόπιν ἐπιθυμίας τοῦ πλοιοκτῆτου, νὰ σημανθῇ διὰ μιᾶς ἢ πλειόνων ἐπιπροσθέτων γραμμῶν φορτώσεως ἀντιστοιχοῦσων πρὸς τὰ βυθίσματα ὑποδιαιρέσεως ἄτινα ἡ Ἀρχὴ δύναται νὰ ἐγκρίνη διὰ τὰς περιπτώσεις τῶν ἐναλλακτικῶν συνθηκῶν ὑπηρεσίας τοῦ πλοίου.

(β) Αἱ προσδιοριζόμεναι καὶ σημαίνόμεναι γραμμαὶ φορτώσεως τῆς ὑποδιαιρέσεως ἐγγράφονται ἐν τῷ Πιστοποιητικῷ Ἀσφαλείας Ἐπιβατηγοῦ Πλοίου καὶ διακρίνονται διὰ τῆς ἐνδείξεως C1, ἐμφανιούσης ὅτι τὸ πλοῖον εἶναι πρωτίστως ἐπιβατηγόν καὶ C2, C3 κ.λ.π. ἐμφανιουσῶν τὰς ἐναλλακτικὰς συνθήκας ὑπηρεσίας.

(γ) Τὸ ὕψος τῶν ἐξάλων τὸ ἀντιστοιχοῦν εις ἐκάστην τῶν ὡς ἄνω γραμμῶν φορτώσεως θά μετρηθῇ εἰς τὴν αὐτὴν θέσιν καὶ ἀπὸ τῆς ἰδίας γραμμῆς καταστρώματος, καθ' ὃν τρόπον προσδιορίζεται τὸ ὕψος τῶν ἐξάλων συμφώνως πρὸς τὴν ἐν ἰσχύϊ Διεθνή Σύμβασιν περὶ Γραμμῶν Φορτώσεως.

(δ) Τὸ ὕψος ἐξάλων τὸ ἀντιστοιχοῦν εις ἐκάστην ἐγκεκριμένην γραμμὴν φορτώσεως τῆς ὑποδιαιρέσεως, ὡς καὶ αἱ συνθήκαι ὑπηρεσίας δι' ἃς ἐνεκρίθη τοῦτο, δέον νὰ ἀναγράφωνται σαφῶς ἐν τῷ Πιστοποιητικῷ Ἀσφαλείας Ἐπιβατηγοῦ Πλοίου.

(ε) Ἐν οὐδεμιᾷ περιπτώσει, ἡ χάραξις οἰασθῆποτε γραμμῆς φορτώσεως τῆς ὑποδιαιρέσεως θά γίνεται ἀνωθεν τῆς κατωτάτης γραμμῆς φορτώσεως διὰ θαλάσσιον ὕδωρ, ὡς αὕτη προσδιορισθῇ ἐν συναρτήσει πρὸς τὴν ἀντοχὴν τοῦ πλοίου καί/ἢ τὴν ἐν ἰσχύϊ Διεθνή Σύμβασιν περὶ Γραμμῶν Φορτώσεως.

(στ) Οἰασθῆποτε καὶ ἂν εἶναι ἡ θέσις χαράξεως τῶν γραμμῶν φορτώσεως τῆς ὑποδιαιρέσεως, τὸ πλοῖον ἐν οὐδεμιᾷ περιπτώσει θέλει φορτωθῇ κατὰ τρόπον ὥστε νὰ βυθισθῇ ἢ πρὸς τὴν ἐποχὴν τοῦ ἔτους καὶ τὴν περιοχὴν ἀντιστοιχοῦσα γραμμὴ φορτώσεως, ὡς αὕτη προσδιορίζεται ἐν τῇ ἐν ἰσχύϊ Διεθνή Σύμβασιν περὶ Γραμμῶν Φορτώσεως.

(ζ) Πλοῖον τι ἐν οὐδεμιᾷ περιπτώσει δύναται νὰ φορτωθῇ κατὰ τοιοῦτον τρόπον ὥστε ὄταν εὐρίσκεται ἐν θαλασσίῳ ὕδατι νὰ βυθίζεται ἡ γραμμὴ φορτώσεως τῆς ὑποδιαιρέσεως ἢ ἀντιστοιχοῦσα πρὸς τὸν εἰδικόν πλοῦν ἢ πρὸς τὰς συνθήκας ὑπηρεσίας τοῦ πλοίου.

Κανονισμός 12

Κατασκευὴ καὶ Ἀρχικὴ Δοκιμὴ Στεγανῶν Διαφραγμάτων, κ.λ.π.

(α) Πᾶν στεγανὸν διάφραγμα τῆς ὑποδιαιρέσεως εἴτε ἐγκάρσιον εἴτε διάμηκες, θά κατασκευάζεται κατὰ τοιοῦτον τρόπον ὥστε νὰ εἶναι ἱκανὸν νὰ ὑφίσταται, μετὰ ἀναλόγου περιθωρίου ἀντοχῆς, τὴν πίεσιν τὴν ὀφειλομένην εἰς τὴν μεγίστην στήλην ὕδατος τὴν ὁποῖαν δυνατόν νὰ ὑποστῇ εἰς περίπτωσιν βλάβης τοῦ πλοίου, τοῦλάχιστον δέ, τὴν πίεσιν τὴν ὀφειλομένην εἰς τὴν στήλην ὕδατος ἐξικνουμένην εἰς τὸ ὕψος τῆς γραμμῆς ὀρίου βυθίσεως. Ἡ κατασκευὴ τῶν διαφραγμάτων τούτων δέον νὰ ἱκανοποιῇ τὴν Ἀρχήν.

(β) (i) Αἱ βαθμίδες καὶ αἱ ἐσοχαὶ τῶν διαφραγμάτων δέον νὰ εἶναι στεγανά καὶ ἴσης ἀντοχῆς πρὸς τὰ διαφράγματα εἰς τὰ σημεῖα εἰς ἃ ἐκάστη εὐρίσκεται.

(ii) ἐάν νομεῖς ἢ ζυγὰ διέρχωνται διὰ μέσου στεγανοῦ καταστρώματος ἢ διαφράγματος, τὸ κατὰστρωμα ἢ τὸ διάφραγμα δέον νὰ κατασκευάζωνται στεγανά ἀνευ τῆς χρήσεως ξύλου ἢ τσιμέντου.

(γ) Ἡ δοκιμὴ στεγανότητος τῶν κυρίων διαμερισμάτων διὰ πληρώσεως τούτων δι' ὕδατος δὲν εἶναι ὑποχρεωτική. Ὄταν δὲν ἐκτελεθῇ ἡ δοκιμὴ διὰ πληρώσεως δι' ὕδατος, ἡ δοκιμὴ δι' ἐκφυερόντος ὕδατος δι' εὐκάμπτου σωλήνος εἶναι ὑποχρεωτική. Ἡ δοκιμὴ αὕτη θά ἐκτελεθῇ κατὰ τὸ πλέον προχωρημένον στάδιον τῆς συμπληρώσεως τοῦ πλοίου. Ἐν πάσῃ περιπτώσει θά ἐκτελεθῇ λεπτομερῆς ἐπιθεώρησις τῶν στεγανῶν διαφραγμάτων.

(δ) Ἡ πρῶραία δεξαμενὴ ζυγοσταθμίσεως, τὰ διπύθμενα (περιλαμβάνονται αἱ κοίλαι τρόπιδες) καὶ οἱ ἐσωτερικοὶ πυθμένες, θὰ δοκιμάζονται διὰ στήλης ὕδατος ἀντιστοιχοῦσης εἰς τὰς ἀπαιτήσεις τῆς παραγράφου (α) τοῦ παρόντος Κανονισμοῦ.

(ε) Δεξαμεναὶ προοριζόμεναι δι' ὑγρά καὶ ἀποτελοῦσαι μέρος τῆς ὑποδιαίρεσεως τοῦ πλοίου δέον νὰ δοκιμάζονται ὡς πρὸς τὴν στεγανότητα διὰ στήλης ὕδατος μέχρι τῆς κατωτάτης γραμμῆς φορτώσεως τῆς γραμμῆς ὑποδιαίρεσεως ἢ μέχρι τῶν δύο τρίτων τοῦ ὕψους ἀπὸ τῆς ἀνω ὀψεως τῆς τρόπιδος μέχρι τῆς γραμμῆς ὀρίου βυθίσεως εἰς τὴν περιοχὴν τῶν δεξαμενῶν, λαμβανομένης τῆς μεγαλύτερας ἐκ τῶν δύο. Ἐν πάσῃ ὁμῳ περιπτώσει τὸ ὕψος τῆς στήλης δέον νὰ μὴ εἶναι κατώτερον τῶν 0,92 μέτρων (ἢ 3 ποδῶν) ἀνωθεν τῆς ὀροφῆς τῆς δεξαμενῆς.

(στ) Αἱ δοκιμαὶ αἱ ἀναφερόμεναι εἰς τὰς παραγράφους (δ) καὶ (ε) τοῦ παρόντος Κανονισμοῦ ἔχουν ὡς σκοπὸν τὴν ἐξακριβώσιν τῆς στεγανότητος τῆς κατασκευαστικῆς διατάξεως τῆς ὑποδιαίρεσεως καὶ δέον νὰ μὴ θεωροῦνται ὡς δοκιμαὶ τῆς καταληλότητος διαμερισμάτων τινος δι' ἐνυποθήκυσιν ὑγρῶν καυσίμων ἢ δι' ἄλλους εἰδικούς σκοπούς διὰ τοὺς ὁποίους δύναται νὰ ἀπαιτεῖται δοκιμὴ αὐστηροτέρου χαρακτήρος ἐξαρτωμένη ἐκ τοῦ ὕψους εἰς τὸ ὁποῖον δυνατόν νὰ ἀνέλθῃ τὸ ὑγρὸν ἐν τῇ δεξαμενῇ ἢ εἰς τὰς συνδέσεις τῆς.

Κανονισμός 13

Ἀνοίγματα εἰς στεγανά διαφράγματα

(α) Ὁ ἀριθμὸς τῶν ανοιγμάτων εἰς τὰ στεγανά διαφράγματα δέον νὰ περιορίζηται εἰς τὸ ἐλάχιστον ὅπερ συμβιβάζεται μετὰ τὴν γενικὴν διάταξιν καὶ τὴν κατάλληλον χρησιμοποίησιν τοῦ πλοίου. θὰ προβλέπονται ἱκανοποιητικὰ μέσα διὰ τὸ κλείσιμον τῶν ανοιγμάτων τούτων.

(β) (i) Εἰς τὰ σημεῖα διελεύσεως σωλήνων, εὐδαιῶν ἠλεκτρικῶν καλωδίων κ.λ.π. διὰ τῶν διαφραγμάτων τῆς στεγανῆς ὑποδιαίρεσεως, δέον νὰ λαμβάνωνται κατάλληλα μέτρα διὰ τὴν ἀπόλυτον ἐξασφάλισιν τῆς στεγανότητος τῶν διαφραγμάτων.

(ii) Ἐπιστόμια καὶ κρουνοὶ μὴ ἀποτελοῦντες μέρος τοῦ συστήματος σωληνώσεως δέν ἐπιτρέπεται νὰ ὑπάρχουν εἰς τὰ διαφράγματα τῆς στεγανῆς ὑποδιαίρεσεως.

(iii) Μόλυβδος ἢ ἄλλα ὕλικά ἐπηρεαζόμενα ὑπὸ τῆς θερμότητος δέν θὰ χρησιμοποιῶνται εἰς συστήματα ἅτινα διέρχονται διὰ τῶν στεγανῶν διαφραγμάτων τῆς ὑποδιαίρεσεως, ὅποτε ἡ βλάβη τούτων ἐν περιπτώσει πυρκαϊᾶς θὰ ἐξέθετε τὴν στεγανότητα τῶν διαφραγμάτων.

(γ) (i) Θύραι, ἀνθρωποθύριδες ἢ ανοίγματα ἐπικοινωνίας δέν ἐπιτρέπονται :

(1) Εἰς τὸ διάφραγμα συγκρούσεως κάτωθεν τῆς γραμμῆς ὀρίου βυθίσεως.

(2) Εἰς ἐγκάρσια στεγανά διαφράγματα χωρίζοντα ἓνα χῶρον φορτίου ἀπὸ παρακείμενον χῶρον φορτίου ἢ ἀπὸ μόνιμον ἢ ἐφεδρικὴν ἀποθήκην καυσίμων, ἐκτός τῶν προβλεπομένων ἐν τῇ παραγράφῳ (ιβ) τοῦ παρόντος Κανονισμοῦ.

(ii) Ἐκτός ὡς προβλέπεται κατωτέρω ὑπὸ τῆς ὑποπαραγράφου (iii) τῆς παρούσης παραγράφου, ἐπιτρέπεται ὅπως τὸ διάφραγμα συγκρούσεως διαπεράτῃ κάτωθεν τῆς γραμμῆς ὀρίου βυθίσεως ὑπὸ ἑνός τὸ πολὺ σωλήνος διὰ τὴν ἐξυπηρέτησιν τῆς πρῶραίας δεξαμενῆς ζυγοσταθμίσεως, ὑπὸ τὸν ὄρον ὅπως ὁ σωλὴν οὗτος εἶναι ἐφωδιασένος διὰ κοχλιωτοῦ ἐπιστομίου δυναμένου νὰ τυγχάνῃ χειρισμοῦ ἐκ σημείου ἀνωθεν τοῦ καταστρώματος στεγανῶν. Τὸ σῶμα τοῦ ἐπιστομίου δέον νὰ εἶναι στερεωμένον ἐσωτερικῶς τῆς πρῶραίας δεξαμενῆς ζυγοσταθμίσεως ἐπὶ τοῦ διαφράγματος συγκρούσεως.

(iii) Ἐάν ἡ πρῶραία δεξαμενὴ ζυγοσταθμίσεως εἶναι διηρημένη κατὰ τρόπον ὅστε νὰ περιλαμβάνῃ δύο διάφορα εἶδη ὑγρῶν, ἡ Ἀρχὴ δύναται νὰ ἐπιτρέψῃ ὅπως τὸ διάφραγμα συγκρούσεως διαπερασθῇ κάτωθεν τῆς γραμμῆς ὀρίου βυθίσεως ὑπὸ δύο σωλήνων ἐκάστου πληροῦντος τοὺς ὄρους τῆς ὑποπαραγράφου (ii) τῆς παρούσης παραγράφου ὑπὸ τὸν ὄρον ὅπως ἡ Ἀρχὴ πεισθῇ ὅτι δέν ὑπάρχει ἄλλος τρόπος ἐγκαταστάσεως τοῦ τοιοῦτου δευτέρου σωλήνος καὶ ὅτι, λαμβανομένης ὑπ' ὄψιν τῆς προβλεπομένης προσθέτου ὑποδιαίρεσεως ἐν τῇ πρῶραία δεξαμενῇ ζυγοσταθμίσεως, ἡ ἀσφάλεια τοῦ πλοίου διατηρεῖται.

- (δ) (i) Στεγανά θύραι διαφραγμάτων χωρίζοντων μονίμους και έφεδρικές αποθήκας καυσίμων, δέον να είναι πάντοτε προσιταί, εκτός ως προβλέπεται εν τή υποπαραγράφω (ιι) τής παραγράφου (ια) του παρόντος Κανονισμού διά θύρας άποθηκών καυσίμων εντός υποφραγμάτων.
- (ii) Κατάλληλα μέτρα δέον να λαμβάνονται διά προφυλακτήρων ή άλλων μέσων, ίνα αποφεύγεται ή υπό των γαιανθράκων παρεμπόδιση του κλεισίματος των στεγανών θυρών των άνθρακαποθηκών.
- (ε) Έντός των χώρων των περιλαμβανόντων τας κυρίας και βοηθητικές μηχανάς προώσεως, περιλαμβανομένων των λεβήτων των χρησιμοποιουμένων διά τήν πρόωσιν και πασών των μονίμων άποθηκών καυσίμων, δέν επιτρέπεται ή ύπαρξις πλέον τής μιās θύρας επικοινωνίας επί εκάστου κυρίου έγκαρσίου διαφράγματος, έξαιρουμένων των θυρών των άνθρακαποθηκών και των θυρών των σφράγγων των έλικοφόρων άτράκτων. Έάν ύπάρχουν δύο ή περισσότεραι έλικοφόροι άτρακτοι, αι σφράγγες θά επικοινωνούν διά διαδρομού εσωτερικής επικοινωνίας. Έάν ύπάρχουν δύο έλικοφόροι άτρακτοι θά τοποθετηται μία μόνον θύρα μεταξύ του χώρου μηχανών και του χώρου των σφράγγων, όταν δέ ύπάρχουν περισσότεραι των δύο άτράκτων θά τοποθετούνται μόνον δύο θύραι. Αι θύραι αυται δέον να είναι όλισθαίνουσαι και να τοποθετούνται κατά τοιοϋτον τρόπον ώστε να έχουν τά κατάφλια αυτών δσον τό δυνατόν ύψηλά. Ο χειροκίνητος μηχανισμός διά τόν χειρισμόν των θυρών τούτων άνωθεν του καταστρώματος στεγανών θά τοποθετηται έξωθι των χώρων των περιλαμβανόντων τας μηχανάς, εάν τουτο συμβιβάζεται με τήν ίκανοποιητικήν διάταξιν του άπαιτουμένου μηχανισμού.
- (στ) (i) Αι στεγανά θύραι θά είναι όλισθαίνουσαι (συρταρωταί) ή γιγγλυμωταί ή άλλου ίσοδυνάμου τύπου. Έλασμάτιναι θύραι στερεοόμεναι άπλως διά κοχλιών, ως και θύραι ατινες κλείουν διά τής βαρύτητος ή διά τής ένεργείας πίπτοντος βάρους δέν επιτρέπονται.
- (ii) Αι όλισθαίνουσαι θύραι δύνανται να είναι είτε :
- χειροκίνητοι μόνον, είτε μηχανοκίνητοι και επί πλέον χειροκίνητοι.
- (iii) Αι επιτρεπόμεναι στεγανά θύραι δύνανται συνεπώς να καταταχθούν εις τρεις κλάσεις :
- Κλάσις 1 - Γιγγλυμωταί θύραι.
Κλάσις 2 - Όλισθαίνουσαι θύραι χειροκίνητοι.
Κλάσις 3 - Όλισθαίνουσαι θύραι μηχανοκίνητοι και επί πλέον χειροκίνητοι.
- (iv) Τά μέσα χειρισμού οιασδήποτε στεγανής θύρας μηχανοκινήτου ή μή, θά είναι ίκανά να κλείουν τήν θύραν και όταν τό πλοϊον λαμβάνη κλίσιν 15 μοιρών προς έκατέραν πλευράν.
- (v) Δι' όλας τας κλάσεις στεγανών θυρών θά τοποθετούνται δείκται οίτινες θά δεικνύουν εις όλους τούς σταθμούς χειρισμού εκ των όποιων αι θύραι δέν είναι θεαταί, εάν αι θύραι είναι άνοικταί ή κλεισταί. Έάν στεγανή θύρα οιασδήποτε κλάσεως δέν έχη διάταξιν τοιαύτην ώστε να δύναται αυτη να κλεισθή έξ ενός κεντρικού σταθμού χειρισμών, δέον να προβλέπεται μηχανικόν, ηλεκτρικόν, τηλεφωνικόν ή οιονδήποτε άλλο κατάλληλον μέσον άπ' εύθείας επικοινωνίας, διά του όποιου ο άξιωματικός φυλακής θά δύναται να επικοινωνήση ταχέως μετά του ύπευθύνου διά τό κλείσιμον τής εν λόγω θύρας κατόπιν προηγουμένων διαταγών.
- (ζ) Αι γιγγλυμωταί θύραι (Κλάσεως 1) θά εφοδιάζονται διά μέσων ταχέος κλεισίματος, ως σφιγκτήρων χειριζομένων έξ άμφοτέρων των πλευρών του διαφράγματος.
- (η) Αι χειροκίνητοι όλισθαίνουσαι θύραι (Κλάσεως 2) δύνανται να έχουν όριζοντίαν ή κατακόρυφον κίνησιν. Ο μηχανισμός τής θύρας θά δύναται να χειρισθή έπιτοπίως έξ άμφοτέρων των πλευρών τής θύρας και ήπιπροσθέτως από προσιτής θέσεως άνωθεν του καταστρώματος στεγανών διά μιās πλήρους περιστροφικής κινήσεως στροφάλου ή διά έτέρας κινήσεως, ήτις παρουσιάζει τήν αυτήν έγγύθσιν άσφαλείας και τυγχάνει τύπου έγκριμένου. Δύνανται να επιτραποϋν παρεκκλίσεις σχετικώς προς τήν άπαίτησιν χειρισμού έξ άμφοτέρων των πλευρών, εάν οϋτος τυγχάνη πρακτικώς άδύνατος λόγω τής διαρρυθμίσεως των χώρων. Εις τήν περίπτωσιν του διά τής χειρός χειρισμού, ο άπαιτούμενος χρόνος διά τό πλήρες κλείσιμον τής θύρας, όταν τό πλοϊον είναι εις κατακόρυφον θέσιν, δέν θά ύπερβαίη τά 90 δευτερόλεπτα.

- (θ) (i) Αι μηχανοκίνητοι όλισθαίνουσαι θύραι (κλάσεως 3) δύνανται νά έχουν κατακόρυφον ή όριζοντίαν κίνησιν. Έάν προβλέπεται θύρα τις νά λειτουργή διά μηχανικής ένεργείας εκ κεντρικού σταθμού, ό μηχανισμός δέον νά είναι ούτω πως διατεταγμένος ώστε ή θύρα νά δύνανται επίσης νά τυγχάνη χειρισμού διά μηχανικής ένεργείας έπιτοπίως και έξ άμφοτέρων τών πλευρών. Η διάταξις δέον νά είναι τοιαύτη ώστε ή θύρα νά κλείη αυτόμάτως εάν ήνοιχθη διά τοπικού χειρισμού μετά τό κλείσιμόν της από το κεντρικού σταθμού, και τοιαύτη ώστε νά δύνανται νά παραμείνη κλειστή διά τοπικών συστημάτων εις τρόπον ώστε νά μή δύναται νά ανοίγη από το κεντρικού σταθμού. Λαβαί τοπικού χειρισμού συνδεόμεναι μέ τόν μηχανισμόν τόν κινούμενον διά μηχανικής ένεργείας δέον νά προβλέπωνται έφ' εκάστης πλευράς του διαφράγματος και νά είναι ούτω πως διατεταγμένοι ώστε πρόσωπα διερχόμενα διά του ανοίγματος της θύρας νά δύνανται νά στηριχθούν εις τας δύο λαβάς εις τήν θέσιν ανοίγματος χωρίς νά θέσουν άκουσίως εις λειτουργίαν τόν μηχανισμόν κλεισίματος. Αι μηχανοκίνητοι όλισθαίνουσαι θύραι δέον όπως είναι έφωδιασμένοι διά χειροκινήτου μηχανισμού λειτουργούντος τόσοσιν παρ' αύταίς ταίς θύραις, όσον και από προσϊτου σημείου κειμένου άνωθεν τό καταστρώματος στεγανών, διά μιās πλήρους περιστροφικής κινήσεως στροφάλου ή διά έτέρας κινήσεως ήτις παρουσιάζει τήν αύτήν έγγύθησιν άσφαλείας και τυγχάνει τύπου έγκεκριμένου. Δέον νά λαμβάνωνται μέτρα ώστε νά δίδεται προειδοποίησης δι' ήχητικού σήματος ότι ή θύρα ήρχισε κλειομένη και νά συνεχίζεται μέχρι του πλήρους κλεισίματος. Η διάρκεια του κλεισίματος της θύρας δέον νά είναι άρκετή προς έξασφάλισιν χρονικού διαστήματος άσφαλείας.
- (ii) Δέον νά υπάρχουν δύο τουλάχιστον άνεξάρτητοι πηγαί ένεργείας, ικαναί διά τό σύγχρονον άνοιγμα και κλείσιμον άπασών τών έξυπηρετούμενων θυρών. Αι δύο αύται πηγαί ένεργείας θά έλέγχωνται εκ του έπί της γεφύρας κεντρικού σταθμού, όστις θά περιλαμβάνη πάντας τούς άπαιτούμενους δείκτας τούς επιτρέποντας τήν εξακριβώσιν ότι εκάστη τών δύο πηγών ένεργείας είναι ικανή νά έξασφαλίζη ικανοποιητικώς τήν άπαιτούμενην έξυπηρέτησιν.
- (iii) Εις τήν περίπτωσιν υδραυλικού χειρισμού, εκάστη πηγή ένεργείας θά άποτελήται εκ μιās άντλίας ικανής νά κλείη άπάσας τας θύρας εις χρόνον οχλί μεγαλύτερον τών 60 δευτερολέπτων. Έπιπροσθέτως, δέον νά υπάρχουν υδραυλικόι συσσωρευταί διά τό σύνολον της έγκαταστάσεως, ικανόητος άρκετής προς έξασφάλισιν τριών τουλάχιστον διαδοχικών κινήσεων του συνόλου τών θυρών, ήτοι : κλείσιμον-άνοιγμα-κλείσιμον. Τό χρησιμοποιούμενον ρευστόν δέον νά μή πηγνυται εις τας θερμοκρασίας αίτινες ένδεχομένως θά παρουσιασθούν κατά τήν ύπηρεσίαν του πλοίου.
- (ι) (i) Γυγγλυμταί στεγαναί θύραι (κλάσεως 1) έντός χώρων έπιβατών, πληρώματος και χώρων εργασίας, επιτρέπονται μόνον έφ' όσον εύρίσκονται άνωθεν καταστρώματος του όποιου ή κάτω όψις και εις τό χαμηλότερον σημείον εις τήν πλευράν του πλοίου είναι τουλάχιστον 2,13 μέτρα (ή 7 πόδες) άνωθεν της κατωτάτης γραμμής φορτώσεως της ύποδιαίρέσεως.
- (ii) Στεγαναί θύραι τών όποιών τά κατώφλια κείνται άνωθεν της κατωτάτης γραμμής φορτώσεως της ύποδιαίρέσεως και κάτωθεν της εις τήν προηγούμενην ύποπαράγραφον καθοριζόμενης γραμμής δέον νά είναι όλισθαίνουσαι και νά δύνανται νά είναι χειροκίνητοι (κλάσεως 2), έξαιρέσεως γενομένης διά πλοία εκτελούντα βραχείς διεθνείς πλόας και έχοντα συντελεστήν ύποδιαίρέσεως 0,50 ή μικρότερον, όποτε άπασαι αι θύραι αύται θά λειτουργούν διά μηχανικής ένεργείας. Όταν όχετοί έπικοινωνίας έψυγμένου φορτίου και άγωγοί άερισμού ή τεχνητού έλκυσμού διερχονται διά περισσοτέρων του ένός κυρίων στεγανών διαφραγμάτων της ύποδιαίρέσεως, αι θύραι τών ανοιγμάτων τούτων επί τών διαφραγμάτων θά λειτουργούν διά μηχανικής ένεργείας.
- (ia) (i) Στεγαναί θύραι αίτινες δυνατόν νά ανοίγωνται ένίστε έν πλῆ και τών όποιών τά κατώφλια κείνται κάτωθεν της κατωτάτης γραμμής φορτώσεως της ύποδιαίρέσεως θά είναι όλισθαίνουσαι. θά εφαρμόζωνται έν προκειμένω οι ακόλουθοι κανόνες :
- (1) Όταν ό αριθμός τών θυρών τούτων (έξαιρουμένων τών θυρών εισόδου εις σήραγγας έλικοφόρων άτράκτων) υπερβαίνη τας πέντε, άπασαι αι θύραι αύται, καθώς και εκείναι εις τήν είσοδον τών σήραγγων ή

άγωγών αερισμού ή τεχνητού έλκυσμού αέρος θά λειτουργοῦν διά μηχανικῆς ἐνεργείας (Κλάσεως 3) καί θά δύνανται νά κλείωνται συγχρόνως ἀπό κεντρικοῦ σταθμοῦ ἐπί τῆς γεφύρας τοῦ πλοίου.

- (2) Ὃταν ὁ ἀριθμός τῶν θυρῶν τούτων (ἐξαιρουμένων τῶν θυρῶν εἰσόδου εἰς σήραγγας ἑλικοφόρων ἀτράκτων) εἶναι μεγαλύτερος τοῦ ἑνός ἀλλά δέν ὑπερβαίνει τās πέντε, τότε :
- (α) Ὃταν τό πλοῖον δέν διαθέτει χώρους ἐπιβατῶν κάτωθεν τοῦ καταστρώματος στεγανῶν, ἀπασαι αἱ ἀνωτέρω ἀναφερόμεναι θύραι δύνανται νά εἶναι χειροκίνητοι (κλάσεως 2)·
- (β) Ὃταν τό πλοῖον διαθέτει χώρους ἐπιβατῶν κάτωθεν τοῦ καταστρώματος στεγανῶν, ἀπασαι αἱ ἀνωτέρω ἀναφερόμεναι θύραι θά λειτουργοῦν διά μηχανικῆς ἐνεργείας (Κλάσεως 3) καί θά δύνανται νά κλείωνται συγχρόνως ἀπό κεντρικοῦ σταθμοῦ ἐπί τῆς γεφύρας τοῦ πλοίου.
- (3) Ἐπί παντός πλοίου ἔνθα ὑπάρχουν μόνον 2 τοιαῦται στεγαναί θύραι, εὐρίσκονται δέ ἐντός τοῦ χώρου μηχανῶν καί ἐπί τῶν διαφραγμάτων τῶν περικλειδόντων τοῦτον, ἡ Ἄρχή δύνανται νά ἐπιτρέψῃ ὅπως αἱ δύο αὗται θύραι εἶναι μόνον χειροκίνητοι (κλάσεως 2).

Στεγαναί θύραι, αἵτινες εἶναι ἐνδεχόμενον νά ἀνοίγωνται ἐν πλῆ πρός διευθέτησιν γαιανθράκων, εὐρισκόμεναι μεταξύ ἀνθρακαποθηκῶν εἰς ὑποφράγματα κάτωθεν τοῦ καταστρώματος στεγανῶν, δέον νά λειτουργοῦν διά μηχανικῆς δυνάμεως. Τό ἀνοίγμα καί κλείσιμον τῶν θυρῶν τούτων δέον νά καταχωροῦνται εἰς ἡμερολόγιον τοῦ πλοίου, ὡς τοῦτο ἤθελε καθορισθῆ ὑπό τῆς Ἄρχῆς.

- (ιβ) (i) Εἰς περίπτωσιν κατά τήν ὁποίαν ἡ Ἄρχή πεισθῆ ὅτι ἡ ἐγκατάστασις τοιοῦτων θυρῶν κρίνεται ἀναγκαία, δύνανται νά γίνωσι παραδεκταί στεγαναί θύραι ἱκανοποιητικῆς κατασκευῆς ἐπί τῶν στεγανῶν διαφραγμάτων τῶν ὑποφραγμάτων ἄτινα χωρίζουσι τό φορτίον. Αἱ θύραι αὗται δύνανται νά εἶναι γιγγλυμταί, κυλιόμεναι ἢ ὀλισθαίνουσαι, ἀλλά δέν θά χειρίζονται ἐξ ἀποστάσεως. Θά τοποθετοῦνται εἰς τό ἀνώτατον ὕψος καί εἰς ὅσον τό δυνατόν μεγαλύτεραν ἀπόστασιν ἀπό τās πλευράς τοῦ πλοίου, ἀλλά εἰς οὐδεμίαν περίπτωσιν αἱ ἐξωτερικαί κατακόρυφοι ἀκμαί τῶν θυρῶν τούτων (παραστάται) θά εὐρίσκονται εἰς ἀπόστασιν ἀπό τῶν ἐλασμάτων τῶν πλευρῶν μικροτέραν τοῦ ἑνός πέμπτου τοῦ πλάτους τοῦ πλοίου, ὡς καθορίζεται εἰς τόν Κανονισμόν 2 τοῦ παρόντος Κεφαλαίου. Ἡ ἀπόστασις αὕτη μετρεῖται καθέτως πρός τόν ἄξονα τοῦ πλοίου εἰς τό ὕψος τῆς κατωτάτης γραμμῆς φορτώσεως τῆς ὑποδιαίρεσεως.
- (ii) Αἱ θύραι αὗται δέον νά κλείωνται πρό τοῦ ἀπόπλου καί νά παραμένωσι κλεισταί κατά τήν διάρκειαν τοῦ πλοῦ, αἱ δέ ὄραι τοῦ ἀνοίγματος τῶν θυρῶν τούτων κατά τήν ἀφιξιν εἰς τόν λιμένα, ὡς καί τοῦ κλεισίματος αὐτῶν πρό τοῦ ἀπόπλου, δέον νά καταχωροῦνται εἰς τό ἡμερολόγιον. Ἐάν μία οἰαδήποτε τῶν θυρῶν τούτων παραμένη προσιτή κατά τόν πλοῦν, δέον αὕτη νά εἶναι ἐφωδιασμένη διά τινος μηχανισμοῦ ἐμποδίζοντος τό ἀνοίγμα αὐτῆς ἀνευ ἀδείας. Ὅσακις προτείνεται ἡ ἐγκατάστασις τοιοῦτων θυρῶν ὁ ἀριθμός καί ἡ διάταξις αὐτῶν θά ἐξετάζονται εἰδικῶς ὑπό τῆς Ἄρχῆς.

(ιγ) Ἀφαιρετά ἐλάσματα ἐπί τῶν διαφραγμάτων δέν ἐπιτρέπονται εἰμῆ ἐντός τῶν χώρων μηχανῶν. Τά τοιαῦτα ἐλάσματα δέον νά εὐρίσκονται εἰς τήν θέσιν των πρό τοῦ ἀπόπλου τοῦ πλοίου καί δέν θά ἀφαιροῦνται κατά τήν διάρκειαν τοῦ πλοῦ εἰμῆ μόνον ἐν ἐσχάτῃ ἀνάγκῃ. Κατά τήν ἐπανατοποθέτησιν των δέον νά λαμβάνωνται πᾶσαι αἱ δέουσαι προφυλάξεις διά τήν στεγανότητα τῶν ἀρμῶν.

(ιδ) Ὅλαι αἱ στεγαναί θύραι δέον νά τηρῶνται κλεισταί κατά τήν διάρκειαν τοῦ πλοῦ καί νά ἀνοίγωνται μόνον δι' ὑπηρεσιακῆς ἀνάγκας τοῦ πλοίου, νά εἶναι δέ πάντοτε ἔτοιμαί διά τό ἀμεσον κλείσιμον αὐτῶν.

- (ιε) (i) Ὃταν κύρια ἐγκάρσια στεγανά διαφράγματα διαπερῶνται ὑπό ὀχετῶν ἢ σήραγγων διά τήν ἐπικοινωνίαν τῶν ἐνδειατημάτων πληρώματος πρός τά λεβητοστάσια ἢ διά τήν διόδον σωλήνων ἢ δι' ἄλλους σκοπούς, οἱ τοιοῦτοι ὀχετοί ἢ σήραγγες δέον νά εἶναι στεγανοί συμφῶνως πρός τόν κανονισμόν 16 τοῦ παρόντος Κεφαλαίου. Ἡ εἰσόδος εἰς τό ἐν τούλάχιστον ἄκρον ἐκάστου τόν ἐν λόγῳ ὀχετῶν ἢ σήραγγων, ἐφ' ὅσον χρησιμοποιοῦνται κατά τόν πλοῦν, ὡς διόδος, δέον νά εὐρίσκειται ἐπί στεγανοῦ φρέατος ἐπαρκοῦς ὕψους, ὥστε νά ἐπιτρέπη τήν εἰσόδον εἰς σημεῖον

άνωθεν τής γραμμής όριου βυθίσσεως. Ἡ είσοδος εἰς τό ἕτερον ἄκρον τοῦ ὀχετοῦ ἢ τής σήραγγος δύναται νά πραγματοποιηθῆται μέσῳ στεγανῆς θύρας τοῦ ἀπαιτουμένου τύπου, ἀναλόγως τής θέσεως αὐτῆς ἐν τῷ πλοίῳ. Τοιοῦτοι ὀχετοί ἢ σήραγγες δέν ἐπιτρέπεται νά διαπερνοῦν τό πρῶτον διάφραγμα ὑποδιαίρέσεως, τό εὐρισκόμενον ἀμέσως μετά τό διάφραγμα συγκρούσεως.

- (ii) Ὅσακις πρόκειται νά τοποθετηθοῦν σήραγγες ἢ ὀχετοί τεχνητοῦ ἔλκυσμοῦ ἀέρος διερχόμενοι διά τῶν κυρίων στεγανῶν διαφραγμάτων, ἡ περίπτωσις τούτων δέον νά ἐξετάζηται ἰδιαιτέρως ὑπό τῆς Ἀρχῆς.

Κανονισμός 14

Ἀνοίγματα εἰς τό ἔξωτερικόν περίβλημα τοῦ πλοίου κάτωθεν τῆς γραμμῆς όριου βυθίσσεως.

(α) Ὁ ἀριθμός τῶν ανοιγμάτων εἰς τό ἔξωτερικόν περίβλημα δέον νά περιορίζηται εἰς τό ἐλάχιστον ὅπερ συμβιβάζεται πρὸς τήν διαρρῦθμισιν καί τήν κατάλληλον χρησιμοποίησιν τοῦ πλοίου.

(β) Ἡ διάταξις καί ἡ ἀποδοτικότητα τῶν μέσων κλεισίματος πάντων τῶν ἐπί τοῦ ἔξωτερικοῦ περιβλήματος ανοιγμάτων δέον νά ἀνταποκρίνωνται πρὸς τόν προορισμόν καί τήν θέσιν εἰς ἣν εὐρίσκονται καί γενικῶς νά τυγχάνουν τῆς ἐγκρίσεως τῆς Ἀρχῆς.

(γ) (i) Ἐάν εἰς ἓν ὑπόφραγμα, τό κάτω μέρος οἰασδήποτε παραφωτίδος εὐρίσκεται χαμηλότερον μιᾶς γραμμῆς χαρακτηρισμένης παραλλήλως πρὸς τό ἔξωτερικόν ἔγχος τοῦ καταστρώματος στεγανῶν καί ἐχούσης τό κατώτατον αὐτῆς σημεῖον εἰς ὕψος 2 1/2 τοῖς ἑκατόν τοῦ πλάτους τοῦ ὑπεράνω τῆς κατωτάτης γραμμῆς φορτώσεως τῆς ὑποδιαίρέσεως, ὅλαι αἱ παραφωτίδες τοῦ ὑποφράγματος τούτου δέον νά εἶναι τοῦ μονίμως κλειστοῦ τύπου.

(ii) Ὅλαι αἱ παραφωτίδες τῶν ὁποίων τό κάτω μέρος εὐρίσκεται χαμηλότερον τῆς γραμμῆς όριου βυθίσσεως, ἐκτός ἐκεῖνων αἰτινες συμφώνως πρὸς τό ἔδαφιον (i) τῆς παρούσης παραγράφου εἶναι κλειστοῦ τύπου, δέον νά εἶναι κατασκευασμένοι κατὰ τοιοῦτον τρόπον ὥστε οὐδεῖς νά δύναται νά τᾶς ἀνοίξῃ ἀνευ τῆς συναινέσεως τοῦ πλοιάρχου.

(iii) (1) Ἐάν εἰς ἓν ὑπόφραγμα τό κάτω μέρος οἰωνδήποτε παραφωτίδων, περιῶν ἢ ὑποπάργραφος (ii) τῆς παρούσης παραγράφου, εὐρίσκεται χαμηλότερον μιᾶς γραμμῆς χαρακτηρισμένης παραλλήλως πρὸς τό ἔξωτερικόν ἔγχος τοῦ καταστρώματος στεγανῶν καί ἐχούσης τό κατώτατον αὐτῆς σημεῖον εἰς ὕψος 1,37 μ. (ἢ 4 1/2 ποδῶν) σὺν 2 1/2 τοῖς ἑκατόν τοῦ πλάτους τοῦ πλοίου ὑπεράνω τῆς ἰσάλου γραμμῆς κατὰ τόν ἀπόπλου τοῦ πλοίου ἐξ οἰουδήποτε λιμένος, ὅλαι αἱ παραφωτίδες τοῦ ὑποφράγματος δέον νά κλείωνται στεγανῶς διά κλειδός πρὸς τό ἀπόπλου καί νά μὴ ἀνοίγωνται πρὸς τό ἀπόπλου τοῦ πλοίου εἰς τόν ἐπόμενον λιμένα. Ὅταν τό πλοῖον εὐρίσκεται εἰς γλυκέα ὕδατα, δύναται, κατὰ τήν ἐφαρμογήν τοῦ ἔδαφιου τούτου, νά ἐπιδεικνύεται ἡ ἀνάλογος ἐλαστικότης, ἐφ' ὅσον αὐτῆ εἶναι ἐφικτή.

(2) Αἱ ὄραι ἀνοίγματος τῶν παραφωτίδων τούτων ἐν λιμένι καί κλεισίματος αὐτῶν διά κλειδός πρὸς τό ἀπόπλου δέον νά καταχωροῦνται εἰς τό ἡμερολόγιον τοῦ πλοίου, ὡς θά προβλέπεται ὑπό τῆς Ἀρχῆς.

(3) Ἐπί πλοίου εἰς τό ὁποῖον μιᾶ ἢ πλείονες παραφωτίδες εἶναι τοποθετημένοι κατὰ τοιοῦτον τρόπον ὥστε νά ἔχουν ἐφαρμογήν αἱ διατάξεις τοῦ ἔδαφιου (iii) (1) τῆς παρούσης παραγράφου (γ) ὅταν τό πλοῖον εὐρίσκεται εἰς τήν κατωτάτην γραμμὴν φορτώσεως τῆς ὑποδιαίρέσεως, ἡ Ἀρχὴ δύναται νά προσδιορίσῃ τό ὄριον μέσου βυθίσματος εἰς τό ὁποῖον αἱ παραφωτίδες αὐταὶ θά ἔχουν τό κάτω μέρος αὐτῶν ἄνωθεν γραμμῆς χαρακτηρισμένης παραλλήλως πρὸς τό ἔξωτερικόν ἔγχος τοῦ καταστρώματος στεγανῶν καί ἐχούσης τό κατώτατον αὐτῆς σημεῖον εἰς ὕψος 1,37 μέτρων (ἢ 4 1/2 ποδῶν) σὺν 2 1/2 τοῖς ἑκατόν τοῦ πλάτους τοῦ πλοίου ὑπεράνω τῆς ἰσάλου γραμμῆς τῆς ἀντιστοιχοῦσης εἰς τό ὄριον τοῦ μέσου βυθίσματος καί μέχρι τοῦ ὁποίου συνεπῶς θά ἐπιτρέπεται ὁ ἀπόπλους ἀνευ προηγουμένου κλεισίματος τῶν παραφωτίδων τούτων διά κλειδός καί νά ἀνοίγωνται ἐν πλῆ ὅπ' εὐθύνην τοῦ πλοιάρχου κατὰ τόν πλοῖον πρὸς τόν ἐπόμενον λιμένα. Εἰς τροπικὰς ζώνας, ὡς καθορίζονται ἐν τῇ ἐν ἰσχύϊ Διεθνῇ Συμβάσει Γραμμῶν Φορτώσεως, τό ὄριον τοῦτο τοῦ βυθίσματος δύνανται νά ἀξήθη κατὰ 0,305 μ. (ἢ ἓνα πόδα).

(δ) Ἐφ' ὧν δῶν τῶν παραφωτίδων, δέον νά τοποθετοῦνται ἰσχυρά ἐσωτερικά γιγγλυμωτά καλύμματα, τά ὅποια νά δύνανται εὐκόλως καί ἀποτελεσματικῶς νά κλείωνται ὑδατοστεγανῶς. Κατ' ἐξαίρεσιν, πρὸς μνησθῆναι τοῦ ἐνός ὀγδόου τοῦ μήκους τοῦ πλοίου ἀπό τῆς πρῶταις ὀρθίας καί ἀνωθεν γραμμῆς χαρασσομένης παραλλήλως πρὸς τὸ ἐξωτερικόν ἴχνος τοῦ καταστρώματος στεγανῶν καί ἐχούσης τὸ κατώτατον αὐτῆς σημεῖον εἰς ὕψος 3,66 μέτρων (ἢ 12 ποδῶν) σὺν 2 1/2 τοῖς ἑκατόν τοῦ πλάτους τοῦ πλοίου ἀνωθεν τῆς κατωτάτης γραμμῆς φορτώσεως τῆς ὑποδιαίρεσεως, τὰ καλύμματα δύνανται νά εἶναι ἀπαιρετά εἰς τὰ ἐνδικοιτήματα ἐπιβατῶν, οὐχί δέ καί εἰς τὰ ἐνδικοιτήματα τὰ προοριζόμενα δι' ἐπιβάτας καταστρώματος, ἐκτός ἐάν τὰ καλύμματα, συμφῶνως πρὸς τὴν ἐν ἰσχύϊ Διεθνή Σύμβασιν περὶ Γραμμῶν Φορτώσεως, δέον νά εἶναι μονίμως τοποθετημένα εἰς τὰς οἰκείας θέσεις τῶν. Τοιαῦτα ἀπαιρετά καλύμματα δέον νά εὐρίσκωνται ἐγγύς τῶν παραφωτίδων, ὡς εἶναι προοριζόμενα νά ἐξυπηρετοῦν.

(ε) Παραφωτίδες καί καλύμματα αὐτῶν, αἵτινες δέν εἶναι προσιταί κατά τὴν διάρκειαν τοῦ πλοῦ, δέον νά κλείωνται καί νά ἐξασφαλίζωνται πρὸ τοῦ ἀπόπλου.

(στ) (i) Παραφωτίδες δέον νά μὴ τοποθετοῦνται ἐντός χώρων ἀποκλειστικῶς προοριζομένων διὰ φορτίον ἢ γαιάνθρακα.

(ii) Ἐν πάσῃ περιπτώσει δύνανται νά τοποθετηθοῦν παραφωτίδες εἰς χώρους προοριζομένους διὰ τὴν ἐναλλάξ μεταφορὰν φορτίων ἢ ἐπιβατῶν, ἀλλὰ δέον νά εἶναι οὕτω πως κατασκευασμένοι ὥστε οὐδεὶς νά δύναται νά ἀνοίγῃ τὰς παραφωτίδας ταύτας ἀνευ τῆς συγκαταθέσεως τοῦ πλοιοἰάρχου.

(iii) Ἐάν ἐντός τῶν χώρων τούτων μεταφέρεται φορτίον, αἱ παραφωτίδες καί τὰ καλύμματα αὐτῶν δέον νά κλείωνται ὑδατοστεγανῶς διὰ κλειδὸς πρὸ τῆς φορτώσεως τοῦ φορτίου καί νά γίνεται σχετικὴ περὶ τούτου μνεῖα εἰς τὸ ἡμερολόγιον τοῦ πλοίου τὸ προβλεπόμενον ὑπὸ τῆς Ἀρχῆς.

(ζ) Παραφωτίδες αὐτομάτου ἀερισμοῦ δέν δύνανται νά τοποθετοῦνται εἰς τὸ ἐξωτερικόν περιβλήμα κάτωθεν τῆς γραμμῆς τοῦ ὀρίου βυθίσεως ἀνευ εἰδικῆς ἐγκρίσεως τῆς Ἀρχῆς.

(η) Ὁ ἀριθμὸς τῶν εὐδαιῶν, ἐξαγωγῶν ὑγιεινῆς καί ἄλλων ὁμοίας φύσεως ἀνοιγμάτων εἰς τὸ ἐξωτερικόν περιβλήμα δέον νά περιορίζηται εἰς τὸ ἐλάχιστον, εἴτε διὰ τῆς ἐξυπηρετήσεως ὑπὸ ἐκάστης ἐξαγωγῆς ὅσον τὸ δυνατόν πλειόνων ἐκβολικῶν σωλήνων ὑγιεινῆς ἢ ἄλλων, εἴτε καί δι' οἱ οὐδέποτε ἄλλου ἱκανοποιητικοῦ τρόπου.

(θ) (i) Ὅλαι αἱ λήψεις ὕδατος καί αἱ ἐξαγωγαί ἐπὶ τοῦ ἐξωτερικοῦ περιβλήματος δέον νά εἶναι ἐφωδιασμένοι δι' ἀποτελεσματικῶν καί προσιτῶν ρυθμίσεων, ὥστε νά ἀποκλείεται ἡ αἰφνιδία εἰσροή ὕδατος ἐντός τοῦ πλοίου. Ἡ χρῆσις μολύβδου ἢ ἄλλου ὑλικοῦ προσβαλλομένου ὑπὸ τῆς θερμότητος ἀπαγορεύεται διὰ τοὺς σωλήνας λήψεων θαλάσσης ἢ τῶν ἐξαγωγῶν εἰς τὴν θάλασσαν, ἢ δι' οἱανδήποτε ἄλλην χρῆσιν ἐνθα ἢ βλάβη τῶν σωλήνων τούτων ἐν περιπτώσει πυρκαϊᾶς ἤθελε προκαλέσει κίνδυνον κατακλύσεως.

(ii) (1) Ἐξαίρεσι τῶν προβλεπομένων ἐν ἐδαφίῳ (iii) τῆς παρούσης παραγράφου, ἐκάστη κεχωρισμένη ἐξαγωγή ἐκ χώρων εὐρισκομένων κάτωδι τῆς γραμμῆς ὀρίου βυθίσεως καί διερχομένη διὰ τοῦ ἐξωτερικοῦ περιβλήματος, δέον νά εἶναι ἐφωδιασμένη εἴτε δι' ἐνός αὐτομάτου ἀντεπιστρεπτικοῦ ἐπιστομίου ἐφωδιασμένου διὰ ἀποτελεσματικῶν μέσου κλεισίματος αὐτοῦ, χειριζομένου ἐκ σημείου ἀνωθεν τοῦ καταστρώματος στεγανῶν, εἴτε ἐναλλακτικῶς διὰ δύο αὐτομάτων ἀντεπιστρεπτικῶν ἐπιστομίων μὴ ἐφωδιασμένων διὰ τοιοῦτου μέσου κλεισίματος, τὸ ἀνώτερον τῶν ὁποίων θά εἶναι οὕτω τοποθετημένον ἀνωθεν τῆς κατωτάτης γραμμῆς φορτώσεως τῆς ὑποδιαίρεσεως, ὥστε νά εἶναι πάντοτε προσιτόν πρὸς χρομίσωσιν ὑπὸ συνθήκας ὑπηρεσίας καί νά εἶναι τύπου κανονικῶς κλειομένου.

(2) Ὅσακις τοποθετεῖται ἐπιστόμιον μετ' ἀποτελεσματικῶν μέσου κλεισίματος, ἡ θέσις χειρισμοῦ αὐτοῦ ἀνωθεν τοῦ καταστρώματος στεγανῶν, δέον νά εἶναι πάντοτε εὐκόλως προσιτῆ, ἐπὶ πλέον δέ δέον νά ὑπάρχουν μέσα ἐνδείξεως ἐάν τὸ ἐπιστόμιον εἶναι ἀνοικτόν ἢ κλειστόν.

(iii) Αἱ κύριαί καί βοηθητικαὶ λήψεις θαλάσσης καί ἐξαγωγαί αἱ σχετικαί πρὸς τὰς μηχανάς, δέον νά εἶναι ἐφωδιασμένοι διὰ κρουῶν ἢ ἐπιστομίων εἰς θέσεις εὐκόλως προσιτὰς μεταξύ τῶν σωλήνων καί τοῦ ἐξωτερικοῦ περιβλήματος, ἢ μεταξύ τῶν σωλήνων καί τῶν κιβωτιδίων τῶν προσηρμοσμένων ἐπὶ τοῦ ἐξωτερικοῦ περιβλήματος.

- (ι) (i) Θυρίδες επιβιβάσεως, φορτοθυρίδες και θυρίδες άνθρακεύσεως εϋρισκόμεναι κάτωθεν τής γραμμής όριου βυθίσεως δέον νά είναι έπαρκους άντοχής. Αϋται δέον νά κλειώνται στεγανώς πρό του άπόπλου του πλοίου και νά διατηρούνται κλειστά κατά τήν διάρκειαν του πλου.
- (ii) Αι άνωτέραι θυρίδες έν ούδεμιᾷ περιπτώσει θά είναι τοποθετημένα κατά τρόπον ώστε τό κατώτατον αϋτών σημείον νά εϋρίσκηται κάτωθεν τής κατωτάτης έμφόρτου Ισάλου τής ύποδιαίρέσεως.
- (ια) (i) Τά έσωτερικά στόμια τών έκβολέων τέφρας, άπορριμμάτων κ.λ.π. δέον νά είναι έφωδιασμένα διά καταλλήλου πώματος.
- (ii) 'Εάν τό έσωτερικόν στόμιον εϋρίσκηται κάτωθι τής γραμμής όριου βυθίσεως, τό πώμα δέον νά είναι ύδατοστεγανόν και προσθέτως ό όχετός του έκβολέως δέον νά είναι έφωδιασμένος δι' αυτόματού άντεπιστρεπτικού έπιστομίου εις προσιτόν σημείον άνωθεν τής κατωτάτης γραμμής φορτώσεως τής ύποδιαίρέσεως. Όταν ό έκβολεύς δέν είναι έν χρήσει, τόσον τό πώμα όσον και τό έπιστόμιον δέον νά τηρώνται κλειστά και έξηφαλισμένα.

Κανονισμός 15

Κατασκευή και 'Αρχικά Δοκιμαία Στεγανών Θυρών, Παραωτίδων κ.λ.π.

- (α) (i) Τό σχέδιον, τά ύλικά και ό τρόπος κατασκευής όλων τών στεγανών θυρών, παραωτίδων, θυρίδων επιβιβάσεως, φορτοθυρίδων και θυρίδων άνθρακεύσεως, έπιστομιών, σωλήνων, έκβολέων τεφρών και άπορριμμάτων, περί όλων οι παρόντες Κανονισμοί, δέον νά τυγχάνουν τής έγκρίσεως τής 'Αρχής.
- (ii) Τά πλαίσια τών κατακορύφων στεγανών θυρών δέον νά μή παρουσιάζουν εις τό κατώτατον αϋτών μέρος ούδεμίαν αϋλάκωσιν έντός τής όποίας θά ήτο δυνατόν νά συσσωρευθοϋν άκαθαρσίαι έμποδίζουσαι τήν θύραν νά κλείη καλώς.
- (iii) Όλοι οι κρουνοί και τά έπιστόμια τών λήψεων θαλάσσης και τών έξαγωγών κάτωθεν του καταστρώματος στεγανών και όλα τά έξαρτήματα τών τοιούτων κρουνών και έπιστομιών, καθώς και αι συνδέσεις αϋτών επί του πλοίου θά είναι κατασκευασμένα εκ χάλυβος, όρειχάλκου ή έτέρου έγκεκριμένου έλατου ύλικου. Δέν θά χρησιμοποιήται ό κοινός χυτοσίδηρος ή παρόμοια ύλικά.
- (β) Πάσα στεγανή θύρα δέον νά δοκιμάζεται δι' ύδραυλικής πιέσεως ύδατοστήλης ύψους μέχρι του καταστρώματος στεγανών. Η δοκιμή αϋτη δέον νά εκτελήται προτου τό πλοϊον τεθῆ έν ύπηρεσία είτε πρό τής τοποθετήσεως τής θύρας είτε μετά τήν τοποθέτησιν αϋτης.

Κανονισμός 16

Κατασκευή και 'Αρχικά Δοκιμαία Στεγανών Καταστρωμάτων, Όχετών κ.λ.π.

- (α) Στεγανά καταστρώματα, όχετοί, σήραγγες, κοίλαι τρόπιδες και άεραγωγοί δέον νά είναι άντοχής ίσης πρός τήν τών στεγανών διαφραγμάτων εις τά αντίστοιχα ύψη. Τά χρησιμοποιούμενα μέσα διά τήν επίτευξιν στεγανότητος και υλοθετούμεναι διατάξεις διά τό κλείσιμον τών ανοιγμάτων αϋτών δέον νά τυγχάνουν τής έγκρίσεως τής 'Αρχής. Οι στεγανοί άεραγωγοί και οι όχετοί δέον νά έξικνούνται τουλάχιστον μέχρι του καταστρώματος στεγανών.
- (β) Μετά τό πέρας τής κατασκευής δέον νά εκτελήται επί τών στεγανών καταστρωμάτων δοκιμή δι' έκσφενδονίσεως ύδατος δι' εύκάπτου σωλήνος ή διά κατακλύσεως αϋτών δι' ύδατος, καθώς επίσης και δοκιμή δι' έκσφενδονίσεως ύδατος δι' εύκάπτου σωλήνος επί τών στεγανών όχετών, σηράγγων και άεραγωγών.

Κανονισμός 17

Στεγανότης άνωθεν τής Γραμμής Όριου Βυθίσεως

- (α) Δύναται νά απαιτηθῆ υπό τής 'Αρχής όπως λαμβάνονται πάντα τά εϋλογα και πρακτικά μέτρα διά τόν περιορισμόν τής είσοφης καθώς και διαχύσεως του ύδατος άνωθεν του καταστρώματος στεγανών. Τοιαύτα μέτρα δύναται νά περιλαμβάνουν τμηματικά διαφράγματα ή πλαίσια. Όταν τοποθετούνται οϋτω στεγανά τμηματικά διαφράγματα ή πλαίσια επί του καταστρώματος στεγανών

υπεράνω ή εις άμεσον γειτνίασιν τών κυρίων στεγανών διαφραγμάτων, ταύτα δέον νά συνδέωνται ύδατοστεγώς μετά του περιβλήματος καί του καταστρώματος στεγανών, εις τρόπον ώστε νά μειούται ή ροή του ύδατος κατά μήκος του καταστρώματος όταν τό υποστάν βλάβην πλοίουν έχη έγκρασίαν κλίσιν. Όταν τό τμηματικό στεγανόν διάφραγμα δέν τοποθετήται έν εύθυγραμμία προς τό ύποκάτω στεγανόν διάφραγμα, τότε τό τμήμα του καταστρώματος στεγανών τό περιλαμβανόμενον μεταξύ αύτων θά κατασκευάζεται άποτελεσματικώς ύδατοστεγές.

(β) Τό κατάστρωμα στεγανών ή τό άνωθεν αύτου κατάστρωμα δέον νά εΐναι καιροστεγές, υπό τήν έννοιαν ότι υπό συνήθεις συνθήκας θαλάσσης δέν θά εισδύη ύδωρ προς τά κάτω. Όλα τά έπί του έκτεθειμένου καταστρώματος ανοίγματα δέον νά περιβάλλωνται υπό τοιχωμάτων έπαρκους ύψους καί άντοχής καί νά εΐναι έφωδιασμένα μέ έπαρκή μέσα έπιτρέποντα τό ταχύ κλείσιμον αύτων καιροστεγώς. Θυρίδες έκροής ύδατος εις τό δρύφακτον, άνοικτά κιγκλιδώματα καί/ή εύδίαιοι δέον νά τοποθετούνται ως άπαιτείται διά ταχείαν έκροήν του ύδατος έκ του έκτιθεμένου καταστρώματος ύφ' οιασδήποτε καιρικής συνθήκας.

(γ) Παραφωτίδες, θυρίδες έπιβιβάσεως, φορτοθυρίδες καί θυρίδες άνθρακεύσεως, ως καί άλλα μέσα κλεισίματος ανοιγμάτων επί του έξωτερικού περιβλήματος άνωθεν τής γραμμής όριου βυθίσεως, δέον νά εΐναι καταλλήλως έσχεδιασμένα καί κατασκευασμένα καί έπαρκους άντοχής, λαμβανομένων ύπ' όψιν τών χώρων επί τήν όποιων εΐναι τοποθετημένα καί τών θέσεών των έν σχέσει προς τήν κατωτάτην γραμμήν φορτώσεως τής υποδιαίρέσεως.

(δ) Θά προβλέπωνται κατάλληλα έσωτερικά καλύμματα παραφωτίδων, τοποθετημένα εις τρόπον ώστε νά δύνανται νά κλείουν εύκόλως καί τελεσφόρως καί νά στερεοούνται ύδατοστεγώς, δι' άπάσας τās παραφωτίδας τών χώρων κάτωθι του πρώτου καταστρώματος του εύρισκομένου άνωθεντου καταστρώματος στεγανών διαφραγμάτων.

Κανονισμός 18

Διατάξεις Άπαντήσεως Κυτῶν εις Έπιβατηγά Πλοία

(α) Τά πλοία δέον νά εΐναι έφωδιασμένα μέ ικανοποιητικήν έγκατάστασιν άπαντήσεως κύτους, ικανήν διά τήν άπάντησιν καί τήν άποστράγγισιν οιουδήποτε στεγανού διαμερίσματος ύφ' όλας τās έν τή πράξει συνθήκας κατόπιν βλάβης είτε κατακόρυφον εΐναι τό πλοιον είτε κεκλιμένον, έξαιρουμένων τών διαμερισμάτων εκείνων άτινα προορίζονται μονίμως διά πετρέλαιον ή ύδωρ. Προς τόν σκοπόν τούτον εΐναι γενικώς άναγκαία ή ύπαρξις πλευρικών άναρροφήσεων, έξαιρέσει τών στενών διαμερισμάτων τών εύρισκομένων εις τό άκρο του πλοίου, ένθα μία μόνον άναρρόφησης δύναται νά θεωρηθῆ έπαρκής. Εις διαμερίσματα άσυνήθους σχήματος, δύναται νά άπαιτηθούν έπιπρόσθετοι άναρροφήσεις. Δέον νά ύπάρχη κατάλληλος διάταξις έπιτρέπουσα εις τό ύδωρ νά ρέη έλευθέρως προς τούς άναρροφητικούς σωλήνας του διαμερίσματος. Έάν ή Αρχή πεισθῆ ότι διά ώρισμένα διαμερίσματα δέν άπαιτούνται διατάξεις άπαντήσεως, δύναται νά έπιτρέψη τήν μη έφαρμογή των, έάν οι γενόμενοι ύπολογισμοί συμφώνως προς τούς όρους τής παραγράφου (β) του Κανονισμού 7 του παρόντος Κεφαλαίου άποδεικνύουν ότι δέν θά μειωθῆ ή ασφάλεια του πλοίου. Θά προβλέπωνται άποτελεσματικά μέσα άποστραγγίσεως τών ύδάτων εις κῆτη φέροντα μόνωσιν.

(β) (i) Τά πλοία θά εΐναι έφωδιασμένα διά τριών τουλάχιστον μηχανοκίνητων άντλιών συνδεομένων μετά του κυρίου άγωγού άπαντήσεως κύτους, έκ τών όποιων ή μία δύναται νά λαμβάνη κινήσιν από τήν προωστήριον μηχανήν. Έάν ό δείκτης κριτηρίου εΐναι 30 καί άνω, δέον νά ύπάρχη μία έπιπρόσθετος άνεξάρτητος μηχανοκίνητος άντλία.

(ii) Ό κατωτέρω πίναξ δίδει τόν αριθμόν τών άπαιτουμένων άντλιών :

Δείκτης κριτηρίου	Μικρότερος του 30	30 καί άνω
Άντλία κινουμένη έκ τής κυρίας μηχανής (δύναται νά αντικατασταθῆ υπό μιᾶς άνεξαρτήτου μηχανοκίνητου άντλίας)	1	1
Άνεξάρτητοι μηχανοκίνητοι άντλίες	2	3

(iii) Άντλίες ύγειεινής, έρματος καί γενικής χρήσεως δύναται νά θεωρώνται ως άνεξάρτητοι μηχανοκίνητοι άντλίες, όταν εΐναι συνδεομένα προς τό δίκτυον άπαντήσεως κυτῶν.

(γ) Όπου είναι πρακτικώς δυνατόν, αι μηχανοκίνητοι άντλίες κύτους δέον νά τοποθετούνται εις κεχωρισμένα στεγανά διαμερίσματα οδτω πως διατεταγμένα η τοποθετημένα, ώστε ταύτα νά μή κατακλύζονται άμέσως συνεπεία τής αύτης βλάβης. Εάν αι μηχαναί καί οι λέβητες εϋρίσκονται εις δύο η πλείονα στεγανά διαμερίσματα, αι διά τήν άπάντησιν τών κυτών διαθέσιμοι άντλίες δέον νά είναι κατά τό δυνατόν κατανεμημένοι εις τά διαμερίσματα ταύτα.

(δ) Επί πλοίων μήκους 91,5 μέτρων (ή 300 ποδών) η έχόντων δείκτην κριτηρίου 30 καί άνω, η διατάξεις δέον νά είναι τοιαύτη ώστε μία τουλάχιστον μηχανοκίνητος άντλία νά είναι διαθέσιμος προς χρήσιν ύφ' όλας τάς συνθήεις συνθήκας, ύφ' ός τό πλοϊον θά ήτο δυνατόν νά κατακλυσθή έν πλψ. Η άπαιτήσεις αύτη θά θεωρηθή έκπληρωθεΐσα εάν :

- (i) μία τών άπαιτουμένων άντλιών είναι άντλία άσφαλείας ήγγυημένου ύποβρυχίου τύπου, λαμβάνουσα ενεργείαν κινήσεως έκ πηγής κειμένης άνωθεν του καταστρώματος στεγανών, η
- (ii) αι άντλίες καί αι πηγαί ενεργείας διά τήν κινήσιν των είναι οδτω πως διατεταγμένοι καθ' όλον τό μήκος του πλοίου ώστε, ύπό οιασδήποτε συνθήκας κατακλύσεως ός τό πλοϊον καλεΐται νά αντιμετωπίση, μία τουλάχιστον άντλία εϋρισκομένη εις μή βλαβέν διαμέρισμα νά δύναται νά χρησιμοποιηθή.

(ε) Έξαιρέσει τών προσθέτων άντλιών τών προοριζομένων μόνον διά τήν άποκλειστικήν έξυπηρέτησιν τών άκραίων δεξαμενών ζυγοσταθμίσεως, έκάστη άπαιτουμένη άντλία κύτους δέον νά είναι διατεταγμένη κατά τρόπον επιτρέποντα τήν ύπ' αύτης άναρρόφωσιν έξ ολουδήποτε χώρου του όποιου η άπάντησις άπαιτείται έκ τής εφαρμογής τών διατάξεων τής παραγράφου (α) του παρόντος Κανονισμού.

(στ) (i) Έκάστη άνεξάρτητος μηχανοκίνητος άντλία κύτους δέον νά είναι ικανή νά προσδίδη ταχύτητα εις τό ύδωρ, έντός του άπαιτουμένου κυρίου άγωγού άπαντλήσεως κύτους, οχί μικροτέραν τών 122 μέτρων (ή 400 ποδών) ανά λεπτόν. Άνεξάρτητοι μηχανοκίνητοι άντλίες κύτους ήγκατεστημένοι εις χώρους μηχανών δέον νά έχουν άπ' εύθείας άναρροφήσεις έκ τών χώρων τούτων, ύπό τήν επιφύλαξιν ότι δέν θά άπαιτώνται περισσότεραι τών δύο άναρροφήσεων δι' έκαστον τών χώρων τούτων. Όταν ύπάρχουν δύο η περισσότεραι τοιαύται άναρροφήσεις θά προβλέπεται μία τουλάχιστον εις τήν άριστεράν πλευράν καί μία εις τήν δεξιάν. Η Άρχή δύναται νά άπαιτήση οπως άνεξάρτητοι μηχανοκίνητοι άντλίες κύτους ήγκατεστημένοι εις άλλους χώρους έχουν κεχωρισμένως άπ' εύθείας άναρροφήσεις. Αι άπ' εύθείας άναρροφήσεις δέον νά είναι καταλλήλως διατεταγμένοι καί αι έκ τούτων εϋρισκόμεναι εις χώρων μηχανών δέον νά έχουν διάμετρον οχί μικροτέραν τής του κυρίου άγωγού άπαντλήσεως κύτους.

- (ii) Εις πλοία καίοντα γαιάνθρακας δέον νά ύπάρχη εις τό λεβιτοστάσιον, επί πλέον τών άλλων άναρροφήσεων τών προβλεπομένων ύπό τψ παρόντος Κανονισμού, εις εδκαμπτος άναρροφητικός σωλήν καταλλήλου διαμέτρου καί άρκετου μήκους, ο όποιος νά δύναται νά συνδεθή εις τήν άναρρόφωσιν μιάς άνεξαρτήτου μηχανοκινήτου άντλίας.

(ζ) (i) Επί πλέον τής άπ' εύθείας άναρροφήσεως η άναρροφήσεων τών καθοριζομένων ύπό τής παραγράφου (στ) του παρόντος Κανονισμού, θά ύπάρχη έντός του χώρου μηχανών μία άπ' εύθείας άναρρόφωσις άπό τής κυρίας άντλίας κυκλοφορίας μέχρι του ύψους άποστραγγίσεως τών χώρων μηχανών έφωδιασμένη δι' ένός άντεπιστρεπτικού έπιστομίου. Η διάμετρος του σωλήνος τής άπ' εύθείας ταύτης άναρροφήσεως θά είναι τουλάχιστον τά 2/3 τής διαμέτρου άναρροφήσεως τής άντλίας εις τήν περίπτωση τών άτμοπλοίων, τής αύτης δέ διαμέτρου προς τήν άναρρόφωσιν τής άντλίας εις τήν περίπτωσην δηζελοπλοίων.

- (ii) Εάν κατά τήν γνώμην τής Άρχής η κυρία άντλία κυκλοφορίας δέν είναι κατάλληλος προς τόν σκοπόν τουτον, τότε θά άγεται μία άπ' εύθείας άναρρόφωσις άσφαλείας κύτους άπό τής μεγίστης επί του πλοίου μηχανοκινήτου άντλίας μέχρι του ύψους άποστραγγίσεως του χώρου μηχανών. Η διάμετρος τής άναρροφήσεως ταύτης θά είναι ίση προς τήν διάμετρον άναρροφήσεως τής χρησιμοποιουμένης άντλίας. Η παροχή τής άντλίας ταύτης, οδτω συνδεδεμένης, θά υπερβαίνη κατά ποσότητα, ίκανοποιούσαν τήν Άρχήν, τήν παροχήν τήν άπαιτουμένην διά μίαν άντλίαν κύτους τής ήγκαταστάσεως.

- (iii) Τά βάρκτρα τών έπιστομιών λήψεως θαλάσσης καί τών άπ' εύθείας άναρροφήσεων δέον νά επέκτείνωνται άρκετά ύπεράνω του διαπέδου του μηχανοστασίου.

- (iv) Ένθα τό χρησιμοποιούμενον καύσιμον εἶναι ἢ δυνατόν νά εἶναι γαίαν-θραξ καί δέν ὑπάρχει στεγανόν διάφραγμα μεταξύ τῶν μηχανῶν καί τῶν λεβήτων, δέον νά τοποθετηθῆται εἰς πᾶσαν ἀντλίαν κυκλοφορίας χρησιμοποιουμένην κατ' ἐφαρμογήν τῆς ὑποπαραγράφου (i) τῆς παρούσης παραγράφου, εἴτε μία ἀπ' εὐθείας κατάθλιψις ἐκτός τοῦ πλοίου, εἴτε διαζευκτικῶς μία παρακαμπτήριος πρὸς τήν κατάθλιψιν τῆς ἀντλίας κυκλοφορίας.
- (η) (i) Ὅλαι αἱ σωληνώσεις, αἱ ἐξυπηρετοῦσαι τήν ἀπάντησιν χώρων φορτίου ἢ μηχανῶν, δέον νά εἶναι ἐντελῶς κεχωρισμένοι τῶν σωληνώσεων αἱ ὁποῖαι χρησιμεύουν διὰ τήν πλήρωσιν ἢ ἐκκένωσιν τῶν δεξαμενῶν ὕδατος ἢ πετρελαίου.
- (ii) Ὅλοι οἱ σωλῆνες τοῦ δικτύου κύτους οἱ χρησιμοποιούμενοι ἐντός ἢ κάτωθεν τῶν ἀνθρακαποθηκῶν ἢ τῶν πετρελαιοποθηκῶν καυσίμου ἢ ἐντός χώρων λεβήτων ἢ μηχανῶν, περιλαμβανομένων τῶν χώρων ἐντός τῶν ὁποίων ὑπάρχουν δεξαμεναί κατακαθίσεως πετρελαίου ἢ συγκροτήματα ἀντλιῶν πετρελαίου καυσίμου, θά εἶναι κατασκευασμένοι ἐκ χάλυβος ἢ ἐξ ἄλλου ἐγκεκριμένου ὕλικου.
- (θ) Ἡ διάμετρος τοῦ κυρίου ἀγωγοῦ ἀπαντλήσεως κύτους θά ὑπολογίζεται συμφῶνως πρὸς τόν κατωτέρω τύπον, νοουμένου ὅτι ἡ πραγματικὴ ἐσωτερικὴ διάμετρος τοῦ κυρίου ἀγωγοῦ ἀπαντλήσεως δύναται νά ἔχη μίαν ἐκ τῶν πλησιεστέρων τυποποιημένων τιμῶν, ἧτις θά θεωρηθῆται ὑπὸ τῆς Ἀρχῆς ὡς παραδεκτὴ :

$$d = 1.68\sqrt{L(B + D)} + 25$$

ἐνθα,

- d = ἐσωτερικὴ διάμετρος τοῦ κυρίου ἀγωγοῦ ἀπαντλήσεως εἰς χιλιοστάμετρα
L = μήκος πλοίου εἰς μέτρα
B = πλάτος πλοίου εἰς μέτρα
D = κοῖλον τοῦ πλοίου μέχρι τοῦ καταστρώματος στεγανῶν, εἰς μέτρα.

$$\eta \quad d = \sqrt{\frac{L(B + D)}{2,500}} + 1$$

ἐνθα,

- d = ἐσωτερικὴ διάμετρος τοῦ κυρίου ἀγωγοῦ ἀπαντλήσεως εἰς δακτύλους
L = μήκος πλοίου εἰς πόδας
B = πλάτος πλοίου εἰς πόδας
D = κοῖλον τοῦ πλοίου μέχρι τοῦ καταστρώματος στεγανῶν εἰς πόδας.

Ἡ διάμετρος τῶν διακλαδώσεων τοῦ κυρίου ἀγωγοῦ ἀπαντλήσεως θά ὑπολογίζεται διὰ κανόνων καθοριζομένων ὑπὸ τῆς Ἀρχῆς.

(i) Ἡ διάταξις τοῦ δικτύου ἀπαντλήσεως κύτους καί τοῦ δικτύου ἔρματος δέον νά εἶναι τοιαύτη, ὥστε νά ἀποκλειεταί ἡ δυνατότης εἰσροῆς ὕδατος ἐκ τῆς θαλάσσης ἢ ἐκ χώρων ἔρματος ἐντός τῶν χώρων φορτίου καί μηχανῶν, ἢ ἐξ ἑνὸς διαμερίσματος εἰς ἄλλο. Εἰδικὴ μέριμνα δέον νά λαμβάνεται προκειμένου περὶ δεξαμενῆς κύτους συνδεδεμένης πρὸς τὸ δίκτυον ἀπαντλήσεως κύτους καί ἔρματος, ὥστε νά μὴ δύναται αὐτὴ νά πληρωθῆ ἐξ ἀβλεψίας διὰ θαλασσίου ὕδατος, ὅταν περιέχῃ φορτίον, ἢ νά ἐκκενωθῆ διὰ τινος σωλῆνος ἀπαντλήσεως κύτους, ὅταν περιέχῃ ὑδάτινον ἔρμα.

(ia) Δέον νά λαμβάνεται μέριμνα ὥστε διαμερίσμα τι ἐξυπηρετούμενον ὑπὸ ἀναρροφητικοῦ σωλῆνος ἀπαντλήσεως κύτους, νά μὴ δύναται νά κατακλυσθῆ ἐάν ὁ σωλῆν οὗτος ἀποκοπῆ ἢ ὑποστῆ βλάβην εἰς ἕτερον διαμερίσμα συνεπείᾳ συγκρούσεως, ἢ προσαράξεως. Πρὸς τὸν σκοπὸν τοῦτον, ὅπου ὁ σωλῆν οὗτος εὐρίσκεται εἰς ἀπόστασιν ἀπὸ τῆς πλευρᾶς τοῦ πλοίου ἐγγυτέραν τοῦ ἑνὸς πέμπτου τοῦ πλάτους τοῦ πλοίου (μετρουμένην κατ' ὀρθὴν γωνίαν πρὸς τὸν διαμήκη ἀξονα τοῦ πλοίου εἰς τὸ ὕψος τῆς κατωτάτης γραμμῆς φορτώσεως τῆς ὑποδιαίρεσεως) ἢ ἐάν διέρχεται διὰ κοίλης τρόπιδος, δέον νά ὑπάρχῃ ἐπὶ τοῦ σωλῆνος ἀντεπιστρεπτικὸ ἐπιστόμιον τοποθετημένον εἰς τὸ διαμερίσμα τὸ περιέχον τὸ ἀνοικτὸν ἄκρον τοῦ σωλῆνος.

(ib) Ὅλα τὰ κιβώτια διακομῆς, οἱ κρουνοὶ καί τὰ ἐπιστόμια τοῦ συστήματος ἀπαντλήσεως κυτῶν δέον νά εὐρίσκωνται εἰς θέσεις προσιτᾶς ἐν παντὶ χρόνῳ καὶ ὑπὸ πάσας τὰς συνθήκας συνθήκας. Ἡ διάταξις αὐτῶν δέον νά εἶναι τοιαύτη ὥστε εἰς περίπτωσιν κατακλύσεως, ἢ μίᾳ τῶν ἀντλιῶν κύτους νά δύναται νά ἀναρροφήσῃ ἐξ οἰουδήποτε διαμερίσματος. Ἐπὶ πλέον, ἐάν ἤθελε λάβει χώραν ζημία εἰς μίαν ἀντλίαν ἢ εἰς τὸν σωλῆνα αὐτῆς τὸν συνδεδεμένον πρὸς τὸν κύριον ἀγωγὸν ἀπαντλήσεως, ὅταν ταῦτα εὐρίσκωνται εἰς ἀπόστασιν μικροτέραν τοῦ ἑνὸς

πέμπτου του πλάτους του πλοίου από της πλευράς του πλοίου, να μή δύναται αυτή να έμποδίση τήν λειτουργίαν του συστήματος τής άπαντλήσεως τών κυτών. Έάν ύπάρχη έν μόνον δίκτυον σωληνώσεων κοινόν εις όλας τάς άντλίας, ό χειρισμός τών άναγκαίων κρουών ή έπιστομίων δέον να δύναται να έκτελήται από σημείου εύρισκομένου άνωθεν του καταστρώματος στεγανών. Έάν, πλήν του κυρίου δικτύου άπαντλήσεως κυτών, ύπάρχη δίκτυον κινδύνου, τούτο δέον να είναι ανεξάρτητον του κυρίου δικτύου και να είναι ούτω πως διατεταγμένον ώστε μία άντλία να δύναται να έξυπηρετή όιονδήποτε διαμέρισμα διατελούν έν κατακλύσει. Εις τήν τελευταίαν ταύτην περίπτωσηιν άπαιτείται μόνον όπως οι κρουοί και τά έπιστόμια τά άναγκαία διά τόν χειρισμόν του δικτύου κινδύνου δύναται να χειρίζωνται άνωθεν του καταστρώματος στεγανών.

(ιγ) Όλοι οι κρουοί και τά έπιστόμια τά άναφερόμενα εις τήν παράγραφον (ιβ) του παρόντος Κανονισμού, άτινα δύναται να χειρίζονται άνωθεν του καταστρώματος στεγανών, θά έχουν τά χειριστήρια αυτών εις τόν σταθμόν χειρισμού εύκρινώς σημειούμενα και θά έφωδιάζονται διά μέσων ένδειξεως εάν είναι άνοικτά ή κλειστά.

Κανονισμός 19

Καταποπιστικά στοιχεία Εύσταθείας Έπιβατηγών και Φορηγών πλοίων*

(α) Τά έπιβατηγά και φορηγά πλοία δέον να ύφίστανται μετά τήν συμπλήρωσιν αυτών δοκιμήν εύσταθείας διά τόν καθορισμόν τών στοιχείων εύσταθείας αυτών. Ό πλοίαρχος δέον να έφοδιάζεται δι' όλων τών σχετικών θετικών στοιχείων τών άναγκαίων διά να δύναται να ένημεροϋται διά τρόπον άπλου και ταχέως επί τής εύσταθείας του πλοίου υπό διαφόρους συνθήκας ύπηρεσίας. Αντίγραφον τών άνωτέρω θά ύποβάλλεται εις τήν Άρχήν.

(β) Έάν εις έν πλοϊον λάβουν χώραν μετατροπαι τοιαύται ώστε να μεταβάλλουν ουσιαδώς τά στοιχεία εύσταθείας τά χορηγηθέντα εις τόν πλοίαρχον, δέον να χωρηγηθούν εις αυτόν νέα διωρθωμένα στοιχεία εύσταθείας. Έάν κρίνεται άναγκαϊον, θά έκτελεσθή νέα δοκιμή εύσταθείας του πλοίου.

(γ) Η Άρχή δύναται να άπαλλάξη ώρισμένον πλοϊον τής τοιαύτης δοκιμής εύσταθείας, υπό τόν όρον ότι ύπάρχουν διαθέσιμα βασικά δεδομένα προκύπτοντα έκ δοκιμής εύσταθείας έτέρου άδελφου πλοίου, ή δε Άρχή ήθελε πεισθί ότι άσφαλή στοιχεία περί τής εύσταθείας του άπαλλασσομένου πλοίου δύναται να έξαχθούν έκ τών τοιούτων βασικών δεδομένων.

(δ) Η Άρχή δύναται επίσης να άπαλλάξη τής δοκιμής εύσταθείας ώρισμένον πλοϊον ή κλάσιν πλοίων, ειδικώς κατεσκευασμένα, διά τήν μεταφοράν ύγρών ή μεταλλεύματος χύμα, όταν τά ύπάρχοντα δεδομένα όμοίων πλοίων άποδεικνύουν σαφώς ότι, δεδομένων τών διαστάσεων και τών διατάξεων του πλοίου, θά ύπάρχη άρκετόν μετακεντρικόν ύψος ύφ' όλας τάς πιθανάς συνθήκας φορτώσεως.

Κανονισμός 20

Σχεδιαγράμματα Έλέγχου Βλαβών

Θά ύπάρχουν μονίμως έκτεθειμένα, προς καθοδήγησιν του άξιωματικού του ύπευδύνου διά τό πλοϊον, σχεδιαγράμματα δεικνύοντα εύκρινώς τά όρια τών στεγανών διαμερισμάτων δι' έκαστον κατάστρωμα και κύτος, τά ύπάρχοντα άνοίγματα επί αυτών μετά τών μέσων κλεισίματος αυτών και τής θέσεως του χειρισμού αυτών ως και τά μέσα διορθώσεως πάσης κλίσεως όφειλομένης εις κατάκλυσιν. Επί πλέον, θά χορηγούνται εις τούς άξιωματικούς βιβλιάρια περιέχοντα τά άνωτέρω στοιχεία.

Κανονισμός 21

Σήμανσις, Περιοδικός Χειρισμός και Έπιθεώρησις τών Στεγανών Θυρών κ.λ.π.

(α) Ό Κανονισμός ούτος εφαρμόζεται επί τών νέων και τών ύπαρχόντων πλοίων.

(β) Δέον να έκτελώνται άπαξ τής έβδομάδος γυμνάσια χειρισμού τών στεγανών θυρών, παραφοτίδων, έπιστομίων και μηχανισμών κλεισίματος εύδαιών, έκβολέων τεφρών και άπορριμμάτων. Εις πλοία έκτελούντα πλόας, διαρκείας μείζονος τής

* Γίνεται μνεία τής Συστάσεως ήτις υιοθετήθη υπό του Όργανισμού διά τής Αποφάσεως Α. 167(ΕΣ.ΙV) και τών τροποποιήσεων τής Συστάσεως ταύτης αίτινες υιοθετήθησαν υπό του Όργανισμού διά τής Αποφάσεως Α.206 (VΙI), επί τής Αθήκτου Εύσταθείας τών Έπιβατηγών και φορηγών πλοίων μήκους κάτω τών 100 μέτρων.

μιᾶς ἐβδομάδος, πλήρες γυμνάσιον δ'ὸν νά λαμβάνη χώραν πρό τοῦ ἀπόπλου, ἕτερα δέ γυμνάσια νά ἐπακολουθοῦν διαρκούντος τοῦ πλοῦ τούλάχιστον ἡμέρας τῆς ἐβδομάδος. Εἰς ὅλα τὰ πλοῖα αἱ μηχανοκίνητοι στεγανὸν θύραι καί αἱ γιγγλυμωταὶ θύραι ἐπὶ τῶν κυρίων ἐγκαρσιῶν διαφραγμάτων, ὅσαι χρησιμοποιοῦνται ἐν πλῆ, θά δοκιμάζονται καθημερινῶς.

- (γ) (i) Αἱ στεγανὰ θύραι καὶ πάντες οἱ μηχανισμοὶ καὶ οἱ ἀντίστοιχοι δεῖκται, ὡς καὶ πάντα τὰ ἐπιστόμια, τὸ κλείσιμον τῶν ὁποίων εἶναι ἀναγκαῖον διὰ νά καταστῇ διαμέρισμά τι στεγανόν, καὶ πάντα τὰ ἐπιστόμια, ὁ χειρισμὸς τῶν ὁποίων εἶναι ἀναγκαῖος διὰ τὸν ἔλεγχον τῆς ἐγκαρσίας διατάξεως τοῦ ἐλέγχου βλαβῶν, δεόν νά ὑφίστανται ἐν πλῆ περιοδικὴν ἐπιθεώρησιν τούλάχιστον ἡμέρας τῆς ἐβδομάδος.
- (ii) Τὰ ἐπιστόμια ταῦτα, αἱ θύραι καὶ οἱ μηχανισμοὶ αὐτῶν, θά σημαίνωνται καταλλήλως εἰς τρόπον ὥστε νά τυχάνουν ὀρθοῦ χειρισμοῦ καὶ νά ἐπιτυγχάνεται ἡ μεγίστη ἀσφάλεια.

Κανονισμὸς 22

Ἐγγραφαὶ εἰς Ἡμερολόγιον

- (α) Ὁ Κανονισμὸς οὗτος ἐφαρμόζεται εἰς τὰ νέα καὶ τὰ ὑπάρχοντα πλοῖα.
- (β) Αἱ γιγγλυμωταὶ θύραι, τὰ ἀφαιρετὰ ἐλάσματα, αἱ παραφωτίδες, αἱ θυρίδες ἐπιβιβάσεως, αἱ φοροθυρίδες, αἱ θυρίδες ἀνθρακεύσεως καὶ τὰ λοιπὰ ἀνοίγματα, τὰ ὁποῖα συμφώνως πρὸς τοὺς παρόντας Κανονισμοὺς ἀπαιτεῖται νά εἶναι κλειστά κατὰ τὸν πλοῦν, δεόν νά κλείωνται πρό τοῦ ἀπόπλου. Αἱ ὥραι τοῦ κλεισίματος καὶ αἱ ὥραι τοῦ ἀνοίγματος (ἐφ' ὅσον ἐπιτρέπεται ὑπὸ τῶν παρόντων Κανονισμῶν) δεόν νά καταχωροῦνται εἰς τὸ Ἡμερολόγιον, ὡς θά προβλέπεται ὑπὸ τῆς Ἀρχῆς.
- (γ) Μνεῖα περί ὄλων τῶν γυμνασίων καὶ ἐπιθεωρήσεων τῶν ἀπαιτουμένων ὑπὸ τοῦ Κανονισμοῦ 21 τοῦ παρόντος Κεφαλαίου δεόν νά γίνεται εἰς τὸ Ἡμερολόγιον καὶ νά ἀναφέρεται λεπτομερῶς πᾶν διαπιστούμενον ἐλάττωμα.

ΜΕΡΟΣ Γ' - ΜΗΧΑΝΗΜΑΤΑ ΚΑΙ ΗΛΕΚΤΡΙΚΑΙ ΕΓΚΑΤΑΣΤΑΣΕΙΣ *

(Τὸ μέρος Γ' ἐφαρμόζεται εἰς τὰ ἐπιβατηγὰ καὶ τὰ φορητὰ πλοῖα)

Κανονισμὸς 23

Γενικά

- (α) Αἱ ἠλεκτρικαὶ ἐγκαταστάσεις εἰς τὰ ἐπιβατηγὰ πλοῖα δεόν νά εἶναι τοιαῦται, ὥστε :
- (i) αἱ οὐσιώδεις ὑπηρεσίαι ἀσφαλείας νά τηρῶνται ὑπὸ πάσας τὰς συνθήκας ἐκτάκτου ἀνάγκης, καὶ
- (ii) ἡ ἀσφάλεια τῶν ἐπιβατῶν, τοῦ πληρώματος καὶ τοῦ πλοίου νά ἐξασφαλίζεται ἐξ ἀτυχημάτων προερχομένων ἐξ ἠλεκτρικῆς ἐνεργείας.
- (β) Τὰ φορητὰ πλοῖα δεόν νά συμμορφοῦνται πρὸς τοὺς Κανονισμοὺς 26, 27, 28, 29, 30 καὶ 32 τοῦ παρόντος Κεφαλαίου.

Κανονισμὸς 24

Κυρία πηγή ἠλεκτρικῆς ἐνεργείας εἰς ἐπιβατηγὰ πλοῖα

(α) Πᾶν ἐπιβατηγόν πλοῖον ἐπὶ τοῦ ὁποῦ ἡ ἠλεκτρικὴ ἐνέργεια ἀποτελεῖ τὸ μόνον μέσον ἐξασφαλίσεως τῶν βοηθητικῶν ὑπηρεσιῶν τῶν ἀπαραιτήτων διὰ τὴν πρόωσιν καὶ τὴν ἀσφάλειαν τοῦ πλοίου, δεόν νά εἶναι ἐφωδιασμένον διὰ δύο τούλάχιστον κυρίων ἠλεκτροπαραγωγῶν μονάδων. Ἡ ἰσχὺς τῶν μονάδων τούτων δεόν νά εἶναι τοιαύτη, ὥστε νά εἶναι εἰσέτι δυνατόν νά ἐξασφαλισθῇ ἡ λειτουργία τῶν ὑπηρεσιῶν τῶν ἀναφερομένων εἰς τὴν ὑποπαραγράφον (α) (i) τοῦ Κανονισμοῦ 23 τοῦ παρόντος Κεφαλαίου, εἰς περιπτώσιν καθ' ἣν μία τῶν ἠλεκτροπαραγωγῶν τούτων μονάδων παύσῃ νά λειτουργῇ.

* Γίνεται μνεῖα τῆς Εὐστάσεως ἣτις υἱοθετήθη ὑπὸ τοῦ Ὄργανισμοῦ διὰ τῆς Ἀποφάσεως Α-211 (VII) ἐπὶ τῶν Μέτρων Ἀσφαλείας διὰ τοὺς περιοδικῶς μὴ φυλασσομένους χώρους Μηχανῶν Φορητῶν Πλοίων, ἐπὶ πλέον ἐκεῖνων ἅτινα ὑπὸ ὁμαλῆς συνθήκας θεωροῦνται ὡς ἀκαρούτητα διὰ τοὺς φυλασσομένους χώρους Μηχανῶν.

(β) Είς επιβατηγόν πλοῖον ὅπου ὑπάρχει εἰς μόνον κύριος σταθμὸς ἠλεκτρικῆς ἐνεργείας, ὁ κύριος πίναξ διανομῆς θὰ τοποθετηθῆται ἐντὸς τῆς αὐτῆς κυρίας ζώνης πυρκαϊᾶς. Ἐάν ὑπάρχουν πλεόντες τοῦ ἐνὸς σταθμοῦ ἠλεκτρικῆς ἐνεργείας, ἐπιτρέπεται ὅπως ὑπάρχη εἰς μόνον κύριος πίναξ διανομῆς.

Κανονισμὸς 25

Πηγὴ Ἠλεκτρικῆς Ἐνεργείας Κινδύνου εἰς Ἐπιβατηγὰ Πλοῖα

(α) Μία αὐτόνομος πηγὴ ἠλεκτρικῆς ἐνεργείας κινδύνου θὰ ὑπάρχη ἀνωθεν τοῦ καταστρώματος στεγανῶν καὶ ἐκτὸς τῶν φωταγωγῶν τῶν μηχανῶν προώσεως. Ἡ θέσις αὐτῆς ἐν σχέσει πρὸς τὴν κυρίαν πηγὴν ἢ πηγὰς ἠλεκτρικῆς ἐνεργείας θὰ εἶναι τοιαύτη ὥστε νὰ ἐξασφαλίζεται, κατὰ τρόπον ἱκανοποιούντα τὴν Ἀρχὴν, ὅτι πυρκαϊὰ ἢ ἄλλη ζημία ἐντὸς τοῦ χώρου μηχανῶν, ὡς οὗτος καθορίζεται εἰς τὴν παράγραφον (η) τοῦ Κανονισμοῦ 2 τοῦ παρόντος Κεφαλαίου, δέν θὰ ἐπιδρῶ ἐπὶ τῆς τροφοδοτήσεως ἢ τῆς διανομῆς τῆς ἠλεκτρικῆς ἐνεργείας κινδύνου. Δέν θὰ τοποθετηθῆται αὕτη πρῶραθεν τοῦ διαφράγματος συγκρούσεως.

(β) Ἡ διαθέσιμος ἐνέργεια δέον νὰ εἶναι ἀρκετὴ διὰ νὰ τροφοδοτήσῃ πάσας τὰς ὑπηρεσίας ἃς ἡ Ἀρχὴ ἤθελε κρίνει ὡς ἀναγκαίας διὰ τὴν ἀσφάλειαν τῶν ἐπιβατῶν καὶ τοῦ πληρώματος ἐν περιπτώσει κινδύνου, λαμβανομένων δεόντως ὑπ' ὄψιν τῶν ὑπηρεσιῶν ἐκείνων, αἵτινες θὰ ἔδει νὰ λειτουργήσουν ταυτοχρόνως. Ἰδιαιτέρᾳ προσοχὴ δέον νὰ καταβληθῇ ὅσον ἀφορᾷ τὸν φωτισμὸν κινδύνου εἰς τοὺς σταθμοὺς τῶν σωσιβίων λέμβων ἐπὶ τοῦ καταστρώματος καὶ ἐξωτερικῶς τῶν πλευρῶν τοῦ πλοίου, εἰς ὅλους τοὺς διαδρόμους, κλίμακας καὶ ἐξόδους, εἰς τοὺς χώρους μηχανῶν καὶ εἰς τὰς θέσεις ἀσφαλείας τὰς καθοριζομένας εἰς τὴν παράγραφον (ιη) τοῦ Κανονισμοῦ 3 τοῦ Κεφαλαίου II-2, εἰς τὴν ἀντλίαν τὴν τροφοδοτοῦσαν τὸ σύστημα ραντισμοῦ πυρκαϊᾶς (σπρίνκλερ), εἰς τοὺς πλοϊκοὺς φανούς καὶ εἰς τοὺς φανούς σημάνσεως ἡμέρας ἐάν τροφοδοτοῦνται ὑπὸ τῆς κυρίας πηγῆς ἐνεργείας. Ἡ ἐνέργεια δέον νὰ εἶναι ἐπαρκῆς διὰ περίοδον 36 ὥρων, ἐκτός ἐάν πρόκειται περὶ πλοίων ἐκτελούντων κανονικῶς βραχεῖς πλόας, ὅπότε ἡ Ἀρχὴ δύναται νὰ δεχθῆ βραχυτέραν περίοδον, ἐάν κρίνῃ ὅτι καὶ εἰς τὴν περίπτωσιν αὐτὴν ἐπιτυχάνεται ὁ αὐτὸς βαθμὸς ἀσφαλείας.

(γ) Ἡ πηγὴ ἐνεργείας κινδύνου δύναται νὰ εἶναι εἴτε :

(i) μάηλεκτρογεννήτρια κινουμένη ὑπὸ καταλλήλου τύπου κινητήρος, μὲ ἀνεξάρτητον τροφοδοτήσιν καὶ μὲ ἐγκριμένον σύστημα ἐκκινήσεως. Τὸ χρησιμοποιούμενον καύσιμον δέον νὰ μὴ ἔχη σημείον ἀναφλέξεως κατώτερον τῶν 430°C (ἢ 110°F), ἢ

(ii) μία συστοιχία συσσωρευτῶν, ἱκανὴ νὰ ὑπηρετήσῃ τὸ φορτίον κινδύνου χωρὶς νὰ χρῆξῃ νέας φορτίσεως καὶ ἀνευ ὑπερβολικῆς πτώσεως τῆς τάσεως.

(δ) (i) Ὅταν ἡ ἠλεκτρικὴ ἐνέργεια κινδύνου λαμβάνεται ἐκ μιᾶς ἠλεκτρογεννητρίδας, δέον νὰ γίνῃ πρόβλεψις καὶ διὰ τὴν ὑπαρξῆν προσωρινῆς πηγῆς ἐνεργείας κινδύνου διὰ συστοιχίας συσσωρευτῶν ἐπαρκοῦς ἱκανότητος.

(1) διὰ τὴν τροφοδοτήσιν τοῦ δικτύου φωτισμοῦ κινδύνου συνεχῶς ἐπὶ ἡμίσειαν ὥραν·

(2) διὰ τὸ κλείσιμον τῶν στεγανῶν θυρῶν (ἐάν αὗται λειτουργοῦν δι' ἠλεκτρικῆς ἐνεργείας), ἀλλ' οὐχὶ ἀναγκάως διὰ τὸ κλείσιμον πάντων τούτων ταυτοχρόνως·

(3) διὰ τὴν λειτουργίαν τῶν ἐνδεικτῶν (ἐάν λειτουργοῦσι δι' ἠλεκτρικῆς ἐνεργείας), οἵτινες δεικνύουν ἐάν αἱ μηχανοκίνητοι στεγαναὶ θύραι εἶναι ἀνοικταὶ ἢ κλεισταὶ, καὶ

(4) διὰ τὴν λειτουργίαν τῶν ἠχητικῶν σημάτων. (ἐάν λειτουργοῦν δι' ἠλεκτρικῆς ἐνεργείας) ἄτινα εἰδοποιοῦν ὅτι αἱ μηχανοκίνητως λειτουργοῦσαι στεγαναὶ θύραι πρόκειται νὰ κλειθῶν.

Ἡ διάταξις δέον νὰ εἶναι τοιαύτη ὥστε ἡ προσωρινὴ πηγὴ ἐνεργείας κινδύνου νὰ δύναται νὰ τεθῆ ἐν λειτουργίᾳ αὐτομάτως, ἐν περιπτώσει βλάβης τῆς κυρίας πηγῆς ἐνεργείας.

(ii) Ὅταν ἡ ἠλεκτρικὴ ἐνέργεια κινδύνου λαμβάνεται ἐκ συστοιχίας συσσωρευτῶν, δέον νὰ ληφθοῦν μέτρα διὰ τὴν ἐξασφάλισιν τῆς αὐτομάτου θέσεως ἐν λειτουργίᾳ τοῦ φωτισμοῦ κινδύνου, ἐν περιπτώσει βλάβης τῆς κυρίας πηγῆς φωτισμοῦ.

(ε) Θά τοποθετηται ένδεικτικη έντός του χώρου μηχανών, κατά προτίμησιν επί του κυρίου πίνακος διανομής, ενς δεικνύη τήν εκφόρτισιν οιασδήποτε συστοιχίας συσσωρευτών εγκατασταθείσης συμφώνως προς τόν παρόντα Κανονισμόν.

- (στ) (i) 'Ο πίναξ διανομής κινδύνου θά τοποθετηται, όσον είναι πρακτικώς δυνατόν, πλησίον τής πηγής ενεργείας κινδύνου.
- (ii) 'Όταν η πηγή ενεργείας κινδύνου είναι ηλεκτρογεννήτρια, ο πίναξ διανομής ασφαλείας θά τοποθετηται έντός του αυτού χώρου τής πηγής ενεργείας κινδύνου, έκτός εάν διά τής διατάξεως ταύτης επηρεάζεται επιβλαβώς η λειτουργία του πίνακος.
- (iii) Συστοιχία συσσωρευτών εγκατεστημένη συμφώνως προς τόν παρόντα Κανονισμόν δέν θά τοποθετηται έντός του αυτού χώρου όπου υπάρχει ο κύριος πίναξ κινδύνου.
- (iv) 'Η 'Αρχή δύναται νά επιτρέπη όπως ο Πίναξ διανομής κινδύνου τροφοδοτηται έκ του κυρίου πίνακος υπό κανονικής συνθήκας υπηρεσίας.

(ζ) Θά λαμβάνωνται τοιαυτα μέτρα ώστε τό σύνολον τής εγκαταστάσεως κινδύνου νά δύναται νά λειτουργή όταν τό πλοϊον λάβη εγκαρσίαν κλίσιν 22 1/2 μοιρών και (η) διαμήκη κλίσιν 10 μοιρών.

(η) Θά υπάρχει πρόβλεψις διά τήν δοκιμήν περιοδικώς τής πηγής ενεργείας κινδύνου, καθώς και τής προσωρινής πηγής ενεργείας, εάν υπάρχει τοιαύτη. 'Η τοιαύτη δοκιμή θά περιλαμβάνη και τήν δοκιμήν των αὐτομάτων συστημάτων.

Κανονισμός 26

Πηγή 'Ηλεκτρικής 'Ενεργείας Κινδύνου εις τά Φορτηγά Πλοία

- (α) Φορτηγά πλοία 5000 κόνων ολικής χωρητικότητας και άνω.
- (i) Εις φορτηγά πλοία 5000 κόνων ολικής χωρητικότητας και άνω θά υπάρχει μία αυτόνομος πηγή ενεργείας κινδύνου. Θά είναι τοποθετημένη, τή ικανοποιήσει τής 'Αρχής, άνωθεν του άνωτάτου συνεχούς καταστρώματος και έκτός του φωταγωγού των μηχανών, εις τρόπον ώστε η λειτουργία αυτής νά είναι εξησφαλισμένη εις περίπτωσιν πυρκαϊδας, η έτέρου άτυχήματος όπερ ήθελε προκαλέσει βλάβην τής κυρίας ηλεκτρικής εγκαταστάσεως.
- (ii) 'Η διαθέσιμος ενέργεια θά είναι επαρκής διά τήν τροφοδοτησιν πασών των υπηρεσιών τάς όποιας η 'Αρχή κρίνει αναγκαίας διά τήν ασφάλειαν άπάντων των προσώπων επί του πλοίου εις περίπτωσιν κινδύνου, λαμβανομένων ύπ' όψιν των υπηρεσιών εκείνων αιτινες δέον νά λειτουργήσουσιν συγχρόνως. 'Ιδιαίτερα προσοχή δέον νά δοθη εις τά εξής :
- (1) Εις τόν φωτισμόν κινδύνου εις τάς θέσεις των λέμβων επί του καταστρώματος και έξωτερικώς των πλευρών του πλοίου, πάντας τούς διαδρόμους, κλίμακας και έξόδους, εις τούς χώρους των κυρίων μηχανών και του χώρου τής κυρίας ηλεκτροπαραγωγού μονάδος, εις τήν γέφυραν και τό δωμάτιον χαρτών.
- (2) Εις τούς κώδωνας κινδύνου.
- (3) Εις τούς πλοϊκούς φανούς εάν είναι είναι άποκλειστικώς ηλεκτρικοί και εις τόν φανόν σημάσεως ήμέρας, εάν ούτος τροφοδοτηται έκ τής κυρίας πηγής ηλεκτρικής ενεργείας.
- 'Η ενέργεια αὐτη θά είναι επαρκής διά περιόδον 6 ώρων.
- (iii) 'Η πηγή ενεργείας κινδύνου δύναται νά είναι, είτε :
- (1) μία συστοιχία συσσωρευτών ικανή νά υπηρετήσῃ τό φορτίον κινδύνου, χωρίς νά χρήζη νέας φορτίσεως και άνευ υπερβολικής πτώσεως τής τάσεως, η
- (2) μία ηλεκτρογεννήτρια κινουμένη υπό καταλλήλου τύπου κινητήρος μέ άνεξάρτητον τροφοδοτησιν καυσίμου και μέ σύστημα εκκινήσεως έγκεκριμένου υπό τής 'Αρχής. Τό χρησιμοποιούμενον καύσιμον δέον νά μή έχη σημείον άναφλέξεως κατώτερον των 43°C (η 110°F).
- (iv) Θά λαμβάνωνται μέτρα όπως τό σύνολον τής εγκαταστάσεως κινδύνου δύναται νά λειτουργή όταν τό πλοϊον λάβη εγκασίαν κλίσιν 22 1/2 μοιρών και (η) διαμήκη κλίσιν 10 μοιρών.
- (v) Θά υπάρχει πρόβλεψις διά τήν δοκιμήν περιοδικώς τής πλήρους εγκαταστάσεως κινδύνου.

- (β) Φορτηγά πλοία δλικής χωρητικότητας κατωτέρας των 5000 κόρων.
- (i) Είς φορτηγά πλοία δλικής χωρητικότητας κατωτέρας των 5000 κόρων θά υπάρχει μία αυτόνομος πηγή ένεργειας κινδύνου τοποθετημένη είς θέσιν έγκριμένην υπό της 'Αρχής και ίκανή νά τροφοδοτή τόν φωτισμόν είς τās θέσεις χειρισμών καθελκύσεως και στοιβασίας των σωσιβίων μέσων, των καθοριζομένων είς τά έδάφια (α) (ii), (β) (iii) του Κανονισμού 19 του Κεφαλαίου III, επί πλέον δέ τοιαύτας έτερας ύπηρεσίας ώς ή 'Αρχή ήθελεν κρίνει άναγκαϊον, λαμβανομένου υπ' όψιν του Κανονισμού 38 του Κεφαλαίου III.
- (ii) 'Η διαθέσιμος ένεργεια δέον νά είναι έπαρκής διά περίοδον τούλάχιστον 3 ώρων.
- (iii) Τά πλοία ταύτα υπόκεινται επίσης είς τās διατάξεις των έδαφίων (iii), (iv) και (v) της παραγράφου (α) του παρόντος Κανονισμού.

Κανονισμός 27

Προφυλάξεις διά τήν 'Ηλεκτροπληξίαν, Πυρκαϊάν και λοιπούς Κινδύνους 'Ηλεκτρικής Προελεύσεως.

- (α) 'Επιβατηγά και Φορτηγά Πλοία.
- (i) (1) "Όλα τά εκτεθειμένα μεταλλικά μέρη των ήλεκτρικών μηχανών και ήλεκτρικού έξαρτισμού άτινα δέν προορίζονται νά ευρίσκωνται υπό τάσιν, άλλ' ένδέχεται λόγω σφάλματος νά ευρεθούν υπό τάσιν, δέον νά είναι προσγειωμένα. Πάσα συσκευή δέον νά είναι ούτω πως κατεσκευασμένη και έγκατεστημένη, ώστε νά αποκλείεται πās κίνδυνος άτυχήματος υπό όμαλής συνθήκας χρησιμοποίησεως.
- (2) Τά μεταλλικά πλαίσια όλων των φορητών ήλεκτρικών λυχνιών, εργαλείων και όμοίων συσκευών, άτινα άποτελούν μέρος του ήλεκτρικού έξαρτισμού και άτινα λειτουργούν υπό τάσιν άνωτέραν μιας τάσεως άσφαλείας καθοριζομένης υπό της 'Αρχής, δέον νά είναι προσγειωμένα διά καταλλήλου άγωγού, εκτός εάν ληφθούν ίσοδύναμοι προφυλάξεις, καθώς ή διά διπλής μονώσεως ή ή διά μετασχηματιστού μονώσεως. 'Η 'Αρχή δύναται νά άπαιτήσει προσθέτως ειδικάς προφυλάξεις διά τās φορητάς ήλεκτρικές λυχνίας, εργαλεία ή όμοίας συσκευές όταν χρησιμοποιούνται έντός ύγρων χώρων.
- (ii) Οί κύριοι πίνακες διανομής και οί πίνακες διανομής κινδύνου δέον νά είναι ούτω πως έγκατεστημένοι ώστε νά είναι εύκόλως προσιτοί έμπροσθεν και όπισθεν, άνευ κινδύνου διά τό ύπηρετοϋν προσωπικόν. Αί πλευραί, τό όπίσθιον μέρος και όπου άπαιτείται τό έμπρόσθιον μέρος αύτών, θά είναι έπαρκώς προστατευμένα. Θά ύπάρχουν μονωτικοί τάπητες ή δικτυωτά έμπροσθεν και όπισθεν όπου άπαιτείται. Έκτεθειμένα μέρη των ήλεκτροφόρων άγωγών προσγειώσεως, των όποιών ή τάσις ύπερβαίνει τήν καθορισθησομένην τάσιν υπό της 'Αρχής, δέον νά μή έγκαθίστανται επί του έμπροσθίου μέρους οουδ ήποτε πίνακος διανομής ή πίνακος χειρισμού.
- (iii) (1) "Όταν χρησιμοποιήται σύστημα διανομής μετ' έπιστροφής διά του σκάφους, θά λαμβάνωνται ειδικά προφυλάξεις ίκανοποιούσαι τήν 'Αρχήν.
- (2) 'Η έπιστροφή διά του σκάφους δέν θά χρησιμοποιήται είς τά δεξαμενόπλοια.
- (iv) (1) Πάσαι αι μεταλλικάί επενδύσεις και ό όπλισμός των καλωδίων θά είναι ήλεκτρικώς συνεχείς και προσγειωμένοι.
- (2) 'Εάν τά καλώδια είναι άνευ επενδύσεως ή όπλισμού και δύναται νά ύπάρξη κίνδυνος πυρκαϊάς λόγω σφάλματος έξ ήλεκτρικής αίτίας, ή 'Αρχή δύναται νά άπαιτήσει ειδικάς προφυλάξεις.
- (v) Τά έξαρτήματα φωτισμού θά είναι ούτω πως διατεταγμένα, ώστε νά άποφεύγεται ή ύψωσις της θερμοκρασίας ήτις θά ήδύνατο νά προξενήση ζημιάν είς τά καλώδια, καθώς και νά έμποδίζεται ή ύπερβολική θέρμανσις των γειτονικών ύλικών.
- (vi) Τά καλώδια θά ύποστηρίζωνται κατά τρόπον ώστε νά άποφεύγεται ή φθορά των εκ της τριβής ή άλλη βλάβη αύτων.
- (vii) "Εκαστον χωριστόν κύκλωμα θά προφυλάσσεται εκ βραχυκυκλώματος. Έκαστον χωριστόν κύκλωμα θά προφυλάσσεται επίσης έναντι ύπερφορτίσεως, εκτός

έναν πρόκειται να εφαρμοσθῆ ἡ Κανονισμὸς 30 τοῦ παρόντος Κεφαλαίου ἢ ὅταν ἡ Ἀρχὴ ἐπιτρέπη ἐξαιρέσιν. Ἡ ἠλεκτροφόρος ἱκανότης ἐκάστου κυκλώματος θὰ ἐνδείκνυται μονίμως ὁμοῦ, μέ τὰ χαρακτηριστικά ἢ τὴν τοποθέτησιν τοῦ καταλλήλου μέσου προστασίας ἐναντι ὑπερφορτίσεως.

- (viii) Αἱ συστοιχίαι συσσωρευτῶν θὰ εἶναι καταλλήλως προφυλαγμέναι καὶ τὰ διαμερίσματα τὰ χρησιμοποιούμενα πρωτίστως διὰ τὴν ἐγκατάστασιν αὐτῶν θὰ κατασκευάζονται ἐπιμελῶς καὶ θὰ ἀερίζονται ἐπαρκῶς.
- (β) Διὰ Ἐπιβατηγὰ μόνον Πλοῖα.
- (i) Τὰ συστήματα διανομῆς θὰ εἶναι οὕτω πως διατεταγμένα ὥστε πυρκαϊὰ ἐντός μιᾶς οἰασθῆποτε κυρίας ζώνης πυρκαϊᾶς νὰ μὴ ἐπηρεάζῃ τὰς οὐσιώδεις ὑπηρεσίας ἐντός ἄλλης κυρίας ζώνης πυρκαϊᾶς. Ἡ ἀπαιτήσις αὕτη θὰ θεωρητῆ ὡς πληρουμένη ἐάν τὰ κύρια κυκλώματα καὶ τὰ κυκλώματα κινδύνου ἔτινα διέρχονται διὰ μιᾶς οἰασθῆποτε ζώνης, χωρίζονται ἀπ' ἄλλήλων κατακορύφως καὶ ὀριζοντίως δι' ὅσον τὸ δυνατόν μεγαλυτέρας ἀποστάσεως.
- (ii) Τὰ ἠλεκτρικὰ καλώδια θὰ εἶναι μὴ εὐφλέκτου τύπου ἐγκεκριμένου ὑπὸ τῆς Ἀρχῆς. Ἡ Ἀρχὴ δύναται νὰ ἀπαιτήσῃ ὑψηλότερον βαθμὸν προστασίας διὰ τὰ ἠλεκτρικὰ καλώδια ἐντός ὀρισμένων χώρων τοῦ πλοίου πρὸς πρόληψιν πυρκαϊᾶς ἢ ἐκρήξεως.
- (iii) Εἰς χώρους ἐντός τῶν ὁποίων δυνατόν νὰ συγκεντροῦνται εὐφλεκτα μίγματα ἀερίων δέν θὰ τοποθετῆται οἰασθῆποτε συσκευή ἠλεκτρισμοῦ, ἐκτός ἐάν εἶναι τύπου μὴ δυναμένου νὰ προκαλέσῃ τὴν ἀνάφλεξιν τοῦ ἐν λόγῳ μίγματος, ὡς ἐπὶ παραδείγματι μία συσκευή ἀλεξιφλογος (ἀντιεκρηκτικῆ).
- (iv) Κύκλωμα φωτισμοῦ ἐντός ἀνθρακαποθήκης ἢ κύτους φορτίου θὰ ἐφοδιάζεται διὰ μεμονωμένου διακόπτου τοποθετουμένου ἐξωτερικῶς τοῦ χώρου τούτου.
- (v) Αἱ ἐνώσεις ὀλων τῶν ἀγωγῶν, ἐξαιρέσει τῶν χαμηλῆς τάσεως κυκλωμάτων ἐπικοινωνίας, θὰ γίνονται μόνον ἐντός κιβωτίων ἐνώσεων ἢ ἐντός κιβωτίων διακλαδώσεων. Πᾶντα τὰ κιβώτια ταῦτα ἢ ἕτερα ἐξαρτήματα καλωδίων θὰ εἶναι οὕτω πως κατασκευασμένα ὥστε νὰ ἐμποδίζου τὴν ἐξάπλωσιν φλογός ἐκ τοῦ κιβωτίου ἢ τοῦ ἐξαρτήματος. Ὅταν χρησιμοποιῆται ἐνωσις καλωδίου διὰ συγκολλήσεως, θὰ ἐκτελῆται αὕτη δι' ἐγκεκριμένου τρόπου, οὕτως ὥστε τὸ καλώδιον νὰ διατηρῆ τὰς ἀρχικὰς μηχανικὰς καὶ ἠλεκτρικὰς ἰδιότητας.
- (vi) Τὰ συστήματα καλωδίων ἐσωτερικῆς ἐπικοινωνίας, τὰ ὁποῖα εἶναι οὐσιώδη διὰ τὰ συστήματα ἀσφαλείας καὶ σημάτων συναγεροῦ, δέον νὰ εἶναι οὕτω πως διατεταγμένα ὥστε νὰ ἀποφεύγουν τὰ μαγειρεῖα, τοὺς χώρους μηχανῶν καὶ ἐτέρους περικλειστους χώρους εἰς τοὺς ὁποίους ὑφίσταται μέγας κίνδυνος ἐκρήξεως πυρκαϊᾶς ἐκτός καθ' ἣν ἔκτασιν εἶναι ἀναγκαῖον διὰ νὰ παράσχουν ἐπικοινωνίαν ἢ διὰ νὰ σημάνουν συναγεροῦν εἰς τοὺς χώρους τούτους. Ἐν τῇ περιπτώσει πλοίων τῶν ὁποίων ἡ κατασκευὴ καὶ τὸ μικρὸν μέγεθος δέν ἐπιτρέπει συμμόρφωσιν πρὸς τὰς ἀπαιτήσεις ταύτας δέον ὅπως λαμβάνονται μέτρα ἱκανοποιούντα τὴν Ἀρχὴν πρὸς ἐξασφάλισιν ἀποτελεσματικῆς προστασίας τῶν ἐν λόγῳ συστημάτων καλωδίων ἐνθα ταῦτα διέρχονται διὰ μαγειρείων, χώρων μηχανῶν καὶ ἐτέρων περικλειστων χώρων εἰς τοὺς ὁποίους ὑφίσταται μέγας κίνδυνος ἐκρήξεως πυρκαϊᾶς.
- (γ) Διὰ Φορτηγὰ Πλοῖα μόνον.

Συσκευαὶ ὑποκείμεναι εἰς τὴν παραγωγὴν ἠλεκτρικῶν τόξων, δέον νὰ μὴ ἐγκαθίστανται ἐντός διαμερίσματος προσωριζομένου πρωτίστως διὰ τὰς συστοιχίας συσσωρευτῶν, ἐκτός ἐάν αἱ συσκευαὶ αὗται εἶναι τύπου ἀλεξιφλόγου (ἀντικρηκτικαί).

Κανονισμὸς 28

Μέσα Ἀναπόδσεως Πλοίου

- (α) Ἐπιβατηγὰ καὶ Φορτηγὰ πλοῖα.

Εἰς πᾶν πλοῖον ἡ ἰσχὺς διὰ τὴν ἀναπόδσιν δέον νὰ εἶναι ἐπαρκῆς, ὥστε νὰ ἐξασφαλίξεται ὁ ἐλεγχος τοῦ πλοίου ὑπ' ὄψιν τὰς κανονικὰς συνθήκας.

(β) 'Επιβατηγά Πλοία μόνον.

'Η ικανότης τῶν μηχανῶν τοῦ πλοίου διὰ τὴν ἀναστροφὴν τῆς φορᾶς ὡσεὺς τῆς ἑλικὸς ἐντὸς ἐπαρκοῦς χρόνου ὑπὸ κανονικᾶς συνθήκας χειρισμῶν, εἰς τρόπον ὥστε νὰ φέρῃ τὸ πλοῖον εἰς ἀκίνησιάν ἐκ τῆς μεγίστης ὑπηρεσιακῆς ταχύτητος τοῦ πρόσω, θὰ ἐξακριβοῦται κατὰ τὴν ἀρχικὴν δοκιμὴν.

Κανονισμός 29

Μηχανισμός Κινήσεως Πηδαλίου *

(α) 'Επιβατηγά καὶ Φορτηγά Πλοία.

- (i) Πᾶν πλοῖον δέον νὰ εἶναι ἐφωδιασμένον διὰ κυρίου καὶ βοηθητικοῦ μηχανισμοῦ κινήσεως τοῦ πηδαλίου ἐγκεκριμένου ὑπὸ τῆς 'Αρχῆς.
- (ii) 'Ο κύριος μηχανισμός κινήσεως πηδαλίου δέον νὰ εἶναι ἐπαρκὺς ἀντοχῆς καὶ ἱκανὸς πρὸς πηδαλιούχησιν τοῦ πλοίου εἰς τὴν μεγίστην ὑπηρεσιακὴν ταχύτητα. 'Ο κύριος μηχανισμός κινήσεως πηδαλίου καὶ ὁ κορμὸς τοῦ πηδαλίου θὰ ἔχωσι μελετηθῆ κατὰ τρόπον ὥστε νὰ μὴ ὑφίστανται ζημίαν εἰς τὴν μεγίστην ταχύτητα ἀναποδίσεως τοῦ πλοίου.
- (iii) 'Ο βοηθητικὸς μηχανισμός κινήσεως πηδαλίου δέον νὰ εἶναι ἐπαρκὺς ἀντοχῆς καὶ δυνάμεως ἱκανῆς, ὥστε τὸ πλοῖον νὰ πηδαλιουχῆται εἰς ταχύτητα πλεύσιμον καὶ νὰ εἶναι εἰς θέσιν νὰ τεθῆ ταχέως εἰς λειτουργίαν ἐν περιπτώσει ἀνάγκης.
- (iv) 'Η ἀκριβὴς θέσις τοῦ πηδαλίου, ἐάν τοῦτο κινῆται διὰ μηχανικῆς ἐνεργείας, θὰ ἐνδείκνυται ἐντὸς τοῦ κυρίου σταθμοῦ πηδαλιουχίας.

(β) 'Επιβατηγά Πλοία μόνον.

- (i) 'Ο κύριος μηχανισμός κινήσεως πηδαλίου θὰ εἶναι ἱκανὸς ὅπως θέτη τὸ πηδάλιον ἀπὸ 35 μοίρας τῆς μιᾶς πλευρᾶς εἰς τὰς 35 μοίρας τῆς ἐτέρας πλευρᾶς, ὅταν τὸ πλοῖον κινῆται μὲ τὴν μεγίστην ὑπηρεσιακὴν ταχύτητα πρὸς τὰ πρόσω. Τὸ πηδάλιον θὰ δύναται νὰ τίθεται ἀπὸ 35 μοίρας τῆς μιᾶς πλευρᾶς εἰς τὰς 30 μοίρας τῆς ἄλλης ἐντὸς 28 δευτερολέπτων εἰς τὴν μεγίστην ταχύτητα ὑπηρεσίας τοῦ πλοίου.
- (ii) 'Ο βοηθητικὸς μηχανισμός κινήσεως πηδαλίου θὰ λειτουργῆ διὰ μηχανικῆς ἐνεργείας ἐπὶ παντὸς πλοίου διὰ τὸ ὁποῖον ἡ 'Αρχὴ ἀπαιτεῖ κορμὸν πηδαλίου τοῦ ὁποῖου ἡ διάμετρος εἰς τὸ ὕψος τοῦ οἴακος εἶναι μεγαλύτερα τῶν 22,86 ἑκατοστομέτρων (ἡ 9 δακτύλων).
- (iii) *Ὅταν αἱ κινήτριοι μονάδες καὶ αἱ ἀπαιτούμεναι συνδέσεις τοῦ κυρίου μηχανισμοῦ κινήσεως πηδαλίου ἔχουν ἐγκατασταθῆ εἰς διπλοῦν κατὰ τρόπον ἱκανοποιούντα τὴν 'Αρχὴν, καὶ ἐκάστη μόνος ἐπιτρέπει εἰς τὸν μηχανισμὸν κινήσεως πηδαλίου νὰ ἱκανοποιῆ τὰς ἀπαιτήσεις τοῦ ἔδαφιου (i) τῆς παρούσης παραγράφου, δέν θὰ ἀπαιτῆται βοηθητικὸς μηχανισμὸς κινήσεως πηδαλίου.
- (iv) *Ὅταν ἡ 'Αρχὴ ἀπαιτῆ κορμὸν πηδαλίου τοῦ ὁποῖου ἡ διάμετρος εἰς τὸ ὕψος τοῦ οἴακος ὑπερβαίνει τὰ 22,86 ἑκατοστομέτρα (ἡ 9 δακτύλους), δέον ὅπως ἐγκαθίσταται δεῦτερος σταθμὸς πηδαλιουχίας εἰς θέσιν ἱκανοποιούσαν τὴν 'Αρχὴν. Τὰ συστήματα τηλεχειρισμοῦ τοῦ πηδαλίου ἐκ τοῦ κυρίου καθὼς καὶ ἐκ τοῦ δευτέρου σταθμοῦ θὰ εἶναι οὕτω πως διατεταγμένα καὶ κατὰ τρόπον ἱκανοποιούντα τὴν 'Αρχὴν, ὥστε ἐάν τὸ ἐν σύστημα ἀχρηστευθῆ, τοῦτο δέν θὰ συνεπάγεται τὴν ἀδυναμίαν πηδαλιουχίσεως τοῦ πλοίου διὰ τοῦ ἐτέρου συστήματος.
- (v) θὰ προβλέπωνται μέσα ἱκανοποιούντα τὴν 'Αρχὴν διὰ τὴν μεταβίβασιν διαταγῶν ἐκ τῆς γεφύρας εἰς τὸν δεῦτερον σταθμὸν πηδαλιουχίας.

(γ) Φορτηγά πλοία μόνον.

- (i) 'Ο βοηθητικὸς μηχανισμὸς πηδαλίου θὰ λειτουργῆ διὰ μηχανικῆς ἐνεργείας εἰς πᾶν πλοῖον διὰ τὸ ὁποῖον ἡ 'Αρχὴ ἀπαιτεῖ κορμὸν πηδαλίου τοῦ ὁποῖου ἡ διάμετρος εἰς τὸ ὕψος τοῦ οἴακος ὑπερβαίνει τὰ 35,56 ἑκατοστομέτρα (ἡ 14 δακτύλους).

* Γίνεται μνεῖα τῆς Συστάσεως ἣτις υἱοθετήθη ὑπὸ τοῦ 'Οργανισμοῦ διὰ τῆς 'Αποφάσεως Α.210(νῆζ) ἐπὶ τοῦ Μηχανισμοῦ Κινήσεως πηδαλίου διὰ Μεγάλα Πλοία.

- (ii) Όταν αι κινητήριοι μονάδες και αι συνδέσεις τών μηχανισμών κινήσεως υπάρχουν εγκατεστημένοι εις διπλοῦν κατά τρόπον ικανοποιούντα τήν Ἀρχήν, και ἕκαστος τούτων πληροῖ τό ἔδαφιον (ii) τῆς παραγράφου (α) τοῦ παρόντος Κανονισμοῦ, δέν θά ἀπαιτῆται βοηθητικός μηχανισμός κινήσεως πηδαλίου, ὑπό τόν ὅρον ὅτι αι εἰς διπλοῦν μονάδες και αι συνδέσεις αὐτῶν λειτουργοῦσαι συγχρόνως πληροῦν τούς ὅρους τοῦ ἔδαφίου (ii) τῆς παραγράφου (α) τοῦ παρόντος Κανονισμοῦ.

Κανονισμός 30

Ἡλεκτρικοί και Ἡλεκτροϋδραυλικοί Μηχανισμοί Κινήσεως Πηδαλίου *

- (α) Ἐπιβατηγά και Φορτηγά Πλοῖα.
- Ἐνδείκναι λειτουργίας τών κινητήρων τών ἠλεκτρικῶν και ἠλεκτροϋδραυλικῶν μηχανισμῶν κινήσεως πηδαλίου θά τοποθετοῦνται εἰς κατάλληλον χώρον ἐγκρινόμενον ὑπό τῆς Ἀρχῆς.
- (β) Πάντα τά Ἐπιβατηγά Πλοῖα (οἰασθήποτε ὀλικῆς χωρητικότητος) και τά Φορτηγά Πλοῖα Ὀλικῆς Χωρητικότητος 5000 κόρων και ἄνω.
- (i) Ἡλεκτρικοί και ἠλεκτροϋδραυλικοί μηχανισμοί κινήσεως πηδαλίου θά τροφοδοτοῦνται ὑπό δύο κυκλωμάτων ἀγομένων ἐκ τοῦ κυρίου πίνακος διανομῆς. Ἐν ἐκ τῶν κυκλωμάτων δύναται νά διέρχεται διά τοῦ πίνακος διανομῆς κινδύνου, ἐάν ὑπάρχη τοιοῦτος. Ἐκαστον κύκλωμα θά εἶναι ἱκανόν νά τροφοδοτῆ πάντας τούς κινητήρας ὅτινες κανονικῶς εὑρῆνται συνδεδεμένοι μετ' αὐτοῦ και ὅτινες λειτουργοῦν συγχρόνως. Ὅταν προβλέπωνται διατάξεις ἐναλλαγῆς ἐντός τοῦ οἰκιστηρίου, αἵτινες ἐπιτρέπουν εἰς ἕκαστον τῶν κυκλωμάτων νά τροφοδοτῆ ἕνα κινητήρα ἢ συνδυασμόν κινητήρων, ἡ ἱκανότης ἐκάστου κυκλώματος θά ἐπαρκῆ διά τῆς ἀσθητοτέρας συνθήκας φορτίου. Τά κυκλώματα θά χωρίζονται καθ' ὄλον τό μήκος αὐτῶν δι' ἀποστάσεως ὅσον τό δυνατόν μεγαλυτέρας.
- (ii) Τά προαναφερόμενα κυκλώματα και οἱ κινητήρες δέν θά προστατεύονται παρά μόνον ἐναντίον βραχυκυκλώματος.
- (γ) Φορτηγά Πλοῖα Ὀλικῆς Χωρητικότητος μικροτέρας τῶν 5000 κόρων.
- (i) Φορτηγά Πλοῖα εἰς τά ὁποῖα ἡ ἠλεκτρική ἐνέργεια εἶναι ἡ μόνη πηγή ἐνεργείας διά τόν κύριον και τόν βοηθητικόν μηχανισμόν κινήσεως πηδαλίου δέν νά συμμορφοῦται πρὸς τά ἔδαφια (i) και (ii) τῆς παραγράφου (β) τοῦ παρόντος Κανονισμοῦ, πλην ὅμως ἐάν ὁ βοηθητικός μηχανισμός κινήσεως πηδαλίου λειτουργῆ διά κινητήρος προοριζομένου κυρίως δι' ἑτέρας ὑπηρεσίας, ἡ ἐφαρμογή τῆς παραγράφου (β) (ii) δύναται νά μή ἀπαιτῆται, ὑπό τόν ὅρον ὅτι ἡ Ἀρχή μένει ἱκανοποιημένη ἐκ τῶν προστατευτικῶν διευθετήσεων.
- (ii) Οἱ κινητήρες τοῦ κυρίου ἠλεκτρικοῦ ἢ ἠλεκτροϋδραυλικοῦ μηχανισμοῦ κινήσεως πηδαλίου, καθὼς και τά κυκλώματα τά τροφοδοτοῦντα αὐτούς δέν θά προστατεύονται παρά μόνον ἐναντίον βραχυκυκλώματος.

Κανονισμός 31

Θέσις τῶν Ἐγκαταστάσεων Κινδύνου ἐπὶ τῶν Ἐπιβατηγῶν Πλοίων

Ἡ ἠλεκτρική πηγή ἐνεργείας κινδύνου, αἱ ἀντλῖαι πυρκαϊῆς κινδύνου, αἱ ἀντλῖαι κύτους κινδύνου, αἱ συστοιχία φιαλῶν διοξειδίου τοῦ ἀνθρακος διά τήν σβέσιν πυρκαϊῆς, καθὼς και αἱ λοιπαὶ ἐγκαταστάσεις κινδύνου, οὐσιώδεις διά τήν ἀσφάλειαν τοῦ πλοίου, δέν θά ἐγκαθίστανται εἰς ἐπιβατηγόν πλοῖον πρῶραθεν τοῦ διαφράγματος συγκρούσεως.

Κανονισμός 32

Ἐπικοινωνία μετὰξὺ Γεωύρας και Μηχανοστασίου

Πάντα τά πλοῖα δέν νά ἐφοδιάζονται διά δύο μέσων ἀτινα θά ἐπιτρέπουν τήν διαβίβασιν διαταγῶν ἀπό τῆς γεωύρας πρὸς τό μηχανοστάσιον. Τό ἐν τῶν μέσων τούτων θά εἶναι ὁ τηλεγράφος μηχανοστασίου.

* Γίνεται μνεῖα τῆς Συστάσεως ἥτις υἰοθετήθη ὑπό τοῦ Ὄργανισμοῦ διά τῆς Ἀποφάσεως Α. 210 (vii) ἐπὶ τοῦ Μηχανισμοῦ Κινήσεως πηδαλίου διά Μεγάλα Πλοῖα.

Κ Ε Φ Α Λ Α Ι Ο Ν Ι Ι - 2

ΚΑΤΑΣΚΕΥΗ - ΠΡΟΣΤΑΣΙΑ ΚΑΤΑ ΤΗΣ ΠΥΡΚΑ-Ι-Α Σ
ΑΝΙΧΝΕΥΣΙΣ ΚΑΙ ΚΑΤΑΣΒΕΣΙΣ

ΜΕΡΟΣ Α - ΓΕΝΙΚΑ*

Κανονισμός 1

Εφαρμογή

- (α) Διά τούς σκοπούς του παρόντος Κεφαλαίου :
- (i) Νέον έπιβατηγόν πλοΐον είναι έπιβατηγόν πλοΐον ή τρόπις του οποίου έτέθη κατά ή μετά την ήμερομηνίαν θέσεως έν Ισχύϊ της παρούσης Συμβάσεως ή τό όποΐον κατά την ήμερομηνίαν ταύτην εύρίσκεται εις παρεμφερές πρός τό άνωτέρω στάδιον κατασκευής, ή φορτηγόν πλοΐον τό όποΐον μετεσκευάθη εις έπιβατηγόν κατά ή μετά την ήμερομηνίαν ταύτην. Πάντα τά λοιπά έπιβατηγά πλοΐα θά θεωρουνται ώς ύπάρχοντα πλοΐα.
 - (ii) Νέον φορτηγόν πλοΐον είναι φορτηγόν πλοΐον ή τρόπις του οποίου έτέθη κατά ή μετά την ήμερομηνίαν θέσεως έν Ισχύϊ της παρούσης Συμβάσεως ή τό όποΐον κατά την ήμερομηνίαν ταύτην εύρίσκεται εις παρεμφερές πρός τό άνωτέρω στάδιον κατασκευής.
 - (iii) Πλοΐον τό όποΐον ύφίσταται έπισκευάς, μετατροπάς, μετασκευάς και τόν σχετικόν πρός ταύτας έξαρτισμόν δέον νά συνεχίση νά πληροΐ τού-λάχιστον τās πρότερον έφαρμοστέας επί του πλοΐου άπαιτήσεις. Έν τοιαύτη περιπτώσει έν ύπάρχον πλοΐον κατά κανόνα δέον νά μή πληροΐ εις μικρότερον βαθμόν τās άπαιτήσεις διά νέα πλοΐα άπ' ό,τι έπλήρου ταύτας προηγουμένως. Έπισκευαί, μετατροπαί και μετασκευαί μεγάλης έκτάσεως και ό σχετικός πρός ταύτας έξαρτισμός δέον νά ικανοποιούν τās άπαιτήσεις διά νέα πλοΐα εις οίαν έκτασιν ή Άρχή κρίνει εύλογον και πρακτικόν.
- (β) Έκτός εάν ρητώς προβλέπεται άλλως :
- (i) Οί Κανονισμοί 4 έως 16 του Μέρους Α του παρόντος Κεφαλαίου θά έχουν εφαρμογήν επί νέων πλοίων.
 - (ii) Τό μέρος Β' του παρόντος Κεφαλαίου θά έχη εφαρμογήν επί των νέων έπιβατηγών πλοίων άτινα μεταφέρουν περισσότερους των 36 έπιβατών.
 - (iii) Τό μέρος Γ' του παρόντος Κεφαλαίου θά έχη εφαρμογήν επί των νέων έπιβατηγών πλοίων άτινα μεταφέρουν ούχι περισσότερους των 36 έπιβατών.
 - (iv) Τό μέρος Δ' του παρόντος Κεφαλαίου θά έχη εφαρμογήν επί των νέων φορτηγών πλοίων.
 - (v) Τό μέρος Ε' του παρόντος Κεφαλαίου θά έχη εφαρμογήν επί των νέων δεξαμενοπλοίων.
- (γ) (i) Τό μέρος ΣΤ' του παρόντος Κεφαλαίου θά έχη εφαρμογήν επί των ύπαρχόντων έπιβατηγών πλοίων άτινα μεταφέρουν περισσότερους των 36 έπιβατών.
- (ii) Ύπάρχοντα έπιβατηγά πλοΐα μεταφέροντα ούχι περισσότερους των 36 έπιβατών και ύπάρχοντα φορτηγά πλοΐα δέον όπως συμμορφουνται πρός τά κάτωθι :
- (1) διά πλοΐα των οποίων ή τρόπις έτέθη ή τά όποΐα εύρίσκοντο εις άνάλογον κατασκευαστικόν στάδιον κατά ή μετά την ήμερομηνίαν ένάρξεως Ισχύος της Διεθνούς Συμβάσεως διά την Άσφάλειαν της Άνθρωπίνης Ζωής έν θαλάσση του 1960, ή Άρχή όφείλει νά διασαλίξη ότι πληροϋνται αι άπαιτήσεις αι όποΐαι δυνάμει του Κεφαλαίου ΙΙ της έν λόγω Συμβάσεως έτύγχανον εφαρμογής επί νέων πλοίων ως ταυτα καθωρίζοντο εις τό έν λόγω Κεφάλαιον*

* Γίνεταί μνεΐα της Συστάσεως ήτις υίοθετήθη υπό του Όργανισμού διά της Άποφάσεως Α.211(VII) επί των Μέτρων Άσφαλείας διά τούς Περιοδικώς μή φυλασσομένους Χώρους Μηχανών Φορτηγών Πλοίων, έκπλέον εκείνων άτινα υπό όμαλές συνθήκας θεωρουνται ως άπαραίτητα διά τούς φυλασσομένους Χώρους Μηχανών.

- (2) διὰ πλοῖα τῶν ὁποίων ἡ τρόπος ἐτέθη ἢ τὰ ὁποῖα εὐρίσκοντο εἰς ἀνάλογον κατασκευαστικόν στάδιον κατὰ ἢ μετὰ τὴν ἡμερομηνίαν ἐνάρξεως ἰσχύος τῆς Διεθνοῦς Συμβάσεως διὰ τὴν Ἀσφάλειαν τῆς Ἀνθρωπίνης Ζωῆς ἐν θαλάσῃ τοῦ 1948, ἀλλὰ πρὸ τῆς ἡμερομηνίας ἐνάρξεως ἰσχύος τῆς Διεθνοῦς Συμβάσεως διὰ τὴν Ἀσφάλειαν τῆς Ἀνθρωπίνης Ζωῆς ἐν θαλάσῃ τοῦ 1960, ἡ Ἀρχὴ ὀφείλει νὰ διασφαλίσῃ ὅτι πληροῦνται αἱ ἀπαιτήσεις αἱ ὁποῖαι δυνάμει τοῦ Κεφαλαίου II τῆς Συμβάσεως τοῦ 1948 ἐτύγγανον ἐφαρμογῆς ἐπὶ νέων πλοίων ὡς ταῦτα καθορίζοντο εἰς τὸ ἐν λόγῳ Κεφάλαιον·
- (3) διὰ πλοῖα τῶν ὁποίων ἡ τρόπος ἐτέθη ἢ τὰ ὁποῖα εὐρίσκοντο εἰς ἀνάλογον κατασκευαστικόν στάδιον πρὸ τῆς ἡμερομηνίας ἐνάρξεως ἰσχύος τῆς Διεθνοῦς Συμβάσεως διὰ τὴν Ἀσφάλειαν τῆς Ἀνθρωπίνης Ζωῆς ἐν θαλάσῃ τοῦ 1948, ἡ Ἀρχὴ ὀφείλει νὰ διασφαλίσῃ ὅτι πληροῦνται αἱ ἀπαιτήσεις αἱ ὁποῖαι δυνάμει τοῦ Κεφαλαίου II τῆς ἐν λόγῳ Συμβάσεως ἐτύγγανον ἐφαρμογῆς ἐπὶ ὑπαρχόντων πλοίων ὡς ταῦτα καθορίζοντο εἰς τὸ ἐν λόγῳ Κεφάλαιον.

(δ) Διὰ πᾶν ὑπάρχον πλοῖον, ὡς τοῦτο καθορίζεται ἐν τῇ παρούσῃ Συμβάσει, ἡ Ἀρχὴ, ἐπιπλέον τῆς ἐφαρμογῆς τῶν ἀπαιτήσεων τοῦ ἐδαφίου (γ) (i) τοῦ παρόντος Κανονισμοῦ, θὰ ἀποφασίσῃ ποῖαι ἐκ τῶν ἀπαιτήσεων τοῦ παρόντος Κεφαλαίου τῶν μὴ περιλαμβανομένων εἰς τὸ Κεφάλαιον II τῶν συμβάσεων 1948 καὶ 1960 θὰ ἐφαρμόζονται.

(ε) Ἡ Ἀρχὴ, ἐφ' ὅσον ἤθελεν κρίνει ὅτι αἱ συνθήκαι ἀσφαλείας καὶ αἱ γενικώτεραι συνθήκαι τοῦ ταξιδίου εἶναι τοιαῦται ὥστε νὰ καθιστοῦν τὴν ἐφαρμογὴν εἰδικῶν τινῶν διατάξεων τοῦ Κεφαλαίου τούτου ἀσκοπον ἢ μὴ ἀναγκαίαν, δύναται νὰ ἐξαιρέσῃ τῆς ἐφαρμογῆς τούτων συγκεκριμένα πλοῖα ἢ κατηγορίας πλοίων ἀνηκόντων εἰς τὴν χώραν τῆς, ἐφ' ὅσον ταῦτα δὲν ἀπομακρύνονται κατὰ τὸν πλοῦν πλέον τῶν 20 μιλίων ἀπὸ τῆς πλησιεστερᾶς ξηρᾶς.

(στ) Εἰς τὴν περίπτωσιν ἐπιβατηγῶν πλοίων χρησιμοποιουμένων εἰς εἰδικὰ ταξίδια διὰ τὴν μεταφορὰν μεγάλου ἀριθμοῦ ἐπιβατῶν εἰδικῶν ταξειδίων, ὡς λ.χ. ταξειδία προσκυνητῶν, ἡ Ἀρχὴ, ἐάν κρίνῃ ὅτι εἶναι πρακτικῶς ἀδύνατον νὰ ἐπιβάλλῃ συμμόρφωσιν πρὸς τὰς ἀπαιτήσεις τοῦ Παρόντος Κεφαλαίου, δύναται νὰ ἐξαιρέσῃ τὰ πλοῖα ταῦτα, ἐφ' ὅσον ἀνήκουν εἰς τὴν χώραν τῆς, ἐκ τῶν ἀπαιτήσεων ἐκείνων ἐὰν συμμορφοῦνται πλήρως πρὸς τὰς διατάξεις :

- (i) τῶν Κανόνων τῶν προσηρημένων εἰς τὴν Συμφωνίαν τοῦ 1971 περὶ Ἐπιβατηγῶν Πλοίων Εἰδικῶν Μεταφορῶν, καὶ
- (ii) τῶν Κανόνων τῶν προσηρημένων εἰς τὸ Πρωτόκολλον τοῦ 1973 περὶ Ἀπαιτήσεων χώρων, δι' Ἐπιβατηγὰ Πλοῖα Εἰδικῶν Μεταφορῶν, ὅτε τοῦτο θὰ τεθῇ ἐν ἰσχύϊ.

Κανονισμός 2

Βασικαὶ Ἀρχαί

Ὁ σκοπὸς τοῦ παρόντος Κεφαλαίου εἶναι ἡ ἐπίτευξις τοῦ μεγίστου πρακτικῶς δυνατοῦ βαθμοῦ προστασίας, ἐντοπισμοῦ καὶ κατασβέσεως πυρκαϊᾶς εἰς πλοῖα. Αἱ ἀκόλουθοι βασικαὶ ἀρχαὶ συνιστοῦν τὴν βάσιν τῶν Κανόνων τοῦ παρόντος Κεφαλαίου καὶ ἐνσωματοῦνται εἰς τοὺς Κανονισμοὺς καταλλήλως, λαμβανομένου ὑπ' ὄψιν τοῦ τύπου τῶν πλοίων καὶ τοῦ δυναμένου νὰ προκύψῃ κινδύνου πυρκαϊᾶς :

- (α) διαίρεσις τοῦ πλοίου εἰς κυρίας κατακορύφους ζώνας δι' ὀριακῶν διαφραγμάτων ἐχόντων θερμικὴν καὶ κατασκευαστικὴν ἀντοχήν.
- (β) διαχωρισμὸς τῶν χώρων ἐνδικοιότησεως ἐκ τοῦ λοιποῦ πλοίου δι' ὀριακῶν διαφραγμάτων ἐχόντων θερμικὴν καὶ κατασκευαστικὴν ἀντοχήν.
- (γ) περιορισμένη χρῆσις εὐκαύστων ὕλικῶν.
- (δ) ἐντοπισμὸς οἰασδήποτε πυρκαϊᾶς ἐντὸς τῆς ζώνης προελεύσεώς της·
- (ε) ἐγκλωβισμὸς καὶ κατάσβεσις οἰασδήποτε πυρκαϊᾶς ἐντὸς τοῦ χώρου προελεύσεώς της·
- (στ) προστασία τῶν μέσων διαφυγῆς ἢ τῶν ὁδῶν προεπέλασεως τῆς πυρκαϊᾶς διὰ τὴν καταπολέμησιν·
- (ζ) ἐπιμόρφωσις διαθέσεως τῶν πυροσβεστικῶν μέσων·
- (η) περιορισμὸς εἰς τὸ ἐλάχιστον τῆς πιθανότητος ἀναφλέξεως εὐφλέκτων ἀναθυμιάσεων τοῦ φορτίου.

Κανονισμός 3

Όροι

Διά τούς σκοπούς του παρόντος Κεφαλαίου, εκτός εάν άλλως ρητώς προβλέπεται :

(α) "Ακαυστόν ύλικόν" σημαίνει ύλικόν τό όποϊον δέν καίεται ούτε αναδίδει εύφλέκτους έξατμίσεις εις έπαρκή ποσότητα δι' αψανάφλεξιν όταν θερμανθῆ εις θερμοκρασίαν περίπου 750°C (1,382°F), τούτου άποδεικνυομένου προς ίκανοποίησιν τῆς Αρχῆς διά τινος άνεγνωρισμένης μεθόδου δοκιμῆς*. Πάν έτερον ύλικόν θεωρεῖται ως καύσιμον.

(β) "Τυποποιημένη Δοκιμή Πυρός" εἶναι ἡ δοκιμή κατά τήν όποϊαν δείγματα διαφραγμάτων ἢ καταστροφμάτων εκτίθενται έντός δοκιμαστικοῦ κλιβάνου εις θερμοκρασίας άνταποκρινόμενας περίπου προς τήν τυποποιημένην καμπύλην χρόνου θερμοκρασίας. Τά δείγματα θά έχουν εκτεθειμένην επιφάνειαν ούχι μικροτέραν τών 4,65 τετραγ. μέτρων (50 τετραγ. ποδών) καί ύψος (ἢ μήκος επί καταστροφμάτων) 2,44 μέτρων (8 ποδών), θά προσομοιάζουν όσον τό δυνατόν περισσότερο προς τήν επιδιώκομένην κατασκευήν καί θά περιλαμβάνουν, όπου τούτο εἶναι άναγκαϊόν, τούλάχιστον έναν άρμόν. Ἡ τυποποιημένη καμπύλη χρόνου-θερμοκρασίας καθορίζεται διά μιᾶς γραφικῆς παραστάσεως συνδεούσης τά ακόλουθα σημεῖα :

εις τό τέλος τών πρώτων 5 λεπτών 538°C (1.000°F)

εις τό τέλος τών πρώτων 10 λεπτών 704°C (1.300°F)

εις τό τέλος τών πρώτων 30 λεπτών 843°C (1.550°F)

εις τό τέλος τών πρώτων 60 λεπτών 927°C (1.700°F)

(γ) "Τμήματα Κλάσεως 'Α'" εἶναι τά τμήματα τά άποτελούμενα εκ διαφραγμάτων καί καταστροφμάτων, άτινα πληροῦν τούς κάτωθι όρους :

(i) εἶναι κατεσκευασμένα εκ χάλυβος ἢ εκ άλλου ίσοδυνάμου ύλικου*

(ii) εἶναι καταλλήλως ενισχυμένα*

(iii) εἶναι οὕτω πως κατεσκευασμένα ώστε νά δύνανται νά παρεμποδίσουν τήν δίοδον καπνοῦ καί φλογών μέχρι τέλους τῆς τυποποιημένης δοκιμῆς προς διαρκείας μιᾶς ώρας*

(iv) εἶναι μονωμένα δι' έγκεκριμένων άκαύστων ύλικών κατά τοιοῦτον τρόπον ώστε ἡ μέση θερμοκρασία επί τῆς μή εκτεθειμένης όψεως νά μή ύψώνεται περισσότερο τών 139°C (250°F) πέραν τῆς άρχικῆς θερμοκρασίας καί ούτε ἡ θερμοκρασία εις οιονδήποτε σημεϊον, περιλαμβανομένου οιοιδήποτε άρμού, νά ύψώνεται περισσότερο τών 180°C (325°F) πέραν τῆς άρχικῆς θερμοκρασίας έντός τών χρόνων τοῦ κατωτέρω πίνακος :

Κλάσις "Α-60"	60 λεπτά
Κλάσις "Α-30"	30 λεπτά
Κλάσις "Α-15"	15 λεπτά
Κλάσις "Α-0"	0 λεπτά

(v) Ἡ Αρχῆ δύνανται νά άπαιτήσῃ δοκιμήν ενός προτοτύπου διαφράγματος ἢ καταστροφάματος ἵνα εξασφαλίσῃ ότι τούτο πληροῖ τάς ως άνω άπαιτήσεις ως προς τήν άκεραιότητα καί τήν ύψωσιν τῆς θερμοκρασίας.**

(δ) "Τμήματα Κλάσεως 'Β'" εἶναι τά τμήματα τά άποτελούμενα εκ διαφραγμάτων, καταστροφμάτων, όροφών ἢ επενδύσεων συμμορφοποιημένων προς τά κάτωθι :

(i) εἶναι οὕτω πως κατεσκευασμένα ώστε νά δύνανται νά παρεμποδίζουν τήν δίοδον φλογών μέχρι τοῦ τέλους τῆς πρώτης ἡμισείας ώρας τῆς τυποποιημένης δοκιμῆς πυρός.

(ii) έχουν τοιοῦτον βαθμόν μονώσεως ώστε ἡ μέση θερμοκρασία επί τῆς μή εκτεθειμένης όψεως νά μή ύψώνεται περισσότερο τών 139°C (250°F) ύπέρ τήν άρχικήν θερμοκρασίαν καί ούτε ἡ θερμοκρασία εις οιονδήποτε σημεϊον, περιλαμβανομένου οιοιδήποτε άρμού, νά ύψώνεται περισσότερο τών 225°C (405°F) ύπέρ τήν άρχικήν θερμοκρασίαν έντός τών χρόνων τοῦ κατωτέρω πίνακος :

* Γίνεται μνεῖα τῆς Συστάσεως ἥτις υιοθετήθη ύπό τοῦ Ὁργανισμοῦ διά τῆς Ἀποφάσεως Α. 270 (VIII), εκί τών μεθόδων Δοκιμῆς διά τήν Πιστοποίησην Ὑλικών Ναυτικῶν Κατασκευῶν ως Ἀκαύστων.

** Γίνεται μνεῖα τῆς Συστάσεως ἥτις υιοθετήθη ύπό τοῦ Ὁργανισμοῦ διά τῆς Ἀποφάσεως Α.163 (E.S.IV) καί Α.215 (VII) εκί τών Διαδικασιῶν Δοκιμῆς Πυρός διά Τμήματος Κλάσεως "Α" καί "Β".

Κλάσις "B-15" 15 λεπτά

Κλάσις "B-0" 0 λεπτά

(iii) να είναι κατεσκευασμένα έξ' έγκεκριμένων άκαύστων ύλικών, άπαντα δέ τά ύλικά τά χρησιμοποιούμενα διά τήν κατασκευήν καί τοποθέτησιν τών τμημάτων "B" Κλάσεως να είναι άκαυστα, πλήν όσάκις συμφώνως πρός τά Μέρη Γ καί Δ του παρόντος Κεφαλαίου δέν αποκλείεται ή χρησιμοποιήσις καυσίμου ύλικού, όποτε τούτο δέον να πληροί τόν σχετικόν πρός τήν ύψωσιν τής θερμοκρασίας περιορισμόν του έδαφίου (ii) τής παρούσης παραγράφου μέχρι τέλους του πρώτου ήμιώρου τής προτύπου δοκιμής πυρός*

(iv) Η Άρχη δύναται να άπαιτήση δοκιμήν ενός πρωτοτύπου τμήματος ίνα έξασφαλίση ότι τούτο πληροί τās ως άνω άπαιτήσεις ως πρός τήν άκεραιότητα καί τήν ύψωσιν τής θερμοκρασίας*

(ε) "Τμήματα Κλάσεως 'Γ' " θά είναι κατεσκευασμένα από έγκεκριμένα άκαυστα ύλικά. Ταύτα δέν είναι άναγκαίον όπως πληρούν τās άπαιτήσεις τās σχετικές πρός τήν δίωδον καπνού καί φλογών ουτε τās τοιαύτας τών περιορισμών τής ύψώσεως τής θερμοκρασίας.

(στ) "Συνεχεής Όροφαί ή έπενδύσεις Κλάσεως 'B' " είναι αι όροφαί ή έπενδύσεις Κλάσεως "B" αι όποαί άπολήγουσιν μόνον εις τμήμα Κλάσεως "A" ή "B".

(ζ) "Χάλυψ ή "Άλλο Ίσοδύναμον Ύλικόν". Όπου άπαντάται ή φράσις "χάλυψ ή άλλο ίσοδύναμον ύλικόν" αι λέξεις "ίσοδύναμον ύλικόν" σημαίνουν πάν ύλικόν τό όποιον άφ' έαυτου ή κατόπιν γενομένης μονώσεως, παρουσιάζει ιδιότητας κατεσκευαστικής καί άντοχής ίσοδύναμους πρός τās του χάλυβος κατά τό τέλος τής έφαρμοζομένης εκθέσεως εις τό πυρ τής τυποποιημένης δοκιμής πυρός (π.χ. τό κόμμα άλουμινίου μετά καταλλήλου μονώσεως.

(η) "Χαμηλή Έξάπλωσις Φλογός" σημαίνει ότι ή ούτω περιγραφομένη έπιφάνεια θά άνθίσταται έπαρκώς εις τήν έξάπλωσιν τής φλογός, τούτου διαπιστουμένου τινος καθιερωμένου τρόπου δοκιμής τής έγκρίσεως τής Άρχης.

(θ) "Κύριαι Καταόρουφοι Ζώναι" είναι αι ζώναι, αιτινες σχηματίζονται εκ τής διαιρέσεως του σκάφους, τών υπερκατασκευασμάτων καί τών υπερστεγασμάτων διά πυριμάκων τμημάτων κλάσεως "A", τών όποίων τό μέσον μήκος έφ' ολουδήποτε καταστρώματος δέν υπερβαίνει γενικώς τά 40 μέτρα (ή 131 πόδας).

(ι) "Χώροι ένδειαίτησεως" είναι οι κοινόχρηστοι χώροι, οι διάδρομοι, οι χώροι ύγιεινής, οι θαλαμίσκοι, τά γραφεία, τά διαμερίσματα πληρώματος, τά κομμωτήρια, τά άπομονωμένα κυλικεία καί έρμάρια ύπηρεσίας καί παρόμοιοι χώροι.

(ια) "Κοινόχρηστοι Χώροι" είναι οι χώροι ένδειαίτησεως, οιτινες χρησιμοποιούνται ως προθάλαμοι, τραπεζαρία, αίθουσαι καί παρόμοιοι μονίμως περίκλειστοι χώροι.

(ιβ) "Χώροι Ύπηρετικοί" είναι οι χρησιμοποιούμενοι διά μαγειρεία, τά κυλικεία, αι άποθήκαι (έξαιρέσει τών άπομονωμένων κυλικείων καί έρμαρίων), οι χώροι ταχυδρομείου καί άξιων, έργαστήρια, έτερα εκείνων τά όποια αποτελούν μέρος τών χώρων μηχανών καί παρόμοιοι χώροι καί αι προσβάσεις εις τοιούτους χώρους.

(ιγ) "Χώροι Φορτίου" είναι πάντες οι χώροι οι χρησιμοποιούμενοι διά φορτία (περιλαμβανομένων τών πετρελαιοδεξαμενών φορτίου) καί οι όχητοί οι άγοντες εις τούς χώρους τούτους.

(ιδ) "Χώροι Ειδικού Προορισμού" είναι οι περίκλειστοι εκείνοι χώροι άνωθεν ή κάτωθεν του καταστρώματος στεγανών οι προοριζόμενοι διά τήν μεταφοράν μηχανήτων όχημάτων φερόντων καύσιμον εις τās δεξαμενάς των διά τήν προώθησιν των, πρός καί από τούς όποίους τά όχήματα ταύτα δύνανται να οδηγούνται καί πρός τούς όποίους ύφίσταται προσέλασις ύπό τών έπιβατών.

* Γίνεται μνεύα τής Συστάσεως ήτις υιοθετήθη ύπό του Όργανισμου διά τών άποφάσεων A. 163 (E.S.IV) καί A. 215 (VII) επί τών Διαδικασιών Δοκιμής Πυρός διά Τμήματα Κλάσεως "A" καί "B".

(ιε) "Χώροι Μηχανών Κατηγορίας "Α" " είναι όλοι οι χώροι οι οποίοι περιλαμβάνουν :

- (i) μηχανήματα τύπου έσωτερικής καύσεως χρησιμοποιούμενα είτε διά σκοπούς κυρίας προώσεως είτε δι' άλλους σκοπούς, όπου τά μηχανήματα ταύτα έχουν συνολικώς ισχύν αποδόσεως ούχι μικροτέραν τών 373 kW, ή
- (ii) ολονδήποτε πετρελαιολέβητα ή μηχανήματα καύσεως πετρελαίου, καί όχετούς άγοντας εις τούς χώρους τούτους.

(ιστ) "Χώροι Μηχανών" είναι όλοι οι χώροι μηχανών Κατηγορίας Α καί όλοι οι άλλοι χώροι οι οποίοι περιλαμβάνουν μηχανήματα προώσεως, λέβητας, μηχανήματα καύσεως πετρελαίου, άτμομηχανάς καί μηχανάς έσωτερικής καύσεως, γεννητρίας καί ήλεκτρικά μηχανήματα μείζονος τύπου, σταθμούς παραλαβής πετρελαίου, ψυκτικά μηχανήματα, σταθεροτήρας, έξαεριστήρας καί μηχανήματα κλιματισμού, καθώς καί παρεμφερείς χώροι καί οι όχετοί οι άγοντες εις τούς χώρους τούτους.

(ιζ) "Μονάς Καυσίμου Πετρελαίου" είναι ή συσκευή ή όποία χρησιμοποιείται διά τήν προπαρασκευήν του καυσίμου πετρελαίου προς διοχέτευσιν εις πετρελαιολέβητα, ή ή συσκευή ή χρησιμοποιουμένη διά τήν προπαρασκευήν προς διοχέτευσιν θερμανθέντος πετρελαίου εις μηχανήν έσωτερικής καύσεως, καί περιλαμβάνει οίανδήποτε άντλίαν καταλίψεως πετρελαίου, φίλτρα καί θερμοαντήρας εντός τών όποιών ή πίεσις του πετρελαίου υπερβαίνει τά 1,8 χιλιογράμματα επί διαμετρήματος ενός τετραγωνικού εκατοστού (25 λίβρας επί διαμετρήματος ενός τετραγωνικού δακτύλου).

(ιη) "Σταθμοί Έλέγχου" είναι οι χώροι εκείνοι εντός τών όποιών είναι τοποθετημένοι αι ραδιοτηλεγραφικά συσκευαί ή τά κύρια όργανα ναυσιπλοΐας ή ή ήλεκτρογεννήτρια κινδύνου ή εκεί όπου είναι συγκεντρωμένα τά όργανα καταγραφής καί έλέγχου τής πυρκαϊάς.

(ιθ) "Αίθουσαι περιέχουσαι Έπιπλωσιν καί στοιχεΐα Έπιπλώσεως Περιορισμένου Κινδύνου Πυρκαϊάς" είναι, διά τούς σκοπούς του Κανονισμού 29 του παρόντος Κεφαλαίου, εκείναι αι αίθουσαι αι όποιαι περιέχουν έπιπλωσιν καί στοιχεία έπιπλώσεως περιορισμένου κινδύνου πυρκαϊάς (ήτοι κοιτώνες, κοινόχρηστοι χώροι, γραφεΐα ή άλλης μορφής ένδειατήματα) εντός τών όποιών :

- (i) όλα τά έπιπλα τά έχοντα μορφήν κιβωτίου ως γραφεΐα, ίματιοθήκαι, τουαλέττα κ.λ.π. είναι κατεσκευασμένα έξ ολοκλήρου υπό έγκριμένον άκαύστον ύλικών, μέ τήν έξαίρεσιν τής χρήσεως καυσίμου ύλικού ως διακοσμητικού επικαλύμματος τών τοιούτων αντικειμένων επί τών έκτεθειμένων επιφανειών αυτών, πάχους ούχι μεγαλυτέρου τών 2 χιλιοστομέτρων (1/12 δακτύλου).
- (ii) όλα τά έλευθέρως κινούμενα έπιπλα ως καθίσματα, καναπέδες, τραπέζια, είναι κατεσκευασμένα εκ σκελετού από άκαυστα ύλικά.
- (iii) άπαντα τά ύφασματα, παραπετάσματα καί λοιπά άνηρητμένα ύφαντά διαθέτουν κατά τήν έγκρισιν τής Αρχής, ιδιότητας αντιστάσεως εις τήν μετάδοσιν τών φλογών ούχι ύποβεεστέρας εκείνων άτινας διαθέτουν τά έξ έρίου τοιαύτα βάρους 0.8 χιλιογράμμων ανά τετραγωνικόν μέτρον (24 ούγγιών ανά τετραγωνικήν ύάρδαν).
- (iv) όλοι οι τάπητες έχουν εις βαθμόν ικανοποιούντα τήν Αρχήν, ιδιότητας αντιστάσεως εις τήν διάδοσιν τών φλογών ούχι κατωτέρας εκείνων τας όποιας έχει ισodύναμον μάλλινον ύφασμα χρησιμοποιούμενον διά τόν αυτόν σκοπόν.
- (v) όλαι αι έκτεθειμένοι επιφάνειαι τών διαφραγμάτων, επιστρώσεων καί όροφών έχουν χαρακτηριστικά χαμηλής έξαπλώσεως τών φλογών.

(κ) "Κατάστρωμα στεγανών" είναι τό ανώτατον κατάστρωμα μέχρι του όποίου έξιχνούνται αι έγκάρσιοι στεγαναί φρακταί.

(κα) "Νεκρόν Βάρος" είναι ή διαφορά εις μετρικούς τόννους μεταξύ του έκτοπίσματος του πλοίου εντός ύδατος ειδικού βάρους 1,025 εις τήν γραμμήν φορτώσεως τήν άνταποκρινομένην προς τό ύψος έξάλων θέρους καί του βάρους άφόρτου πλοίου.

(κβ) "Βάρος άφόρτου (πλοίου)" είναι τό εις μετρικούς τόννους έκτόπισμα πλοίου άνευ φορτίου, καυσίμων, έλαίου λιπάνσεως, θαλασσέρματος, γλυκέος καί τροφοδοτικού ύδατος εις δεξαμενάς, άναλωσίμων ύλικών, έπιβατών, πληρώματος καί άτομικών αντικειμένων αυτών.

(κγ) "Πλοίων συνδεδυασμένων μεταφορών" είναι δεξαμενόπλοιοι σχεδιασμένοι διά νά μεταφέρη πετρελαιοειδή ή έναλλακτικώς ξηρά φορτία χύδην.

Κανονισμός 4

Σχεδιαγράμματα Έλέγχου Πυρκαϊάς

Πρός καθοδήγησιν τών άξιωματικών έφ' όλων τών νέων καί υπάρχόντων πλοίων θά υπάρχουν μονίμως έκτεθειμένα σχεδιαγράμματα γενικής διατάξεως δεικνύοντα εύδιακρίτως τούς σταθμούς έλέγχου έκάστου καταστρώματος, τούς διαφόρους τομείς πυρκαϊάς τούς περικλειομένους υπό τμημάτων "Α" κλάσεως, τούς τομείς (έν υπάρχου) τούς περικλειομένους υπό τμημάτων "Β" κλάσεως, όμοι μέ στοιχεία περί τών συναγερωμών πυρκαϊάς, τής έγκαταστάσεως ραντιστήρων, έν ύπάρχη, τών πυροσβεστικών μέσων, τών συστημάτων άνιχνεύσεως, τών μέσων είσόδου είς τά διάφορα διαμερίσματα, καταστρώματα κ.λ.π. καί τών συστημάτων έξαερισμού, περιλαμβανομένων καί στοιχείων τών θέσεων έλέγχου τών άνεμιστήρων, τών θέσεων τών φρακτών καί τών ένδεικτικών άριθμών τών έξυπηρετούντων έκαστον τομέα άνεμιστήρων έξαερισμού. Έναλλακτικώς, κατά τήν κρίσιν τής Άρχής, αί προμνησθεΐσαι λεπτομέρειαι δύνανται νά καταχωρηθοϋν είς έγχειρίδιον, αντίτυπον του όποίου θά χορηγηται είς έκαστον άξιωματικόν, ένώ έτερον τοιούτο θά ύπάρχη, έν παντί χρόνω, επί του πλοίου είς προσιτήν θέσιν. Τά σχεδιαγράμματα καί τά έγχειρίδια θά τηρώνται ένημερωμένα, πάσα δέ τροποποίησις θά καταχωρηται έν αυτοίς όσον τό δυνατόν ταχύτερον. Αί περιγραφαι τών τοιούτων σχεδιαγραμμάτων καί έγχειριδίων θά είναι είς τήν Έθνικήν γλώσσαν. Έάν ή χρησιμοποιουμένη γλώσσα δέν είναι ή Άγγλική ή ή Γαλλική άπαντα τά άνωτέρω δέον όπωσ περιλαμβάνονται έν μεταφράσει είς μίαν έκ τών γλωσσών αυτών. Έπιπροσθέτως, οδηγιαί άφορώσαι είς τήν συντήρησιν καί λειτουργίαν όλου του έξοπλισμού καί τών επί του πλοίου έγκαταστάσεων διά τήν καταπολέμησιν καί έγκλωβισμόν τής πυρκαϊάς θά περιλαμβάνωνται είς έγχειρίδιον υπό κοινόν τίτλον, όπερ θά εύρίσκεται είς άμέσως καί εύκόλως προσιτήν θέσιν.

Κανονισμός 5

Άντλια Πυρκαϊάς, Κύριαι Σωληνώσεις Πυρκαϊάς, Λήψεις καί Εύκαμπτοι Σωληνες

(α) Όλική παροχή άντλιών πυρκαϊάς.

- (i) Έπί έπιβατηγού πλοίου αί άπαιτούμεναι άντλια πυρκαϊάς θά είναι ικαναί όπως παρέχουν διά τόν σκοπόν καταπολεμήσεως τής πυρκαϊάς, υπό κατάλληλον πίεσιν, ως αυτη καθορίζεται κατωτέρω, ποσότητα ύδατος όχι μικροτέρα τών δύο τρίτων τής ποσότητος τήν όποιαν δέον νά παρέχουν αί άντλια κύτους όταν αυται χρησιμοποιούνται διά τήν άπάντησιν τών κυτών.
- (ii) Έπί φορτηγού πλοίου αί άπαιτούμεναι άντλια πυρκαϊάς, έκτός τής άντλίας κινδύνου (έν ύπάρχη τοιαύτη), θά είναι ικαναί νά παρέχουν διά τόν σκοπόν τής καταπολεμήσεως τής πυρκαϊάς, υπό κατάλληλον πίεσιν, ποσότητα ύδατος όχι μικροτέρα τών τεσσάρων τρίτων τής συμφώνως πρός τόν Κανονισμόν 18 του Κεφαλαίου II-1 άπαιτουμένης ποσότητος δι' έκάστην τών άνεξάρτητων άντλιών κύτους ένός έπιβατηγού πλοίου τών ίδίων διαστάσεων, όταν αυτη χρησιμοποιηται διά τήν άπάντησιν τών κυτών, νοουμένου ότι δι' ούδέν φορτηγόν πλοϊον είναι αναγκαϊον όπως ή συνολικώς άπαιτουμένη ικανότης παροχής ύδατος τών άντλιών πυρκαϊάς υπερβαίνη τά 180 κυβικα μέτρα καθ' ώραν.

(β) Άντλια πυρκαϊάς.

- (i) Αί άντλια πυρκαϊάς θά έχουν άνεξάρτητον κίνησιν. Αί άντλια ύγιεινής, έρματος, άπάντησεως κυτών ή άντλια γενικής χρήσεως, δύνανται νά θεωρηθοϋν ως άντλια πυρκαϊάς, υπό τόν όρον ότι δέν χρησιμοποιούνται κανονικώς διά τήν άντλησιν πετρελαίου καί έν χρησιμοποιώνται ένίοτε διά τήν μετάγγισιν ή τήν άντλησιν πετρελαίου καυσίμου, θά τοποθετούνται κατάλληλα μέσα διά τήν έναλλαγήν.
- (ii) (1) Έπί έπιβατηγού πλοίου μεταφέροντος περισσότερους τών 36 έπιβατών, ή παροχή έκάστης εκ τών άπαιτουμένων άντλιών πυρκαϊάς θά είναι όχι μικροτέρα τών 80 τοίς εκατόν του πληκίου του προκύπτοντος εκ τής διαιρέσεως τής όλικής άπαιτουμένης παροχής διά του έλαχίστου άριθμού τών άπαιτουμένων άντλιών πυρκαϊάς καί έν πάση περιπτώσει έκάστη άντλία θά είναι ικανή νά τροφοδοτη τάς δύο τοϋλάχιστον άπαιτουμένας προβολάς ύδατος. Αί άντλια αυται πυρκαϊάς θά είναι ικαναί νά τροφοδοτοϋν τό κύριον δίκτυον σωληνώσεων πυρκαϊάς υπό τάς άπαιτουμένας συνθήκας.

*Που εγκαθίστανται άντλίες μεγαλύτερου άριθμού του ελάχιστου άπαιτουμένου, ή παροχή τών τοιούτων προσθέτων άντλιών θά τυγχανή τής έγκρίσεως τής 'Αρχής.

(2) *Επί πλοίων οιοδήποτε άλλου είδους, ή παροχή εκάστης εκ τών άπαιτουμένων άντλιών πυρκαϊάς (έκτός τής άντλίας κινδύνου τής άπαιτουμένης υπό του Κανονισμού 52 του παρόντος Κεφαλαίου) θά είναι ούχι μικρότερα τών 80 τοις εκατόν του πηλίκου του προκύπτοντος εκ τής διαιρέσεως τής όλικώς άπαιτουμένης παροχής διά του άριθμού τών άπαιτουμένων άντλιών πυρκαϊάς, και έν πάσει περίπτωσηί θά είναι ικανή νά τροφοδοτή τας δύο τω λάμβανειν άπαιτουμένας προεξέως ύδατος. Αι άντλίες αινει πυρκαϊάς θά είναι ικαναι νά τροφοδοτήν τό κίριον έκτερον σωληνώσει πυρκαϊάς από τας απαιτούμενας εσωτερικας.

(iii) *Απασαι αι άντλίες πυρκαϊάς θά εφοδιάζονται δι' άσφαλιστικών βαλβίδων, όταν αύται δύνανται νά αναπτύξουν πίεσιν υπερβαίνουσαν τήν υπολογισθεϊσαν πίεσιν τών σωληνώσεων ύδατος, τών λήψεων πυρκαϊάς και τών εύκαμπτων σωληνων. Αι βαλβίδες αύται θά είναι τοποθετημένοι και ρυθμιζόμεναι κατά τοιοϋτον τρόπον ώστε νά προλαμβάνουν τήν υπερβολικήν πίεσιν εις οιοδήποτε τμήμα τής κυρίας σωληνώσεως πυρκαϊάς.

(γ) Πίεσις εις τό σύστημα τής κυρίας σωληνώσεως πυρκαϊάς.

(i) *Η διάμετρος τής κυρίας σωληνώσεως πυρκαϊάς θά είναι άκομητή, ώστε νά εξασφαλίζεται ή ικανοποιητική διοχέτευσις τής μεγίστης άπαιτουμένης παροχής δύο άντλιών πυρκαϊάς συγχρόνως λειτουργουσών, πλην τής περιπτώσεως φορητῶν πλοίων καθ' ήν ή διάμετρος είναι αναγκαίον όπως έπαρκή μόνον διά τήν κατάθλιψιν 140 κυβικών μέτρων καθ' ώραν.

(ii) *Οτε δύο άντλίες καταθλίβουν συγχρόνως διά τών άκροσωληνίων, τών καθοριζομένων εις τήν παράγραφον (ζ) του παρόντος Κανονισμού, τήν ποσότητα ύδατος τήν καθοριζομένην εις τό έδάφιον (i) τής παρούσης παραγράφου, μέσω οιοινήποτε παρακειμένων λήψεων πυρκαϊάς, δέον νά τηρώνται αι κατωτέρω ελάχισται πιέσεις εις άπάσας τας λήψεις :

*Επιβατηγά πλοία :

4,000 κόρων όλικῆς χωρητικότητας και άνω.

3,2 χιλιογράμμα ανά τετρ. εκατοστόμετρον (45 λίβραι ανά τετρ. δάκτυλον).

1,000 κόρων όλικῆς χωρητικότητας και άνω, αλλά κάτω τών 4,000 κόρων όλικῆς χωρητικότητας.

2,8 χιλιογράμμα ανά τετρ. εκατοστόμετρον (40 λίβραι ανά τετρ. δάκτυλον).

Κάτω τών 1,000 κόρων όλικῆς χωρητικότητας.

Κατά τήν κρίσιν τής 'Αρχής.

*Φορητά πλοία :

6,000 κόρων όλικῆς χωρητικότητας και άνω.

2,8 χιλιογράμμα ανά τετρ. εκατοστόμετρον (40 λίβραι ανά τετρ. δάκτυλον).

1,000 κόρων όλικῆς χωρητικότητας και άνω, αλλά κάτω τών 6,000 κόρων όλικῆς χωρητικότητας.

2,6 χιλιογράμμα ανά τετρ. εκατοστόμετρον (37 λίβραι ανά τετρ. δάκτυλον).

Κάτω τών 1,000 κόρων όλικῆς χωρητικότητας.

Κατά τήν κρίσιν τής 'Αρχής.

(δ) *Αριθμός και θέσις λήψεων πυρκαϊάς.

*Ο αριθμός και ή θέσις λήψεων πυρκαϊάς θά είναι τοιαύται ώστε δύο τουλάχιστον προβολαί ύδατος, μή παρεχόμεναι εκ τής αύτης λήψεως πυρκαϊάς, εκ τών οποίων ή μία θά έκτοξεύεται δι' ενός άπλου τεμαχίου εύκαμπτου σωληνος, νά δύνανται νά φθάσουν εις οιοινήποτε τμήμα του πλοίου κανονικώς προσιτόν εις τούς έπιβάτας ή τό πλήρωμα, όταν τό πλοιον εύρίσκεται έν πλῶ.

(ε) Σωληνώσεις και λήψεις Πυρκαϊάς.

(i) Διά τας κυρίας σωληνώσεις πυρκαϊάς και λήψεις πυρκαϊάς δέν θά χρησιμοποιούνται όλικά άτινα προσβάλλονται υπό τής θερμότητος, εκτός εάν έπαρκώς προστατεύονται. Αι σωληνώσεις και αι λήψεις πυρκαϊάς θά τοποθετοϋνται κατά τρόπον ώστε οι εύκαμπτοι σωληνες πυρκαϊάς νά δύνανται εύκόλως νά συνδεώνται επ' αύτών. *Επί πλοίων, επί τών οποίων ένδέχεται νά φορτωθῆ φορτίον επί του καταστρώματος, αι θέσεις τών

λήψεων πυρκαϊᾶς θά εἶναι τοιαῦται ὥστε, νά εἶναι πάντοτε εὐκόλως προσίται καί αἱ σωληνώσεις θά εἶναι διατεταγμένοι εἰς τρόπον ὥστε νά ἀποφεύγεται, ὅσον εἶναι πρακτικῶς δυνατόν, ὁ κίνδυνος βλάβης ἐκ τοῦ τοιοῦτου φορτίου. Ἐκτός καί ἐάν προβλέπεται εἰς εὐκαμπτος σωλήν καί ἀκροσωληνίου δι' ἐκάστην λήψιν πυρκαϊᾶς ἐπὶ τοῦ πλοίου, δέον νά ὑπάρχῃ πλήρης ἀνταλλακτικότης μεταξύ τῶν συνδέσμων τῶν εὐκάμπτων σωλήνων καί τῶν ἀκροσωληνίων.

- (ιι) Εἰς κρουνοῦς ἢ ἐπιστόμιον θά τοποθετῆται πρὸς ἐξυπηρέτησιν ἐκάστου εὐκάμπτου σωλήνος κατὰ τρόπον ὥστε οἰοσδήποτε εὐκαμπτος σωλήν πυρκαϊᾶς νά δύναται νά ἀποσυνδεθῆ καθ' ὅν χρόνον αἱ ἀντλῖαι πυρκαϊᾶς εἰσβαίνουσι λειτουργοῦν.

(στ) Εὐκαμπτοὶ Σωλήνες Πυρκαϊᾶς.

Οἱ εὐκαμπτοὶ σωλήνες πυρκαϊᾶς θά εἶναι κατεσκευασμένοι ἐξ ὕλικου ἐγκριμένου ὑπὸ τῆς Ἀρχῆς καί θά εἶναι ἀρκετοῦ μήκους ὥστε νά ἐκσφενδονίζουσι προβολὴν ὕδατος εἰς οἰοσδήποτε χῶρον εἰς τὸν ὅποιον δυνατόν νά ἀπαιτεῖται νά χρησιμοποιηθοῦν. Τὸ μέγιστον μήκος αὐτῶν θά εἶναι τῆς ἐγκρίσεως τῆς Ἀρχῆς. Ἐκαστος εὐκαμπτος σωλήν θά ἐφοδιάζεται δι' ἀκροσωληνίου καί τῶν ἀπαιτουμένων συνδέσμων. Οἱ εὐκαμπτοὶ σωλήνες οἵτινες ἀναφέρονται εἰς τὸ παρὸν κεφάλαιον ὡς "εὐκαμπτοὶ σωλήνες πυρκαϊᾶς", δέον ὁμοῦ μετὰ τῶν ἀναγκαίων ἐξαρτημάτων καί ἐργαλείων νά εἶναι ἔτοιμοι πρὸς χρῆσιν εἰς ἐμφανεῖς θέσεις πλησίον τῶν λήψεων πυρκαϊᾶς ἢ τῶν συνδέσμων πυρκαϊᾶς. Ἐπιπροσθέτως, εἰς ἐσωτερικοῦς χώρους ἐπιβατηγῶν πλοίων μεταφερόντων περισσότερους τῶν 36 ἐπιβατῶν, οἱ εὐκαμπτοὶ σωλήνες πυρκαϊᾶς θά εἶναι συνεχῶς συνδεδεμένοι εἰς τὰς λήψεις πυρκαϊᾶς.

(ζ) Ἀκροσωλήνια.

- (i) Διὰ τοὺς σκοποῦς τοῦ παρόντος κεφαλαίου, αἱ τυποποιημένα διαμέτροι τῶν ἀκροσωληνίων θά εἶναι 12 χιλιοστομέτρων (1/2 δακτύλου), 16 χιλιοστομέτρων (5/8 δακτύλου) καί 19 χιλιοστομέτρων (1/4 δακτύλου), ἢ διαμέτρου ὅσον τὸ δυνατόν πληρεστέρας πρὸς ταύτας. Δύναται νά ἐπιτραπῆ ἢ χρησιμοποιηθῆσι μεγαλύτερων διαμέτρων ἀκροσωληνίων κατὰ τὴν κρίσιν τῆς Ἀρχῆς.
- (ii) Διὰ τοὺς χώρους ἐνδικοιότητος καί ὑπηρετικῶς, δέν ἀπαιτεῖται νά χρησιμοποιηθοῦν ἀκροσωλήνια διαμέτρου μεγαλύτερας τῶν 12 χιλιοστομέτρων (1/2 δακτύλου).
- (iii) Διὰ τοὺς χώρους Μηχανῶν καί τὰς ἐξωτερικὰς θέσεις, ἡ διάμετρος τοῦ ἀκροσωληνίου θά εἶναι τοιαύτη, ὥστε νά ἐπιτυγχάνεται ἡ μέγιστη δυνατὴ παροχὴ ἐκ δύο προβολῶν ἐκτοξευομένων ὑπὸ τῆς μικροτέρας ἀντλίας καί ὑπὸ τὴν πίεσιν τὴν ἀναφερομένην εἰς τὴν παράγραφον (γ) τοῦ παρόντος κανονισμοῦ, ὑπὸ τὸν ὅρον ὅτι δέν ἀπαιτεῖται νά χρησιμοποιηθῆται ἀκροσωλήνιον διαμέτρου μεγαλύτερας τῶν 19 χιλιοστομέτρων (3/4 δακτύλου).
- (iv) Διὰ τοὺς χώρους μηχανῶν ἢ παρεμφερεῖς χώρους ἐνθα ὑφίσταται κίνδυνος ἐκχειλίσεως πετρελαίου, τὰ ἀκροσωλήνια δέον ὅπως εἶναι κατάλληλα διὰ ραντισμὸν ὕδατος ἐπὶ τοῦ πετρελαίου ἢ ἐναλλακτικῶς εἶναι τύπου διπλῆς χρήσεως.

(η) Διεθνὴς Τύπος Συνδέσμου Μετὰ τῆς Ξηρᾶς.

Αἱ τυποποιημένα διαστάσεις τῶν περιαιχενίων διὰ τὸν διεθνή τύπον συνδέσμου μετὰ τῆς Ξηρᾶς, ἅτινα ἀπαιτεῖται εἰς τὸ παρὸν κεφάλαιον ὅπως εἶναι ἐγκατεστημένα ἐπὶ τοῦ πλοίου, δέον ὅπως ἀνταποκρίνονται πρὸς τὸν ἀκόλουθον πίνακα.

Περιγραφή	Διαστάσεις
Ἐξωτερικὴ διάμετρος	178 χιλιοστόμετρα (7 δάκτυλοι)
Ἐσωτερικὴ διάμετρος	64 χιλιοστόμετρα (2 1/2 δάκτυλοι)
Διάμετρος κύκλου κοχλίων	132 χιλιοστόμετρα (5 1/4 δάκτυλοι)
Ἐγκοπαὶ εἰς τὸ περιαιχένιον	4 ὀπαὶ διαμέτρου 19 χιλ/τρων (3/4 δακτύλου) ἰσοπέχουσαι, κείμεναι ἐπὶ περιφερείας κοχλίων τῆς ἀνω διαμέτρου, συνεχιζόμεναι δι' ἔγκοπης 19 χιλ/τρων μέχρι τῆς περιφερείας τοῦ περιαιχενίου.
Πάχος περιαιχενίου	14,5 χιλ/τρα (1/16 δακτύλου) τουλάχιστον
Κοχλῖαι καί περικόχλια	4, ἕκαστον διαμέτρου 16 χιλ/τρων (5/8 δακτύλου), μήκους 50 χιλ/τρων (2 δακτύλων)

Ο σύνδεσμος θά κατασκευάζεται έξ ύλικού καταλλήλου διά πίεσιν λειτουργίας 10,5 χιλιογράμμων ανά τετρ. εκατοστόμετρον (ή 150 λιβρών ανά τετρ. δάκτυλον). Τό περιαιχένιον θά έχη επίφάνειαν επίπεδον επί τῆς μιᾶς πλευρᾶς καί ἡ ἄλλη πλευρά θά έχη μονίμως στερεωμένον ἐπ' αὐτῆς σύνδεσμον ὅστις θά ἐφαρμόζη ἐπί τῶν λήψεων πυρκαϊᾶς ἢ ἐπί τῶν εὐκάμπτων σωλήνων τοῦ πλοίου. Ὁ σύνδεσμος θά φυλάσσεται ἐπί τοῦ πλοίου ὁμοῦ μεθ' ἑνός παρεμβύσματος καταλλήλου διά πίεσιν λειτουργίας 10,5 χιλιογράμμων ανά τετρ. εκατοστόμετρον (150 λιβρών ανά τετρ. δάκτυλον), καθῶς καί τεσσάρων κοχλιῶν διαμέτρου 16 χιλιοστομέτρων (ἢ 5/8 δακτύλου) μήκους 16 χιλιοστομέτρων (ἢ 2 δακτύλων) καί ὀκτώ παρακύκλων (ροδελῶν).

Κανονισμός 6

Διάφοροι Λεπτομέρειαι

(α) Ἡλεκτρικά σώματα θερμάνσεως, ἐάν χρησιμοποιοῦνται, δεόν νά εἶναι προσηρμοσμένα εἰς μόνιον θέρσιν καί κατεσκευασμένα κατά τρόπον ὅστε νά περιορίζουν εἰς τό ἐλάχιστον τούς κινδύνους πυρκαϊᾶς. Τά σώματα ταῦτα θερμάνσεως δέν θά έχουν τό θερμαῖνον στοιχεῖον ἐκτεθειμένον εἰς τρόπον ὅστε ἱματισμός, παραπετάσματα ἢ παρεμφερῆ ὕλικά νά δύνανται νά περικαίωvται ἢ νά ἀναφλέγωνται ἐκ τῆς θερμότητος τοῦ στοιχείου.

(β) Ταῖνιαι ἔχουσαι ὡς βᾶσιν τήν κυτταρίνην δέν θά χρησιμοποιοῦνται εἰς τās ἐπί τῶν πλοίων κινηματογραφικᾶς ἐγκαταστάσεις.

Κανονισμός 7

Πυροσβεστήρες

(α) Πάντες οἱ πυροσβεστήρες θά εἶναι ἐγκεκριμένων τύπων καί σχεδίων.

(i) Ἡ περιεκτικότης τῶν ἀπαιτουμένων φορητῶν πυροσβεστήρων ὕγρου δέν θά εἶναι μεγαλύτερα τῶν 13 1/2 λίτρων (3 γαλονίων) καί οὐχί μικρότερα τῶν 9 λίτρων (2 γαλονίων). Οἱ πυροσβεστήρες ἑτέρου τύπου δέν θά ὑπερβαίνουν τήν ἰσοδύναμον δυνατότητα περιεκτικότητος τοῦ πυροσβεστήρος ὕγρου τῶν 13 1/2 λίτρων (3 γαλονίων) καί θά εἶναι τούλάχιστον ἰσοδύναμοι ὡς πρός τήν ἀπόδοσιν σβέσεως πυρκαϊᾶς πρός τόν πυροσβεστήρα τύπου ὕγρου 9 λίτρων (2 γαλονίων).

(ii) Ἡ Ἀρχή θά καθορίζῃ τά ἰσοδύναμα τῶν πυροσβεστήρων.

(β) Ἀριθμός ἀνταλλακτικῶν γομώσεων θά διατίθεται συμφώνως πρός τās ὑπό τῆς Ἀρχῆς καθοριζομένης ἀπαιτήσεις.

(γ) Δέν θά ἐπιτρέπωνται πυροσβεστήρες περιέχοντες μέσον σβέσεως πυρκαϊᾶς, τό ὁποῖον κατά τήν κρίσιν τῆς Ἀρχῆς, εἴτε ἀφ' ἑαυτοῦ ἢ κατά τήν χρῆσιν, ἀναδίδει τοξικά ἀέρια εἰς τοιαύτας ποσότητας ὅστε νά καθίστανται ἐπικίνδυνα εἰς πρόσωπα.

(δ) Ἐκαστος φορητός πυροσβεστήρ ἀφροῦ θά ἀποτελεῖται ἐξ ἑνός ἐνδοπροσηρμοζομένου τύπου ἀκροσωληνίου ἀεραφροῦ ἱκανοῦ ὅπως συνδέεται μετὰ τοῦ κυρίου δικτύου πυρκαϊᾶς δι' ἑνός εὐκάμπτου σωλήνος πυρκαϊᾶς, καί ἐξ ἑνός φορητοῦ δοχείου περιέχοντος τούλάχιστον 20 λίβρας (4 1/2 γαλόνια) ἀφρογόνου ὕγρου ὡς καί ἐξ ἑνός ἐφεδρικοῦ τοιούτου. Τό ἀκροσωληνίον θά εἶναι ἱκανόν νά παράγῃ ἀποτελεσματικόν ἀφρόν κατάλληλον διά τήν κατάσβεσιν μιᾶς πυρκαϊᾶς πετρελαίου, τῆς τάξεως τούλάχιστον 1,5 κυβικοῦ μέτρου (5,3 κυβικῶν ποδῶν) κατά λεπτόν.

(ε) Οἱ πυροσβεστήρες θά ἐξετάζωνται περιοδικῶς καί θά ὑποβάλλωνται εἰς τās δοκιμᾶς τās ἀπαιτουμένας ὑπό τῆς Ἀρχῆς.

(στ) Εἰς τῶν φορητῶν πυροσβεστήρων, τῶν προοριζομένων νά χρησιμοποιηθοῦν εἰς οἰονδήποτε χώρον, θά τοποθετῆται πλησίον τῆς εἰσόδου τοῦ χώρου τούτου.

Κανονισμός 8

Μόνιμα συστήματα σβέσεως πυρκαϊᾶς δι' ἀερίου

(α) Ἡ χρῆσις πυροσβεστικοῦ τινος μέσου ὕπερ, κατά τήν γνάμην τῆς Ἀρχῆς, εἴτε ἀφ' ἑαυτοῦ εἴτε ὑπό τās προβλεπομένης συνθήκας χρήσεως, ἀναδίδει τοξικά ἀέρια εἰς τοιαύτας ποσότητας ὅστε νά τίθενται ἐν κινδύνῳ πρόσωπα δέν θά ἐπιτρέπεται.

(β) Όπου προβλέπεται έγχυσις αερίου διά πυροσβεστικούς σκοπούς, αι άπαραίτητοι σωληνώσεις διά τήν μεταφοράν του αερίου θά είναι έφωδιασμένοι διά βαλβίδων ή κρουινών έλέγχου, ούτω σεσημασμένων ώστε νά δεικνύουν εύκρινώς τά διαμερίσματα πρós τά όποια αι σωληνώσεις οδηγούν. Θά ύφίσταται κατάλληλος διάταξις ούτως ώστε νά προλαμβάνεται ή έξ άπροσεξίας είσοδος αερίου εις οίον-δήποτε διαμέρισμα. Όπου χώροι φορτίου έφωδιασμένοι, διά τήν προστασίαν εκ πυρκαϊάς, δι' ένός τοιούτου συστήματος, χρησιμοποιούνται ως χώροι έπιβατών, αι συνδέσεις αερίου θά άπομονοϋνται κατά τήν διάρκειαν τής τοιαύτης χρήσεως.

(γ) Αι σωληνώσεις θά έχουν τοιαύτην διάταξιν ούτως ώστε νά έξασφαλίζεται άποτελεσματική διανομή του πυροσβεστικού αερίου.

(δ) (i) Ότε διοξειδίου του άνθρακος χρησιμοποιείται ως μέσον σβέσεως πυρκαϊάς εις χώρους φορτίου, ή διαθέσιμος ποσότης αερίου θά είναι έπαρκής ώστε νά δίδη έλάχιστον όγκον έλευθέρου αερίου ίσον πρós τά 30 τοίς εκατόν του όλικου όγκου του μεγαλύτερου έν τῷ πλοίῳ διαμερίσματος φορτίου του δυναμένου νά άπομονωθῆ διά κλεισίματος.

(ii) Ότε διοξειδίου του άνθρακος χρησιμοποιείται ως μέσον σβέσεως πυρκαϊάς εις χώρους περιέχοντας Μηχανάς τής κατηγορίας Α' ή ποσότης του διοχετευομένου αερίου θά είναι έπαρκής ώστε νά δίδη έλάχιστην ποσότητα έλευθέρου αερίου ίσην πρós τήν μεγαλύτεραν των άκολουθών ποσοτήτων, ειτε :

(1) 40 τοίς εκατόν του όλικου όγκου του μεγίστου διαμερίσματος, όστις όγκος θά περιλαμβάνη τόν φωταγωγόν μέχρι του ύψους εις τό όποίον ή όριζόντιος έπιφάνεια του φωταγωγού είναι ίση πρós τά 40 τοίς εκατόν ή όλιγώτερον τής έπιφανείας του έν λόγω διαμερίσματος, ειτε,

(2) 35 τοίς εκατόν του όλικου όγκου του μεγίστου διαμερίσματος περιλαμβανομένου του φωταγωγού,

νοείται ότι τά ως άνω αναφερόμενα ποσοστά δύνανται νά μειωθούν εις τό 35 τοίς εκατόν άντιστοίχως διά φορτηγά πλοία κάτω των 2.000 κάρων όλικής χωρητικότητος νοείται επίσης ότι εις ήν περίπτωσιν δύο ή πλείονες χώροι μηχανών κατηγορίας "Α", δέν είναι έντελώς διαχωρισμένοι θά θεωροϋνται ως άποτελοϋντες έν διαμέρισμα.

(iii) Όπου ό όγκος του έλευθέρου αέρος του περιεχομένου έντός αεροκιβωτίων εις οίονδήποτε χώρον Μηχανών τής κατηγορίας "Α", είναι τοιούτος ώστε εάν έλευθερωθῆ έντός του χώρου τούτου εις περίπτωσιν πυρκαϊάς καί ή τοιαύτη άπελευθέρωσις αέρος έντός του χώρου τούτου θά έπιδράσῃ σοβαρῶς επί τής άποτελεσματικότητος τής μονίμου έγκαταστάσεως σβέσεως πυρκαϊάς, ή Άρχή θά άπαιτῆ τήν διάθεσιν μιᾶς προσθέτου ποσότητος διοξειδίου του άνθρακος.

(iv) Ότε χρησιμοποιείται διοξειδίου του άνθρακος ως μέσον σβέσεως πυρκαϊάς δι' άμφοτέρους τοϋς χώρους φορτίου καί χώρου Μηχανών τής κατηγορίας "Α", ή ποσότης αερίου δέν είναι άναγκαίον νά είναι μεγαλύτερα τής άπαιτουμένης μεγίστης, ειτε διά τό μέγιστον διαμέρισμα φορτίου, ειτε διά τόν χώρον μηχανών.

(v) Διά τήν έφαρμογήν τής παράρφου, ό όγκος του διοξειδίου του άνθρακος θά ύπολογίζεται πρós 0,56 κυβικά μέτρα ανά χιλιόγραμμον (9 κυβικούς πόδας ανά λίβραν).

(vi) Ότε χρησιμοποιείται διοξειδίου του άνθρακος ως μέσον σβέσεως πυρκαϊάς διά χώρους Μηχανών τής κατηγορίας "Α", τό μόνιμον σύστημα σωληνώσεων θά είναι τοιούτον ώστε τά 85 τοίς εκατόν του αερίου νά δύνανται νά διοχετεύωνται εις τόν χώρον έντός δύο πρώτων λεπτών τής ώρας.

(vii) Οι θάλαμοι έναποθηκέσεως φιαλών διοξειδίου του άνθρακος θά έγκαθίστανται εις άμέσως προσιτάς καί άσφαλείς θέσεις καί θά έξαερίζονται άποτελεσματικώς κατά τήν κρίσιν τής Άρχῆς. Οιαδήποτε είσοδος εις τοιαύτας άποθήκας θά κείται κατά προτίμησιν πρós τήν πλευράν του άνοικτού καταστρώματος καί έν πάση περιπτώσει θά είναι άνεξάρτητος του προστατευομένου χώρου. Αι θύραι είσόδου, ως καί τά διαφράγματα καί τά καταστρώματα τά όποια σχηματίζουν τά όρια των τοιούτων θαλάμων, θά είναι αεροστεγή (gas-tight) καί έπαρκώς άπομονωμένα.

(ε) (i) Όσακις αέριόν τι, πλην διοξειδίου του άνθρακος ή άτμου ως έπιτρέπεται ύπό τής παράρφου (στ) του παρόντος Κανονισμού, παράγεται έν τῷ πλοίῳ καί χρησιμοποιείται ως μέσον σβέσεως πυρκαϊᾶς, τοϋτο

θά είναι έν αεροειδές προϊόν καύσεως εϊς τό όποϊον ή περιεκτικότης εϊς όξυγόνον, μονοξειδϊον του άνθρακος, καυσϊκά στοιχεϊα καί οϊαδήποτε εύφλεκτα στοιχεϊα, έχει έλαττωθή εϊς τό έπιτρεπόμενον έλαχϊστον όριον.

- (ii) "Όπου τοιοϋτον άέριον χρησιμοποιείται ως μέσον σβέσεως πυρκαϊάς, εϊς έν μόνιμον σύστημα σβέσεως πυρκαϊάς, διά τήν προστασίαν χώρων Μηχανών κατηγορίας "Α", τοϋτο θά παρέχη προστασίαν ίσοδύναμον τής παρεχομένης υπό σταθεροϋ συστήματος διοξειδίου του άνθρακος.
- (iii) "Όπου τοιοϋτον άέριον χρησιμοποιείται, ως μέσον σβέσεως πυρκαϊάς, εϊς έν μόνιμον σύστημα σβέσεως πυρκαϊάς, διά τήν προστασίαν χώρων φορτίου, μία ίκανοποιητική ποσότης τοιοϋτου άερίου θά είναι διαθέσιμος ώστε νά δϊδω άριαίως έναν όγκον έλευθέρου άερίου τουλάχιστον ίσον πρός τά 25 τοίς έκατόν του όλικου όγκου του μεγαλύτερου διαμερίσματος του προστατευόμενου κατ' αυτόν τόν τρόπον διά μίαν περίοδον 72 ώρων.

(στ) Γενικώς, ή 'Αρχή δέον νά μή έπιτρέπη τήν χρήσιν άτμου ως πυροσβεστικοϋ μέσου, εϊς μόνιμα συστήματα πυροσβέσεως τών νέων πλοίων. Όσάκις ή χρήσις άτμου έπιτρέπεται υπό τής 'Αρχής, οϋτος δέον νά χρησιμοποιηται μόνον εϊς περιωρισμένας έπιφανείας ως έπιπρόσθετον του άπαιτουμένου πυροσβεστικοϋ μέσου καί υπό τήν προϋπόθεσιν ότι ό διαθέσιμος λέβης ή οϊ διαθέσιμοι λέβητες διά τήν παροχήν άτμου θά έχουν έξάτμισιν τουλάχιστον 1 χιλιογραμμίου άτμου ανά ώραν δι' έκαστον 0.75 κυβ. μέτρον (1 λίβρα άτμου ανά ώραν διά 12 κυβ. πόδας) του όλικου όγκου του μεγίστου τοιουτρόπως προστατευόμενου χώρου. Έπιπροσθέτως, ίνα πληροϋνται οϊ προαναφερθεϊσαι άπαιτήσεις, τά συστήματα από πάσης άπόψεως δέον νά συμφωνοϋν πρός τά καθοριζόμενα υπό τής 'Αρχής καί νά ίκανοποιοϋν ταϋτην.

(ζ) Δέον νά προβλέπωνται αυτόματα ήχητικά μέσα προειδοποίησεως περί τής διοχετεύσεως του πυροσβεστικοϋ άερίου έντός οιουδήποτε χώρου εϊς τόν όποϊον κανονικώς εϊσέρχεται προσωπϊκόν. Τό προειδοποιητικόν σήμα δέον νά λειτουργή επί κατάλληλον χρονϊκήν διάρκειαν πρό τής διοχετεύσεως του άερίου.

(η) Τά μέσα έλέγχου οιουδήποτε τοιοϋτου μόνιμου συστήματος σβέσεως πυρκαϊάς δι' άερίου θά είναι άμέσως προσϊτά καί άπλης χρήσεως ως καί τοποθετημένα όμοϋ, εϊς όσον τό δυνατόν όλιγωτέρας θέσεις αίτινες δέν θά έχουν πιθανότηας άποκοπής έν περιπτώσει πυρκαϊάς εϊς τόν προστατευόμενον χώρον.

Κανονισμός 9

Μόνιμα Συστήματα Σβέσεως Πυρκαϊάς δι' Άφροϋ εϊς τούς Χώρους Μηχανών

(α) Οιουδήποτε άπαιτούμενον μόνιμον σύστημα σβέσεως πυρκαϊάς δι' άφροϋ εϊς τούς χώρους μηχανών θά πρέπει νά είναι ίκανόν νά παρέχη διά μέσου μόνιμον στομίον παροχής, έντός πέντε πρώτων λεπτών τής ώρας τό βραδύτερον, ποσότητα άφροϋ άρκετήν ώστε νά καλύπτη εϊς πάχος 15 έκατοστομέτρων (6 δακτύλων) τήν μεγίστην έπιφάνειαν επί τής όποίας δύναται νά διαχυθή πετρέλαιον καύσεως. Τό σύστημα θά είναι ίκανόν νά παράγη άφρόν κατάλληλον διά τήν σβέσιν πυρκαϊάς έλαίου. Θά προβλέπωνται μέσα διά τήν αποτελεσματικήν κυκλοφορίαν άφροϋ διά μέσου ενός μόνιμου συστήματος σωλήνων καί βαλβίδων έλέγχου ή κρουώνων εϊς κατάλληλα στόμια παροχής ως καί σταθεροί ψεκαστήρες (sprayers) διά τήν αποτελεσματικήν εκτόξευσιν του άφροϋ επί έτέρων κυρίων σημείων ύποκειμένων εϊς πυρκαϊάν έντός του προστατευόμενου χώρου. Η αναλογία εκτονώσεως του άφροϋ δέν θά υπερβαίνη τό 12 πρός 1.

(β) Τά μέσα έλέγχου οιουδήποτε τοιοϋτου συστήματος θά είναι άμέσως προσϊτά καί άπλης χρήσεως ως καί τοποθετημένα όμοϋ εϊς όσον τό δυνατόν όλιγωτέρας θέσεις καί εϊς σημεία τά όποϊα δέν θά έχουν πιθανότηας άποκλεισμοϋ έν περιπτώσει πυρκαϊάς εϊς τόν προστατευόμενον χώρον.

Κανονισμός 10

Μόνιμα συστήματα σβέσεως πυρκαϊάς δι' ύψηλής εκτονώσεως άφροϋ εϊς τούς χώρους μηχανών

- (α) (i) Οιουδήποτε άπαιτούμενον μόνιμον σύστημα σβέσεως πυρκαϊάς δι' ύψηλής εκτονώσεως άφροϋ εϊς τούς χώρους μηχανών θά είναι ίκανόν νά παρέχη ταχέως, μέσφ μόνιμον στομίον παροχής, μίαν ποσότητα άφροϋ άρκετήν, νά πληρώση τόν μεγαλύτερον πρός προστασίαν χώρον εϊς ρυθμόν τουλάχιστον

1 μέτρου (3,3 ποδών) βάθος ανά λεπτόν. Ἡ διαθέσιμος ποσότης τοῦ ἀφρογόνου ὑγροῦ θά εἶναι ἀρκετή διὰ τήν παραγωγίαν ἑνός δγκου ἀφροῦ ἴσου πρὸς τό πενταπλάσιον τοῦ δγκου τοῦ μεγίστου πρὸς προστασίαν χώρου. Ἡ ἀναλογία ἐκτονώσεως τοῦ ἀφροῦ δέν θά ὑπερβαίῃ τό 1.000 πρὸς 1.

(ii) Ἡ Ἀρχὴ δύναται νά ἐπιτρέψῃ ἐναλλακτικὰς διατάξεις καί ρυθμούς παροχῆς, ὑπὸ τόν ὄρον ὅτι ἐπιτυγχάνεται δι' αὐτῶν μία ἱκανοποιητικὴ ἰσοδύναμος προστασία.

(β) Οἱ τροφοδοτικοὶ ἀγωγοὶ διὰ τήν διανομὴν ἀφροῦ, τὰ ἀνοίγματα ἀέρος πρὸς τήν γεννήτριαν ἀφροῦ καί ὁ ἀριθμὸς τῶν μονάδων παραγωγῆς ἀφροῦ θά εἶναι κατὰ τήν κρίσιν τῆς Ἀρχῆς τοιοῦτοι ὥστε νά παρέχουν ἀποτελεσματικὴν παραγωγὴν καί κυκλοφορίαν ἀφροῦ.

(γ) Ἡ διάταξις τῆς σωληνώσεως παραγωγῆς καί διανομῆς ἀφροῦ θά εἶναι τοιαύτη ὥστε μία πυρκαϊὰ εἰς τόν προστατευόμενον χώρον νά μὴ δύναται νά ἐπηρεάσῃ τόν ἐξοπλισμὸν παραγωγῆς ἀφροῦ.

(δ) Ἡ γεννήτρια ἀφροῦ, αἱ πηγαὶ ἐφοδιασμοῦ τῆς διὰ κινητηρίου δυνάμεως, τό μεταβαλλόμενον εἰς ἀφρόν ὑγρόν καί τὰ μέσα ἐλέγχου τοῦ συστήματος θά εἶναι ἀμέσως προσιτὰ καί ἀπλὰ εἰς τήν χρῆσιν καί θά εἶναι ὁμοῦ τοποθετημένα εἰς ὅσον τό δυνατόν ὀλιγωτέρας θέσεις, αἵτινες δέν θά ἔχουν πιθανότητος ἀπομονώσεως ἐν περιπτώσει πυρκαϊᾶς εἰς τόν προστατευόμενον χώρον.

Κανονισμὸς 11

Μόνιμα συστήματα σβέσεως πυρκαϊᾶς διὰ ραντίσεως ὕδατος ὑπὸ πίεσιν εἰς τοὺς χώρους μηχανῶν

(α) Οἰονδήποτε ἀπαιτούμενον μόνιμον σύστημα σβέσεως πυρκαϊᾶς διὰ ραντίσεως ὕδατος ὑπὸ πίεσιν ἐντὸς τῶν χώρων μηχανῶν θά ἐφοδιάζεται διὰ ἀκροφυσίων ἐγκεκριμένου τύπου.

(β) Ὁ ἀριθμὸς καί ἡ διάταξις τῶν ἀκροφυσίων θά εἶναι τῆς ἐγκρίσεως τῆς Ἀρχῆς καί θά εἶναι τοιαῦτα ὥστε νά ἐξασφαλίζεται ἀποτελεσματικὴ κατὰ μέσον ὄρον παροχὴ ὕδατος τοῦλάχιστον 5 λιβρῶν κατὰ τετραγωνικὸν μέτρον (0,1 γαλόνιον κατὰ τετραγωνικὸν πόδα), κατὰ λεπτόν, εἰς τὰ ὑπὸ προστασίαν διαμερίσματα. Ὃπου θεωρεῖται ἀπαραίτητος ἡ ἐφαρμογὴ ἠΰξημένων ρυθμῶν, οὗτος θά εἶναι τῆς ἐγκρίσεως τῆς Ἀρχῆς. Τὰ ἀκροφύσια θά τοποθετοῦνται ἀνωθεν τῶν παραπυθμενίδων τῆς ἐντερονείας καί τῶν ἄλλων ἐπιφανειῶν ἐπὶ τῶν ὁποίων καύσιμον πετρέλαιον δύναται νά διαχυθῇ καθὼς καί ἀνωθεν εἰδικῶν θέσεων ὅπου ὑπάρχει κίνδυνος πυρκαϊᾶς εἰς τοὺς χώρους μηχανῶν.

(γ) Τό σύστημα δύναται νά ὑποδιαιρηθῆ εἰς τμήματα τῶν ὁποίων τὰ ἐπιτόμια διανομῆς θά χειρίζονται ἐξ εὐκόλως προσιτῶν θέσεων ἐξωτερικῶς τῶν ὑπὸ προστασίαν χώρων καί αἵτινες δέν θά ἀπομονοῦνται ταχέως ἐξ ἐκδηλώσεως πυρκαϊᾶς.

(δ) Τό σύστημα θά τηρῆται φορτισμένον εἰς τήν ἀπαιτουμένην πίεσιν καί ἡ τροφοδοτοῦσα δι' ὕδατος ἀντλία τοῦ συστήματος θά τίθεται αὐτομάτως εἰς λειτουργίαν συνεπεῖα πτώσεως τῆς πιέσεως ἐντὸς τοῦ συστήματος.

(ε) Ἡ ἀντλία θά εἶναι ἱκανὴ νά τροφοδοτῇ συγχρόνως, εἰς τήν ἀπαιτουμένην πίεσιν, πάντα τὰ τμήματα τοῦ συστήματος ἐντὸς οἰουδήποτε τῶν ὑπὸ προστασίαν διαμερισμάτων. Ἡ ἀντλία καί τὰ μέσα χειρισμοῦ τῆς θά ἐγκαθίστανται ἐξωτερικῶς τοῦ ὑπὸ προστασίαν χώρου ἢ χώρων. Ἡ ὑπαρξίς πυρκαϊᾶς ἐντὸς τοῦ χώρου ἢ χώρων τῶν προστατευομένων διὰ τοῦ συστήματος ραντίσεως δι' ὕδατος δέον νά μὴ δύναται νά θέσῃ τό σύστημα ἐκτὸς λειτουργίας.

(στ) Ἡ ἀντλία δύναται νά τροφοδοτῆται ὑπὸ ἀνεξαρτήτου μηχανῆς τοῦ τύπου ἐσωτερικῆς καύσεως, ἀλλ' ἐάν αὐτὴ ἐξαρτᾶται ἐκ κινητηρίου ἐνεργείας προερχομένης ἐκ τῆς ἠλεκτρογεννητρίας κινδύνου τῆς ἐγκατεστημένης συμφῶνως πρὸς τὰς διατάξεις τοῦ Κανονισμοῦ 25 ἢ τοῦ Κανονισμοῦ 26, ἀναλόγως τῆς περιπτώσεως, τοῦ Κεφαλαίου II - 1 τῆς παρούσης Συμβάσεως, ἡ ἠλεκτρογεννήτρια αὐτὴ δέον ὅπως ρυθμισθῇ ὥστε νά τίθεται εἰς λειτουργίαν αὐτομάτως ἐν περιπτώσει βλάβης τῆς κυρίας πηγῆς ἐνεργείας ὥστε ἡ κινητήριος ἐνέργεια διὰ τήν ἀντλίαν τὴν ἀπαιτουμένην ὑπὸ τῆς παραγράφου (ε) τοῦ παρόντος Κανονισμοῦ νά εἶναι ἀμέσως διαθέσιμος. Ὅσακις ἡ ἀντλία τροφοδοτῆται ὑπὸ ἀνεξαρτήτου μηχανῆς τοῦ τύπου ἐσωτερικῆς καύσεως, αὐτὴ δέον νά εἶναι τοποθετημένη κατὰ τρόπον ὥστε πυρκαϊὰ τις ἐντὸς τοῦ προστατευομένου χώρου νά μὴ ἐπηρεάσῃ τήν τροφοδότησιν ἀέρος εἰς τήν μηχανήν.

(ζ) Θά λαμβάνωνται προφυλάξεις αττινες θά έμποδίζουν τό κλείσιμον τών άκροφυσίων έξ άκαθαρσιών του ύδατος ή έξ όξειδώσεως τών σωληνώσεων, τών άκροφυσίων, τών έπιστοιμιών και τής άντλίας.

Κανονισμός 12

Αυτόματα συστήματα ραντιστήρος και αυτόματα συστήματα άναγγελίας
και έντοπισμού πυρκαϊάς

- (α) (i) Οιονδήποτε προβλεπόμενον αυτόματον σύστημα ραντιστήρος, άναγγελίας και έντοπισμού πυρκαϊάς θά είναι ικανόν προς άμεσον λειτουργίαν εις οιανδήποτε στιγμήν και δέν θά άπαιτείται οιαδήποτε ένέργεια εκ μέρους του πληρώματος διά νά θέση τουτο έν λειτουργία. Τοϋτο θά συνίσταται εκ σωλήνων ύγρου τύπου πλην μικρά εκτεθειμένα τμήματα δύνανται νά σγκνείνται εκ σωλήνων ξηρου τύπου όπου, κατά τήν γνώμην τής 'Αρχής, τουτο θά άπετέλει άπαραίτητον προφύλαξιν. Άπαντα τά τμήματα του συστήματος τά όποια τυχόν υπόκεινται εις εκ θερμοκρασιών πήξιν, κατά τήν διάρκειαν τής λειτουργίας των, θά είναι καταλλήλως προστατευμένα κατά τής πήξεως. Τοϋτο θά τηρηται φορτισμένον εις τήν άναγκαίαν πίεσιν και θά ύπάρχη πρόβλεψις διά μία συνεχή παροχήν ύδατος ως άπαιτείται υπό του παρόντος Κανονισμού.
- (ii) Έκαστον τμήμα τών ραντιστήρων θά περιλαμβάνη μέσα δίδοντα αυτόμάτως φωτεινόν και ήχητικόν σήμα συναγερομϋ εις μίαν ή περισσοτέρας συσκευάς ένδειξεως, όποτεδήποτε οιοσδήποτε ραντιστήρ ήθελε τεθῆ εις ένέργειαν. Τοιαύται συσκευαί θά δίδου ένδειξιν οιασδήποτε πυρκαϊάς και τής θέσεως τής εις οιονδήποτε χώρον έξυπηρετούμενον υπό του συστήματος και θά εύρίσκωνται επί τής γεφύρας πλογήσεως ή εις τόν κεντρικόν σταθμόν έλέγχου πυρκαϊάς, ό όποιος θά είναι οϋτω έπηνδρωμένος ή έκωδιασμένος ώστε νά είναι βέβαιον ότι όποιοδήποτε σήμα συναγερομϋ προερχόμενον εκ του συστήματος θά λαμβάνεται άμέσως ύφ' ένός ύπευθύνου μέλους του πληρώματος. Τό τοιοϋτο σύστημα συναγερομϋ θά είναι οϋτω κατεσκευασμένον ώστε νά δεικνύη πάσαν έπελθοϋσαν εις τουτο βλάβην.
- (β) (i) Οί ραντιστήρες θά τοποθετοϋνται όμαδικώς έντός διακεχωρισμένων τμημάτων έκαστον τών όποίων δέν θά περιλαμβάνη περισσοτέρους τών 200 ραντιστήρων. Οιονδήποτε τμήμα τών ραντιστήρων δέν θά έξυπηρετη περισοτέρα τών δύο καταστρωμάτων και δέν θά τοποθετοϋνται εις περισσοτέρας τής μιās τών καθέτων κυρίων ζωνών, εκτός εάν ή 'Αρχή έπιτρέπη, έφ' όσον ήθελεν κριθεῖ ύπ' αύτης ότι ή προστασία του πλοίου εκ πυρκαϊάς δέν θά έμειοϋτο εκ τουτοϋ, έν τοιοϋτο τμήμα ραντιστήρων νά έξυπηρετη περισσοτέρα τών δύο καταστρωμάτων ή νά είναι τοποθετημένον εις περισσοτέρας τής μιās κυρίας καθέτου ζώνης.
- (ii) Έκαστον τμήμα ραντιστήρων θά είναι ικανόν νά άπομονωθῆ διά μιās μόνον βαλβίδος διακοπής. Η βαλβίς διακοπής, εις έκαστον τμήμα θά είναι άμέσως προσιτή και ή θέσις τοποθετήσεως της θά είναι εύκρινώς και διαρκώς σεσημασμένη. Θά προβλέπωνται μέσα έμποδίζοντα τόν χειρισμόν τής βαλβίδος διακοπής υπό παντός μη έξουσιοδοτημένου προσώπου.
- (iii) Θά προβλέπεται εις μετρητής δεικνύων τήν πίεσιν εις τό σύστημα εις εκάστην βαλβίδα διακοπής τμήματος ως και εις έναν κεντρικόν σταθμόν.
- (iv) Οί ραντιστήρες θά είναι άνθεκτικοί εις τήν εκ τής θαλασσίας άτμοσφαιρας προκαλουμένην διάβρωσιν. Εις τά ένδαιτήματα και τούς ύπηρετικούς χώρους οι ραντιστήρες θά τίθενται έν λειτουργία υπό θερμοκρασίαν 68 C (115°F) και 79°C (175°F), εκτός εκείνων τών τοποθετημένων εις διαμερίσματα, όπως τά στεγνωτήρια, όπου δυνατόν νά προσδοκάται περιβάλλον ύψηλής θερμοκρασίας, τών όποίων ή θερμοκρασία λειτουργίας δύναται νά αύξάνεται εις τιμήν οϋχί πλέον τών 30°C (54°F) πέραν τής μεγίστης θερμοκρασίας του ύπερκειμένου καταστρώματος.
- (v) Εις κατάλογος ή έν σχεδιάγραμμα δέον νά εκτίθεται εις εκάστην μονάδα ένδειξεως επί του όποιου νά έμφαίνωνται οι καλυπτόμενοι χώροι και ή θέσις τής ζώνης άναφορικώς προς έκαστον τμήμα. Κατάλληλοι οδηγιαί δοκιμής και συντηρήσεως δέον νά είναι διαθέσιμοι.
- (γ) Οί ραντιστήρες δέον νά τοποθετώνται εις ύπερθεν κατακορύφους θέσεις και κατ' άποστάσεις βάσει καταλλήλου σχεδίου ώστε νά διατηρηται εις κατά μέσον όρον ρυθμός παροχής οϋχί κατώτερος τών 5 λιτρών ανά τετραγωνικόν μέτρον (0.1 γαλλόνιον ανά τετραγωνικόν πόδα) ανά λεπτόν τής ώρας επί τής όνομαστικής

επιφάνειας της καλυπτομένης υπό των ραντιστήρων. Έναλλακτικώς, ή Αρχή δύναται να επιτρέπη την χρησιμοποίησιν ραντιστήρων παρεχόντων τοιαύτην έτεραν ποσότητα ύδατος καταλλήλως διανεμομένην οία ήθελε άποδειχθή προς ικανοποίησιν της Αρχής ότι δέν είναι ολιγώτερον άποτελεσματική.

- (δ) (i) Θά προβλέπεται μία δεξαμενή πίεσεως έχουσα όγκον ίσον τουλάχιστον προς τό διπλάσιον του όγκου της προβλεπομένης διά ταύτην ποσότητα ύδατος, ώς αύτη είδικώς καθορίζεται εις τό παρόν έδάφιον. Ή δεξαμενή θά φέρη μίαν σταθεράν φόρτισιν γλυκέος ύδατος ίσην προς τήν ποσότητα του ύδατος ήτις θά πρέπει να παρασχεθῆ, έντός ενός λεπτού διά της άντλίας της άναφερομένης εις τά έδάφια (ε) (ii) του παρόντος Κανονισμού, καί αι διατάξεις θά προβλέπουν τήν διατήρησιν τοιαύτης πίεσεως άέρος εις τήν δεξαμενήν, ώστε να εξασφαλίζεται ότι όπου τό σταθερόν φορτίον γλυκέος ύδατος της δεξαμενης έχει χρησιμοποιηθῆ, ή πίεσις δέν θά είναι μικρότερα της πίεσεως λειτουργίας των ραντιστήρων, σύν τη πίεσει τη όφειλομένη εις μίαν στήλην ύδατος μετρουμένην από του πυθμένου της δεξαμενης μέχρι του ύψηλοτέρου εις τό σύστημα τοποθετημένου ραντιστήρος. Θά προβλέπονται κατάλληλα μέσα άναπληρώσεως του άέρος υπό πίεσιν καί άναπληρώσεως του γλυκέος ύδατος του φορτουμένου έν τη δεξαμενή. Θά προβλέπεται εις ύάλινος μετρητής προς ένδειξιν της στάθμης του ύδατος έν τη δεξαμενή.
- (ii) Θά προβλέπονται μέσα παρεμποδίζοντα τήν είσοδον θαλασσίου ύδατος εις τήν δεξαμενήν.
- (ε) (i) Θά προβλέπεται μία άντλία, άνεξαρτήτου κινήσεως, άποκλειστικώς διατιθεμένη προς τόν σκοπόν της αυτομάτου συνεχίσεως έκροψης ύδατος εκ των ραντιστήρων. Ή άντλία θά τίθεται αυτομάτως έν κινήσει διά της πίεσεως της πίεσεως έντός του συστήματος πρίν ή τό μόνιμον γλυκύ ύδωρ τό έντός της δεξαμενης πίεσεως εύρισκόμενον έξαντληθῆ τελείως.
- (ii) Ή άντλία καί τό σύστημα σωληνώσεων θά είναι ικανά διά τήν διατήρησιν της άπαραιτήτου πίεσεως εις τό επίπεδον του ύψηλοτέρου κειμένου ραντιστήρος, ίνα εξασφαλίζεται μία συνεχής έξαγωγή ύδατος άρκουτού διά τήν ταυτόχρονον κάλυψιν μίας έλαχίστης περιοχής εκ 280 τετραγωνικών μέτρων (3000 τετραγωνικών ποδών) καί εις ρυθμόν παροχής όστις καθορίζεται εις τήν παράγραφον (γ) του παρόντος Κανονισμού.
- (iii) Ή άντλία θά είναι έφωδιασμένη, εις τήν πλευράν παροχής διά μιάς δοκιμαστικής βαλβίδος μετά μιάς βραχείας σωλήνος άποχετεύσεως άνοικτου άκρου. Τό όφέλιμον έμβαδόν διόδου διά της βαλβίδος καί της σωλήνος θά είναι επαρκές διά να επιτρέπη τήν ελευθέρωσιν της άπαιτούμενης έξαγωγής της άντλίας ενώ διατηρείται ή πίεσις εις τό σύστημα ώς αύτη είδικώς καθορίζεται εις τήν ύποπαράγραφον (δ) (i) του παρόντος Κανονισμού.
- (iv) Τό στόμιον είσαγωγής θαλασσίου ύδατος προς τήν άντλιαν δέον, ει δυνατόν, να εύρίσκεται έντός του περιέχοντος τήν άντλιαν χώρου καί να είναι ούτω πως διατεταγμένον ώστε, όσάκις τό πλοϊον επιπλέει επί του ύδατος, να μή καθίσταται άναγκαϊον τό κλείσιμον της παροχής θαλασσίου ύδατος προς τήν άντλιαν δι' οιονδήποτε σκοπόν πλήν της έπιθεωρήσεως ή έπισκευής της άντλίας.
- (στ) Ή άντλία καί δεξαμενή ραντιστήρων θά είναι έγκατεστημένοι εις μίαν θέσιν άρκούντως άπομεμακρυσμένην έξ ολουδήποτε χώρου μηχανών της κατηγορίας "Α" καί δέν θά τοποθετούνται εις ολουδήποτε χώρον ό όποιος άπαιτείται να προστατεύεται υπό του συστήματος.
- (ζ) Θά ύπάρχουν τουλάχιστον δύο πηγαί παροχής ένεργείας διά τήν άντλιαν θαλασσίου ύδατος καί τό αυτόματον σύστημα άναγγελίας καί έντοπισμού. Όπου αι πηγαί ένεργείας διά τήν άντλιαν είναι ηλεκτρικαί, αύται θά συνίστανται εκ μιάς κυρίας γεννητριάς καί εκ μιάς βοηθητικής πηγής ένεργείας. Μία παροχή, ή προοριζομένη διά τήν άντλιαν, θά λαμβάνεται εκ του κυρίου πίνακος διανομής ηλεκτρικού ρεύματος, καί έτέρα εκ του βοηθητικού (emergency) πίνακος διανομής ηλεκτρικού ρεύματος διά κεχωρισμένων τροφοδοτικών διατιθεμένων άποκλειστικώς δι' αυτόν τόν σκοπόν.

Τά τροφοδοτικά καλώδια δέον να είναι ούτω πως διατεταγμένα ώστε να μή διερχονται εκ μαγειρείων, χώρων μηχανών καί έτέρων περικλείστων χώρων ύψηλου κινδύνου εκρήξεως πυρκαϊδής εκτός καθ' ην εκτασιν τοϋτο είναι άναγκαϊον διά τήν σύνδεσιν τούτων μετά των καταλλήλων πινάκων διανομής καί δέον να καταλήγουν

είναι ένα αυτόματον διακόπτην έναλλαξης κείμενον πλησίον τῆς ἀντλίας τροφοδοτήσεως ραντιστήρων. Ὁ διακόπτης οὗτος δέον νά ἐπιτρέπη τήν ἐνεργειακὴν τροφοδότησιν ἐκ τοῦ κυρίου πίνακος διανομῆς ἐφ' ὅσον ἐξ αὐτοῦ ὑπάρχει διαθέσιμος ἐνεργειακὴ τροφοδότησις, καί νά εἶναι οὕτω πως ἐσχεδιασμένος ὥστε ἅμα τῇ διακοπῇ τῆς τροφοδοτήσεως ταύτης νά ἐνεργῇ ἐναλλαγὴν αὐτομάτως πρὸς τήν τροφοδότησιν ἐκ τοῦ πίνακος διανομῆς κινδύνου. Οἱ διακόπτες τοῦ κυρίου πίνακος διανομῆς καὶ τοῦ πίνακος διανομῆς κινδύνου δέον νά φέρουν εὐκρινῆ ἐνδεικτικὴν πινακίδα καὶ ὑπὸ κανονικῆς συνθήκας νά τηρῶνται κλειστοί. Οὐδεὶς ἕτερος διακόπτης δύναται νά ἐπιτρέπεται διὰ τὰ περι ὧν πρόκειται τροφοδοτικά καλώδια. Μία τῶν πηγῶν ἐνεργειακῆς τροφοδοτήσεως τοῦ συστήματος προειδοποιήσεως καὶ ἐντοπισμοῦ δέον νά εἶναι πηγὴ ἐνεργείας κινδύνου. Ὅσακις ἡ μία τῶν πηγῶν ἐνεργείας διὰ τὴν ἀντλίαν εἶναι μηχανὴ τύπου ἐσωτερικῆς καύσεως, αὕτη ἐκτός τοῦ ὅτι δέον νά πληροῖ τὰς διατάξεις τῆς παραγράφου (στ) τοῦ παρόντος Κανονισμοῦ, δέον ὅπως εἶναι τοποθετημένη κατὰ τρόπον ὥστε πυρκαϊὰ ἐντὸς οἴουδήποτε προστατευομένου χώρου νά μὴ ἐπηρεάζῃ τὴν τροφοδότησιν ἀέρος πρὸς τὰς μηχανάς.

(η) Τὸ σύστημα ραντιστήρων θά συνδέεται μετὰ τοῦ δικτύου σωληνώσεων πυρκαϊᾶς διὰ μέσου μιᾶς κλειομένης κοχλιωτῆς καὶ ἀντεπιστρεπτικῆς βαλβίδος εἰς τὸ σημεῖον συνδέσεως, ἡ ὁποία θά ἐμποδίξῃ ἀντίστροφον ροὴν ἐκ τοῦ συστήματος ραντιστήρων εἰς τὸ δίκτυον σωληνώσεων πυρκαϊᾶς.

(θ) (i) Μία βαλβὶς δοκιμῆς θά προβλέπεται διὰ τὴν δοκιμὴν τῆς αὐτομάτου ἀναγγελίας, δι' ἕκαστον τμήμα τῶν ραντιστήρων, διὰ τῆς ἐκφορτώσεως ποσότητος ὕδατος ἰσοδυνάμου πρὸς τὴν λειτουργίαν ἐνὸς ραντιστήρος. Ἡ βαλβὶς δοκιμῆς, δι' ἕκαστον τμήμα, θά τοποθετῆται ἐγγύς τῆς βαλβίδος διακοπῆς τοῦ τμήματος τούτου.

(ii) Θά προβλέπωνται μέσα διὰ τὴν δοκιμὴν τῆς αὐτομάτου λειτουργίας τῆς ἀντλίας, διὰ τὴν περίπτωσιν ἐλαττώσεως τῆς πίεσεως εἰς τὸ σύστημα.

(iii) Ἐπὶ μιᾶς τῶν θέσεων ἐνδείξεως τῶν μνημονευομένων ἐν ἐδαφίῳ (α) (ii) τοῦ παρόντος Κανονισμοῦ δέον νά προβλέπωνται διακόπται οἵτινες νά καθιστοῦν δυνατὴν τὴν δοκιμὴν τῶν συστημάτων προειδοποιήσεως καὶ ἐνδείξεως ἕκαστου τμήματος ραντιστήρων.

(ι) Δι' ἕκαστον τμήμα ραντιστήρων δέον νά προβλέπωνται ἀνταλλακτικὰ κεφαλαία ραντιστήρων ἱκανοποιῶσαι τὴν Ἀρχήν.

Κανονισμός 13

Συστήματα αὐτομάτου συναγεροῦ καὶ ἀνιχνεύσεως πυρκαϊᾶς

Ἀπαιτήσεις δι' ἐπιβατηγὰ πλοῖα μεταφέροντα περισσότερους τῶν 36 ἐπιβατῶν

(α) (i) Οἰονδήποτε προβλεπόμενον σύστημα αὐτομάτου συναγεροῦ καὶ ἀνιχνεύσεως πυρκαϊᾶς θά εἶναι κατάλληλον πρὸς ἄμεσον λειτουργίαν ἐν παντὶ χρόνῳ καὶ δέν θ' ἀπαιτῆται ἐνέργεια τις ἐκ μέρους τοῦ πληρώματος διὰ νά τίθεται ἐν λειτουργίᾳ.

(ii) Ἐκαστος τομεὺς ἀνιχνευτῶν θά περιλαμβάνῃ μέσα δι' ὧν θά δίδεται ὀπτικὸν καὶ ἠχητικὸν σῆμα συναγεροῦ αὐτομάτως εἰς μίαν ἢ περισσότερας μονάδας ἐνδείξεως ὁποτεδήποτε εἰς ἀνιχνευτὴ τίθεται εἰς λειτουργίαν. Αἱ τοιαῦται μονάδες θά παρέχουν ἐνδείξιν οἰασδήποτε πυρκαϊᾶς καὶ τῆς θέσεώς της εἰς οἰονδήποτε χρόνον ἐξυπηρετούμενον ὑπὸ τοῦ συστήματος καὶ θά τοποθετοῦνται εἰς τὴν γέφυραν ναυσίπλοιας ἢ εἰς τὸν κύριον σταθμὸν ἐλέγχου πυρκαϊᾶς, ὁ ὁποῖος θά εἶναι οὕτω πως ἐπηρεαζόμενος ἢ ἐξωπλισμένος ὥστε νά ἐξασφαλίζηται ὅτι πᾶν σῆμα συναγεροῦ τοῦ συστήματος γίνεται ἀμέσως ἀντιληπτὸν ἀπὸ ὑπεύθυνου μέλους τοῦ πληρώματος. Πᾶν τοιοῦτο σύστημα συναγεροῦ θά εἶναι οὕτω πως κατεσκευασμένον ὥστε νά ἐπισημαίνεται πᾶσα βλάβη ἐπισυμβαίνουσα εἰς τὸ σύστημα.

(β) Οἱ ἀνιχνευταὶ θά τοποθετοῦνται καθ' ὁμάδας εἰς κειρολισμένους τομεῖς ἕκαστου καλύπτοντος χώρον οὐχὶ περισσότερον τῶν 50 δωματίων ἐξυπηρετουμένων ὑπὸ τοιοῦτου συστήματος καὶ περιέχοντος οὐχὶ περισσότερους τῶν 100 ἀνιχνευτῶν. Ἐκαστος τομεὺς ἀνιχνευτῶν δέν θά ἐξυπηρετῆ χώρους κειρομένους ἐπ' ἀμφοτέρων - δεξιᾶς καὶ ἀριστερᾶς - τῶν πλευρῶν τοῦ πλοίου, οὐδ' ἐπὶ περισσότερων τῶν ἐνός καταστρωμάτων καὶ οὔτε θά τοποθετῆται εἰς περισσότερας τῆς μιᾶς κατακόρυφου ζώνης, ἐκτός τῆς περιπτώσεως καθ' ἣν ἡ Ἀρχὴ, πεπεισθῆ ὅτι ἡ προστασία τοῦ πλοίου κατὰ τῆς πυρκαϊᾶς δέν θά μειωθῇ, δύναται νά ἐπιτρέψῃ ὅπως εἰς

τοιούτος τομεύς άνιχνευτών έξυπηρετή άμφοτέρας τάς πλευράς - τήν δεξιάν και τήν άριστεράν - του πλοίου και πλείονα του ένός καταστρώματα.

(γ) Τό σύστημα θά ένεργοποιείται συνεπεία άσυνήθους θερμοκρασίας άέρος, άσυνήθους συγκεντρώσεως καπνού ή έτέρων συνθηκών ένδεικτικών τής ένόρφσεως πυρκαϊάς εις οιονδήποτε τών υπό προστασίαν χώρων. Συστήματα, τά όποια είναι ευάλσθητα εις τήν θερμοκρασίαν άέρος, δέν θά ένεργοποιώνται εις θερμοκρασίαν κατωτέραν τών 57° C (135° F) θά ένεργοποιώνται δέ εις θερμοκρασίαν ουχί μεγαλυτέραν τών 74° C (165° F) όταν ή αύξησις τής θερμοκρασίας εις τά έπίπεδα αυτά δέν ύπερβαίνη τόν 1° C (1°,8 F) κατά λεπτόν. Κατά τήν κρίσιν τής 'Αρχής ή έπιτρεπομένη θερμοκρασία λειτουργίας δύναται ν' αύξάνη μέχρι 30° C (54° F) ύπέρ τήν μεγίστην θερμοκρασίαν του άμέσως άνωτέρου καταστρώματος εις τά στεγνωτήρια και παρομοίους χώρους εις ους παρατηρείται μία όμαλώς ύψηλή θερμοκρασία περιβάλλοντος. Συστήματα, τά όποια είναι ευάλσθητα εις τήν συγκέντρωσιν καπνού θά ένεργοποιώνται άμα τή μειώσει τής έντάσεως έκπεμπομένης φωτοδέσμησ εις ποσότητα καθορισμένην υπό τής 'Αρχής. Λοιπαί όμοίως άποδοτικά μέθοδοι λειτουργίας δύνανται νά γίνονυ άποδεκταί κατά τήν κρίσιν τής 'Αρχής. Τό σύστημα άνιχνεύσεως δέν θά χρησιμοποιηται δι' έτερον - πλην του τής άνιχνεύσεως τής πυρκαϊάς - σκοπόν.

(δ) Οί άνιχνευταί δύνανται νά φέρουν διάταξιν προς σήμανσιν συναγερευού διá τής συνδέσεως ή άποσυνδέσεως τών έπαφών, ή δι' άλλων καταλλήλων μεθόδων. θά τοποθετώνται εις ύψηλά εύρισκόμενα σημεία και θά προσταθώνται καταλλήλως έναντι βλάβης και φυσικής φθοράς. θά είναι κατάλληλοι προς χρήσιν υπό συνθήκας, άτμοσφαιρας θαλάσσης. θά τοποθετώνται εις άνοικτήν θέσιν μακράν ζυγών και λοιπών άντικειμένων δυναμένων νά έμποδίζουιν τήν διόδον τών θερμών άερίων ή του καπνού προς τό ευάλσθητον στοιχείον. 'Ανιχνευταί λειτουργούντες διá κλεισίματος τών έπαφών θά είναι του έσφραγισμένου τύπου έπαφής και τό κύκλωμα θά είναι υπό συνεχή παρακολούθησιν διá τήν ένδειξιν έσφαλμένων καταστάσεων.

(ε) Είς τουλάχιστον άνιχνευτής θά τοποθετηται εις έκαστον χώρον ένθα άπαιτούνται ύπηρεσιαί άνιχνεύσεως και δέν θά ύπάρχουν όλγώτεροι του ένός άνιχνευταί δι' έκάστην έπιφάνειαν καταστρώματος 37 τετραγωνικών μέτρων (400 τετραγωνικών ποδών). Εις εύρεις χώρους οί άνιχνευταί θά διατάσσονται κατά κανονικόν τρόπον ουτως ώστε ουδέις άνιχνευτής θ' απέχη πλέον τών 9 μέτρων (30 ποδών) έξ έτέρου άνιχνευτού ή πλέον τών 4,5 μέτρων (15 ποδών) εκ τινος διαφράγματος.

(στ) θά ύπάρχουν τουλάχιστον δύο πηγαί ένεργείας του ηλεκτρικού έξοπλισμού του χρησιμοποιουμένου υπό του συστήματος συναγερευού και άνιχνεύσεως τής πυρκαϊάς, μία τών όποιων θά είναι πηγή ένεργείας άνάγκης. 'Η τροφοδοτίσις θά παρέχεται υπό κευχωρισμένων τροφοδοτικών μέσων διατιθειμένων άποκλειστικώς προς τόν σκοπόν αυτόν. Τοιαυτα τροφοδοτικά μέσα θά συνδέωνται μετά έναλασσομένου διακόπτου τοποθετημένου εις τόν σταθμόν έλέγχου διá τό σύστημα άνιχνεύσεως πυρκαϊάς. Τό σύστημα καλωδίων θά είναι ουτω πως διατεταγμένον ώστε ν' άποφεύγεται ή διόδός του διá μαγειρείων, χώρων μηχανών και λοιπών περικλειστών χώρων ένεχόντων ύψηλού βαθμού κίνδυνον πυρκαϊάς, έκτός καθ' ήν έκτασιν τουτο είναι άπαραίτητον προς έξασφάλισιν άνιχνεύσεως τής πυρκαϊάς εις τούς χώρους τούτους ή διá τήν σύνδεσιν τούτων μετά του καταλλήλου πίνακος διανομής.

(ζ) (i) Είς κατάλογος ή έν σχεδιάγραμμα θά τοποθετηται παραπλεύρως έκάστης ένδεικτριάς μονάδος προς τόν σκοπόν ένδείξεως τών καλυπτομένων χώρων και τής τοποθεσίας έκάστου τομέως εις όν άνήκει ζώνη τας. Κατάλληλοι οδηγίαί δοκιμής και συντηρήσεως θά διατίθενται.

(ii) θά λαμβάνεται πρόνοια δοκιμής τής καλής λειτουργίας τών άνιχνευτών και ένδεικτριών μονάδων διá τής διαθέσεως μέσων παροχής θερμού άέρος ή καπνού εις τας θέσεις τών άνιχνευτών.

(η) 'Ανταλλακτικά κεφαλαί άνιχνευτών θά διατίθενται εις έκαστον τομέα άνιχνευτών κατά τας άπαιτήσεις τής 'Αρχής.

'Απαιτήσεις διá πλοία όλων τών λοιπών κατηγοριών

(θ) 'Απαντα τά άπαιτούμενα συστήματα άνιχνεύσεως πυρκαϊάς δέον όπως είναι ικανά νά καταδεικνύουν αυτόμάτως τήν εμφάνισιν ή ένδειξιν πυρκαϊάς καθός έπίσης και τήν θέσιν αυτής. 'Ενδεικται δέον όπως είναι συγκεντρωμένοι ή εις τήν γέφυραν ναυσιπλοίας ή εις άλλους σταθμούς έλέγχου οί όποιοι έχουν άπ' εθείας έπικοινωνίαν μέ τήν γέφυραν. 'Η 'Αρχή δύναται νά έπιτρέψη όπως οί ένδεικται είναι κατανεμημένοι εις διαφόρους σταθμούς.

(ι) 'Επί έπιβατηγών πλοίων τὰ ηλεκτρικά όργανα τὰ όποια χρησιμοποιούνται διά τήν λειτουργίαν τών απαιτουμένων συστημάτων άνιχνεύσεως πυρκαϊάς δέον όπως έχουν δύο άνεξαρτήτους πηγάς ένεργείας ή μία τών όποιών θά εΐναι πηγή ένεργείας άνάγκης.

(ια) Τό σύστημα συναγερομού δέον όπως δίδη ταυτοχρόνως άκουστικά καί όπτικά σήματα είς τούς κυρίους σταθμούς οι όποιοι άναφέρονται είς τήν παράγραφον (θ) του παρόντος Κανονισμού. Σύστημα άνιχνεύσεως διά τούς χώρους φορτίου δέν εΐναι άναγκαζόν όπως προκαλοΰν συνέγερσιν άκουστικών.

Κανονισμός 14

'Εξάρτησις Πυροσβέστου °

'Η έξάρτησις πυροσβέστου δέον όπως συνίσταται έκ τών κάτωθι :

- (α) 'Ατομικόν έξοπλισμόν περιλαμβάνοντα :
- (i) Προστατευτικήν ένδυμασίαν έξ ύφάσματος ίκανού όπως προστατεύη τό δέρμα έκ τής θερμότητος ήτις άκτινοβολείται υπό τής πυρκαϊάς καί από έγκαύματα ή ζεμάτισμα έκ του άτμου. 'Η έξωτερική της επιφάνεια δέον όπως εΐναι άδιάβροχος.
 - (ii) 'Υποδήματα καί χειρόκτια έξ έλαστικού ή έτέρου υλικού συνιστώντος κακόν άγωγόν του ήλεκτρισμού.
 - (iii) 'Ακαμπτον κράνος τό όποιον θά έξασφαλίζη άποτελεσματικήν προστασίαν κατά τής προσκρούσεως.
 - (iv) 'Ηλεκτρικόν λαμπτήρα άσφαλείας (φανόν χειρός) έγκεκριμένου τύπου δυναμένου όπως λειτουργή συνεχώς επί τρεΐς ώρας.
 - (v) Πέλεκυν κατά τήν κρίσιν τής 'Αρχής.
- (β) 'Αναπνευστικήν συσκευήν έγκεκριμένου τύπου ή όποία δύναται νά εΐναι είτε :
- (i) Κράνος καπνοΰ ή προσωπίς καπνοΰ, τὰ όποια θά εΐναι έφωδιασμένα διά καταλλήλου άεραντήλας καί εύκάμπτου σωλήνος άέρος έπαρκούς μήκους ώστε νά φθάνη από του άνοικτου καταστρώματος καί είς άρκετήν άπόστασιν από του στομίου κύτους ή θύρας μέχρι οίουδήποτε σημείου τών κυτών φορτίου ή τών χώρων μηχανών. 'Εάν πρός επίτευξιν τούτου απαιτήται σωλήν άέρος μήκους υπερβαίνοντος τὰ 36 μέτρα (ή 120 πόδας), ως υποκατάστατον τούτου ή επιπροσθέτως τούτου θά διατίθεται μία αυτόνομος άναπνευστική συσκευή κατά τήν κρίσιν τής 'Αρχής, είτε
 - (ii) μία αυτόνομος άναπνευστική συσκευή δυναμένη νά λειτουργή διά χρονικόν διάστημα καθορισθησόμενον υπό τής 'Αρχής.

Δι' εκάστην άναπνευστικήν συσκευήν θά προβλέπεται έν σωσίβιον ρυμάτιον άνθεκτικόν είς τό πύρ έπαρκούς μήκους καί άντοχής ίκανόν όπως προσαρτάται διά κόρακος είς τούς ιμάντας τής συσκευής ή είς ίδιαιτέραν ζώνην ίνα αποφεύγεται άπόσπασις έκ τής άναπνευστικής συσκευής ότε γίνεται χρήσις του σωσίβιου ρυματίου.

Κανονισμός 15

'Ετοιμίτης πρός χρήσιν συσκευών σβέσεως πυρκαϊάς

'Ερ' όλων τών νέων καί ύπαρχόντων πλοίων, αί συσκευαί σβέσεως πυρκαϊάς θά διατηροΰνται είς καλήν κατάστασιν καί έτοιμαί πρός άμεσον χρήσιν ανά πάντα χρόνον κατά τήν διάφοριαν του πλοΰ.

Κανονισμός 16

'Αποδοχή 'Εναλλακτικῶν

'Όπου είς τό παρόν Κεφάλαιον καθορίζεται είδικός τις τύπος όργάνου, συσκευής, πυροσβεστικού υλικού ή διατάξεως επί οίουδήποτε νέου ή ύπαρχοντος πλοΰ, δύναται νά επιτραπή πᾶς έτερος τύπος όργάνου κ.λ.π. προϋποτιθεμένου ότι ή 'Αρχή μένει ίκανοποιημένη ότι τούτο δέν εΐναι όλιγώτερον άποδοτικόν.

ΜΕΡΟΣ Β' - ΜΕΤΡΑ ΠΥΡΑΦΘΑΛΕΙΑΣ ΔΙ' ΕΠΙΒΑΤΗΓΑ ΠΛΟΙΑ ΜΕΤΑΦΕΡΟΝΤΑ
ΠΕΡΙΣΣΟΤΕΡΟΥΣ ΤΩΝ 36 ΕΠΙΒΑΤΩΝ

Κανονισμός 17

Κατασκευή

Τό σκάφος, αι υπερκατασκευαί, τά κύρια διαφράγματα, τά καταστρώματα και τά υπερστεγάσματα θά κατασκευάζονται εκ χάλυβος, η έτέρου Ισοδυνάμου υλικού. Προς τόν σκοπόν εφαρμογής του περί χάλυβος η έτέρου Ισοδυνάμου υλικού όρισμού, ως ούτος δίδεται εις τόν Κανονισμόν 3(ζ) του παρόντος Κεφαλαίου, η "εφαρμοσίμος εκθεσις εις τό πυρ" θά συνάδη προς τά επίπεδα άντοχής και μόνωσης, τά όποια παρέχονται εις τούς πίνακας του Κανονισμού 20 του Κεφαλαίου τούτου. Επί παραδείγματι, όπου τμήματα, ως καταστρώματα η πλευραί και πέρατα υπερστεγασμάτων, επιτρέπεται να έχουν άντοχήν κατά του πυρός Β-0, η "εφαρμοσίμος εκθεσις εις τό πυρ" θά είναι διαρκείας ήμισείας ώρας.

Νοεΐται ότι εις περιπτώσεις ένθα οιονδήποτε τμήμα της κατασκευής είναι εκ κράματος άλουμινίου, θά εφαρμόζονται αι ακόλουθοι απαιτήσεις :

(α) Η μόνωσις των συνιστώντων τά τμήματα "Α" και "Β" Κλάσεως κραμάτων άλουμινίου, εκτός εάν πρόκειται περί κατασκευής μη ύφισταμένης, κατά την άποψιν της Αρχής, κόψωσιν, θά είναι τοιαύτη ώστε η θερμοκρασία του κατασκευαστικού στελέχους δεν θά ύψοϋται πέραν των 200°C (360° F), υπεράνω της θερμοκρασίας του περιβάλλοντος κατά πάσαν στιγμήν διαρκούσης της εφαρμοσίμου εκθέσεως εις τό πυρ κατά την τυποποιημένην δοκιμήν πυρός.

(β) Ίδιαιτέρα προσοχή θ' άποδίδεται εις την μόνωσιν των εκ κράματος άλουμινίου συστατικών μερών στύλων, στυλίσκων και έτέρων δοκίδων άπαιτουμένων προς άσφαλή έχμασιν των σωσιβίων λέμβων και σωσιβίων σχεδιών, των περιοχών καθαιρέσεως και επιβιβάσεως και των τμημάτων "Α" και "Β" Κλάσεως, προς τόν σκοπόν όπως εξασφαλισθή :

(i) Ότι ο περιορισμός ως προς την ύψωσιν της θερμοκρασίας ο καθοριζόμενος εν παραγράφω (α) του παρόντος Κανονισμού, προκειμένου περί τοιούτων έξαρτημάτων ύποστηριζόντων περιοχάς σωσιβίων λέμβων και σωσιβίων σχεδιών ως και τμήματα "Α" κλάσεως, θά εφαρμόζηται κατά τό τέλος της μιάς ώρας, και

(ii) Ότι ο περιορισμός ως προς την ύψωσιν της θερμοκρασίας, ο καθοριζόμενος εν παραγράφω (α) του παρόντος Κανονισμού, προκειμένου περί τοιούτων έξαρτημάτων άπαιτουμένων προς ύποστήριξιν τμημάτων "Β" κλάσεως, θά εφαρμόζεται κατά τό τέλος της ήμισείας ώρας.

(γ) Όροφαι και περιφράγματα των χώρων μηχανών Κατηγορίας "Α" θά είναι εκ χαλυβδίνης κατασκευής έπαρκώς μεμονωμένης, εάν δε έντός αυτών ύπάχουν ανοίγματα, ταύτα θά είναι καταλλήλως διατεταγμένα και προστατευμένα ίνα έμποδίσουν την έξάπλωσιν του πυρός.

Κανονισμός 18

Κύρια κατακόρυφοι ζώναι και Όριζόντιοι ζώναι

(α) Τό σκάφος, αι υπερκατασκευαί και τά υπερστεγάσματα θά ύποδιαιρώνται εις κυρίας κατακόρυφους ζώνας δια τμημάτων "Α" Κλάσεως. Αι βαθμίδες και αι έσοχαί θά περιορίζονται εις τό έλάχιστον, άλλ' όπου είναι άπαραίτητοι, η κατασκευή των θά είναι επίσης η των τμημάτων "Α" Κλάσεως. Τά τμήματα ταύτα θά έχουν βαθμούς μόνωσης συμφώνως προς τούς εφαρμοστέους πίνακας του Κανονισμού 20 του παρόντος Κεφαλαίου.

(β) Καθ' όσον είναι πρακτικώς δυνατόν, τά διαφράγματα τά σχηματίζονται τά όρια των κυριών κατακόρυφων ζωνών υπεράνω του καταστρώματος στεγανών, θά είναι εν συνεχεία προς τά στεγανά διαφράγματα ύποδιαιρέσεως, τά κείμενα εύθύς κάτωθεν του καταστρώματος στεγανών.

(γ) Τοιαύτα διαφράγματα θά εκτείνονται από καταστρώματος εις κατάστρωμα και μέχρι του κελύφους του πλοίου η μέχρις άλλων όριών.

(δ) "Όπου μία κατακόρυφος ζώνη υποδιαιρείται δι' οριζοντίων τμημάτων "Α" Κλάσεως εις οριζοντίους ζώνας προς τόν σκοπόν της δημιουργίας καταλλήλου φράγματος μεταξύ ζωνών του πλοίου προστατευομένων και ζωνών μή προστατευομένων διά συστήματος ραντισμού (sprinklers), τὰ τμήματα θά εκτείνονται μεταξύ των παρακειμένων διαφραγμάτων της κυρίας κατακορύφου ζώνης και μέχρι του κελύφους ή των εξωτερικών ορίων του πλοίου και θά έχουν μόνωσιν συμφώνως προς τούς βαθμούς μονώσεως και άντοχής κατά της πυρκαϊδας τούς παρεχομένους εις τόν Πίνακα 3 του Κανονισμού 20 του παρόντος Κεφαλαίου.

(ε) 'Επί πλοίων προοριζομένων δι' ειδικούς σκοπούς, ήτοι μεταφοράν αυτοκινήτων ή σιδηροδρομικών όχημάτων, δσάκις ή δημιουργία διαφραγμάτων κυρίας κατακορύφου ζώνης άντίκειται προς τόν σκοπόν διά τόν όποιον προορίζεται τό πλοϊον, ως υποκατάστατον τούτων δέον νά προβλέπωνται Ισοδύναμα μέσα έλέγχου και περιορισμού πυρκαϊδας ειδικώς έγκριμένα υπό της 'Αρχής.

Νοείται ότι εις πλοϊον μετά χώρων ειδικής κατηγορίας, πς τοιούτος χώρος δέον νά συμφορθται προς τας εφαρμοστέας διατάξεις του Κανονισμού 30 του παρόντος Κεφαλαίου, καθ' ήν δέ έκτασιν ή τοιαύτη συμφορμωσις συγκροείται προς τήν συμφορμωσιν προς έτέρας απαιτήσεις του Μέρους τούτου του παρόντος Κεφαλαίου, αι απαιτήσεις του Κανονισμού 30 θά υπερισχύουν.

Κανονισμός 19

Διαφράγματα έντός Κυρίας κατακορύφου Ζώνης

(α) Πάντα τά διαφράγματα, τά όποια δέν απαιτείται νά είναι τμήματα "Α" Κλάσεως, θά είναι τουλάχιστον τμήματα "Β" ή "Γ" Κλάσεως, ως προσδιορίζονται εις τούς πίνακας του Κανονισμού 20 του παρόντος Κεφαλαίου. 'Απαντα τά τμήματα ταυτα δύνανται νά έχουν έπιστρώσεις εκ καυσίμων υλικών συμφώνως προς τας διατάξεις του Κανονισμού 27 του παρόντος Κεφαλαίου.

(β) Πάντα τά διαφράγματα των διαδρόμων, όπου ταυτα δέν απαιτείται νά είναι "Α" Κλάσεως, θά είναι τμήματα "Β" Κλάσεως τά όποια θά εκτείνονται από καταστρώματος εις κατάστρωμα εκτός :

- (i) Της περιπτώσεως καθ' ή συνεχείς έπιστρώσεις ή και έπενδύσεις "Β" Κλάσεως είναι τοποθετημένοι εις άμφοτέρας τας πλευράς του διαφράγματος, όποτε τό όπισθεν της συνεχούς έπιστρώσεως ή έπενδύσεως τμήμα του διαφράγματος θά είναι έξ υλικού τό όποιον από άπόψεως πάχους και συνθέσεως είναι άποδεκτόν διά τήν κατασκευήν τμημάτων "Β" Κλάσεως, μόνον δέ, καθ' όσον ή 'Αρχή θεωρεί λογικόν και πρακτικόν, τό υλικόν τουτο, θ' απαιτήται νά είναι του αύτου βαθμού άντοχής μέ τά "Β" Κλάσεως τοιαυτα.
- (ii) 'Εάν πρόκειται περί πλοίου προστατευομένου διά συστήματος αυτομάτου ραντισμού (sprinklers), πληρουντος τας απαιτήσεις του Κανονισμού 12 του παρόντος Κεφαλαίου, όποτε τά έξ υλικών "Β" Κλάσεως διαφράγματα διαδρόμων δύνανται νά καταλήγουν εις έπιστρωσιν έντός του διαδρόμου, προϋποτιθεμένου ότι μία τοιαύτη έπιστρωσις είναι έξ υλικού τό όποιον, τόσον από πλευράς πάχους, όσον και από πλευράς συνθέσεως πληροί τας απαιτήσεις κατασκευής των τμημάτων "Β" Κλάσεως. 'Ανεξαρτήτως των απαιτήσεων του Κανονισμού 20 του παρόντος Κεφαλαίου, τά τοιαυτα διαφράγματα και έπιστρώσεις θ' απαιτήται νά συμφορμωνται προς τά επίπεδα άντοχής "Β" Κλάσεως μόνον καθ' όσον τουτο, κατά τήν άποψιν της 'Αρχής, είναι λογικόν και πρακτικόν. 'Απασαι αι θύραι και τά πλαίσια των τοιούτων διαφραγμάτων θά είναι έξ άκαύστων υλικών και ούτω πως κατεσκευασμένα και τοποθετημένα ώστε νά έξασφαλίζεται ουσιώδης άντίστασις εις τό πυρ, Ικανοποιούσα τήν 'Αρχήν.

(γ) 'Απαντα τά διαφράγματα, τά όποια απαιτείται νά είναι τμήματα "Β" Κλάσεως, εκτός των διαφραγμάτων των διαδρόμων, θά εκτείνονται από καταστρώματος εις κατάστρωμα και μέχρι του κελύφους ή άλλων ορίων, εκτός εάν συνεχείς έπιστρώσεις ή και έπενδύσεις "Β" Κλάσεως είναι τοποθετημένοι εις άμφοτέρας τας πλευράς του διαφραγματος, εις ήν περίπτωσιν τό διαφραγμα δύνανται νά καταλήγη εις τήν συνεχή έπιστρωσιν ή έπένδυσιν.

Κανονισμός 20

'Αντοχή κατά του πυρός Διαφραγμάτων και Καταστρωμάτων

(α) 'Επί πλέον προς τήν συμφορμωσιν προς τας ειδικές διατάξεις τας άφορώσας εις τήν άντοχήν κατά του πυρός των διαφραγμάτων και καταστρωμάτων, περί των

γίνεται λόγος αλλαγού εις Κανονισμούς του παρόντος Μέρους, ή ελαχίστη πυραντοχή άπάντων των διαφραγμάτων και καταστροφώτων θά είναι ή περιγραφομένη εις τους πίνακας 1 έως 4 του παρόντος Κανονισμού. Όπου, έξ αιτίας τυχόν ειδικών κατασκευαστικών διατάξεων του πλοίου, άπαντώνται δυσχέρειαι ώς προς την χρησιμοποίησιν εκ των πινάκων των ελαχίστων τιμών πυραντοχής οίωνδήποτε τμημάτων, θά άποφασίζονται τιμαί κατά την κρίσιν της Αρχής.

(β) Αί ακόλουθοι άπαιτήσεις θά ρυθμίζουσι τά της εφαρμογής των πινάκων :

(i) Ό πίναξ 1 θά εφαρμοζείται επί διαφραγμάτων, άποτελούντων όρια κυρίων κατακορύφων ζωνών ή όριζοντίων ζωνών.

Ό πίναξ 2 θά εφαρμοζείται επί διαφραγμάτων μή άποτελούντων όρια κυρίων κατακορύφων ζωνών ή όριζοντίων ζωνών.

Ό πίναξ 3 θά εφαρμοζείται επί καταστροφώτων σχηματιζόντων βαθμίδας εις τάς κυρίας κατακορύφους ζώνας ή άποτελούντων όρια όριζοντίων ζωνών.

Ό Πίναξ 4 θά εφαρμοζείται επί καταστροφώτων μή σχηματιζόντων βαθμίδας εις τάς κυρίας κατακορύφους ζώνας, μηδέ άποτελούντων όρια όριζοντίων ζωνών.

(ii) Πρός τόν σκοπόν του καθορισμού των καταλλήλων βαθμών άντοχής κατά του πυρός οι όποιοι θά εφαρμοζονται εις διαφράγματα μεταξύ παρακειμένων χώρων, οι χώροι, ούς άφορουν, έχουν ταξινομηθί συμφώνως προς τόν κίνδυνον πυρκαϊάς τόν όποιον παρουσιάζουσι ως κατωτέρω δεικνύεται εις Κατηγορίας (1) έως (14). Όπου τά συστατικά και ή χρήσις χώρου τινός είναι τοιαύτα ώστε νά δημιουργήται άμφιβολία τις ως προς την ταξινομήσιν του διά τούς σκοπούς του παρόντος Κανονισμού, ούτος θά έλαμβάνεται ως χώρος άνήκων εις την κατηγορίαν ή όποία περιλαμβάνει τάς πλέον άσπληράς όριακάς άπαιτήσεις. Ό τίτλος έκάστης κατηγορίας είναι μάλλον τυπικός παρά περιοριστικός. Ό έντός παρενθέσεων αριθμός εναντι του τίτλου έκάστης κατηγορίας αναφέρεται εις την χρησιμοποιουμένην στήλην ή τόν αριθμόν στίχου των πινάκων.

(1) Σταθμοί Έλέγχου

Χώροι περιλαμβάνοντες πηγάς ένεργείας και φωτισμού άνάγκης.

Θάλαμος πηδαλιουχίας και θάλαμος χαρτών.

Χώροι περιλαμβάνοντες τόν σταθμόν άσυρμάτου του πλοίου.

Χώροι έλέγχου και καταγραφής πυρκαϊάς.

Θάλαμος έλέγχου των προωστηρίων μηχανημάτων, όταν ο χώρος ούτος κείται έκτός των προωστηρίων μηχανημάτων.

Χώροι περιλαμβάνοντες τόν κεντρικόν έξοπλισμόν συναγερμού πυρκαϊάς.

Χώροι περιλαμβάνοντες τούς σταθμούς και τόν έξοπλισμόν του συστήματος ένδοσυνεννοήσεως του πλοίου έν περιπτώσει κινδύνου.

(2) Κάθοδοι

Έσωτερικαί κάθοδοι, άνελκυστήρες και κλίμακες κινουμένων βαθμίδων (πλήν των κειμένων καθ' όλοκληρίαν έντός των χώρων των μηχανών) δι' έπιβάτας και πλήρωμα ως και τά περιφράγματα αυτών.

Σχετικώς διευκρινίζεται ότι προκειμένου περι καθόδου, ή όποια είναι περιφραγμένη εις έν μόνον επίπεδον, αύτη θά θεωρηται ως τμήμα του χώρου από ταυ όποιου δέν διαχωρίζεται διά θύρας πυρκαϊάς.

(3) Διάδρομοι

Διάδρομοι έπιβατών και πληρώματος.

(4) Σταθμοί χειρισμού σωσιβίων λέμβων, σχεδιών και έπιβιβάσεως.

Άνοικτοί χώροι καταστροφώτων και κεκλεισμένοι περιπάτου δημιουργούντες σταθμούς έπιβιβάσεως, και καθαιρέσεως των σωσιβίων λέμβων και σωσιβίων σχεδιών.

(5) Άνοικτοί χώροι καταστροφώτων

Άνοικτοί χώροι καταστροφώτων και περίφρακτοι χώροι περιπάτου άνευ σταθμών έπιβιβάσεως και καθαιρέσεως σωσιβίων λέμβων και σωσιβίων σχεδιών.

Άνοικτός χώρος (δ έκτός των υπερκατασκευών και υπερστεγασμάτων χώρος).

- (6) Χώροι ένδικοιτήσεως περιωρισμένου κινδύνου πυρκαϊάς
 Κοιτώνες περιέχοντες επιπλα και έξαρτήματα περιωρισμένου κινδύνου πυρκαϊάς.
 Κοινόχρηστοι χώροι περιέχοντες επιπλα και έξαρτήματα περιωρισμένου κινδύνου πυρκαϊάς και καταλαμβάνοντες επιφάνειαν καταστρώματος ούχι μικροτέραν τών 50 τετραγωνικών μέτρων (540 τετραγωνικών ποδών).
 Γραφεία και ίατρεία περιέχοντα επιπλα και έξαρτήματα περιωρισμένου κινδύνου πυρκαϊάς.
- (7) Χώροι ένδικοιτήσεως μετρίου κινδύνου πυρκαϊάς
 Οι αούτοι ώς έν τή άνωτέρω (6) χώροι, άλλα περιέχοντες επιπλα και έξαρτήματα έτερα ή περιωρισμένου κινδύνου πυρκαϊάς.
 Κοινόχρηστοι χώροι περιέχοντες επιπλα και έξαρτήματα περιωρισμένου κινδύνου πυρκαϊάς και καταλαμβάνοντες επιφάνειαν καταστρώματος 50 τετραγωνικών μέτρων (540 τετραγωνικών ποδών) και άνω.
 *Απομεμονωμένα έρμάρια και μικράί άποθήκαι έντός τών χώρων ένδικοιτήσεως.
 Καταστήματα πωλήσεων.
 Αίθουσαι προβολής και φυλάξεως ταινιών.
 Μαγειρεία διαίτης (ούχι άκαλύπτων φλογών).
 *Αποθήκαι είδών καθαρισμού (έντός τών όποιών δέν φυλάσσονται εύφλεκτα ύγρά).
 *Εργαστήρια (έντός τών όποιών δέν φυλάσσονται εύφλεκτα ύγρά).
 Φαρμακεία.
 Μικρά στεγνωτήρια καταλαμβάνοντα επιφάνειαν καταστρώματος 4 τετραγωνικών μέτρων (43 τετραγωνικών ποδών) ή μικροτέραν.
 Χώροι φυλάξεως άξιών.
- (8) Χώροι ένδικοιτήσεως μείζονος κινδύνου πυρκαϊάς
 Κοινόχρηστοι χώροι περιέχοντες επιπλα και έξαρτήματα διάφορα τών περιωρισμένου κινδύνου πυρκαϊάς τοιούτων και καταλαμβάνοντες επιφάνειαν καταστρώματος 50 τετραγωνικών μέτρων (540 τετραγωνικών ποδών) και άνω.
 Κουρεία και αίθουσαι καλλωπισμού.
- (9) *Υγιεινής και παρόμοιοι χώροι
 Κοινόχρηστοι χώροι ύγιεινής, καταιονιτήρες, λουτρά, άποχωρητήρια κ.λ.π.
 Μικρά διαμερίσματα πλυντηρίων.
 Περιοχή μή ύπαιθρίων κολυμβητηρίων.
 *Απομεμονωμένα κυλικεία έντός τών χώρων ένδικοιτήσεως.
 *Ιδιωτικά εύκολία ύγιεινής θά θεωρώνται ώς τμήμα του χώρου, έντός του όποιου είναι τοποθετημένοι.
- (10) Χώροι δεξαμενών, κενοί χώροι και χώροι βοηθητικών μηχανημάτων περικλειοντές μικρόν ή και καθόλου κίνδυνον πυρκαϊάς.
 Δεξαμεναί ύδατος άποτελοθσαι μέρος της κατασκευής του πλοίου.
 Χώροι κενοί και στεγανοί χώροι άσφαλείας (cofferdams).
 Χώροι βοηθητικών μηχανημάτων, οι όποιοι δέν περιέχουν μηχανήματα έχοντα σύστημα λιπάνσεως διά πίεσεως και ένθα άπαγορεύεται ή ένάποθεσις εύκαύστων ύλικών, ώς :
 Διαμερίσματα άερισμού και συστήματος κλιματισμού,
 Διαμερίσματα βαρούλκου άγκύρας, χώρος μηχανισμού πηδαλίου,
 Διαμέρισμα έξαρτημάτων συστήματος σταθερωτήρων,
 Διαμέρισμα κινητήρος ήλεκτρικής προώσεως,

Διαμερίσματα περιέχοντα πίνακας διακοπών των διαφόρων τομέων του πλοίου και μόνον ηλεκτρικών έξοπλισμόν πλῆν τῶν (ἀνω τῶν 10 κVA) πεπληρωμένων δι' ἐλαίου μετασχηματιστῶν,

Σήραγγες ἀξονος καί ὄχετοί σωληνώσεων,

Διαμερίσματα ἀντλιῶν καί ψυκτικῶν μηχανημάτων (εἰς ἃς δέν χρησιμοποιοῦνται εὐφλεκτα ὑγρά).

Κλειστοί ὄχετοί ἐξυπηρετοῦντες τοὺς ἀνωτέρω μνημονευομένους χώρους.

* Ἔτεροι κλειστοί ὄχετοί σωλῆνων καί καλωδίων.

- (11) Χῶροι βοηθητικῶν μηχανημάτων, χῶροι φορτίου, χῶροι εἰδικῆς κατηγορίας, δεξαμεναὶ φορτίου καί λοιπῶν καυσίμων καί λοιποὶ παρόμοιοι χῶροι μετρίου κινδύνου πυρκαϊᾶς.

Δεξαμεναὶ φορτίου ἐλαίου.

Κύτη φορτίου, ἀνεμοδόχοι καί στόμια κυτῶν.

Ψυκτικοὶ θάλαμοι.

Δεξαμεναὶ ὑγρῶν καυσίμων (εἰς περίπτωσιν ἐναποθέσεως αὐτῶν εἰς κεχωρισμένον διαμέρισμα ἀνευ μηχανημάτων).

Σήραγγες ἀξόνων καί ὄχετοί σωληνώσεων ἐπιτρέποντες τὴν ἐναπόθεσιν εὐφλέκτων ὑλικῶν. Βοηθητικῶν μηχανημάτων χῶροι, ὡς εἰς Κατηγορίαν (10), περιέχοντες μηχανήματα ἔχοντα σύστημα λιπάνσεως διὰ πιέσεως καί ἐνθα ἐπιτρέπεται ἡ τοποθέτησις εὐκαύστων ὑλικῶν.

Σταθμοὶ πληρώσεως καυσίμων.

Διαμερίσματα περιέχοντα ηλεκτρικοὺς μετασχηματιστάς (ἀνω τῶν 10 κVA) πεπληρωμένους δι' ἐλαίου.

Χῶροι περιέχοντες ηλεκτρογεννητρίδας κινουμένας ὑπὸ ἀτμοστροβιλοκινητῆρων καί παλινδρομικῶν ἀτμομηχανῶν, ὡς καί μικρὰς μηχανὰς ἐσωτερικῆς καύσεως μὲ ἀπόδοσιν ἰσχύος μέχρι 112 Κ.Ψ. τοσοδοτούσας ηλεκτρογεννητρίδας κινδύνου, πυροσβεστικούς ῥαντιστήρας, καταιονιτῆρας ἀντλίας πυρός, ἀντλίας ἐκκενώσεως ὕδρουσυλλεκτῶν κ.λ.π.

Χῶροι εἰδικῆς κατηγορίας (σχετικοὶ μόνον οἱ Πίνακες 1 καί 3).

Κλειστοὶ ὄχετοί ἐξυπηρετοῦντες τοὺς ἀνωτέρω μνημονευομένους χώρους.

- (12) Χῶροι μηχανημάτων καί κύρια μαγειρεῖα

Χῶροι κυρίων μηχανῶν προώσεως (διάφοροι τῶν χώρων ηλεκτρικῆς προώσεως κινήτῶν) καί χῶροι λεβήτων.

Χῶροι βοηθητικῶν μηχανημάτων, διάφοροι τῶν ἐν Κατηγορίαις (10) καί (11) τοιούτων, περιέχοντες μηχανήματα ἐσωτερικῆς καύσεως ἢ ἄλλας μονάδας καταναλισκούσας πετρέλαιον ἢ μονάδας θερμάνσεως ἢ ἀντλήσεως.

Κύρια μαγειρεῖα καί παραρτήματα αὐτῶν.

* Ὁχετοὶ καί περιφράγματα τῶν ἀνωτέρω μνημονευομένων χώρων.

- (13) Ἀποθήκαι, ἐργαστήρια, κυλικεῖα κ.λ.π.
 Κύρια κυλικεῖα ἀνεξάρτητα τῶν μαγειρείων.
 Κύριον πλυντήριο.
 Μεγάλα στεγνωτήρια καταλαμβάνοντα ἐπιφάνειαν καταστρώματος
 μεγαλύτεραν τῶν 4 τετραγωνικῶν μέτρων (43 τετραγωνικῶν
 ποδῶν).
 Διάφοροι ἀποθήκαι.
 Χῶροι ταχυδρομεῖου καὶ ἀποσκευῶν.
 Χῶροι ἀπορριμμάτων.
 Ἐργαστήρια (μὴ ἀποτελοῦντα μέρος τῶν χώρων μηχανημάτων, μα-
 γειρείων κ.λ.π.).
- (14) Λοιποὶ χῶροι εἰς τοὺς ὁποίους ἐναποθηκεύονται εὐφλεκτα ὑγρά
 Χῶροι λυχνιῶν.
 Χῶροι χρωμάτων.
 Ἀποθήκαι περιέχουσαι εὐφλεκτα ὑγρά (περιλαμβανομένων τῶν
 βαφῶν, φαρμάκων κ.λ.π.).
 Ἐργαστήρια (ἐντὸς τῶν ὁποίων ἐναποθηκεύονται εὐφλεκτα ὑγρά).
- (iii) Ὅσοις προκειμένου νὰ καθορισθῇ ἡ ἀνθεκτικότης εἰς τὸ πῦρ διαφυλά-
 γματος κειμένου μεταξύ δύο χώρων, παρέχεται μία μόνον τιμὴ, αὕτη θὰ
 ἐφαρμόζεται εἰς ὅλας τὰς περιπτώσεις.
- (iv) Ἡ μεγαλύτερα μεταξύ δύο τιμῶν παρεχομένων ὑπὸ τῶν πινάκων θὰ ἐφαρ-
 μόζεται προκειμένου νὰ καθορισθῇ ἡ ἐφαρμοστέα τιμὴ ἀντοχῆς κατὰ τοῦ
 πυρὸς διαφυλάγματος τινὸς κειμένου μεταξύ δύο χώρων ἐντὸς μιᾶς κυρίας
 κατακορύφου ἢ ὀριζοντίας ζώνης, ἡ ὁποία δὲν προστατεύεται ὑπὸ συστή-
 ματος αὐτομάτου ραντισμοῦ πληροῦντος τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ
 12 τοῦ παρόντος Κεφαλαίου ἢ κειμένου μεταξύ τοιούτων ζωνῶν, οὐδεμία
 τῶν ὁποίων προστατεύεται κατ' αὐτὸν τὸν τρόπον.
- (v) Ἡ μικρότερα μεταξύ δύο τιμῶν παρεχομένων ὑπὸ τῶν πινάκων θὰ ἐφαρμό-
 ζεται, προκειμένου νὰ καθορισθῇ ἡ ἐφαρμοστέα τιμὴ ἀντοχῆς κατὰ τοῦ
 πυρὸς διαφυλάγματος τινὸς κειμένου μεταξύ δύο χώρων ἐντὸς μιᾶς κυρίας
 κατακορύφου ἢ ὀριζοντίας ζώνης, ἡ ὁποία προστατεύεται ὑπὸ συστήματος
 αὐτομάτου ραντισμοῦ πληροῦντος τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ 12 τοῦ
 παρόντος Κεφαλαίου ἢ κειμένου μεταξύ τοιούτων ζωνῶν, ἀμφότεραι τῶν
 ὁποίων προστατεύονται κατ' αὐτὸν τὸν τρόπον. Εἰς ἄς περιπτώσεις μία
 ζώνη προστατευομένη ὑπὸ συστήματος ραντισμοῦ συναντᾷ ἕτεραν μὴ προ-
 στατευομένην ἐντὸς τῶν χώρων ἐνδικοιότησεως ἢ τῶν ὑπηρετικῶν τοιούτων,
 ἡ ὑψηλότερα τῶν δύο ὑπὸ τῶν πινάκων παρεχομένων τιμῶν θὰ ἐφαρμόζεται
 εἰς τὸ μεταξύ τῶν ζωνῶν τμήμα.
- (vi) Ὅπου παρακειμένοι χῶροι ἐμπίπτουν εἰς τὴν αὐτὴν ἀριθμητικὴν κατηγο-
 ρίαν καὶ ὑπάρχει εἰς τοὺς πίνακας ὁ δείκτης 1, διάφραγμα τι ἢ κατά-
 στρωμα κείμενον μεταξύ τῶν τοιούτων χώρων δὲν ἀπαιτεῖται νὰ ἐνισχύ-
 εται ἐάν τοῦτο κριθῇ μὴ ἀπαραίτητον ὑπὸ τῆς Ἀρχῆς. Ἐπὶ παραδείγματι,
 εἰς τὴν Κατηγορίαν (12) δὲν ἀπαιτεῖται νὰ ὑπάρχῃ διάφραγμα μεταξύ τοῦ
 μαγειρείου καὶ τῶν παρακειμένων κυλικείων ὑπὸ τὸν ὅρον ὅτι τὰ διαφράγ-
 ματα καὶ τὰ καταστρώματα τοῦ κυλικείου διατηροῦν τὴν ἀνεξαρτησίαν τῶν
 ἀπὸ τὰ διαφράγματα τοῦ μαγειρείου. Οὐχ' ἦττον ὅμως, διάφραγμα ἀπαιτεῖται
 μεταξύ μαγειρείου τινὸς καὶ τοῦ χώρου μηχανῶν παρὰ τὸ γεγονός ὅτι
 ἀμφότεροι οἱ χῶροι οὗτοι εἶναι τῆς Κατηγορίας (12).
- (vii) Ὅπου ὑπάρχει εἰς τοὺς πίνακας ὁ δείκτης 2, δύναται νὰ ἐπιτρέπεται
 ἢ μικρότερα τιμὴ μονώσεως μόνον ὅταν εἰς τοὺλάχιστον τῶν παρακει-
 μένων χώρων προστατεύεται ὑπὸ συστήματος αὐτομάτου ραντισμοῦ πλη-
 ροῦντος τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ 12 τοῦ παρόντος Κεφαλαίου.
- (viii) Πέραν τῶν διατάξεων τοῦ Κανονισμοῦ 19 τοῦ παρόντος Κεφαλαίου, δὲν
 ὑπάρχουν εἰδικαὶ ἀπαιτήσεις διὰ τὸ ὕλικόν ἢ τὴν ἀντοχὴν τῶν διαφραγ-
 μάτων εἰς ἄς περιπτώσεις εἰς τοὺς πίνακας ὑπάρχει μόνον μία παῦλα.
- (ix) Καθ' ὅσον ἄφορᾷ εἰς τοὺς χώρους τῆς Κατηγορίας (5), ἡ Ἀρχὴ θ' ἀπο-
 φασίζῃ κατὰ πόσον θὰ ἐφαρμόζονται αἱ τιμαὶ μονώσεως τοῦ Πίνακος 1 ἢ 2
 εἰς τὰ ἄκρα τῶν ὑπερκατασκευῶν καὶ ὑπερτεγασμάτων ὡς καὶ ἐάν αἱ τιμαὶ

μονώσεως του Πίνακος 3 ή 4 θα εφαρμόζονται προκειμένου περί έκτεθειμένων εις τόν καιρόν καταστροφμάτων. Εις ούδεμίαν περίπτωσιν αι απαιτήσεις της Κατηγορίας (5) των Πινάκων 1 έως 4 θα καθιστούν αναγκαίον τό κλείσιμον τών χώρων εκείνων οι οποίοι, κατά τήν κρίσιν της Αρχής, δέν χρειάζεται νά εἶναι κλειστοί.

(γ) Δύνανται νά γίνουν αποδεκταί συνεχεῖς ἐπενδύσεις ἢ ἐπιστρώσεις Κλάσεως "B", ἐν σχέσει πρὸς τά εἰς ἃ ἀφοροῦν καταστροφμάτα καὶ διαφράγματα, ὡς συμβάλουσαι καθ' ὀλοκληρίαν ἢ μερικῶς εἰς τήν ἀπαιτουμένην μόνωσιν καὶ ἀντοχήν ἐνός τμήματος.

(δ) Ἡ Ἀρχή, κατά τήν ἔγκρισιν τών κατασκευαστικῶν λεπτομερειῶν τῆς πυρασφαλείας, θά λαμβάνη ὑπ' ὄψιν τόν κίνδυνον ἐκ τῆς μεταδόσεως τῆς θερμότητος εἰς ἐνδιαμέσους τομεῖς καὶ τελικά σημεῖα τών ἀπαιτουμένων θερμικῶν φραγμάτων.

ΠΙΝΑΞ 2 - ΔΙΑΦΑΡΓΜΑΤΑ ΜΗ ΟΡΙΖΟΝΤΑ ΚΥΡΙΑΣ ΚΑΤΑΚΟΡΥΦΟΥΣ ΖΩΝΑΣ ΟΥΔΕ ΟΡΙΖΟΝΤΙΟΥΣ ΤΟΙΛΙΑΣ

Χώροι	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Σταθμοί έλέγχου	B-0 ¹	A-0	A-0	A-0	A-0 B-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60
Κάθοδοι		A-0 ¹	A-0	A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-15	A-30	A-15 A-0	A-30
Διόδρωμοι			C	A-0	A-0 B-0	B-0	B-15 B-0	B-15 B-0	B-0	A-0	A-15	A-30	A-0	A-30 A-0
Σταθμοί χειρισμού σφαιρίων λάμβαν, σχεδίων και επιβίβασης.				—	—	A-0	A-0	A-0	A-0	A-0	A-0	A-15	A-0	A-15 A-0
Χώροι άνοικτοί καταστρωμάτων					—	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0 B-0	A-0 B-0
Χώροι ένδιατιθήσεως περιωρισμένου κινδύνου (6) πυρκαϊδς.						B-0 C	B-15 C	B-15 C	B-0 C	A-0	A-15 A-0	A-30	A-0	A-30 A-0
Χώροι ένδιατιθήσεως μετρίου κινδύνου πυρκαϊδς							B-15 C	B-15 C	B-0 C	A-0	A-15 A-0	A-60	A-15 A-0	A-60 A-15
Χώροι ένδιατιθήσεως μέζονος κινδύνου πυρκαϊδς.							B-15 C	B-15 C	B-0 C	A-0	A-30 A-0	A-60	A-15 A-0	A-60 A-15
Υγεινής και κάρμοιοι χώροι.									C	A-0	A-0	A-0	A-0	A-0
Χώροι δεξμενών, χώροι κενοί και χώροι βοηθητικών μηχανημάτων περιεκλειοντες μιερόν η και καθόλου κίνδυνον πυρκαϊδς.										A-0 ¹	A-0	A-0	A-0	A-0
Χώροι βοηθητικών μηχανημάτων, χώροι φορτίου, χώροι ειδικής κατηγορίας, δεξμεναί φορτίου και λοιπών κωσίων και λοιποί κάρμοιοι χώροι μετρίου κινδύνου πυρκαϊδς											A-0 ¹	A-0	A-0	A-30 ² A-15
Χώροι μηχανημάτων και κύρια μαγειρεία												A-0 ¹	A-0	A-60
Αποθήκαι έργαστήρια, κυλικεία κ.λπ.													A-0 ¹	A-0
Λοιποί χώροι εις τούς όποιους έναποθήκειονται εύφλεκτα ύγρα.														A-30 ² A-15

ΠΙΝΑΞ 3 - ΚΑΤΑΣΤΡΩΜΑΤΑ ΔΗΜΙΟΥΡΓΟΥΝΤΑ ΒΑΘΜΙΔΑΣ ΕΙΣ ΤΑΣ ΚΥΡΙΑΣ ΚΑΤΑΚΟΡΥΦΟΥΣ ΖΩΝΑΣ ' Η ΟΡΙΖΟΝΤΙΟΥΣ ΤΟΙΛΑΤΑΣ

Χώρος κάτωθεν ↓	Χώρος υπεράνω →	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Σταθμοί έλεγχου	(1)	A-60	A-60	A-30	A-0	A-15	A-30	A-60	A-0	A-0	A-0	A-30	A-60	A-15	A-60
Κάθοδοι	(2)	A-15	A-0	A-0	A-0	A-0	A-15	A-15	A-15	A-0	A-0	A-0	A-60	A-0	A-60
Διάδρομοι	(3)	A-30	A-0	A-0	A-0	A-0	A-0	A-15	A-15	A-0	A-0	A-0	A-60	A-0	A-60
Σταθμοί χειρισμού σασσιβίων λέμβων, σχεδιών και επιβάσεων.	(4)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Χώροι άνοικτοι καταστροφών.	(5)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Χώροι ένδειξησεως περιωρισμένου κινδύνου πυρκαϊάς.	(6)	A-60	A-30	A-15	A-0	A-0	A-0	A-15	A-30	A-0	A-0	A-15	A-15	A-0	A-15
Χώροι ένδειξησεως μετρίου κινδύνου πυρκαϊάς	(7)	A-60	A-60	A-30	A-15	A-0	A-15	A-30	A-60	A-0	A-0	A-30	A-30	A-0	A-30
Χώροι ένδειξησεως μειζονος κινδύνου πυρκαϊάς.	(8)	A-60	A-60	A-15	A-60	A-0	A-30	A-60	A-60	A-0	A-0	A-30	A-60	A-15	A-60
'Υγιεινής και παρόμοιοι χώροι	(9)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Χώροι δεξαμενών, χώροι κενoi και χώροι βοηθητικών μηχανημάτων περικλείοντες μικρονή και καθόλου κινδύνου πυρκαϊάς	(10)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Χώροι βοηθητικών μηχανημάτων, χώροι φορτίου, χώροι ειδικής κατηγορίας, δεξαμεναι φορτίου και λοιπών καυσίμων και λοιποι παρόμοιοι χώροι μετρίου κινδύνου πυρκαϊάς	(11)	A-60	A-60	A-60	A-60	A-0	A-30	A-60	A-60	A-0	A-0	A-0	A-30	A-30 ²	A-0
Χώροι μηχανημάτων και κύρια μαγειρεία	(12)	A-60	A-60	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60
* Αποθήκαι, έργαστήρια, κυλικεία κ.λπ.	(13)	A-60	A-60	A-30	A-15	A-0	A-15	A-30	A-60	A-0	A-0	A-0	A-30	A-0	A-30
Λοιποι χώροι εις τοίς όποιους έναποθηκονται εφάρκτα ύγρ	(14)	A-60	A-60	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60

ΠΙΝΑΞ 4 - ΚΑΤΑΣΤΡΩΜΑΤΑ ΜΗ ΔΗΜΙΟΥΡΓΟΥΝΤΑ ΒΑΘΜΙΔΑΣ ΕΙΣ ΤΑΣ ΚΥΡΙΑΣ ΚΑΤΑΚΟΡΥΦΟΥΣ
ΖΩΝΑΣ ΟΥΔΕ ΟΡΙΖΟΝΤΑ ΟΡΙΖΟΝΤΙΟΥΣ ΤΟΙΥΤΑΣ

Χώρος επίθεσης	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Σταθμοί έλεγχου	A-30 A-0	A-30 A-0	A-15 A-0	A-0	A-0 B-0	A-0 A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-0	A-60	A-0	A-60 A-15
Κάθεδοι	A-0	A-0	A-0	A-0	A-0 B-0	A-0	A-0	A-0	A-0	A-0	A-0	A-30	A-0	A-30 A-0
Διάδρομοι	A-15 A-0	A-0	A-0 ¹ B-0 ¹	A-0	A-0 B-0	A-0 B-0	A-15 B-0	A-15 B-0	A-0	A-0	A-0	A-30	A-0	A-30 A-0
Σταθμοί χειρισμού οπισθίων λάβρων, σιγείων και επιβίβασης	A-0	A-0	A-0	A-0	—	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0	A-0
Χώροι άνοικτοί καταστρωμάτων	A-0	A-0	A-0 B-0	A-0	—	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0 B-0	A-0
Χώροι ενδιαιτήσεως περιερισμένου κινδύνου πυρκαϊάς	A-60	A-15 A-0	A-0	A-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-15 A-0	A-0	A-15 A-0
Χώροι ενδιαιτήσεως μετρίου κινδύνου πυρκαϊάς	A-60	A-30 A-0	A-15 A-0	A-15 A-0	A-0 B-0	A-0 B-0	A-15 B-0	A-30 B-0	A-0	A-0	A-15 A-0	A-30 A-0	A-0	A-30 A-0
Χώροι ενδιαιτήσεως μεζονος κινδύνου πυρκαϊάς	A-60	A-60 A-15	A-60 A-0	A-30 A-0	A-0 B-0	A-15 B-0	A-30 B-0	A-60 B-0	A-0	A-0	A-30 A-0	A-30 A-0	A-0	A-30 A-0
* Υγεινής και παρόμοιοι χώροι	A-0	A-0	A-0 B-0	A-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0	A-0
Χώροι δεξαμενών, χώροι κενού και χώροι βοηθητικών μηχανημάτων περιλαμβανόμενων μικρών ή και καθόλου κινδύνου πυρκαϊάς	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0 ¹	A-0	A-0	A-0	A-0
Χώροι βοηθητικών μηχανημάτων, χώροι φορτίου, χώροι ειδικής κατηγορίας, δεξαμεναι φορτίου και λοιπών καυσίμων και λοιτοί παρόμοιοι χώροι μετρίου κινδύνου πυρκαϊάς	A-60	A-60 A-15	A-60 A-15	A-30 A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-0 ¹	A-0	A-0	A-30 ² A-15
Χώροι μηχανημάτων και κύρια μαγειρεία	A-60	A-60	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0	A-30	A-30 ¹	A-0	A-60
* Αποθήκαι, έργαστήρια, κυλικεία κ.λπ.	A-60	A-30 A-0	A-15 A-0	A-15 A-0	A-0 B-0	A-15 A-0	A-30 A-0	A-30 A-0	A-0 B-0	A-0	A-0	A-0	A-0	A-15 ² A-0
Λοιτοί χώροι εις τους οποίους έναποθηκεύονται εύφλεκτα υγρά	A-60	A-60 A-30	A-60 A-30	A-60	A-0	A-30 A-0	A-60 A-15	A-60 A-15	A-0	A-0	A-30 ² A-0	A-30 ² A-0	A-0	A-30 ² A-0

Κανονισμός 21

Μέσα Διαφυγής

(α) Έντός και έξω όλων των χώρων επιβατών και πληρώματος ως και των χώρων εις τους οποίους συνήθως άπασχολείται τό πλήρωμα, εξαίρέσει των χώρων μηχανών, θά προβλέπωνται κλίμακες άνόδου και καθόδου και κατακόρυφοι κλίμακες, εις τρόπον ώστε νά υπάρχουν μέσα άμέσου διαφυγής προς τό κατάστρωμα επιβιβάσεως επί των σσιβίων λέμβων και σχεδιών. Ίδιαίτερος θά ύπάρχη συμμόρφωσις προς τάς άκολούθους διατάξεις :

- (i) Δύο μέσα διαφυγής, τό έν τουλάχιστον των οποίων θά είναι έλεύθερον ύδατοστεγών θυρών, θά προβλέπωνται έξ έκάστου ύδατοστεγεούς διαμερίσματος ή όμοίως περιωρισμένου χώρου ή συγκροτήματος χώρων κάτωθεν του καταστρώματος στεγανών. Κατ' εξαίρεσιν, δύναται ή Άρχή νά επιτρέψη νά ύπάρχη έν μόνον μέσον διαφυγής, μετ' εξέτασιν μετά τής δεούσης προσοχής τής φύσεως και τοποθεσίας των χώρων ως και του αριθμού των άτόμων τά όποια, υπό συνθήκεις συνθήκας θά ήδύναντο νά ένδιδιαιτηθούν ή άπασχοληθούν έντός των χώρων τούτων.
 - (ii) Ύπεράνω του καταστρώματος στεγανών θά υπάρχουν δύο τουλάχιστον μέσα διαφυγής έξ έκάστης κυρίας κατακόρυφου ζώνης ή όμοίως περιωρισμένου χώρου ή συγκροτήματος χώρων, έξ ών τουλάχιστον τό έν θά παρέχη διεξοδον προς κλίμακα άποτελοϋσαν κατακόρυφον διαφυγήν.
 - (iii) Έν τουλάχιστον των υπό των έδαφίων (α) (i) και (ii) του παρόντος Κανονισμού άπαιτουμένων μέσων διαφυγής θά είναι περιφρακτος άμέσως προσιτή κλίμαξ, ή όποία θά εξασφαλίζη συνεχή προστασίαν κατά του πυρός άπό του επιπέδου τής εκδηλώσεώς του μέχρι των αντίστοιχων καταστρωμάτων επιβιβάσεως επί των σσιβίων λέμβων και σχεδιών ή μέχρι του ύψηλοτέρου επιπέδου, όπερ έξυηρητεΐται υπό τής κλίμακος, όποιονδήποτε των επιπέδων τούτων είναι τό ύψηλότερον. Έν πάση περιπτώσει, όπου ή Άρχή έχει χορηγήσει άπαλλαγήν συμφώνως προς τάς διατάξεις του έδαφίου (α) (i) του παρόντος Κανονισμού, τό μόνον ύπάρχον μέσον διαφυγής θά εξασφαλίζη ασφαλή διαφυγήν κατά τρόπον ικανοποιούντα τήν Άρχήν. Τό πλάτος, ό αριθμός και ή συνέχισις των κλιμάκων θά τυγχάνουσιν τής έγκρίσεως τής Άρχής.
 - (iv) Η προστασία τής έξόδου άπό τους κλειστούς χώρους τής κλίμακος προς τάς περιοχάς επιβιβάσεως επί των σσιβίων λέμβων και σχεδιών θά ικανοποιή τάς άπαιτήσεις τής Άρχής.
 - (v) Οι άνελκυστήρες δέν θά θεωρώνται ως άποτελούντες έν των άπαιτουμένων μέσων διαφυγής.
 - (vi) Κλίμακες έξυηρητεΐσαι μόνον ένα χώρον και έναν έξώστην του χώρου τούτου δέν θά θεωρώνται ως άποτελοϋσαι έν των άπαιτουμένων μέσων διαφυγής.
 - (vii) Έάν σταθμός τις ραδιοτηλεγραφίας δέν έχη κατ' εύθειαν έξοδον προς κατάστρωμα εκτεθειμένον εις τόν καιρόν, θά υπάρχουν δύο μέσα διαφυγής έξ έκάστου τοιούτου σταθμού.
 - (viii) Δέν θά επιτρέπωνται άδιέξοδοι διάδρομοι ύπερβαίνοντες τά 13 μέτρα (43 πόδας).
- (β) (i) Είς χώρους ειδικής κατηγορίας ό αριθμός και ή διάταξις των μέσων διαφυγής, κάτωθεν και άνωθεν του καταστρώματος στεγανών, θά ικανοποιή τάς άπαιτήσεις τής Άρχής και γενικώς ή ασφάλεια έξόδου τινός εις τό κατάστρωμα επιβιβάσεως θά είναι, τουλάχιστον ίσοδύναμος προς εκείνην δι' ήν προβλέπωνται τά έδάφια (α) (i), (ii), (iii), (iv) και (v) του παρόντος Κανονισμού.
- (ii) Μία των όδών διαφυγής άπό τους χώρους μηχανών, έντός των οποίων άπασχολείται συνήθως τό πλήρωμα, θ' άποφεύγη τήν κατ' εύθειαν έξοδον προς οιονδήποτε των χώρων ειδικής κατηγορίας.
- (γ) Δύο μέσα διαφυγής θά προβλέπωνται έξ έκάστου χώρου μηχανών. Ίδιαίτερος θά ύπάρχη συμμόρφωσις προς τάς άκολούθους διατάξεις :
- (i) Όπου ό χώρος κείται κάτωθεν του καταστρώματος στεγανών, τά δύο μέσα διαφυγής θά συνίστανται ειτε :
 - (1) εκ δύο συγκροτημάτων χαλυβδίνων κλιμάκων, εις όσον τό δυνατόν μεγαλύτεραν μεταξύ των άπόστασιν, άγουσών εις θύρας επί του

άνωτάτου μέρους παροικίως κευχρισμένου χώρου καί εκ του οποίου προβλέπεται έξοδος προς τά αντίστοιχα καταστώματα έπιβιβάσεως επί των σωσιβίων λέμβων καί σχεδιών. Μία των κλιμάκων τούτων θά έξασφαλίξη συνεχή προστασίαν κατά του πυρός από τό κατώτερον τμήμα του χώρου μέχρις άσφαλους τινός θέσεως εκτός του χώρου, είτε :

- (2) εκ μιας χαλυβδίνης κλίμακος άγούσης εις θύραν επί του άνωτάτου μέρους του χώρου, εκ του οποίου προβλέπεται έξοδος προς τό κατάστωμα έπιβιβάσεως καί εκ μιας χαλυβδίνης θύρας δεκτικής χειρισμού έξ άμφοτέρων των πλευρών της καί η όποία θά έξασφαλίξη άσφαλή όδόν διαφυγής προς τό κατάστωμα έπιβιβάσεως.
- (ii) "Όπου ό χώρος κείται άνωθεν του καταστώματος στεγανών, δύο μέσα διαφυγής θά εύρίσκωνται κευχρισμένα άλλήλων κατά τό δυνατόν περισσότερον, αι δέ θύραι αι άγουσαι εκ τοιούτων μέσων διαφυγής θά κείνται εις θέσεις εκ των οποίων θά προβλέπεται έξοδος προς τ' αντίστοιχα καταστώματα έπιβιβάσεως επί των σωσιβίων λέμβων καί σχεδιών. "Όπου τοιαύται διαφυγαί άπαιτούν τήν χρήσιν κλιμάκων, αύται θά είναι εκ χάλυβος.

Νοείται ότι εις πλοϊον όλικής χωρητικότητας μικρότερας των 1,000 κόρων, η "Αρχή δύναται να παραιτηθή της άπαιτήσεως αναφορικώς προς τό εν εκ των μέσων διαφυγής λαμβανομένων δεόντως ύπ' όψιν του πλάτους καί της διαρρυθμίσεως του άνωτάτου τμήματος του χώρου' καί εις πλοϊον άνω των 1,000 κόρων όλικής χωρητικότητας, η "Αρχή δύναται να παραιτηθή της άπαιτήσεως αναφορικώς προς τό εν εκ των μέσων διαφυγής έξ οίουδήποτε τοιούτου χώρου έφ' όσον είτε μία θύρα είτε μία χαλύβδινη κλίμαξ παρέχει άσφαλή διαδρομήν διαφυγής προς τό κατάστωμα έπιβιβάσεως λαμβανομένης δεόντως ύπ' όψιν της φύσεως καί της θέσεως του χώρου καί άδιαφόρως εάν κανονικώς άπασχολούνται πρόσωπα εις τόν χώρον τούτον.

Κανονισμός 22

Προστασία Κλιμάκων καί "Ανεγκυστήρων έντός χώρων ένδικοιτήσεως καί υπηρετικών τοιούτων

(α) "Αποαι αι κλίμακες θά έχουν κατασκευήν χαλυβδίνου σκελετού, εκτός των περιπτώσεων δι' ός η "Αρχή έγκρίνει τήν χρήσιν έτέρου ίσοδυνάμου ύλικού καί θά κείνται έντός κλειστών χώρων σχηματιζομένων από τμήματα "Α" Κλάσεως μέ ίκανοποιητικά μέσα κλεισίματος όλων των άνοιγμάτων, πλην του ότι :

- (i) Κλίμαξ συνδέουσα μόνον δύο καταστώματα δέν χροιάζεται να είναι περίφρακτος έφ' όσον η άντοχή του καταστώματος έξασφαλίζεται διά καταλλήλων διαφραγμάτων η θυρών εύρισκομένων εις τόν μεταξύ των καταστωμάτων χώρον. "Όπου κλίμαξ τις, εις τόν μεταξύ των καταστωμάτων χώρον είναι κλειστή, ό περιβάλλον τήν κλίμακα χώρος θά προστατεύεται συμφώνως προς τούς άφορώντας εις καταστώματα πίνακας του Κανονισμού 20 του παρόντος Κεφαλαίου.
- (ii) Κλίμακες δύναται να έγκαθίστανται άνευ περιφραγμάτων έντός κοινοχρήστων χώρων, έφ' όσον κείνται καθ' ολοκληρίαν έντός τοιούτων κοινοχρήστων χώρων.

(β) Οι περιβάλλοντες τάς κλίμακας χώροι θά έχουν κατ' εύθειαν επικοινωνίαν μετά των διαδρόμων καί επιφάνειαν έπαρκή προς άποφυγήν συμφορήσεως, λαμβανομένου ύπ' όψιν του αριθμού των ατόμων τά όποια θά ήδύναντο εν άνάγκη, να χρησιμοποιήσουν τούς χώρους τούτους. Καθ' όσον είναι πρακτικόν, οι περιβάλλοντες τάς κλίμακας χώροι δέν θά έχουν κατ' εύθειαν διέξοδον προς κοιτώνας, υπηρετικούς χώρους η λοιπούς κευχρισμένους χώρους, περιέχοντας εύφλεκτα έντός των οποίων δύναται να εκραγή πυρκαϊά.

(γ) Τά φρεάτια άνεγκυστήρων θά είναι ούτω πως ένισχυμένα ώστε να έμποδίσουν τήν διόδον καπνού καί φλογών από ένδιάμεσον κατάστωμα εις έτερον τοιούτο καί θά διαδέτουν μέσα κλεισίματος τοιαύτα ώστε να έπιτρέπουν τόν έλεγχον ρευμάτων άέρος καί καπνού.

Κανονισμός 23

Άνοιγματα εις τμήματα "Α" Κλάσεως

(α) Όπου τὰ τμήματα "Α" Κλάσεως διαπερῶνται διὰ τὴν διέλευσιν ἠλεκτρικῶν καλωδίων, σωλῆνων, ὀχετῶν, ἀγωγῶν, κ.λ.π., διὰ σταθμίδας, ζυγά ἢ λοιπὰς κατασκευὰς, θὰ προβλέπωνται διατάξεις ἐξασφαλίζουσαι ὅτι δέν θίγεται ἢ κατὰ τοῦ πυρός ἀντοχή τούτων, ἐπιφυλασσομένων τῶν διατάξεων τῆς παραγράφου (ζ) τοῦ παρόντος Κανονισμοῦ.

(β) Όπου κατ' ἀνάγκην, ἀγωγὸς τῆς ἀερισμοῦ διέρχεται διὰ μέσου τοῦ διαφράγματος κυρίας κατακορύφου ζώνης, εἰς παρακειμένην τοῦ διαφράγματος θέσιν θὰ τοποθετῆται φράκτης πυρός ἀσφαλούς καὶ αὐτομάτως κλειομένου τύπου. Ὁ φράκτης οὗτος θὰ δύναται ἐπίσης νὰ κλείνη διὰ τῆς χειρὸς ἐξ ἐκάστης πλευρᾶς τοῦ διαφράγματος. Ἡ θέσις χειρισμοῦ θὰ εἶναι ἀμέσως προσιτὴ καὶ θὰ σημειοῦται δι' ἐρυθροῦ ἀνακλαστικοῦ τοῦ φωτός χρώματος. Ὁ μεταξὺ τοῦ διαφράγματος καὶ τοῦ φράκτου ἀγωγὸς θὰ εἶναι ἐκ χάλυβος ἢ ἐτέρου ἰσοδυνάμου ὑλικοῦ καὶ, ἐν ἀνάγκῃ, θὰ ἔχη βαθμὸν μονώσεως τοιοῦτον, ὥστε νὰ συμμορφοῦται πρὸς τὴν παραγραφὸν (α) τοῦ παρόντος Κανονισμοῦ. Ὁ φράκτης θὰ ἐξοπλίζεται, τουλάχιστον εἰς τὴν μίαν πλευρὰν αὐτοῦ, δι' ὄρατοῦ ἐνδείκτου σημειοῦντος ἐάν οὗτος εὐρίσκεται εἰς τὴν ἀνοικτὴν θέσιν.

(γ) Ἐξαιρέσει τῶν στομίων κυτῶν τῶν εὐρισκομένων μεταξὺ χώρων φορτίου, χώρων, εἰδικῆς κατηγορίας, ἀποθηκευτικῶν χώρων καὶ χώρων ἀποσιευσῶν ὡς καὶ μεταξὺ τῶν χώρων τούτων καὶ τῶν καταστρωμάτων τῶν ἐκτεθειμένων εἰς τὸν καιρὸν, πάντα τὰ ἀνοίγματα θὰ φέρουν μονίμως προσηρμοσμένα μέσα κλεισίματος, τὰ ὁποῖα θὰ εἶναι τουλάχιστον ὅσον ἀνθεκτικὰ εἰς τὸ πῦρ ὅσον καὶ τὰ τμήματα ἐφ' ὧν εἶναι τοποθετημένα.

(δ) Ἡ κατασκευὴ ἀπασῶν τῶν θυρῶν καὶ τῶν πλαίσιων τῶν θυρῶν τῶν τμημάτων "Α" Κλάσεως, ὁμοῦ μετὰ τῶν μέσων ἀσφαλείας αὐτῶν θὰν κλείουν, θὰ ἐξασφαλίζῃ ἀντοχὴν εἰς τὸ πῦρ ὡς καὶ εἰς τὴν δίοδον καπνοῦ καὶ φλογῶν, καθ' ὅσον τοῦτο εἶναι πρακτικῶς δυνατόν, ἰσοδύναμον πρὸς ἐκείνην τῶν διαφραγμάτων ἐφ' ὧν αἱ θύραι αὗται εἶναι προσηρμοσμένοι. Τοιαῦται θύραι καὶ πλαίσια θυρῶν θὰ κατασκευάζονται ἐκ χάλυβος ἢ ἐτέρου ἰσοδυνάμου ὑλικοῦ. Ὑδατοστεγεῖς θύραι δέν χρειάζεται νὰ φέρουν μόνωσιν.

(ε) Ἐκάστη θύρα θὰ δύναται ν' ἀνοίγῃ καὶ νὰ κλείνη ἐξ ἐκάστης πλευρᾶς τοῦ διαφράγματος ἐφ' ἑνὸς μόνον προσώπου.

(στ) Αἱ θύραι πυρκαϊᾶς τῶν διαφραγμάτων ἐντὸς κυρίας κατακορύφου ζώνης ὡς καὶ τῶν περιφραγμάτων τῶν κλιμακοστασίων, ἐκτὸς τῶν διὰ μηχανικοῦ μέσου λειτουργουσῶν ὕδατοστεγῶν θυρῶν ὡς καὶ ἐκείνων αἰτνες κανονικῶς εἶναι κλεισταί, δέον νὰ εἶναι τοῦ αὐτοκλειομένου τύπου καὶ ἱκαναὶ νὰ κλείωνται παρὰ τὴν ὑπαρξιν κλίσεως 3 1/2 μοιρῶν πρὸς τὴν ἀντίθετον πλευρὰν τοῦ κλεισίματος. Ἡ ταχύτης κλεισίματος θυρῶν, εἰ ἀναγκαῖον, δέον νὰ ἐλέγχεται εἰς τρόπον ὥστε ν' ἀποφεύγεται ὁ ἀδίκαιολόγητος κίνδυνος εἰς τὸ προσωπικόν. Ἀπασαὶ αἱ θύραι αὗται, ἐκτὸς ἐκείνων αἰτνες κανονικῶς εἶναι κλεισταί, δέον νὰ δύνανται ν' ἀπελευθεροῦνται ἐκ τινος σταθμοῦ ἐλέγχου, εἴτε αὐτοχρόνως εἴτε καθ' ὁμάδας, ἐπίσης δέ ἀτομικῶς ἐκ τινος σταθμοῦ ἐλέγχου. Ὁ μηχανισμὸς ἀπελευθερώσεως δέον νὰ εἶναι κατὰ τοιοῦτον τρόπον ἐσχεδιασμένος ὥστε ἡ θύρα νὰ κλείεται αὐτομάτως εἰς περίπτωσιν καθ' ἣν τὸ σύστημα ἐλέγχου ὑποστῇ βλάβῃ· ἐντούτοις, ἐγκριμέναι ὕδατοστεγεῖς θύραι λειτουργοῦσαι διὰ μηχανικῆς δυνάμεως θὰ θεωρῶνται ἀποδεκταί πρὸς τὸν σκοπὸν τούτον. Συγκρατητικὰ ἀγκίστρα, μὴ ὑποκειμένα εἰς τὸν μηχανισμὸν ἀπελευθερώσεως τοῦ σταθμοῦ ἐλέγχου, δέν θὰ ἐπιτρέπωνται. Ὅσακις ἐπιτρέπωνται διπλαῖ περιστρεφόμεναι θύραι, αὗται δέον νὰ φέρουν μηχανισμὸν συρτῶν ὅστις νὰ ἐμπλέκεται αὐτομάτως διὰ τῆς λειτουργίας τοῦ συστήματος ἀπελευθερώσεως τῆς θύρας.

(ζ) Όπου χώρος τις προστατεύεται ὑπὸ συστήματος αὐτομάτου ραντισμοῦ πληροῦντος τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ 12 τοῦ παρόντος Κεφαλαίου ἢ φέρει συνεχῆ ἐπένδυσιν "Β" Κλάσεως, ἀνοίγματα εἰς καταστρώματα μὴ δημιουργοῦντα βαθμίδας εἰς τὰς κυρίας κατακορύφους ζώνας οὐδέ ὀριζοντίας τοιαύτας, θὰ κλείουν κατὰ τρόπον λογικῶς στεγανόν. Τὰ τοιαῦτα καταστρώματα θὰ πληροῦν τὰς ἀπαιτήσεις ἀντοχῆς "Α" Κλάσεως καθ' ὅσον τοῦτο, κατὰ τὴν κρίσιν τῆς Ἀρχῆς, εἶναι λογικόν καὶ πρακτικόν.

(η) Αἱ περί ἀντοχῆς "Α" Κλάσεως ἀπαιτήσεις τῶν ἐξωτερικῶν ὀρίων πλοίου τινός θὰ ἐφαρμόζονται εἰς τὰς ὑαλίνας ὑποδιαιρέσεις, τὰ παράθυρα καὶ παραφωτίδας. Ὁμοίως αἱ περί ἀντοχῆς "Α" Κλάσεως ἀπαιτήσεις δέν θὰ ἐφαρμόζονται εἰς τὰς ἐξωτερικὰς θύρας τῶν ὑπερκατασκευῶν καὶ ὑπερστεγασμάτων.

Κανονισμός 24

Άνοιγματα εις τμήματα "B" Κλάσεως

(α) Όπου τὰ τμήματα "B" Κλάσεως διαπερῶνται διὰ τὴν διέλευσιν ἡλεκτρικῶν καλωδίων, σωλήνων, ὀχετῶν, ἀγωγῶν κ.λ.π., ἢ διὰ τὴν τοποθέτησιν ἀκραίων ἐξαρτημάτων ἀερισμοῦ, ἐγκαταστάσεων φωτισμοῦ καὶ παρομοίων συσκευῶν, θὰ προβλέπῳνται διατάξεις ἐξασφαλίζουσαι ὅτι δέν θίγεται ἡ κατά τοῦ πυρός ἀντοχή.

(β) Θύραι καὶ πλαίσια θυρῶν τῶν τμημάτων "B" Κλάσεως, ὡς καὶ τὰ μέσα ἀσφαλείας αὐτῶν, θὰ ἔχουν μέθοδον κλεισίματος ἡ ὁποία θὰ ἐξασφαλίσῃ ἀντοχὴν κατά τοῦ πυρός, καθ' ὅσον τοῦτο εἶναι πρακτικόν, ἰσοδύναμον πρὸς τὰ τμήματα ἐξαιρέσει τῶν ἀνοιγμάτων ἀερισμοῦ τὰ ὁποῖα δυνατὸν νὰ ἐπιτρέπωνται εἰς τὸ κατώτερον τμήμα τοιούτων θυρῶν. Όπου τοιοῦτον ἀνοιγμα εὑρίσκεται ἐπὶ τῆς θύρας ἢ κάτωθεν αὐτῆς, ἡ ὀλικὴ καθαρὰ ἐπιφάνεια οἰουδήποτε τοιοῦτου ἀνοιγματος ἢ ἀνοιγμάτων δέν θὰ ὑπερβαίῃ τὰ 0,05 τετραγωνικὰ μέτρα (78 τετραγωνικούς δακτύλους). Όπου τοιοῦτον ἀνοιγμα κόπτεται ἐπὶ τῆς θύρας, τοῦτο, θὰ ἐνισχύεται διὰ πλέγματος ἐξ ἀκαύστου ὕλικου. Αἱ θύραι θὰ εἶναι ἀκαυστοί.

(γ) Αἱ περί ἀντοχῆς "B" Κλάσεως ἀπαιτήσεις τῶν ἐξωτερικῶν ὀρίων πλοίου τινὸς δέν θὰ ἐφαρμόζονται εἰς τὰς ὑάλινας ὑποδιαιρέσεις, τὰ παράθυρα καὶ τὰς παραφωτίδας. Όμοίως αἱ περί ἀντοχῆς "B" Κλάσεως ἀπαιτήσεις δέν θὰ ἐφαρμύζονται εἰς τὰς ἐξωτερικὰς θύρας τῶν ὑπερκατασκευῶν καὶ ὑπερτεγασμάτων.

(δ) Όπου ἐγκαθίσταται σύστημα αὐτομάτου ραντισμοῦ, πληροῦντος τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ 12 τοῦ παρόντος Κεφαλαίου :

(i) Άνοιγματα εἰς καταστώματα μὴ δημιουργοῦντα βαθμίδας εἰς τὰς κυρίας κατακορύφους ζῶνας οὐδέ ὀρίζοντα ὀρίζοντίας τοιαύτας, ταῦτα θὰ κλείουν κατά τρόπον λογικῶς στεγανόν. Τὰ τοιαῦτα καταστώματα θὰ πληροῦν τὰς ἀπαιτήσεις ἀντοχῆς "B" Κλάσεως καθ' ὅσον τοῦτο, κατά τὴν κρίσιν τῆς Ἀρχῆς εἶναι λογικόν καὶ πρακτικόν, καὶ

(ii) Άνοιγματα εἰς διαφράγματα διαδρόμων, ἐξ ὕλικῶν "B" Κλάσεως κατεσκευασμένα, θὰ προστατεύονται συμφῶνως πρὸς τὰς διατάξεις τοῦ Κανονισμοῦ 19 τοῦ παρόντος Κεφαλαίου.

Κανονισμός 25

Συστήματα Ἀερισμοῦ

(α) Γενικῶς, οἱ ἀνεμιστῆρες θὰ εἶναι οὕτω πως διατεταγμένοι ὥστε οἱ καταλήγοντες εἰς διαφόρους χώρους ἀγωγοὶ νὰ παραμένουν ἐντὸς τῆς κυρίας κατακορύφου ζώνης.

(β) Όπου τὰ συστήματα ἀερισμοῦ διαπεροῦν καταστώματα, θὰ λαμβάνονται προφυλάξεις, ἐπὶ πλεόν τῶν ἀφορῶν εἰς τὴν ἀντοχὴν κατὰ τοῦ πυρός τὴν ἀπαιτούμενην ὑπὸ τοῦ Κανονισμοῦ 23 τοῦ παρόντος Κεφαλαίου, πρὸς τὸν σκοπὸν μείωσης τῆς πιθανότητος διόδου καπνοῦ καὶ θερμῶν ἀερίων ἐκ τοῦ χώρου ἐνδιαμέσου τινὸς καταστώματος εἰς ἕτερον μέσῳ τοῦ συστήματος. Ἐπὶ πλεόν τῶν περί μονώσεως ἀπαιτήσεων τῶν περιλαμβανομένων εἰς τὸν παρόντα Κανονισμόν, οἱ κατακορυφοὶ ἀγωγοὶ θὰ μονοῦνται, ἐάν εἶναι ἀναγκαῖον, ὡς ἀπαιτεῖται ὑπὸ τῶν ἀντιστοίχων πινάκων τοῦ Κανονισμοῦ 20 τοῦ παρόντος Κεφαλαίου.

(γ) Αἱ κύριαι εἰσοδοὶ καὶ ἐξοδοὶ ὀλων τῶν συστημάτων ἀερισμοῦ δέον νὰ δύνανται νὰ κλείουν ἐκ σημείου κειμένου ἐκτὸς τοῦ ἀεριζομένου χώρου.

(δ) Ἐξαιρέσει τῶν χώρων φορτίου, οἱ ἀγωγοὶ ἀερισμοῦ θὰ κατασκευάζονται ἐκ τῶν κάτωθι ὕλικῶν :

(i) Ἀγωγοὶ ἔχοντες ἐπιφάνειαν τομῆς οὐχὶ μικροτέραν τῶν 0.075 τετραγωνικῶν μέτρων (116 τετραγωνικῶν δακτύλων) ὡς καὶ ἀπαντες οἱ κατακορυφοὶ ἀγωγοὶ οἱ ἐξυπηρετοῦντες πλείονας τοῦ ἐνὸς ἐνδιαμέσου καταστώματος χώρους, θὰ κατασκευάζονται ἐκ χάλυβος ἢ ἐτέρου ἰσοδύναμου ὕλικου.

(ii) Ἀγωγοὶ ἔχοντες ἐπιφάνειαν τομῆς μικροτέραν τῶν 0.075 τετραγωνικῶν μέτρων (116 τετραγωνικῶν δακτύλων) θὰ κατασκευάζονται ἐξ ἀκαύστων ὕλικῶν. Όπου τοιοῦτοι ἀγωγοὶ διαπεροῦν τμήματα "A" ἢ "B" Κλάσεως, ἰδιαιτέρῳ προσοχῇ θ' ἀπαιτῆται πρὸς ἐξασφάλισιν τῆς κατὰ τοῦ πυρός ἀντοχῆς τοῦ τμηματος.

(iii) Βραχεία τμήματα άγωγού, μή υπερβαίνοντα γενικώς τά 0.02 τετραγωνικά μέτρα (31 τετραγωνικούς δακτύλους) εις επιφάνειαν τομής μηδέ τά 2 μέτρα (79 δακτύλους) εις μήκος, δέν χρειάζεται νά είναι άκαυστα, προϋποτιθεμένης τής εφαρμογής άπάντων τών κάτωδι όρων :

- (1) 'Ο άγωγός θά είναι κατεσκευασμένος έξ ύλικού περιωρισμένου κιν-δύνου πυρκαϊάς ικανοποιούντος τήν 'Αρχήν.
- (2) 'Ο άγωγός θά χρησιμοποιηται μόνον εις τό τελικόν σημείον του συστήματος άερισμού, καί
- (3) 'Ο άγωγός δέν θά είναι τοποθετημένος πλησιέστερον τών 0.6 μέτρων (24 δακτύλων), μετρουμένων κατά τό μήκος του, από του σημείου διαπεράσεως τμήματός τινος "Α" ή "Β" Κλάσεως, περιλαμβανομένων τών συνεχών έπενδύσεων "Β" Κλάσεως.

(ε) "Όπου χώρος περιβάλλον κλίμακα άερίζεται, ό άγωγός ή οι άγωγοί (έάν υπάρχουν) θά καταλήγουν εις τόν χώρον τουτόν από τό διαμέρισμα του άνεμιστή-ρος άνεξαρτήτως άλλων άγωγών του συστήματος άερισμού καί δέν θά έξυπηρετούν άλλον τινά χώρον.

(στ) 'Ολόκληρος ό τεχνητός άερισμός, έξαιρουμένου του άερισμού τών χώρων μηχανών καί φορτίου, ως καί πόν έναλλακτικόν σύστημα άερισμού τό όποιον δυνατόν ν' άπαιτηθή δύναμει τής παραγράφου (η) του παρόντος Κανονισμού, δέον νά έφοδιά-ζεται διά διακοπών ούτω πως διατεταγμένων ώστε άπαντες οι άνεμιστήρες νά δύ-νανται νά άκίνητοποιώνται έξ έκατέρας τών δύο χωριστών θέσεων, αίτινες θά ευρίσκωνται εις όσονείναι πρακτικώς δυνατόν μεγαλύτεραν μεταξύ αύτών άπόστα-σιν. Διακόπται προβλεπόμενοι διά τόν τεχνητόν άερισμόν τόν έξυπηρετούντα τους χώρους μηχανών δέον ώσαύτως νά είναι ούτω πως διατεταγμένοι ώστε νά δύνανται νά τυγχάνουν χειρισμού εκ δύο θέσεων, ή μία τών όποιών θά κείται έξωδι τών χώρων τούτων. 'Ανεμιστήρες έξυπηρετούντες συστήματα τεχνητού άερισμού εις χώρους φορτίου δέον νά δύνανται νά άκίνητοποιώνται εκ τινος άσφαλους θέσεως έξωδι τών χώρων τούτων.

(ζ) "Όπου οι άγωγοί έξαγωγής εκ τών περιοχών του μαγειρείου διέρχονται διά μέσου χώρων ένδικοιτήσεως ή χώρων περιεχόντων εθφλεκτα ύλικά, θά κατασκευά-ζωνται από τμήματα "Α" Κλάσεως. "Έκαστος άγωγός έξαγωγής θά έφοδιάζεται διά :

- (i) ένός λιποσυλλέκτου εύκόλως μετακινουμένου προς καθαρισμόν"
- (ii) ένός φράκτου πυρός τοποθετουμένου εις τό κατώτερον άκρον του άγωγού"
- (iii) διατάξεων δυναμένων νά τυγχάνουν χειρισμού έσωθεν τών μαγειρειών διά τό κλεισίμον του έξαεριστήρος" καί
- (iv) σταθερών μέσων κατασβέσεως του πυρός, κειμένων έντός του άγωγού.

(η) Μέτρα, κατά τό δυνατόν πρακτικά, θά λαμβάνωνται σχετικώς προς τούς εκτός τών χώρων μηχανών κειμένους σταθμούς έλέγχου προς τόν σκοπόν διασφαλί-σεως τής διατηρήσεως του άερισμού, τής όρατότητας καί τής άπαλλαγής από καπνού, ούτως ώστε έν περιπτώσει πυρκαϊάς νά δύνανται νά έλέγχωνται τό μηχανοστάσιον καί ό έντός αύτου έξοπλισμός καί νά συνεχίζουν νά λειτουργούν άποδοτικώς. Θά προβλέπωνται έναλλακτικά καί μεχωρισμένα μέσα άεροτροφοδοτήσεως. Είσαγωγαί άέρος από τās δύο πηγάς τροφοδοτήσεως θά είναι ούτω πως διατεταγμένα ώστε νά περιορίζεται εις τό έλάχιστον ό κίνδυνος εκ τής ταυτοχρόνου διοχετεύσεως καπνού έξ άμφοτέρων τών εισαγωγών. Κατά τήν κρίσιν τής 'Αρχής, δέν χρειάζεται αι τοιαύται άπαιτήσεις νά εφαρμοζωνται επί σταθμών έλέγχου τοποθετημένων επί καί άνοιγόντων προς άνοικτόν κατάστρωμα ή όπου διατάξεις τοπικού κλεισίματος θά έδωροούντο έξ ίσου έπαρκείς.

(θ) 'Αγωγοί προβλεπόμενοι διά τόν άερισμόν χώρων μηχανών Κατηγορίας "Α" δέν θά διέρχωνται, γενικώς, διά μέσου χώρων ένδικοιτήσεως καί ύπηρετικών ή σταθμών έλέγχου, έξαιρέσει τής περιπτώσεως καθ' ήν ή 'Αρχή δύναται νά έπι-τρέπη έλαστικότητα ως προς τήν έν λόγω άπαιτήσιν, νοουμένου ότι :

- (i) οι άγωγοί θά είναι κατεσκευασμένοι εκ χάλυβος καί θά έχουν μόνωσιν τής τάξεως Α-60, ή
- (ii) οι άγωγοί θά είναι κατεσκευασμένοι εκ χάλυβος καί ενισχυμένοι με αυτόματον φράκτιν πυρός πλησίον του διαπερωμένου διαφράγματος καί θά έχουν μόνωσιν τής τάξεως τών Α-60 από του χώρου τών μηχανών μέχρι σημείου απέχοντος πέραν του φράκτου πυρός τουλάχιστον 5 μέτρα (16 πόδας).

(ι) Ἄγωγοί προβλεπόμενοι διὰ τὸν ἀερισμὸν χώρων ἐνδικοιτήσεως καὶ ὑπηρετικῶν ἢ σταθμῶν ἐλέγχου δὲν θὰ διέρχωνται γενικῶς διὰ μέσου χώρων μηχανῶν Κατηγορίας "Α", πλὴν τῆς περιπτώσεως καθ' ἣν ἡ Ἀρχὴ θὰ δύναται νὰ ἐπιτρέψῃ ἐλαστικότητα ὡς πρὸς τὴν ἐν λόγῳ ἀπαιτήσιν, νοουμένου ὅτι οἱ ἄγωγοί εἶναι κατεσκευασμένοι ἐκ χάλυβος καὶ αὐτόματοι φράκται πυρὸς εἶναι τοποθετημένοι πλησίον τῶν διαπερωμένων διαφραγμάτων.

Κανονισμός 26

Παράθυρα καὶ Παραφωτίδες

(α) Ἄπαντα τὰ παράθυρα καὶ αἱ παραφωτίδες ἐπὶ διαφραγμάτων εὐρισκομένων ἐντὸς τῶν χώρων ἐνδικοιτήσεως καὶ τῶν ὑπηρετικῶν τοιοῦτων ὡς καὶ ἐντὸς τῶν σταθμῶν ἐλέγχου ἐξαιρέσει ἐκείνων ἐφ' ὧν ἐφαρμόζονται αἱ διατάξεις τῶν Κανονισμῶν 23 (η) καὶ 24 (γ) τοῦ παρόντος Κεφαλαίου, θὰ εἶναι οὕτω πῶς κατεσκευασμένα ὥστε νὰ διατηροῦν τὰς ἀπαιτήσεις ἀντοχῆς τοῦ τύπου τοῦ διαφράγματος ἐφ' οὗ εἶναι τοποθετημένα.

(β) Ἀνεξαρτήτως τῶν ἀπαιτήσεων τῶν πινάκων τοῦ Κανονισμοῦ 20 τοῦ παρόντος Κεφαλαίου :

(i) Ἄπαντα τὰ παράθυρα καὶ αἱ παραφωτίδες ἐπὶ διαφραγμάτων διαχωριζόντων χώρους ἐνδικοιτήσεως, ὑπηρετικούς καὶ σταθμούς ἐλέγχου ἀπὸ τὸν καιρὸν θὰ κατασκευάζωνται μὲ πλαίσια ἐκ χάλυβος ἢ ἐτέρου καταλλήλου ὕλικου. Ἡ ὕαλος θὰ συγκρατεῖται διὰ μεταλλικῆς ἀρμοκαλύπτρας ἢ γωνίας.

(ii) Ἰδιαιτέρα προσοχὴ θ' ἀποδίδεται εἰς τὴν κατὰ τοῦ πυρὸς ἀντοχὴν παραθύρων ἀντικυζόντων ἀνοικτούς ἢ κλειστοὺς χώρους ἐπιβιβάσεως ἐπὶ τῶν σσιβίων λέμβων καὶ σχεδιῶν ὡς καὶ παραθύρων τοποθετημένων κάτωθεν τοιοῦτων χώρων εἰς τοιαύτην θέσιν ὥστε ἀνεπάροκεια αὐτῶν διαρροῦσης πυρκαϊᾶς θὰ ἠδύνατο νὰ ἐμποδίσῃ τὴν καθαίρεσιν ἢ τὴν ἐπιβίβασιν ἐπὶ τῶν σσιβίων λέμβων ἢ σχεδιῶν.

Κανονισμός 27

Περιορισμός Εὐφλέκτων Ὑλικῶν

(α) Πλὴν τῶν χώρων φορτίου, τῶν διαμερισμάτων ταχυδρομείου, τῶν διαμερισμάτων ἀποσκευῶν ἢ τῶν ψυκτικῶν θαλάμων τῶν ὑπηρετικῶν χώρων, ἀπασαί αἱ ἐπενδύσεις, τὰ δάπεδα, αἱ ἐπιστρώσεις καὶ μόνωσεις θὰ εἶναι ἐξ ἀκαύστων ὕλικῶν. Τμήματα διαφραγμάτων ἢ καταστρώματα χρησιμοποιούμενα πρὸς ὑποδιαίρεσιν χώρου τινὸς διὰ καλλιτεχνικούς ἢ ἐτέρους σκοποὺς χρήσεως θὰ εἶναι ἐπίσης ἐξ ἀκαύστων ὕλικῶν.

(β) Ἀτμοφράκται καὶ συγκολλήσεις χρησιμοποιούμεναι ἐν σχέσει πρὸς τὴν μόνωσιν, ὡσαύτως δὲ καὶ πρὸς τὴν μόνωσιν ἐξαρτημάτων τῶν σωλήνων, διὰ τὰ συστήματα ψυχρᾶς λειτουργίας δὲν ἀπαιτεῖται νὰ εἶναι ἐξ ἀκαύστων ὕλικῶν, δέον ὅμως νὰ περιορίζωνται εἰς τὴν ἐλαχίστην πρακτικῶς δυνατὴν ποσότητα, αἱ δὲ ἐκτεθειμένα ἐπιφάνειαι αὐτῶν νὰ ἔχουν ἀντιφλογομεταδοτικὰς ἰδιότητες ἱκανοποιούσας τὴν Ἀρχὴν.

(γ) Διαφράγματα, ἐπενδύσεις καὶ ἐπιστρώσεις κείμεναι εἰς ὅλους τοὺς χώρους ἐνδικοιτήσεως καὶ τοὺς ὑπηρετικούς τοιοῦτους δύναται νὰ καλύπτονται διὰ πλακὸς (καπλαμά), ὑπὸ τὴν προϋπόθεσιν ὅτι αὕτη δὲν θὰ ὑπερβαίνει τὰ 2 χιλιοστόμετρα (ἐν δωδέκατον τοῦ δακτύλου) ἐντὸς οἰουδήποτε τῶν ὡς ἄνω χώρων πλὴν τῶν διαδρόμων, τῶν περιβαλλόντων τὰς κλιμακᾶς χώρων καὶ τῶν σταθμῶν ἐλέγχου, ὅπου δὲν θὰ ὑπερβαίνει τὰ 1,5 χιλιοστόμετρα (ἐν δέκατον ἑβδόμον τοῦ δακτύλου).

(δ) Ὁ συνολικὸς ὄγκος τῶν καυσίμων προμετωπίδων, σκαλισμάτων, διακοσμῆσεων καὶ πλακῶν ἐπιστρώσεως (καπλαμάδων) εἰς οἰουδήποτε χώρον ἐνδικοιτήσεως ἢ ὑπηρετικὸν τοιοῦτον δὲν θὰ ὑπερβαίνει ὄγκον ἰσοδύναμον πρὸς πλάκα ἐπιστρώσεως (καπλαμά) 2,5 χιλιοστομέτρων (ἐν δέκατον τοῦ δακτύλου) ἐπὶ τῆς συνδεδευσμένης ἐπιφανείας τῶν διαφραγμάτων καὶ ὀροφῶν. Προκειμένου περὶ πλοίων ἐξωπλισμένων διὰ συστήματος αὐτομάτου ραντισμοῦ πληροῦντος τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ 12 τοῦ παρόντος Κεφαλαίου ὁ ὡς ἄνω ὄγκος δύναται νὰ περιλάβῃ καὶ οἷμα τινὰ ὕλικά χρησιμοποιούμενα πρὸς κατασκευὴν τῶν τμημάτων "Γ" Κλάσεως.

(ε) "Απασαι αϊ εκτεθειμένα επιφάνεια εντός τών διαδρόμων καί τών περιβαλλόντων τās κλίμακας χώρων, ως καί επιφάνεια αποκεκρυμμένων η άπροσίτων τμημάτων ευρισκομένων εντός τών χώρων ενδειατήσεως, τών υπηρετικών καί τών σταθμών έλέγχου, θά έχουν χαρακτηριστικά χαμηλής εξαπλώσεως τής φλογός.

(στ) Αϊ επιπλώσεις εντός τών διαδρόμων καί τών περιβαλλόντων τās κλίμακας χώρων θά περιορίζονται εις τό ελάχιστον.

(ζ) Χρώματα, βερνικοχρώματα καί έτεραι τελικαί επιστρώσεις χρησιμοποιούμεναι επί τών εκτεθειμένων έσωτερικών επιφανειών δέον νά μή είναι φύσεως ται-αύτης ώστε νά δημιουργούν υπέρμετρον κίνδυνον εκρήξεως πυρκαϊδας κατά τήν κρίσιν τής Αρχής καί νά μή δύνανται νά προκαλέσουν υπερβολικās ποσότητας καπνού η έτέρας τοξικās αναθυμιάσεις.

(η) Έν η περιπτώσει τοποθετούνται παλαιās μορφής καλύματα καταστροφάτων εντός τών χώρων ενδειατήσεως, υπηρετικών καί σταθμών έλέγχου, ταυτα θά είναι έξ εγκκεκριμένου ύλικού, τό όποιον δέν θ' αναφλέγεται εύκόλως ούδέ θά προκαλή τοξικά η εκρηκτικά άτυχήματα εις άνυψωμένας θερμοκρασίας.

(θ) Κάλαθοι άχρήστου χάρτου θά κατασκευάζονται έξ άκαύτων ύλικών καί θά έχουν στερεάς πλευράς καί πυθμένας.

Κανονισμός 28

Διάφορα θέματα

Απαιτήσεις εφαρμοζόμεναι εις όλα τά Τμήματα του Πλοίου

(α) Σωλήνες διαπερώντες τμήματα "Α" η "Β" κλάσεως θά είναι έξ εγκκεκριμένου υπό τής Αρχής ύλικού, τής τελευταίας λαμβανούσης υπ' όψιν τήν θερμοκρασίαν μέχρι τής όποιας απαιτείται ν' ανθίστανται τά τοιαυτα τμήματα. Σωλήνες διοχετεύοντες πετρέλαιον η εύφλεκτα υγρά θά είναι έξ εγκκεκριμένου υπό τής Αρχής ύλικού, τής τελευταίας λαμβανούσης υπ' όψιν τούς κινδύνους πυρκαϊδας. Υλικά καθιστάμενα άμέσως άνεπαρκή συνεπεία θερμάνσεως δέν θά χρησιμοποιώνται δι' έξερχομένου του σκάφους εύδαιούς, εκκενώσεις ύγεινής καί λοιπās εξαγωγας κειμένας πλησίον τής ισάλου γραμμής καί όπου τυχόν άνεπάρκεια του ύλικού έν περιπτώσει πυρκαϊδας θά έδημιούργει κίνδυνον κατακλύσεως.

Απαιτήσεις εφαρμοζόμεναι εις χώρους Ένδειατήσεως, Υπηρετικούς, Σταθμούς Έλέγχου, Διαδρόμους καί Κλίμακας

(β) (i) Κενά άέρος δημιουργούμενα διπλοδεν όροφών, φατνωμάτων η έπενδύσεων θά διαίρωνται καταλήλως διά κατασταλτικών, τής διόδου ρεύματος άέρος μέσωσν άπεχόντων άλλήλων ούχι πλέον τών 14 μέτρων (46 ποδών).

(ii) Εις κατακόρυφον θέσιν, οι τοιουτοι χώροι, περιλαμβάνοντες τούς διπλοδεν τών έπενδύσεων τών κλιμάκων, όχετών κ.λ.π. ευρισκομένους θά κλειουν εις έκαστον κατάστρωμα.

(γ) Η κατασκευή τών όροφών καί διαφραγμάτων θά είναι τοιαύτη ώστε, χωρίς νά έπηρεάζεται η ικανότης τής προστασίας κατά του πυρός, νά καθίσταται δυνατόν εις τās περιπολίας πυρκαϊδας ν' ανακαλύπτουν πάντα καπνόν προερχόμενον από άπομεμακρυσμένας καί άπροσίτους θέσεις, εκτός εάν, κατά τήν κρίσιν τής Αρχής, δέν ύπάρχη κίνδυνος εκρήξεως πυρκαϊδας εις τās θέσεις ταυτας.

Κανονισμός 29

Αυτόματον Σύστημα Ραντιστήρος καί Σύστημα Άναγγελίας καί Άνιχνεύσεως πυρκαϊδας η Αυτόματον Σύστημα Άναγγελίας καί Άνιχνεύσεως Πυρκαϊδας

Επί οουδήποτε πλοίου επί του όποιου τό παρόν μέρος εφαρμόζεται θά εγκαθίστανται, άπανταχού εκάστης διακεχωρισμένης ζώνης, είτε κατακόρυφου είτε όριζοντίου, εις άπαντα τά διαμερίσματα καί υπηρετικούς χώρους καί, όπου θεωρείται απαραίτητον υπό τής Αρχής, εις σταθμούς έλέγχου, έξαιρουμένων τών χώρων οστινες δέν παρουσιάζουν ούσιώδη κίνδυνον πυρκαϊδας (όπως χώροι κενοί, χώροι ύγεινής κ.λ.π.), εκάτερον τών κάτωθι συστημάτων :

- (i) Έν αυτόματον σύστημα ραντιστήρος, αναγγελίας καί άνιχνεύσεως πυρκαϊάς, έγκριμένου τύπου, πληρούν τούς όρους του Κανονισμού 12 του παρόντος Κεφαλαίου, ούτως έγκατεστημένον καί έχον τοιαύτην διάταξιν ώστε νά παρέχη προστασίαν εις τοιούτους χώρους, ή
- (ii) Έν αυτόματον σύστημα αναγγελίας καί άνιχνεύσεως πυρκαϊάς έγκριμένου τύπου, πληρούν τούς όρους του Κανονισμού 13 του παρόντος Κεφαλαίου, ούτως έγκατεστημένον καί έχον τοιαύτην διάταξιν ώστε νά άνιχνεύη τήν ύπαρξιν πυρκαϊάς εις τοιούτους χώρους.

Κανονισμός 30

Προστασία Χώρων Ειδικής Κατηγορίας

Διατάξεις έφαρμοστέαι εις ειδικής κατηγορίας χώρους κειμένους άνωθεν ή κάτωθεν του καταστρώματος στεγανών.

(α) Γενικά.

- (i) Η βασική άρχή ή όποία διέπει τās διατάξεις του παρόντος Κανονισμού είναι ότι ίσοδύναμος προστασία πρέπει νά παρέχεται εις τοιούτους χώρους, βασιζομένη επί μιας διατάξεως όριζόντιων ζωνών καί τόν έφοδιασμόν δι' ενός ικανού καί σταθερού συστήματος κατασβέσεως πυρκαϊάς, δεδομένου ότι ή συνήθης διά κατακορύφων ζωνών ύποδιαίρεσις πιθανώς νά μή είναι δυνατή εις ειδικής κατηγορίας χώρους. Υπό τήν όριζόντιαν ταύτην διάταξιν ζωνών, προς έκπλήρωσιν τών σκοπών του παρόντος Κανονισμού, δυνατόν νά περιλαμβάνωνται ειδικής κατηγορίας χώροι, πλειόνων του ενός καταστρώματος, νοουμένου ότι τό συνολικόν ύψος τής ζώνης δέν θά υπερβαίη τά 10 μέτρα (33 πόδας).
- (ii) Άπασαι αι άπαιτήσεις αι τεθεΐσαι εις τούς Κανονισμούς 23 καί 25 του παρόντος Κεφαλαίου, διά τήν διατήρησιν τής άκεραιότητος τών κατακορύφων ζωνών, θά έφαρμόζωνται όμοίως διά τά καταστρώματα καί τά διαφράγματα τά σχηματίζοντα τά όριακά χωρίσματα μιας έκάστης τών όριζόντιων ζωνών, τόσον μεταξύ των όσον καί έκ του ύπολοίπου πλοίου.

(β) Κατασκευαστική προστασία.

- (i) Τά όριακά διαφράγματα τών ειδικής κατηγορίας χώρων θά άπομονοϋνται ως άπαιτείται διά τούς χώρους τής κατηγορίας (11) του πίνακος 1 του Κανονισμού 20 του παρόντος Κεφαλαίου καί τά όριζόντια όριακά χωρίσματα ως άπαιτείται διά τούς χώρους τής κατηγορίας (11) του πίνακος 3 του αύτου Κανονισμού.
- (ii) Ένδεικται θά προβλέπωνται επί τής γεφύρας πλοηγήσεως οι όποιοι θά δεικνύουν πότε θύρα τις πυρκαϊάς, οδηγούσα προς ή από χώρους ειδικής κατηγορίας, είναι κλειστή ή μή.

(γ) Μόνιμον σύστημα κατασβέσεως πυρκαϊάς.*

Έκαστος χώρος ειδικής κατηγορίας θά είναι έφωδιασμένος δι' ενός έγκριμένου μόνιμου χειροκινήτου συστήματος ραντίσεως ύδατος υπό πίεσιν, τό όποιον θά προστατεύη άπαντα τά τμήματα ολουδήποτε καταστρώματος ή έξέδρας όχημάτων, εάν ύπάρχη, εις τοιοϋτον χώρον, νοουμένου ότι ή Άρχή δύναται νά επιτρέψη τήν χρήσιν ολουδήποτε έτέρου σταθερού συστήματος κατασβέσεως πυρκαϊάς τό όποιον έχει άποδειχθή κατόπιν δοκιμής πλήρους κλίμακος υπό συνθήκας προσομοιωζούσας εις πυρκαϊάν ρέοντος πετρελαίου εις έναν ειδικής κατηγορίας χώρον ούχί, ολιγώτερον άποτελεσματικόν εις τό νά έλέγχη πυρκαϊάς πιθανάς νά έπισυμβουδν εις τοιοϋτον χώρον.

(δ) Περιπολία καί Έντοπισμός.

- (i) Άποδοτική ύπηρεσία περιπολίας θά διατηρηται διά τούς ειδικής κατηγορίας χώρους. Εις ολονδήποτε τοιοϋτον χώρον εις τόν όποιον ή περιπολία δέν διατηρείται διά συνεχούς φυλακής πυρκαϊάς καθ' όλας τās ώρας διαρκούντος του ταξιδίου, θά προβλέπεται εις αύτόν τόν χώρον έν αυτόματον σύστημα έντοπισμού έγκριμένου τύπου.

* Γίνεται μνεΐα τής Ευστάσεως ητις υλοθετήθη υπό του Όργανισμού διά τής Άποφάσεως Α.123(Υ) έκ Σταθερών Ευστημάτων Κατασβέσεως Πυρκαϊάς διά τούς Χώρους Ειδικής Κατηγορίας.

(ii) Χειροκίνητοι αναγγελτήρες πυρκαϊάς θα προβλέπονται απαραίτητως καθ' όλην την έκτασιν των ειδικής κατηγορίας χώρων και εις θά τοποθετήται πλησίον εκάστης έξόδου εκ τοιούτων χώρων.

(ε) Έφόδια κατασβέσεως πυρκαϊάς.

Είς έκαστον ειδικής κατηγορίας χώρον θα προβλέπονται :

- (i) Άριθμός λήψεων πυρκαϊάς μετά εϋκάμπτων σωλήνων και άκροσωληνίων διττου προορισμού έγκεκριμένου τύπου, τοιουτοτρόπως διατεταγμένων ώστε δύο τουλάχιστον προβολαί ύδατος, εκάστη έξ ενός άνεξαρτήτου μήκους εϋκάμπτου σωλήνος, μή προερχομένου εκ τής αύτης λήψεως πυρκαϊάς, να δύναται να φθάση οιονδήποτε μέρος τοιούτου χώρου.
- (ii) Τρεϊς τουλάχιστον αϋλούς ψεκασμού ύδατος (water fog applicators).
- (iii) Ένα φορητόν αϋλόν (applicator) πληροϋντα τας άπαιτήσεις του Κανονισμού 7(δ) του παρόντος Κεφαλαίου, νοουμένου ότι τουλάχιστον δύο τοιούτοι αϋλοί διατίθενται έν τῷ πλοίῳ προς χρῆσιν είς τοιούτους χώρους, και
- (iv) Άριθμός φορητών πυροσβεστήρων, έγκεκριμένου τύπου, κρινόμενος ως έπαρκής υπό τής Άρχής.

(στ) Σύστημα άερισμού.

- (i) Οι ειδικής κατηγορίας χώροι θα έφοδιάζονται δι' ενός άποτελεσματικού συστήματος τεχνητού άερισμού ικανού να παρέχη τουλάχιστον 10 άλλαγας άέρος ώριαίως. Τό διά τοιούτους χώρους σύστημα θα διαχωρίζεται τελείως έξ άλλων συστημάτων άερισμού και θα εύρίσκειται συνεχώς έν λειτουργία οτε όχήματα θα εύρίσκονται έντός τοιούτων χώρων. Η Άρχή δύναται να άπαιτήσει ηϋξημένον άριθμόν άλλαγών άέρος οτε όχήματα τελούν υπό φόρτωσιν ή εκφόρτωσιν.
- (ii) Ό άερισμός θα είναι τοιούτος ώστε να έμποδίζη τήν δημιουργίαν στρωμάτων άέρος και άεροθυλάκων.
- (iii) Θα προβλέπονται μέσα διά να έπισημαίνου έν επί τής γεφύρας πλοηγήσεως οϊανδήποτε άπώλειαν ή μείωσιν τής άπαιτουμένης ικανότητος άερισμού.

Πρόσθετοι διατάξεις έφαρμοστέαι μόνον είς ειδικής κατηγορίας χώρους ύπεράνω του καταστρώματος στεγανών.

(ζ) Εϋδίαιοι (μπούνια).

Έν δψει τής σοβαράς άπωλείας εϋστάθειας ήτις δύναται να προκύψη συνεπεία συσσωρεύσεως μεγάλων ποσοτήτων ύδατος επί του καταστρώματος ή τών καταστρωμάτων κατόπιν τής λειτουργίας του μονίμου συστήματος ραντίσεως ύδατος υπό πίεσιν, εϋδίαιοι θα τοποθετούνται κατά τρόπον διασφαλίζοντα ότι τό τοιούτον ύδωρ θα εκβάλλεται άπ' εϋθείας του πλοίου ταχέως.

(η) Προφυλάξεις κατά τής αναφλέξεως εϋφλέκτων αναθυμιάσεων.

- (i) Έξοπλισμός ο οποίος δύναται να άποτελέση πηγήν αναφλέξεως εϋφλέκτων αναθυμιάσεων και ιδιαιτέρως ο ηλεκτρικός και καλωδιακός έξοπλισμός, θα έγκαθίσταται τουλάχιστον 45 εκατοστόμετρα (18 δακτύλους) ύπεράνω του καταστρώματος, νοουμένου ότι, έφ' όσον η Άρχή ήθελε κρίνει ότι ή έγκατάστασις τοιούτου ήλεκτρικού και καλωδιακού έξοπλισμού κάτωθεν του ως άνω ύψους είναι απαραίτητος διά τήν άσφαλή λειτουργίαν του πλοίου, ο τοιούτος ήλεκτρικός και καλωδιακός έξοπλισμός θα είναι τύπου έγκεκριμένου προς χρῆσιν έντός έκρηκτικού μείγματος εϋφλέκτου ύγρου και άέρος. Ηλεκτρικός έξοπλισμός έγκατεστημένος πλέον των 45 εκατοστομέτρων (18 δακτύλων) ύπεράνω του καταστρώματος θα είναι τύπου κλειστού και προστατευομένου ώστε να προλαμβάνεται ή διαφυγή σπινθήρων. Η μεία του έπιπέδου των 45 εκατοστομέτρων (18 δακτύλων), ύπεράνω του καταστρώματος, έρμηνεύεται ως άφορώσα έκαστον κατάστρωμα επί του οποίου μεταφέρονται όχήματα και επί του οποίου είναι δυνατόν να άναμένεται συσάρευσις εϋφλέκτων αναθυμιάσεων.
- (ii) Ηλεκτρικός και καλωδιακός έξοπλισμός, έφ' όσον έγκαθίσταται είς άγών έξαγωγής άερισμού, θα είναι ενός τύπου έγκεκριμένου προς χρῆσιν έντός έκρηκτικων μειγμάτων εϋφλέκτου ύγρου και άέρος ή δε έξοδος παντός άγωγού, έξαγωγής θα τοποθετήται είς άσφαλή θέσιν, λαμβανομένων υπ' όψιν και έτέρων πιθανών πηγών αναφλέξεως.

Πρόσθετοι διατάξεις εφαρμόστει μόνον εις ειδικής κατηγορίας χώρους, κάτωθεν του καταστρώματος στεγανών.

(θ) "Αντλησις ύδροσυλλεκτηών και διοχετεύσις ύδατος.

Έν ύψει τής σοβαράς άπωλείας εύσταθείας ήτις δύναται νά προκύψη συνεπεία συσσωρεύσεως μεγάλων ποσοτήτων ύδατος επί του καταστρώματος ή επί του άνω τμήματος δεξαμενής προοριζομένης διά τήν λειτουργίαν του μόνιμου συστήματος ραντίσεως ύδατος ύπό πίεσιν, ή Αρχή δύναται νά άπαιτηση τον έφοδιασμόν δι' εύκολιών άντλήσεως και διοχετεύσεως ύδατος, πέραν των άπαιτουμένων ύπό του Κανονισμού 18 του Κεφαλαίου II-1 τής παρούσης Συμβάσεως.

(ι) Πυλάξεις έναντίον αναφλέξεως εύφλέκτων άναθυμιάσεων.

- (i) Έάν ύπάρχη ήλεκτρικός και καλωδιακός έξοπλισμός, ούτος θά είναι ένός τύπου καταλλήλου πρός χρήσιν έντός έκρηκτικών μειγμάτων εύφλέκτου ύγρου και άέρος. Έτερος έξοπλισμός όστις δύναται νά άποτελέση πηγήν αναφλέξεως εύφλέκτων άναθυμιάσεων δέν θά έπιτρέπεται.
- (ii) Ηλεκτρικός και καλωδιακός έξοπλισμός, εάν έγκαθίσταται εις άγωγόν έξαγωγής άερισμού, θά είναι τύπου έγκεκριμένου πρός χρήσιν έντός έκρηκτικών μειγμάτων εύφλέκτου ύγρου και άέρος και ή έξοδος έξ ολουδήποτε άγωγού έξαγωγής θά τοποθετηται εις άσφαλή θέσιν, λαμβανομένων ύπ' όψιν και άλλων δυνατών πηγών αναφλέξεως.

Κανονισμός 31

Προστασία Χώρων Φορτίου έκτός των Ειδικής Κατηγορίας Χώρων προοριζομένων διά τήν μεταφοράν Μηχανοκινήτων Όχημάτων έχόντων εις τās Δεξαμενάς των Καύσιμον διά τήν Ιδίαν αυτών Πρόωσιν

Εις οιονδήποτε χώρον φορτίου (έκτός των ειδικής κατηγορίας χώρων) περιέχοντα μηχανοκίνητα όχήματα έχοντα εις τās δεξαμενάς των καύσιμον διά τήν Ιδίαν αυτών πρόωσιν, θά εφαρμόζονται αι ακόλουθοι διατάξεις :

(α) "Ανίχνευσις πυρκαϊάς.

Θά προβλέπεται έν έγκεκριμένον σύστημα άνιχνεύσεως και άναγγελίας πυρκαϊάς.

(β) Διατάξεις Μέσων Σβέσεως Πυρκαϊάς.

- (i) Θά τοποθετηται έν μόνιμον σύστημα σβέσεως πυρκαϊάς δι' άερίου, τό όποιον θά είναι σύμφωνον πρός τās διατάξεις του Κανονισμού 8 του παρόντος Κεφαλαίου, έκτός εάν σύστημα διοξειδίου του άνθρακος είναι τοποθετημένον, όποτε ή διαθέσιμος ποσότης άερίου θά είναι τούλάχιστον έπαρκής ώστε νά δίδη έλάχιστον όγκον έλευθέρου άερίου ίσον πρός τά 45 τοίς εκατόν του όλικου όγκου του μεγαλυτέρου εκ των χώρων φορτίου του δυναμένου νά άπομονωθη διά κλεισίματος και αι διατάξεις θά είναι τοιαύται ώστε νά εξασφαλίζεται ότι τό άέριον εισάγεται ταχέως και άποτελεσματικώς έντός του χώρου. Οιονδήποτε έτερον μόνιμον σύστημα σβέσεως πυρκαϊάς δι' άφρου ύψηλής έκτονώσεως δύναται νά τοποθετηθη έφ' όσον τουτο θά δίδη ίσοδύναμον προστασίαν.
- (ii) Εις έκαστον τοιούτον χώρον θά προβλέπεται, πρός χρήσιν, άριθμός φορητών πυροσβεστήρων έγκεκριμένου τύπου, κρινόμενος ως έπαρκής ύπό τής Αρχής.

(γ) Σύστημα Έξαερισμού.

- (i) Εις έναν έκαστον των τοιούτων χώρων φορτίου θά προβλέπεται έν άποτελεσματικόν σύστημα τεχνητού άερισμού, Ικανόν, νά δίδη τούλάχιστον 10 άλλαγας άέρος καθ' ώραν. Τό διά τοιούτους χώρους φορτίου σύστημα θά είναι τελείως διαχωρισμένον έξ άλλων συστημάτων εξαερισμού και θά είναι έν λειτουργία συνεχώς ότε ύπάρχουν όχήματα εις τοιούτους χώρους.
- (ii) Ό άερισμός θά είναι τοιούτος ώστε νά έμποδίζη τήν δημιουργίαν στρωμάτων άέρος και αεροθυλάκων.

- (iii) θά προβλέπωνται μέσα διὰ νά ἐπισημαίνουν ἐπί τῆς γεφύρας πλοηγήσεως οἰανδήποτε ἀπώλειαν ἢ μείωσιν τῆς ἀπαιτουμένης ικανότητος ἀερισμοῦ.
- (6) Προφυλάξεις ἐναντίον Ἀναφλέξεως Εὐφλέκτων Ἀναθυμιάσεων
- (i) Ἡλεκτρικός καί καλωδιακός ἐξοπλισμός, ἐάν ὑφίσταται, θά εἶναι τύπου καταλλήλου πρὸς χρῆσιν ἐντὸς ἐκρηκτικῶν μειγμάτων εὐφλέκτου ὑγροῦ καί ἀέρος. Ἐτερος ἐξοπλισμός ὅστις δύναται νά ἀποτελέσῃ πηγὴν ἀναφλέξεως εὐφλέκτων ἀναθυμιάσεων δέν θά ἐπιτρέπεται.
- (ii) Ἡλεκτρικός καί καλωδιακός ἐξοπλισμός, ἐφ' ὅσον ἐγκαθίσταται εἰς ἀγωγὸν ἐξαγωγῆς ἀερισμοῦ, θά εἶναι τύπου ἐγκεκριμένου πρὸς χρῆσιν ἐντὸς ἐκρηκτικῶν μειγμάτων εὐφλέκτου ὑγροῦ καί ἀέρος καί ἡ ἐξοδος παντός ἀγωγοῦ θά τοποθετῆται εἰς ἀσφαλῆ θέσιν, λαμβανομένων ὑπ' ὄψιν καί ἐτέρων δυνατῶν πηγῶν ἀναφλέξεως.

Κανονισμός 32

Διατήρησις Ὑπηρεσιῶν Περιπολίας Πυρκαϊᾶς κ.λ.π. καί Πρόβλεψις ΠυροσβεστικῶνἘποδίων

- (α) Ὑπηρεσίαι Περιπολίας Πυρκαϊᾶς καί Συστήματα Ἀνιχνεύσεως, Ἀναγγελίας καί Ἐνδοσυνεννοήσεως.
- (i) Ἀποδοτικὴ ὑπηρεσία περιπολίας θά διατηρῆται εἰς τρόπον ὅστε νά δύναται ταχέως νά ἀνιχνεύεται πᾶσα ἐκδήλωσις πυρκαϊᾶς. Ἐκαστον μέλος τῆς ὑπηρεσίας περιπολίας θά ἐκπαιδευθῆ ἵνα καταστή οἰκείος τῶν διαρρυθμίσεων τοῦ πλοίου καθὼς καί τῆς θέσεως καί λειτουργίας οἰουδήποτε ἐφοδίου τό ὁποῖον δυνατόν νά κληθῆ νά χρησιμοποιήσῃ.
- (ii) Χειροκίνητοι ἀγγελτήρες συναγεροῦ θά τοποθετῶνται καθ' ὅλην τὴν ἔκτασιν τῶν χώρων ἐνδικοιότησεως καί τῶν ὑπηρετικῶν τοιούτων, ἵνα δύναται οἱ περιπολοῦντες νά δίδουν ἀναγγελίαν εἰς τὴν γέφυραν ἢ τὸν κύριον σταθμὸν ἐλέγχου πυρκαϊᾶς.
- (iii) θά προβλέπεται ἐγκεκριμένον σύστημα ἀναγγελίας ἢ σύστημα ἀνιχνεύσεως πυρκαϊᾶς, τό ὁποῖον θά ἀναγγέλλῃ αὐτομάτως εἰς ἕνα ἢ καί περισσώτερα κατὰλληλα σημεῖα ἢ σταθμούς τὴν ὑπαρξίν ἢ ἐκδήλωσιν πυρκαϊᾶς καί τὴν θέσιν αὐτῆς εἰς οἰουδήποτε χώρον φορτίου ὁ ὁποῖος, κατὰ τὴν γνώμην τῆς Ἀρχῆς, δέν εἶναι προσιτός εἰς τὴν ὑπηρεσίαν περιπολίας, ἐκτός ἐάν ἤθελεν ἀποδειχθῆ πρὸς ἱκανοποίησιν τῆς Ἀρχῆς ὅτι τό πλοῖον ἔκτελεῖ πλῆρες τοιαύτης μικρᾶς διαρκείας ὥστε νά μὴ δικαιολογῆται ἡ ἐφαρμογὴ τῆς παρούσης διατάξεως.
- (iv) Τό πλοῖον θά εἶναι διαρκῶς, ὅτε εὐρίσκεται ἐν πλῆ ἢ ἐν λιμένι (ἐκτός ὅτε εὐρίσκεται ἐν παροπλισμῷ), οὕτω ἐπηυδρωμένον ἢ ἐφωδιασμένον ὥστε νά ἐξασφαλίζηται ὅτι οἰαδήποτε ἀρχικὴ ἀναγγελία πυρκαϊᾶς περιέρεται ἀμέσως εἰς ἕν ὑπεύθυνον μέλος τοῦ πληρώματος.
- (v) Εἰδικόν σύστημα συναγεροῦ, χειριζόμενον ἐκ τῆς γεφύρας ἢ ἐκ σταθμοῦ ἐλέγχου, θά τοποθετῆται διὰ τὴν κλήσιν τοῦ πληρώματος. Τό σύστημα τοῦτο συναγεροῦ δύναται νά ἀποτελῆ τμήμα τοῦ γενικοῦ συστήματος συναγεροῦ τοῦ πλοίου, πλὴν ὅμως τοῦτο θά εἶναι ἱκανόν νά ἠχῆται ἀνεξαρτήτως τοῦ συστήματος συναγεροῦ τοῦ προοριζομένου διὰ τοὺς χώρους ἐπιβατῶν.
- (iv) Σύστημα ἐνδοσυνεννοήσεως ἢ ἕτερα ἀποτελεσματικὰ μέσα ἐπικοινωνίας θά διατίθενται καθ' ὅλην τὴν ἔκτασιν τῶν χώρων ἐνδικοιότησεως, τῶν ὑπηρετικῶν χώρων καί τῶν σταθμῶν ἐλέγχου.

- (β) Ἀντλίας Πυρκαϊᾶς καί Κύριον Δίκτυον Σωληνώσεων Πυρκαϊᾶς.

Τό πλοῖον θά ἐφοδιάζεται δι' ἀντλιῶν πυρκαϊᾶς, κυρίων σωληνώσεων πυρκαϊᾶς λήψεων πυρκαϊᾶς, εὐκάμπτων σωλήνων πυρκαϊᾶς συμφώνως πρὸς τὰς διατάξεις τοῦ Κανονισμοῦ 5 τοῦ παρόντος Κεφαλαίου καί θά συμμορφοῦνται πρὸς τὰς ἀκολουθοῦσας ἀπαιτήσεις :

- (1) Ἐπί πλοίου 4.000 κόνων ὀλικῆς χωρητικότητος καί ἀνω θά προβλέπωνται τοῦλάχιστον τρεῖς ἀνεξαρτήτως κινήσεως ἀντλίας πυρκαϊᾶς καί ἐπί πλοίου μικρότερας τῶν 4.000 κόνων ὀλικῆς χωρητικότητος τοῦλάχιστον δύο τοιαῦται ἀντλίας πυρκαϊᾶς.

- (ii) 'Επί πλοίου 1.000 κόνων δλικής χωρητικότητας και άνω, ή διάταξεις τών συνδέσμων θαλάσσης, τών άντλιών πυρκαϊάς και πηγών ένεργείας διά τήν λειτουργίαν αυτών, θά είναι τοιαύτη ώστε νά έξασφαλίζεται ότι ή πυρκαϊά εις ολονδήποτε διαμέρισμα δέν θά θέση έκτός ένεργείας άπάσας τάς άντλίας πυρκαϊάς.
- (iii) 'Επί πλοίου 1.000 κόνων δλικής χωρητικότητας και άνω, ή διάταξεις τών άντλιών πυρκαϊάς, κυρίων σωληνώσεων πυρκαϊάς και λήψεων πυρκαϊάς θά είναι τοιαύτη ώστε τούλάχιστον μία άποτελεσματική προβολή ύδατος, ως όρίζεται εις τόν Κανονισμόν 5(γ) του παρόντος Κεφαλαίου, νά είναι άμέσως διαθέσιμος έξ οιασδήποτε λήψεως πυρκαϊάς εις μίαν έσωτερικήν θέσιν. Μέτρα επίσης θά λαμβάνωνται ώστε νά έξασφαλίζεται ή συνέχισις τής διοχετεύσεως ύδατος διά τής αυτόματου άφάρξεως λειτουργίας μίας άπαιτουμένης πρός τοϋτο άντλίας πυρκαϊάς.
- (iv) 'Επί πλοίου κατωτέρας τών 1.000 κόνων δλικής χωρητικότητας αι διάταξεις θά τυγχάνουν τής έγκρίσεως τής 'Αρχής.
- (γ) Λήψεις Πυρκαϊάς, Εύκαμπτοι Σωλήνες Πυρκαϊάς και 'Ακροσωλήνια.
- (i) Τό πλοϊον θά είναι έφωδισμένον δι' εύκάμπτων σωλήνων πυρκαϊάς, ό αριθμός και ή διάμετρος τών όποιών θά τυγχάνουν τής έγκρίσεως τής 'Αρχής. θά ύπάρχη τούλάχιστον εις εύκαμπτος σωλήν δι' εκάστην εκ τών λήψεων πυρκαϊάς τών άπαιτουμένων υπό του Κανονισμού 5(δ) του παρόντος Κεφαλαίου και οι εύκαμπτοι αυτοί σωλήνες θά χρησιμοποιούνται μόνον πρός σβέσιν πυρκαϊών ή διά τήν δοκιμήν τών πυροσβεστικών συσκευών κατά τά γυμνάσια πυρκαϊάς και τάς επίθεωρήσεις.
- (ii) Εις τούς χώρους ένδειατήσεως, ύπηρετικούς και μηχανών ό αριθμός και ή θέσις τών λήψεων πυρκαϊάς θά είναι τοιοϋτος ώστε νά πληροϋνται αι άπαιτήσεις του Κανονισμού 5(δ) του παρόντος Κεφαλαίου, οτε άπασαι αι ύδατοστεγείς θύραι και άπασαι αι θύραι επί τών διαφραγμάτων τών κυρίων κατακορύφων ζωνών είναι κλεισταί.
- (iii) Αι διατάξεις θά είναι τοιαύται ώστε τούλάχιστον δύο προβολαί ύδατος θά δύνανται νά φθάσουν εις ολονδήποτε τμήμα οϊουδήποτε χώρου φορτίου οτε οϋτος είναι κενός.
- (iv) 'Απασαι αι άπαιτουόμεναι λήψεις πυρκαϊάς εις χώρους μηχανοστασίου θά είναι έφωδισμέναι δι' εύκάμπτων σωλήνων πυρκαϊάς έχόντων, επί πλέον τών άκροσωληνίων τών άπαιτουμένων έν τῷ Κανονισμό 5(ζ) του παρόντος Κεφαλαίου, άκροσωλήνια κατάλληλα διά τόν ραντισμόν ύδατος επί πετρελαίου, ή έναλλακτικώς άκροσωλήνια δι' άμφοτέρους τούς σκοπούς. 'Επιπροσθέτως, εκαστος χώρος Μηχανοστασίου τής Κατηγορίας Α' θά είναι έφωδισμένος διά δύο τούλάχιστον καταλλήλων αϋλών όμιχλοειδοϋς ραντισμοϋ (water fog applicators).*
- (v) 'Ακροσωλήνια ραντίσεως ύδατος ή άκροσωλήνια δι' άμφοτέρους τούς σκοπούς θά προβλέπωνται τούλάχιστον διά τό 1/4 του αριθμού τών εύκάμπτων σωλήνων τών άπαιτουμένων εις διάφορα τμήματα του πλοίου έτερα πλην τών χώρων μηχανών.
- (vi) Δι' εκαστον ζεύγος άναπνευστικών συσκευών θά προβλέπεται εις αϋλός όμιχλοειδοϋς ραντισμοϋ όστις θά έναποθηκέεται παρακειμένως τοιούτων συσκευών.
- (vii) 'Όπου, εις ολονδήποτε χώρον μηχανών τής Κατηγορίας "Α", προβλέπεται μία έξοδος εις χαμηλόν επίπεδον εκ παρακειμένης σήραγγος άξονος, δύο λήψεις έφωδισμέναι με εύκάμπτους σωλήνας μετά άκροσωληνίων διττοϋ προορισμοϋ θά προβλέπωνται έξωτερικώς, αλλά πλησίον τής εισόδου του τοιοϋτου χώρου. 'Όπου τοιαύτη έξοδος δέν προβλέπεται εκ σήραγγος αλλά προβλέπεται έξ άλλου χώρου ή χώρων, θά προβλέπωνται εις ένα εκ τών τοιούτων χώρων δύο λήψεις έφωδισμέναι με εύκάμπτους σωλήνας μετά άκροσωληνίων διττοϋ προορισμοϋ πλησίον τής εισόδου του χώρου μηχανών Κατηγορίας Α'. Τοιαύτη πρόβλεψις δέν είναι άπαραίτητος όσάκις ή σήραγγη ή οι παρακειόμενοι χώροι δέν είναι τμήμα μιάς όδοϋ διαφυγής.

* 'Ο αϋλός όμιχλοειδοϋς ραντισμοϋ ύδατος θά ήδύνατο νά άποτεληται έξ ενός μεταλλίνου σωληνος σχήματος "Ζ" του όκοϋτο τό μέν μακρόν άκρον θά είναι κερύκου 2 μέτρων (6 κοδών) μήκους και κατάλληλον νά προσαρμόζεται εις ένα εύκαμπτον σωλήνα πυρκαϊάς, τό δέ βραχύ άκρον θά είναι κερύκου 1/4 μέτρου (10 δακτύλων) μήκους, έφωδισμένον διά σταθεροϋ άκροσωληνού τύπου όμιχλοειδοϋς ραντισμοϋ ή έκανόν νά έφωδισθη δι' άκροσωληνού ραντισμοϋ ύδατος.

(δ) Σύνδεσμος Διεθνούς Τύπου συνδέσεως μετά της Ξηράς.

(i) Πάν πλοϊον ὀλικῆς χωρητικότητος 1.000 κόνων καί ἄνω θά εἶναι ἐφωδισμένον δι' ἑνός τουλάχιστον συνδέσμου διεθνούς τύπου συνδέσεως μετά της Ξηράς, πληροῦντος τὰς διατάξεις τοῦ Κανονισμοῦ 5(η) τοῦ παρόντος Κεφαλαίου.

(ii) Θά διατίθενται εὐκολίαι καθιστῶσαι τόν τοιοῦτον σύνδεσμον χρησιμοποίησιμον εἰς ἑκατέραν τήν πλευράν τοῦ πλοίου.

(ε) Φορητοί Πυροσβεστήρες εἰς Χώρους Ἐνδιαιτήσεως, Ἑπιχειρητικούς χώρους καί Σταθμούς Ἐλέγχου.

Τό πλοϊον θά εἶναι ἐφωδισμένον εἰς τούς χώρους ἐνδιαιτήσεως καί ὑπηρετικούς ὡς καί εἰς τούς σταθμούς ἔλεγχου διὰ τοιούτων ἐγκεκριμένων φορητῶν πυροσβεστήρων, τούς ὁποίους ἡ Ἀρχή ἤθελεν κρίνει ὅτι τυγχάνουν κατάλληλοι καί ἐπαρκεῖς.

(στ) Διατάξεις Σταθεροῦ Συστήματος Κατασβέσεως Πυρκαϊᾶς εἰς Χώρους Φορτίου.

(i) Οἱ χώροι φορτίου πλοίων ὀλικῆς χωρητικότητος 1.000 κόνων καί ἄνω, θά προστατεύονται δι' ἑνός σταθεροῦ συστήματος κατασβέσεως πυρκαϊᾶς δι' ἀερίου, συμφώνου πρὸς τὰς διατάξεις τοῦ Κανονισμοῦ 8 τοῦ παρόντος Κεφαλαίου, ἢ δι' ἑνός σταθεροῦ συστήματος κατασβέσεως πυρκαϊᾶς δι' ὑψηλῆς ἐκτονώσεως ἀφροῦ τό ὁποῖον θά παρέχη ἰσοδύναμον προστασίαν.

(ii) Ὅσακις καταδεικνύεται πρὸς ἱκανοποίησιν τῆς Ἀρχῆς ὅτι ἐν πλοϊον ἐκτελεῖ ταξεῖδια τοιαύτης μικρᾶς διαρκείας ὥστε ἡ ἐφαρμογή τῶν ἀπαιτήσεων τοῦ ἐδαφίου (i) τῆς παρούσης παραγράφου θά ἦτο παράλογος, ὡς ἐπίσης καί διὰ πλοῖα ὀλικῆς χωρητικότητος μικροτέρας τῶν 1.000 κόνων, αἱ διατάξεις αὗται εἰς τούς χώρους φορτίου θά τυγχάνουν τῆς ἐγκρίσεως τῆς Ἀρχῆς.

(ζ) Συσκευαὶ Σβέσεως Πυρκαϊᾶς ἐντός Λεβητοστασίων κ.λ.π.

Χώροι περιέχοντες πετρελαιολέβητας ἢ μηχανήματα χρησιμοποιουντα πετρέλαιον ὡς καύσιμον θά ἐφοδιάζονται διὰ τῶν κατωτέρω διατάξεων :

(i) Θά ὑπάρχη ἐν οἰονδήποτε τῶν κατωτέρω μονίμων συστημάτων κατασβέσεως πυρκαϊᾶς :

(1) Σύστημα ραντίσεως ὕδατος ὑπὸ πῦρσιν πληροῦν τὰς διατάξεις τοῦ Κανονισμοῦ 11 τοῦ παρόντος Κεφαλαίου.

(2) Σύστημα ἀερίου πληροῦν τὰς διατάξεις τοῦ Κανονισμοῦ 8 τοῦ παρόντος Κεφαλαίου.

(3) Σύστημα ἀφροῦ πληροῦν τὰς διατάξεις τοῦ Κανονισμοῦ 9 τοῦ παρόντος Κεφαλαίου.

(4) Σύστημα ὑψηλῆς ἐκτονώσεως ἀφροῦ πληροῦν τὰς διατάξεις τοῦ Κανονισμοῦ 10 τοῦ παρόντος Κεφαλαίου.

Εἰς ἐκάστην περίπτωσιν, ἐάν τὰ μηχανοστάσια καί τὰ λεβητοστάσια δέν εἶναι ἐντελῆ καχωρισμένα ἢ ἐάν πετρέλαιον καύσιμον δύναται νά διαρροῦση ἐκ τοῦ λεβητοστασίου εἰς τό μηχανοστάσιον, τό σύνολον τῶν μηχανοστασίων καί λεβητοστασίων θά θεωρηται ὡς ἐν διαμέρισμα.

(ii) Θά ὑπάρχουν εἰς ἕκαστον λεβητοστάσιον τουλάχιστον μία σειρά φορητῶν ἐφοδίων ἀεραφοῦ (air-froth) πληρούντων τὰς διατάξεις τοῦ Κανονισμοῦ 7(δ) τοῦ παρόντος Κεφαλαίου.

(iii) Θά ὑπάρχουν δύο τουλάχιστον φορητοί πυροσβεστήρες ἐγκεκριμένου τύπου, παρέχοντες ἀφρόν ἢ ἰσοδύναμον εἰς ἕκαστον χώρον ἐναύσεως λεβήτων ἐκάστου λεβητοστασίου καί εἰς ἕκαστον χώρον εἰς τόν ὁποῖον ὑπάρχει μέρος τῆς ἐγκαταστάσεως καυσίμου πετρελαίου. Θά ὑπάρχη εἰς τουλάχιστον πυροσβεστήρ ἀφροῦ ἐγκεκριμένου τύπου, περιεκτικότητος τουλάχιστον 136 λίτρων (30 γαλλόνων) ἢ ἰσοδυνάμου, ἐντός ἐκάστου λεβητοστασίου. Οἱ πυροσβεστήρες οὗτοι θά ἐφοδιάζονται δι' εὐκάμπτων σωλήνων ἐπὶ ἐξελίκτρων καταλλήλων διὰ νά φθάνουν εἰς οἰονδήποτε μέρος τοῦ λεβητοστασίου.

(iv) Ἐντός ἐκάστου χώρου ἐναύσεως λεβήτων θά ὑπάρχη δοχεῖον περιέχον ἄμμον, πριονίδια ἐμβαπτισμένα εἰς νάτριον ἢ ἕτερον ἐγκεκριμένον ὑλικόν, εἰς ποσότητα τήν ὁποῖαν ἤθελε καθορίσει ἡ Ἀρχή. Ἐναλλακτικῶς δύναται τοῦτο νά ἀντικατασταθῇ δι' ἑνός φορητοῦ πυροσβεστήρος ἐγκεκριμένου τύπου.

- (η) Συσκευαί Σβέσεως Πυρκαϊάς έντός Χώρων περιεχόντων Μηχανάς Τύπου Έσωτερικής Καύσεως.

Χώροι περιέχοντες μηχανάς έσωτερικής καύσεως χρησιμοποιούμενας είτε διά κυρίαν πρόωσιν ή δι' έτέρους σκοπούς, ότε αί τοιαύται μηχαναί έχουν άθροιστικώς συνολικήν Ισχύν ούχί μικροτέραν τών 373 KW, θά έφοδιάζονται διά τών κατωτέρω διατάξεων :

- (i) θά ύπάρχη έν εκ τών συστημάτων κατασβέσεως πυρκαϊάς τών άπαιτούμένων υπό τοϋ έδαφίου (ζ) (i) τοϋ παρόντος Κανονισμού.
- (ii) θά ύπάρχη τούλάχιστον μία σειρά φορητών έφοδίων άεραφοϋ (air-froth), πληρούντων τās διατάξεις τοϋ Κανονισμού 7(6) τοϋ παρόντος Κεφαλαίου.
- (iii) θά ύπάρχουν εις έκαστον τοιοϋτον χώρον πυροσβεστήρες άφοϋ έγκεκριμένου τύπου, περιεκτικότητος ούχί μικροτέρας τών 45 λίτρων (10 γαλλονίων) ή ίσοδυνάμου, Ικανοποιητικού άριθμού ώστε νά καθίσταται δυνατή έκτόξευσις άφοϋ ή τοϋ ίσοδυνάμου του πρός ολονδήποτε τμήμα τών συστημάτων καυσίμου καί έλαιου λιπάνσεως υπό πίεσιν, τοϋ μηχανισμού μεταδόσεως κινήσεως ώς καί επί οιασδήποτε έτέρας περιπτώσεως κινδύνου πυρκαϊάς. Έπιπροσθέτως θά προβλέπεται ένας Ικανοποιητικός άριθμός φορητών πυροσβεστήρων άφοϋ ή ίσοδυνάμου οί όποιοι θά είναι ούτω πως τοποθετημένοι ώστε εις πυροσβεστήρ νά κείται εις άπόστασιν βαδίσματος ούχί μεγαλυτέρου τών 10 μέτρων (33 ποδών) έξ ολονδήποτε σημείου τοϋ χώρου νοείται ότι, θά ύπάρχουν τούλάχιστον δύο τοιοϋτοι πυροσβεστήρες εις έκαστον τοιοϋτον χώρον.
- (θ) Διατάξεις Σβέσεως Πυρκαϊάς έντός Χώρων Περιεχόντων Άτμοστροβίλου ή Κλειστοϋ Τύπου Άτμομηχανάς.

Εις χώρους περιέχοντας άτμοστροβίλους ή κλειστοϋ τύπου άτμομηχανάς χρησιμοποιούμενας είτε διά κυρίαν πρόωσιν ή δι' έτέρους σκοπούς, ότε αί μηχαναί αύται έχουν άθροιστικώς συνολικήν Ισχύν ούχί μικροτέραν τών 373 KW, θά προβλέπωνται :

- (i) πυροσβεστήρες άφοϋ, έκαστος τών όποίων θά είναι περιεκτικότητος τούλάχιστον 45 λίτρων (10 γαλλονίων), ή ίσοδυνάμου, Ικανοποιητικού άριθμού ώστε νά καθίσταται δυνατή ή έκτόξευσις άφοϋ ή ίσοδυνάμου του επί ολονδήποτε τμήματος τοϋ συστήματος λιπάνσεως υπό πίεσιν, επί ολονδήποτε τμήματος περιβλήματος περιέχοντος λιπαινόμενα υπό πίεσιν τμήματα τών άτμοστροβίλων, μηχανών ή σχετικού μηχανισμού μεταδόσεως κινήσεως, ώς καί επί οιασδήποτε έτέρας περιπτώσεως πυρκαϊάς. Νοείται ότι οί τοιοϋτοι πυροσβεστήρες δέν άπαιτούνται εάν προστασία τούλάχιστον ίσοδύναμος τής προβλεπομένης υπό τής παρούσης παραγράφου παρέχεται εις τοιοϋτους χώρους δι' ενός μονίμου συστήματος έγκατεστημένου συμφώνως πρός τό έδάφιο (ζ) (i) τοϋ παρόντος Κανονισμού.
- (ii) θά προβλέπεται έπαρκής άριθμός φορητών πυροσβεστήρων άφοϋ ή ίσοδυνάμου, οί όποιοι θά είναι ούτω πως τοποθετημένοι ώστε εις πυροσβεστήρ νά κείται εις άπόστασιν βαδίσματος ούχί μεγαλυτέρων τών 10 μέτρων (33 ποδών) έξ ολονδήποτε σημείου τοϋ χώρου. Νοείται ότι ύπάρχουν τούλάχιστον δύο τοιοϋτοι πυροσβεστήρες εις έκαστον τοιοϋτον χώρον καί δέν θά άπαιτούνται έπιπροσθέτως τών ολονδήποτε προβλεπομένων κατ' έφαρμογήν τοϋ έδαφίου (η) (iii) τοϋ παρόντος Κανονισμού.
- (ι) Συσκευαί Έβέσεως Πυρκαϊάς εις έτέρους Χώρους Μηχανών.

Όπου, κατά τήν κρίσιν τής Άρχής, ύφίσταται κίνδυνος πυρκαϊάς εις ολονδήποτε χώρον μηχανών διά τόν όποιον ειδικαί διατάξεις διά συσκευάς σβέσεως πυρκαϊάς δέν προβλέπονται έν παραγράφω (ζ) (η) καί (θ) τοϋ παρόντος Κανονισμού, δέον νά διατίθεται εις τούς χώρους τούτους ή εις παρακειμένους χώρους τοιοϋτος άριθμός έγκεκριμένου τύπου φορητών πυροσβεστήρων ή έτέρων μέσων σβέσεως πυρκαϊάς, όστις ήθελεν κριθί ώς έπαρκής υπό τής Άρχής.

- (iα) Μόνιμα Μέσα Έβέσεως Πυρκαϊάς μή άπαιτούμενα υπό τοϋ παρόντος Μέρους.

Όσάκις έγκαθίσταται μόνιμον τι σύστημα σβέσεως πυρκαϊάς, μή άπαιτούμενον υπό τοϋ παρόντος Μέρους τοϋ παρόντος Κεφαλαίου, τό τοιοϋτον σύστημα θά τυγχάνη τής έγκρίσεως τής Άρχής.

- (iβ) Ειδικαί Άπαιτήσεις διά Χώρους Μηχανών.

- (i) Δι' ολονδήποτε χώρον μηχανών τής Κατηγορίας Α εις τόν όποιον προβλέπεται είσοδος εις χαμηλόν επίπεδον εκ μιας παρακειμένης στροφά-

λοφρού σήραγγος, θα προβλέπεται επιπροσθέτως οιασδήποτε ύδατο-στεγούς θύρας και επί της πλευράς μακράν του χώρου τούτου μηχανών μία έλαφρά χαλυβδίνη πυρίμαχος θύρα ήτις θα δύναται να λειτουργή και εκ των δύο πλευρών.

- (ii) Έν σύστημα αυτόματου άνιχνεύσεως και άναγγελίας πυρκαϊάς δέον όπως εγκαθίσταται, δασκίς ή Αρχή κρίνει ότι τοιαύται ειδικά προφυλάξεις άπαιτούνται, εις οιονδήποτε χώρον μηχανών εις τόν όποιον έχει έγκριση ή έγκατάστασις αυτόματων και τηλερρυθμιζόμενων συστημάτων και έξοπλισμών άντί της συνεχούς επανδρώσεως του χώρου.
- (LY) Έξάρτυσις πυροσβέστου και Άτομικός Έξοπλισμός.
- (i) Ό κατάταξις αριθμός έξαρτύσεων πυροσβέστου πληρουσών τας άπαιτήσεις του Κανονισμού 14 του παρόντος Κεφαλαίου, ως και των προσθέτων σειρών άτομικού έξοπλισμού, εκάστης τοιαύτης σειράς περιλαμβανούσης τας υπό των έδαφίων (α) (i), (ii) και (iii) του Κανονισμού εκείνου άπαιτούμενα είδη, αί όποια δέον να φέρωνται θα έχη ως έξης :
- (1) Δύο έξαρτύσεις πυροσβέστου και επιπροσθέτως.
 - (2) Διά κάθε 80 μέτρα (ή 262 πόδας) ή τμήμα αύτων, του άθροίσματος των μηκών όλων των χώρων έπιβατών και των ύπηρετικών χώρων επί του φέροντος τοιούτους χώρους καταστρώματος ή, εάν υπάρχουν πλείονα τοιαύτα καταστρώματα, επί του καταστρώματος όπερ έχει τό μεγαλύτερον άθροισμα τοιούτων μηκών δύο έξαρτύσεις πυροσβέστου και δύο σειρές άτομικού έξοπλισμού, εκάστης τοιαύτης σειράς περιλαμβανούσης τά υπό των έδαφίων (α) (i), (ii) και (iii) του Κανονισμού 14 του παρόντος Κεφαλαίου άπαιτούμενα είδη.
- (ii) Αι εκάστην έξάρτυσιν πυροσβέστου ή όποια περιλαμβάνει μίαν αυτόνομον άναπνευστικήν συσκευήν, ως προβλέπεται υπό του Κανονισμού 14(β) του παρόντος Κεφαλαίου, θα φέρωνται άνταλλακτικά γομάσεις εις έγκριμένην υπό της Αρχής κλίμακα.
- (iii) Αι έξαρτύσεις και αι σειραί άτομικού έξοπλισμού πυροσβέστου δέον να φυλάσσωνται εις χωριστάς θέσεις λίαν άπεχούσας μεταξύ των έτοιμαί προς χρήσιν. Εις μίαν εκάστην θέσιν δέον να υπάρχουν διαθέσιμοι τούλάχιστον δύο έξαρτύσεις και μία σειρά άτομικού έξοπλισμού πυροσβέστου.

Κανονισμός 33

Διατάξεις διά Καύσιμον Πετρέλαιον, Έλαιον Λιπαντικών και Έτερα Εύφλεκτα

Άλικά

- (α) Διατάξεις καυσίμου πετρελαίου.

Έπί πλοίου χρησιμοποιούντος καύσιμον πετρέλαιον, αι διατάξεις διά τήν έναποθήκευσιν, διανομήν και τήν χρησιμοποίησιν του καυσίμου πετρελαίου θα είναι τοιαύται ώστε να εξασφαλίζεται ή ασφάλεια του πλοίου και των επιβαινόντων και θα είναι σύμφωνοι, τούλάχιστον, προς τας άκολούθους διατάξεις :

- (i) Δέν θα χρησιμοποιήται ως καύσιμον πετρέλαιον, καύσιμον τό όποιον έχει σημείον αναφλέξεως μικρότερον των 60° Κελσίου (140° Φαρενάϊτ) (έσκιμη έντός κλειστού δοχείου), ως τοϋτο καθορίζεται διά μιάς έγκριμένης συσκευής όπολογισμού σημείου αναφλέξεως, εκτός της περιπτώσεως βοηθητικής ηλεκτρογεννητριας, δι' ήν τό σημείον αναφλέξεως δέν θα είναι μικρότερον των 43° Κελσίου (110° Φαρενάϊτ):
Νοείται ότι ή Αρχή δύναται να επιτρέψη τήν γενικήν χρήση καυσίμου πετρελαίου έχοντος σημείον αναφλέξεως ούχι μικρότερον των 43 Κελσίου (110° Φαρενάϊτ) υπό την επιφύλαξιν τοιούτων προσθέτων προφυλάξεων ως ήθελον κρίθη άπαραίτητοι και υπό τόν όρον ότι ή θερμοκρασία του χώρου ένθα τοιούτον καύσιμον είναι έναποθηκευμένον ή χρησιμοποιείται δέν θα επιτραπή να άνέλθη πέραν των 10° Κελσίου (18° Φαρενάϊτ) κάτωθι του σημείου αναφλέξεως του καυσίμου.
- (ii) Καθ' όσον είναι πρακτικώς δυνατόν, ούδέν τμήμα του συστήματος καυσίμου πετρελαίου περιέχον θερμαινόμενον καύσιμον υπό πίεσιν υπερβαίνουσαν τά 1,8 χιλιόγραμμα κατά τετραγωνικόν εκατοστόμετρον (25 λίβρας κατά τετραγωνικόν δάκτυλον), θα είναι ούτω κεκρυμμένον ώστε ατέλειαι και διαρροή να μη καθίσταται δυνατόν να παρατηρηθούν ευκόλως. Κατά μήκος των τοιούτων τμημάτων του συστήματος καυσίμου πετρελαίου τό μηχανοστάσιον θα φωτίζεται έπαρκώς.

- (iii) Ὁ αερισμός τῶν χώρων τοῦ μηχανοστασίου θά εἶναι ἱκανοποιητικός ὑφ' ὄψιν τῆς κανονικῆς συνθήκης, ὥστε νά προλαμβάνεται ἡ συσσώρευσις ἀναθυμιάσεων πετρελαίου.
- (iv) (1) Καθ' ὅσον εἶναι πρακτικῶς δυνατόν, αἱ δεξαμεναί καυσίμου πετρελαίου θά ἀποτελοῦν τμήμα τῆς κατασκευῆς τοῦ πλοίου καί θά τοποθετῶνται ἔξωτερικῶς τῶν χώρων μηχανῶν τῆς Κατηγορίας "Α". Ὅτε δεξαμεναί καυσίμου πετρελαίου, ἐκτός τῶν δεξαμενῶν τῶν διπυθμένων, εἶναι κατ' ἀνάγκην τοποθετημέναι παρακειμένως τῶν χώρων μηχανῶν τῆς Κατηγορίας "Α", θά ἔχουν κατά προτίμησιν ἕνα κοινόν διάφραγμα μετά τῶν δεξαμενῶν διπυθμένων, ἡ δέ ἐπιφάνεια τοῦ κοινοῦ μεταξύ τοῦ χώρου μηχανῶν καί τῆς δεξαμενῆς διαφράγματος θά περιορίζεται εἰς τό ἐλάχιστον. Γενικῶς ἡ χροῖσις δεξαμενῶν καυσίμου πετρελαίου ἀνευ στηρίξεως (free-standing) θά ἀποφεύγεται, ἀλλ' ὁσάκις τοιαῦται δεξαμεναί χρησιμοποιοῦνται, αἵται δέν θά τοποθετοῦνται εἰς χώρους μηχανῶν τῆς Κατηγορίας "Α".
- (2) Οὐδεμία δεξαμενή πετρελαίου θά τοποθετῆται ἐκεῖ ὅπου ἐκχυσις ἢ διαρροή ἐξ αὐτῆς δύναται νά δημιουργήσῃ κίνδυνον διὰ τῆς πτώσεως ἐπί θερμῶν ἐπιφανειῶν. Προφυλάξεις θά λαμβάνωνται ὥστε νά προλαμβάνεται ἡ μετά θερμῶν ἐπιφανειῶν ἐπαφῆ πετρελαίου τό ὅποιον δύναται νά διαφύγῃ ὑπό πίεσιν ἐξ οἰασθήποτε ἀντλίας, φίλτρου ἢ θερμαντήρος.
- (v) Πᾶς σωλήν καυσίμου πετρελαίου, ὁ ὅποιος εἰς περίπτωσιν βλάβης του θά ἐπέτρεπε τήν διαφυγὴν πετρελαίου ἐκ δεξαμενῆς ἀποθηκεύσεως, κατακαθίσσεως ἢ ὑπερτικῆς κειμένης ἀνωθεν τῶν διπυθμένων, θά ἐφοδιάζεται διὰ κρουνοῦ ἢ ἐπιστομίου ἐπὶ τῆς δεξαμενῆς ἱκανοῦ νά κλείεται ἐκ μιᾶς ἀσφαλτοῦς θέσεως ἔξωθεν τοῦ ἀντιστοίχου χώρου εἰς περίπτωσιν ἐκδηλώσεως πυρκαϊᾶς ἐντός τοῦ χώρου εἰς τόν ὅποιον κείνται τοιαῦται δεξαμεναί. Εἰς τήν εἰδικήν περίπτωσιν πετρελαιοδεξαμενῶν κύτους (deep tanks) τοποθετημένων ἐντός οἰασθήποτε σήραγος ἀέδρων ἢ σήραγος σωληνώσεων ἢ ὁμοίου χώρου, θά τοποθετῶνται μέ ἐπιστόμια ἐπὶ τῆς δεξαμενῆς, πλὴν ὅμως ὁ ἔλεγχος εἰς περίπτωσιν πυρκαϊᾶς θά δύναται νά διενεργεῖται μέσω ἐνός προσθέτου ἐπιστομίου ἐπὶ τῆς σωληνώσεως ἢ τῶν σωληνώσεων ἔξωτερικῶς τῆς σήραγος ἢ ὁμοίου χώρου.
- (vi) θά προβλέπωνται ἀσφαλῆ καί ἱκανά μέσα ἐξακριβώσεως τῆς ποσότητος καυσίμου πετρελαίου τοῦ περιεχομένου εἰς οἰανδήποτε δεξαμενήν πετρελαίου. Βυθόμετρικοί σωλήνες μετά καταλλήλων μέσων κλεισίματος δύναται νά ἐπιτρέπωνται, ἐάν τὰ ἀνώτερα ἄκρα τῶν καταλήγων εἰς ἀσφαλεῖς θέσεις. Δύναται νά ἐπιτρέπωνται ἕτερα μέσα ἐξακριβώσεως τῆς ποσότητος καυσίμου πετρελαίου περιεχομένου εἰς οἰανδήποτε δεξαμενήν πετρελαίου, ἐάν δέν ἀπαιτῆται διαπέρασις κάτωθι τοῦ ἄνω τμήματος τῆς δεξαμενῆς καί τὰ ὅποια, ἐφ' ὅσον δέν θά καταστῆ δυνατόν νά λειτουργήσουν κανονικά ἢ εἰς περίπτωσιν ὑπερπλήρωσεως τῶν δεξαμενῶν, δέν θά ἐπιτρέπουν διαφυγὴν τῶν καυσίμων δι' αὐτῶν.
- (vii) Πρόνοια θά λαμβάνεται διὰ τήν πρόληψιν ὑπερπίεσεως εἰς οἰανδήποτε δεξαμενήν πετρελαίου ἢ εἰς οἰονδήποτε τμήμα τοῦ συστήματος καυσίμου πετρελαίου, περιλαμβανομένων τῶν σωλήνων πληρώσεως. Ἐκάστη βαλβίς ἀνακουφιστική (ἐκφυγῆς) καί ἕκαστος σωλήν ἀέρος ἢ ὑπερχειλίσεως θά καταλήγῃ εἰς μίαν θέσιν ἢ ὅποια κατά τήν γνώμην τῆς Ἀρχῆς εἶναι ἀσφαλῆς.
- (viii) Αἱ σωληνώσεις καυσίμου πετρελαίου θά εἶναι ἐκ χάλυβος ἢ ἐτέρου ἐγκεκριμένου ὀλικου, νοουμένου ὅτι περιορισμένη χρῆσις εὐκάμπτων σωλήνων θά εἶναι ἐπιτρεπτή εἰς θέσεις ὅπου ἡ Ἀρχή εἶναι πεπεισμένη ὅτι εἶναι ἀπαραίτητοι. Τοιοῦτοι εὐκάμπτοι σωλήνες καί τελικαί συνδέσεις θά εἶναι ἐξ ἐγκεκριμένων πυριμάχων ὀλικῶν ἐπαρκοῦς ἀντοχῆς καί θά εἶναι κατεσκευασμένοι κατά τρόπον ἱκανοποιούντα τήν Ἀρχήν.
- (β) Διατάξεις λιπαντικοῦ ἐλαίου.
- Αἱ διατάξεις διὰ τήν ἐναποθήκευσιν, διανομήν καί τήν χρησιμοποίησιν τοῦ ἐλαίου εἰς συστήματα λιπάνσεως ὑπό πίεσιν θά εἶναι τοιαῦται ὥστε νά ἐξασφαλιστῆται ἡ ἀσφάλεια τοῦ πλοίου καί τῶν ἐπιβαινόντων, αἱ τοιαῦται δέ διατάξεις εἰς χώρους μηχανῶν τῆς Κατηγορίας "Α" καί, ὁσάκις εἶναι πρακτικῶς δυνατόν, εἰς ἐτέροις χώροις μηχανῶν, θά εἶναι τοῦλάχιστον σύμφωνα πρὸς τὰς διατάξεις τῶν ἐδαφίων (ii), (iv) (2), (v), (vi) καί (vii) τῆς παραγράφου (α) τοῦ παρόντος Κεφαλαίου.

(γ) Διατάξεις δι' ἕτερα εὐφλεκτα ἔλαια.

Αἱ διατάξεις διὰ τὴν ἐναποθήκευσιν, τὴν διανομὴν καὶ τὴν χρησιμοποίησιν ἐτέρων εὐφλέκτων ἔλαϊων, χρησιμοποιουμένων ὑπὸ πίεσιν εἰς συστήματα μεταδόσεως κινήσεως, συστήματα ἐλέγχου καὶ ἐνεργοποιήσεως καὶ συστήματα θερμάνσεως θὰ εἶναι τοιαῦτα ὥστε νὰ ἐξασφαλίζηται ἡ ἀσφάλεια τοῦ πλοίου καὶ τῶν ἐπιβαίνοντων. Εἰς θέσεις ἐνθα ὑφίστανται μέσα ἀναφλέξεως, τοιαῦτα διατάξεις θὰ εἶναι τοῦλάχιστον σύμφωνα πρὸς τὰς διατάξεις τῶν ἐδαφ. (iv) (2) καὶ (vi), ὅσον ἀφορᾷ δὲ τὴν ἀντοχὴν καὶ τὴν κατασκευὴν πρὸς τὰς διατάξεις τοῦ ἐδαφίου (viii) τῆς παραγράφου (α) τοῦ παρόντος Κανονισμοῦ.

Κανονισμός 34

Εἰδικαὶ Διατάξεις διὰ τοὺς Χώρους Μηχανῶν

(α) Αἱ διατάξεις τοῦ παρόντος Κανονισμοῦ θὰ ἐφαρμόζωνται εἰς χώρους μηχανῶν τῆς Κατηγορίας "Α" καὶ, ὅπου ἡ Ἀρχὴ θεωρεῖ αὐτὸ ἐπιθυμητόν, εἰς ἐτέρους χώρους μηχανῶν.

(β) (i) Ὁ ἀριθμὸς τῶν ἀναφωτίδων, τῶν θυρῶν, τῶν ἀνεμιστήρων, τῶν ἀνοιγμάτων εἰς καπνοδόχους διὰ νὰ ἐπιτρέπουν ἐξαερισμὸν καὶ ἐτέρων ἀνοιγμάτων πρὸς τοὺς χώρους μηχανῶν θὰ περιορίζεται εἰς τὸ ἐλάχιστον ἀναλόγως πρὸς τὰς ἀνάγκας τοῦ ἀερισμοῦ καὶ τὴν πρέπουσαν καὶ ἀσφαλῆ διεξαγωγὴν τῆς ἐργασίας τοῦ πλοίου.

(ii) Τὰ πλαίσια τῶν τοιούτων ἀναφωτίδων, ὅπου τοποθετοῦνται, θὰ εἶναι ἐκ χάλυβος. Κατάλληλοι διατάξεις θὰ ὑφίστανται διὰ νὰ ἐπιτρέπουν τὴν ἀπελευθέρωσιν τοῦ καπνοῦ, εἰς περιπτώσιν πυρκαϊᾶς, ἀπὸ τὸν πρὸς προστασίαν χώρον.

(iii) Θύραι, ἕτεροι ἢ τῶν μηχανικῶς χειριζομένων ὕδατοστεγῶν θυρῶν, θὰ ἐγκαθίστανται οὕτω πῶς ὥστε νὰ ἐξασφαλίζηται ἀπόλυτον κλείσιμον ἐν περιπτώσει πυρκαϊᾶς εἰς τὸν χώρον διὰ μηχανικῶς χειριζομένων διατάξεων κλεισίματος ἢ διὰ προβλέψεως αὐτοκλεισμένων θυρῶν ἱκανῶν νὰ κλείουν μέ κλίσιν τοῦ πλοίου $3\frac{1}{2}$ μοιρῶν ἀνθισταμένης εἰς τὸ κλείσιμον καὶ ἔχουσῶν μέσον ἀσφαλοῦς ἀγκιστρῶσεως ἐφωδιασμένου μέ σύστημα ἀπαγγοστρώσεως χειριζομένου μακρόθεν.

(γ) Παράθυρα δὲν θὰ τοποθετῶνται ἐπὶ φωταγωγῶν τοῦ χώρου μηχανῶν.

(δ) Μέσα ἐλέγχου θὰ προβλέπωνται διὰ :

(i) τὸ ἀνοίγμα καὶ τὸ κλείσιμον τῶν ἀναφωτίδων, τὸ κλείσιμον τῶν ἀνοιγμάτων ἐπὶ τῶν καπνοδόχων τὰ ὅποια κανονικῶς ἐπιτρέπουν ἐξαερισμὸν καὶ τὸ κλείσιμον τῶν φρακτῶν (dampers) ἀερισμοῦ.

(ii) νὰ ἐπιτρέπουν τὴν δίοδον τοῦ καπνοῦ.

(iii) τὸ κλείσιμον τῶν μηχανικῶς χειριζομένων θυρῶν ἢ τοῦ μηχανισμοῦ ἀπελευθερώσεως ἐπὶ θυρῶν ἐτέρων ἢ τῶν μηχανικῶς χειριζομένων ὕδατοστεγῶν θυρῶν.

(iv) τὴν διακοπὴν λειτουργίας τῶν ἀνεμιστήρων, καὶ

(v) τὴν διακοπὴν λειτουργίας τῶν ἀνεμιστήρων τεχνητοῦ ἔλκυσμοῦ ἀέρος, τῶν ἀντλιῶν μεταγίσεως καυσίμου πετρελαίου, τῶν πετρελαιοαντλιῶν τοῦ συγκροτήματος καύσεως πετρελαίου καὶ ἐτέρων ὁμοίων ἀντλιῶν καυσίμου.

(ε) Οἱ ἀπαιτούμενοι διὰ τοὺς ἀνεμιστήρας ἐξαερισμοῦ διακόπται δέον νὰ πληροῦν τὰς διατάξεις τῆς παραγράφου (στ) τοῦ Κανονισμοῦ 25 τοῦ παρόντος Κεφαλαίου. Οἱ ἀπαιτούμενοι δι' οἰονδήποτε μόνιμον σύστημα κατασβέσεως πυρκαϊᾶς διακόπται καθὼς καὶ ἐκεῖνοι οἵτινες ἀπαιτοῦνται ὑπὸ τῶν ἐδαφίων (δ) (i), (ii), (iii) καὶ (v) τοῦ παρόντος Κεφαλαίου δέον νὰ εὐρίσκωνται εἰς τινὰ θέσιν χειρισμοῦ ἢ νὰ εἶναι διατεταγμένοι εἰς ὅσον τὸ δυνατόν ὀλιγωτέρας θέσεις κατὰ τρόπον ἱκανοποιούντα τὴν Ἀρχὴν. Ἡ θέσις ἢ αἱ θέσεις αὐτὰ δέον νὰ εὐρίσκωνται εἰς μέρος ἐνθα εἶναι ἀδύνατον ν' ἀπομονωθοῦν ἐν περιπτώσει πυρκαϊᾶς ἐντὸς τοῦ χώρου τὸν ὅποιον ἐξυπηρετοῦν καὶ νὰ ἔχουν ἀσφαλῆ πρόσβασιν ἐκ τοῦ ἀνοικτοῦ καταστρώματος.

ΜΕΡΟΣ Γ' - ΜΕΤΡΑ ΠΥΡΑΣΦΑΛΕΙΑΣ ΔΙ' ΕΠΙΒΑΤΗΓΑ ΠΛΟΙΑ
ΜΕΤΑΦΕΡΟΝΤΑ ΟΥΧΙ ΠΕΡΙΣΣΟΤΕΡΟΥΣ ΤΩΝ 36 ΕΠΙΒΑΤΩΝ

Κανονισμός 35

Κατασκευή

- (α) Τό σκάφος, αϊ υπερκατασκευαϊ, τὰ κύρια διαφράγματα, τὰ καταστρώματα καϊ τὰ υπερστεγάσματα θά κατασκευάζωνται ἐκ χάλυβος ἢ ἐτέρου ἰσοδυνάμου ὕλικου.
- (β) Ὅπου ἐφαρμόζεται προστασία κατά τῆς πυρκαϊᾶς συμφώνως πρὸς τὴν παράγραφον (β) τοῦ Κανονισμοῦ 40 τοῦ παρόντος Κεφαλαίου, αϊ υπερκατασκευαϊ δύνανται νά κατασκευάζωνται, ἐπί παραδείγματι, ἐκ κράματος ἀλουμινίου, ἐφ' ὅσον:
- (i) διὰ τὴν ὕψωσιν τῆς θερμοκρασίας τῶν μεταλλικῶν στελεχῶν τῶν τμημάτων Κλάσεως "Α", ὄτε ταῦτα ἐκτίθενται εἰς τὴν τυποποιημένην δοκιμὴν πυρός, δίδεται ἰδιαίτερα προσοχὴ εἰς τὰς μηχανικὰς ἰδιότητες τοῦ ὕλικου.
 - (ii) ἡ Ἀρχὴ ἱκανοποιεῖται ἀπὸ τὸ γεγονός ὅτι ἡ ποσότης τῶν καυσίμων ὕλικῶν τὰ ὁποῖα χρησιμοποιοῦνται εἰς τὰ σχετικὰ μέρη τοῦ πλοίου εἶναι ἀναλόγως μειωμένα. Αἱ ὁροφαί (λ.χ. αἱ ἐπιστρώσεις αὐτῶν) εἶναι ἀκαυστοι.
 - (iii) λαμβάνεται ἐπαρκὴς πρόνοια ἐξασφαλίζουσα ὅτι εἰς περίπτωσιν πυρκαϊᾶς, αἱ διατάξεις στοιβασίας, καθαιρέσεως καϊ ἐπιβιβάσεως ἐπὶ τῶν σωστικῶν μέσων παραμένουν τὸ ἴδιο ἀποτελεσματικαί ὡς ἐάν αἱ υπερκατασκευαϊ νά ἦσαν κατασκευασμένα ἐκ χάλυβος.
 - (iv) αἱ ὁροφαί καϊ τὰ περιφράγματα τῶν χώρων λεβήτων καϊ μηχανῶν εἶναι κατασκευασμένα ἐκ χάλυβος καϊ φέρουν ἐπαρκὴ μόνωσιν, τὰ δέ ἐπ' αὐτῶν ἀνοίγματα, ἐφ' ὅσον ὑπάρχουν, ἔχουν ἀνάλογον διάταξιν καϊ προστασίαν πρὸς πρόληψιν τῆς ἐξαπλώσεως τοῦ πυρός.

Κανονισμός 36

Κύρια Κατακόρυφοι Ζῶναι

- (α) Τό σκάφος, αϊ υπερκατασκευαϊ καϊ τὰ υπερκατασκευάσματα θά ὑποδιαίρωνται εἰς κατακόρυφους ζῶνας. Αἱ βαθμίδες καϊ αἱ ἐσοχαί θά περιορίζωνται εἰς τὸ ἐλάχιστον, ἀλλ' ὅπου εἶναι ἀπαραίτητοι, ἡ κατασκευή των θά εἶναι ἡ τῶν τμημάτων "Α" Κλάσεως.
- (β) Καθ' ὅσον εἶναι πρακτικῶς δυνατόν, τὰ διαφράγματα τὰ σχηματίζοντα τὰ ὄρια τῶν κυρίων κατακόρυφων ζωνῶν ὑπερῶν τοῦ καταστρώματος στεγανῶν θά εἶναι συνέχεια τῶν στεγανῶν διαφραγμάτων ὑποδιαίρέσεως τῶν κειμένων εὐθὺς κάτωθεν τοῦ καταστρώματος στεγανῶν.
- (γ) Τοιαῦτα διαφράγματα θά ἐκτείνωνται ἀπὸ καταστρώματος εἰς κατάστρωμα καϊ μέχρι τοῦ κελύφους τοῦ πλοίου ἢ μέχρις ἄλλων ὀρίων.
- (δ) Ἐπὶ πλοίων σχεδιασμένων δι' ἐξυπηρέτησιν εἰδικῶν σκοπῶν ὡς λ.χ. τὰ πορθμεῖα αὐτοκινήτων ἢ σιδηροδρόμων, ὅπου ἡ ἐγκατάστασις τοιούτων διαφραγμάτων παρεμποδίζει τὸν σκοπὸν διὰ τὸν ὁποῖον τὰ πλοῖα ταῦτα προορίζονται, αὕτη θά ἀντικαθίσταται δι' ἰσοδυνάμων μέσων ἐλέγχου καϊ περιορισμοῦ τῆς πυρκαϊᾶς κατόπιν εἰδικῆς ἐγκρίσεως τῆς Ἀρχῆς.

Κανονισμός 37

Ἀνοίγματα εἰς Τμήματα "Α" Κλάσεως

- (α) Ὅπου τμήματα "Α" Κλάσεως διαπερῶνται διὰ τὴν διέλευσιν ηλεκτρικῶν καλωδίων, σωλῆνων, ὀχετῶν, ἀγωγῶν κ.λ.π., διὰ σταθμίδας, ζυγὰ ἢ λοιπὰς κατασκευὰς, θά προβλέπωνται διατάξεις ἐξασφαλίζουσαι ὅτι δέν θίγεται ἡ κατά τοῦ πυρός ἀντοχή.
- (β) Ὅπου κατ' ἰνάγκην, ἀγωγὸς τις ἀερισμοῦ διέρχεται διὰ μέσου τοῦ διαφράγματος κυρίας κατακόρυφου ζώνης, εἰς παρακειμένην τοῦ διαφράγματος θέσιν θά τοποθετηται φράκτης πυρός ἀσφαλοῦς καϊ αὐτομάτως κλειομένου τύπου. Ὁ φράκτης

οὗτος θά δύναται ἐπίσης νά κλείνη διά τῆς χειρός ἐξ ἐκάστης πλευρᾶς τοῦ διαφράγματος. Ἡ θέσις χειρισμοῦ θά εἶναι ἀμέσως προσιτῆ καί θά σημειοῦται δι' ἐρυθροῦ ἀνακλαστικοῦ τοῦ φωτός χρώματος. Ὁ μεταξὺ τοῦ διαφράγματος καί τοῦ φράκτου ἀγωγός, θά εἶναι ἐκ χάλυβος ἢ ἐτέρου ἰσοδύναμου ὕλικου καί, ἐν ἀνάγκῃ, θά ἔχη βαθμὸν μονώσεως τοιοῦτον ὥστε νά συμμορφοῦται πρὸς τὴν παράγραφον (α) τοῦ παρόντος Κανονισμοῦ. Ὁ φράκτης θά ἐξοπλίζεται, τοῦλάχιστον εἰς τὴν μίαν πλευρὰν αὐτοῦ, δι' ὄρατοῦ ἐνδείκτου σημειοῦντος ἐάν οὗτος εὕρισκεται εἰς τὴν ἀνοικτὴν θέσιν.

(γ) Ἐξαιρέσει τῶν στομιῶν κυτῶν τῶν εὕρισκομένων μεταξὺ χώρων φορτίου, ἀποθηκευτικῶν καί χώρων ἀποσκευῶν καί μεταξὺ τοιούτων χώρων καί τῶν καταστρωμάτων τῶν ἐκτιθεμένων εἰς τὸν καιρὸν, πάντα τὰ ἀνοίγματα θά φέρουν μονίμως προσηρμοσμένα μέσα κλεισίματος τὰ ὁποῖα θά εἶναι τοῦλάχιστον τόσο ἀνεκτικὰ κατὰ τοῦ πυρὸς ὅσον καί τὰ τμήματα ἐφ' ὧν εἶναι τοποθετημένα.

(δ) Ἡ κατασκευὴ ἀπασῶν τῶν θυρῶν καί τῶν πλαισίων τῶν θυρῶν τῶν τμημάτων "Α" κλάσεως, ὁμοῦ μετὰ τῶν μέσων ἀσφαλείας αὐτῶν ὅταν κλείουν, θά ἐξασφαλίσῃ ἀντοχὴν εἰς τὸ πῦρ ὡς καί εἰς τὴν διέλευσιν καπνοῦ καί φλογῶν, καθ' ὅσον τοῦτο εἶναι πρακτικῶς δυνατόν, ἰσοδύναμον πρὸς ἐκείνην τῶν διαφραγμάτων ἐφ' ὧν αἱ θύραι αὐταὶ εἶναι προσηρμοσμένα. Ὑδατοστεγεῖς θύραι δέν χρειάζεται νά φέρουν μόνωσιν.

(ε) Ἐκάστη θύρα δεόν νά δύναται ν' ἀνοίγῃ καί νά κλείνῃ ἐξ ἐκάστης πλευρᾶς τοῦ διαφράγματος ὑφ' ἐνὸς μόνου προσώπου.

(στ) Αἱ θύραι πυρκαϊᾶς τῶν διαφραγμάτων τῶν κυρίων κατακορύφων ζωνῶν καί τῶν περιβαλλόντων τὰς κλίμακας χώρων, πλὴν τῶν λειτουργουσῶν διὰ μηχανικῆς δυνάμεως ὕδατοστεγῶν θυρῶν καί ἐκείνων αἰτινες εἶναι συνήθως κλειδωμένοι, θά εἶναι αὐτοκλειομένου τύπου ἱκαναί νά κλείουν μέ κλίσιν $3\frac{1}{2}$ μοιρῶν πρὸς τὴν ἀντίθετον τοῦ κλεισίματος πλευρᾶν. Ἀπασαὶ αἱ τοιαῦται θύραι, πλὴν ἐκείνων αἱ ὁποῖαι συνήθως εἶναι κλεισταί, θά δύνανται ν' ἀπελευθεροῦνται ἀπὸ τίνα σταθμὸν ἐλέγχου συγχρόνως ἢ καθ' ἑκάστην ὡς ἐπίσης καί ἀπὸ θέσιν τίνα ἐπὶ τῆς θύρας ἀτομικῶς. Ὁ μηχανισμὸς ἀπελευθερώσεως θά εἶναι οὕτω πως ἐσχεδιασμένος ὥστε νά δύναται ἡ θύρα νά κλείῃ αὐτομάτως ἐν ἡ περιπτώσει τὸ σύστημα ἐλέγχου ὑποστῆ βλάβην. Ἐν πάσῃ περιπτώσει, ἐγκεκριμένοι ὕδατοστεγεῖς θύραι κλειζόμεναι διὰ μηχανικῆς δυνάμεως θά θεωρῶνται ὡς παραδεκταί διὰ τὸν σκοπὸν τοῦτον. Συγκρατικὰ ἀγκιστρα, μὴ ὑποκείμενα εἰς ἀπελευθέρωσιν ἀπὸ τὸν σταθμὸν ἐλέγχου, δέν θά ἐπιτρέπωνται. Ὅταν ἐπιτρέπωνται διπλαῖ περιστρεφόμεναι θύραι, αὐταὶ θά ἔχουν διάταξιν μανδάλου, ἡ ὁποία θά δεσμεύεται αὐτομάτως ἀπὸ τὴν λειτουργίαν τοῦ συστήματος ἀπελευθερώσεως τῆς θύρας.

Κανονισμὸς 38

Ἀντοχή κατὰ τῆς Πυρκαϊᾶς Τμημάτων Κλάσεως "Α"

Ὅπου ἀπαιτοῦνται τμήματα Κλάσεως "Α" ὑπὸ τοῦ παρόντος Μέρους, ἡ Ἀρχὴ προκειμένου νά ἀποφασίσῃ μέχρι ποίας ἐκτάσεως θά ὑφίσταται μόνωσις, θά καθοδηγεῖται ἀπὸ τὰς διατάξεις τοῦ Μέρους "Β" τοῦ παρόντος Κεφαλαίου, δύναται ὅμως νά ἀποδεχθῆ μείωσιν τῆς ἐκτάσεως τῆς μονώσεως εἰς βαθμὸν κατωτέρου τοῦ καθοριζομένου εἰς τὸ Μέρος ἐκεῖνο.

Κανονισμὸς 39

Διαχωρισμὸς τῶν Χώρων Ἐνδικοιτήσεως ἀπὸ τῶν Χώρων Μηχανῶν, Φορτίου καί Ὑπηρετικῶν

Τὰ ὀριακὰ διαφράγματα καί τὰ καταστρώματα ἄτινα χωρίζουν τοὺς χώρους μηχανῶν, φορτίου καί ὑπηρετικῶν θά κατασκευάζονται ὡς τμήματα κλάσεως "Α". Τὰ διαφράγματα καί τὰ καταστρώματα ταῦτα θά ἔχουν βαθμὸν μονώσεως ἐγκεκριμένον παρὰ τῆς Ἀρχῆς, λαμβανομένης ὑπ' ὄψιν τῆς φύσεως τῶν γειννιαζόντων χώρων.

Κανονισμὸς 40

Προστασία τῶν Χώρων Ἐνδικοιτήσεως καί Ὑπηρετικῶν

Οἱ χώροι ἐνδικοιτήσεως καί οἱ ὑπηρετικῶν θά προστατεύονται συμπῶνως πρὸς τὰς διατάξεις τῆς παραγράφου (α) ἢ (β) τοῦ παρόντος Κανονισμοῦ.

- (α) (i) Έντός τών χώρων ένδειατήσεως, όλα τά περικλείοντα διαφράγματα, έκτός εκείνων τά όποια άπαιτούνται νά είναι διαφράγματα Κλάσεως "Α", θά κατασκευάζονται ώς τμήματα Κλάσεως "Β" έξ άκαύστων ύλικών, τά όποια όμως δύνανται νά επικαλύπτονται υπό καυσίμων ύλικών συμφώνως πρός τό έδάφιο (iii) τής παρούσης παραγράφου.
- (ii) Όλα τά διαφράγματα τών διαδρόμων θά εκείνωνται από καταστρώματος εις κατάστρωμα. Άνοιγματα άερισμοθ δύνανται νά επιτρέπωνται εις τάς θύρας επί τών διαφραγμάτων Κλάσεως "Β" καί κατά προτίμησιν εις τό κάτω μέρος. Όλα τά λοιπά περικλείοντα διαφράγματα θά εκτείνωνται κατακορύφως από καταστρώματος εις κατάστρωμα καί έγκασιώς μέχρι τής πλευράς του πλοίου ή μέχρι άλλων έγκασιών όρίων, έκτός εάν υπάρχουν επιστρώσεις ή επενδύσεις έξ άκαύστου ύλικού αττινες έξασφαλίζουν τήν συνέχισιν τής προστασίας από πυρκαϊάς, όποτε εις τήν περίπτωσιν ταύτην δύνανται νά καταλήγουν εις τάς επιστρώσεις ή τάς επενδύσεις.
- (iii) Έξαιρέσει τών χώρων φορτίου, ταχυδρομείου, άποσκευών, ή τών ψυκτικών θαλάμων τών ύπηρετικών χώρων, πάσαι αι επενδύσεις, τά δάπεδα, αι επιστρώσεις καί αι μονώσεις θά είναι έξ άκαύστου ύλικού. Ό όλικός όγκος τών καυσίμων έπιφανειακών επενδύσεων, σκαλισμάτων, διακοσμήσεων καί διακοσμητικών επιστρώσεων έντός χώρου ένδειατήσεως ή έντός κοινοχρήστου χώρου δέν θά υπερβαίνη όγκον ίσοδύναμον πρός τόν μιας διακοσμητικής επιστρώσεως πάχους 2,54 χιλιοστομέτρων (ή ενός δεκάτου του δακτύλου), καλυπτούσης τήν όλικήν έπιφάνειαν τών τοιχωμάτων καί τής όροφής. Πάσαι αι εκτεθειμένα έπιφάνειαι έντός διαδρόμων ή έντός περιφραγμάτων κλιμάκων καί έντός κεκρυμμένων καί δυσπροσίτων χώρων θά είναι έξ ύλικού έχοντος χαρακτηριστικά χαμηλής έξεπλώσεως φλογός*.
- (β) (i) Όλα τά διαφράγματα τών διαδρόμων εις τούς χώρους ένδειατήσεως θά είναι χαλύβδινα ή κατασκευασμένα από φατνώματα "Β" Κλάσεως.
- (ii) θά έγκαθίσταται σύστημα άνιχνεύσεως τής πυρκαϊάς έγκεκριμένου τύπου διατεταγμένον ούτω πως ώστε νά έντοπίζη τήν παρουσίασιν πυρκαϊάς έντός όλων τών περικλειστών χώρων προοριζομένων ίνα χρησιμοποιηθούν υπό ή έξυπηρετήσουν έπιβάτας ή πλήρωμα (έκτός τών χώρων οι όποιοι δέν παρουσιάζουν ούσιώδη κίνδυνον πυρκαϊάς) καί νά δεικνύη αυτόμάτως εις ένα ή πλείονα σημεία ή σταθμούς, ένθα τό ταχύτερον δυνατόν θά παρατηρηθή υπό τών άξιωματικών καί του πληρώματος, τήν παρουσίασιν ή ένδειξιν πυρκαϊάς καθώς έπίσης καί τήν θέσιν έκδηλώσεως ταύτης.

Κανονισμός 41

Επιστρώσεις Καταστρωμάτων **

Έπιφανειακά έπιστρώσεις καταστρωμάτων έντός τών χώρων ένδειατήσεως, τών σταθμών έλέγχου, κλιμακωσταςίων καί διαδρόμων, θά αποτελοθνται από έγκεκριμένα ύλικά τά όποια δέν αναφλέγονται εύκόλως.

Κανονισμός 42

Προστασία κλιμάκων καί άνελκυστήρων έντός χώρων Ένδειατήσεως καί Ύπηρετικών

(α) Όλαι αι κλιμακες καί τά μέσα διαφυγής έντός τών χώρων ένδειατήσεως καί τών ύπηρετικών θά είναι εκ χάλυβος ή έξ άλλου καταλλήλου ύλικού.

(β) Τά φορεία άνελκυστήρων έπιβατών ή ύπηρεσίας, οι κατακόρυφοι όχετοί διά τόν φωτισμόν καί άερισμόν τών χώρων έπιβατών κ.λ.π., θά κατασκευάζονται υπό τμημάτων Κλάσεως "Α". Αι θύραι θά είναι χαλύβδινοι ή έξ άλλου ίσοδύναμου ύλικού καί ότε αυται είναι κλεισται θά έξασφαλίζουν αντίστασιν κατά τής πυρκαϊάς τουλάχιστον έξ ίσου άποτελεσματικήν πρός τούς όχετούς επί τών όποίων είναι προσημοσμένα.

* Γίνεται μνεία τής Συστάσεως ήτις υλοθετήθη υπό του Όργανισμοθ διά τής Άποφάσεως Α. 166 (Ε.Σ.ΙV) επί τών Όδηγιών διά τήν εκτίμησιν τών επί τής Πυρκαϊάς Έκτινδύων Έκτιήτων τών Ύλικών.

** Γίνεται μνεία τής Συστάσεως ήτις υλοθετήθη υπό του Όργανισμοθ διά τής Άποφάσεως Α.214 (VII) άφορψα εις τας Βελτιωμένας Προκαταρκτικής Όδηγίας επί τών Διαδικασιών Δοκιμής τών Έπιφανειακών Έπιστρώσεων Καταστρωμάτων.

Κανονισμός 43

Προστασία Σταθμών Έλέγχου και Αποθηκών

(α) Οι σταθμοί έλέγχου θά είναι κειχωρισμένοι από του ύπολοιπού πλοίου δια διαφραγμάτων και καταστρωμάτων Κλάσεως "Α".

(β) Τά όριακά διαφράγματα τών αποθηκών άποσκευών, τών χώρων ταχυδρομείου, τών άποθηκών έφοδίων, χρωμάτων και φανών, τών μαγειρειών και παρεμφερών χώρων θά είναι τμήματα Κλάσεως "Α". Χώροι περιέχοντες έφοδια έξαιρετικώς εύφλεκτα θά είναι διατεταγμένοι κατά τρόπον ώστε νά περιορίζουν εις τό ελάχιστον τόν κίνδυνον διά τούς επιβάτας ή τό πλήρωμα εις περίπτωσιν πυρκαϊδας.

Κανονισμός 44

Παράθυρα και Παραφωτίδες

(α) Όλα τά παράθυρα και αι παραφωτίδες επί τών διαφραγμάτων τών διαχωριζόντων χώρους ένδειατήσεως από τό ύπαιθρον, θά κατασκευάζονται μετά χαλυβδίνων πλαισίων ή έξ άλλου ίσοδυνάμου ύλικού. Η ύαλος θά συγκρατήται διά μεταλλικης άρμοκαλύπτρας.

(β) Όλα τά παράθυρα και αι παραφωτίδες επί τών διαφραγμάτων έντός χώρων ένδειατήσεως θά κατασκευάζονται κατά τρόπον ώστε νά διατηρούνται αι άπαιτήσεις άκραιότητος του τύπου τών διαφραγμάτων επί τών όποιών είναι τοποθετημένα.

Κανονισμός 45

Ευστήματα Άερισμού

Ό τεχνητός άερισμός τών χώρων μηχανών δέον όπως δύναται νά διακόπτεται από εύχερως προσπελάσιμον θέσιν έκτός τών χώρων μηχανών.

Κανονισμός 46

Λεπτομέρειαι Κατασκευής

(α) Χρώματα, βερνίκια και παρεμφερή παρασκευάσματα έχοντα βάση τήν νιτροκυτταρίνην ή άλλην λίαν εύφλεκτον βάση δέν θά χρησιμοποιούνται εις οιονδήποτε μέρος του πλοίου.

(β) Σωλήνες διερχόμενοι διά τμημάτων Κλάσεων "Α" ή "Β" θά είναι έξ ύλικού έγκεκριμένου υπό της Άρχης, λαμβανομένης ύπ' όψιν της θερμοκρασίας εις τήν όποιαν τά τμήματα ταύτα απαιτείται νά άνθίστανται. Σωλήνες διοχετεύοντες πετρέλαιον ή εύφλεκτα ύγρά θά είναι έξ ύλικού έγκεκριμένου υπό της Άρχης, λαμβανομένου ύπ' όψιν του κινδύνου πυρκαϊδας. Δέν θά χρησιμοποιούνται ύλικά εύκόλως προσβαλλόμενα υπό της θερμότητος διά τήν κατασκευήν τών εύδαιών τών έξαγόντων εις τήν θάλασσαν, τών έξαγωγών ύγιεινης και άλλων σωλήνων οτινες έξάγουν πλησίον της ισάλου γραμμής και όπου ή φθορά του ύλικού εις περίπτωσιν πυρκαϊδας δύναται νά προκαλέση κίνδυνον κατακλύσεως.

(γ) Έντός χώρων περιλαμβανόντων κυρίας μηχανάς προώσεως, ή πετρελαιολέβητας ή βοηθητικής μηχανάς έσωτερικής καύσεως όλικης ήποδυνάμεως 746 KW ή περισσοτέρων, θά λαμβάνονται τά ακόλουθα μέτρα :

(i) Αι άναφωτίδες θά δύναται νά κλείωνται έξωτερικώς του χώρου.

(ii) Αι άναφωτίδες αι έχουσαι ύάλινα φατνώματα θά έφοδιάζονται δι' έξωτερικών χαλυβδίνων καλυμμάτων, ή έξ άλλου ίσοδυνάμου ύλικού, μονίμως προσρητημένον.

(iii) Πάν παράθυρον επιτρεπόμενον υπό της Άρχης επί τών φωταγωγών τοιούτων χώρων θά είναι μονίμως κλειστού τύπου και θά έφοδιάζεται διά έξωτερικού χαλυβδίνου καλύμματος, ή έξ άλλου ίσοδυνάμου ύλικού μονίμως προσρητημένου, και

(iv) Ες τά παράθυρα και τας άναφωτίδας τας άναφερομένας εις τά έδάφια (i), (ii) και (iii) της παρούσης παραγράφου, θά χρησιμοποιήται ύαλος ένισχυμένη διά σύρματος.

Κανονισμός 47

Συστήματα Άνιχνεύσεως και Έξοπλισμός Κατασβέσεως τής Πυρκαϊάς

(α) Περιπολίοι και Άνιχνευσις

- (i) Είς άπαντα τά πλοία θά διατηρηται μία άποδοτική ύπηρεσία περιπολίας, είς τρόπον ώστε νά δύναται νά ελέγχεται έγκαίρως πάσα έκδήλωσις πυρκαϊάς. Χειροκίνητοι άναγγελτήρες θά έγκαθίστανται είς πάστας τούς χώρους ένδικοιτήσεως έπιβατών και πληρώματος ίνα δύναται οι περιπολούντες νά δίδουν άμέσως άναγγελίαν είς τήν γέφυραν ή είς τόν σταθμόν έλέγχου πυρκαϊάς.
- (ii) Θά προβλέπεται έγκεκριμένον σύστημα άναγγελίας ή σύστημα άνιχνεύσεως πυρκαϊάς τό όποιον θά άναγγέλη άυτόμάτως είς ένα ή και περισσότερα κατάλληλα σημεία ή σταθμούς τήν ύπαρξιν ή έκδήλωσιν πυρκαϊάς και τήν θέσιν αύτης είς οίονδήποτε χώρον φορτίου ό όποίος, κατά τήν γνώμην τής Άρχής, δέν είναι προσιτός είς τήν ύπηρεσίαν περιπολίας, έκτός εάν ήθελεν άποδειχθῆ πρός ίκανοποίησιν τής Άρχής, ότι τό πλοϊον έκτελεϊ πλάσ τοιαύτης μικράς διαρκείας ώστε νά μή δικαιολογηται ή έφαρμογή τής παρούσης διατάξεως.
- (iii) Τό πλοϊον, άνεξαρτήτως εάν πρόκειται περί νέου ή ύπάρχοντος, θά είναι διαρκώς, ότε εϋρίσκεται έν πλῆ ή έν λιμένι (έκτός ότε εϋρίσκεται έν παροπλισμῶ), ούτως έπηρεαζόμενον ή έφωδισμένον ώστε νά έξασφαλίζηται ότι οιαδήποτε άρχική άναγγελία πυρκαϊάς περιέρχεται άμέσως είς έν ύπεύθυνον μέλος τοϋ πληρώματος.

(β) Άντλίοι Πυρκαϊάς και Κύριον Δίκτυον Σωληνώσεων Πυρκαϊάς.

Τό πλοϊον θά έφοδιάζεται διά άντλιών πυρκαϊάς κυρίων σωληνώσεων πυρκαϊάς, λήψεων πυρκαϊάς, εύκάμπτων σωλήνων πυρκαϊάς, συμφώνων πρός τάς διατάξεις τοϋ Κανονισμοϋ 5 τοϋ παρόντος Κεφαλαίου και θά συμμορφοϋται πρός τάς άκολούθους άπαιτήσεις :

- (i) Έπί πλοίου 4.000 κόνων όλικής χωρητικότητας και άνω θά προβλέπωνται τοϋλάχιστον τρεις άνεξαρτήτου κινήσεως άντλίοι πυρκαϊάς και επί πλοίου μικροτέρας τῶν 4.000 κόνων όλικής χωρητικότητας τοϋλάχιστον δύο τοιαύται άντλίοι πυρκαϊάς.
- (ii) Έπί πλοίου 1.000 κόνων όλικής χωρητικότητας και άνω, ή διάταξις τῶν συνδέσμων θαλάσσης, τῶν άντλιών πυρκαϊάς και πηγῶν ένεργείας διά τήν λειτουργίαν αυτών θά είναι τοιαύτη ώστε νά έξασφαλίζηται ότι ή πυρκαϊά είς οίονδήποτε διαμέρισμα δέν θά θέσῃ έκτός ένεργείας άπάσας τάς άντλίας πυρκαϊάς.
- (iii) Έπί πλοίου κατωτέρας τῶν 1.000 κόνων όλικής χωρητικότητας αί διατάξεις θά τυγχάνουν τής έγκρίσεως τής Άρχής.

(γ) Λήψεις Πυρκαϊάς, Εύκαμπτοι Σωλήνες Πυρκαϊάς και Άκροσωλήνια.

- (i) Τό πλοϊον θά είναι έφωδισμένον διά εύκάμπτων σωλήνων ό αριθμός τῶν όποιων θά τυγχάνη τής έγκρίσεως τής Άρχής. Θά ύπάρξη τοϋλάχιστον είς εύκαμπτος σωλήν δι' έκάστην εκ τῶν λήψεων πυρκαϊάς τῶν άπαιτούμενων ύπό τοϋ Κανονισμοϋ 5(δ) τοϋ παρόντος Κεφαλαίου και οι εύκαμπτοι σωλήνες θά χρησιμοποιοϋνται μόνον πρός σβέσιν πυρκαϊών ή διά τήν δοκιμήν τῶν πυροσβεστικῶν συσκευῶν κατά τά γυμνάσια πυρκαϊάς και τάς έπιθεωρήσεις.
- (ii) Είς τούς χώρους ένδικοιτήσεως, ύπηρετικούς και μηχανῶν ό αριθμός και ή θέσις τῶν λήψεων πυρκαϊάς θά είναι τοιοϋτος ώστε νά πληροϋνται αί άπαιτήσεις τοϋ Κανονισμοϋ 5(δ) τοϋ παρόντος Κεφαλαίου, ότε άπασαι αί ύδατοστεγεῖς θύραι και άπασαι αί θύραι επί τῶν διαφραγμάτων τῶν κυρίων κατακορύφων ζωνῶν είναι κλεισταί.
- (iii) Αί διατάξεις θά είναι τοιαύται ώστε τοϋλάχιστον δύο προβολαί ύδατος νά δύναται νά φθάνουν είς οίονδήποτε τμήμα οίονδήποτε χώρου φορτίου ότε οϋτος είναι κενός.
- (iv) Άπασαι αί άπαιτούμεναι λήψεις πυρκαϊάς είς χώρους μηχανῶν τῶν πλοίων μετά πετρελαιολεβήτων ή μηχανῶν τύπου έσωτερικής καύσεως διά τήν πρόωσιν τῶν θά είναι έφωδισμέναι δι' εύκάμπτων σωλήνων πυρκαϊάς έχόντων άκροσωλήνια ως άπαιτεῖται έν τῷ Κανονισμῷ 5(ζ) τοϋ παρόντος Κεφαλαίου.

(δ) Σύνδεσμος Διεθνούς Τύπου Συνδέσεως μετά της Ξηράς

(i) Πάν πλοϊον ὀλικῆς χωρητικότητος 1.000 κόνων καὶ ἄνω θὰ εἶναι ἐφωδισμένον δι' ἑνὸς τοῦλάχιστον συνδέσμου διεθνούς τύπου συνδέσεως μετὰ της Ξηράς, συμφώνου πρὸς τὰς διατάξεις τοῦ Κανονισμοῦ 5(η) τοῦ παρόντος Κεφαλαίου.

(ii) Θὰ διατίθενται εὐκολαὶ καθιστώσαι τὸν τοιοῦτον σύνδεσμον χρησιμοποιοῦσιμον εἰς ἑκατέραν τῶν πλευρῶν τοῦ πλοίου.

(ε) Φορητοὶ Πυροσβεστήρες εἰς Χώρους Ἐνδιαιτήσεως καὶ Ὑπηρετικούς Χώρους.

Τὸ πλοϊον θὰ εἶναι ἐφωδισμένον εἰς τοὺς χώρους ἐνδιαιτήσεως καὶ ὑπηρετικούς διὰ τοιούτων ἐγκεκριμένων φορητῶν πυροσβεστήρων τοὺς ὁποίους ἡ Ἀρχὴ ἤθελεν κρίνει ὅτι τυγχάνουν κατάλληλοι καὶ ἐπαρκεῖς.

(στ) Διατάξεις Σταθεροῦ Συστήματος Κατασβέσεως Πυρκαϊᾶς εἰς Χώρους Φορτίου.

(i) Οἱ χώροι φορτίου πλοίων ὀλικῆς χωρητικότητος 1.000 κόνων καὶ ἄνω θὰ προστατεύωνται δι' ἑνὸς σταθεροῦ συστήματος κατασβέσεως πυρκαϊᾶς δι' ἀερίου, συμφώνως πρὸς τὰς διατάξεις τοῦ Κανονισμοῦ 8 τοῦ παρόντος Κεφαλαίου.

(ii) Ὅπου εἶναι φανερόν, κατ' ἐκτίμησιν της Ἀρχῆς, ὅτι ἐν πλοϊον ἐκτελεῖται ξεῖδια τοιαύτης μικρᾶς διαρκείας ὥστε ἡ ἐφαρμογὴ τῶν ἀπαιτήσεων τοῦ ἔδαφιου (i) της παρούσης παραγράφου θὰ ἦτο παράλογος, ὡς ἐπίσης καὶ διὰ πλοῖα ὀλικῆς χωρητικότητος μικροτέρας τῶν 1.000 κόνων, αἱ διατάξεις εἰς τοὺς χώρους τοῦ φορτίου θὰ τυγχάνουν της ἐγκρίσεως της Ἀρχῆς.

(ζ) Ἐσκευαὶ Σβέσεως Πυρκαϊᾶς ἐντὸς Λεβητοστασίων κ.λ.π.

Ὅπου περιέχονται κύριοι ἢ βοηθητικοὶ πετρελαιολέβητες ἢ ἐντὸς χώρων περιεχόντων μηχανήματα διὰ τὴν καθῆσιν τοῦ πετρελαίου ἢ δεξαμενᾶς κατακαθίσεως πετρελαίου, τὸ πλοϊον θὰ ἐφοδιάζεται διὰ τῶν κατωτέρω διατάξεων :

(i) Θὰ ὑπάρχη ἐν οἰονδήποτε τῶν κατωτέρω μονίμων συστημάτων κατασβέσεως πυρκαϊᾶς:

(1) Σύστημα ραντίσεως ὕδατος ὑπὸ πίεσιν πληροῦν τὰς διατάξεις τοῦ Κανονισμοῦ 11 τοῦ παρόντος Κεφαλαίου.

(2) Σύστημα πυροσβέσεως δι' ἀερίου πληροῦν τὰς διατάξεις τοῦ Κανονισμοῦ 8 τοῦ παρόντος Κεφαλαίου.

(3) Σταθερόν σύστημα ἀφροῦ πληροῦν τὰς διατάξεις τοῦ Κανονισμοῦ 9 τοῦ παρόντος Κεφαλαίου. (Ἡ Ἀρχὴ δύναται νὰ ἀπαιτήσῃ μονίμους ἢ κινητὰς διατάξεις ραντισμοῦ ὕδατος ὑπὸ πίεσιν ἢ ἀφροῦ διὰ τὴν καταπολέμησιν της πυρκαϊᾶς ἐπὶ τῶν ἐλασμάτων τοῦ δαπέδου).

Εἰς ἑκάστην περίπτωσιν, ἐάν τὰ μηχανοστάσια καὶ τὰ λεβητοστάσια δέν εἶναι ἐντελῶς κεχωρισμένα ἢ ἐάν πετρέλαιον καύσιμον δύναται νὰ διαρροῦσῃ ἐκ τοῦ λεβητοστασίου εἰς τὸ μηχανοστάσιον, τὸ σύνολον τῶν μηχανοστασίων καὶ λεβητοστασίων θὰ θεωρῆται ὡς ἐν διαμέρισμα.

(ii) Θὰ ὑπάρχουν δύο τοῦλάχιστον ἐγκεκριμένοι φορητοὶ πυροσβεστήρες παρέχοντες ἀφρόν ἢ ἕτερον ἐγκεκριμένον κατάλληλον ὕλικόν διὰ τὴν σβέσιν πυρκαϊῶν πετρελαίου εἰς ἕκαστον χώρον ἐναύσεως λεβήτων ἐκάστου λεβητοστασίου καὶ εἰς ἕκαστον χώρον εἰς τὸν ὁποῖον ὑπάρχει μέρος της ἐγκαταστάσεως καυσίμου πετρελαίου. Θὰ ὑπάρχη εἰς τοῦλάχιστον πυροσβεστήρ ἀφροῦ ἐγκεκριμένου τύπου περιεκτικότητος τοῦλάχιστον 136 λίτρων (30 γαλλονίων) ἢ ἰσοδυνάμου ἐντὸς ἐκάστου λεβητοστασίου. Οἱ πυροσβεστήρες οὗτοι θὰ ἐφοδιάζωνται δι' εὐκάμπτων σωλήνων ἐπὶ ἐξελεγκτῶν διὰ νὰ δύναται νὰ φθάσουν εἰς οἰονδήποτε μέρος τοῦ λεβητοστασίου καὶ χώρους περιέχοντας οἰονδήποτε τμήμα τῶν ἐγκαταστάσεων καυσίμου πετρελαίου.

(iii) Ἐντὸς ἐκάστου χώρου ἐναύσεως λεβήτων θὰ ὑπάρχη δοχεῖον περιέχον ἄμμον, πριονίδια ἐμβαπτισμένα εἰς νάτριον ἢ ἕτερον ἐγκεκριμένον ξηρὸν ὕλικόν εἰς ποσότητα τὴν ὁποίαν ἤθελε καθορίσει ἡ Ἀρχὴ. Ἐναλλακτικῶς δύναται νὰ ἀντικατασταθῇ τοῦτο δι' ἑνὸς φορητοῦ πυροσβεστήρος ἐγκεκριμένου τύπου.

(η) Ἐσκευαὶ Σβέσεως Πυρκαϊᾶς ἐντὸς Χώρων Περιεχόντων Μηχανὰς Τύπου Ἐσωτερικῆς Καύσεως.

Ὅπου χρησιμοποιοῦνται μηχαναὶ τύπου ἐσωτερικῆς καύσεως, εἴτε διὰ κυρίαν πρόωσιν ἢ δι' ἑτέρους βοηθητικούς σκοπούς, ὅτε αἱ μηχαναὶ αὗται ἔχουν ἀδρυστικῶς συνολικὴν ἰσχύν οὐχὶ μικροτέραν τῶν 746KW, τὸ πλοϊον θὰ ἐφοδιάζεται διὰ τῶν κατωτέρω διατάξεων :

- (i) θά υπάρχει εν εκ των μονίμων συστημάτων κατασβέσεως πυρκαϊάς των απαιτούμενων υπό του εδαφίου (ζ) (i) του παρόντος Κανονισμού.
- (ii) θά υπάρχει εντός εκάστου χώρου μηχανών εις έγκεκριμένου τύπου πυροσβεστήρ άφρου περιεκτικότητας ούχι μικρότερας τών 45 λίτρων (10 γαλλονίων) ή ίσοδύναμου και επίσης εις έγκεκριμένου τύπου φορητός πυροσβεστήρ άφρου δι' εκάστην άπόδοσιν ισχύος μηχανής 746 KW ή ποσοστόν αύτών, όμως ο συνολικός αριθμός των φορητών πυροσβεστήρων τούτων δέν δύναται νά είναι μικρότερος των δύο οδές απαιτείται νά υπερβαίη τούς 2Ε.
- (θ) Διατάξεις σβέσεως Πυρκαϊάς εις Χώρους περιέχοντας Άτμοστροβίλους και μη απαιτούντων οϊανδήποτε Μόνιμον Έγκατάστασιν.

Η Άρχή δέον νά αντιμετώπιζη μετ' ιδιαιτέρας προσοχής τό θέμα του έφοδιασμου διά διατάξεων αναπολεμήσεως της πυρκαϊάς των χώρων οι όποιοι περιέχουν άτμοστροβίλους κεχωρισμένους άπό τά λεβητοστάσια διά στεγανών διαφραγμάτων.

- (ι) Έξάρτυσις Πυροσβέστου και Άτομικός Έξοπλισμός.
- (i) Ο κατώτατος αριθμός των έξαρτύσεων πυροσβέστου των πληρουσών τάς απαιτήσεις του Κανονισμού 14 του παρόντος Κεφαλαίου ως και των προσθέντων σειρών άτομικού έξοπλισμού, εκάστης τοιαύτης σειράς περιλαμβανούσης τά υπό των εδαφίων (α) (i), (ii) και (iii) του Κανονισμού εκείνου απαιτούμενα είδη, αι όποιοι δέον νά φέρωνται θά έχη ως εξής :
- (1) Δύο έξαρτήσεις πυροσβέστου και επιπροσθέτως
 - (2) Διά κάθε 80 μέτρα (ή 262 πόδας), ή τμήμα αύτών, του άθροίσματος των μηκών όλων των χώρων έπιβατών και των υπηρετικών χώρων επί του φέροντος τοιούτους χώρους καταστώματος ή, εάν υπάρχουν πλείονα τοιαύτα καταστώματα, επί του καταστώματος όπερ έχει τό μεγαλύτερον άθροισμα τοιούτων μηκών, δύο έξαρτήσεις πυροσβέστου και δύο σειραί άτομικού έξοπλισμού, εκάστης τοιαύτης σειράς περιλαμβανούσης τά υπό των εδαφίων (α) (i), (ii) και (iii) του Κανονισμού 14 του παρόντος Κεφαλαίου απαιτούμενα είδη.
- (ii) Δι' εκάστην έξάρτυσιν πυροσβέστου ή όποια περιλαμβάνει μίαν αυτόνομον άναπνευστικήν συσκευήν, ως προβλέπεται υπό του Κανονισμού 14(β) του παρόντος Κεφαλαίου, θά φέρωνται άνταλλακτικά γομώσεις εις έγκεκριμένην υπό της Άρχής κλίμακα.
- (iii) Έξαρτυσεις πυροσβέστου και σειραί άτομικού έξοπλισμού θά φυλάσσωνται εις χωριστάς θέσεις λίαν άπεχούσας μεταξύ των έτοιμαί προς χρήσιν. Τούλάχιστον δύο έξαρτυσεις πυροσβέστου και μία σειρά άτομικού έξοπλισμού θά διατίθενται εις εκάστην θέσιν.

Κανόνισμός 48

Μέσα Διαφυγής

(α) Έντός και έξ όλων των χώρων έπιβατών και πληρώματος και των χώρων εις τούς όποιους συνήθως έπασχολείται πλήρωμα, έξαιρέσει των χώρων μηχανών, θά προβλέπωνται κλίμακες και κατακόρυφοι κλίμακες, εις τρόπον ώστε νά υπάρχουν μέσα άμέσου διαφυγής προς τό κατάστρωμα έπιβιβάσεως επί των σωσιβίων λέμβων. Ιδιαιτέρως θά λαμβάνωνται αι κάτωθι προφυλάξεις :

- (i) Δύο μέσα διαφυγής, τό έν τούλάχιστον των όποιών θά είναι έλεύθερον στεγανών θυρών, θά προβλέπωνται δι' εκαστον στεγανόν διαμέρισμα ή όμοίως περιωρισμένον χώρον ή συγκρότημα χώρων κάτωθεν του καταστώματος στεγανών. Η Άρχή δύναται νά άπαλλάξη του ένός εκ των μέσων τούτων, λαμβανομένης ύπ' όψιν της φύσεως και της θέσεως των συγκροτημένων χώρων και του αριθμού των προσώπων τά όποια κανονικώς δύνανται νά ένδιδαιτώνται ή νά άπασχολούνται εκεί.
- (ii) Άνωθεν του καταστώματος στεγανών θά υπάρχουν δύο τούλάχιστον μέσα διαφυγής έξ εκάστης κυρίας κατακόρυφου ζώνης ή άλλου όμοίως περιωρισμένου χώρου ή συγκροτήματος χώρων, εκ των όποιων τό έν τούλάχιστον θά είδη πρόσβασιν εις κλίμακα ήτις συνιστά κατακόρυφον διέξοδον.
- (iii) Τό έν τούλάχιστον μέσον διαφυγής θά είναι διά μέσου μιάς εύκόλως προσιτής κλίμακας μετά περιφράγματος, τό όποιον θά παρέχη, όσον είναι πρακτικώς δυνατόν, συνεχή προκάλυψιν άπό τό πύρ εκ του σημείου έκδηλώσεως αυτού μέχρι του καταστώματος έπιβιβάσεως επί των λέμβων. Τό πλάτος, ο αριθμός και ή συνέχισις των κλιμάκων θά τυχάνουν της έγκρίσεως της Άρχης.

(β) Ἐντός τῶν χώρων μηχανῶν θά προβλέπωνται δύο μέσα διαφυγῆς ἕξ ἐκάστου μηχανοστασίου, σπῆραγος ἀξόνων καί λεβητοστασίου, τό ἕν ἐκ τῶν ὁποίων δύναται νά εἶναι μία στεγανή θύρα. Ἐντός τῶν χώρων μηχανῶν, ὅταν δέν ὑπάρχῃ στεγανή θύρα, τά δύο μέσα διαφυγῆς θά συνίστανται ἐκ δύο συγκροτημάτων κλιμάκων χαλυβδίνων, εἰς ὅσον τό δυνατόν μεγαλύτεραν μεταξύ αὐτῶν ἀπόστασιν, αἵτινες θά ἀγουν εἰς τάς θύρας ἐπί τοῦ φωταγωγοῦ ὁμοίως κεχωρισμένων μεταξύ των καί διὰ τῶν ὁποίων θά προβλέπεται διαφυγή πρὸς τό κατάστρωμα ἐπιβιβάσεως ἐπί τῶν ασιβίων λέμβων. Εἰς τήν περίπτωσιν πλοίων ὀλικῆς χωρητικότητος μικρότερας τῶν 2.000 κόρων, ἡ Ἄρχή δύναται νά μή ἐμμένῃ εἰς τήν ἀπαιτήσιν ταύτην, λαμβανομένου ὑπ' ὄψιν τοῦ πλάτους καί τῆς διατάξεως τοῦ φωταγωγοῦ.

Κανονισμός 49

Καύσιμον Πετρέλαιον χρησιμοποιοῦμενον εἰς Μηχανάς Ἐσωτερικῆς Καύσεως

Οὐδεμία μηχανή ἐσωτερικῆς καύσεως δύναται νά χρησιμοποιηθῆ δι' ὀλιανθήποτε μόνιμον ἐγκατάστασιν ἐπί τοῦ πλοίου ἐάν τό καύσιμον αὐτῆς ἔχει σημείον ἀναφλέξεως 43°C (110°F) ἢ κατώτερον (δοκιμή κλειστοῦ δοχείου), ὡς τοῦτο ἐξευρίσκειται ὑπό ἐγκριμένης τινός συσκευῆς εὐρέσεως τοῦ σημείου ἀναφλέξεως.

Κανονισμός 50

Εἰδικαί Διατάξεις ἐντός τῶν Χώρων Μηχανῶν

(α) Θά προβλέπωνται μέσα διὰ τήν διακοπήν τῆς λειτουργίας τῶν ἀνεμιστήρων τῶν ἐξυπηρετούντων τούς χώρους μηχανῶν καί φορτίου καί διὰ τό κλείσιμον πασῶν τῶν θυρῶν, τῶν ἀνεμιστήρων, τῶν δακτυλιοειδῶν χώρων περίξ τῶν καπνοδόχων καί τῶν ἄλλων ἀνοιγμάτων τῶν χώρων τούτων. Τά μέσα ταῦτα θά δύνανται νά χειρίζονται ἐξωτερικῶς τῶν χώρων τούτων εἰς περίπτωσιν πυρκαϊᾶς.

(β) Τά μηχανήματα τά κινουῦντα τούς ἀνεμιστήρας τεχνητοῦ ἔλκυσμοῦ ἀέρος, αἱ ἀντλῖαι μεταγίσεως καυσίμου πετρελαίου, αἱ πετρελαιοαντλῖαι τοῦ συγκροτήματος καύσεως πετρελαίου καί αἱ λοιπαί ὁμοίαι πετρελαιοαντλῖαι καυσίμου θά ἐφοδιάζονται διὰ μέσων χειρισμοῦ ἕξ ἀποστάσεως, κειμένων ἐξωτερικῶς τῶν ἀντιστοίχων χώρων, εἰς τρόπον ὥστε νά δύναται νά διακοπῆ ἡ λειτουργία των εἰς τήν περίπτωσιν ἐκδηλώσεως πυρκαϊᾶς ἐντός τοῦ χώρου ἐντός τοῦ ὁποίου εἶναι ἐγκατεστημένα.

(γ) Ἐκάστη σωληνώσις ἀναρροφῆσεως καυσίμου πετρελαίου ἀγομένη ἐκ πετρελαιοδεξαμενῆς κατακαθίσεως ἢ ὑπηρετικῆς πετρελαιοδεξαμενῆς κειμένης ἀνωθεν τῶν διπυθμένων, θά ἐφοδιάζεται διὰ κρουνοῦ ἢ ἐπιστομίου δυναμένου νά κλείεται ἐξωθεν τοῦ ἀντιστοίχου χώρου εἰς περίπτωσιν ἐκδηλώσεως πυρκαϊᾶς ἐντός τοῦ χώρου εἰς τόν ὁποῖον εὐρίσκονται αὐταί. Εἰς τήν εἰδικήν περίπτωσιν πετρελαιοδεξαμενῶν κύτους (deep tanks) κειμένων ἐντός οἰασθήποτε σπῆραγος ἀξόνων ἢ σπῆραγος σωληνώσεων, θά τοποθετοῦνται ἐπιστόμια ἐπί τῶν πετρελαιοδεξαμενῶν τούτων, ἀλλά εἰς τήν περίπτωσιν πυρκαϊᾶς θά δύναται νά κλείωνται διὰ μέσου ἐπιπροσθέτου ἐπιστομίου κειμένου ἐπί τῆς σωληνώσεως ἢ τῶν σωληνώσεων ἐξωθεν τῆς σπῆραγος ἢ τῶν σπῆραγγων.

ΜΕΡΟΣ Δ' - ΜΕΤΡΑ ΠΡΟΦΥΛΑΞΕΩΣ ΔΙΑ ΦΟΡΤΗΓΑ ΠΛΟΙΑ *

Κανονισμός 51

Γενικαί Ἀπαιτήσεις διὰ Φορτηγά Πλοία Ὀλικῆς Χωρητικότητος ἄνω τῶν 4.000 κ.ο.χ.

ἐκτός τῶν Δεξαμενοπλοίων περί ὧν τό Μέρος Ε' τοῦ παρόντος Κεφαλαίου

(α) Τό σκάφος, τά υπερκατασκευάσματα, τά διαφράγματα, τά καταστρώματα καί τά ὑπερστεγάσματα θά κατασκευάζονται ἐκ χάλυβος, ἐξαιρέσει ὅπου ἡ Ἄρχή δύναται εἰς εἰδικάς περιπτώσεις νά ἐγκρίνῃ τήν χρῆσιν ἄλλου ὀλικοῦ, λαμβανομένου ὑπ' ὄψιν τοῦ κινδύνου πυρκαϊᾶς.

(β) Ἐντός τῶν χώρων ἐνδικοιτήσεως, τά διαφράγματα τῶν διαδρόμων θά εἶναι ἐκ χάλυβος ἢ δύναται νά κατασκευάζονται ἐκ φατνωμάτων κλάσεως "B".

* Γίνεται μνεῖα τῆς Συστάσεως ἧτις υἱοθετήθη ὑπό τοῦ Ὄργανισμοῦ διὰ τῆς Ἀποφάσεως Α 211(VII) ἐπί τῶν Μέτρων Ἀσφαλείας διὰ τούς Περιοδικῶς μή φυλασσομένους χώρους Μηχανῶν Φορτηγῶν Πλοίων, ἐκτελέσθαι ἐκεῖνων ὅτινα ὑπό ὁμαλῆς συνθήκας θεωροῦνται ὡς ἀκαράτητα διὰ τούς φυλασσομένους χώρους Μηχανῶν.

(γ) Ἐντός τῶν χώρων ἐνδειατῆσεως, αἱ ἐπιστρώσεις τῶν καταστροφμάτων τὰ ὁποῖα σχηματίζουν τὴν ὀροφήν τῶν χώρων μηχανῶν ἢ φορτίου θὰ εἶναι τύπου μὴ εὐκόλως ἀναφλεγόμενου*.

(δ) Αἱ ἐσωτερικαὶ κλίμακες κάτωθεν τοῦ ἐκτεθειμένου εἰς τὸ ὑπαιθρον καταστρώματος θὰ εἶναι ἐκ χάλυβος ἢ ἐξ ἄλλου καταλλήλου ὕλικου. Τὰ φρεάτια τῶν ἀνελκυστήρων πληρώματος ἐντός τῶν χώρων ἐνδειατῆσεως θὰ εἶναι ἐκ χάλυβος ἢ ἐξ ἄλλου ἰσοδυνάμου ὕλικου.

(ε) Τὰ διαφράγματα τῶν μαγειρείων, τῶν ἀποθηκῶν χρωμάτων, φανῶν, ὕλικῶν ναυκλήρου, θὰ κατασκευάζονται ἐκ χάλυβος ἢ ἐξ ἰσοδυνάμου ὕλικου, ὅταν γειτνιάζονται πρὸς τοὺς χώρους ἐνδειατῆσεως καὶ πρὸς τοὺς χώρους τῆς ἠλεκτρογεννητρίδας κινδύνου, ἐὰν ὑπάρχη τοιαύτη.

(στ) Ἐντός τῶν χώρων ἐνδειατῆσεως καὶ τῶν χώρων μηχανῶν, δέν θὰ χρησιμοποιῶνται χρώματα, βερνίκια καὶ παρεμφερῆ παρασκευάσματα ἔχοντα βάσιν τὴν νιτροκυτταρίνην ἢ ἄλλην λίαν εὐφλεκτον βάσιν.

(ζ) Σωλῆνες διοχετεύοντες πετρέλαιον ἢ εὐφλεκτα ὑγρά θὰ εἶναι ἐξ ὕλικου ἐγκεκριμένου ὑπὸ τῆς Ἀρχῆς, λαμβανομένου ὑπ' ὄψιν τοῦ κινδύνου πυρκαϊᾶς. Διὰ τὴν κατασκευὴν εὐδαιῶν ἐξαγόντων εἰς τὴν θάλασσαν, ἐξαγωγῶν ὑγιεινῆς καὶ ἄλλων σωλῆνων ὅτινες ἐξάγουν πλησίον τῆς ἰσάλου γραμμῆς δέν θὰ χρησιμοποιῶνται ὕλικὰ προσβαλλόμενα ὑπὸ τῆς θερμότητος, ὅπου ἡ φθορὰ τοῦ ὕλικου εἰς περίπτωσιν πυρκαϊᾶς δύναται νὰ προκαλέσῃ κίνδυνον κατακλύσεως.

(η) Ὁ τεχνητὸς ἀερισμὸς τῶν χώρων μηχανῶν θὰ δύναται νὰ διακόπτεται ἐκ μιᾶς εὐκόλως προσιτῆς θέσεως ἔξωθεν τῶν χώρων μηχανῶν.

Κανονισμὸς 52

Συστήματα καὶ Ἐξοπλισμοὶ διὰ τὴν Κατάβασιν τῆς Πυρκαϊᾶς

(α) Ἐφαρμογὴ

Προκειμένου περὶ πλοίων ὀλικῆς χωρητικότητος κατωτέρας τῶν ἀναφερομένων εἰς τὸν παρόντα Κανονισμόν, αἱ διατάξεις διὰ τὰ εἶδη ἅτινα καλύπτονται ὑπὸ τοῦ παρόντος Κανονισμοῦ δεόν νὰ ἱκανοποιῶν τὴν Ἀρχήν.

(β) Ἀντλῖαι Πυρκαϊᾶς καὶ Κύρια Συστήματα Σωληνώσεων Πυρκαϊᾶς.

Πᾶν πλοῖον θὰ ἐφοδιάζεται δι' ἀντλιῶν πυρκαϊᾶς, κυρίων συστημάτων σωληνώσεων ὕδατος, λήψεων πυρκαϊᾶς καὶ εὐκάμπτων σωλῆνων πληρούντων τὸν Κανονισμόν 5 τοῦ παρόντος Κεφαλαίου, καθὼς καὶ τὰς κατωτέρω ἀπαιτήσεις:

- (i) Πᾶν πλοῖον ὀλικῆς χωρητικότητος 1.000 κόνων καὶ ἄνω θὰ ἐφοδιάζεται διὰ δύο ἀντλιῶν ἔχουσῶν ἀνεξάρτητον κίνησιν.
- (ii) Ἐπὶ πλοίου ὀλικῆς χωρητικότητος 1.000 κόνων καὶ ἄνω, ἐὰν πυρκαϊὰ εἰς οἰονδήποτε διαμέρισμα δύναται νὰ θέσῃ πάσας τὰς ἀντλίας ἐκτός λειτουργίας, δεόν νὰ ὑπάρχη ἕτερον ἐναλλακτικὸν μέσον ἐπὶ τοῦ πλοίου διὰ τὴν σβέσιν τῆς πυρκαϊᾶς. Εἰς πλοῖον ὀλικῆς χωρητικότητος 2.000 κόνων καὶ ἄνω τὸ ἐναλλακτικὸν τοῦτο μέσον θὰ εἶναι μία σταθερὰ ἀντλία κινδύνου ἔχουσα ἀνεξάρτητον κίνησιν. Ἡ ἀντλία αὕτη κινδύνου θὰ εἶναι ἱκανὴ νὰ ἐκτοξεύῃ δύο προβολὰς ὕδατος κατὰ τὴν κρίσιν τῆς Ἀρχῆς.

(γ) Λήψεις πυρκαϊᾶς, Εὐκάμπτοι Σωλῆνες καὶ Ἀκροσωλήνια

- (i) Εἰς πλοῖα ὀλικῆς χωρητικότητος 1.000 κόνων καὶ ἄνω, ὁ ἀριθμὸς τῶν εὐκάμπτων σωλῆνων διὰ τῶν ὁποίων θὰ ἐφοδιάζονται, ἐκάστου πλήρους μετὰ τῶν συνδέσμων καὶ τῶν ἀκροσωληνίων, θὰ εἶναι εἰς ἀνά 30 μέτρα (100 πόδας) μήκους τοῦ πλοίου καὶ εἰς ἀνταλλακτικὸς, ἀλλὰ εἰς οὐδεμίαν περίπτωσιν μικρότερος τῶν πέντε ἐν συνόλῳ. Ὁ ἀριθμὸς οὗτος

* Γίνεται μνεῖα τῆς Συστάσεως ἣτις υἱοθετήθη ὑπὸ τοῦ Ὄργανισμοῦ διὰ τῆς Ἀποφάσεως Α. 214 (VII) ἀφορώσης εἰς τὰς Βελτιωμένας Προκαταρκτικὰς Ὁδηγίας ἐπὶ τῶν Διαδικασιῶν Δοκιμῆς τῶν Ἐπιφανειακῶν Ἐπιστρώσεων Καταστροφμάτων.

δέν περιλαμβάνει τούς εικάμπτους σωλήνας τούς απαιτούμενους εἰς οἰονδήποτε μηχανοστάσιον ἢ λεβητοστάσιον. Ἡ Ἄρχὴ δύναται νά αὐξήσῃ τὸν ἀριθμὸν τῶν απαιτούμενων εικάμπτων σωλήνων ὥστε νά ἐξασφαλιστεῖται ὅτι ὑπάρχει ἐν παντὶ χρόνῳ, ἐπαρκὴς ἀριθμὸς τοιούτων καὶ εἰς προσιτὴν θέσιν, λαμβανομένου ὑπ' ὄψιν τοῦ τύπου τοῦ πλοίου καὶ τὸ εἶδος τῆς ἐκμεταλλεύσεως τούτου.

- (ii) Ἐντὸς τῶν χώρων ἐνδικοιτήσεως, τῶν ὑπηρετικῶν καὶ τῶν μηχανῶν, ὁ ἀριθμὸς καὶ ἡ θέσις τῶν λήψεων πυρκαϊᾶς θὰ εἶναι τοιαῦται ὥστε νά πληροῦνται αἱ ἀπαιτήσεις τῆς παραγράφου (δ) τοῦ Κανονισμοῦ 5 τοῦ παρόντος Κεφαλαίου.
 - (iii) Εἰς ἅπαντα τὰ πλοῖα αἱ διατάξεις θὰ εἶναι τοιαῦται ὥστε δύο τοῦλάχιστον προβολαὶ ὕδατος νά δύνανται νά φθάσουν εἰς οἰονδήποτε μέρος παντός χώρου φορτίου, ὅταν οὗτος εἶναι κενός.
 - (iv) Ὅλαι αἱ απαιτούμεναι λήψεις πυρκαϊᾶς ἐντὸς τῶν χώρων μηχανῶν πλοίων ἐχόντων πετρελαιολῆβητας ἢ προωστηρίους μηχανὰς τύπου ἐσωτερικῆς καύσεως, θὰ ἐφοδιάζονται δι' εικάμπτων σωλήνων ἐχόντων ἀκροσωλήνια ἀπαιτούμενα ὑπὸ τῆς παραγράφου (ζ) τοῦ Κανονισμοῦ 5 τοῦ παρόντος Κεφαλαίου.
- (δ) Σύνδεσμος διεθνοῦς τύπου Συνδέσεως μετὰ τῆς Ἑλλάδος.
- 1) Πᾶν πλοῖον ὀλικῆς χωρητικότητος 1.000 κόνων καὶ ἄνω θὰ ἐφοδιάζεται δι' ἑνὸς τοῦλάχιστον συνδέσμου διεθνοῦς τύπου συνδέσεως μετὰ τῆς Ἑλλάδος, ὅστις θὰ πληροῖ τούς ὄρους τῆς παραγράφου (η) τοῦ Κανονισμοῦ 5 τοῦ παρόντος Κεφαλαίου.
 - (ii) Θὰ ὑπάρχῃ δυνατότης ὥστε ἡ σύνδεσις αὕτη νά χρησιμοποιηθῆ εἰς ἑκάτεραν τῶν πλευρῶν τοῦ πλοίου.
- (ε) Φορητοὶ Πυροσβεστήρες ἐντὸς Χώρων Ἐνδικοιτήσεως καὶ Ὑπηρετικῶν.

Πᾶν πλοῖον θὰ ἐφοδιάζεται ἐντὸς τῶν χώρων ἐνδικοιτήσεως καὶ τῶν ὑπηρετικῶν διὰ πυροσβεστήρων ἐγκεκριμένου τύπου, τὸν ὁποῖον ἡ Ἄρχὴ κρίνει κατάλληλον καὶ εἰς ἐπαρκὴ ἀριθμὸν. Ἐν πάσῃ περιπτώσει, ὁ ἀριθμὸς αὐτῶν δέν θὰ εἶναι μικρότερος τῶν πέντε διὰ πλοῖα ὀλικῆς χωρητικότητος 1.000 κόνων καὶ ἄνω.

- (στ) Μόνιμοι Ἐγκαταστάσεις Σβέσεως Πυρκαϊᾶς ἐντὸς Χώρων Φορτίου.
- (i) Οἱ χώροι φορτίου πλοίων ὀλικῆς χωρητικότητος 2.000 κόνων καὶ ἄνω, θὰ προστατεύονται διὰ μόνιμου συστήματος σβέσεως πυρκαϊᾶς πληροῦντος τούς ὄρους τοῦ Κανονισμοῦ 8 τοῦ παρόντος Κεφαλαίου.
 - (ii) Ἡ Ἄρχὴ δύναται νά ἀπαλλάξῃ τῆς ἐφαρμογῆς τῶν ἀπαιτήσεων τοῦ ἐδαφίου (i) τῆς παρούσης παραγράφου τὰ κύτῃ φορτίου παντός πλοίου (ἐκτὸς τῶν δεξαμενῶν δεξαμενοπλοίου) :
 - (1) ἐάν εἶναι ἐφοδιασμένα μέ χαλύβδινα καλύμματα καὶ ἀποτελεσματικὰ μέσα κλεισίματος πάντων τῶν ἀνεμιστήρων καὶ τῶν λοιπῶν ἀνοιγμάτων ἅτινα ἄγουν εἰς αὐτά.
 - (2) ἐάν τὸ πλοῖον ἔχῃ κατασκευασθῆ καὶ προορίζεται ἀποκλειστικῶς διὰ μεταφορὰν τοιούτων φορτίων, ὡς μεταλλεύματα, γαιάνθρακας ἢ σιτηρὰ, ἢ
 - (3) ὅταν ἀποδεικνύεται κατὰ τὴν κρίσιν τῆς Ἄρχης ὅτι τὸ πλοῖον ἐκτελεῖ πλάσ τοιαύτης μικρᾶς διαρκείας ὥστε νά μὴ θεωρηθῆ εὐλογος ἢ ἐφαρμογὴ τῆς ἀπαιτήσεως ταύτης.
 - (iii) Ἐπὶ πλέον τῆς ὑποχρεώσεως νά πληροῖ τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ τούτου, πᾶν πλοῖον ὅταν μεταφέρῃ ἐκρηκτικὰ ὕλας τοιαύτης φύσεως ἢ τοιαύτης ποσότητος, μὴ ἐπιτρεπομένων νά μεταφέρονται ἐπὶ ἐπιβατηγῶν πλοίων δυνάμει τοῦ Κανονισμοῦ 7 τοῦ Κεφαλαίου VII τῆς παρούσης Συμβάσεως, θὰ πληροῖ τὰς ἀκολουθοῦσας ἀπαιτήσεις :
 - (1) Δέν θὰ χρησιμοποιηθῆ ἀτμὸς πρὸς τὸν σκοπὸν σβέσεως πυρκαϊᾶς ἐντὸς οἰουδήποτε διαμερίσματος περιέχοντος ἐκρηκτικὰ ὕλας. Πρὸς τὸν σκοπὸν ἐφαρμογῆς τοῦ ἐδαφίου τούτου, ἡ λέξις "διαμέρισμα" σημαίνει πάντας τούς χώρους τούς περιλαμβανομένους μετὰ δύο μόνιμων παρακειμένων διαφραγμάτων καὶ περιλαμβάνει τὸ κατώτερον κύτος φορτίου καὶ πάντας τούς χώρους φορτίου ἄνωθεν αὐτοῦ.

- (2) 'Επί πλέον, εις έκαστον διαμέρισμα τό όποιον περιέχει έκρηκτικώς ύλας καί εις τά παρακείμενα διαμερίσματα φορτίου, θά έγκαθίσταται σύστημα άνιχνεύσεως καπνοϋ ή πυρκαϊδας εις έκαστον χώρον φορτίου.

(ζ) Συσκευαί Σβέσεως Πυρκαϊδας έντός Λεβητοστασιών κ.λ.π.

Εις πλοΐα όλικής χωρητικότητας 1.000 κόνων καί άνω καί εις τούς χώρους εις τούς όποιους εΐναι έγκατεστημένοι κύριοι ή βοηθητικοί πετρελαιοκέβητες ή εις τούς χώρους τούς περιέχοντας τά μηχανήματα καύσεως πετρελαίου θά προβλέπωνται αι άκόλουθοι διατάξεις :

- (1) θά ύπάρχη μία οιαδήποτε τών κατωτέρω μονίμων έγκαταστάσεων σβέσεως πυρκαϊδας :
- (1) Σύστημα ραντίσεως ύδατος ύπό πίεσιν, τό όποιον θά πληροΐ τούς όρους τοϋ Κανονισμοϋ 11 τοϋ παρόντος Κεφαλαίου.
 - (2) 'Εγκατάστασις σβέσεως πυρκαϊδας πληροϋσα τούς όρους τοϋ Κανονισμοϋ 8 τοϋ παρόντος Κεφαλαίου.
 - (3) Μόνιμος έγκατάστασις άφροϋ πληροϋσα τούς όρους τοϋ Κανονισμοϋ 9 τοϋ παρόντος Κεφαλαίου. ('Η 'Αρχή δύναται νά απαιτήση σταθεράν ή κινητήν διάταξιν ύπό πίεσιν ύδατος ή ραντίσεως άφροϋ πρός αντιμετώπισιν πυρκαϊδας άνωθεν τών έλασμάτων τοϋ σαπέδου).

Εις έκάστην περίπτωση, άν τά μηχανοστάσια καί τά λεβητοστάσια δέν εΐναι έντελώς κειχωρισμένα, πετρέλαιον καύσιμον δύναται νά διαφρευθή εκ τοϋ λεβητοστασιου έντός τών παραπυθμενίδων τοϋ μηχανοστασιου, τό σύνολον τών χώρων μηχανοστασιου καί λεβητοστασιου θά θεωρηται ως έν διαμέρισμα.

- (ii) θά ύπάρχουν δύο τουλάχιστον έγκεκριμένοι φορητοί πυροσβεστήρες άφροϋ ή άλλου έγκεκριμένου καταλλήλου μέσου διά τήν σβέσιν πυρκαϊδας πετρελαίου εις έκαστον χώρον έναύσεως λεβήτων έκάστου λεβητοστασιου καί εις έκαστον χώρον εις τόν όποιον ύπάρχει μέρος τής έγκαταστάσεως καύσεως πετρελαίου. 'Επιπροσθέτως, θά ύπάρχη εις τουλάχιστον πυροσβεστήρων αυτών χαρακτηριστικων καί περιεκτικότης 9 λίτρων (ή 2 γαλλονίων) δι' έκαστον καυστήρα, ή δέ όλική περιεκτικότης τοϋ έπιπροσθέτου ή έπιπροσθέτων πυροσβεστήρων δέν απαιτείται νά υπερβαίνη τά 45 λίτρα (ή 10 γαλλόνια) δι' έκαστον λεβητοστάσιον.
- (iii) 'Εντός έκάστου χώρου έναύσεως λεβήτων θά ύπάρχη δοχείον περιέχον άμμον, πριονίδια έμβαπτισμένα εις νάτριον ή άλλο έγκεκριμένον Ήρρόν όλικόν καί εις ποσότητα τήν όποίαν ήθελε καθορίσει ή 'Αρχή. 'Εναλλακτικώς, δύναται τοϋτο νά αντικατασταθῆ δι' ενός φορητοϋ πυροσβεστήρος έγκεκριμένου τύπου.
- (η) Συσκευαί Σβέσεως Πυρκαϊδας έντός Χώρων περιεχόντων Μηχανάς 'Εσωτερικής Καύσεως.
- 'Όταν χρησιμοποιούνται μηχαναί έσωτερικής καύσεως, είτε διά κυρίαν πρόωσιν ή διά βοηθητικούς σκοπούς όλικής ίσποδυνάμεως ούχι μικροτέρας τών 746KW, εις πλοΐον όλικής χωρητικότητας 1.000 κόνων καί άνω, θά προβλέπωνται αι κατωτέρω διατάξεις :
- (i) θά ύπάρχη μία τών μονίμων έγκαταστάσεων τών απαιτουμένων ύπό τοϋ έδαφίου (ζ) (1) τοϋ παρόντος Κανονισμοϋ.
- (ii) θά ύπάρχη έντός έκάστου χώρου μηχανών εις πυροσβεστήρ άφροϋ έγκεκριμένου τύπου καί περιεκτικότητος ούχι μικροτέρας τών 45 λίτρων (ή 10 γαλλονίων) ή ίσοδυνάμου, καθώς έπίσης εις φορητός πυροσβεστήρ άφροϋ έγκεκριμένου τύπου άνά 746 KW τής ίσχύος μηχανών ή μέρους τής ίσχύος ταύτης. 'Ο όλικός όμιλος αριθμός τών φορητών πυροσβεστήρων τούτων δέν θά εΐναι κατώτερος τών δύο καί δέν θά απαιτήται νά υπερβαίνη τούς ΉΞ.
- (θ) Διατάξεις Σβέσεως Πυρκαϊδας έντός Χώρων περιεχόντων 'Ατμοστροβίλους καί μη απαιτούντων Μονίμους 'Εγκαταστάσεις.

'Η 'Αρχή θά έξετάση ειδικώς τας απαιτουμένας διατάξεις σβέσεως πυρκαϊδας έντός χώρων περιλαμβανόντων άτμοστροβίλους, οτινες χωρίζονται από τά λεβητοστάσια διά στεγανών διαφραγμάτων.

(1) Έξαρτυσις πυροσβέστου και Άτομικός Έξοπλισμός

- (i) Πάν πλοΐον, ανεξαρτήτως εάν πρόκειται περί νέου ή υπάρχοντος, θα φέρη τουλάχιστον δύο εξαρτύσεις πυροσβέστου πληρούσας τās απαιτήσεις του Κανονισμού 14 του παρόντος Κεφαλαίου. Επί πλέον, η Άρχη δύναται νά απαιτήση, επί πλοίων μεγάλου μεγέθους, προσθέτους σειρές ατομικού εξοπλισμού και επί τών δεξαμενοπλοίων και πλοίων ειδικού προορισμού, ως λ.χ. πλωτών εργοστασίων, προσθέτους εξαρτύσεις πυροσβέστου.
- (ii) Δι' εκάστην εξάρτυσιν πυροσβέστου ή οποία περιλαμβάνει μίαν αυτόνομον αναπνευστικήν συσκευήν, ως προβλέπεται υπό του Κανονισμού 14(β) του παρόντος Κεφαλαίου, θα φέρονται ανταλλακτικά γομώσεις εις εγκεκριμένην υπό της Άρχης κλίμακα.
- (iii) Αί εξαρτύσεις πυροσβέστου και ο ατομικός εξοπλισμός θα φυλάσσονται ούτω πως ώστε να είναι εύχερωδς προσιτοί και έτοιμοι προς χρήσιν, και δε φέρονται επί του πλοίου περισσότεραι τής μίξς εξαρτύσεως πυροσβέστου και ατομικός εξοπλισμός, αϋται θα φυλάσσονται εις θέσεις απέχουσας μεταξύ των τό δυνατόν περισσότερον.

Κανονισμός 53

Μέσα Διαφυγής

- (α) Έντός και έξω δλων τών χώρων έπιβατών και πληρώματος και τών χώρων εις τους οποίους συνήθως απασχολείται τό πλήρωμα, εξαίρεσει τών χώρων μηχανών, θα προβλέπονται κλίμακες και κατακόρυφοι κλίμακες εις τρόπον ώστε να υπάρχουν μέσα άμέσου διαφυγής προς τό κατάστρωμα έπιβιβάσεως επί τών σσιβίων λέμβων.
- (β) Έντός τών χώρων μηχανών θα προβλέπονται δύο μέσα διαφυγής έξ εκάστου μηχανοστασίου, σήραγγος άξόνων και λεβητοστασίου, τό εν εκ τών οποίων δύναται νά είναι μία στεγανή θύρα. Έντός τών χώρων μηχανών, όταν δέν υπάρχει στεγανή θύρα, τά δύο μέσα διαφυγής θα συνίστανται εκ δύο συγκροτημάτων κλιμάκων χαλυβδίνων, εις όσον τό δυνατόν μεγαλυτέραν μεταξύ αϋτών απόστασιν, αΐτινες θα άγουν εις τās θύρας επί του φωταγωγού του μηχανοστασίου, όμοίως κειχωρισμένων μεταξύ των και διά τών οποίων θα προβλέπεται διαφυγή προς τό κατάστρωμα έπιβιβάσεως επί τών σσιβίων λέμβων. Εις τήν περίπτωσην πλοίων όλικής χωρητικότητας μικροτέρας τών 2.000 κόρων, η Άρχη δύναται νά μη έπιμένη εις τήν άπαιτήσιν ταύτην, λαμβανομένου υπ' όψιν του πλάτους και της διατάξεως του φωταγωγού.

Κανονισμός 54

Ειδικά Διατάξεις έντός τών ΧώρωνΜηχανών

- (α) θα προβλέπονται μέσα διά τήν διακοπήν της λειτουργίας τών άνεμιστήρων τών έξυπηρετούντων τους χώρους μηχανών και φορτίου και διά τό κλείσιμον πασών τών θυρών, τών άνεμιστήρων, τών δακτυλιοειδών χώρων περίξ των καπνοδόχων και τών άλλων άνοιγμάτων τών χώρων τούτων. Τά μέσα ταϋτα θα δύνανται νά χειρίζονται έξωτερικώς τών χώρων τούτων εις περίπτωσιν πυρκαϊάς.
- (β) Τά μηχανήματα τά κινούντα τους άνεμιστήρας τεχνητού έλκυσμού άέρος, αί άντλίες μεταγίσεως καυσίμου πετρελαίου, αί πετρελαιοαντλίες του συγκροτήματος καύσεως πετρελαίου και αί λοιπά όμοια πετρελαιοαντλίες καυσίμου θα έφοδιάζονται διά μέσων χειρισμού έξ απόστάσεως κειμένων έξωτερικώς τών αντίστοιχών χώρων, εις τρόπον ώστε νά δύνανται η λειτουργία των νά διακόπτεται εις περίπτωσιν εκδηλώσεως πυρκαϊάς έντός του χώρου έντός του οποίου είναι έγκατεστημένα.
- (γ) Έκάστη σωληνώσις άναρροφήσεως καυσίμου πετρελαίου άγομένη εκ πετρελαιοδεξαμενης, πετρελαιοδεξαμενης κατακαθίσεως ή ύπηρετικής πετρελαιοδεξαμενης, κειμένου άνωθεν τών διπυθμένων, θα έφοδιάζεται διά κρουνοϋ ή έπιστομίου δυνατόν νά κλείεται έξωθεν του αντίστοιχου χώρου εις περίπτωσιν εκδηλώσεως πυρκαϊάς έντός του χώρου έντός του οποίου εύρίσκονται αϋται. Εις τήν ειδικήν περίπτωσιν δεξαμενών κύτους (deerp tanks) κειμένων έντός οιασδήποτε σήραγγος άξόνων ή σήραγγος σωληνώσεων, θα τοποθετούνται έπιστόμια επί τών δεξαμενών τούτων, αλλά εις περίπτωσιν πυρκαϊάς θα δύνανται νά κλείονται διά τινος έπιπροσθέτου έπιστομίου κειμένου επί της σωληνώσεως ή τών σωληνώσεων έξωθεν της σήραγγος ή τών σήραγγων.

ΜΕΡΟΣ Ε' - ΜΕΤΡΑ ΠΥΡ-ΣΦΑΛΕΙΑΣ ΔΙΑ ΔΕΞΑΜΕΝΟΠΛΟΙΑ

Κανονισμός 55

Έφαρμογή

(α) Τό παρόν Μέρος θά εφαρμόζεται έφ' άπάντων τών νέων δεξαμενοπλοίων μεταφερόντων άκάθαρτον πετρέλαιον, παράγωγα πετρελαίου έχοντα σημείον άναφλέξεως μή υπερβαίνον τούς 60°C (140° F) (δοκιμή κλειστού δοχείου) ώς τουτο καθορίζεται διά μιās έγκκεκριμένης συσκευής ύπολογισμού σημείου άναφλέξεως τών όποίων ή πίεσις άερίου REID εΐναι κατωτέρα τής άτμοσφαιρικής, ή έτερα ύγρά προϊόντα ένέχοντα παρόμοιον κίνδυνον άναφλέξεως.

(β) Έπιπλέον, άπαντα τά πλοία, περί ών τό παρόν Μέρος, θά συμμορφούται πρός τās άπαιτήσεις τών Κανονισμών 52, 53 και 54 του παρόντος Κεφαλαίου, έκτός τής περιπτώσεως τών δεξαμενοπλοίων άτινα συμμορφούνται πρός τόν Κανονισμόν 60 του παρόντος Κεφαλαίου, έφ' ών δέν άπαιτείται όπως έχη έφαρμογήν ή παράγραφος (στ) του Κανονισμού 52.

(γ) Όσάκις πρόκειται νά μεταφερθούν φορτία διάφορα τών άναφερομένων εις τήν παράγραφον (α) του παρόντος Κανονισμού, δι' ών δημιουργούνται πρόσθετοι κίνδυνοι πυρκαϊάς θά άπαιτούνται πρόσθετα μέτρα άσφαλείας ικανοποιούντα τήν Άρχήν.

(δ) Πλοία συνδεδυασμένων μεταφορών δέν θά μεταφέρουν εηρά φορτία έκτός εάν ούδεμία εκ τών δεξαμενών φορτίου περιέχει πετρέλαιον και έχει λάβει χώρον καθαρισμόσ άούτων διά τήν άπελευθέρωσιν τών επικινδύνων άερίων ή έκτός εάν, εις έκάστην περίπτωση, ή Άρχή θεωρεί ώς ικανοποιητικές τās ληφθείσας προφυλάξεις.

Κανονισμός 56

Θέσις και Διαχωρισμός τών Χώρων

(α) Οί χώροι μηχανών Κατηγορίας "Α" πρέπει νά εύρίσκονται πρύμνηθεν τών δεξαμενών φορτίου και τών δεξαμενών περισυλλογής διαφυγόντος πετρελαίου και νά εΐναι άπομονωμένοι έξ αύτών διά διαχωριστικού στεγανού διαφράγματος, του άντλιοστασίου πετρελαίου ή τής πετρελαιοθήκης άνεφοδιασμού του πλοίου εις καύσιμα. Δέον ώσαύτως νά εύρίσκονται πρύμνηθεν τών τοιούτων άντλιοστασίων και διαχωριστικών στεγανών, άλλ' ούχι άπαραιτήτως και πρύμνηθεν τών πετρελαιοδεξαμενών έφοδιασμού του πλοίου εις καύσιμα. Πάντως τό κατώτερον τμήμα του άντλιοστασίου δύναται νά εύρίσκειται εν έσοχή εΙσχωρούση έντός τών χώρων τών μηχανών, πρός καλύτεραν τοποθέτησιν τών άντλιών, ύπό τήν προϋπόθεσιν ότι ή όροφή τής έσοχής δέν εΐναι γενικώς εις ύψος μεγαλύτερον του ένός τρίτου του πλευρικού ύψους του πλοίου άνωθεν τής τρόπιδος, πλην τής περιπτώσεως σκαφών χωρητικότητος ούχι μεγαλυτέρας τών 25.000 μετρικών τόννων (D.W.) διά τά όποια δύναται νά καταδειχθή ότι διά λόγους προσβάσεως και ικανοποιητικής διατάξεως τών σωληνώσεων τουτο δέν εΐναι πρακτικόν, όποτε ή Άρχή δύναται νά έπιτρέψη έσοχήν υπερβαίνουσαν τό τοιοϋτον ύψος, πάντως όμως μή υπερβαίνουσαν τό ήμισυ του πλευρικού ύψους του πλοίου άνωθεν τής τρόπιδος.

(β) Οί χώροι ένδλαιτήσεως, οι κύριοι σταθμοί έλέγχου του φορτίου, οι σταθμοί έλέγχου και οι ύπηρετικοί χώροι πρέπει νά εύρίσκονται πρύμνηθεν άπασών τών δεξαμενών φορτίου, τών δεξαμενών περισυλλογής διαφυγόντος πετρελαίου, τών άντλιοστασίων και τών στεγανών χώρων, οι όποιοι άπομονώνουν τās δεξαμενάς φορτίου και τās δεξαμενάς περισυλλογής διαφυγόντος πετρελαίου από τούς χώρους μηχανών Κατηγορίας "Α". Ολονδήποτε κοινόν στεγανόν διάφραγμα διαχωρίζον άντλιοστάσιον φορτίου, περιλαμβανομένης και τής εισόδου του άντλιοστασίου, από τούς χώρους ένδλαιτήσεως, τούς ύπηρετικούς χώρους και τούς σταθμούς έλέγχου πρέπει νά κατασκευάζεται συμφώνως πρός τό πρότυπα Α-60. Όταν τουτο θεωρηται άναγκαϊον δύναται νά έπιτραπή όπως οι χώροι μηχανών, πλην τών τοιούτων Κατηγορίας "Α" και και τών ύπηρετικών, εύρίσκονται πρώραθεν πασών τών δεξαμενών φορτίου, δεξαμενών περισυλλογής διαφυγόντος πετρελαίου, άντλιοστασίων φορτίου και στεγανών φραγμάτων, ύποκείμενοι πάντως εις τά αντίστοιχα πρότυπα άσφαλείας και τήν ύπαρξιν διαθεσίμων αναλόγων διατάξεων κατασβέσεως πυρός ικανοποιούσων τήν Άρχήν.

(γ) Όσάκις καθίσταται άναγκαία ή έγκατάστασις χώρου ναυσιπλοίας άνωθεν δεξαμενής φορτίου, ούτος πρέπει νά προορίζεται μόνον διά σκοπούς ναυσιπλοίας και νά διαχωρίζεται του καταστρώματος τών δεξαμενών φορτίου δι' άνοικτου χώρου

ύψους τουλάχιστον δύο (2) μέτρων. Επί πλέον η προστασία κατά της πυρκαϊάς του τοιούτου χώρου ναυσιπλοίας πρέπει να είναι η απαιτούμενη διά τους χώρους έλέγχου ως καθορίζεται υπό των παραγράφων (α) και (β) του Κανονισμού 57 και των λοιπών εφαρμοστέων διατάξεων του παρόντος Μέρους.

(δ) Δέον όπως ύφιστανται μέσα διά την διατήρησιν μακράν των χώρων ένδιδιαιτήσεως και ύπηρεσίας έκροων επί των καταστρωμάτων. Τοῦτο δύναται να έπιτευχθῆ διά της ύπαρξεως μονίμου συνεχούς τοιχώματος καταλλήλου ύψους έκτεινομένου εκ της μιᾶς μέχρι της έτέρας πλευράς του σκάφους. Δέον να δίδεται ιδιαίτερα προσοχή εις τās διατάξεις τās σχετικās προς τήν φόρτωσιν εκ της πρύμνης.

(ε) Τά έξωτερικά τοιχώματα των ύπερκατασκευών και ύπερστεγασμάτων άτινα περιβάλλουν τούς χώρους ένδιδιαιτήσεως και ύπηρεσίας καθώς και τά καταστρώματα επί των οποίων εϋρίσκονται οι τοιοῦτοι χώροι, δέον όπως διαθέτουν μόνωσιν συμφώνως με τά πρότυπα Α-60 καθ' όλην τήν έκτασιν της έπιφανείας αὐτῶν ήτις γειννιάζει μετά των δεξαμενῶν πετρελαίου και ως προς τά καταστρώματα μέχρι άποστάσεως τριῶν (3) μέτρων πρύμνηθεν του έμπροσθίου τοιχώματος. Η προέκτασις της μόνωσης των τοιχωμάτων των ύπερκατασκευών και ύπερστεγασμάτων καθ' ύψος πέραν της έπιφανείας ήτις γειννιάζει προς τās δεξαμενάς θά καθορίζεται υπό της Αρχῆς αναλόγως των περιπτώσεων.

(στ) Φρακταί ύπερκατασκευών και ύπερστεγασμάτων περιεχόντων χώρους ένδιδιαιτήσεως και ύπηρεσίας, έχουσαι διπλν πρόσ τās δεξαμενάς πετρελαίου, δέον όπως κατασκευάζονται συμφώνως προς τās άκολουθούσας προϋποθέσεις :

- (i) Δέν έπιτρέπονται θύραι επί των τοιούτων φρακτῶν, έξαιρουμένης της περιπτώσεως θυρῶν χώρων οΐτινες δέν έχουν πρόσβασιν προς τούς χώρους ένδιδιαιτήσεως και ύπηρεσίας, ως είναι οι σταθμοί έλέγχου φορτίου, αι άποθήκαι προμηθειῶν και αι λοιπαί άποθήκαι κατά τήν όποιαν ή Αρχή δύναται να έπιτρέψη τοῦτο. Όπου έγκαθίστανται τοιαῦτα θύραι, τά τοιχώματα του χώρου δέον να έχουν μόνωσιν κατά τά πρότυπα Α-60. Επί των τοιούτων τοιχωμάτων έπιτρέπεται ή προσαρμογή κινητῶν έλασμάτων διά κοχλιῶν προκειμένου να έξυπρετῆθῆ οὗτω ή μετακίνησις των μηχανημάτων μέσφ αὐτῶν.
- (ii) Παραφωτίδες εϋρισκόμεναι επί των τοιούτων τοιχωμάτων δέον να είναι μονίμως κλειστοῦ τύπου. Αντιθέτως τά παράθυρα του ολαμιστηρίου δέν είναι άπαραίτητον να είναι του τύπου τούτου.
- (iii) Παραφωτίδες εϋρισκόμεναι επί διαφράγματος χώρου κειμένου επί του δαπέδου του κυρίου καταστρώματος δέον να έχουν προσηρμοσμένα εις τό έξωτερικόν των καλύματα εκ χάλυβος ή άλλης ίσοδυνάμου όλης.

Αι άπαιτήσεις της παραγράφου ταύτης, δοσάκις είναι εφαρμοστέαι, εκτός της περιπτώσεως εισόδου εις τόν χώρον της γεφύρας ναυσιπλοίας, εφαρμόζονται και επί των τοιχωμάτων των ύπερκατασκευών και ύπερστεγασμάτων μέχρις άποστάσεως 5 μέτρων μετρουμένων κατά μήκος εκ του πρωαίου άκρου των τοιούτων κατασκευῶν.

Κανονισμός 57

Κατασκευή

- (α) (i) Τό σκάφος, τά ύπερκατασκευάσματα, τά διαφράγματα του σκάφους, τά καταστρώματα και τά ύπερστεγάσματα θά κατασκευάζονται εκ χάλυβος ή έτέρου ίσοδυνάμου ύλικού.
- (ii) Τά μεταξύ άντλιοστασίων, περιλαμβανομένων των άγωγῶν των και των χώρων μηχανῶν Κατηγορίας "Α", στεγανά διαφράγματα δέον να είναι κλάσεως "Α", και να μη φέρουν άνοίγματα κλάσεως κατωτέρας του "Α-0" ή ίσοδυνάμου από πάσης άπόψεως, παρά μόνον εις περιπτώσεις στυπιοδηπτῶν άξόνων των άντλιῶν ή παρομοίων όπῶν.
- (iii) Διαφράγματα και καταστρώματα άποτελοῦντα διαχωρίσματα των χώρων μηχανῶν Κατηγορίας "Α" και άντλιοστασίων, περιλαμβανομένων και των άντιστοίχων άγωγῶν των, από τούς χώρους ένδιδιαιτήσεως και ύπηρετικῶς δέον όπως είναι κλάσεως "Α-60". Τά τοιαῦτα στεγανά διαφράγματα και καταστρώματα καθώς επίσης και ολονδήποτε έξωτερικόν τοίχωμα των χώρων μηχανῶν Κατηγορίας "Α" και άντλιοστασίων δέν θά πρέπει να φέρουν όπäs προοριζομένης διά παράθυρα ή παραφωτίδας.
- (iv) Πάντως αι άπαιτήσεις των άνωτέρω έδαφίων (ii) και (iii) δέον όπως μη θεωρηθῆ ότι άποκλείουν τήν τοποθέτησιν μονίμων έγκεκριμένου τύπου

καί αδιαπεράστων από αέρια κλυπτρών φωτός διά τόν φωτισμόν τών άντλιοστασίων, υπό τήν προϋπόθεσιν ότι διαθέτουν έπαρκή άντοχήν καί διατηροϋν τά χαρακτηριστικά του διαφράγματος Κλάσεως "Α" ως προς τήν άνεραϊότητα καί τό αδιαπέραστον εκ τών αερίων. Επί πλέον δέον όπως μή θεωρηθή ότι άποκλείουν τήν χρήσιν παραθύρων εις αϊθουσας έλέγχου κειμένην έξ ολοκλήρου έντός του χώρου τών μηχανών.

- (v) Οι σταθμοί έλέγχου πρέπει νά χωρίζονται από τών γειτονικών προς αυτούς κλειστών χώρων διά διαφραγμάτων καί καταστρωμάτων Κλάσεως "Α". Η μόνωσις τών τοιχωμάτων τών περιβαλλόντων τούς σταθμούς έλέγχου θά καθορίζεται υπό τής Αρχής λαμβανούσης υπ' όψιν τόν κίνδυνον πυρκαϊάς εις τούς γειτινάζοντας χώρους.
- (vi) Αι έξωτερικαί θύραι εισόδου εις τούς χώρους τών μηχανών. Κατηγορίας "Α" δέον όπως είναι αυτοκλειομένου τύπου καί σύμφωνοι προς τας διατάξεις του έδαφίου (vii) τής παραγράφου (β) του παρόντος Κανονισμού.
- (vii) Η έπιφάνεια τής μονώσεως έσωτερικώς τών τοιχωμάτων τών χώρων μηχανών Κατηγορίας "Α" δέον όπως είναι αδιαπέραστη από πέτρελοιοειδή καί άναθυμιάσεις αυτών.
- (viii) Έφ' όσον ύφίστανται έπιφανειακά έπικαλύψεις του καταστρώματος αυται δέον όπως είναι από έγκεκριμένο υλικόν τό όποιον δέν αναφλέγεται εύκόλως*.
- (ix) Έσωτερικαί κλίμακες δέον όπως είναι χαλύβδινοι ή από έτερον κατάλληλον υλικόν.
- (x) Διαφράγματα διαχωρίζοντα χώρους ένδειαίτσεως από μαγειρεία, άποθήκας χρωμάτων ή λαμπτήρων καί ναυκλήρου δέον όπως είναι χαλύβδινα ή από έτερον ισοδύναμον υλικόν.
- (xi) Χρώματα καί βερνίκια διαφόρων ειδών χρησιμοποιούμενα επί εκτεθειμένων έσωτερικών έπιφανειών δέον όπως είναι τοιαύτης φύσεως ώστε νά μή δημιουργούν, κατά τήν κρίσιν τής Αρχής, κίνδυνον πυρκαϊάς καί επί πλέον δέν θά πρέπει νά δύνανται νά προέλθουν έξ αυτών υπερβολικά ποσότητες καπνού ή άλλων υλικών παραγώγων.
- (xii) Σωληνώσεις μέσω τών οποίων κυκλοφορεί πετρέλαιον ή έτερα εύφλεκτα υγρά δέον νά είναι έξ υλικού έγκεκριμένου υπό τής Αρχής έν όψει του ύφισταμένου κινδύνου πυρκαϊάς. Υλικά τά όποια εύχερως άχρηστεύονται από τήν θερμότητα δέον όπως μή χρησιμοποιώνται εις τήν κατασκευήν ευδαιών, έξαγωγών υγιεινής καί άλλων όμοίας φύσεως άνοιγμάτων εις τό έξωτερικόν περίβλημα καί εις τό ύψος πλησίον τής ισάλου, ένθα ή φθορά του υλικού έν περιπτώσει πυρκαϊάς θά έδημιούργει κίνδυνον κατακλύσεως.
- (xiii) Ο τεχνητός έξαερισμός τών χώρων μηχανών δέον όπως δύναται νά διακοπή από εύχερως προσπελάσιμον θέσιν κειμένην εκτός τών χώρων μηχανών.
- (xiv) Αι άναφωτίδες τών χώρων μηχανών Κατηγορίας "Α" καί τών άντλιοστασίων δέον όπως είναι κατασκευασμένα συμφώνως προς τας διατάξεις του έδαφίου (iii) τής παραγράφου (α) του παρόντος Κανονισμού τας άναφερομένας εις τά παράθυρα καί παραφωτίδας καί επί πλέον δέον όπως ή διάταξις των είναι τοιαύτη ώστε νά καθίσταται εύχερής τό κλείσιμον αυτών εκ θέσεως εκτός τών χώρων τούς όποιους έξυπηρετοϋν.
- (β) Έντός τών χώρων ένδειαίτσεως τών ύπηρετικών χώρων καί σταθμών έλέγχου δέον νά επικρατοϋν αι κάτωθι συνθήκαι :
- (i) Τά διαφράγματα τών διαδρόμων, περιλαμβανομένων καί τών θυρών, πρέπει νά αποτελούνται εκ τμημάτων Κλάσεως "Α" ή "Β" εκτεινομένων από καταστρώματος εις κατάστρωμα. Όσάκις ύπάρχουν επ' άμφοτέρων τών πλευρών του διαφράγματος συνεχείς όροφαι ή επενδύσεις Κλάσεως "Β" τό διάφραγμα δύναται νά τερματίζεται εις αυτάς. Αι θύραι τών κοιτωνίσκων καί τών κοινοχρήστων χώρων δύναται νά είναι έφωδιασμένα δι' αεροθερμίδων εις τό κατώτερον ήμισυ αυτών.

* Γίνεταί μνεία τής Ευστάσεως ήτις υιοθετήθη υπό του Όργανισμου διά τής Αποφάσεως Α.214(VII) άφορώσης εις τας Βελτιωμένας Προκαταρκτικής Όδηγίας εκτί των Διαδικασιών Δοκιμής των Έπιφανειακών Έπιστρώσεων των Καταστρωμάτων.

- (ii) Τά διάκενα τὰ περικλειόμενα οπισθεν τῶν ἐπιστρώσεων, φατνωμάτων καί ἐπενδύσεων θά ὑποδιαιροῦνται καταλλήλως ὑπό καλῶς ἐφαρμοζόντων διαχωρισμάτων ἀέρος, κειμένων εἰς μεταξὺ αὐτῶν ἀπόστασιν οὐχί μεγαλύτεραν τῶν 14 μέτρων.
- (iii) Ὅροφαί, ἐπενδύσεις, διαφράγματα καί μονώσεις, πλὴν τῶν μονώσεων διαμερισμάτων καταψύξεως δέον νά ἀποτελῶνται ἐξ ἀκαύστου ὕλικου. Οὐσίαι διὰ τὴν ἀποφυγὴν διαρροῶν ἀερίων καί κολλῶδεις τοιαῦται χρησιμοποιοῦνται ἐν συνδυασμῷ μετὰ τῶν μονώσεων ἢ ὡς μονώσεις σωλῆνων διὰ συστήματα ψύξεως δέν εἶναι ἀπαραίτητον ὅπως εἶναι ἀκαύστου τύπου, πρέπει ὅμως νά ὑπάρχουν εἰς ὅσον τὸ δυνατόν μικροτέραν ποσότητα καί αἱ ἐκτεθειμένοι ἐπιφάνειαι αὐτῶν νά ἔχουν ἰδιότητα κατὰ τῆς μεταδόσεως τοῦ πυρός ἱκανοποιούσας τὴν Ἀρχήν.
- (iv) Τά πλαίσια, περιλαμβανονένων τῶν τμημάτων σαπέδου καί τῶν ἐνωτικῶν τεμαχίων, διαφραγμάτων, ἐπενδύσεων, ὀροφῶν καί φραγμάτων ρεύματος ἀέρος, ἐάν ὑφίστανται τοιαῦτα, πρέπει νά εἶναι κατεσκευασμένα ἐξ ἀκαύστου ὕλικου.
- (v) Ἄσασαι αἱ ἐκτεθειμένοι ἐπιφάνειαι εἰς τοὺς διαδρόμους καί τὰ κλιμακοστάσια ὡς καί αἱ ἐπιφάνειαι εἰς κεκρυμένους ἢ ἀπροσίτους χώρους πρέπει νά ἔχουν χαρακτηριστικά χαμηλῆς διαδόσεως τοῦ πυρός*.
- (vi) Τά διαφράγματα, αἱ ἐπενδύσεις καί αἱ ὀροφαί δύνανται νά καλύπτονται ὑπὸ φύλλων λεπτοῦ ξύλου μεγίστου πάχους (2) χιλιοστῶν τοῦ μέτρου ἐντὸς οἰουδήποτε χώρου πλὴν τῶν διαδρόμων, κλιμακοστασίων καί σταθμῶν ἐλέγχου ὅπου τὸ μέγιστον πάχος δέν πρέπει νά ὑπερβαίῃ τὸ 1,5 χιλιοστὸν τοῦ μέτρου.
- (vii) Κλιμακοστάσια διαπερῶντα ἐν μόνον κατάστρωμα πρέπει νά προστατεύονται ἐπὶ ἐνός τοῦλάχιστον ἐπιπέδου διὰ διαχωριστικῶν τμημάτων κλάσεως "Α" ἢ "Β" καί αὐτοκλειομένων θυρῶν οὕτως ὥστε νά περιορίζεται ἡ ταχέως ἐξάπλωσις τοῦ πυρός ἐκ τοῦ ἐνός καταστρώματος εἰς τὸ ἕτερον. Φρεάτια ἀνελκυστήρων πληρώματος δέον ὅπως ἀποτελοῦνται ἀπὸ τμήματα κλάσεως "Α". Κλιμακοστάσια καί φρεάτια ἀνελκυστήρων διαπερῶντα πλεῖονα τοῦ ἐνός καταστρώματα πρέπει νά περιβάλλονται ὑπὸ τμημάτων κλάσεως "Α" καί νά προστατεύονται εἰς ὅλα τὰ καταστρώματα διὰ χαλυβδίνων θυρῶν αὐτοκλειομένου τύπου. Εἰς τὰς θύρας αὐτάς δέν πρέπει νά ὑπάρχουν χειρολαβαί μέ ἀγκιστρα ἀκίνητοποιήσεως. Πάντως δύνανται νά χρησιμοποιῶνται τηλεχειριζόμενοι τύποι μηχανισμῶν, μὴ ὑποκείμενοι εἰς κινδύνους βλαβῶν, διὰ τὴν κράτησιν τῶν θυρῶν εἰς τὴν ἀνοικτὴν θέσιν.
- (γ) Οἱ ἀγωγοί ἐξαερισμοῦ τῶν χώρων μηχανῶν Κατηγορίας "Α" γενικῶς δέν πρέπει νά διέρχονται μέσῳ τῶν χώρων ἐνδειαίτησεως, ὑπηρετικῶν ἢ σταθμῶν ἐλέγχου. Κατ' ἐξαίρεσιν δύνανται νά ἐπιτραπῇ ὑπὸ τῆς Ἀρχῆς ἀπόκλισις ἐκ τῆς ἀπαιτήσεως ταύτης ὑπὸ τὰς κάτωθι προϋποθέσεις.
- (i) Οἱ ἀγωγοί εἶναι κατεσκευασμένοι ἐκ χάλυβος καί διαθέτουν μόνωσιν τύπου "Α-60", ἢ
- (ii) Οἱ ἀγωγοί εἶναι κατεσκευασμένοι ἐκ χάλυβος καί φέρουν αὐτόματον διακόπτην ἀέρος πλησίον τοῦ διαπερωμένου τοιχώματος καί φέρουν μόνωσιν τύπου "Α-60" εἰς τμημα αὐτῶν ἐκ τοῦ χώρου μηχανῶν Κατηγορίας "Α" μέχρι σημείου ἀπέχοντος τοῦλάχιστον 5 μέτρα πέραν τοῦ φράκτου πυρός.
- (δ) Ἀγωγοί ἐξαερισμοῦ προοριζόμενοι διὰ τοὺς χώρους ἐνδειαίτησεως, ὑπηρετικούς ἢ σταθμούς ἐλέγχου γενικῶς δέν πρέπει νά διέρχονται μέσῳ τῶν χώρων μηχανῶν Κατηγορίας "Α". Δύναται νά ἐπιτραπῇ ὑπὸ τῆς Ἀρχῆς ἀπόκλισις ἐκ τῆς ἀπαιτήσεως ταύτης ὑπὸ τὸν ὅρον οἱ ἀγωγοί νά εἶναι κατεσκευασμένοι ἐκ χάλυβος καί νά ὑπάρχουν αὐτόματα διακόπται ἀέρος πλησίον τῶν διαπερωμένων τοιχωμάτων.

Κανονισμός 58

Ἀερισμός

- (α) Ἡ διάταξις καί ἡ θέσις τῶν ἀνοιγμάτων τοῦ καταστρώματος τῶν δεξαμενῶν φορτίου, ἐξ ὧν δύνανται νά ἀποβληθοῦν ἀέρια πρέπει νά εἶναι τοιαύτη ὥστε νά περιορίζεται εἰς τὸ ἐλάχιστον ἡ δυνατότης εἰσροῆς τῶν ἀερίων εἰς κλειστοῦς

* Γίνεται μνεῖα τῆς Συστάσεως ἥτις υἱοθετήθη ὑπὸ τοῦ Ὄργανισμοῦ διὰ τῆς Ἀποφάσεως Α.166 (Ε.Σ.ΙV) ἐπὶ τῶν Ὁδηγιῶν διὰ τὴν Ἐκτίμησιν τῶν ἐπὶ τῆς Πυρκαϊᾶς Ἐπικινδύνων Ἰδιοτήτων τῶν Ὑλικῶν.

χώρους περιέχοντας πηγήν έναυσεως ή συγκεντρώσεως αερίων εις περιοχήν μηχανημάτων καί εξαρτημάτων καταστώματος, άτινα είναι δυνατόν νά δημιουργούν κινδύνους έναυσεως.

Εις πάσαν περίπτωσιν τό ύψος τής άνωθεν του καταστώματος έξαγωγής καί ή ταχύτης έκκενώσεως τών αερίων πρέπει νά έξετάζονται έν συνδυασμώ μετά τής αποστάσεως πάσης έξαγωγής έξ ολουδήποτε άνοίγματος ύπερστεγάσματος ή πηγής έναυσεως.

(β) Η διατάξεις τών είσαγωγών καί έξαγωγών του έξαερισμού καί τών λοιπών άνοιγμάτων τών άκραίων χώρων ύπερκατασκευών καί ύπερστεγασμάτων πρέπει νά είναι τοιαύτη ώστε νά άνταποκρίνεται προς τās άπαιτήσεις τής παραγράφου (α) του παρόντος Κανονισμού. Τοιοῦτοι έξαεριστήρες ίδίως διά τούς χώρους μηχανών δέον νά εύρίσκονται όσον εύκαδυατόν περισσότερον προς πρύμνην. Επί του προκειμένου δέον νά δίδεται ή δέουσα προσοχή ότε τό πλοϊον φορτώνει έκ τής πρύμνης. Πηγαί έναυσεως ως λ.χ. ήλεκτρικά έργαλεία ή εξαρτήματα δέον νά τοποθετώνται εις τοιαύτας θέσεις ώστε νά άποφεύγεται ή δημιουργία κινδύνου έκρήξεως.

(γ) Οί χώροι άντλιοστασίου πρέπει νά έξαερίζονται μηχανικώς, αί δέ έκκενώσεις έκ τών έξαεριστήρων έξαγωγής πρέπει νά οδηγούνται εις άσφαλή θέσιν επί του άνοίγματος καταστώματος. Ο έξαερισμός τών χώρων αύτών πρέπει νά είναι τοιαύτης ικανότητος ώστε νά περιορίζεται εις τό ελάχιστον ή δυνατότης συσσωρεύσεως εύφλέκτων αερίων. Ο άριθμός τών άλλαγών άέρος δέον νά είναι τούλάχιστον 20 φορές καθ' ώραν, επί τή βάσει του συνολικού όγκου του χώρου. Οί άγωγοί έξαερισμού πρέπει νά είναι τοιουτοτρόπως τοποθετημένοι ώστε νά έξαερίζεται άπαρκώς όλόκληρος ό χώρος. Ο έξαερισμός δέον νά είναι τύπου άναρροφήσεως.

Κανονισμός 59

Μέσα Διαφυγής

Επί πλέον τών άπαιτήσεων τής παραγράφου (α) του Κανονισμού 53 του παρόντος Κεφαλαίου, ή Αρχή θά έξετάζη τά τής ύπάρξεως μέσων διαφυγής κινδύνου έξ έκάστου κοιτώνος διά τό προσωπικόν του πλοίου.

Κανονισμός 60

Προστασία Δεξαμενών Φορτίου

(α) Διά δεξαμενόπλοια νεκρού βάρους 100.000 τόννων καί άνω καί διά πλοία συνδεδιασμένων μεταφορών νεκρού βάρους 50.000 τόννων καί άνω, ή προστασία τών δεξαμενών φορτίου καί τής περιοχής καταστώματος αύτών θά έξασφαλίζονται δι' ένός σταθερού συστήματος έκτοξεύσεως άφρου επί του καταστώματος καί ένός συστήματος άδρανοϋς αερίου συμφώνως προς τās διατάξεις τών Κανονισμών 61 καί 62 του παρόντος Μέρους. Αντί τών ως άνω έγκαταστάσεων ή Αρχή, κατόπιν μελέτης τών διατάξεων καί του έξοπλισμού του πλοίου, δύναται νά έγκρίνη έτέρους συνδυασμούς σταθερών συστημάτων εάν οῦτοι παρέχουν προστασίαν ίσοδύναμον προς τήν άνωτέρω, δύνάμει του Κανονισμού 5 του Κεφαλαίου I τής παρούσης Συμβάσεως.

(β) Διά νά θεωρηθῆ έν προτεινόμενον σύστημα ίσοδύναμον προς τό τοιοῦτον άφρου καταστώματος δέον όπως :

- (i) είναι ικανόν προς κατάσβεσιν πυρκαϊās έξ έκχυλίσεως τών δεξαμενών καθός καί προς πρόληψιν αναφλέξεως διαχυθέντος πετρελαίου μή αναφλεγέντος εισέτι, καί
- (ii) είναι ικανόν διά τήν καταπολέμησιν πυρκαϊās εις δεξαμενάς αίτινες έχουν ύποστή ρήγμα.

(γ) Διά νά θεωρηθῆ έν προτεινόμενον σύστημα ίσοδύναμον προς τό τοιοῦτον άδρανοϋς αερίου δέον όπως :

- (i) είναι ικανόν νά προλαμβάνη επικινδύνους συσσωρεύσεις έκρηκτικών μειγμάτων έντός τών άθίκτων δεξαμενών φορτίου κατά τήν διάφορκειαν τής κανονικής λειτουργίας των καθ' όλον τό ταξείδιον υπό έρμα καί κατά τās άπαραιτήτους εργασίας έντός τών δεξαμενών, καί
- (ii) είναι τοιουτοτρόπως σχεδιασμένον ώστε νά περιορίζη εις τό ελάχιστον τόν κίνδυνον αναφλέξεως έκ τής δημιουργίας στατικού ήλεκτρισμού προερχομένου έξ αύτου τούτου του συστήματος.

(6) Διά δεξαμενόπλοια νεκρού βάρους κάτω των 100.000 τόννων και διά πλοία συνδεδεασμένων μεταφορών νεκρού βάρους κάτω των 50.000 τόννων, η Αρχή κατά την εφαρμογήν των απαιτήσεων της παραγράφου (στ) του Κανονισμού 52 του παρόντος Κεφαλαίου δύναται νά αποδεχθῆ σύστημα άφρου ίκανού όπως διοχετεύει άφρόν, έσωτερικώς ή έξωτερικώς, εις τας δεξαμενάς. Αι λεπτομέρειαι μιᾶς τοιαύτης έγκαταστάσεως θά τυγχάνουν τῆς έγκρίσεως τῆς Αρχῆς.

Κανονισμός 61

Μόνιμον Σύστημα Άφρου Καταστρώματος

Τό μόνιμον σύστημα άφρου καταστρώματος όπερ αναφέρεται εις τήν παράγραφον (α) του Κανονισμού 60 του παρόντος Κεφαλαίου θά εἶναι έσχεδιασμένον ως άκολούθως :

(α) Αἱ διατάξεις παροχῆς άφρου πρέπει νά εἶναι ίκαναί νά διανέμουν τόν άφρόν εις όλόκληρον τήν περιοχήν του καταστρώματος τῶν δεξαμενῶν φορτίου, ως και έντός πάσης δεξαμενῆς φορτίου τό κατάστρωμα τῆς οποίας έχει ύποστῆ ρήγμα.

(β) Τό σύστημα άφρου καταστρώματος πρέπει νά εἶναι ἀπλῆς καί ταχείας λειτουργίας. Ὁ κύριος σταθμός έλέγχου του συστήματος πρέπει νά εἶναι καταλλῆλως τοποθετημένος έκτός τῆς περιοχῆς τῶν δεξαμενῶν φορτίου, νά γειτνιάζῃ πρός τούς χώρους ένδειατικῆσεως, νά εἶναι εύπρόσιτος καί νά δύναται νά λειτουργήσῃ εις περίπτωσιν πυρκαϊᾶς έμπανισθείσης εις τούς χώρους τούς όποιους προστατεύει.

(γ) Ὁ ρυθμός παροχῆς του άφρογόνου διαλύματος δέν πρέπει νά εἶναι χαμηλότερος του ύψηλοτέρου τῶν άκολούθων :

(i) 0,6 λίτρα ανά λεπτόν καί τετραγωνικόν μέτρον έπιφανείας καταστρώματος, ως τοιαύτη δέ, λογίζεται ή προκύπτουσα εκ του εὔρους του σκάφους επί τήν συνολικήν διαμήκη έκτασιν τῶν δεξαμενῶν φορτίου, ή

(ii) 6 λίτρα ανά λεπτόν καί τετραγωνικόν μέτρον τῆς οριζοντίας τομῆς τῆς δεξαμενῆς ἣτις έχει τήν μεγαλυτέραν έπιφάνειαν.

Πρέπει νά προβλέπεται έπαρκής συμπεπυκνωμένος άφρός ώστε νά έξασφαλίζεται ή δημιουργία άφρου επί 20 λεπτά τῆς ώρας τουλάχιστον εις τήν μεγαλυτέραν εκ τῶν δύο ποσοτήτων αἱ όποια καθορίζονται υπό τῶν εδαφίων (i) ή (ii) τῆς παρούσης παραγράφου. Ἡ ἀναλογία εκτονώσεως του άφρου (ἦτοι ή ἀναλογία του παραχθέντος ὄγκου του διαλύματος άφρου πρός τόν ὄγκον του μείγματος ὕδατος καί συμπεπυκνωμένου άφρογόνου) δέν πρέπει γενικώς νά υπερβαίνη τά 12 πρός 1. Ὅσakis τά συστήματα παράγουν κυρίως άφρόν χαμηλῆς εκτονώσεως ἀλλά μέ ἀναλογίαν ελαφρώς υπερβαίνουσαν τό 12 πρός 1, ή ποσότης του διαθεσίμου διαλύματος άφρου πρέπει νά ὑπολογίζεται ως καί διά τά συστήματα μέ ἀναλογίαν 12 πρός 1. Ὅταν χρησιμοποιηται άφρός μέ μέσην ἀναλογίαν εκτονώσεως (ἦτοι μεταξὺ 50 πρός 1 καί 150 πρός 1), ὁ ρυθμός χρησιμοποίησεως του άφρου καί ή ικανότης τῶν έγκαταστάσεων εκτοξευτήρων θά τυγχάνῃ τῆς έγκρίσεως τῆς Αρχῆς.

(δ) Ὁ άφρός εκ του μόνιμου συστήματος άφρου θά διοχετεύεται μέσω ειδικῶν λήψεων καί αὐλῶν άφρου. Τούλάχιστον τό 50 τοις εκατόν τῆς απαιτουμένης ἀναλογίας άφρου δέον νά παρέχεται ἐξ εκάστης λήψεως.

(ε) (i) Ὁ ἀριθμός καί ή θέσις τῶν λήψεων θά εἶναι τοιαύτη ώστε νά πληροῦνται αἱ ἀπαιτήσεις τῆς παραγράφου (α) του παρόντος Κανονισμού. Ἡ δυνατότης παροχῆς διαλύματος άφρου ἐξ εκάστης λήψεως εις λίτρα ανά λεπτόν δέον νά εἶναι τουλάχιστον τριπλασία τῆς προστατευομένης ὑπό τῆς λήψεως έπιφανείας καταστρώματος εις τετραγωνικά μέτρα, ή τοιαύτη δέ έπιφάνεια δέον όπως εὑρίσκειται ἐξ ὀλοκλήρου έμπροσθεν τῆς λήψεως.

(ii) Ἡ ἀπόστασις τῆς λήψεως ἀπό τό πλέον ἀπομεμακρυσμένον σημεῖον τῆς προστατευομένης έπιφανείας έμπροσθεν αὐτῆς δέον όπως μή εἶναι μεγαλυτέρα του 75% τῆς προβολῆς αὐτῆς ὑπό συνθήκας νηνεμίας.

(στ) Λήψεις καί εὐκαμπτοι σωλῆνες διά τήν εκτόξευσιν του άφρου δέον όπως εὑρίσκονται δεξιά καί ἀριστερά επί του πρῶτου διαφράγματος του έπιστέγου ή εις ἀναλόγους θέσεις έχούσας ὄψιν πρός τό κατάστρωμα τῶν δεξαμενῶν φορτίου. Οἱ αὐλοί εκτοξεύσεως δέον όπως χαρακτηρίζονται ὑπό εύχερείας έλιγμῶν κατά τήν διάρκειαν τῶν επικειρήσεων καταπολεμήσεως τῆς πυρκαϊᾶς καί νά καλύπτουν ἀπάσας τās έπιφανείας συμπεριλαμβανομένων καί εκείνων αἰτινες ἀποκρύπτονται ἀπό τās λήψεις.

(ζ) Δέον όπως ὑφίστανται διακόπται παροχῆς τόσοσν εις τόν κύριον ἀγωγόν άφρου ὅσον καί εις τό σύστημα σωληνώσεων ὕδατος διά τήν κατάσβεσιν τῆς πυρκαϊᾶς,

άμέσως εμπροσθεν πάσης θέσεως λήψεως Ένα άπομονούνται από τούς άνωτέρω άγωγούς τυχόν ύφιστάμενα βλάβην τμήματα.

(η) Η λειτουργία του συστήματος άφρου επί του καταστρώματος με την άπαιτουμένη παραγωγή αυτού πρέπει να έπιτρέπη την ταυτόχρονον χρήση του έλαχίστου άπαιτουμένου αριθμού προβολών ύδατος υπό την άπαιτουμένην πίεσιν εκ του κυρίου άγωγού πυροσβέσεως.

Κανονισμός 62

Σύστημα Άδρανοϋς Άερίου

Τό σύστημα άδρανοϋς άερίου όπερ αναφέρεται εις την παράγραφον (α) του Κανονισμού 60 του παρόντος Κεφαλαίου πρέπει να είναι ικανόν όπως παρέχη εις τās δεξαμενάς φορτίου, ότε τοϋτο άπαιτηθῆ, άέριον ή μίγμα άερίων με τóσον χαμηλήν περιεκτικότητα εις όξυγόνον, όστε να καθίσταται ή έντός τῆς δεξαμενῆς άτμόσφαιρα άδρανῆς, ήτοι άνίκανος όπως διαδώση φλόγας. Τό τοιοϋτο σύστημα θά πληροῖ τās κατωτέρω προϋποθέσεις :

(α) Δέον όπως περιορίζη εις τό έλάχιστον την άνάγκην εισόδου καθαροϋ άερος έντός τῆς δεξαμενῆς κατά την διάρκειαν τῆς κανονικῆς λειτουργίας του πλοίου, έξαιρέσει τών περιπτώσεων προπαρασκευῆς τῆς δεξαμενῆς διά την είσοδον έντός αϋτῆς του προσωπικοϋ.

(β) Αἱ κεναί δεξαμεναί δέον όπως δύνανται να καθαρισθοϋν δι' άδρανοϋς άερίου προς περιορισμόν του εις ύδρογονάνθρακας περιεχομένου αϋτών μετά την εκφόρτωσιν του φορτίου.

(γ) Η πλύσις τών δεξαμενών δόν όπως είναι δυνατόν να πραγματοποιηῆται έντός άδρανοϋς άτμοσφαιρας.

(δ) Τό σύστημα πρέπει να είναι τοιοϋτον όστε κατά την εκφόρτωσιν να έξασφαλιζεται ότι είναι διαθέσιμος ό όγκος του άερίου ό αναφερόμενος εις την παράγραφον (στ) του παρόντος Κανονισμού. Κατά τās λοιπās περιπτώσεις δέον όπως διατίθεται συνεχώς έπαρκῆς ποσότης άερίου όστε να έξασφαλιζῆται συμμόρφωσις προς την παράγραφον (ζ) του παρόντος Κανονισμού.

(ε) Δέον όπως ύφίστανται κατάλληλα μέσα διά τόν καθαρισμόν τών δεξαμενών τóσον διά καθαροϋ άερος όσον καί διά άδρανοϋς άερίου.

(στ) Τό σύστημα άδρανοϋς άερίου πρέπει να παρέχη άδρανές άέριον εις αναλογίαν 125% τούλάχιστον τῆς μεγίστης κανονικῆς άποδόσεως τών άντλιών φορτίου.

(ζ) Υπό συνήθεις συνθήκας λειτουργίας, όταν αἱ δεξαμεναί πληροϋνται ή έχουν πληρωθῆ με άδρανές άέριον, πρέπει να διατηροῆται έντός αϋτών θετική πίεσις.

(η) Αἱ έξοδοι άερίων διά σκοποϋς καθορισμοϋ πρέπει να εύρίσκωνται καταλλῆλως εις τόν ανοικτόν άέρα καί να πληροϋν τās αϋτās γενικās άπαιτήσεις προς τās καθοριζόμενας διά τās έξόδους τών έξαεριστήρων τών δεξαμενών αἵτινες αναφέρονται εις την παράγραφον (α) του Κανονισμού 58 του παρόντος Κεφαλαίου.

(θ) Πρέπει να ύφίσταται ειδικόν φίλτρον τό όποιον να ψύχη άποτελεσματικῶς τό άέριον καί αφαιρῆ από αϋτό τυχόν στερεάς ύλας καθώσ καί τά εκ τῆς καύσεως προερχόμενα παράγωγα θείου.

(ι) Πρέπει να ύπάρχουν τούλάχιστον δύο άνεμιστήρες (ψυσητήρες), οι όποιοι όμοϋ να είναι ικανοί να διοχετεύουν τούλάχιστον την έν παραγράφω (στ) του παρόντος Κανονισμού καθοριζόμενην ποσότητα άερίου.

(ια) Τό περιεχόμενον όξυγόνον έντός του διοχετευομένου άδρανοϋς άερίου δέν πρέπει κανονικῶς να υπερβαίγη τό 5% του όγκου.

(ιβ) Πρέπει να διατίθενται κατάλληλα μέσα διά την πρόληψιν τῆς έπιστροφῆς άερίων περιεχόντων ύδρογονάνθρακας ή ύδρατμοϋς εκ τών δεξαμενών προς τούς χώρους τών μηχανών καί τούς έξαεριστήρας. Επίσης κατάλληλα μέσα δέον να διατίθενται διά την πρόληψιν τῆς αναπτύξεως υπερβολικῆς πίεσεως ή κενού άερος. Επί πλέον δέον να εγκαθίσταται επί του φίλτρου καθαρισμοϋ ή του καταστρώματος άσφαλιστική ύδατοστεγῆς δικλῆς. Αἱ διακλαδώσεις τών άγωγών του άδρανοϋς άερίου πρέπει να είναι έφοδιασμένοι με βαλβίδας διακοπῆς ή παρόμοια μέσα έλέγχου εις εκάστην δεξαμενήν. Τό σύστημα πρέπει να είναι τοιοϋτον, όστε να περιορίζεται εις τό έλάχιστον ό κίνδυνος αναφλέξεως εκ τῆς δημιουργίας στατικοϋ ηλεκτρισμοϋ.

(1γ) Πρέπει να υφίσταται εγκατάσταση οργάνων προς συνεχή παρακολούθηση των ένδειξεων και καταγραφήν ανά πάσαν στιγμήν του πότε παρέχεται αδρανές αέριον. Τά όργανα επίσης δέον όπως κατά τόν χρόνον τής παροχής δεικνύουν πίεσιν και περιεκτικότητα οξυγόνου εις τό αέριον, έντός του κυρίου συστήματος σωληνώσεων του αερίου και επί τής πλευράς διοχετεύσεως του ψυκτήρος. Η τοιαύτη εγκατάσταση οργάνων δέον όπως, κατά προτίμησιν, εύρίσκεται εις τόν σταθμόν έλέγχου φορτίου, έφ' όσον υφίσταται τοιοϋτος, πάντως δέον όπως είναι εύχερώς προσιτή υπό του άξιωματικού υπηρεσίας εις τās εργασίας φορτοεκφορτώσεως. Φορητά όργανα κατάλληλα διά τήν μέτρησιν του οξυγόνου και των αερίων ή υδρογονανθράκων ως και αί άναγκάται προς τοϋτο συνδέσεις αυτών μετά των δεξαμενών, πρέπει να διατίθενται διά τόν έλεγχον του περιεχομένου αυτών.

(1δ) Δέον όπως διατίθενται μέσα διά τήν ένδειξιν τής θερμοκρασίας και πιέσεως έντός του συστήματος σωληνώσεων του αδρανούς αερίου.

(1ε) Πρέπει να προβλέπωνται συστήματα έκπομπής σημάτων κινδύνου εις περιπτώσεις :

- (i) ύψηλης περιεκτικότητας οξυγόνου έντός του συστήματος σωληνώσεων αδρανούς αερίου.
- (ii) χαμηλής πίεσεως αερίου έντός του συστήματος σωληνώσεως αδρανούς αερίου,
- (iii) χαμηλής πίεσεως εις τήν περιοχήν επί του ύδατοπώματος καταστρώματος, εάν υφίσταται τοιοϋτο,
- (iv) ύψηλης θερμοκρασίας του αερίου έντός του συστήματος σωληνώσεων του αδρανούς αερίου, και
- (v) χαμηλής πίεσεως ύδατος εις τό φίλτρον,

και συστήματα αυτόματου διακοπής επί τή υπερβάσει προκαθορισμένων ορίων άφορώντων εις τās περιπτώσεις (iii), (iv) και (v) άνωτέρω.

(1στ) Ο πλοίαρχος οιοϋδήποτε πλοίου έξωπλισμένου μέ σύστημα αδρανούς αερίου πρέπει να έφοδιάζεται δι' έγχειριδίου οδηγίων τό όποιον θα περιλαμβάνη άπαιτήσεις λειτουργίας, ασφαλείας και ύγείας άναφορικώς προς τό σύστημα.

Κανονισμός 63

Άντλιοστάσιον

Έκαστον άντλιοστάσιον φορτίου δέον όπως είναι έκωδισμένον διά μονίμου συστήματος κατασβέσεως πυρκαϊάς χειριζόμενου από εύχερώς προσιτήν θέσιν έκτός αυτού. Τό σύστημα δέον όπως λειτουργή διά ψεκασμού ύδατος ή δι' άλλου καταλλήλου μέσου ικανοποιούντος τήν Άρχήν.

Κανονισμός 64

Άκροσωλήνια

Άπαντα τά άπαιτούμενα άκροσωλήνια των εύκάμπτων σωλήνων ύδατος δέον όπως είναι έγκεκριμένου τύπου, διπλής χρήσεως (λ.χ. ραντισμού/προβολής) και να περιλαμβάνουν διακόπτην παροχής.

ΜΕΡΟΣ ΣΤ' - ΕΙΔΙΚΑ ΜΕΤΡΑ ΠΥΡΑΣΦΑΛΕΙΑΣ ΔΙ' ΥΠΑΡΧΟΝΤΑ ΕΠΙΒΑΤΗΓΑ

ΠΛΟΙΑ

(Πρός έκπλήρωσιν των σκοπών του Μέρους τούτου του παρόντος Κεφαλαίου, δλαι αί παραπομπάι εις Κανονισμών... (1948) έχουν τήν έννοιαν τής παραπομπής εις τούς Κανονισμούς του Κεφαλαίου II τής Διεθνούς Συμβάσεως περί Άσφαλείας τής Άνθρωπίνης Ζωής έν θαλάσση, 1948, και δλαι αί παραπομπάι εις Κανονισμών... (1960), έκτός εάν άλλως όρίζεται, έχουν τήν έννοιαν τής παραπομπής εις Κανονισμούς του Κεφαλαίου II τής Διεθνούς Συμβάσεως περί Άσφαλείας τής Άνθρωπίνης Ζωής έν θαλάσση, 1960).

Κανονισμός 65

Έφαρμογή

Πάν επιβατηγόν πλοϊον μεταφέρων περισσότερους τών 36 επιβατών θά συμμορφούται τουλάχιστον πρός τά κάτωθι.

(α) Πλοϊον, του οποίου η τρόπις έτέθη πρό της 19ης Νοεμβρίου, 1952, δέον νά συμμορφούται πρός τάς διατάξεις τών Κανονισμών 66 έως 85 περιλαμβανομένου του παρόντος Μέρους.

(β) Πλοϊον, του οποίου η τρόπις έτέθη τήν η μετά τήν 19ην Νοεμβρίου 1952 αλλά πρό της 26ης Μαΐου 1965, δέον νά συμμορφούται πρός τάς διατάξεις της Διεθνούς Συμβάσεως περί Ασφαλείας της Ανθρωπίνης Ζωής έν Θαλάσση 1948, τάς άναφερομένας είς τά μέτρα πυρασφαλείας της έν λόγω Συμβάσεως τά έφαρμοζόμενα είς τά νέα πλοία και έπιπροσθέτως δέον νά συμμορφούται πρός τάς διατάξεις τών Κανονισμών 68(β) και (γ), 75, 77(β), 78, 80(β), 81(β) έως (ζ), 84 και 85 του παρόντος Μέρους.

(γ) Πλοϊον, του οποίου η τρόπις έτέθη τήν η μετά τήν 26ην Μαΐου 1965, αλλά πρός της θέσεως έν ίσχύι της παρουσης Συμβάσεως, δέον, εκτός εάν συμμορφούται πρός τά Μέρη Α' και Β' του παρόντος Κεφαλαίου, νά συμμορφούται πρός τάς διατάξεις της Διεθνούς Συμβάσεως Περί Ασφαλείας της Ανθρωπίνης Ζωής έν Θαλάσση, 1960, τάς άναφερομένας είς τά μέτρα πυρασφαλείας της έν λόγω Συμβάσεως τά έφαρμοζόμενα είς τά νέα πλοία και έπιπροσθέτως δέον νά συμμορφούται πρός τούς Κανονισμούς 68(β) και (γ), 80(β), 81(β), (γ) και (δ) και 85 του παρόντος Μέρους.

Κανονισμός 66

Κατασκευή

Τά κατασκευαστικά συστατικά δέον νά είναι εκ χάλυβος η έτέρου καταλλήλου ύλικου συμφώνως πρός τόν Κανονισμόν 27(1948), πλην του ότι άπομεμονωμένα ύπεροστεγάσματα άτινα δέν περιλαμβάνουν ένδειατήματα και εκτεθειμένα είς τόν καιρόν καταστρώματα δύνανται νά είναι εκ ξύλου, εάν τά λαμβανόμενα κατασκευαστικά μέτρα πυρασφαλείας ίκανοποιούν τήν Αρχήν.

Κανονισμός 67

Κύρια Κατακόρυφοι Ζώναι

Τό πλοϊον θά ύποδιαιρήται είς κυρίας κατακόρυφους ζώνας διά τμημάτων Κλάσεως "Α" συμφώνως πρός τόν Κανονισμόν 28(1948). Τοιαύτα τμήματα δέον νά έχουν έπαρκή βαθμόν μονώσεως, καθ' όσον τουτο τυγχάνει πρακτικόν, λαμβανομένης ύπ' όψιν της φύσεως τών γειτνιαζόντων χώρων ως προβλέπεται ύπό του Κανονισμού 26(γ) (iv) 1948.

Κανονισμός 68

Άνοίγματα είς Διαφράγματα Κυρίων Κατακόρυφων Ζωνών

(α) Τό πλοϊον δέον νά συμμορφούται ούσιωδώς πρός τόν Κανονισμόν 29 (1948).

(β) Αί θύραι πυρκαϊάς δέον νά είναι εκ χάλυβος η ίσοδυνάμου ύλικου μετά η άνευ άκαύστου μονώσεως.

(γ) Προκειμένου περί όχετών και άγωγών έξαερισμοϋ, έχόντων έγκαρσίαν τομήν 0,02 τετραγωνικών μέτρων (η 31 τετραγωνικών δακτύλων) η μεγαλύτεραν, οί όποιοι διέρχονται διά τμημάτων κυρίων ζωνών, αί άκόλουθοι πρόσθετοι διατάξεις δέον νά έφαρμόζονται :

(i) Προκειμένου περί όχετών και άγωγών έχόντων έγκαρσίαν τομήν μεταξύ 0,02 τετραγωνικών μέτρων (31 τετραγωνικών δακτύλων) και 0,075 τετραγωνικών μέτρων (116 τετραγ. δακτύλων) περιλαμβανομένων, οί φράκται πυρός θά είναι τύπου παρέχοντος πλήρη ασφάλειαν και κλειομένου αυτόματως η οί τοιοϋτοι όχετοί και άγωγοί θά μονοϋνται τουλάχιστον επί

457 χιλιοστών (18 δακτύλων) ἐπ' ἀμφοτέρων τῶν πλευρῶν τοῦ τμήματος, ἵνα συμμορφοῦνται πρὸς τὰς ἐφαρμοζομένας ἀπαιτήσεις διὰ τὰ διαφράγματα

- (ii) Προκειμένου περὶ ὀχετῶν καὶ ἀγωγῶν ἐχόντων ἐγκαρσίαν τομὴν ὑπερβαίνουσαν τὰ 0,075 τετραγ. μέτρα (116 τετραγ. δακτύλους), οἱ φράκται πυρὸς θὰ εἶναι τύπου παρέχοντος πλήρη ἀσφάλειαν καὶ αὐτομάτως κλειομένου.

Κανονισμός 69

Διαχωρισμός τῶν Χώρων Ἐνδικοιτήσεως ἀπὸ τοὺς Χώρους Μηχανοστασίου, Φορτίου καὶ Ὑπηρετικῶς

Τὸ πλοῖον δεόν νά συμμορφῶται πρὸς τὸν Κανονισμόν 31 (1948).

Κανονισμός 70

Ἐφαρμογὴ σχετιζομένη πρὸς τὰς Μεθόδους I, II καὶ III

Ἐκαστος χώρος ἐνδικοιτήσεως καὶ ὑπηρετικὸς χώρος πλοίου τινὸς δεόν νά συμμορφῶται πρὸς τὰς διατάξεις τὰς ἐπιβαλλομένας εἰς μίαν τῶν παραγράφων (α), (β), (γ) ἢ (δ) τοῦ παρόντος Κανονισμοῦ :

(α) Προκειμένου ἐν πλοῖον νά θεωρηθῇ ὅτι τελεῖ ἐν συμμορφώσει πρὸς τὰς ἀπαιτήσεις τῆς Μεθόδου I, δεόν νά ἐξοπλισθῇ διὰ δικτύου ἐξ ἀκαύστων διαφραγμάτων Κλάσεως "B" ἐν οὐσιώδει συμμορφώσει πρὸς τὸν Κανονισμόν 30 (α) 1948, ὁμοῦ μετὰ μεγίστης χρήσεως ἀκαύστων ὑλικῶν ἐν συμμορφώσει πρὸς τὸν Κανονισμόν 39 (α) (1948).

(β) Προκειμένου ἐν πλοῖον νά θεωρηθῇ ὅτι τελεῖ ἐν συμμορφώσει πρὸς τὰς ἀπαιτήσεις τῆς Μεθόδου II :

- (i) Δεόν νά ἐφοδιασθῇ διὰ συστήματος αὐτομάτου ραντισμοῦ καὶ συναγερομοῦ πυρκαϊᾶς, ὅπερ θὰ τελῇ ἐν οὐσιώδει συμμορφώσει πρὸς τοὺς Κανονισμοὺς 42 καὶ 48 (1948), καὶ

- (ii) ἡ χρῆσις καυσίμων ὑλικῶν παντὸς εἴδους θὰ περιορίζηται καθ' ὅσον τοῦτο εἶναι εὐλογον καὶ πρακτικόν.

(γ) Προκειμένου ἐν πλοῖον νά θεωρηθῇ ὅτι τελεῖ ἐν συμμορφώσει πρὸς τὰς ἀπαιτήσεις τῆς Μεθόδου III, δεόν νά ἐξοπλισθῇ διὰ δικτύου ἐξ ἐπιβραδυντικῶν τῆς ἐξαπλώσεως τοῦ πυρὸς διαφραγμάτων διηκόντων ἀπὸ καταστρώματος εἰς κατάστρωμα ἐν οὐσιώδει συμμορφώσει πρὸς τὸν Κανονισμόν 30 (β) (1948), ὁμοῦ μετὰ συστήματος αὐτομάτου ἀνιχνεύσεως ἐν οὐσιώδει συμμορφώσει πρὸς τὸν Κανονισμόν 43 (1948). Ἡ χρῆσις καυσίμων καὶ ὑψηλοῦ βαθμοῦ εὐφλέκτων ὑλικῶν θὰ περιορίζεται ὡς καθορίζεται εἰς τοὺς Κανονισμοὺς 39 (β) καὶ 40 (ζ) (1948). Ἀπόκλισις ἐκ τῶν ἀπαιτήσεων τῶν Κανονισμῶν 39 (β) καὶ 40 (ζ) (1948) δυνατόν νά ἐπιτραπῇ μόνον ὅταν προβλέπεται ἐκτέλεσις περιπολίας κατὰ τῆς πυρκαϊᾶς κατὰ διαλείμματα μὴ ὑπερβαίνοντα τὰ 20' πρῶτα λεπτά.

(δ) Προκειμένου ἐν πλοῖον νά θεωρηθῇ ὅτι τελεῖ ἐν συμμορφώσει πρὸς τὰς ἀπαιτήσεις τῆς Μεθόδου III :

- (i) Πρόσθετα τμήματα Κλάσεως "A" δεόν νά ὑπάρχουν ἐντὸς τῶν χώρων ἐνδικοιτήσεως, ἵνα περιορίζουν εἰς τοὺς χώρους αὐτοὺς τὸ μέσον μήκος τῶν κυρίων κατακορύφων ζωνῶν εἰς περίπου 20 μέτρα (ἢ 65,5 πόδας) καὶ
- (ii) Σῦστημα αὐτομάτου ἀνιχνεύσεως τοῦ πυρὸς δεόν νά ὑπάρχη ἐν οὐσιώδει συμμορφώσει πρὸς τὸν Κανονισμόν 43 (1948) καὶ
- (iii) Ἀπασαί αἱ ἐκτεθειμένοι ἐπιφάνειαι τῶν διαφραγμάτων τῶν διαδρόμων καὶ τῶν κοιτωνίσκων, ὡς καὶ τὰ ἐπικαλύμματα αὐτῶν, ἐντὸς τῶν χώρων ἐνδικοιτήσεως δεόν νά ἔχουν περιορισμένην τάσιν ἐξαπλώσεως τοῦ πυρὸς καὶ
- (iv) Ἡ χρῆσις καυσίμων ὑλικῶν δεόν νά περιορίζεται ὡς καθορίζεται εἰς τὸν Κανονισμόν 39 (β) (1948). Ἀπόκλισις ἐκ τῶν ἀπαιτήσεων τοῦ Κανονισμοῦ 39 (β) (1948) δυνατόν νά ἐπιτραπῇ μόνον ὅταν προβλέπεται ἐκτέλεσις περιπολίας πυρὸς κατὰ διαλείμματα μὴ ὑπερβαίνοντα τὰ 20' λεπτά καὶ

- (V) Πρόσθετα άκαυστα τμήματα Κλάσεως "B" δέον νά έγκαθίστανται από κα-
τάστρώματος εις κατάστρωμα σχηματίζοντα δίκτυον έξ έπιβραδυντικών
τής έξαπλώσεως του πυρός διαφραγμάτων έντός των όποιων ό χώρος παντός
διαμερίσματος, πλην των κοινοχρήστων τοιούτων, δέον νά μή υπερβαίνη
γενικώς τά 300 τετραγωνικά μέτρα (ή 3.200 τετραγ. πόδας).

Κανονισμός 71

Προστασία Κατακορύφων Κλιμάκων

Αί κλίμακες δέον νά συμμορφούνται προς τον Κανονισμόν 33(1948), έκτός εάν
εις περιπτώσεις έξαιρετικής δυσκολίας ή "Αρχή δύναται νά έπιτρέψη τήν χρήσιν
άκαύστων τμημάτων και θυρών Κλάσεως "B" αντί τμημάτων και θυρών Κλάσεως "A"
διά τās περιφράξεις τής κλίμακος. "Επί πλέον, ή "Αρχή δύναται νά έπιτρέψη
κατ'έξαιρέσιν τήν διατήρησιν ξυλίνης τινός κλίμακος, έφ' όσον αύτη θά προ-
στατεύεται υπό ραντιστήρος και θά περιφράσσεται ικανοποιητικώς.

Κανονισμός 72

Προστασία "Ανελκυστήρων ("Επιβατών και "Υπηρεσίας) Κατακορύφων"Οχετών Φωτισμού και "Αερισμού κ.λ.π.

Τό πλοϊον θά συμμορφούται προς τον Κανονισμόν 34 (1948).

Κανονισμός 73

Προστασία Σταθμών "Ελέγχου

Τό πλοϊον δέον νά συμμορφούται προς τον Κανονισμόν 35 (1948), έκτός εκεί-
νων των περιπτώσεων καθ' ός ή διάταξις ή ή κατασκευή των σταθμών έλέγχου είναι
τοιαύτη ώστε νά άποκλείη πλήρη συμμόρφωσιν, ως λ.χ. έν περιπτώσει ξυλίνης κα-
τασκευής του θαλάμου πηδαλιουχίας, όποτε ή "Αρχή δύναται νά έπιτρέψη τήν χρή-
σιν έλευθέρως ίσταμένων άκαύστων τμημάτων Κλάσεως "B" προς προστασίαν των
όριων των τοιούτων σταθμών έλέγχου. Εις τοιαύτας περιπτώσεις κατά τās όποιās χώροι ευρί-
σκόμενοι άμέσως κάτωθι τοιούτων σταθμών έλέγχου δημιουργούν κίνδυνον μεγάλης
έκτάσεως πυρκαϊάς, τό ένδιάμεσον κατάστρωμα δέον νά έχη πλήρη μόνωσιν, ως εάν
έπρόκειτο περί τμήματος Κλάσεως "A".

Κανονισμός 74

Προστασία "Αποθηκών κλπ.

Τό πλοϊον θά συμμορφούται προς τον Κανονισμόν 36 (1948).

Κανονισμός 75

Παράθυρα και Παρακωτίδες

Παρακωτίδες μηχανοστασίου και λεβητοστασίου θά είναι ούτω πως κατασκευασμένοι
ώστε νά δύνανται νά κλείουν από θέσεως έξωτερικώς των τοιούτων χώρων.

Κανονισμός 76

Σύστημα "Αερισμού

(α) "Όλος ό τεχνητός άερισμός, έξαιρουμένου του άερισμού των χώρων φορτίου
και των μηχανών, θά έφοδιάζεται διά κυρίων διακοπών τοποθετουμένων ούτω πως
έξωθι του μηχανοστασίου και εις σημεία τοσούτον άμέσως προσιτά, ώστε δέν θά
χρειάζεται νά μεταβή τις εις πλείονας των τριών σταθμούς, προκειμένου νά δια-
κόψη τήν λειτουργίαν των άνεμιστήρων άερισμού, εις χώρους διαφόρους των τοιούτων
μηχανών και φορτίου. "Ο άερισμός του χώρου μηχανοστασίου θά έπιτυγχάνεται διά
κυρίου διακόπτου χειριζομένου από θέσεως έκτός μηχανοστασίου.

(β) θά προβλέπεται ικανοποιητική μόνωση των εξαγωγικών οχετών των μαγειρείων, όταν οἱ τοῖτοι διέρχονται διά μέσου χώρων ἐνδιαιτήσεως.

Κανονισμός 77

Διάφοροι Λεπτομέρεια

Τό πλοῖον θά συμμορφοῦται πρὸς τόν Κανονισμόν 40(α), (β) καί (στ) (1948), ἐκτός τοῦ ὅτι τὰ μνημονευόμενα εἰς τοὺς Κανονισμούς 40(α)(i) (1948) 20 μέτρα (ἢ 65,5 πόδας) δύναται νά ἀντικατασταθοῦν διά 13.73 μέτρων (ἢ 45 ποδῶν).

(β) Αἱ ἀντλῖαι καυσίμων θά ἐφοδιάζονται διά συστήματος χειριζομένου ἐξ ἀποστάσεως καί τοποθετουμένου ἐντός τοῦ σχετικοῦ χώρου, οὕτω πως ὥστε νά δύναται τις νά διακόψῃ τήν λειτουργίαν των ἐν περιπτώσει ἐκρήξεως πυρκαϊᾶς ἐντός τοῦ χώρου εἰς τόν ὁποῖον εἶναι ἐγκατεστημένα.

Κανονισμός 78

Κινηματογραφικαί Ταινίαι

Ταινία ἔχουσα ὡς βᾶσιν τήν νυτροκυτταρίνην δέν θά χρησιμοποιηθῆται εἰς τὰς ἐπί πλοίων κινηματογραφικὰς ἐγκαταστάσεις.

Κανονισμός 79

Σχέδια

θά ὑπάρχουν σχέδια κατὰ τὰ ἐν τῷ Κανονισμῷ 44 (1948) ὀριζόμενα.

Κανονισμός 80

Ἀντλῖαι, Συστήματα Κυρίων Σωληνώσεων Πυρκαϊᾶς, Λήμεις καί Εὐκαμπτοὶ Σωλῆνες

(α) Ἀπαιτεῖται συμμόρφωσις πρὸς τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ 45(1948).

(β) Ὑδρῶν ἐκ τῆς κυρίας σωληνώσεως πυρκαϊᾶς δέον, καθ' ὅσον τοῦτο εἶναι πρακτικόν, νά εἶναι ἀμέσως διαθέσιμον, εἴτε διά τῆς διατηρήσεως τῆς πιέσεως εἴτε διά τοῦ ἐξ ἀποστάσεως χειρισμοῦ τῶν ἀντλιῶν πυρκαϊᾶς, ὅστις χειρισμός δέον νά εἶναι εὐχρηστος καί ἀμέσως προσιτός.

Κανονισμός 81

Ἀπαιτήσεις Ἀνιχνεύσεως καί Κατασβέσεως τοῦ Πυρός

Γενικά

(α) Αἱ ἀπαιτήσεις τοῦ Κανονισμοῦ 50(α) ἕως (ιε) (1948), συμπεριλαμβανομένου, δέον νά τηροῦνται ἐπιφυλασσομένων τῶν περαιτέρω διατάξεων τοῦ παρόντος Κανονισμοῦ.

Περιπολῖαι, Συστήματα Ἀνιχνεύσεως καί Ἐπικοινωνίας :

(β) Ἐκαστὸν μέλος οἰασθῆποτε περιπολίας πυρκαϊᾶς ἀπαιτουμένης ὑπὸ τοῦ παρόντος Κεφαλαίου δέον νά ἐκπαιδευθῆ ὥστε νά καταστῆ γνώστης τῆς διαρρυθμίσεως τοῦ πλοίου, ὡς καί τῆς θέσεως καί χειρισμοῦ παντός μέσου τὸ ὁποῖον ἐνδεχομένως θά κληθῆ νά χρησιμοποιηθῆ.

(γ) Δέον νά ὑπάρχῃ εἰδικὸν σύστημα συναγεροῦ πρὸς συνέγερον τοῦ πληρώματος, τὸ ὁποῖον δύναται νά εἶναι μέρος τοῦ συστήματος γενικοῦ συναγεροῦ τοῦ πλοίου.

(δ) Δέον επίσης νά διατίθεται κοινόχρηστον σύστημα ένδοσυνεννοήσεως ή έτερον έπαρκές μέσον επικοινωνίας πανταχοϋ τών χώρων ένδειατήσεως, τών κοινοχρήστων καί υπηρετικών τοιούτων.

Χάρσι Μηχανών καί Δεβήτων :

(ε) 'Ο άριθμός, ό τύπος καί ή διασπορά τών πυροσβεστήρων θά πληροΐ τάς παραγράφους (ζ) (ii), (ζ) (iii) καί (η) (ii) τοϋ Κανονισμού 64(1960).

Σύνδεσμος Διεθνούς Τύπου Συνδέσεως μετά τής Ξηράς :

(στ) 'Απαιτείται συμμόρφωσις πρός τάς διατάξεις τοϋ Κανονισμού 64(δ) (1960).

'Εξαρτήσεις Πυροσβέστου :

(ζ) 'Απαιτείται συμμόρφωσις πρός τάς διατάξεις τοϋ Κανονισμού 64(ι) (1960).

Κανονισμός 82

Δυνατότης 'Αμέσου Χρησιμοποίησεως τών Συσκευών Καταπολεμήσεως τής Πυρκαϊάς

'Απαιτείται συμμόρφωσις πρός τάς διατάξεις τοϋ Κανονισμού 66(1960).

Κανονισμός 83

Μέσα Διαφυγής

'Απαιτείται συμμόρφωσις πρός τάς διατάξεις τοϋ Κανονισμού 54 (1948).

Κανονισμός 84

Πηγή 'Ηλεκτρικής 'Ενεργείας Κινδύνου

'Απαιτείται συμμόρφωσις πρός τάς διατάξεις τοϋ Κανονισμού 22(α), (β) καί (γ) (1948), έκτός τοϋ ότι τό σημείον τοποθετήσεως τής πηγής ήλεκτρικής ένεργείας δέον νά πληροΐ τάς απαιτήσεις τοϋ Κανονισμού 25(α) (1960).

Κανονισμός 85

Συναγεραμοί καί Γυμνάσια

Κατά τά μνημονευόμενα εις τόν Κανονισμόν 26 τοϋ Κεφαλαίου III τής Διεθνούς Συμβάσεως περί 'Ασφαλείας τής 'Ανθρωπίνης Ζωής έν Θαλάσση, 1960, γυμνάσια πυρκαϊάς, παρ' έκάστου μέλους τοϋ πληρώματος θά απαιτήται νά επιδείξη ότι έχει έξοικειωθῆ πρός τάς διατάξεις καί τάς εύκολίας τοϋ πλοίου, πρός τά καθήκοντά του καί πρός πάν μέσον όπερ ήθελε κληθῆ νά χρησιμοποιήση. Θά απαιτήται παρὰ τών πλοιάρχων όπως έξοικειώσουν καί καθοδηγήσουν τά πληρώματα πρός επίτευξιν τών άνωτέρω.

ΚΕΦΑΛΑΙΟΝ ΙΙΙ
ΩΣΤΙΚΑ ΜΕΣΑ, Κ.Α.Π.

Κανονισμός Ι

Έφαρμογή

(α) Το Κεφάλαιον τούτο, εκτός όπου άλλως ρητώς όρίζεται, εφαρμόζεται ως ακόλουθως επί νέων πλοίων εκτελούντων διεθνείς πλόας :

Μέρος Α' — Έπιβατηγά πλοία και φορτηγά πλοία

Μέρος Β' — Έπιβατηγά πλοία

Μέρος Γ' — Φορτηγά πλοία

(β) Είς την περίπτωση των υπάρχοντων πλοίων των εκτελούντων διεθνείς πλόας, αι τρόπιδες των όποιων έτέθησαν κατά η μετά την ήμερομηνίαν θέσεως εν ισχύι της Διεθνούς Συμβάσεως περί 'Ασφαλείας της 'Ανθρωπίνης Ζωής εν Θαλάσση, 1960, η κατά την ήμερομηνίαν ταύτην εύρισκοντο εις παραμφερές προς τό ανωτέρω στάδιον κατασκευής, θά εφαρμόζονται αι άπαιτήσεις του Κεφαλαίου ΙΙΙ της Συμβάσεως εκείνης ως αύται καθορίζονται διά τά νέα πλοία.

(γ) Είς την περίπτωση των υπάρχοντων πλοίων των εκτελούντων διεθνείς πλόας, αι τρόπιδες των όποιων έτέθησαν κατά η μετά την ήμερομηνίαν θέσεως εν ισχύι της Διεθνούς Συμβάσεως περί 'Ασφαλείας της 'Ανθρωπίνης Ζωής εν Θαλάσση, 1960 η κατά την ήμερομηνίαν ταύτην εύρισκοντο εις παρεμφερές προς τό ανωτέρω στάδιον κατασκευής και άτινα δέν συμμορφούνται ήδη προς τά διατάξεις του παρόντος Κεφαλαίου τās άφορώσας εις τά νέα πλοία, αι διατάξεις δι' έκαστον πλοίον θά εξετάζονται υπό της 'Αρχής προς τόν σκοπόν νά εξασφαλισθῆ, έφ' όσον είναι πρακτικώς εφαρμόσιμον και εύλογον και όσον τό δυνατόν ενωρίτερον, η ουσιώδης συμμόρφωσις προς τās άπαιτήσεις του Κεφαλαίου ΙΙΙ της Συμβάσεως εκείνης. 'Η ρήτρα του έδαφίου (β) (i) του Κανονισμού 27 του Κεφαλαίου έκκίνου δύναται, εν τούτοις, νά εφαρμόζεται εις τά υπάρχοντα πλοία μόνον εάν :

- (i) οι όροι των Κανονισμών 4, 8, 14, 18 και 19 και αι παράγραφοι (α) και (β) του Κανονισμού 27 του παρόντος Κεφαλαίου πληροϋνται.
- (ii) αι σωσίβιοι σχεδία αι φερόμεναι συμφώνως προς τās διατάξεις της παραγράφου (β) του Κανονισμού 27 πληροϋν τās άπαιτήσεις είτε του Κανονισμού 15 είτε του Κανονισμού 16, καθώς και του Κανονισμού 17 του παρόντος Κεφαλαίου, και
- (iii) ό συνολικός αριθμός των προσώπων επί του πλοίου δέν θά αύξηθῆ ένεκα του έφοδιασμού διά σωσιβίων σχεδιών εκτός εάν τό πλοίον συμμορφουται προς τās διατάξεις :
 - (1) του Μέρους Β' του Κεφαλαίου ΙΙ—1.
 - (2) των έδαφίων (iii) και (iv) της παραγράφου (α) του Κανονισμού 21 η έδαφίου (iii) της παραγράφου (α) του Κανονισμού 48 του Κεφαλαίου ΙΙ—2 ως τούτο εφαρμόζεται, και
 - (3) των παραγράφων (α), (β), (ε) και (στ) του Κανονισμού 29 του παρόντος Κεφαλαίου.

ΜΕΡΟΣ Α΄ ΓΕΝΙΚΑ

(Τὸ Μέρος Α΄ ἐφαρμόζεται εἰς ἀμφοτέρω τὰ ἐπιβατηγὰ πλοῖα καὶ τὰ φορτηγὰ πλοῖα)

Κανονισμὸς 2

Ὅρισμοὶ

Πρὸς ἐκπλήρωσιν τῶν σκοπῶν τοῦ παρόντος Κεφαλαίου :

- (α) Ὁ ὅρος «βραχὺς διεθνῆς πλοῦς» σημαίνει διεθνῆ πλοῦν κατὰ τὴν διάρκειαν τοῦ ὁποῖου τὸ πλοῖον δὲν ἀπομακρύνεται πλέον τῶν 200 μιλίων ἀπὸ λιμένος ἢ τόπου ὅπου οἱ ἐπιβάται καὶ τὸ πλήρωμα δύναται νὰ τεθοῦν ἐν ἀσφαλείᾳ καὶ ἐφ' ὅσον ἡ ἀπόστασις μεταξὺ τοῦ τελευταίου λιμένος προσεγγίσεως εἰς τὴν χώραν ἐκ τῆς ὁποίας ἄρχεται ὁ πλοῦς καὶ τοῦ τελικοῦ λιμένος προορισμοῦ δὲν ὑπερβαίνει τὰ 600 μίλια.
- (β) Ὁ ὅρος «σωσιβίος σχεδιά» σημαίνει σχεδιάν ἥτις πληροῖ εἴτε τὸν Κανονισμὸν 15 εἴτε τὸν Κανονισμὸν 16 τοῦ παρόντος Κεφαλαίου.
- (γ) Ὁ ὅρος «ἐγκεκριμένον μέσον καθελύσεως» σημαίνει μέσον ἐγκεκριμένον ὑπὸ τῆς Ἀρχῆς, δυνάμενον νὰ καθελύσῃ εἰς τὴν θάλασσαν ἐκ τῆς θέσεως ἐπιβιάσεως σχεδιάν πλήρως ἔμφορτον μὲ τὸν ἐγκεκριμένον νὰ φέρῃ ἀριθμὸν ἀτόμων καὶ μὲ τὸν ἔξαρτισμὸν αὐτῆς.
- (δ) Ὁ ὅρος «πτυχιούχος σωσιβίου λέμβου» σημαίνει οἰονδήποτε μέλος τοῦ πληρώματος τὸ ὁποῖον ἔχει πτυχίον ἰκανότητος, ἐκδιδόμενον κατὰ τοὺς ὅρους τοῦ Κανονισμοῦ 32 τοῦ παρόντος Κεφαλαίου.
- (ε) Ὁ ὅρος «πλευστικὴ συσκευή» σημαίνει ἐφόδιον ἐπιπλεύσεως (ἐκτὸς τῶν σωσιβίων λέμβων, σωσιβίων σχεδιῶν, κυκλικῶν σωσιβίων καὶ σωσιβίων ζωνῶν), προωρισμένον νὰ βαστάζῃ ἀρισμένον ἀριθμὸν ἀτόμων ἅτινα εὐρίσκονται ἐντὸς τοῦ ὕδατος καὶ τοιαύτης κατασκευῆς, ὥστε νὰ διατηρῆ τὸ σχῆμα του καὶ τὰς ιδιότητάς του.

Κανονισμὸς 3

Ἐξαιρέσεις

- (α) Ἐὰν ἡ Ἀρχὴ θεωρῆ ὅτι ὁ ἀσφαλὴς χαρακτήρ καὶ αἱ συνθήκαι τοῦ ταξειδίου εἶναι τοιαῦται ὥστε νὰ καθιστοῦν τὴν ἐφαρμογὴν τοῦ συνόλου τῶν διατάξεων τοῦ παρόντος Κεφαλαίου μὴ εὐλογον ἢ μὴ ἀναγκαίαν, δύναται ἀναλόγως νὰ ἐξαιρέσῃ τῆς ἐφαρμογῆς τῶν ἀπαιτήσεων τοῦ παρόντος Κεφαλαίου συγκεκριμένα πλοῖα ἢ κατηγορίας πλοίων ἅτινα κατὰ τὴν διάρκειαν τοῦ ταξειδίου τῶν δὲν ἀπομακρύνονται πλέον τῶν 20 μιλίων ἀπὸ τῆς πλησιεστέρας ξηρᾶς.
- (β) Εἰς περίπτωσιν ἐπιβητηγῶν πλοίων ἐκτελούντων εἰδικὰ ταξίδια μεταφορᾶς μεγάλου ἀριθμοῦ ἐπιβατῶν ὡς ἐπὶ παραδείγματι διὰ μεταφορὰν προσκυνητῶν, ἡ Ἀρχὴ ἐὰν πεισθῆ ὅτι δὲν εἶναι πρακτικῶς δυνατὸν νὰ ἐπιβάλλῃ τὴν ἐφαρμογὴν τῶν ἀπαιτήσεων τοῦ παρόντος Κεφαλαίου, δύναται νὰ ἐξαιρέσῃ τὰ πλοῖα ταῦτα τῶν ἀπαιτήσεων τούτων, ἐφ' ὅσον ἀνήκουν εἰς τὴν χώραν τῆς καὶ συμμορφοῦνται πλήρως πρὸς τὰς διατάξεις τῶν :
- (i) Κανόνων οἵτινες εἶναι προσηρτημένοι εἰς τὴν Συμφωνίαν Περί Ἐπιβατηγῶν Πλοίων Εἰδικῶν Μεταφορῶν, 1971, καὶ
 - (ii) Κανόνων οἵτινες εἶναι προσηρτημένοι εἰς τὸ Πρωτόκολλον Περί Ἀπαιτήσεων διὰ τοὺς Χώρους Ἐνδιστάσεως Ἐπιβατηγῶν Πλοίων Εἰδικῶν Μεταφορῶν, 1973, ὅτε τοῦτο θὰ τεθῆ ἐν ἰσχύϊ.

Κανονισμός 4*Έτοιμότητας Σωσιβίων Λέμβων, Σωσιβίων Σχεδιών και Πλευστικῶν Συσκευῶν*

- (α) Ἡ γενικὴ ἀρχὴ ἢ ρυθμίζουσα τὰ τοῦ ἐφοδιασμοῦ τῶν σωσιβίων λέμβων, σωσιβίων σχεδιῶν καὶ πλευστικῶν συσκευῶν ἐνὸς πλοίου, ἐπὶ τοῦ ὁποίου ἐφαρμόζεται τὸ Κεφάλαιον τοῦτο, εἶναι ὅτι αὐταὶ θὰ εἶναι ἀμέσως διαθέσιμοι εἰς περίπτωσιν ἀνάγκης.
- (β) Διὰ νὰ εἶναι ἀμέσως διαθέσιμοι αἱ σωσίβιοι λέμβοι, αἱ σωσίβιοι σχεδία καὶ αἱ πλευστικαὶ συσκευαί, δέον αὐταὶ νὰ πληροῦν τοὺς κάτωθι ὄρους :
- (i) Θὰ δύνανται νὰ καθαιρεθοῦν εἰς τὴν θάλασσαν ἀσφαλῶς καὶ ταχέως καὶ ὑπὸ δυσμενεῖς ἔτι συνθήκας ζυγοσταθίσεως τοῦ πλοίου καὶ ὑπὸ πλευρικὴν κλίσιν 15 μοιρῶν.
 - (ii) θὰ εἶναι δυνατὴ ἢ ἐπιβίβασις ἐπὶ τῶν σωσιβίων λέμβων καὶ τῶν σωσιβίων σχεδιῶν ταχέως καὶ ἐν πλήρει τάξει.
 - (iii) Ἡ διάταξις ἐκάστης σωσιβίου λέμβου, σωσιβίου σχεδίας καὶ παντὸς εἴδους πλευστικῆς συσκευῆς θὰ εἶναι τοιαύτη ὥστε νὰ μὴ παρακωλύεται ὁ χειρισμὸς τῶν ἄλλων λέμβων, σχεδιῶν καὶ πλευστικῶν συσκευῶν.
- (γ) Ὅλα τὰ σωσίβια μέσα θὰ τηροῦνται εἰς κατάστασιν λειτουργίας καὶ θὰ εἶναι ἔτοιμα πρὸς ἀμεσον χρῆσιν πρὸ τοῦ ἀπόπλου τοῦ πλοίου ἐκ τοῦ λιμένος καὶ εἰς πάντα χρόνον κατὰ τὴν διάρκειαν τοῦ πλοῦ.

Κανονισμός 5*Κατασκευὴ τῶν Σωσιβίων Λέμβων*

- (α) Ὅλοι αἱ σωσίβιοι λέμβοι θὰ εἶναι καταλλήλως κατασκευασμένοι καὶ τοιοῦτου σχήματος καὶ ἀναλογιῶν ὥστε νὰ ἔχουν ἐπαρκῆ εὐστάθειαν κατὰ τὴν πλεῦσιν καὶ ἐπαρκές ὕψος ἐξάλων ὑπὸ πλήρη φόρτον ἀτόμων καὶ ἐφοδίων. Ὅλοι αἱ σωσίβιοι λέμβοι θὰ εἶναι ἱκαναὶ νὰ διατηροῦν θετικὴν εὐστάθειαν ὅταν ἀνοιχθοῦν εἰς τὴν θάλασσαν ὑπὸ πλήρη φόρτον ἀτόμων καὶ ἐφοδίων.
- (β)(i) Ὅλοι αἱ σωσίβιοι λέμβοι θὰ ἔχουν ἀκάμπτους πλευρὰς καὶ ἐσωτερικὴν μόνον πλευστότητα. Ἡ Ἀρχὴ δύναται νὰ ἐγκρίνη σωσιβίους λέμβους μετὰ στερεοῦ στεγάσματος, ὑπὸ τὸν ὄρον ὅτι θὰ δύναται τοῦτο νὰ ἀνοίγη εὐκόλως καὶ ἐκ τῶν ἔσω καὶ ἐκ τῶν ἔξω, καὶ δὲν θὰ ἐμποδίσῃ τὴν ταχεῖαν ἐπιβίβασιν καὶ ἀποβίβασιν τῶν ἐπιβατῶν ἢ τὴν καθαίρεσιν καὶ τὸν χειρισμὸν τῶν σωσιβίων λέμβων.
- (ii) Αἱ μετὰ κινητῆρος σωσίβιοι λέμβοι δύνανται νὰ ἐφοδιάζωνται, ὑπὸ τὴν ἐγκρισιν τῆς Ἀρχῆς, διὰ μέσων ἅτινα θὰ ἐμποδίζουν τὴν εἰσροὴν τοῦ θαλασσοῦ ὕδατος εἰς τὸ πρῶραϊον ἄκρον.
- (iii) Ὅλοι αἱ σωσίβιοι λέμβοι θὰ εἶναι μήκους οὐχὶ μικροτέρου τοῦ 7,3 μέτρων (ἢ 24 ποδῶν), ἐκτὸς ἐὰν λόγῳ τοῦ μεγέθους τοῦ πλοίου ἢ δι' ἄλλους λόγους ἢ Ἀρχὴ ἤθελε θεωρήσει τὴν μεταφορὰν τοιούτων σωσιβίων λέμβων ὡς μὴ εὐλόγον ἢ πρακτικὴν. Εἰς οὐδὲν πλοῖον αἱ σωσίβιοι λέμβοι θὰ εἶναι μήκους μικροτέρου τῶν 4.9 μέτρων (ἢ 16 ποδῶν).
- (γ) Δὲν δύναται νὰ ἐγκριθῇ σωσίβιος λέμβος τὸ βάρος τῆς ὁποίας, ὅταν εἶναι πλήρως ἔμπορτος μετὰ τὰ ἄτομα καὶ τὸν ἐξαρτισμὸν, ὑπερβαίνει τὰ 20.300 χιλιόγραμμα (ἢ 20 τόννους) ἢ ἡ ὁποία ἔχει μεταφορικὴν ἰκανότητα, ὑπολογιζομένην συμφώνως πρὸς τὸν Κανονισμὸν 7 τοῦ παρόντος Κεφαλαίου, μεγαλυτέραν τῶν 150 ἀτόμων.

(δ) "Ολαι αἱ σωσίβιοι λέμβοι διὰ τὰς ὁποίας ἔχει ἐγκριθῆ νὰ μεταφέρουν πλέον τῶν 60 ἀτόμων, ἀλλ' οὐχὶ περισσότερα τῶν 100, θὰ εἶναι εἴτε σωσίβιοι μηχανοκίνητοι λέμβοι πληροῦσαι τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ 9 τοῦ παρόντος Κεφαλαίου, εἴτε σωσίβιοι λέμβοι ἐφωδιασμένοι δι' ἐγκεκριμένου μέσου μηχανικῆς προώσεως, πληροῦσαι τὸν Κανονισμόν 10 τοῦ παρόντος Κεφαλαίου. "Ολαι αἱ σωσίβιοι λέμβοι διὰ τὰς ὁποίας ἐπιτρέπεται νὰ μεταφέρουν πλείονα τῶν 100 ἀτόμων θὰ εἶναι μηχανοκίνητοι πληροῦσαι τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ 9 τοῦ παρόντος Κεφαλαίου.

(ε) "Ολαι αἱ σωσίβιοι λέμβοι θὰ εἶναι ἐπαρκοῦς ἀντοχῆς ὥστε νὰ δύνανται νὰ καθαιρεθοῦν εἰς τὴν θάλασσαν ὑπὸ πλήρη φόρτον ἀτόμων καὶ ἐξαρτισμοῦ.

"Ολαι αἱ σωσίβιοι λέμβοι θὰ εἶναι τοιαύτης ἀντοχῆς ὥστε νὰ μὴ ὑφίστανται μόνιμον κάμψιν ὅταν ὑποβληθοῦν εἰς 25 τοῖς ἑκατὸν ὑπερφόρτωσιν.

(στ) "Ολαι αἱ σωσίβιοι λέμβοι θὰ ἔχουν μέσην σιμότητα τοῦλάχιστον ἴση πρὸς 4% τοῦ μήκους αὐτῶν. Ἡ σιμότης θὰ εἶναι κατὰ προσέγγισιν παραβολικοῦ σχήματος.

(ζ) Εἰς τὰς σωσιβίους λέμβους διὰ τὰς ὁποίας ἐπιτρέπεται νὰ μεταφέρουν 100 ἢ περισσότερα άτομα, ὁ ὄγκος τῆς ἐφεδρικῆς πλευστότητος θὰ ἐπαυξάνεται κατὰ τὴν κρίσιν τῆς Ἀρχῆς.

(η) "Ολαι αἱ σωσίβιοι λέμβοι θὰ ἔχουν ἐγγενῆ πλευστότητα ἢ θὰ ἐφοδιάζονται δι' ὕδατοστεγῶν ἀεροκιβωτίων ἢ δι' ἐτέρου ἰσοδυνάμου ἀδιαβρώτου ὑλικοῦ πλευστότητος τὸ ὁποῖον δὲν θὰ προσβάλλεται ἐπιβλαβῶς ὑπὸ τοῦ πετρελαίου ἢ ὑπὸ τῶν παραγῶν τοῦ πετρελαίου, ἐπαρκῆ δὲ ὥστε ἡ λέμβος μετὰ τῶν ἐφοδίων αὐτῆς νὰ ἐπιπλέῃ ὅταν αὕτη κατακλυσθῆ καὶ εἶναι ἐκτεθειμένη εἰς τὴν θάλασσαν. Θὰ προβλέπεται ἐπιπρόσθετος ὄγκος ἀεροκιβωτίων ἢ ἐτέρου ἰσοδυνάμου ἀδιαβρώτου ὑλικοῦ πλευστότητος, μὴ προσβαλλομένου ἐπιβλαβῶς ὑπὸ τοῦ πετρελαίου ἢ ὑπὸ τῶν παραγῶν τοῦ πετρελαίου, ἴσος τοῦλάχιστον πρὸς τὸ ἓν δέκατον τῆς κυβικῆς χωρητικότητος τῆς λέμβου. Ἡ Ἀρχὴ δύναται νὰ ἐπιτρέπη ὅπως τὰ ὕδατοστεγῆ ἀεροκιβώτια πληροῦνται διὰ ἀδιαβρώτου ὑλικοῦ πλευστότητος τὸ ὁποῖον δὲν θὰ προσβάλλεται ἐπιβλαβῶς ὑπὸ τοῦ πετρελαίου ἢ τῶν παραγῶν τοῦ πετρελαίου.

(θ) "Ολα τὰ σέλματα καὶ τὰ πλευρικά καθίσματα θὰ τοποθετοῦνται, ὅσον εἶναι πρακτικῶς δυνατόν, χαμηλότερον ἐντὸς τῆς σωσιβίου λέμβου.

(ι) Ὁ συντελεστὴς κυβικῆς χωρητικότητος πασῶν τῶν σωσιβίων λέμβων, ὡς οὗτος καθορίζεται συμφώνως πρὸς τὸν Κανονισμόν 6 τοῦ παρόντος Κεφαλαίου, ἐξαιρέσει τῶν ξυλίνων σωσιβίων λέμβων κατεσκευασμένων ἐξ ἐπηγκενίδων, δὲν θὰ εἶναι μικρότερος τοῦ 0,64 ἐκτὸς ἂν ἡ Ἀρχὴ κρίνῃ ὅτι ἡ ἐπάρκεια τοῦ μετακεντρικοῦ ὕψους καὶ τὸ ὕψος τῶν ἐξάλων τῆς σωσιβίου λέμβου, ὑπὸ πλήρη φόρτον ἀτόμων καὶ ἐξαρτισμοῦ, ἱκανοποιεῖ τὰς ἀπαιτήσεις τῆς, ὁπότε δύναται νὰ ἐπιτρέψῃ συντελεστὴν κυβικῆς χωρητικότητος μικρότερον τοῦ 0,64.

Κανονισμὸς 6

Κυβικὴ χωρητικότης Σωσιβίων Λέμβων

(α) Ἡ κυβικὴ χωρητικότης σωσιβίου λέμβου θὰ καθορίζεται διὰ τοῦ Κανόνος Simpson (Stirling) ἢ δι' ἄλλης μεθόδου διδούσης τὸν αὐτὸν βαθμὸν ἀκρίβειας. Ἡ χωρητικότης σωσιβίου λέμβου μετὰ πρύμνης σχήματος ἄβακος θὰ ὑπολογίζεται ὡς ἔαν ἡ σωσίβιος λέμβος εἶχε πρύμνην σφηνοειδοῦς σχήματος.

(β) Ἐπὶ παραδείγματι, ἡ χωρητικότης εἰς κυβικὰ μέτρα (ἢ κυβικοῦς πόδας) μιᾶς σωσιβίου λέμβου, ὑπολογιζομένη τῇ βοήθειᾳ τοῦ Κανόνος Στέρλιγκ, δύναται νὰ θεωρηθῆ ὅτι δίδεται ὑπὸ κατωτέρου τύπου :

$$\text{Χωρητικότητα} = \frac{L}{12} (4A + 2B + 4C)$$

Ἐνθα, L εἶναι τὸ μήκος τῆς σωσιβίου λέμβου εἰς μέτρα (ἢ πόδας) μετρούμενον ἀπὸ τὸ ἔσωτερικὸν τῶν ἐπηγκενίδων ἢ τῶν ἐλασμάτων εἰς τὴν στεῖραν μέχρι τοῦ ἀντιστοίχου σημείου εἰς τὸ ποδόστημα. Εἰς τὴν περίπτωσιν σωσιβίου λέμβου μετὰ ἄβακος, τὸ μήκος μετράται ἔσωθεν τοῦ ἄβακος.

A, B, C εἶναι αἱ ἐπιφάνειαι τῶν ἐγκαρσίων τομῶν εἰς τὸ τέταρτον τοῦ μήκους τῆς πρῶρας, εἰς τὸ μέσον καὶ εἰς τὸ τέταρτον τοῦ μήκους ἀπὸ πρύμνης αἵτινες ἀντιστοιχοῦν εἰς τὰ τρία σημεῖα τὰ ἐπιτυγχανόμενα διὰ τῆς διαιρέσεως τοῦ μήκους L εἰς τέσσαρα ἴσα μέρη. (Αἱ ἐπιφάνειαι αἱ ἀντιστοιχοῦσαι εἰς τὰ δύο ἄκρα τῆς σωσιβίου λέμβου θεωροῦνται ἀμελητέαι).

Αἱ ἐπιφάνειαι A, B, C θὰ θεωροῦνται ὡς διδόμεναι εἰς τετραγωνικά μέρη (ἢ τετραγωνικούς πόδας) διὰ τῆς διαδοχικῆς ἐφαρμογῆς τοῦ κατωτέρου τύπου δι' ἑκάστην τῶν ἐγκαρσίων τομῶν.

$$\text{Ἐπιφάνεια} = \frac{H}{12} (A + 4B + 2C + 4D + E)$$

Ἐνθα, H εἶναι τὸ βάθος μετρούμενον εἰς μέτρα (ἢ εἰς πόδας) ἔσωθεν τῶν ἐπηγκενίδων ἢ τῶν ἐλασμάτων ἀπὸ τῆς τρύπιδος μέχρι τοῦ ὕψους τῆς κουπαστῆς ἢ, εἰς τινὰς περιπτώσεις, μέχρι κατωτέρου ὕψους ὡς καθορίζεται κατωτέρω.

A, B, C, D, E εἶναι τὰ ὀριζόντια πλάτη τῆς σωσιβίου λέμβου, μετρούμενα εἰς μέτρα (ἢ εἰς πόδας) εἰς τὰ ἀνώτερα καὶ τὰ κατώτερα σημεῖα τοῦ βάθους καὶ εἰς τὰ τρία σημεῖα τὰ ἐπιτυγχανόμενα διὰ τῆς διαιρέσεως τοῦ H εἰς τέσσαρα ἴσα μέρη (τὰ A καὶ E εἶναι τὰ πλάτη εἰς τὰ ἀκρότατα σημεῖα καὶ C εἰς τὸ μέσον σημεῖον τοῦ H).

(γ) Ἐάν ἡ σιμότης τῆς κουπαστῆς, μετρομένη εἰς δύο σημεῖα κείμενα εἰς τὸ τέταρτον τοῦ μήκους τῆς σωσιβίου λέμβου ἀπὸ τὰ ἄκρα, ὑπερβαῖν τὸ ἕν τοῖς ἑκατόν τοῦ μήκους τῆς σωσιβίου λέμβου, τὸ βάθος τὸ χρησιμοποιηθέν διὰ τὸν ὑπολογισμόν τῆς ἐπιφανείας τῶν ἐγκαρσίων τομῶν A καὶ C θὰ θεωρηθῇ ὅτι εἶναι τὸ βάθος εἰς τὸ μέσον τῆς σωσιβίου λέμβου πλέον ἕν τοῖς ἑκατόν τοῦ μήκους τῆς σωσιβίου λέμβου.

(δ) Ἐάν τὸ βάθος τῆς σωσιβίου λέμβου εἰς τὸ μέσον ὑπερβαῖν τὰ 45 τοῖς ἑκατόν τοῦ πλάτους, τὸ βάθος τὸ χρησιμοποιούμενον διὰ τὸν ὑπολογισμόν τῆς ἐπιφανείας τῆς μεσαίας ἐγκαρσίας τομῆς B θὰ θεωρηθῇ ἴσον πρὸς τὰ 45 τοῖς ἑκατόν τοῦ πλάτους, τὸ δὲ βάθος τὸ χρησιμοποιούμενον διὰ τὸν ὑπολογισμόν τῶν ἐπιφανειῶν τῶν ἐγκαρσίων τομῶν A καὶ C εἰς τὰ τέταρτα τοῦ μήκους, εὐρίσκεται διὰ τῆς ἐπαυξήσεως τοῦ τελευταίου τούτου ἀριθμοῦ κατὰ τὸ ἕν ἐπὶ τοῖς ἑκατόν τοῦ μήκους τῆς σωσιβίου λέμβου, ὑπὸ τὸν ὄρον ὅτι εἰς οὐδεμίαν περίπτωσιν τὰ χρησιμοποιηθέντα διὰ τὸν ὑπολογισμόν βάθη ὑπερβαίνουν τὰ πραγματικά βάθη εἰς τὰ σημεῖα ταῦτα.

(ε) Ἐάν τὸ βάθος τῆς σωσιβίου λέμβου εἶναι μεγαλύτερον τῶν 1,22 μέτρων (ἢ 4 ποδῶν), ὁ ἀριθμὸς τῶν ἀτόμων ὃ διδόμενος διὰ τῆς ἐφαρμογῆς τοῦ Κανόνος τούτου θὰ μειοῦται κατὰ τὴν ἀναλογίαν τῶν 1,22 μέτρων (ἢ 4 ποδῶν) πρὸς τὸ πραγματικὸν βάθος, μέχρις ὅτου ἡ σωσίβιος λέμβος δοκιμασθῇ ἱκανοποιητικῶς ἐν τῷ ὕδατι μετὰ τοῦ ἀριθμοῦ τούτου τῶν ἐπιβαίνοντων ἀτόμων, φερόντων ἀπάντων σωσιβίους ζώνας.

(στ) Ἡ Ἀρχὴ θὰ ἐπιβάλλη, διὰ καταλλήλων τύπων, ὄριον ἀριθμοῦ ἀτόμων ἐπιτρεπομένων εἰς τὰς σωσιβίους λέμβους τὰς ἐχούσας λίαν λεπτά ἄκρα, καθὼς καὶ τὰς σωσιβίους λέμβους τὰς ἐχούσας σχῆμα διωγκωμένον.

(ζ) Ἡ Ἀρχὴ δύναιται νὰ καθορίσῃ διὰ σωσίβιον λέμβον, κατεσκευασμένην ἐκ

ξυλίων ἐπηγκενίδων, χωρητικότητα ἴσην πρὸς τὸ γινόμενον τοῦ μήκους, τοῦ πλάτους καὶ τοῦ βάθους πολλαπλασιαζόμενον ἐπὶ 0,6 εἰάν εἶναι προφανές ὅτι ὁ τύπος οὗτος δὲν δίδει χωρητικότητα μεγαλύτεραν τῆς ἐπιτυγχανομένης διὰ τῆς ἀνωτέρου μεθόδου. Αἱ διαστάσεις τότε θὰ μετροῦνται κατὰ τὸν ἀκόλουθον τρόπον:

Μήκος— Ἀπὸ τῆς τομῆς τῆς ἔξω ἐπιφανείας τῶν ἐπηγκενίδων μετὰ τῆς στείρας μέχρι τοῦ ἀντιστοίχου σημείου εἰς τὸ ποδόστημα, ἢ, προκειμένου περί λέμβου μετὰ ἄβακος, μέχρι τῆς πρυμναίας ὄψεως τοῦ ἄβακος.

Πλάτος— Ἀπὸ τῆς ἔξω ἐπιφανείας τῶν ἐπηγκενίδων τοῦ περιβλήματος εἰς τὸ σημεῖον ἐνθα τὸ πλάτος τῆς λέμβου εἶναι μέγιστον.

Βάθος— Εἰς τὸ μέσον τῆς λέμβου, ἐσωτερικῶς τῶν ἐπηγκενίδων ἀπὸ τῆς τρόπιδος μέχρι τοῦ ὕψους τῆς κουπαστῆς, τὸ βάθος ὅμως τὸ χρησιμοποιούμενον διὰ τὸν ὑπολογισμόν τῆς κυβικῆς χωρητικότητος δὲν δύναται ἐν οὐδεμίᾳ περιπτώσει νὰ ὑπερβῇ τὰ 45 τοῖς ἑκατόν τοῦ πλάτους.

Εἰς πάσας τὰς περιπτώσεις ὁ πλοιοκτήτης ἔχει τὸ δικαίωμα νὰ ζητήσῃ τὸν καθορισμόν τῆς κυβικῆς χωρητικότητος τῆς σωσιβίου λέμβου δι' ἀκριβοῦς μετρήσεως.

(η) Ἡ κυβικὴ χωρητικότης σωσιβίου λέμβου μετὰ κινητήρος ἢ σωσιβίου λέμβου φεροῦσης ἑτέραν συσκευὴν προώσεως θὰ καθορίζεται ἐκ τῆς ὀλικῆς χωρητικότητος διὰ τῆς ἐκπτώσεως ὄγκου ἴσου πρὸς τὸν καταλαμβανόμενον ὑπὸ τοῦ κινητήρος καὶ τῶν εξαρτημάτων του ἢ ὑπὸ τοῦ κιβωτίου τοῦ μηχανισμοῦ τῆς ἑτέρας συσκευῆς προώσεως, καθὼς καὶ τοῦ ὄγκου τῆς ραδιοηλεκτρονικῆς ἐγκαταστάσεως καὶ τοῦ προβολέως, μετὰ τῶν εξαρτημάτων των, ἐφ' ὅσον ὑπάρχουν.

Κανονισμός 7

Μεταφορικὴ Ἰκανότης Σωσιβίων Λέμβων

Ὁ ἀριθμὸς τῶν ἀτόμων τὰ ὅποια μία σωσίβιος λέμβος ἐπιτρέπεται νὰ παραλάβῃ, θὰ εἶναι ἴσος πρὸς τὸν μέγιστον ἀκέραιον ἀριθμὸν τὸν προκύπτοντα ἐκ τῆς διαιρέσεως τῆς χωρητικότητος εἰς κυβικὰ μέτρα διὰ:

Εἰς τὴν περίπτωσιν σωσιβίου λέμβου μήκους 7,3 μέτρων (24 ποδῶν) καὶ ἄνω 0,283 (ἢ 10 ὅταν ἡ χωρητικότης μετᾶται εἰς κυβικοὺς πόδας)

εἰς τὴν περίπτωσιν σωσιβίων λέμβων μήκους 4,9 μέτρων (ἢ 16 ποδῶν) 0,396 (ἢ 14 ὅταν ἡ χωρητικότης μετᾶται εἰς κυβικοὺς πόδας καὶ

εἰς τὴν περίπτωσιν σωσιβίων λέμβων μήκους 4,9 μέτρων (ἢ 16 ποδῶν) καὶ ἄνω, ἀλλὰ κάτω τῶν 7,3 μέτρων (ἢ 24 ποδῶν) εἰς ἀριθμὸς μεταξὺ 0,396 (ἢ 14 καὶ 10 ὅταν ἡ χωρητικότης μετᾶται εἰς κυβικοὺς πόδας), ὅστις θὰ λαμβάνεται διὰ παρεμβολῆς,

νοουμένου ὅτι ὁ ἀριθμὸς εἰς οὐδεμίαν περίπτωσιν θὰ ὑπερβαίῃ τὸν ἀριθμὸν τῶν ἐνηλίκων ἀτόμων, φερόντων σωσιβίους ζώνας, ἅτινα δύναται νὰ κάθῃνται χωρὶς νὰ ἐμποδίζουν καθ' ὅλιγον τὸν τρόπον τὴν χρῆσιν τῶν κωπῶν ἢ τὴν λειτουργίαν τῶν ἄλλων μέσων προώσεως.

Κανονισμός 8

Κανονικὸς Ἀριθμὸς Σωσιβίων Λέμβων μετὰ Κινητήρος

(α) Πᾶν ἐπιβατηγὸν πλοῖον θὰ φέρῃ μίαν τοῦλάχιστον σωσίβιον λέμβον μετὰ κινητήρος εἰς ἐκάστη πλευρᾶν ἣτις θὰ πληροῖ τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ 9 τοῦ παρόντος Κεφαλαίου.

Εἰς ἐπιβατηγά, ἐν τούτοις, πλοῖα εἰς τὰ ὁποῖα ὁ ὀλικὸς ἀριθμὸς τῶν ἀτόμων ἔτινα ἐπιτρέπεται νὰ μεταφέρουν, ὁμοῦ μετὰ τοῦ πληρώματος, δὲν ὑπερβαίνει τοὺς 30, μίαν μόνον σωσίβιος λέμβος μετὰ κινητήρος θὰ ἀπαιτῆται.

(β) Πᾶν φορτηγὸν πλοῖον, ὀλικῆς χωρητικότητος 1.600 κόνων καὶ ἄνω, ἐξαιρέσει τῶν δεξαμενοπλοίων, τῶν πλοίων τῶν χρησιμοποιουμένων ὡς ἐργοστάσια κατεργασίας φαλαινῶν, τῶν πλοίων τῶν χρησιμοποιουμένων ὡς ἐργοστάσια ἐπεξεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων καὶ τῶν πλοίων τῶν μεταφερόντων τὸ ἀπασχολούμενον προσωπικὸν εἰς τὴν φαλινοθηρίαν καὶ εἰς τὴν βιομηχανίαν ἐπεξεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων, θὰ φέρῃ μίαν τοῦλάχιστον σωσίβιον λέμβον μετὰ κινητήρος, ἣτις θὰ πληροῖ τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ 9 τοῦ παρόντος Κεφαλαίου.

(γ) Πᾶν δεξαμενόπλοιον ὀλικῆς χωρητικότητος 1,600 κόνων καὶ ἄνω, πᾶν πλοῖον χρησιμοποιούμενον ὡς ἐργοστάσιον κατεργασίας φαλαινῶν, πᾶν πλοῖον χρησιμοποιούμενον ὡς πλοῖον ἐπεξεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων καὶ πᾶν πλοῖον μεταφέρον τὸ ἀπασχολούμενον προσωπικὸν εἰς τὴν φαλινοθυρίαν καὶ τὴν βιομηχανίαν ἐπεξεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων, θὰ φέρῃ μίαν τοῦλάχιστον σωσίβιον λέμβον μετὰ κινητήρος εἰς ἐκάστη πλευρὰν τοῦ πλοίου, ἣτις θὰ πληροῖ τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ 9 τοῦ παρόντος Κεφαλαίου.

Κανονισμὸς 9

Προδιαγραφή Σωσιβίων Λέμβων μετὰ Κινητήρος

- (α) Ἡ σωσίβιος λέμβος μετὰ κινητήρος θὰ πληροῖ τοὺς κατωτέρω ὄρους :
- (i) Θὰ εἶναι ἐφωδιασμένη διὰ κινητήρος τύπου συμπίεσεως, συντηρουμένου εἰς τρόπον ὥστε νὰ εἶναι πάντα χρόνον ἔτοιμος πρὸς λειτουργίαν. Θὰ δύναται νὰ ἐκκινήται εὐκόλως ὑπὸ οἰασδήποτε συνθήκας. Θὰ προβλέπεται ἐπαρκὲς καύσιμον διὰ συνεχῆ λειτουργίαν 24 ὥρῶν εἰς τὴν ταχύτητα τὴν καθοριζομένην εἰς τὸ ἐδάφιον (α) (iii) τοῦ παρόντος Κανονισμοῦ.
 - (ii) Ὁ κινητὴρ καὶ τὰ ἐξαρτήματα αὐτοῦ θὰ εἶναι καταλλήλως προφυλαγμένα ἵνα ἐξασφαλίζεται ἡ λειτουργία ὑπὸ δυσμενεῖς καιρικὰς συνθήκας καὶ τὸ κάλυμμα τοῦ κινητήρος θὰ ἀνθίσταται εἰς τὸ πῦρ. Θὰ ὑπάρχῃ πρόβλεψις διὰ τὴν ἀναπόδισιν τῆς λέμβου.
 - (iii) Ἡ ταχύτης πρόσω ἐν γαληνιαῇ θαλάσῃ μετὰ πλήρους φόρτου ἀτόμων καὶ ἐξαρτισμοῦ θὰ εἶναι :
 - (1) Ἐξ κόμβοι τοῦλάχιστον εἰς τὴν περίπτωσιν τῶν σωσιβίων λέμβων μετὰ κινητήρος, τῶν ἀπαιτουμένων ὑπὸ τοῦ Κανονισμοῦ 8 τοῦ παρόντος Κεφαλαίου διὰ τὰ ἐπιβατηγά πλοῖα, τὰ δεξαμενόπλοια, τὰ πλοῖα τὰ χρησιμοποιούμενα ὡς ἐργοστάσια κατεργασίας φαλαινῶν, τὰ πλοῖα τὰ χρησιμοποιούμενα ὡς πλοῖα ἐπεξεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων καὶ τὰ πλοῖα τὰ μεταφέροντα τὸ ἀπασχολούμενον προσωπικὸν εἰς τὴν φαλινοθηρίαν καὶ τὴν βιομηχανίαν ἐπεξεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων.
 - (2) Τέσσαρες κόμβοι τοῦλάχιστον εἰς τὴν περίπτωσιν πάσης ἄλλης σωσιβίου λέμβου μετὰ κινητήρος.
- (β) Ὁ ὄγκος τῶν μέσων ἐσωτερικῆς πλευστότητος μιᾶς σωσιβίου λέμβου μετὰ κινητήρος θὰ ἀυξηθῇ ἐὰν συντρέχῃ λόγος, πέραν τοῦ ἀπαιτουμένου ὑπὸ τοῦ Κανονι-

σμού 5 του παρόντος Κεφαλαίου διά της ποσότητας, κατά την οποίαν ο όγκος των μέσων έσωτερικής πλευστότητος ο άπαιτούμενος να υποβαστάξη τόν κινητήρα και τά εξαρτήματα αυτού, καθώς και τόν προβολέα και τήν ραδιοτηλεγραφικήν εγκατάστασιν, εάν υπάρχουν, υπερβαίνει τόν όγκον των άπαιτουμένων μέσων έσωτερικής πλευστότητος. Η αύξησις αυτή θα γίνεται κατά τήν αναλογίαν 0,0283 κυβικῶν μέτρων (1 κυβικού ποδός) ανά άτομον διά να υποβαστάξη τά επιρόσθετα άτομα τά όποια ή σωσίβιος λέμβος μετά κινητήρος θά ήδύνατο να παραλάβη, εάν ήθελον αφαιρεθῆ ο κινητήρ και τά εξαρτήματα αυτού, καθώς και ο προβολεύς και ή ραδιοτηλεγραφική εγκατάστασις, εάν υπάρχουν.

Κανονισμός 10

Προδιαγραφή των Μηχανικῶς Προωθουμένων Σωσιβίων Λέμβων, έκτός των Σωσιβίων Λέμβων μετά Κινητήρος

Ἡ μηχανικῶς προωθουμένη σωσίβιος λέμβος, πλήν τῆς σωσιβίου λέμβου μετά κινητήρος, θά πληροῖ τούς κατωτέρω δρους:

(α) Ὁ προωστήριος μηχανισμός θά εἶναι έγκεκριμένου τύπου και θά έχη άρκετήν ισχύν επιτρέπουσαν εις τήν σωσίβιον λέμβον να απομακρύνεται ταχέως από τῆς πλευρᾶς του πλοίου άμα τῆ καθελκύσει αυτής και να δύναται να κρατη πορείαν υπό δυσμενεῖς καιρικᾶς συνθήκας. Ἐάν ο μηχανισμός εἶναι χειροκίνητος, θά εἶναι δυνατόν να χειρίζεται υπό άνειδικεύτου προσωπικού και θά εἶναι ικανός να λειτουργῆ όταν ή σωσίβιος λέμβος θά έχη κατακλυσθῆ υπό ύδατος.

(β) Θά ύπάρχη μέσον διά του οποίου ο πηδαλιούχος θά δύναται να αναποδίση τήν σωσίβιον λέμβον ανά πάντα χρόνον όταν ο προωστήριος μηχανισμός εὑρίσκειται εις λειτουργίαν.

(γ) Ὁ όγκος τῆς έσωτερικής πλευστότητος μιᾶς σωσιβίου λέμβου μηχανικῶς προωθουμένης, πλήν τῆς σωσιβίου λέμβου μετά κινητήρος, θά έπαυξάνεται διά να άντισταθμίση τό βάρος του προωστηρίου μηχανισμού.

Κανονισμός 11

Ἐφόδια Σωσιβίων Λέμβων

(α) Ὁ κανονικός εξαρτισμός εκάστης σωσιβίου λέμβου θά περιλαμβάνη τά εξής:

(i) Μίαν σειράν κωπῶν διά μονόκωπον κωπηλασίαν, δύο άμοιβάς κώπας και μίαν κώπην πηδαλιούχιας, μίαν και ήμίσειαν σειράν μεταλλικῶν ή ξυλίνων σκαλμῶν προσδεδεμένων εις τήν σωσίβιον λέμβον διά δετηρίας ή αλύσεως και ένα κόρακα.

(ii) Δύο πείρους δι' εκάστην όπήν εκκένώσεως (οι πείροι δέν άπαιτούνται όταν ύπάρχουν ειδικά αυτόματοι βαλβίδες) προσδεδεμένοι εις τήν σωσίβιον λέμβον, μέσω δετηρίας ή αλύσου, εν άντλιον και δύο κάδους έξ έγκεκριμένου ύλικού.

(iii) Ἐν πηδάλιον προσηρητημένον εις τήν σωσίβιον λέμβον και ένα οἶακα.

(iv) Δύο πελέκεις, ανά ένα εις εκαστον άκρον τῆς σωσιβίου λέμβου.

(v) Ἐνα φανόν, μετά έπαρκούς έλαιου διά 12 ώρας και δύο κυτία καταλλήλων πυρείων εντός ύδατοστεγοῦς κιβωτίου.

- (vi) Ένα ιστόν ή ιστούς μετά γαλβανισμένων συρματινών παρατόνων και ιστιών (πορτοκαλλοχρώων).
- (vii) Μίαν κατάλληλον πυξίδα εντός πυξιδοθήκης, ήτις θά είναι φωτεινή ή εφωδισμένη διά καταλλήλου μέσου φωτισμού.
- (viii) Έν σωσίβιον ρυμάτιον χαλαρώς προσδεδεμένον πέριξ και έξωθεν τής λέμβου.
- (ix) Μίαν πλωτήν άγκυραν έγκεκριμένου μεγέθους.
- (x) Δύο πεισμάτια (μπαρούμες) έπαρκούς μήκους. Τό έν θά στερεοϋται εις τό πρωραϊον άκρον τής σωσιβίου λέμβου μετά στρόφου (στρόπου) και σκαλμίσκου, ώστε νά δύναται νά έλευθεροϋται και τό έτερον θά είναι σταθερώς στερεωμένον εις τήν στεϊραν τής σωσιβίου λέμβου και έτοιμον πρός χρήσιν.
- (xi) Έν δοχείον περιέχον τέσσαρα και ήμισυ λίτρα (ή έν γαλλόνιον) φυτικού, ιχθυελαίου ή ζωϊκού έλαιου. Τό δοχείον θά είναι ούτω πως κατασκευασμένον ώστε τό έλαιον νά είναι δυνατόν νά διαχυθή εύκόλως εις τήν θάλασσαν και νά έχη τοιαύτην διάταξιν ώστε νά δύναται νά προσδεθή εις τήν πλωτήν άγκυραν.
- (xii) Μερίδα τροφίμων καθορισθησομένην υπό τής 'Αρχής, δι' έκαστον άτομον τό όποϊον επιτρέπεται νά μεταφέρεται επί τής σωσιβίου λέμβου. Τα τρόφιμα ταϋτα θά διατηροϋνται εντός άεροστεγών δοχείων και θά στοιβάζονται εντός ύδατοστεγούς κιβωτίου.
- (xiii) Ύδατοστεγή δοχεία περιέχοντα τρία λίτρα (ή έξ πίντας) ποσίμου ύδατος δι' έκαστον άτομον τό όποϊον επιτρέπεται νά μεταφέρεται επί τής σωσιβίου λέμβου, ή ύδατοστεγή δοχεία περιέχοντα δύο λίτρα (ή τέσσαρας πίντας) ποσίμου ύδατος δι' έκαστον άτομον, όμοϋ μετά μιās συσκευής άφαλατώσεως ικανής νά παράγη έν λίτρον (ή δύο πίντας) ποσίμου ύδατος κατ' άτομον. Έν άνοξειδωτον άντλιον μετά δετηρίας και έν άνοξειδωτον βαθμολογημένον κύπελλον.
- (xiv) Τέσσαρας άλεξιπτωτιστικές φωτοβολίδας έγκεκριμένου τύπου δυναμένης νά παράγουν λαμπρόν έρυθρόν φώς εις μέγα ύψος και έξ πυρσούς χειρός έγκεκριμένου τύπου, οίτινες θά δίδουν λαμπρόν έρυθρόν φώς.
- (xv) Δύο επιπλέοντα καπνογόνα σήματα έγκεκριμένου τύπου (πρός χρήσιν κατά τήν ήμέραν), ικανά νά αναδίδουν ποσότητα πορτοκαλλοχρόου καπνοϋ.
- (xvi) Μέσα έγκεκριμένου τύπου επιτρέποντα εις τά επιβαίνοντα άτομα νά άνακρεμώνται από τής λέμβου, εάν αύτη άνατραπή, υπό μορφήν παρατροπιδίων ή έρκάνης παρά τήν τρόπιδα, όμοϋ μετά σχοινίνων χειρολαβών στερεωμένων από τής κουπαστής τής μιās πλευράς εις τήν τής έτέρας και διερχομένων κάτωθεν τής τρόπιδος ή άλλης έγκεκριμένης διατάξεως.
- (xvii) Έν ύδατοστεγές κιβώτιον φαρμάκων πρώτων βοηθειών έγκεκριμένου τύπου.
- (xviii) Ένα άδιάβροχον ήλεκτρικόν φανόν κατάλληλον διά σήμανσιν διά σημάτων Μόρς μετά μιās σειράς άνταλλακικών στηλών και μιās άνταλλακτικής λυχνίας εντός ύδατοστεγούς κιβωτίου.
- (xix) Ένα καθρέπτην σιμάνσεως κατά τήν ήμέραν, έγκεκριμένου τύπου.
- (xx) Έν κλειόμενον μαχαιρίδιον μετά εργαλείου διά τό άνοιγμα λευκοσιδηρών κυτιών, προσδεδεμένον εις τήν λέμβον διά δετηρίας.
- (xxi) Δύο έλαφρά επιπλέοντα όρμίδα.

- (xkii) Μίαν χειροκίνητον άντλιαν έγκεκριμένου τύπου.
- (xkiii) Έν κατάλληλον κιβώτιον διά τήν φύλαξιν τών μικρών εφοδίων.
- (xkiv) Μίαν συρίκτραν ή ίσοδύναμον ήχητικόν σήμα.
- (xkv) Μίαν σειράν συνέργων άλιείας.
- (xkvi) Έν έγκεκριμένον κάλυμμα χρώματος λίαν θεατοῦ, ίκανόν νά προφυλάττη τούς επιβαίνοντας τής λέμβου εκ τών καιρικῶν συνθηκῶν.
- (xkvií) Έν άντίγραφον τοῦ εικονογραφημένου πίνακος σωσιβίων σημάτων τών άναφερομένων εις τόν Κανονισμόν 16 τοῦ Κεφαλαίου V.
- (β) Είς περίπτωσιν πλοίων εκτελούντων πλόας τοιαύτης διαρκείας, ὥστε κατά τήν κρίσιν τής Ἄρχῆς τά είδη τά καθοριζόμενα εις τά εδάφια (vi), (xii), (xix), (xx) καί (xxv) τής παραγράφου (α) τοῦ παρόντος Κανονισμοῦ ήθελον κριθῆ μή άναγκαία, ή Ἄρχή δύναται νά επιτρέψη τήν παράλειψιν τούτων.
- (γ) Παρά τās διατάξεις τής παραγράφου (α) τοῦ παρόντος Κανονισμοῦ, αί μετά κινητήρος σωσίβιοι λέμβοι ή άλλαι μηχανικῶς προωθούμεναι έγκεκριμένου τύπου, δέν απαιτεῖται νά φέρουν ιστόν ή ιστία ή κώπας πλείονας τοῦ ήμίσεος τοῦ κεκανονισμένου άριθμοῦ, αλλά θά φέρουν δύο κόρακας λέμβων.
- (δ) Πάσαι αί σωσίβιοι λέμβοι θά εφοδιάζονται διά καταλλήλων μέσων άτινα θά επιτρέπουν εις τά έντός τής θαλάσσης άτομα νά άναρριχῶνται επί τής λέμβου.
- (ε) Πάσα σωσίβιος λέμβος θά φέρη φορητόν πυροσβεστήρα, έγκεκριμένου τύπου, δυνάμενον νά εκχέη άφρόν ή έτερον κατάλληλον μέσον σβέσεως πυρκαϊῆς πετρελαίου.

Κανονισμός 12

Στερέωσις Ἐφοδίων Σωσιβίων Λέμβων

Όλα τά εφόδια τής σωσιβίου λέμβου, εξαιρέσει τοῦ κόρακος τής λέμβου ὅστις θά μένη έλεύθερος διά τήν άπομάκρυνσιν ταύτης, θά εἶναι καταλλήλως έστερωμένα έντός τής σωσιβίου λέμβου. Ἡ πρόσδεσις θά γίνεται εις τρόπον ὥστε νά εξασφαλίξεται ή στερέωσις τών εφοδίων καί κατά τρόπον ὥστε νά μήν κωλύουν τούς κόρακας άναρτήσεως τής λέμβου ή νά έμποδίζουν τήν ταχείαν επιβίβασιν. Πάντα τά εφόδια τής σωσιβίου λέμβου θά εἶναι ὅσον τό δυνατόν μικρῶν διαστάσεων καί βάρους καί θά εἶναι συσκευασμένα καταλλήλως καί συμπαῶς.

Κανονισμός 13

Φορηταί Συσκευαί Ἀσυρμάτου διά Σωστικά Σκάφη

(α) Πάντα τά πλοία, εξαιρέσει εκείνων τά ὁποία φέρουν εις εκάστην πλευράν αὐτῶν σωσίβιον λέμβον μετά κινητήρος εφοδιασμένης διά ραδιοηλεκτρογραφικῆς εγκατάστασεως πληρούσης τούς ὅρους τοῦ Κανονισμοῦ 14 τοῦ παρόντος Κεφαλαίου καί τοῦ Κανονισμοῦ 13 τοῦ Κεφαλαίου IV, θά φέρουν έγκεκριμένην φορητήν συσκευήν άσυρμάτου διά σωστικόν σκάφος πληροῦσαν τās άπαιτήσεις τοῦ Κανονισμοῦ 14 τοῦ Κεφαλαίου IV. Ἡ συσκευή αὕτη θά φυλάσσεται εις τό δωμάτιον χάρτων ή εις άλλην κατάλληλον θέσιν καί θά εἶναι έτοιμος πρὸς μεταφοράν εις ολονδήποτε σωσίβιον λέμβον εις περίπτωσιν κινδύνου. Έν τούτοις, εις τά δεξαμενόπλοια ὀλικῆς χωρητικότητος 3.000 κόνων καί άνω εις τά ὁποία οἱ σωσίβιοι λέμβοι φέρονται εις

τὸ μέσον καὶ εἰς τὴν πρύμνην τοῦ πλοίου, ἢ συσκευή αὐτὴ θὰ φυλάσσεται εἰς κατάλληλον θέσιν πλησίον τῶν σωσιβίων λέμβων τῶν ἀπεχουσῶν περισσότερο ἀπὸ τοῦ κυρίου πομποῦ τοῦ πλοίου.

(β) Εἰς τὴν περίπτωσιν πλοίων ἐκτελούντων πλόας τοιαύτης διαρκείας ὥστε κατὰ τὴν κρίσιν τῆς Ἀρχῆς ἢ φορητὴ συσκευή ἀσυρμάτου διὰ σωστικὰ σκάφη νὰ μὴ εἶναι ἀναγκαῖα, ἢ Ἀρχὴ δύναται νὰ ἐπιτρέψῃ τὴν παράλειψιν ταύτης.

Κανονισμὸς 14

Συσκευαὶ Ἀσυρμάτου καὶ Προβολεῖς Σωσιβίων Λέμβων μετὰ Κινητῆρος

- (α) (i) Ὄταν ὁ ὀλικὸς ἀριθμὸς τῶν ἐπιβαινόντων ἐπιβατηγοῦ τινὸς πλοίου ἐκτελοῦντος διεθνεῖς πλόας οἵτινες δὲν εἶναι βραχεῖς διεθνεῖς πλόες, πλοίου χρησιμοποιομένου ὡς ἐργοστασίου εἰς τὴν θήραν φαλαινῶν πλοίου χρησιμοποιομένου δι' ἐπεξεργασίαν ἢ κονσερβοποιίαν ἰχθύων ἢ πλοίου μεταφέροντος τὸ ἀπασχολούμενον προσωπικὸν εἰς τὰ φαλινοθηρικὰ πλοῖα, εἰς τὰ πλοῖα ἐπεξεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων, εἶναι μεγαλύτερος τῶν 199 ἀλλὰ μικρότερος τῶν 1500, θὰ ἐγκαθίσταται ραδιοτηλεγραφικὴ συσκευή πληροῦσα τὰς ἀπαιτήσεις τοῦ παρόντος Κανονισμοῦ καὶ τοῦ Κανονισμοῦ 13 τοῦ Κεφαλαίου IV εἰς μίαν τοῦλάχιστον τῶν μετὰ κινητῆρος σωσιβίων λέμβων τῶν ἀπαιτουμένων ὑπὸ τοῦ Κανονισμοῦ 8 τοῦ παρόντος Κεφαλαίου ὅπως φέρονται ὑπὸ τοῦ πλοίου τούτου.
- (ii) Ὄταν ὁ ὀλικὸς ἀριθμὸς τῶν ἐπιβαινόντων τοῦ πλοίου εἶναι 1500 ἢ περισσότεροι τοιαύτῃ ραδιοτηλεγραφικῇ συσκευῇ θὰ ἐγκαθίσταται εἰς πᾶσαν σωσίβιον λέμβον μετὰ κινητῆρος, ἀπαιτουμένην ὑπὸ τοῦ Κανονισμοῦ 8 τοῦ παρόντος Κεφαλαίου ὅπως φέρεται ὑπὸ τοῦ πλοίου τούτου.
- (β) Ἡ ραδιοτηλεγραφικὴ συσκευή θὰ ἐγκαθίσταται ἐντὸς ἐπαρκῶς μεγάλου θαλαμίσκου, ὥστε νὰ περιλαμβάνῃ τὴν συσκευὴν καὶ τὸν χειριστὴν ταύτης.
- (γ) Αἱ διατάξεις θὰ εἶναι τοιαῦται ὥστε ἡ ἱκανοποιητικὴ λειτουργία τοῦ πομποῦ καὶ τοῦ δέκτου νὰ μὴ ἐπηρεάζεται ὑπὸ τοῦ κινητῆρος ἐν λειτουργίᾳ, εἴτε ὅταν φορτίζονται ἢ ὄχι οἱ συσσωρευταί.
- (δ) Οἱ συσσωρευταὶ τῆς ραδιοτηλεγραφικῆς συσκευῆς δὲν θὰ χρησιμοποιοῦνται ὅπως παρέχουν ρεῦμα διὰ τὴν ἐκκίνησιν τοῦ κινητῆρος ἢ διὰ τὸ σύστημα ἀναφλέξεως αὐτοῦ.
- (ε) Ὁ κινητῆρ τῆς σωσιβίου λέμβου θὰ ἐφοδιάζεται διὰ μιᾶς ἠλεκτρογεννητρίας διὰ τὴν φόρτισιν τῶν συσσωρευτῶν καθὼς καὶ δι' ἄλλας χρήσεις.
- (στ) Εἰς προβολεὺς θὰ ὑπάρχῃ εἰς ἐκάστην σωσίβιον λέμβον μετὰ κινητῆρος, ἥτις ἀπαιτεῖται κατὰ τοὺς ὅρους τῆς παραγράφου (α) τοῦ Κανονισμοῦ 8 τοῦ παρόντος Κεφαλαίου νὰ φέρεται εἰς τὰ ἐπιβατηγὰ πλοῖα καὶ κατὰ τοὺς ὅρους τῆς παραγράφου (γ) τοῦ αὐτοῦ Κανονισμοῦ νὰ φέρεται εἰς τὰ πλοῖα τὰ χρησιμοποιούμενα ὡς ἐργοστάσια κατεργασίας φαλαινῶν, εἰς τὰ πλοῖα ἐπεξεργασίας καὶ κονσερβοποιίας τῶν ἰχθύων καὶ εἰς τὰ πλοῖα τὰ μεταφέροντα τὸ ἀπασχολούμενον προσωπικὸν εἰς τὴν φαλινοθηρίαν καὶ τὴν βιομηχανίαν ἐπεξεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων.
- (ζ) Ὁ προβολεὺς θὰ περιλαμβάνῃ λυχνίαν 80 τοῦλάχιστον βάττ, ἱκανὸν ἀναταυγαστῆρα καὶ πηγὴν ἐνεργείας ἥτις θὰ φωτίζῃ ἀποτελεσματικῶς ἀντικείμενον ἀνοικτοῦ

χρώματος εἰς τομέα πλάτους 18 μέτρων (ἢ 60 περίπου ποδῶν) εἰς ἀπόστασιν 180 μέτρων (ἢ 200 ὑαρδῶν) ἐπὶ χρονικὴν περίοδον ἕξ ὥρων καὶ θὰ δύναται νὰ λειτουργῇ ἐπὶ τρεῖς τοῦλάχιστον ὥρας συνεχῶς.

Κανονισμὸς 15

Ἀπαιτήσεις διὰ Πνευστὰς Σωσιβίου Σχεδίας

(α) Πᾶσα πνευστὴ σχεδία θὰ εἶναι κατεσκευασμένη κατὰ τρόπον ὥστε, ὅταν εἶναι ἐντελῶς πεπληρωμένη καὶ ἐν ἐπιπλευσεί μετὰ τοῦ στεγάσματος ἀναπεπταμένου, νὰ ἔχη εὐστάθειαν ἐν ἀνοικτῇ θαλάσῃ.

(β) Ἡ σχεδία θὰ εἶναι κατεσκευασμένη κατὰ τρόπον ὥστε ἐὰν ριφθῇ εἰς τὴν θάλασσαν ἀπὸ ὕψους 18 μέτρων (ἢ 60 ποδῶν), οὔτε ἡ σχεδία οὔτε ὁ ἐξαρτισμὸς αὐτῆς θὰ ὑποστοῦν ζημίαν. Ἐὰν ἡ σχεδία προορίζεται ὅπως τοποθετηθῇ ἐπὶ τοῦ πλοίου εἰς ὕψος ὑπεράνω τοῦ ὕδατος μεγαλύτερον τῶν 18 μέτρων (60 ποδῶν), θὰ εἶναι τύπου δοκιμασμένου ἱκανοποιητικῶς εἰς τὰς πτώσεις ἕξ ὕψους τοῦλάχιστον ἴσου ἐκεῖνου εἰς τὸ ὁποῖον πρόκειται νὰ τοποθετηθῇ.

(γ) Ἡ σχεδία θὰ εἶναι ἐφωδιασμένη διὰ στεγάσματος τὸ ὁποῖον θὰ τίθεται αὐτομάτως εἰς τὴν θέσιν του ὅταν αὐτὴ πληροῦται. Τὸ στέγασμα τοῦτο θὰ εἶναι ἱκανὸν νὰ προφυλάττῃ τοὺς ἐπιβαίνοντας ἐκ τῶν καιρικῶν συνθηκῶν καὶ θὰ προβλέπωνται μέσα διὰ τὴν συλλογὴν τῶν ὑδάτων τῆς βροχῆς. Τὸ ἄνω μέρος τοῦ στεγάσματος θὰ ἐφοδιάζεται διὰ λυχνίας ἥτις θὰ τροφοδοτῆται ἐκ τῆς στήλης ἐνεργούσης διὰ θαλασσίου ὕδατος. Μία ὁμοία λυχνία θὰ ὑπάρχῃ ἐντὸς τῆς σχεδίας. Τὸ στέγασμα θὰ εἶναι χρώματος λίαν ὀρατοῦ.

(δ) Ἡ σχεδία θὰ ἐφοδιάζεται δι' ἐνὸς πεισματίου (μπαροῦμα) καὶ θὰ ἔχει σωσίβιον ρυμάτιον χαλαρῶς προσδεδεμένο ἐξωτερικῶς αὐτῆς. Σωσίβιον ρυμάτιον θὰ τοποθετῆται ἐπίσης περίξ τοῦ ἐσωτερικοῦ τῆς σχεδίας.

(ε) Ἡ σχεδία θὰ δύναται νὰ ἐπανορθωθῇ εὐχερῶς ὑπὸ ἐνὸς προσώπου, ἐὰν αὐτὴ πληροῦται ἀντεστραμμένη.

(στ) Ἡ σχεδία θὰ εἶναι ἐφωδιασμένη εἰς ἕκαστον ἀνοίγμα δι' ἀποτελεσματικῶν μέσων ἐπιτρεπόντων ὅπως πρόσωπα ἐντὸς τῆς θαλάσσης δύναται νὰ ἀναρριχηθῶν ἐπὶ τῆς σχεδίας.

(ζ) Ἡ σχεδία θὰ περιέχεται ἐντὸς σακκιδίου ἢ ἐτέρου περιβλήματος κατεσκευασμένου εἰς τρόπον ὥστε νὰ δύναται νὰ ἀντέχῃ εἰς σκληρὰς συνθήκας χρήσεως αἰτίνες συναντῶνται εἰς τὴν θάλασσαν. Ἡ σχεδία ἐντὸς τοῦ σακκιδίου ἢ ἐτέρου περιβλήματος θὰ ἔχη ἰδίαν πλευστότητα.

(η) Ἡ πλευστότης τῆς σχεδίας θὰ εἶναι κατὰ τοιοῦτον τρόπον κατανεμημένη ὥστε δι' ὑποδιάρσεως ταύτης εἰς ἄρτιον ἀριθμὸν χωριστῶν διαμερισμάτων, τὸ ἥμισυ τῶν ὁποίων θὰ δύναται νὰ ὑποβαστάζῃ ἐκτὸς τοῦ ὕδατος τὸν ἀριθμὸν τῶν ἀτόμων διὰ τὰ ὁποῖα ἔχει ἐπιτραπῇ ἢ ἐπιβίβασις, εἴτε δι' ἄλλου τινὸς ἕξ ἴσου ἀποτελεσματικοῦ μέσου νὰ ἐξασφαλίζεται ὅτι ὑπάρχει εὐλογον περιθώριον πλευστότητος ἐὰν ἡ σχεδία ὑποστῇ ζημίαν ἢ δὲν ἐπιτυγχάνεται παρὰ μερικὴ ἐμφύσησις.

(θ) Τὸ ὕλικὸν βάρος τῆς σχεδίας τοῦ σακκιδίου αὐτῆς ἢ ἐτέρου περιβλήματος καὶ τοῦ ἐξαρτισμοῦ αὐτῆς δὲν θὰ ὑπερβαῖνῃ τὰ 180 χιλιόγραμμα (ἢ 400 λίβρας).

(ι) Ὁ ἀριθμὸς τῶν ἀτόμων τὰ ὁποῖα θὰ ἐπιτρέπεται νὰ παραλαμβάνῃ μία πνευστὴ σχεδία θὰ εἶναι ἴσος πρόξ :

- (i) Τόν μέγιστον άκέραιον άριθμόν τόν προκύπτοντα εκ τής διαιρέσεως διά 96 του όγκου μετρουμένου εις κυβικά δέκατα (ή διά 3,4 του όγκου μετρουμένου εις κυβικούς πόδας) τών κυρίων σωληνωτών άεροφυλακίων (όστις διά τόν σκοπόν τουτον δέν θά περιλαμβάνη ούτε τά τόξα του στεγάσματος, ούτε τό σέλαμα ή τά σέλαματα, εάν υπάρχουν τοιαυτα) όταν ταυτα είναι πεπληρωμένα, ή
- (ii) Τόν μέγιστον άκέραιον άριθμόν τόν προκύπτοντα εκ τής διαιρέσεως διά 3,720 τής επιφανείας μετρουμένης εις τετραγωνικά εκατοστόμετρα (ή διά 4 τής επιφανείας εις τετραγωνικούς πόδας) του δαπέδου (ήτις διά τόν σκοπόν τουτον δύναται νά περιλάβη τό σέλαμα ή τά σέλαματα, εάν υπάρχουν τοιαυτα) τής σωσιβίου σχεδιάς όταν είναι πεπληρωμένη, λαμβανομένου του μικροτέρου άριθμού.
- (ia) Τό δάπεδον τής σωσιβίου σχεδιάς θά είναι αδιάβροχον και θά είναι ικανόν νά μονούται επαρκώς έναντιον του ψύχους.
- (ib) 'Η σωσιβίος σχεδιά θά πληροϋται δι' αερίου τό όποιον δέν θά είναι βλαβερόν εις τούς επιβαίνοντας και ή πλήρωσις θά λαμβάνη χώραν αυτομάτως, είτε δι' έλξεως ρυματίου είτε δι' άλλου τινός τρόπου εξ ίσου απλου και αποτελεσματικού. Θά προβλέπωνται μέσα διά τών όποιων ή άεραντλία ή οι φυσητήρες οι άπαιτούμενοι υπό του Κανονισμού 17 του παρόντος Κεφαλαίου θά δύναται νά διατηρουν τήν πίεσιν.
- (ic) 'Η σωσιβίος σχεδιά θά είναι εξ έγκεκριμένου ύλικου και κατασκευής και θά είναι κατασκευασμένη εις τρόπον ώστε νά δύναται νά άντέχη επί 30 ήμέρας, όταν είναι εκτεθειμένη εν επιπλεύσει, εις πάσας τας συνθήκας τής θαλάσσης.
- (id) Δέν θά τυγχάνη έγκρίσεως σωσιβίος σχεδιά ήτις θά έχη μεταφορικήν ικανότητα, ύπολογιζομένην συμφώνως πρός τήν παράγραφον (i) του παρόντος Κανονισμού, μικροτέραν τών εξ άτόμων. 'Ο μέγιστος άριθμός άτόμων, ύπολογιζόμενος συμφώνως πρός τήν ειρημένην παράγραφον, διά τόν όποιον μία σωσιβίος σχεδιά δύναται νά τύχη έγκρίσεως άπόκειται εις τήν κρίσιν τής 'Αρχής, αλλά εις ούδεμίαν περίπτωση θά υπερβαίνη τά 25.
- (ie) 'Η σωσιβίος σχεδιά θά είναι ικανή νά λειτουργή καθ' όλην τήν κλίμακα θερμοκρασιών από 66°C μέχρι μειον 30°C (ή 150°F μέχρι μειον 22°F).
- (ιστ) (i) 'Η σωσιβίος σχεδιά θά είναι έστοιβαγμένη εις τρόπον ώστε νά δύναται νά χρησιμοποιηθή εύκόλως εν ώρα κινδύνου και κατά τρόπον επιτρέποντα τήν επίπλευσιν αυτής εκ τής θέσεως στοιβασίας της, τήν πλήρωσιν τών άεροθαλάμων της και τήν άποδέσμευσιν της εκ του πλοίου εις περιπτώσιν βυθίσεως.
- (ii) 'Εάν ύφίστανται εν χρήσει δέον όπως εγκαθίστανται συστήματα έχμάσεως τύπου αυτομάτου άπελευθερώσεως ύδροστατικώς ή ίσοδύναμον τί έγκεκριμένον υπό τής 'Αρχής.
- (iii) 'Η σωσιβίος σχεδιά ή άπαιτουμένη υπό τής παραγράφου (γ) του Κανονισμού 35 του παρόντος Κεφαλαίου δύναται νά έχμάζεται κατά τρόπον μή επιτρέποντα αυτομάτον άπελευθέρωσιν της.
- (ic) 'Η σωσιβίος σχεδιά θά είναι έφωδιασμένη διά μέσων επιτρεπόντων τήν εύκολον ρυμούλκυσιν αυτής.

Κανονισμός 16

'Απαιτήσεις διά τας 'Ακάμπτους Σωσιβίους Σχεδιάς

- (a) Πάσα σωσιβίος σχεδιά άκάμπτου κατασκευής θά είναι κατασκευασμένη ώστε ριπτομένη εις τήν θάλασσαν εκ τής θέσεως στοιβασίας αυτής ούτε αυτή ούτε και ό

έξαρτισμός της να υφίσταται ζημίαν.

(β) Ἡ ἐπιφάνεια τοῦ καταστρώματος τῆς σωσιβίου σχεδίας θά κείται ἐντός τοῦ μέρους τῆς σωσιβίου σχεδίας τό ὁποῖον ἐπιτρέπει προστασίαν εἰς τοὺς ἐπιβαίνοντας. Ἡ ἐπιφάνεια τοῦ καταστρώματος τούτου θά εἶναι τοῦλάχιστον 3.720 τετραγωνικά ἑκατοστόμετρα (ἢ 4 τετραγωνικοὶ πόδες) ἀνά ἕκαστον ἄτομον τό ὁποῖον ἐπιτρέπεται νά μεταφέρῃ. Ἡ φύσις τοῦ δαπέδου θά εἶναι τοιαύτη ὥστε νά ἐμποδίσῃ, ὅσον εἶναι πρακτικῶς δυνατόν, τήν διόδον τοῦ ὕδατος καί νά ὑποβαστάξῃ τοὺς ἐπιβαίνοντας ἀποτελεσματικῶς ἐκτός τοῦ ὕδατος.

(γ) Ἡ σωσίβιος σχεδία θά εἶναι ἐφωδιασμένη διὰ στεγάσματος ἢ ἐτέρας ἰσοδύναμου διατάξεως χρώματος λιαν ὄρατοῦ, τό ὁποῖον θά εἶναι ἰκανόν νά προστατεύῃ τοὺς ἐπιβαίνοντας ἔναντι τραυματισμῶν ὅταν ἡ σωσίβιος σχεδία ἐπιπλήῃ καθ' οἴανδήποτε ἐπιφάνειαν.

(δ) Τά ἐφόδια τῆς σωσιβίου σχεδίας θά εἶναι ἐστοιβαγμένα κατὰ τρόπον ὥστε νά εἶναι εὐκόλως προσιτά ὅταν ἡ σωσίβιος σχεδία ἐπιπλήῃ καθ' οἴανδήποτε ἐπιφάνειαν.

(ε) Τό ὀλικόν βάρος μιᾶς σωσιβίου σχεδίας φερομένης ἐπὶ ἐπιβατηγῶν πλοίων μετὰ τοῦ ἐξοπλισμοῦ αὐτῆς δέν θά ὑπερβαίῃ τὰ 180 χιλιόγραμμα (ἢ 400 λίβρας). Σωσίβιοι σχεδίαι φερόμεναι ἐπὶ φορτηγῶν πλοίων δύνανται νά εἶναι βάρους μεγαλυτέρου τῶν 180 χιλιογράμμων (ἢ 400 λιβρῶν) ἐφ' ὅσον δύνανται νά καθαιρεθοῦν ἐξ ἀμφοτέρων τῶν πλευρῶν τοῦ πλοίου ἢ ἐάν προβλέπωνται μηχανικὰ μέσα διὰ τήν καθαίρεσιν αὐτῶν εἰς τήν θάλασσαν.

(στ) Ἡ σωσίβιος σχεδία δέον ἀνά πάντα χρόνον νά εἶναι λειτουργήσιμος καί εὐσταθῆς ὅταν ἐπιπλήῃ καθ' οἴανδήποτε ὄψιν.

(ζ) Ἡ σωσίβιος σχεδία θά ἔχη τοῦλάχιστον 96 κυβικά δέκατα (ἢ 3,4 κυβικοὺς πόδας) ἀεροκιβωτίων ἢ ἰσοδύναμον πλευστότητα ἀνά ἕκαστον ἄτομον τό ὁποῖον ἐπιτρέπεται νά φέρῃ, τὰ δὲ μέσα ταῦτα θά τοποθετοῦνται ὅσον τό δυνατόν πλησιέστερον πρὸς τὰς πλευράς τῆς σωσιβίου σχεδίας.

(η) Ἡ σωσίβιος σχεδία θά ἔχη ἕν πεισμάτιον (μπαρούμα) προσδεδεμένον καί ἕν σωσίβιον ρυμάτιον χαλαρῶς ἐστερεωμένον πέριξ καί ἐξωτερικῶς αὐτῆς. Ἐπίσης θά τοποθετῆται σωσίβιον ρυμάτιον πέριξ τοῦ ἐσωτερικοῦ τῆς σωσιβίου σχεδίας.

(θ) Ἡ σχεδία θά εἶναι ἐφωδιασμένη εἰς ἕκαστον ἀνοίγμα δι' ἀποτελεσματικῶν μέσων ἐπιτρεπόντων ὅπως πρόσωπα ἐντός τῆς θαλάσσης δύνανται νά ἀναρριχηθοῦν ἐπ' αὐτῆς.

(ι) Ἡ σωσίβιος σχεδία θά εἶναι κατεσκευασμένη κατὰ τρόπον ὥστε νά μή προσβάλλεται ὑπὸ τοῦ πετρελαίου ἢ τῶν παραγῶγων πετρελαίου.

(ια) Μία ἐπιπλέουσα λυχία τύπου ἠλεκτρικῆς στήλης θά εἶναι προσδεδεμένη διὰ δετηρίας εἰς τήν σωσίβιον σχεδίαν.

(ιβ) Ἡ σωσίβιος σχεδία θά ἐφοδιάζεται διὰ μέσων ἐπιτρεπόντων τήν εὐχερῆ ρυμούλκησιν αὐτῆς.

(ιγ) Αἱ σωσίβιοι σχεδίαι θά εἶναι ἐστοιβαγμένοι κατὰ τρόπον ἐπιτρέποντα τήν ἐλευθέραν ἐπιπλευσιν αὐτῶν εἰς περιπτώσιν βυθίσεως τοῦ πλοίου.

Κανονισμός 17

Ἐφόδια τῶν Πνευστῶν καὶ τῶν Ἀκάμπτων Σωσιβίων Σχεδιῶν

- (α) Ὁ κανονικός ἐξαρτισμός ἐκάστης σωσιβίου σχεδίας θά περιλαμβάνη:
- (i) Ἐναν ἐπιπλέοντα σωσίβιον σημαντήρα προσδεδεμένον δι' ἐπιπλέοντος ρυματίου μήκους τοῦλάχιστον 30 μέτρων (ἢ 100 ποδῶν).
 - (ii) Διά τὰς σωσιβίους σχεδίας δι' ἅς ἐπιτρέπεται ἡ ἐπιβίβασις οὐχὶ περισσοτέρων τῶν 12 ἀτόμων, ἓν μαχαιρίδιον καὶ ἓν ἄντλιον. Διά τὰς σωσιβίους σχεδίας δι' ἅς ἐπιτρέπεται ἡ ἐπιβίβασις 13 ἀτόμων ἢ περισσοτέρων, δύο μαχαιρίδια καὶ δύο ἄντλια.
 - (iii) Δύο σπόγγους.
 - (iv) Δύο πλωτὰς ἀγκύρας, τὴν μίαν μονίμως προσδεδεμένην εἰς τὴν σωσίβιον σχεδίαν καὶ μίαν ἀμοιβήν.
 - (v) Δύο βραχείας κώπας σχήματος πτύου.
 - (vi) Μίαν σειρὰν συνέργων ἐπισκευῆς διὰ τὴν ἐπιδιόρθωσιν τρυπημάτων εἰς τὰ διαμερίσματα πλευστότητος.
 - (vii) Μίαν ἀεραντλίαν ἢ φυσητήρα, ἐκτός ἐάν ἡ σωσίβιος σχεδία πληροῖ τοὺς ὄρους τοῦ Κανονισμοῦ 16 τοῦ παρόντος Κεφαλαίου.
 - (viii) Τρία ἐργαλεῖα ἀνοίγματος λευκοσιδηρῶν κυτίων.
 - (ix) Ἐν ὕδατοστεγῆς κιβώτιον φαρμακείου πρώτων βοηθειῶν ἐγκεκριμένου τύπου.
 - (x) Ἐν ἀνοξειδωτῶν βαθμολογημένον κύπελλον ποσίμου ὕδατος.
 - (xi) Ἐνα ἀδιάβροχον ἠλεκτρικόν φανόν κατάλληλον διὰ σήμανσιν σημάτων Μόρς, ὁμοῦ μετὰ ἀνταλλακτικῆς στήλης συσσωρευτῶν καὶ μιᾶς ἀνταλλακτικῆς λυχνίας ἐντός ὕδατοστεγοῦς κιβωτίου.
 - (xii) Ἐνα καθρέπτην σημάνσεως κατὰ τὴν ἡμέραν καὶ μίαν συρίκτραν σημάνσεως.
 - (xiii) Δύο ἀλεξιπτωτιστικὰς φωτοβολίδας κινδύνου ἐγκεκριμένου τύπου, δυναμένας νὰ ἐκπέμπουν φωτεινὸν ἐρυθρὸν φῶς εἰς μέγα ὕψος.
 - (xiv) Ἐξ βεγγαλικὰ χειρὸς ἐγκεκριμένου τύπου, δυναμένα νὰ ἐκπέμπουν φωτεινὸν ἐρυθρὸν φῶς.
 - (xv) Μίαν σειρὰν συνέργων ἀλειείας.
 - (xvi) Μερίδα τροφίμων καθορισθησομένην ὑπὸ τῆς Ἀρχῆς, δι' ἕκαστον ἄτομον τὸ ὁποῖον ἐπιτρέπεται νὰ μεταφέρεται ἐπὶ τῆς σωσιβίου σχεδίας.
 - (xvii) Ὑδατοστεγῆ δοχεῖα περιέχοντα ἓν καὶ ἡμισυ λίτρον (ἢ τρεῖς πίντας) ποσίμου ὕδατος δι' ἕκαστον ἄτομον τὸ ὁποῖον ἐπιτρέπεται νὰ μεταφέρεται ἐπὶ τῆς σωσιβίου σχεδίας, τοῦ ὁποῖου ἡμισυ λίτρον (ἢ μία πίντα) κατ' ἄτομον δύναται νὰ ἀντικαθίσταται διὰ μιᾶς καταλλήλου συσκευῆς ἀφαλατώσεως ἰκανῆς νὰ παράγῃ ἴσην ποσότητα ποσίμου ὕδατος.
 - (xviii) Ἐξ δισκία ἐναντίον τῆς ναυτίας δι' ἕκαστον ἄτομον τὸ ὁποῖον ἡ σωσίβιος σχεδία θεωρεῖται ἰκανὴ νὰ μεταφέρῃ.
 - (xix) Ὀδηγίας σχετικὰς πρὸς τὸν τρόπον ἐπιβιώσεως ἐπὶ τῆς σωσιβίου σχεδίας.

(xx) Ἐν ἀντίγραφον τοῦ εἰκονογραφημένου πίνακος σωσιβίων σημάτων τοῦ ἀναφερομένου εἰς τόν Κανονισμόν 16 τοῦ Κεφαλαίου V.

(β) Εἰς τήν περίπτωσιν ἐπιβατηγῶν πλοίων ἐκτελούντων βραχεῖς διεθνεῖς πλόας τοιαύτης διαρκείας ὥστε κατά τήν κρίσιν τῆς Ἀρχῆς νά μή εἶναι ἀναγκαῖα ὅλα τά εἶδη τά καθοριζόμενα εἰς τήν παράγραφον (α), ἡ Ἀρχή δύναται νά ἐπιτρέψη εἰς μίαν ἤ περισσότερας σωσιβίους σχεδίας, αἵτινες ἀντιπροσωπεύουν τοῦλάχιστον τὸ ἕκτον τοῦ ἀριθμοῦ τῶν σωσιβίων σχεδιῶν τῶν φερομένων ἐπὶ τοῦ πλοίου τούτου, ὅπως ἐφοδιάζονται διά τοῦ ἐξαρτισμοῦ τοῦ καθοριζομένου εἰς τά ἐδάφια (i) μέχρι (vii) περιλαμβανομένου, (xi) καί (xix) τῆς παραγράφου (α) τοῦ παρόντος Κανονισμοῦ, καί διά τοῦ ἡμίσεος τοῦ ἐξαρτισμοῦ τοῦ καθοριζομένου εἰς τά ἐδάφια (xiii) καί (xiv) τῆς ἐν λόγῳ παραγράφου, αἱ δέ ὑπόλοιποι σωσιβιοὶ σχεδία νά ἐφοδιάζονται διά τοῦ ἐξαρτισμοῦ τοῦ καθοριζομένου εἰς τά ἐδάφια (i) μέχρι (vi) περιλαμβανομένου καί (xix) τῆς ἐν λόγῳ παραγράφου.

Κανονισμός 18

Ἐκπαίδευσις εἰς τήν Χρῆσιν τῶν Σωσιβίων Σχεδιῶν

Ἡ Ἀρχή θά λαμβάνη μέτρα, ὅσα εἶναι πρακτικῶς καί εὐλόγως δυνατά, πρὸς ἐξασφάλισιν ὅτι τά πληρώματα τῶν πλοίων ἐπὶ τῶν ὁποίων φέρονται αἱ σωσιβιοὶ σχεδία ἔχουν ἐκπαιδευθῆ εἰς τήν καθαίρεσιν καί χρῆσιν αὐτῶν.

Κανονισμός 19

Ἐπιβίβασις ἐπὶ τῶν Σωσιβίων Λέμβων καί τῶν Σωσιβίων Σχεδιῶν

(α) Θὰ προβλέπωνται κατάλληλοι διατάξεις διὰ τήν ἐπιβίβασιν ἐπὶ τῶν λέμβων εἰς τὰς ὁποίας θά περιλαμβάνονται:

- (i) Ἀνά μία κλίμαξ εἰς ἕκαστον ζεύγος ἐπωτίδων ἐπιτρέπουσα τήν ἐπιβίβασιν ἐπὶ τῶν σωσιβίων λέμβων ὅταν αὐταὶ εὐρίσκονται εἰς τήν θάλασσαν, ἐξαιρέσει ὅτι εἰς ἐπιβατηγὰ πλοῖα, εἰς πλοῖα χρησιμοποιούμενα ὡς ἐργοστάσια κατεργασίας φαλαινῶν, εἰς πλοῖα ἐπεξεργασίας καὶ κονσερβοποιίας τῶν ἀλιευτικῶν προϊόντων, εἰς πλοῖα μεταφέροντα τὸ ἀπασχολούμενον προσωπικὸν εἰς τήν φαλινοθηρίαν καί τήν βιομηχανίαν ἐπεξεργασίας ἢ κονσερβοποιίας ἰχθύων, ἡ Ἀρχή δύναται νά ἐπιτρέψη ὅπως αἱ κλίμακες αὐταὶ ἀντικαθίστανται δι' ἐγκεκριμένων μέσων, ὑπὸ τὴν προϋπόθεσιν ὅτι θά ὑπάρχη μία τοῦλάχιστον κλίμαξ εἰς ἕκαστην πλευρὰν τοῦ πλοίου.
- (ii) Μέσα φωτισμοῦ τῶν σωσιβίων λέμβων καί τῶν συσκευῶν καθαιρέσεως αὐτῶν κατὰ τήν προετοιμασίαν καί τήν ἐκτέλεσιν τῆς καθαιρέσεως καί ἐπίσης διὰ τὸν φωτισμὸν τῆς θαλασσίας περιοχῆς ἐντὸς τῆς ὁποίας γίνεται ἡ καθαιρέσις τῶν σωσιβίων λέμβων μέχρις ὅτου συμπληρωθῆ ἡ ἐργασία τῆς καθαιρέσεως.
- (iii) Διατάξεις διὰ τὴν εἰδοποίησιν τῶν ἐπιβατῶν καί τοῦ πληρώματος ὅτι τὸ πλοῖον πρόκειται νά ἐγκαταλειφθῆ, καί
- (iv) Μέσα διὰ τὴν πρόληψιν πάσης διοχετεύσεως ὕδατος ἐντὸς τῶν σωσιβίων λέμβων.

(β) Θὰ προβλέπωνται ἐπίσης κατάλληλοι διατάξεις διὰ τὴν ἐπιβίβασιν ἐπὶ τῶν σχεδίων εἰς τὰς ὁποίας θὰ περιλαμβάνωνται :

- (i) Ἐπαρκεῖς κλίμακες διὰ τὴν διευκόλυνσιν τῆς ἐπιβίβασεως ἐπὶ τῶν σωσιβίων σχεδίων ὅταν αὐταὶ εὐρίσκωνται εἰς τὸ ὕδωρ, ἐξαιρέσει ὅτι εἰς ἐπιβατηγὰ πλοῖα, εἰς πλοῖα χρησιμοποιούμενα ὡς ἐργοστάσια κατεργασίας φαλαινῶν, εἰς πλοῖα ἐπεξεργασίας καὶ κονσερβοποιίας τῶν ἀλειυτικῶν προϊόντων καὶ εἰς πλοῖα μεταφέροντα τὸ ἀπασχολούμενον προσωπικὸν εἰς τὴν φαλινοθηρίαν καὶ τὴν βιομηχανίαν ἐπεξεργασίας ἢ κονσερβοποιίας ἰχθύων, ἢ Ἄρχῃ δύναται νὰ ἐπιτρέψῃ τὴν ἀντικατάστασιν μέρους ἢ τοῦ συνόλου τῶν τοιούτων κλιμάκων δι' ἔγκεκριμένων μέσων.
- (ii) Ἐνθα φέρονται σωσίβιοι σχέδια διὰ τὰς ὁποίας ἔχουν προβλεφθῆ ἔγκριμένα μέσα καθαιρέσεως. Μέσα διὰ τὸν φωτισμὸν τῶν σωσιβίων σχεδίων τούτων καὶ τῶν συσευῶν καθαιρέσεως κατὰ τὴν προετοιμασίαν καὶ τὴν ἐκτέλεσιν τῆς καθαιρέσεως καὶ ἐπίσης διὰ τὸν φωτισμὸν τῆς θαλασσίας περιοχῆς ἐντὸς τῆς ὁποίας γίνεται ἡ καθαιρέσις τῶν σωσιβίων τούτων σχεδίων μέχρις ὅτου συμπληρωθῆ ἡ ἐργασία τῆς καθαιρέσεως.
- (iii) Μέσα διὰ τὸν φωτισμὸν τῆς θέσεως στοιβασίας τῶν σωσιβίων σχεδίων διὰ τὰς ὁποίας δὲν προβλέπονται ἔγκεκριμένα μέσα καθαιρέσεως.
- (iv) Διατάξεις διὰ τὴν εἰδοποίησιν τῶν ἐπιβατῶν καὶ τοῦ πληρώματος ὅτι τὸ πλοῖον πρόκειται νὰ ἐγκαταλειφθῆ, καὶ
- (v) Μέσα διὰ τὴν πρόληψιν πάσης διοχευτέσεως ὕδατος ἐντὸς τῶν σωσιβίων σχεδίων εἰς καθωρισμένας θέσεις καθαιρέσεως, περιλαμβάνοντα ἐκείνας διὰ τὰς ὁποίας ὑπάρχουν ἔγκεκριμένα μέσα καθαιρέσεως.

Κανονισμὸς 20

Σήμανσις Σωσιβίων Λέμβων, Σωσιβίων Σχεδίων καὶ Πλευστικῶν Συσκευῶν

- (α) Αἱ διαστάσεις τῆς σωσιβίου λέμβου καὶ ὁ ἀριθμὸς τῶν ἀτόμων ὅτινα ἐπιτρέπεται νὰ φέρῃ σημαίνονται ἐπ' αὐτῆς δι' εὐαναγνώστων καὶ μονίμων χαρακτηριστικῶν. Τὸ ὄνομα καὶ ὁ λιμὴν νηολογήσεως τοῦ πλοίου εἰς τὸ ὁποῖον ἡ σωσίβιος λέμβος ἀνήκει θὰ χρωματίζεται εἰς ἐκάστην πλευρὰν τῆς πῶρας.
- (β) Αἱ πλευστικαὶ συσκευαὶ θὰ σημαίνωνται διὰ τοῦ ἀριθμοῦ τῶν ἀτόμων κατὰ τὸν αὐτὸν τρόπον.
- (γ) Ὁ ἀριθμὸς τῶν ἀτόμων θὰ σημαίνεται κατὰ τὸν αὐτὸν τρόπον ἐπὶ τῶν σωσιβίων πνευστῶν σχεδίων καθὼς καὶ ἐπὶ τοῦ σακκιδίου τοῦ περιβλήματος ἐντὸς τοῦ ὁποίου περιέχεται ἡ σωσίβιος πνευστὴ σχεδία. Ἐκάστη σωσίβιος πνευστὴ σχεδία θὰ φέρῃ ἐπίσης τὸν ἀριθμὸν τῆς σειρᾶς καὶ τὸ ὄνομα τοῦ κατασκευαστοῦ, εἰς τρόπον ὅστε νὰ δύναται νὰ ἐξακριβοῦται ὁ ἰδιοκτήτης τῆς σωσιβίου σχεδίας.
- (δ) Ἐκάστη ἄκαμπτος σωσίβιος σχεδία θὰ σημαίνεται διὰ τοῦ ὀνόματος καὶ τοῦ λιμένος νηολογήσεως τοῦ πλοίου εἰς ὃν ἀνήκει καὶ διὰ τοῦ ἀριθμοῦ τῶν ἀτόμων τὰ ὁποῖα ἐπιτρέπεται νὰ φέρῃ.
- (ε) Οὐδεμία σωσίβιος λέμβος, σωσίβιος σχεδία ἢ πλευστικὴ συσκευή θὰ σημαίνεται δι' ἀριθμὸν ἀτόμων μεγαλύτερον τοῦ προκύπτοντος κατὰ τὸν εἰς τὸ παρὸν Κεφάλαιον καθοριζόμενον τρόπον.

Κανονισμὸς 21

Προδιαγραφή Κυκλικῶν Σωσιβίου

- (α) Τὸ κυκλικὸν σωσίβιον θὰ πληροῖ τὰς καταwτέρω ἀπαιτήσεις :

- (i) Θα είναι εκ συμπαγούς φελλού ή άλλου ισοδυνάμου υλικού.
- (ii) Θα είναι ικανόν να υποβαστάζη εις γλυκὺ ὕδωρ τουλάχιστον 14,5 χιλιόγραμμα (ή 32 λίβρας) σιδήρου ἐπὶ 24 ὥρας.
- (iii) Δὲν θὰ προσβάλλεται ἐπιβλαβῶς ὑπὸ πετρελαίου ἢ προϊόντων πετρελαίου.
- (iv) Θα εἶναι λίαν ὁρατοῦ χρωματισμοῦ.
- (v) Θα σημειοῦται διὰ κεφαλαίων γραμμάτων τὸ ὄνομα καὶ ὁ λιμὴν νηολογήσεως τοῦ πλοίου εἰς τὸν ὁποῖον ἀνήκει.
- (β) Δὲν θὰ ἐπιτρέπωνται κυκλικά σωσίβια πεπληρωμένα διὰ χόρτων, τριμμάτων φελλοῦ ἢ κοκκώδους φελλοῦ, ἢ οἰουδήποτε ἄλλου ἀραιοῦ κοκκοειδοῦς υλικοῦ, ἢ ἐκεῖνα τῶν ὁποίων ἡ πλευστότης ἐξαρτᾶται ἐκ θαλάμων ἀέρος οἵτινες ἀπαιτοῦν ἐμφύσησιν ἀέρος.
- (γ) Τὰ κυκλικά σωσίβια, τὰ κατεσκευασμένα ἐκ πλαστικοῦ υλικοῦ ἢ ἐτέρων συνθετικῶν κραμάτων θὰ εἶναι ικανὰ νὰ διατηροῦν τὰς πλευστικὰς καὶ τὰς ἰδιότητας ἀντοχῆς αὐτῶν κατὰ τὴν ἐπαφὴν μὲ τὸ ὕδωρ ἢ μὲ προϊόντα πετρελαίου, ἢ εἰς μεταβολὰς θερμοκρασιῶν ἢ κλιματολογικὰς, ἐπικρατούσας εἰς τὰ ταξείδια ἀνοκτῆς θαλάσσης.
- (δ) Τὰ κυκλικά σωσίβια θὰ φέρουν ρυμίτιον χαλαρῶς ἐστερωμένον πέριξ αὐτῶν. Ἐν τουλάχιστον κυκλικὸν σωσίβιον εἰς ἐκάστην πλευρᾶν τοῦ πλοίου θὰ εἶναι ἐφοδιασμένον δι' ἐπιπλέοντος σωσιβίου σχοινίου μήκους 27,5 μέτρων (15 ὀργιῶν) τὸ ὀλιγώτερον.
- (ε) Εἰς τὰ ἐπιβατηγὰ πλοῖα, τὸ ἥμισυ τουλάχιστον τοῦ ὀλικοῦ ἀριθμοῦ τῶν κυκλικῶν σωσιβίων καὶ εἰς οὐδεμίαν περίπτωσιν ὀλιγώτερα τῶν ἑξ καὶ εἰς τὰ φορτηγὰ πλοῖα τὸ ἥμισυ τουλάχιστον τοῦ ὀλικοῦ ἀριθμοῦ τῶν κυκλικῶν σωσιβίων θὰ ἐφοδιάζωνται δι' αὐτομάτων φώτων καλῆς ἀποδόσεως.
- (στ) Τὰ αὐτόματα φῶτα τὰ ἀπαιτούμενα ὑπὸ τῆς παραγράφου (ε) τοῦ παρόντος Κανονισμοῦ θὰ εἶναι τοιαῦτα ὥστε νὰ μὴ δύνανται νὰ σβεσθοῦν ὑπὸ τοῦ ὕδατος. Θα δύνανται νὰ λειτουργοῦν ἐπὶ 45 λεπτὰ τουλάχιστον καὶ θὰ ἔχουν φωτιστικὴν ἰκανότητα οὐχὶ μικροτέραν τῶν 2 κτηρίων πρὸς ὅλας τὰς κατευθύνσεις τοῦ ἄνω ἡμισφαιρίου. Θα φυλάττωνται πλησίον τῶν κυκλικῶν σωσιβίων εἰς τὰ ὁποῖα ἀνήκουν μετὰ τῶν ἀναγκαίων μέσων προσδέσεως. Τὰ αὐτόματα φῶτα τὰ χρησιμοποιούμενα ἐπὶ τῶν δεξαμενοπλοίων θὰ εἶναι μετὰ ἠλεκτρικῆς στήλης ἐγκεκριμένου τύπου*

* Αἱ ἀκόλουθοι ἀποστάσεις ὁρατότητος τοῦ φωτὸς δύνανται νὰ ἀναμένωνται ἐπὶ δεδομένων ἀντιστοιχῶν ἀτμοσφαιρικῶν συνθηκῶν.

Συντελεστὴς ἀτμοσφαιρικῆς Μεταδοτικότητος	Μετεωρολογικὴ Ἀπόστασις ὁρατότητος (μίλια)	Ἀπόστασις ὁρατότητος τοῦ φωτὸς (μίλια)
0.3	2.4	0.96
0.4	3.3	1.05
0.5	4.3	1.15
0.6	5.8	1.24
0.7	8.4	1.34
0.8	13.4	1.45
0.9	28.9	1.57

(ζ) Όλα τὰ κυκλικά σωσίβια θὰ εἶναι τοποθετημένα εἰς θέσεις εὐκόλως προσιτὰς ὑπὸ τῶν ἐπιβαινόντων καὶ δύο τοῦλάχιστον τῶν κυκλικῶν σωσιβίων τῶν ἐφοδιασμένων δι' αὐτομάτων φάτων, συμφώνως πρὸς τὴν παράγραφον (ε) τοῦ παρόντος Κανονισμοῦ, θὰ ἐφοδιάζονται ἐπίσης δι' ἱκανοῦ αὐτομάτως ἐνεργοῦντος σήματος καπνοῦ, δυναμένου νὰ παράγη καπνὸν λίαν ὀρατοῦ χρώματος ἐπὶ 15 τοῦλάχιστον λεπτὰ καὶ θὰ εἶναι δυνατὴ ἡ ταχεῖα ρίψις αὐτῶν ἐκ τῆς γεφύρας ναυσιπλοίας.

(η) Τὰ κυκλικά σωσίβια θὰ πρέπει πάντοτε νὰ ρίπτονται ταχέως καὶ δὲν θὰ εἶναι μονίμως στερεωμένα καθ' οἷονδῆποτε τρόπον.

Κανονισμὸς 22

Σωσίβιοι Ζῶναι

(α) Τὰ πλοῖα θὰ φέρουν μίαν σωσίβιον ζώνην ἐγκεκριμένου τύπου δι' ἕκαστον ἐπιβαίνον ἄτομον καί, ἐπὶ πλεόν, ἐπαρκῆ ἀριθμὸν σωσιβίων ζωνῶν καταλλήλων διὰ παιδιὰ, ἐκτὸς ἐὰν αἱ σωσίβιοι αὐταὶ ζῶναι δύναται νὰ προσαρμολογῶνται πρὸς χρῆσιν τῶν παιδιῶν. Ἐκάστη σωσίβιος ζώνη θὰ εἶναι καταλλήλως ἐσφραγισμένη διὰ σφραγίδος δεικνύουσας ὅτι ἔχει ἐγκριθῆ ὑπὸ τῆς Ἀρχῆς.

(β) Ἐπὶ πλεόν τῶν σωσιβίων ζωνῶν τῶν ἀπαιτουμένων ὑπὸ τῆς παραγράφου (α) θὰ φέρονται ἐπὶ τῶν ἐπιβατηγῶν πλοίων σωσίβιοι ζῶναι διὰ 5 τοῖς ἑκατὸν τοῦ ὀλικοῦ ἀριθμοῦ τῶν ἐπιβαινόντων ἐπὶ τοῦ πλοίου. Αἱ σωσίβιοι αὐταὶ ζῶναι θὰ στοιβάζονται εἰς ἐμφανεῖς θέσεις ἐπὶ τοῦ καταστρώματος.

(γ) Ἐγκεκριμένου τύπου σωσίβιος ζώνη δεόν ὅπως συμμορφοῦται πρὸς τὰς κατωτέρω ἀπαιτήσεις :

- (i) Θὰ κατασκευάζεται δι' ἐπιμελημένης ἐργασίας καὶ ἐκ καταλλήλων ὕλικῶν.
 - (ii) Θὰ κατασκευάζεται κατὰ τοιοῦτον τρόπον ὥστε νὰ ἀποκλείεται, ὅσον τὸ δυνατόν, ὁ κίνδυνος νὰ φορεθῆ κατὰ τρόπον ἐσφαλμένον, ἐκτὸς ἐὰν εἶναι δυνατόν νὰ φορεθῆ κατ' ἀμφοτέρας τὰς ὕψεις.
 - (iii) Θὰ δύναται νὰ ἀνυψῶναι τὸ πρόσωπον ἐξηντημένου ἢ ἀναισθήτου ἀτόμου ἐκτὸς τοῦ ὕδατος καὶ νὰ κρατᾷ τοῦτο ὑπεράνω αὐτοῦ μὲ τὸ σῶμα κεκλιμένον πρὸς τὰ ὀπίσω ἀπὸ τῆς κατακορύφου θέσεως αὐτοῦ.
 - (iv) Θὰ δύναται νὰ περιστρέψῃ τὸ σῶμα κατὰ τὴν εἴσοδον εἰς τὸ ὕδωρ, εἰς μίαν ἀσφαλῆ θέσιν ἐπιπλεύσεως μὲ τὸ σῶμα κεκλιμένον πρὸς τὰ ὀπίσω ἀπὸ τῆς κατακορύφου θέσεως αὐτοῦ.
 - (v) Δὲν θὰ προσβάλλεται ἐπιβλαβῶς ὑπὸ τοῦ πετρελαίου ἢ τῶν προϊόντων αὐτοῦ.
 - (vi) Θὰ εἶναι λίαν ὀρατοῦ χρωματισμοῦ.
 - (vii) Θὰ εἶναι ἐφοδιασμένη διὰ συρίκτρας ἐγκεκριμένου τύπου, καλῶς προσδεμένης διὰ σχοινίου.
 - (viii) Ἡ πλευστότης τῆς σωσιβίου ζώνης ἣτις ἀπαιτεῖται νὰ ἔχη τὰ ἀνωτέρω χαρακτηριστικὰ δὲν θὰ μειώνεται περισσότερον τοῦ 5% μετὰ ἀπὸ 24ωρον παραμονὴν αὐτῆς εἰς γλυκὸ ὕδωρ.
- (δ) Σωσίβιος ζώνη τῆς ὁποίας ἡ πλευστότης ἐξαρτᾶται ἐξ ἐμφυσήσεως ἀέρος, δύναται νὰ ἐπιτραπῆ διὰ τὴν χρῆσιν τῶν πληρωμάτων πάντων τῶν πλοίων, ἐξαιρέσει τῶν ἐπιβατηγῶν πλοίων καὶ τῶν δεξαμενοπλοίων, ὑπὸ τὸν ὄρον ὅτι :
- (i) Ἐχει δύο χωριστοὺς ἀεροθαλάμους.
 - (ii) Δύναται νὰ πληροῦται κατ' ἀμφοτέρους τοὺς τρόπους μηχανικῶς καὶ διὰ στόματος.

(iii) Πληροί τὰ ἀπαιτήσεις τῆς παραγράφου (γ) τοῦ παρόντος Κανονισμοῦ καὶ ἐὰν ἀκόμη ὁ εἰς ἀεροθάλαμος δὲν εἶναι πεπληρωμένος.

(ε) Αἱ σωσίβιοι ζῶναι θὰ εἶναι οὕτω τοποθετημένοι ὥστε νὰ εἶναι εὐκόλως προσιταὶ καὶ ἡ θέσις αὐτῶν θὰ ἐνδείκνυται εὐκρινῶς.

Κανονισμὸς 23

Ὁρμιδοβόλος Συσκεὴ

(α) Τὰ πλοῖα θὰ φέρουν μίαν ὀρμιδοβόλον συσκευὴν ἐγκεκριμένου τύπου.

(β) Ἡ συσκευή θὰ εἶναι ἰκανὴ νὰ ἐκσφενδονίζη μετ' ἐπαρκοῦς ἐκριβείας ὀρμιδίων μήκους οὐχὶ μικροτέρου τῶν 230 μέτρων (ἢ 250 ὑαρδῶν) καὶ θὰ περιλαμβάνη τοῦλάχιστον τέσσαρα βλήματα καὶ τέσσαρα ὀρμιδία.

Κανονισμὸς 24

Σήματα Κινδύνου τοῦ Πλοίου.

Τὰ πλοῖα θὰ ἐφοδιάζονται, πρὸς ἱκανοποίησιν τῆς Ἀρχῆς, διὰ μέσων ἐκπεπόντων ἀποτελεσματικὰ σήματα κινδύνου κατὰ τὴν ἡμέραν καὶ τὴν νύκτα, περιλαμβανόντων δώδεκα τοῦλάχιστον ἀλεξιπτωτιστικὰ σήματα ἰκανὰ νὰ ἀποδίδουν λαμπρὸν ἐρυθρὸν φῶς εἰς μέγα ὕψος.

Κανονισμὸς 25

Πίναξ Κατανομῆς Πληρώματος καὶ Διαδικασία Καταστάσεως Ἀνάγκης.

(α) Εἰς ἕκαστον μέλος τοῦ πληρώματος θ' ἀνατίθενται εἰδικὰ καθήκοντα πρὸς ἀνάληψιν ἐν περιπτώσει καταστάσεως ἀνάγκης.

(β) Ὁ πίναξ κατανομῆς πληρώματος θὰ σημειοῖ ἅπαντα τὰ εἰδικὰ καθήκοντα καὶ θὰ δεικνύη, ἰδιαίτερος, τὸν σταθμὸν εἰς τὸν ὁποῖον θὰ πρέπη νὰ σπεύσῃ ἕκαστον μέλος ὡς καὶ τὰ καθήκοντα τὰ ὁποῖα θὰ πρέπη νὰ ἐκτελέσῃ.

(γ) Ὁ πίναξ κατανομῆς πληρώματος δι' ἕκαστον ἐπιβατηγὸν πλοῖον θὰ εἶναι τύπου ἐγκεκριμένου ὑπὸ τῆς Ἀρχῆς.

(δ) Ὁ πίναξ κατανομῆς πληρώματος θὰ εἶναι συμπληρωμένος πρὶν ἢ τὸ πλοῖον ἀπολεύσῃ. Ἀντίγραφα θὰ τοποθετῶνται εἰς διάφορα μέρη τοῦ πλοίου καὶ ἰδίᾳ εἰς τὰ διαμερίσματα τοῦ πληρώματος.

(ε) Ὁ πίναξ κατανομῆς πληρώματος θὰ σημειοῖ τὰ ἀντιθέμενα εἰς διάφορα μέλη τοῦ πληρώματος καθήκοντα ἐν σχέσει πρὸς:

(i) Τὸ κλείσιμον τῶν στεγανῶν θυρῶν, βαλβίδων καὶ μηχανισμῶν κλεισίματος τῶν εὐδαιῶν, τῶν χροανῶν ἀπορρίψεως τεφρῶν καὶ τῶν θυρῶν πυρκαϊᾶς,

(ii) Τὸν ἐξοπλισμὸν τῶν σωσίβιων λέμβων (συμπεριλαμβανομένης τῆς φορητῆς ραδιοτηλεγραφικῆς συσκευῆς τῶν σκαφῶν διασώσεως) καὶ τὰ λοιπὰ σωτικὰ μέσα,

- (iii) Τήν καθαίρεσιν τῶν σωσιβίων λέμβων,
- (iv) Τήν γενικὴν προπαρασκευὴν τῶν λοιπῶν σωστικῶν μέσων,
- (v) Τήν συγκέντρωσιν τῶν ἐπιβατῶν, καί
- (vi) Τήν κατάσβεσιν τοῦ πυρός, λαμβανομένων ὑπ' ὄψιν τῶν σχεδιαγραμμάτων ἐλέγχου πυρκαϊᾶς τοῦ πλοίου

(στ) Ὁ Πίναξ κατανομῆς πληρώματος θὰ σημειοῖ τὰ ἀνατιθέμενα διάφορα καθήκοντα εἰς τὰ μέλη τοῦ προσωπικοῦ τῶν θαλαμηπόλων τὰ σχετικὰ μὲ τοὺς ἐπιβάτας ἐν περιπτώσει ἀνάγκης. Τὰ καθήκοντα ταῦτα θ' ἀφοροῦν εἰς:

- (i) Εἰδοποίησιν τῶν ἐπιβατῶν,
- (ii) Ἐξασφάλισιν ὅτι οὗτοι εἶναι καταλλήλως ἐνδεδυμένοι καὶ ἔχουν φερέσει κατὰ τὸν ὀρθόν τρόπον τὰς σωσιβίους ζώνας των,
- (iii) Συγκέντρωσιν τῶν ἐπιβατῶν εἰς τοὺς σταθμούς συγκεντρώσεως,
- (iv) Διατήρησιν τῆς τάξεως εἰς τοὺς διαδρόμους καὶ τὰς καθόδους καί, γενικῶς, ἔλεγχον τῶν κινήσεων τῶν ἐπιβατῶν, καί
- (v) Ἐξασφάλισιν ὅτι ποσότης κλινοσκεπασμάτων μετεφέρθη εἰς τὰς σωσιβίους λέμβους.

(ζ) Τὰ σημειούμενα ὑπὸ τοῦ πίνακος κατανομῆς πληρώματος σχετικὰ μὲ τὴν κατάσβεσιν τοῦ πυρός καθήκοντα, συμφώνως πρὸς τὸ ἐδάφιον (ε)(vi) τοῦ παρόντος Κανονισμοῦ, θὰ περιλαμβάνουν στοιχεῖα:

- (i) Τῆς συγκροτήσεως τῶν ομάδων πυρκαϊᾶς, τῶν ὀριζομένων πρὸς ἀντιμετώπισιν πυρκαϊῶν,
- (ii) Τῶν ἀνατιθεμένων ἐιδικῶν καθηκόντων τῶν σχετικῶν μὲ τὴν λειτουργίαν τοῦ πυροσβεστικοῦ ἐξοπλισμοῦ καὶ ἐγκαταστάσεων.

(η) Ὁ πίναξ κατανομῆς πληρώματος θὰ καθορίζη εἰδικὰ σήματα συγκεντρώσεως ἀπαντος τοῦ πληρώματος εἰς τοὺς σταθμούς τῶν λέμβων, σωσιβίων σχεδιῶν καὶ πυρκαϊᾶς καὶ θὰ δίδῃ στοιχεῖα περὶ τῶν σημάτων τούτων. Τὰ ἐν λόγῳ σήματα θὰ δίδονται διὰ τῆς σφρίκτρας ἢ σειρήνης καί, πλὴν προκειμένου περὶ ἐπιβατηγῶν πλοίων βραχέων διεθνῶν πλοίων καὶ φορτηγῶν πλοίων μήκους μικροτέρου τῶν 45,7 μέτρων (ἢ 150 ποδῶν), θὰ συμπληροῦνται δι' ἄλλων σημάτων τὰ ὅποια θὰ λειτουργοῦν ἠλεκτρικῶς. Ἄπαντα τὰ σήματα ταῦτα θὰ χειρίζονται ἐκ τῆς γέφυρας.

Κανονισμός 26

Πρακτικὴ ἐξάσκησης, Συναγερμοὶ καὶ Γυμνάσια

- (α) (i) Εἰς τὰ ἐπιβατηγὰ πλοῖα θὰ ἐνεργεῖται ἀπαξ τῆς ἐβδομάδος, ἐφ' ὅσον εἶναι δυνατόν, συναγερμὸς τοῦ πληρώματος διὰ γυμνάσιον λέμβων καὶ γυμνάσιον πυρκαϊᾶς. Ὁ συναγερμὸς οὗτος θὰ λαμβάνῃ χώραν ὅταν ἐπιβατηγὸν πλοῖον ἀποπλέῃ ἐκ τοῦ τελευταίου λιμένος διὰ διεθνή πλοῦν ὅστις ὁμῶς δὲν εἶναι βραχύς διεθνῆς πλοῦς.
- (ii) Εἰς τὰ φορτηγὰ πλοῖα, συναγερμὸς τοῦ πληρώματος διὰ γυμνάσιον λέμβων καὶ γυμνάσιον πυρκαϊᾶς θὰ λαμβάνῃ χώραν κατὰ διαστήματα οὐχὶ μεγαλύτερα τοῦ ἐνὸς μηνός, ὑπὸ τὸν ὄρον ὅτι συναγερμὸς τοῦ πληρώματος διὰ γυμνάσιον λέμβων καὶ γυμνάσιον πυρκαϊᾶς θὰ λάβῃ χώραν ἐντὸς 24 ὥρων ἀπὸ τοῦ ἀπόπλου ἐκ λιμένος, ἐὰν πλεον τῶν 25 τοῖς ἑκατὸν τοῦ πληρώματος ἀντεκατεστάθησαν εἰς τὸν λιμένα τοῦτον.

(iii) 'Επ' ευκαιρία του κατά μήνα συναγερμού επί των φορτηγών πλοίων, θα επιθεωρούνται τὰ ἐφόδια τῶν λέμβων πρὸς ἐξακρίβωσιν ὅτι εἶναι πλήρη.

(iv) Ἡ ἡμερομηνία διενεργείας τοῦ συναγερμοῦ ὡς καὶ αἱ λεπτομέρειαι οἰασδῆποτε ἐκπαιδεύσεως καὶ γυμνασίων καταπολεμήσεως τοῦ πυρός τὰ ὁποῖα ἐκτελοῦνται ἐπὶ τοῦ πλοίου θὰ καταχωροῦνται εἰς ἡμερολόγιον καθοριζόμενον ὑπὸ τῆς Ἀρχῆς καί, εἰς ἣν περίπτωσιν ἐντὸς ἐβδομάδος (διὰ τὰ ἐπιβατηγὰ πλοῖα ἢ μηνός (διὰ τὰ φορτηγὰ) οὐδὲν γυμνάσιον ἢ μέρος μόνον γυμνασίου ἐξετελέσθη, θὰ γίνεται μνεῖα δι' ἧς θὰ περιγράφονται αἱ συνθήκαι καὶ ἡ ἔκτασις τοῦ ἐκτελεσθέντος γυμνασίου. Ἐκθεσις ἐπιθεωρήσεως τοῦ ἐξοπλισμοῦ τῶν λέμβων φορτηγῶν πλοίων θὰ καταχωρῆται εἰς τὸ ἡμερολόγιον. Ἡ ἔκθεσις αὕτη θὰ μνημονεῖ ἔτισης τὰς συνθήκας ὑπὸ τὰς ὁποίας ἀπεσπᾶσθησαν καὶ καθηρέθησαν αἱ σωσίβιοι λέμβοι συμφώνως πρὸς τὴν παράγραφον (γ) τοῦ παρόντος Κανονισμοῦ.

(β) Εἰς ἐπιβατηγὰ πλοῖα, ἐξαιρέσει ἐκείνων ἅτινα ἐκτελοῦν βραχεῖς διεθνεῖς πλόας, θὰ ἐκτελῆται γυμνάσιον συναγερμοῦ ἐπιβατῶν ἐντὸς εἴκοσι τεσσάρων ὥρων ἀπὸ τοῦ ἀπόπλου ἐκ τοῦ λιμένος.

(γ) Διάφοροι ὀμάδες σωσιβίων λέμβων θὰ χρησιμοποιηθοῦνται ἐκ περιτροπῆς κατὰ τὰ διαδοχικὰ γυμνάσια λέμβων καὶ ἐκάστη σωσίβιος λέμβος θὰ ἐξαίρεται τοῦ πλοίου καί, εἰάν εἶναι πρακτικῶς δυνατόν καὶ εὐλογον, θὰ καθαιρῆται τὸ ὕδωρ ἀπαξ τοῦλάχιστον ἀνά τέσσαρας μῆνας. Τὰ γυμνάσια καὶ αἱ ἐπιθεωρήσεις θὰ ἐκτελοῦνται κατὰ τρόπον ὥστε τὸ πλήρωμα νὰ κατανοῆσῃ πλήρως καὶ νὰ ἐξασκηθῇ εἰς τὰ καθήκοντα ἅτινα ἔχει νὰ ἐκτελέσῃ, περιλαμβανομένων τῶν ὁδηγιῶν διὰ τὸν χειρισμὸν καὶ λειτουργίαν τῶν σωσιβίων σχεδιῶν ὅπου ὑπάρχουν τοιαῦτα.

(δ) Τὸ σῆμα κινδύνου διὰ τὴν συγκέντρωσιν τῶν ἐπιβατῶν εἰς τὰς θέσεις συναγερμοῦ θὰ εἶναι ἕξ ἢ πλείονες βραχεῖς διαδοχικοὶ συριγμοὶ ἀκολουθούμενοι ὑπὸ ἑνός μακροῦ συρίγματος διὰ τῆς συρίκτρας ἢ τῆς σειρήνος. Εἰς ἐπιβατηγὰ πλοῖα, ἐξαιρέσει τῶν ἐκτελούντων βραχεῖς διεθνεῖς πλόας, θὰ συμπληροῦται δι' ἄλλων σημάτων τὰ ὁποῖα θὰ λειτουργοῦν ἠλεκτρικῶς καθ' ὅλον τὸ πλοῖον καὶ θὰ χειρίζονται ἐκ τῆς γέφυρας. Ἡ ἔννοια τῶν διαφόρων σημάτων τῶν ἀφορώντων τοὺς ἐπιβάτας μετὰ ἀκριβῶν ὁδηγιῶν περὶ τοῦ τί ὀφείλουν νὰ πράξουν εἰς περιπτώσιν κινδύνου, θὰ ἐξηγῆται σαφῶς εἰς τὴν κατάλληλον γλῶσσαν ἐπὶ πινακίδων ἀνηρτημένων ἐντὸς τῶν κοιτωνίσκων αὐτῶν καὶ εἰς ἐμφανῆ μέρη ἐντὸς ἐτέρων διαμερισμάτων ἐπιβατῶν.

ΜΕΡΟΣ Β - ΕΠΙΒΑΤΗΓΑ ΠΛΟΙΑ ΜΟΝΟΝ

Κανονισμός 27

Σωσίβιοι Λέμβοι, Σωσίβιοι Σχεδία καὶ Πλευστικά Συσκευαί.

(α) Τὰ ἐπιβατηγὰ πλοῖα θὰ φέρουν δύο λέμβους ἀνηρτημένας εἰς ἐπωτίδας, ἀνά μίαν εἰς ἑκατέραν πλευρὰν τοῦ πλοίου, πρὸς χρῆσιν εἰς περιπτώσιν κινδύνου. Αἱ λέμβοι αὗται θὰ εἶναι ἐγκεκριμένοι τύπου καὶ θὰ εἶναι μήκους οὐχὶ μεγαλυτέρου τῶν 8.1/2 μέτρων (ἢ 28 ποδῶν). Αὗται δύνανται νὰ ὑπολογίζωνται διὰ τοὺς σκοποὺς τῶν παραγράφων (β) καὶ (γ) τοῦ παρόντος Κανονισμοῦ, ὑπὸ τὴν προϋπόθεσιν ὅτι πληροῦν ἐντελῶς τὰς διὰ τὰς σωσιβίου λέμβους ἀπαιτήσεις τοῦ παρόντος Κεφαλαίου, καὶ διὰ τοὺς σκοποὺς τοῦ Κανονισμοῦ 8, ὑπὸ τὴν προϋπόθεσιν ὅτι ἐπιπροσθέτως πληροῦν ἐντελῶς τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ 9 καὶ τοῦ Κανονισμοῦ 14 ὅπου ἐφαρμόζεται οὗτος. Θὰ τηροῦνται αὗται ἔτοιμοι πρὸς ἄμεσον χρῆσιν κατὰ τὸν πλοῦν. Εἰς τὰ πλοῖα εἰς τὰ ὁποῖα αἱ ἀπαιτήσεις τῆς παραγράφου (η) τοῦ Κανονισμοῦ 29 ἐκπληροῦνται διὰ συσκευῶν αἱ ὁποῖαι ἐφαρμόζονται εἰς τὰς πλευρὰς τῶν σωσιβίων λέμβων, αἱ τοιαῦται συσκευαὶ δὲν θὰ ἀπαιτῆται νὰ ἐφαρμόζονται εἰς τὰς δύο λέμβους τὰς προβλεπομένας διὰ τὴν πλήρωσιν τῶν ἀπαιτήσεων τοῦ παρόντος Κανονισμοῦ.

Τὰ επιβατηγά πλοία τὰ εκτελούντα διεθνείς πλόας, οίτινες δέν είναι βραχείς πλόες, θά φέρουν:

Σωσιβίους λέμβους εις ἑκατέραν πλευράν τοῦ πλοίου συνολικῆς χωρητικότητος τοιαύτης ὥστε νά παραλαμβάνουν τό ἡμισυ τοῦ ὀλικοῦ ἀριθμοῦ ἀτόμων τῶν ἐπιβαινόντων τοῦ πλοίου. Προβλέπεται ὅτι ἡ Ἄρχή δύναται νά ἐπιτρέψη τήν ἀντικατάστασιν σωσιβίων λέμβων διά σωσιβίων σχεδιῶν τῆς αὐτῆς ὀλικῆς χωρητικότητος, κατά τρόπον ὅμως τοιοῦτον ὥστε ὁ ἀριθμός τῶν σω-

σιβίων λέμβων εις ἑκατέραν πλευράν τοῦ πλοίου νά εἶναι πάντοτε ἐπαρκῆς ὅπως παραλαμβάνονται τὰ $37\frac{1}{2}$ τοῖς ἑκατόν ἀπάντων τῶν ἐπιβαινόντων τοῦ πλοίου.

- (ii) Σωσιβίους σχεδίας ὀλικῆς χωρητικότητος ἐπαρκοῦς νά παραλαμβάνουν 25 τοῖς ἑκατόν τοῦ ὀλικοῦ ἀριθμοῦ τῶν ἐπιβαινόντων τοῦ πλοίου, ὁμοῦ μέ πλευστικές συσκευάς διά τὰ 3 τοῖς ἑκατόν τοῦ ἀριθμοῦ τούτου. Νοεῖται ὅτι εἰς πλοία ἔχοντα συντελεστήν ὑποδιαιρέσεως ἴσον ἢ μικρότερον τοῦ 0,33, θά ἐπιτρέπεται ἀντί σωσιβίων σχεδιῶν διά τὰ 25 τοῖς ἑκατόν ὄλων τῶν ἐπιβαινόντων τοῦ πλοίου, νά φέρουν πλευστικές συσκευάς διά τὰ 25 τοῖς ἑκατόν τοῦ ἀριθμοῦ τούτου.
- (γ) (i) Ἐπιβατηγόν πλοῖον εκτελοῦν βραχείς διεθνείς πλόας, θά ἐφοδιάζεται διά ζευγῶν ἐπωτίδων συμφώνως πρὸς τό μήκος αὐτοῦ ὡς καθορίζονται εἰς τήν στήλην Α τοῦ Κανονισμοῦ 28 τοῦ παρόντος Κεφαλαίου. Ἐφ' ἐκάστου ζεύγους ἐπωτίδων θά ἀνακρεμᾶται μία σωσίβιος λέμβος καί αἱ σωσίβιοι αὐταί λέμβοι θά ἔχουν τοῦλάχιστον τήν ἐλαχίστην χωρητικότητα τήν ἀπαιτουμένην ὑπό τῆς στήλης Γ τοῦ Πίνακος ἢ τήν χωρητικότητα τήν ἀπαιτουμένην διά τήν ἐπιβίβασιν πάντων τῶν ἐπιβαινόντων τοῦ πλοίου, ἐάν αὕτη εἶναι μικροτέρα. Νοεῖται ὅτι ἐάν κατά τήν κρίσιν τῆς Ἄρχῆς δέν εἶναι πρακτικῶς δυνατόν καί εὐλογον νά τοποθετηθῇ ἐπί πλοίου εκτελοῦντος βραχείς διεθνείς πλόας ὁ ἀριθμός τῶν ζευγῶν ἐπωτίδων τῶν ἀπαιτουμένων ὑπό τῆς στήλης Α τοῦ Πίνακος ἐν τῷ Κανονισμῷ 28, ἡ Ἄρχή δύναται νά ἐπιτρέψη, ὑπό ἐξαιρετικῆς συνθήκας, μικρότερον ἀριθμόν ἐπωτίδων ὑπό τόν ὄρον ὅτι ὁ ἀριθμός οὗτος οὐδέποτε θά εἶναι κατώτερος τοῦ ἐλαχίστου ἀριθμοῦ τοῦ ὀριζομένου ὑπό τῆς στήλης Β τοῦ Πίνακος, καί ὅτι ἡ ὀλική χωρητικότης τῶν ἐπί τοῦ πλοίου σωσιβίων λέμβων θά εἶναι τοῦλάχιστον ἴση πρὸς τήν ἐλαχίστην χωρητικότητα τήν ἀπαιτουμένην ὑπό τῆς στήλης Γ, ἢ πρὸς τήν χωρητικότητα τήν ἀπαιτουμένην διά τήν ἐπιβίβασιν πάντων τῶν ἐπί τοῦ πλοίου ἐπιβαινόντων, ἐάν αὕτη εἶναι μικροτέρα.
- (ii) Ἐάν αἱ οὕτω προβλεπόμεναι σωσίβιοι λέμβοι δέν ἐπαρκοῦν ὅπως παραλαμβάνουν πάντας τοὺς ἐπιβαίνοντας τοῦ πλοίου, θά προβλέπωνται ἐπιπρόσθετοι σωσίβιοι λέμβοι ὑπό ἐπωτίδας ἢ σωσίβιοι σχεδίαί εἰς τρόπον ὥστε αἱ σωσίβιοι λέμβοι καί σχεδίαί νά ἐπαρκοῦν διά πάντας τοὺς ἐπιβαίνοντας τοῦ πλοίου.
- (iii) Παρά τὰς διατάξεις τοῦ ἑδαφίου (ii) τῆς παρούσης παραγράφου, εἰς πλοία εκτελούντα βραχείς διεθνείς πλόας, ὁ ἀριθμός τῶν ἐπιβαινόντων ἀτόμων δέν θά ὑπερβαίη τήν ὀλικήν χωρητικότητα τῶν σωσιβίων λέμβων τῶν προβλεπομένων συμφώνως πρὸς τὰ ἐδάφια (i) καί (ii) τῆς παρούσης παραγράφου, ἐκτός ἐάν ἡ Ἄρχή θεωρῇ ὅτι τοῦτο καθίσταται ἀναγκαῖον ἐκ τῶν ὄγκων τῆς ἐπιβατικῆς κινήσεως καί τότε μόνον, ἐάν τό πλοῖον πληροῖ τὰς διατάξεις τῆς παραγράφου (δ) τοῦ Κανονισμοῦ I τοῦ Κεφαλαίου II-1.
- (iv) Ὄταν κατά τὰς διατάξεις τοῦ ἑδαφίου (iii) τῆς παρούσης παραγράφου ἡ Ἄρχή ἔχη ἐπιτρέψει τήν μεταφοράν ἀριθμοῦ ἀτόμων μεγαλύτερου τῆς χωρητικότητος τῶν σωσιβίων λέμβων καί ἔχει πεισθῇ ὅτι εἶναι πρακτικῶς ἀδύνατον εἰς τό πλοῖον τοῦτο νά στοιβαχθοῦν αἱ σωσίβιοι σχεδίαί αἱ φερόμεναι συμφώ-

ως προς τό έδάφιον (ii) τής παρούσης παραγράφου δύναται νά επιτρέψη μείωσιν τοῦ ἀριθμοῦ τῶν σωσιβίων λέμβων, ὑπό τούς κάτωθι δρους:

- (1) Ὁ ἀριθμός τῶν σωσιβίων λέμβων, εἰς τήν περίπτωσιν πλοίων μήκους 58 μέτρων (ἤ 190 ποδῶν) καί ἄνω, οὐδέποτε θά εἶναι μικρότερος τῶν τεσσάρων, δύο ἐκ τῶν ὁποίων θά φέρονται εἰς ἐκάστην πλευράν τοῦ πλοίου, καί εἰς τήν περίπτωσιν πλοίων μήκους μικροτέρου τῶν 58 μέτρων (ἤ 190 ποδῶν), οὐδέποτε θά εἶναι μικρότερος τῶν δύο, ἐκάστη τῶν ὁποίων θά φέρεται εἰς ἑκατέραν πλευράν τοῦ πλοίου, καί
 - (2) Ὁ ἀριθμός τῶν σωσιβίων λέμβων καί τῶν σωσιβίων σχεδιῶν θά εἶναι πάντοτε ἐπαρκής ὥστε νά ἐπιβιάζεται ὁ ὀλικός ἀριθμός τῶν ἐπιβαινόντων τοῦ πλοίου ἀτόμων.
- (v) Πᾶν ἐπιβατηγόν πλοῖον ἐκτελοῦν βραχεῖς διεθνεῖς πλόας θά φέρη ἐπιπροσθέτως πρὸς τάς σωσιβίους λέμβους καί σωσιβίους σχεδιάς τάς ἀπαιτουμένας ὑπό τῶν διατάξεων τής παρούσης παραγράφου, σωσιβίους σχεδιάς ἐπαρκεῖς νά παραλαμβάνουν τό 10 τοῖς ἑκατόν τοῦ ὀλικοῦ ἀριθμοῦ τῶν ἀτόμων διά τά ὁποῖα ὑπάρχει θέσις ἐντός τῶν σωσιβίων λέμβων τῶν φερομένων ἐπὶ τοῦ πλοίου τούτου.
- (vi) Πᾶν ἐπιβατηγόν πλοῖον ἐκτελοῦν βραχεῖς διεθνεῖς πλόας θά φέρη ἐπίσης πλευστικὰς συσκευάς διά τά 5 τοῖς ἑκατόν τοῦλάχιστον τοῦ ὀλικοῦ ἀριθμοῦ τῶν ἐπιβαινόντων τοῦ πλοίου ἀτόμων.
- (vii) Ἡ Ἄρχή δύναται νά ἐπιτρέπη εἰς συγκεκριμένα πλοῖα ἢ κατηγορίας πλοίων, ἔχοντα πιστοποιητικά βραχέος διεθνοῦς πλοῦ, νά ἐκτελοῦν πλόας πέραν τῶν 600 μιλίων, ἀλλά μὴ ὑπερβαίνοντα τά 1200 μίλια, ἐάν τά πλοῖα ταῦτα πληροῦν τάς διατάξεις τής παραγράφου (δ) τοῦ Κανονισμοῦ 1 τοῦ Κεφαλαίου II-1, ἐάν φέρουν σωσιβίους λέμβους αἵτινες δύναται νά παραλάβουν τά 75 τοῖς ἑκατόν τῶν ἐπιβαινόντων τοῦ πλοίου ἀτόμων καί συμμορφοῦνται κατά τά ἄλλα πρὸς τάς διατάξεις τής παρούσης παραγράφου.

Κανονισμός 28

Πίναξ Ἐπωτίδων καί Χωρητικότητος Σωσιβίων Λέμβων διά Πλοῖα Ἐκτελοῦντα Βραχεῖς Διεθνεῖς Πλόας

Ὁ κατωτέρω πίναξ καθορίζει συναρτήσσει τοῦ μήκους τοῦ πλοίου:

- (A) Τόν ἐλάχιστον ἀριθμόν ζευγῶν ἐπωτίδων, τῶν προβλεπομένων ἐπὶ πλοίου ἐκτελοῦντος βραχεῖς διεθνεῖς πλόας, εἰς ἕκαστον τῶν ὁποίων δέον νά ἀνακρεμάται μία σωσίβιος λέμβος συμφώνως πρὸς τόν Κανονισμόν 27 τοῦ παρόντος Κεφαλαίου.
- (B) Τόν μικρότερον ἀριθμόν ζευγῶν ἐπωτίδων ὅστις δύναται ἐξαιρετικῶς νά ἐπιτραπῇ εἰς πλοῖον ἐκτελοῦν βραχεῖς διεθνεῖς πλόας ὑπό τούς δρους τοῦ Κανονισμοῦ 27, καί
- (Γ) Τήν ἐλαχίστην χωρητικότητα σωσιβίων λέμβων τήν ἀπαιτουμένην διά πλοῖον ἐκτελοῦν βραχεῖς διεθνεῖς πλόας.

Μήκος καταμετρήσεως του πλοίου		(Α) Ελάχιστος αριθμός ζευγών επωτίδων	(Β) Μικρότερος αριθμός ζευ- γών επωτί- δων εξαιρε- τικώς επι- τρεπόμενος	(Γ) Ελαχίστη χωρητικότητα σωσιβίων λέμβων	
Μέτρα	Πόδες			Κυβικά μέτρα	Κυβικοί πόδες
31 και μέχρι 37	100 και μέχρι 120	2	2	11	400
37 " 43	120 " 140	2	2	18	650
43 " 49	140 " 160	2	2	26	900
49 " 53	160 " 175	3	3	33	1,150
53 " 58	175 " 190	3	3	38	1,350
58 " 63	190 " 205	4	4	44	1,550
63 " 67	205 " 220	4	4	50	1,750
67 " 70	220 " 230	5	4	52	1,850
70 " 75	230 " 245	5	4	61	2,150
75 " 78	245 " 255	6	5	68	2,400
78 " 82	255 " 270	6	5	76	2,700
82 " 87	270 " 285	7	5	85	3,000
87 " 91	285 " 300	7	5	94	3,300
91 " 96	300 " 315	8	6	102	3,600
96 " 101	315 " 330	8	6	110	3,900
101 " 107	330 " 350	9	7	122	4,300
107 " 113	350 " 370	9	7	135	4,750
113 " 119	370 " 390	10	7	146	5,150
119 " 125	390 " 410	10	7	157	5,550
125 " 133	410 " 435	12	9	171	6,050
133 " 140	435 " 460	12	9	185	6,550
140 " 149	460 " 490	14	10	202	7,150
149 " 159	490 " 520	14	10	221	7,800
159 " 168	520 " 550	16	12	238	8,400

Σημείωσις επί (Γ): Όταν τό μήκος του πλοίου είναι μικρότερον των 31 μέτρων (ή 100 ποδών) ή μεγαλύτερον των 168 μέτρων (ή 550 ποδών), ο ελάχιστος αριθμός ζευγών επωτίδων και ή κυβική χωρητικότητα των σωσιβίων λέμβων θα καθορίζεται υπό της Αρχής.

Κανονισμός 29

Στοιβασία και Χειρισμός Σωσιβίων Λέμβων, Σωσιβίων Σχεδιών και Πλευστικών Συσκευών

- (α) Αί σωσίβιοι λέμβοι και αί σωσίβιοι σχέδιαί θά στοιβάζονται πρός ίκανοποίη-
σιν της Αρχής κατά τοιοῦτον τρόπον, ὥστε:
- (i) Νά δύνανται ἄπασαι νά καθαιρούνται ἐντός του βραχυτάτου δυνατου χρόνου
καί οὐχί μεγαλυτέρου των 30 λεπτών,
 - (ii) Νά μή παρεμποδίζουν κατ' οὐδένα τρόπον τόν ταχύν χειρισμόν των ἄλλων
σωσιβίων λέμβων, σωσιβίων σχεδιών ή πλευστικῶν συσκευῶν ή τήν συγκέν-
τρωσιν των ἐπιβαινόντων του πλοίου ἀτόμων εις τάς θέσεις καθαιρέσεως ή
τήν ἐπιβίβασιν αὐτῶν,
 - (iii) Αί σωσίβιοι λέμβοι και αί σωσίβιοι σχέδιαί διὰ τὰς ὁποίας ἀπαιτοῦνται νά
ὑπάρχουν ἐγκεκριμένα μέσα καθαιρέσεως, νά δύνανται νά καθαιρούνται εις
τήν θάλασσαν ἔμφορτοι μετὰ του πλήρους αὐτῶν φόρτου ἀτόμων και των
ἐφοδιῶν ἀκόμη και ὑπό δυσμενεῖς συνθήκας ζυγοσταθμίσεως του πλοίου και
ὑπό κλίσιν 15 μοιρῶν πρός οἰανδήποτε πλευράν, και

- (iv) Αί σωσίβιοι σχεδία δια τὰς ἐποίας δὲν ἀπαιτοῦνται νὰ ὑπάρχουν ἐγκεκριμένα μέσα καθαιρέσεως, καὶ αἱ πλευστικαὶ συσκευαί, νὰ δύνανται νὰ καθαιροῦνται εἰς τὴν θάλασσαν ἀκόμη καὶ ὑπὸ δυσμενεῖς συνθήκας ζυγοσταθμίσεως τοῦ πλοίου καὶ ὑπὸ κλίσιν 15 μοιρῶν πρὸς οἰανδήποτε πλευρὰν.
- (β) Πᾶσα σωσίβιος λέμβος θὰ ἀνακρεμάται εἰς χωριστὸν ζευγος ἐπωτίδων.
- (γ) Αἱ σωσίβιοι λέμβοι τότε μόνον δύνανται νὰ στοιβάζωνται εἰς πλείονα τοῦ ἐνὸς καταστρώματα ἐὰν λαμβάνωνται κατάλληλα μέτρα ὥστε νὰ ἀποφεύγεται ὅπως αἱ σωσίβιοι λέμβοι κατωτέρου καταστρώματος ἐμποδίζονται ὑπὸ τῶν στοιβαζομένων ἐπὶ τοῦ ὑπερκειμένου καταστρώματος.
- (δ) Αἱ σωσίβιοι λέμβοι καὶ αἱ σωσίβιοι σχεδία, διὰ τὰς ὁποίας ἀπαιτοῦνται ἐγκεκριμένα μέσα καθαιρέσεως, δὲν θὰ τοποθετοῦνται εἰς τὴν πρῶραν τοῦ πλοίου. Θὰ τοποθετοῦνται εἰς τοιαύτας θέσεις ὥστε νὰ ἐπιτυγχάνεται ἡ ἀσφαλῆς καθαιρέσεις, διδομένης εἰδικῆς προσοχῆς εἰς τὴν ἀπομάκρυνσιν ἀπὸ τὰς ἑλικας καὶ ἀπὸ τὰ ἀποτόμου κλίσεως ὑπερεξέχοντα τμήματα τοῦ πρυμναίου μέρους τοῦ σκάφους.
- (ε) Αἱ ἐπωτίδες θὰ εἶναι ἐγκεκριμένου τύπου καὶ καταλλήλως τοποθετημένοι πρὸς ἱκανοποίησιν τῆς Ἀρχῆς. Θὰ εἶναι διατεταγμένοι ἐπὶ ἐνός ἢ περισσοτέρων καταστρωμάτων κατὰ τοιοῦτον τρόπον ὥστε αἱ ὑπ' αὐτὰς σωσίβιοι λέμβοι νὰ δύνανται νὰ καθαιροῦνται μετ' ἀσφαλείας χωρὶς νὰ παρεμποδίζεται ὁ χειρισμὸς τῶν ἄλλων ἐπωτίδων.
- (στ) Αἱ ἐπωτίδες θὰ εἶναι ὡς ἀκολούθως:
- (i) Τύπου προσαγωγῆς ἢ τύπου βαρύτητος διὰ τὸν χειρισμὸν σωσιβίων λέμβων βάρους οὐχὶ μεγαλυτέρου τῶν 2.300 χιλιογράμμων (ἢ 2¼ τόννων) εἰς κατάστασιν ἀνακρεμάσεως αὐτῶν ἄνευ ἐπιβατῶν.
 - (ii) Τύπου βαρύτητος διὰ τὸν χειρισμὸν σωσιβίων λέμβων βάρους μεγαλυτέρου τῶν 2.300 χιλιογράμμων (ἢ 2¼ τόννων) εἰς τὴν κατάστασιν ἀνακρεμάσεως αὐτῶν ἄνευ ἐπιβατῶν.
- (ζ) Αἱ ἐπωτίδες, τὰ ἀγόμενα, τὰ σύσπαστα καὶ ὁ λοιπὸς ἐξαρτισμὸς θὰ εἶναι τοιαύτης ἀντοχῆς ὥστε αἱ σωσίβιοι λέμβοι νὰ δύνανται νὰ ἀνακρεμῶνται ἐπηνδρωμένοι διὰ τοῦ πληρώματος καθαιρέσεως καὶ κατόπιν νὰ καθαιροῦνται ἀσφαλῶς μετὰ πλήρους φόρτου ἐπιβατῶν καὶ πληρώματος, ὑπὸ κλίσιν πλοίου 15 μοιρῶν πρὸς οἰανδήποτε πλευρὰν καὶ ὑπὸ γωνίαν ζυγοσταθμίσεως 10 μοιρῶν.
- (η) Θὰ προβλέπωνται πέδιλα ἢ ἄλλα κατάλληλα μέσα πρὸς διευκόλυνσιν τῆς καθαιρέσεως ὑπὸ κλίσιν 15 μοιρῶν.
- (θ) Θὰ προβλέπωνται μέσα διὰ τὴν παραβολὴν τῶν σωσιβίων λέμβων εἰς τὴν πλευρὰν τοῦ πλοίου καὶ τὴν συγκράτησιν αὐτῶν ἵνα οἱ ἐπιβάται δύνανται νὰ ἐπιβιβάζωνται μετ' ἀσφαλείας.
- (ι) Αἱ σωσίβιοι λέμβοι, καθὼς καὶ αἱ λέμβοι κινδύνου αἱ ἀπαιτούμεναι ὑπὸ τοῦ Κανονισμοῦ 27 τοῦ παρόντος Κεφαλαίου, θὰ ἐξυπηρετοῦνται δι' ἀγομένων συρματοσχοίων ὡς καὶ διὰ βαρούλκων ἐγκεκριμένου τύπου, ὅτινα εἰς τὴν περίπτωσιν τῶν λέμβων κινδύνου θὰ εἶναι ἱκανὰ διὰ τὴν ταχείαν ἀνολκὴν τῶν λέμβων τούτων. Ἐξαιρετικῶς ἡ Ἀρχὴ δύναται νὰ ἐπιτρέψῃ ἀγόμενα σχοινία μανίλλας ἢ ἀγόμενα ἐξ ἄλλου ἐγκεκριμένου ὀλικοῦ μετὰ ἢ ἄνευ βαρούλκων (ἐξαιρέσει τῶν λέμβων κινδύνου διὰ τὰς ὁποίας ἀπαιτεῖται νὰ ἐξυπηρετοῦνται διὰ βαρούλκων τὰ ὁποία θὰ εἶναι ἱκανὰ διὰ τὴν ταχείαν ἀνολκὴν τῶν λέμβων τούτων) ὅταν κρίνῃ ὅτι τὰ ἀγόμενα σχοινία μανίλλας ἢ ἀγόμενα ἐξ ἄλλου ἐγκεκριμένου ὀλικοῦ εἶναι κατάλληλα.

(ια) Δύο τουλάχιστον σωσίβια σχοινία θα είναι προσδεδεμένα εις τὰ ἄκρα τῶν ἐπωτίδων, τὰ δὲ ἀγόμενα καὶ τὰ σωσίβια σχοινία θὰ εἶναι μήκους ἐπαρκoῦς ὥστε νὰ φθάνουν μέχρι τῆς θαλάσσης ὅταν τὸ πλοῖον ἔχει τὸ ἐλάχιστον αὐτοῦ ἐν θαλάσῃ βύθισμα καὶ ὑπὸ κλίσιν 15 μοιρῶν πρὸς οἰανδήποτε πλευρὰν. Οἱ κατώτεροι τρόχιλοι τῶν ἀγομένων θὰ εἶναι ἐφοδιασμένοι διὰ καταλλήλου δακτυλίου ἢ δι' ἐπιμήκους κρίκου διὰ τὴν ἀγκύστρωσιν εἰς τοὺς κόρακας τῆς ἀρτάνης ἐκτός ἐάν ὑπάρχη ἐγκεκριμένος τύπος ἀπελευθερωτικῆς ἀρτάνης.

(ιβ) Ὅταν ὑπάρχουν μηχανικά μέσα διὰ τὴν ἀνολκὴν τῶν λέμβων, θὰ προβλέπεται ἐπίσης ἰκανὸς χειροκίνητος μηχανισμός. Ὅταν αἱ ἐπωτίδες ἀνέλκονται διὰ μηχανικῆς λειτουργίας τῶν ἀγομένων, θὰ προβλέπωνται μέσα ἀσφαλείας τὰ ὁποῖα θὰ διακόπτουν αὐτομάτως τὸν κινητήρα πρὶν αἱ ἐπωτίδες φθάσουν εἰς τοὺς ἀναστολεῖς πρὸς τὸν σκοπὸν ἀποφυγῆς ὑπερεντάσεων ἐπὶ τῶν συρματοσχοινίων ἢ τῶν ἐπωτίδων.

(ιγ) Αἱ ἐξηρητημένοι ἐκ τῶν ἐπωτίδων σωσίβιοι λέμβοι θὰ ἔχουν τὰ ἀγόμενα αὐτῶν ἔτοιμα πρὸς χρῆσιν καὶ θὰ ἔχουν ληφθῆ μέτρα διὰ τὴν ταχειαν, ἀλλ' οὐχὶ ἀπαραιτήτως ταυτόχρονον, ἀπαγκίστρωσιν τῶν σωσιβίων λέμβων ἐκ τῶν ἀγομένων. Τὸ σημεῖον ἐξαρτήσεως τῶν σωσιβίων λέμβων ἐκ τῶν ἀγομένων θὰ εἶναι εἰς τοιοῦτον ὕψος ἄνωθεν τῆς κουπαστῆς, ὥστε νὰ ἐξασφαλίζεται ἡ εὐστάθεια τῶν σωσιβίων λέμβων κατὰ τὴν καθαιρεσιν αὐτῶν.

(ιδ) (i) Εἰς ἐπιβατηγὰ πλοῖα ἐκτελοῦντα διεθνεῖς πλόας, οἵτινες δὲν εἶναι βραχεῖς διεθνεῖς πλόες, εἰς τὰ ὁποῖα φέρονται σωσίβιοι λέμβοι καὶ σωσίβιοι σχεδία συμφώνως πρὸς τὸ ἐδάφιον (β) (i) τοῦ Κανονισμοῦ 27 τοῦ παρόντος Κεφαλαίου, θὰ προβλέπωνται ἐγκεκριμένα μέσα καθελκύσεως ἐπαρκῆ εἰς ἀριθμὸν κατὰ τὴν κρίσιν τῆς Ἀρχῆς, ἐπιτρέποντα ὥστε, ὁ ἀριθμὸς τῶν σωσιβίων σχεδιῶν ἐκείνων αἵτινες ὁμοῦ μετὰ τῶν σωσιβίων λέμβων ἀπαιτοῦνται συμφώνως πρὸς τὸ ἐν λόγῳ ἐδάφιον νὰ παραλαμβάνουν ἅπαντας τοὺς ἐπιβαίνοντας τοῦ πλοίου, νὰ καθαιροῦνται εἰς τὴν θάλασσαν ἔμπορτοι μὲ τὸν ἀριθμὸν τῶν ἀτόμων τὸν ὁποῖον ἐπιτρέπεται νὰ παραλαμβάνουν, ἐντός 30 λεπτῶν τὸ βραδύτερον ὑπὸ συνθήκας ἡρέμου θαλάσσης. Τὰ οὕτω προβλεπόμενα μέσα καθαιρέσεως θὰ κατανέμονται ὅσον εἶναι πρακτικῶς δυνατὸν ἐξ ἴσου εἰς ἑκατέραν πλευρὰν τοῦ πλοίου καὶ δὲν θὰ ὑπάρχη ὀλιγότερον τοῦ ἐνός τοιοῦτου μέσου καθαιρέσεως εἰς ἐκάστην πλευρὰν. Δὲν ἀπαιτεῖται, ἐν τούτοις, νὰ ὑφίστανται τοιαῦτα μέσα καθαιρέσεως διὰ τὰς ἐπιπροσθέτους σωσιβίους σχεδίας τὰς ἀπαιτουμένας ὑπὸ τοῦ ἐδαφίου (β) (i) τοῦ Κανονισμοῦ 27 τοῦ παρόντος Κεφαλαίου διὰ τὰ 25 τοῖς ἑκατόν τοῦ ἀριθμοῦ ἀπάντων τῶν ἐπιβαινόντων ἀτόμων, ἀλλὰ πᾶσα σωσίβιος σχεδία ἥτις φέρεται συμφώνως πρὸς τὸ ἐδάφιον τοῦτο θὰ πρέπει, ὅταν προβλέπεται διὰ τὸ πλοῖον ἐγκεκριμένον μέσον καθαιρέσεως, νὰ εἶναι τύπου τοιοῦτου ὥστε νὰ δύναται νὰ καθαιρῆται διὰ τοῦ ἐν λόγῳ μέσου.

(ii) Εἰς ἐπιβατηγὰ πλοῖα ἐκτελοῦντα βραχεῖς διεθνεῖς πλόας, ὁ προβλεπόμενος ἀριθμὸς τῶν ἐγκεκριμένων μέσων καθαιρέσεως θὰ ἀφίεται εἰς τὴν κρίσιν τῆς Ἀρχῆς. Ὁ ἀριθμὸς τῶν σωσιβίων σχεδιῶν ὁ προβλεπόμενος δι' ἕκαστον τοιοῦτον μέσον καθαιρέσεως δὲν θὰ εἶναι μεγαλύτερος τοῦ ἀριθμοῦ τῶν σωσιβίων σχεδιῶν αἵτινες, κατὰ τὴν κρίσιν τῆς Ἀρχῆς, δύναται νὰ καθαιροῦνται διὰ τοῦ μέσου τούτου ἐντός 30 λεπτῶν ἔμπορτοι μὲ τὸν ἀριθμὸν τῶν ἀτόμων ὅτινα ἐπιτρέπεται νὰ φέρουν καὶ ὑπὸ συνθήκας ἡρέμου θαλάσσης.

Κανονισμός 30

Φωτισμός Καταστροφμάτων, Σωσιβίων Λέμβων, Σωσιβίων Σχεδιῶν κ.λ.π.

(α) Θὰ προβλέπεται ἠλεκτρικὸν ἢ ἰσοδύναμον σύστημα φωτισμοῦ ἐπαρκoῦς διὰ

πάσας τὰς ἀπαιτήσεις ἀσφαλείας εἰς τὰ διάφορα μέρη ἑνὸς ἐπιβατηγῶν πλοίου καὶ ἰδιαιτέρως εἰς τὰ καταστρώματα ἐπὶ τῶν ὁποίων στοιβάζονται αἱ σωσίβιοι λέμβοι καὶ αἱ σωσίβιοι σχεδία. Ἡ αὐτόνομος πηγή ἠλεκτρικῆς ἐνεργείας κινδύνου ἢ ἀπαιτούμενη ὑπὸ τοῦ Κανονισμοῦ 25 τοῦ Κεφαλαίου II-1 θὰ εἶναι ἰκανὴ νὰ τροφοδοτῆ, ὅταν ὑπάρχῃ ἀνάγκη, τὸ φωτιστικὸν τοῦτο σύστημα καθὼς ἐπίσης τὸν φωτισμὸν τὸν ἀπαιτούμενον ὑπὸ τῶν ἐδαφίων (α) (i) (β) (ii) τοῦ Κανονισμοῦ 19 τοῦ παρόντος Κεφαλαίου.

(β) Ἡ ἔξοδος ἐκ παντὸς κυρίου διαμερίσματος κατεληγμένου ὑπὸ ἐπιβατῶν ἢ πληρώματος θὰ φωτίζεται συνεχῶς ὑπὸ λυχνίας κινδύνου. Ἡ τροφοδοτήσις τῶν λυχνιῶν τούτων κινδύνου θὰ ἔχῃ τοιαύτην διάταξιν ὥστε νὰ τροφοδοτοῦνται αὐτὰ ἐκ τῆς πηγῆς ἠλεκτρικῆς ἐνεργείας κινδύνου, τῆς ἀναφερομένης εἰς τὴν παράγραφον (α) τοῦ παρόντος Κανονισμοῦ, εἰς περίπτωσιν διακοπῆς τῆς κυρίας πηγῆς ἠλεκτρικῆς ἐνεργείας τοῦ πλοίου.

Κανονισμός 31

Ἐπὶ ἀνδρῶσις Σωσιβίων Λέμβων καὶ Σωσιβίων Σχεδίων

(α) Εἰς ἀξιωματικὸς καταστρώματος ἢ ὁ εἰδικευμένος ἀνὴρ σωσιβίου λέμβου θὰ εἶναι ὑπεύθυνος ἐκάστης σωσιβίου λέμβου, καθὼς ἐπίσης θὰ ὀρίζεται καὶ εἰς δεύτερος ὡς ἀναπληρωτῆς. Ὁ ἐπιφορτισμένος θὰ ἔχῃ πίνακα τοῦ πληρώματος τῆς σωσιβίου λέμβου καὶ θὰ ἐξακριβῶνῃ ὅτι οἱ ὑπὸ τὰς διαταγὰς του ἀνδρες ἔχουν γνῶσιν τῶν διαφόρων καθηκόντων τῶν.

(β) Εἰς ἰκανὸς χειριστῆς τοῦ κινητήρος θὰ ὀρίζεται εἰς ἐκάστην-μηχανοκίνητον σωσίβιον λέμβον.

(γ) Εἰς ἰκανὸς χειριστῆς τῶν ἐγκαταστάσεων τῆς ραδιοηλεκτρονικῆς συσκευῆς καὶ τοῦ προβολέως θὰ ὀρίζεται εἰς ἐκάστην σωσίβιον λέμβον φέρουσαν τὰ ἐφόδια ταῦτα.

(δ) Εἰς ἀνὴρ πεπειραμένος εἰς τὸν χειρισμὸν καὶ τὴν λειτουργίαν τῶν σωσιβίων σχεδίων θὰ ὀρίζεται δι' ἐκάστην φερομένην σωσίβιον σχεδίαν, ἐξαιρέσει ὅταν ἐπὶ τῶν πλοίων τῶν ἐκτελούντων βραχεῖς διεθνεῖς πλόας ἢ Ἀρχὴ πεισθῆ ὅτι τοῦτο δέν εἶναι πρακτικῶς δυνατόν.

Κανονισμός 32

Εἰδικευμένοι Ἄνδρες Σωσιβίων Λέμβων.

(α) Εἰς τὰ ἐπιβατηγὰ πλοία θὰ ὑπάρχῃ, δι' ἐκάστην φερομένην σωσίβιον λέμβον κατ' ἐφαρμογὴν τοῦ παρόντος Κεφαλαίου, ἀριθμὸς ἀνδρῶν σωσιβίων λέμβων τοῦλάχιστον ἴσος πρὸς τὸν καθοριζόμενον ὑπὸ τοῦ κατωτέρω πίνακος:

Καθορισθεὶς ἀριθμὸς ἀτόμων σωσιβίου λέμβου	Ὁ ἐλάχιστος ἀριθμὸς τῶν εἰδικευμένων ἀνδρῶν σωσι- βίων λέμβων θὰ εἶναι
Ὀλιγότερα τῶν 41 ἀτόμων	2
Ἀπὸ 41 μέχρι 61 ἀτόμων	3
Ἀπὸ 62 μέχρι 85 ἀτόμων	4
Ἄνω τῶν 85 ἀτόμων	5

(β) Ἡ κατανομή τῶν εἰδικευμένων ἀνδρῶν σωσιβίων λέμβων ἐπαφίεται εἰς τὴν κρίσιν τοῦ πλοιάρχου.

(γ) Τὸ πτυχίον ἰκανότητος θὰ ἐκδίδεται κατ' ἐξουσιοδότησιν τῆς Ἀρχῆς. Πρὸς ἀπόκτησιν τοῦ πτυχίου τούτου, ὁ ὑπογῆφιος δεῖν νὰ ἀποδείξῃ ὅτι ἐξεπαιδεύθη εἰς πάντας τοὺς χειρισμοὺς τοὺς σχετιζομένους μὲ τὴν καθαίρεσιν τῶν σωσιβίων λέμβων καὶ τῶν ἄλλων σωστικῶν μέσων, ὡς καὶ εἰς τὸν χειρισμὸν τῶν κωπῶν καὶ τῶν μηχανισμῶν προώσεως : ὅτι εἶναι ἐνήμερος τοῦ πρακτικοῦ χειρισμοῦ τῶν σωσιβίων λέμβων καὶ τῶν ἄλλων σωσιβίων ἐφοδίων καὶ ἐπὶ πλέον ὅτι εἶναι ἰκανὸς νὰ ἐννοῆ καὶ νὰ ἐκτελῇ τὰς διαταγὰς τὰς σχετικὰς πρὸς ἅπαντα τὰ εἶδη τῶν σωστικῶν μέσων.

Κανονισμὸς 33

Πλευστικαὶ Συσκευαί.

(α) Οὐδεὶς τύπος πλευστικῆς συσκευῆς θὰ ἐγκρίνεται ἂν πληροῖ τοὺς κάτωθι δρους :

(i) Νὰ εἶναι τοιοῦτου μεγέθους καὶ τοιαύτης ἀντοχῆς ὥστε νὰ δύναται νὰ ριφθῆ εἰς τὸ ὕδωρ ἀπὸ τῆς θέσεως στοιβασίας αὐτῆς, χωρὶς νὰ ὑποστῆ βλάβην.

(ii) Νὰ μὴν ὑπερβαίῃ τὰ 180 χιλιόγραμμα (ἢ 400 λίβρας) εἰς βάρος, ἐκτὸς ἂν διατίθενται κατάλληλα μέσα, ἰκανοποιούντα τὴν Ἀρχήν, διὰ τὴν καθαίρεσιν ταύτης χωρὶς τὴν ἀνάγκην ἄρσεως διὰ τῶν χειρῶν.

(iii) Νὰ εἶναι ἐξ ὀλικῶν καὶ κατασκευῆς ἐγκεκριμένων.

(iv) Νὰ εἶναι λειτουργήσιμος καὶ εὐσταθὴς ὅταν ἐπιπλεῖ καθ' οἰανδήποτε ὄψιν.

(v) Τὰ ἀεροκιβώτια ἢ οἱ ἰσοδύναμοι πλωτῆρες νὰ τοποθετοῦνται ὅσον τὸ δυνατόν ἐγγύτερον πρὸς τὰς πλευρὰς τῆς συσκευῆς καὶ ἡ πλευστότης νὰ μὴ ἐξαρτᾶται ἐκ τῆς ἐμφυσήσεως.

(vi) Νὰ ἐφοδιάζεται διὰ πεισματίου καὶ νὰ ἔχη γύρωθεν ἐξωτερικῶς χαλαρὸν ρυμίτιον καλῶς προσδεδεμένον.

(β) Ὁ ἀριθμὸς τῶν ἀτόμων διὰ τὰ ὁποῖα μία πλευστικὴ συσκευή εἶναι ἐγκεκριμένη εἶναι ὁ μικρότερος τῶν δύο κατωτέρω ἀριθμῶν :

(i) Τοῦ προκύπτοντος ἐκ τῆς διαιρέσεως τοῦ ἀριθμοῦ τῶν χιλιογράμμων σιδήρου τὰ ὁποῖα δύναται νὰ βαστάξῃ ἐντὸς γλυκέος ὕδατος διὰ τοῦ 14,5 (ἢ τοῦ ἀριθμοῦ τῶν λιβρῶν διαιρουμένου διὰ 32).

(ii) Τοῦ ἀριθμοῦ τῶν χιλιοστομέτρων τῆς περιμέτρου διαιρουμένου διὰ 305 (ἢ τοῦ ἀριθμοῦ τῶν ποδῶν τῆς περιμέτρου).

Κανονισμὸς 34

Ἀριθμὸς φερομένων Κυκλικῶν Σωσιβίων.

Ὁ ἐλάχιστος ἀριθμὸς τῶν κυκλικῶν σωσιβίων διὰ τῶν ὁποίων θὰ ἐφοδιάζονται τὰ ἐπιβατηγὰ πλοῖα θὰ καθορίζεται διὰ τοῦ ἐπομένου πίνακος :

Εἰς μέτρα	Μήκος Πλοίου Εἰς πόδας	Ἐλάχιστος ἀριθμὸς κυκλικῶν σωσιβίων
Κάτω τῶν 61	Κάτω τῶν 200	8
61 καὶ κάτω τῶν 122	200 καὶ κάτω τῶν 400	12
122 καὶ κάτω τῶν 183	400 καὶ κάτω τῶν 600	18
183 καὶ κάτω τῶν 244	600 καὶ κάτω τῶν 800	24
244 καὶ ἄνω	800 καὶ ἄνω	30

ΜΕΡΟΣ Γ'—ΦΟΡΤΗΓΑ ΠΛΟΙΑ ΜΟΝΟΝ

Κανονισμός 35

Αριθμός και Χωρητικότης Σωσιβίων Λέμβων και Σωσιβίων Σχεδίων

- (α) (i) Ἐκαστον φορτηγὸν πλοῖον, ἐξαιρέσει τῶν πλοίων τῶν χρησιμοποιούμενων ὡς ἐργοστάσια κατεργασίας φαλαινῶν, τῶν πλοίων—ἐργοστασίων ἐπεξεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων καὶ τῶν πλοίων τῶν χρησιμοποιούμενων διὰ τὴν μεταφορὰν τοῦ ἀπασχολουμένου εἰς τὴν φαλινοθηρίαν καὶ τὰς βιομηχανίας ἐπεξεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων προσωπικοῦ, θὰ φέρῃ σωσιβίους λέμβους εἰς ἑκατέραν πλευρὰν τοῦ πλοίου τοιαύτης ὀλικῆς χωρητικότητος, ὥστε νὰ παραλαμβάνουν πάντας τοὺς ἐπιβαίνοντας τοῦ πλοίου καὶ ἐπιπροσθέτως θὰ φέρουν σωσιβίους σχεδίασας ἐπαρκεῖς νὰ παραλαμβάνουν τὸ ἥμισυ τοῦ ἀριθμοῦ τούτου.

Νοεῖται ὅτι εἰς τὴν περίπτωσιν τοιούτων φορτηγῶν πλοίων ἐκτελούντων διεθνεῖς πλόας μεταξὺ γειτονικῶν χωρῶν, ἢ Ἀρχὴ δύναται, ἐὰν πεισθῇ ὅτι αἱ συνθήκαι τοῦ ταξειδίου εἶναι τοιαῦται ὥστε νὰ καθιστοῦν μὴ εὐλογον ἢ μὴ ἀναγκαίαν τὴν ὑποχρεωτικὴν ὑπαρξίν σωσιβίων σχεδίων, ν' ἀπαλλάξῃ ἀναλόγως ὀρισμένα πλοῖα ἢ κατηγορίας πλοίων τῆς ἀπαιτήσεως ταύτης.

- (ii) (1) Ὑπὸ τὴν ἐπιφύλαξιν τῶν διατάξεων τοῦ ἑδαφίου (ii) (2) τῆς παραγράφου ταύτης, ἕκαστον δεξαμενόπλοιο 3.000 κ.ο.χ. καὶ ἄνω θὰ φέρῃ οὐχὶ ὀλιγωτέρας τῶν τεσσάρων σωσιβίων λέμβων, δύο τῶν ὁποίων θὰ φέρονται εἰς τὴν πρύμνην καὶ δύο εἰς τὸ μεσόστεγον, ἐξαιρέσει τῶν δεξαμενοπλοίων, τὰ ὁποῖα δὲν φέρουν ὑπερκατασκευὴν εἰς τὸ μέσον εἰς τὰ ὁποῖα ἅπασαι αἱ σωσίβιοι λέμβοι θὰ φέρονται εἰς τὴν πρύμνην.
- (2) Εἰς ἕκαστον δεξαμενόπλοιο ὀλικῆς χωρητικότητος 3.000 κόρων καὶ ἄνω, τὸ ὁποῖον δὲν φέρει ὑπερκατασκευὴν εἰς τὸ μέσον, δύναται ἢ Ἀρχὴ νὰ ἐπιτρέψῃ νὰ φερῇ μόνον δύο σωσιβίους λέμβους προϋποτιθεμένων ὅτι :
- (αα) μία σωσίβιος λέμβος θὰ φέρεται εἰς τὴν πρύμνην ἐπὶ ἑκατέρας πλευρᾶς τοῦ πλοίου.
- (ββ) ἑκάστη τοιαύτη σωσίβιος λέμβος δὲν θὰ ὑπερβαίῃ τὰ 8,5 μέτρα (28 πόδας) μήκους.
- (γγ) ἑκάστη τοιαύτη σωσίβιος λέμβος θὰ στοιβάζεται ὅσον εἶναι πρακτικῶς δυνατόν πρὸς πῶραν, ἀλλὰ τόσον τοῦλάχιστον, ὥστε τὸ πρυμναῖον ἄκρον τῆς σωσιβίου λέμβου ν' ἀπέχη μίαν καὶ ἡμίσειαν φορὰν τὸ μήκος τῆς σωσιβίου λέμβου πῶραθεν τῆς ἑλικος,
- (δ) ἑκάστη σωσίβιος λέμβος θὰ στοιβάζεται τόσον πλησιέστερον τῆς ἐπιφανείας τῆς θαλάσσης, ὅσον εἶναι ἀσφαλὲς καὶ πρακτικῶς δυνατόν.
- (β) (i) Ἐκαστον πλοῖον χρησιμοποιούμενον, ὡς πλοῖον κατεργασίας φαλαινῶν, ὁμοίως τὸ χρησιμοποιούμενον ὡς πλοῖον-ἐργοστάσιον κατεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων καὶ ἕκαστον πλοῖον χρησιμοποιούμενον διὰ τὴν μεταφορὰν τοῦ ἀπασχολουμένου προσωπικοῦ εἰς τὴν φαλινοθηρίαν, τὰς βιομηχανίας κατεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων θὰ πρέπει νὰ φέρῃ:
- (1) Σωσιβίους λέμβους εἰς ἑκατέραν πλευρὰν, τοσαύτης δὲ ὀλικῆς χωρητι-

κόητος ὥστε νά παραλαμβάνουν τό ἡμισυ τοῦ ὀλικοῦ ἀριθμοῦ τῶν ἐπιβαινόντων τοῦ πλοίου. Νοεῖται ὅτι ἡ Ἄρχὴ δύναται νά ἐπιτρέψη τὴν ἀντικατάστασιν τῶν σωσιβίων λέμβων διὰ σωσιβίων σχεδιῶν τῆς αὐτῆς ὀλικῆς χωρητικότητος, εἰς τρόπον ὁμοῦ ὥστε νά ὑπάρχη πάντοτε εἰς ἑκατέραν πλευράν τοῦ πλοίου ἀριθμὸς σωσιβίων λέμβων ἐπαρκῆς νά παραλαβάνῃ τὰ 37½ τοῖς ἑκατόν τοῦ ὀλικοῦ ἀριθμοῦ τῶν ἐπιβαινόντων τοῦ πλοίου.

- (2) Σωσιβίους σχεδιάς ἐπαρκοῦς ὀλικῆς χωρητικότητος ὥστε νά παραλαμβάνουν τό ἡμισυ τοῦ ὀλικοῦ ἀριθμοῦ τῶν ἐπιβαινόντων τοῦ πλοίου. Νοεῖται ὅτι, ἐὰν εἰς πλοῖα χρησιμοποιοῦμενα ὡς πλοῖα - ἐργοστάσια διὰ τὴν ἐπεξεργασίαν ἢ κονσερβοποιίαν τῶν ἰχθύων δέν εἶναι πρακτικῶς δυνατόν νά φέρουν σωσιβίους λέμβους αἰτινες νά πληροῦν ἐντελῶς τὰς ἀπαιτήσεις τοῦ παρόντος Κεφαλαίου, ἡ Ἄρχὴ δύναται νά ἐπιτρέψη ἀντ' αὐτῶν νά φέρουν ἄλλας λέμβους, αἰτινες ὁμοῦ θά παραλαμβάνουν οὐχὶ ὀλιγώτερα ἄτομα τῶν ἀπαιτούμενων ὑπὸ τοῦ παρόντος Κανονισμοῦ καὶ θά ἔχουν τοῦλάχιστον τὴν πλευστότητα καὶ τὰ ἐφόδια τὰ ἀπαιτούμενα ὑπὸ τοῦ παρόντος Κεφαλαίου διὰ τὰς σωσιβίους λέμβους.

- (ii) Ἐκαστον πλοῖον χρησιμοποιοῦμενον ὡς πλοῖον κατεργασίας φαλαιῶν, ἕκαστον πλοῖον χρησιμοποιοῦμενον ὡς ἐργοστάσιον ἐπεξεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων καὶ ἕκαστον πλοῖον χρησιμοποιοῦμενον εἰς τὴν μεταφορὰν τοῦ προσωπικοῦ τοῦ ἀπασχολουμένου εἰς τὴν φαλινοθηρίαν καὶ τὰς βιομηχανίας ἐπεξεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων, πρέπει νά φέρῃ δύο λέμβους, ἀνά μίαν εἰς ἑκατέραν πλευράν, πρὸς χρήσιν εἰς περίπτωσιν κινδύνου. Αἱ λέμβοι αὗται θά εἶναι ἐγκεκριμένου τύπου καὶ δέν θά εἶναι μήκους μεγαλυτέρου τῶν 8½ μέτρων (ἢ 28 ποδῶν). Δύναται αὗται νά ὑπολογίζωνται διὰ τοῦς σκοποῦς τῆς παραγράφου ὑπὸ τὸν ὄρον ὅτι θά πληροῦν ἐντελῶς τὰς ἀπαιτήσεις διὰ σωσιβίους λέμβους τοῦ παρόντος Κεφαλαίου καὶ διὰ τοῦς σκοποῦς τοῦ Κανονισμοῦ 8, ὑπὸ τὸν ὄρον ὅτι πληροῦν ἐπιπροσθέτως τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ 9 καὶ, ὅπου τοῦτο ἀπαιτεῖται, τοῦ Κανονισμοῦ 14. Θά τηροῦνται ἐτοιμοὶ πρὸς ἄμεσον χρήσιν ὅταν τό πλοῖον εὑρίσκειται ἐν πλῆ. Εἰς πλοῖα εἰς τὰ ὁποῖα αἱ ἀπαιτήσεις τῆς παραγράφου (ζ) τοῦ Κανονισμοῦ 36 πληροῦνται μέσῳ συσκευῶν αἱ ὁποῖαι ἐφαρμόζονται εἰς τὰς πλευράς τῶν σωσιβίων λέμβων, αἱ συσκευαὶ αὗται δέν θά ἀπαιτῆται νά τοποθετοῦνται εἰς τὰς δύο λέμβους τὰς προβλεπομένας εἰς ἐφαρμογὴν τῶν ἀπαιτήσεων τοῦ παρόντος Κανονισμοῦ.

(γ) Ἐκαστον φορτηγὸν πλοῖον, ἄνευ ὑπερκατασκευῆς εἰς τό μέσον, μήκους καταμετρήσεως 150 μέτρων (ἢ 492 ποδῶν) καὶ ἄνω θά φέρῃ, ἐπὶ πλέον τῶν σωσιβίων σχεδιῶν τῶν ἀπαιτούμενων ὑπὸ τοῦ ἑδαφίου (α)ἰ(i) τοῦ παρόντος Κανονισμοῦ, μίαν σωσίβιον σχεδίαν ἢ ὁποῖα θά στοιβάζεται τόσον περισσότερο πρὸς τὴν πρῶραν ὅσον εἶναι λογικὸν καὶ πρακτικὸν καὶ ἢ ὁποῖα θά δύναται νά παραλάβῃ τοῦλάχιστον ἕξ ἄτομα.

Κανονισμὸς 36

Ἐπιτιδες καὶ Διατάξεις Καθαίρεσως

(α) Εἰς τὰ φορτηγά πλοῖα αἱ σωσίβιοι λέμβοι καὶ αἱ σωσίβιοι σχεδία θά στοιβάζωνται κατὰ τρόπον ἱκανοποιούντα τὴν Ἄρχην.

(β) Ἐκάστη σωσίβιος λέμβος θά ἀνακρεμᾶται εἰς χωριστὸν ζεῦγος ἐπιτιδῶν.

(γ) Αί σωσίβιοι λέμβοι και αί σωσίβιοι σχεδίαι διά τās όποιās άπαιτουόται νά φέρωνται έγκεκριμένα μέσα καθαίρέσεως, δέον νά τοποθετουόται κατά προτίμησιν τό δυνατόν πλησιέστερον εις τούς χώρους ένδiciaitήσεως και ύπηρετικούς. Θά στοιβάζωνται εις τοιαύτας θέσεις ώστε νά επιτυγχάνεται ή άσφαλής καθαίρεσις, διδομένης ειδικής προσοχής εις τήν άπομάκρυνσιν από τās έλικας και από τά άποτόμου κλίσεως όπερεξέχοντα τμήματα του πρυμναίου μέρους του σκάφους, πρós τόν σκοπόν όπως εξασφαλίζεται, όσον είναι πρακτικώς δυνατόν, ή καθαίρεσις αυτών από τής ευθείας πλευράς του πλοίου. Έάν τοποθετῶνται πλησίον τής πρῶρας του πλοίου θά στοιβάζωνται πρύμνηθεν του πρωραίου στεγανοῦ συγκρούσεως εις άσφαλή θέσιν και επί του σημείου τούτου ή ' Αρχή θά δίδη ιδιαιτέραν προσοχήν εις τήν άντοχήν τῶν έπωτίδων.

(δ) Αί έπωτίδες θά είναι έγκεκριμένου τύπου και θά είναι καταλλήλως τοποθετημένοι κατά τρόπον ικανοποιούντα τήν ' Αρχήν.

(ε) Εις τά δεξαμενόπλοια χωρητικότητας 1.600 κόρων και άνω, εις πλοία χρησιμοποιούμενα ως πλοία κατεργασίας φαλινῶν, εις πλοία χρησιμοποιούμενα ως πλοία-έργοστάσια έπεξεργασίας ή κονσερβοποιίας ιχθύων και εις πλοία χρησιμοποιούμενα διά τήν μεταφοράν του άπασχολουμένου προσωπικού εις τήν φαλινοθηρίαν και τās βιομηχανίας έπεξεργασίας ή κονσερβοποιίας τῶν ιχθύων, άπασαι αί έπωτίδες θά είναι τύπου βαρύτητας. Εις τά άλλα πλοία αί έπωτίδες θά είναι ως ακόλουθως:

(i) Τύπου προσαγωγής ή τύπου βαρύτητας διά τόν χειρισμόν σωσιβίων λέμβων βάρους ούχι μεγαλυτέρου τῶν 2.300 χιλιογράμμων (ή 2¼ τόννων) εις τήν κατάστασησιν άνακρεμάσεως αυτών άνευ έπιβατῶν.

(ii) Τύπου βαρύτητας διά τόν χειρισμόν σωσιβίων λέμβων βάρους μεγαλυτέρου τῶν 2.300 χιλιογράμμων (ή 2¼ τόννων) εις τήν κατάστασιν άνακρεμάσεως αυτών άνευ έπιβατῶν.

(στ) Αί έπωτίδες, τά άγόμενα, τά σύσπαστα και ό λοιπόξ εξαρτισμός θά είναι τοιαύτης άντοχής ώστε αί σωσίβιοι λέμβοι νά δύνανται νά άνακρεμῶνται έπνηδρωμένοι διά του πληρώματος καθαίρέσεως και κατόπιν νά καθαιρώνται άσφαλώς μετά πλήρους φόρτου έπιβατῶν και πληρώματος, υπό κλίσιν πλοίου 15 μοιρών πρός οίανδήποτε πλευράν και υπό γωνίαν ζυγοσταθμίσεως 10 μοιρών.

(ζ) Θά προβλέπωνται πέδιλα ή άλλα κατάλληλα μέσα πρός διευκόλυνσιν τής καθαίρέσεως υπό κλίσιν 15 μοιρών.

(η) Θά προβλέπωνται μέσα διά τήν παραβολήν τῶν σωσιβίων λέμβων εις τήν πλευράν του πλοίου και τήν συγκράτησιν αυτών ίνα οί έπιβάται δύνανται νά έπιβιβάζωνται μετ' άσφαλείας.

(θ) Αί σωσίβιοι λέμβοι καθός και αί λέμβοι κινδύνου αί άπαιτούμεναι υπό του έδαφίου (β)(ii) του Κανονισμού 35 του παρόντος Κεφαλαίου, θά έξυπηρετουόται δι' άγομένων συρματοσχοίων, ως και διά βαρούλκων έγκεκριμένου τύπου, άτινα εις τήν περίπτωσιν τῶν λέμβων κινδύνου θά είναι ικανά διά τήν ταχειαν άνολκήν τῶν λέμβων τούτων. Έξαιρητικώς, ή ' Αρχή δύναται νά επιτρέψη άγόμενα σχοινία μανίλλας ή άγόμενα έξ άλλου έγκεκριμένου υλικού μετά ή άνευ βαρούλκων (έξαιρέσει τῶν λέμβων κινδύνου διά τās όποιās άπαιτείται νά έξυπηρετουόται διά βαρούλκων ικανῶν διά τήν ταχειαν άνολκήν τῶν λέμβων τούτων), όταν κρίνη ότι τά άγόμενα σχοινία μανίλλας ή άγόμενα έξ άλλου έγκεκριμένου υλικού είναι κατάλληλα.

(i) Δύο τουλάχιστον σωσίβια σχοινία θά είναι προσδεδεμένα εις τά άκρα τῶν έπωτίδων και τά άγόμενα και τά σωσίβια σχοινία θά είναι έπαρκούξ μήκουξ ώστε νά φθά-

νουν μέχρι τῆς θαλάσσης δταν τό πλοῖον ἔχη τό ἐλάχιστον αὐτοῦ ἐν θαλάσση βύθισμα καί ὑπό κλίσιν 15 μοιρῶν πρὸς οἰανδήποτε πλευράν. Οἱ κατώτεροι τρόχιλοι τῶν ἀγομένων θά εἶναι ἐφφδιασμένοι διά καταλλήλου δακτυλίου ἢ δι' ἐπιμήκους κρίκου διά τήν ἀγκίστρωσιν εἰς τούς κόρακας τῆς ἀρτάνης, ἐκτός ἐάν ὑπάρχη ἐγκεκριμένος τύπος ἀπελευθερωτικῆς ἀρτάνης.

(ια) Ὅταν ὑπάρχουν μηχανικά μέσα διά τήν ἀνολκήν τῶν λέμβων, θά προβλέπεται ἐπίσης ἱκανός χειροκίνητος μηχανισμός. Ὅταν αἱ ἐπωτίδες ἀνέλκωνται διά μηχανικῆς λειτουργίας τῶν ἀγομένων, θά προβλέπωνται μέσα ἀσφαλείας τά ὅποια θά διακόπτουν αὐτεμάτως τόν κινητήρα πρῖν αἱ ἐπωτίδες φθάσουν εἰς τούς ἀναστολεῖς, πρὸς τόν σκοπόν ἀποφυγῆς ὑπερεντάσεων ἐπὶ τῶν ἀγομένων συρματοσχοίνων ἢ τῶν ἐπωτίδων.

(ιβ) Αἱ σωσίβιοι λέμβοι θά ἔχουν τά ἀγόμενα αὐτῶν ἔτοιμα πρὸς χρῆσιν καί θά ἔχουν ληφθῆ μέτρα διά τήν ταχείαν, ἀλλ' οὐχὶ ἀπαραιτήτως ταυτόχρονον ἀπαγκίστρωσιν τῶν σωσιβίων λέμβων ἐκ τῶν ἀγομένων.

Τό σημεῖον ἐξαρτήσεως τῶν σωσιβίων λέμβων ἐκ τῶν ἀγομένων θά εἶναι εἰς τοιοῦτον ὕψος ἀνωθεν τῆς κουपाστῆς ὥστε νά ἐξασφαλιζέται ἡ εὐστάθεια τῶν σωσιβίων λέμβων κατά τήν καθαίρεσιν αὐτῶν.

(ιγ) Εἰς τά πλοῖα τὰ χρησιμοποιούμενα ὡς πλοῖα-κατεργασίας φαλινῶν, τὰ πλοῖα τὰ χρησιμοποιούμενα ὡς πλοῖα-ἐργοστάσια ἐπεξεργασίας ἢ κονσερβοποιίας ἰχθύων καί εἰς τά πλοῖα τὰ χρησιμοποιούμενα διά τήν μεταφορὰν τοῦ ἀπασχολουμένου προσωπικοῦ εἰς τήν φαλινοθηρίαν καί τὰς βιομηχανίας ἐπεξεργασίας ἢ κονσερβοποιίας τῶν ἰχθύων, εἰς τά ὅποια φέρονται σωσίβιοι λέμβοι καί σωσίβιοι σχεδία συμφώνως πρὸς τό ἐδάφιον (ι)(2) τῆς παραγράφου (β) τοῦ Κανονισμοῦ 35, δέν ἀπαιτοῦνται ἐγκεκριμένα μέσα διά τήν καθαίρεσιν τῶν σωσιβίων σχεδιῶν, ἀλλά θά προβλέπωνται τοιαῦτα μέσα ἐπαρκῆ εἰς ἀριθμόν, κατά τήν γνώμην τῆς Ἀρχῆς, ἵνα αἱ σωσίβιοι σχεδία, αἱ φερόμεναι συμφώνως πρὸς τό ἐδάφιον (ι)(1) τῆς ἐν λόγῳ παραγράφου, δύνανται νά καθαίρονται εἰς τήν θάλασσαν ἔμφορτοι διά τοῦ ἀριθμοῦ τῶν ἀτόμων τά ὅποια ἐπιτρέπεται νά παραλαμβάνουν ἐντός 30 λεπτῶν τό βραδύτερον ὑπό συνθήκας ἡρέμου θαλάσσης.

Τὰ οὕτω προβλεπόμενα μέσα καθαιρέσεως θά κατανέμονται, ὅσον εἶναι πρακτικῶς δυνατόν, ἐξ ἴσου εἰς ἑκατέραν πλευράν τοῦ πλοίου. Πᾶσα σωσίβιος σχεδία φερομένη ἐπὶ τῶν πλοίων διά τὰ ὅποια ἀπαιτεῖται ὅπως ὑπάρχη ἐγκεκριμένον μέσον καθαιρέσεως, θά εἶναι τοιοῦτου τύπου ὥστε νά εἶναι δυνατὴ ἡ καθαίρεσις αὐτῆς εἰς τήν θάλασσαν διά τοῦ ἐν λόγῳ μέσου.

Κανονισμός 37

Ἀριθμός φερομένων Κυκλικῶν Σωσιβίων

Θά φέρονται ὀκτώ τοῦλάχιστον κυκλικά σωσίβια, τύπου πληροῦντος τᾶς ἀπαιτήσεως τοῦ Κανονισμοῦ 21 τοῦ παρόντος Κεφαλαίου.

Κανονισμός 38

Φωτισμός Κινδύνου

Ὁ ὑπό τῶν ἐδαφίων (α)(ii), (β)(ii) καί (β)(iii) τοῦ Κανονισμοῦ 19 τοῦ παρόντος Κεφαλαίου ἀπαιτούμενος φωτισμός θά εἶναι ἱκανός νά τροφοδοτῆται ἐπὶ τρεῖς τοῦλάχιστον ὥρας ὑπό τῆς πηγῆς ἐνεργείας κινδύνου τῆς ἀπαιτουμένης ὑπό τοῦ Κανονισμοῦ 26 τοῦ Κεφαλαίου II-1. Εἰς τὰ φορτηγά πλοῖα ὀλικῆς χωρητικότητος 1.600 κόρων καί ἄνω, ἡ Ἀρχὴ θά ἐξασφαλίξῃ ὅπως ὁ φωτισμός τῶν διαδρόμων, τῶν κλιμάκων καί τῶν ἐξόδων εἶναι τοιοῦτος ὥστε νά μὴ ἐμποδίζεται ἡ προσπέλασις πάντων τῶν ἐπιβαινόντων ἀτόμων πρὸς τούς σταθμούς καθαιρέσεως καί πρὸς τὰς θέσεις στοιβασίας τῶν σωσιβίων λέμβων καί τῶν σωσιβίων σχεδιῶν.

ΚΕΦΑΛΑΙΟΝ IV

ΡΑΔΙΟΤΗΛΕΓΡΑΦΙΑ ΚΑΙ ΡΑΔΙΟΤΗΛΕΦΩΝΙΑ

ΜΕΡΟΣ Α' — ΕΦΑΡΜΟΓΗ ΚΑΙ ΟΡΙΣΜΟΙ

Κανονισμός 1

Ἐφαρμογή.

(α) Ἐκτός ἐὰν ἄλλως ρητῶς προβλέπεται, τὸ παρὸν κεφάλαιον ἐφαρμόζεται εἰς ὅλα τὰ πλοῖα εἰς τὰ ὁποῖα οἱ παρόντες Κανονισμοὶ ἐφαρμόζονται.

(β) Τὸ παρὸν Κεφάλαιον δὲν ἐφαρμόζεται εἰς τὰ πλοῖα εἰς τὰ ὁποῖα οἱ παρόντες Κανονισμοὶ ἄλλως θὰ ἐφηρμόζοντο καθ' ὃ διάστημα τὰ πλοῖα ταῦτα ναυσιπλοοῦν ἐντός τῶν Μεγάλων Λιμῶν τῆς Βορείου Ἀμερικῆς καὶ τῶν συγκοινωνούντων καὶ τῶν εἰσρεόντων εἰς ταύτας ὑδάτων καὶ πρὸς ἀνατολὰς τόσον ὅσον ἢ κατωτέρα ἔξοδος τοῦ φράγματος τοῦ Ἁγίου Λαμβέρτου εἰς Μοντρεάλ τῆς Ἐπαρχίας τοῦ Κεβέκ (Καναδάς).*

(γ) Οὐδεμία διάταξις τοῦ παρόντος Κεφαλαίου θὰ ἐμποδίξῃ τὴν ὑπὸ πλοίου ἢ σωστικοῦ πλωτοῦ μέσου ἐν κινδύνῳ χρῆσιν οἰουδήποτε μέσου εὐρισκομένου εἰς τὴν διάθεσιν του διὰ τὴν προσελκύσῃ τὴν προσοχὴν, νὰ ἐπισημάνῃ τὴν θέσιν του καὶ νὰ ἐπιτύχῃ βοήθειαν.

Κανονισμός 2

Ὅροι καὶ Ὁρισμοί

Διὰ τοὺς σκοποὺς τοῦ παρόντος Κεφαλαίου οἱ ἀκόλουθοι ὅροι θὰ ἔχουν τὴν κατωτέρω ὀριζομένην σημασίαν. Ὅλοι οἱ ἄλλοι ὅροι οἵτινες χρησιμοποιοῦνται εἰς τὸ παρὸν Κεφάλαιον καὶ οἵτινες καθορίζονται ἐπίσης εἰς τοὺς Κανονισμοὺς Ραδιοεπικοινωνίας θὰ ἔχουν τὴν αὐτὴν σημασίαν ὡς αὕτη καθορίζεται εἰς τοὺς Κανονισμοὺς ἐκείνους.

(α) «Κανονισμοὶ Ραδιοεπικοινωνίας» σημαίνει τοὺς Κανονισμοὺς Ραδιοεπικοινωνίας τοὺς προσηρτημέχρους ἢ θεωρουμένους ὡς προσηρτημένους εἰς τὴν πλέον πρόσφατον Διεθνή Σύμβασιν Τηλεπικοινωνίας ἣτις εἶναι ἐκάστοτε ἐν ἰσχύϊ.

(β) «Ραδιοτηλεγραφικὴ συσκευὴ αὐτομάτου σήματος κινδύνου» σημαίνει συσκευὴν αὐτομάτου δέκτου σήματος κινδύνου ἣτις τίθεται εἰς λειτουργίαν διὰ τοῦ ραδιοτηλεφωνικοῦ σήματος κινδύνου καὶ ἔχει τύχει τῆς σχετικῆς ἐγκρίσεως.

(γ) «Ραδιοτηλεφωνικὴ συσκευὴ αὐτομάτου σήματος κινδύνου» σημαίνει συσκευὴν αὐτομάτου δέκτου σήματος κινδύνου ἣτις τίθεται εἰς λειτουργίαν διὰ τοῦ ραδιοτηλεφωνικοῦ σήματος κινδύνου καὶ ἔχει τύχει σχετικῆς ἐγκρίσεως.

(δ) «Σταθμὸς Ραδιοτηλεφώνου», «Ραδιοτηλεφωνικὴ ἐγκατάστασις» καὶ «Φυλακαὶ Ραδιοτηλεφώνου» θὰ θεωροῦνται ὡς ἀναφερόμενοι εἰς ζώνην μέσης συχνότητος, ἐκτός ἐὰν ἄλλως ρητῶς προβλέπεται.

(ε) «Ἀξιωματικὸς Ἀσυρματιστῆς» σημαίνει πρόσωπον κατέχον τοὐλάχιστον πιστοποιητικὸν πρῶτης ἢ δευτέρας τάξεως χειριστοῦ ἀσυρματιστοῦ, ἢ γενικὸν πιστοποιητικὸν

* Τὰ πλοῖα ταῦτα ὑπόκεινται εἰς εἰδικὰς ἀπαιτήσεις σχετικὰς πρὸς τὴν ραδιοεπικοινωνίαν διὰ σκοποῦς ἀσφαλείας ὡς αὗται περιλαμβάνονται εἰς τὴν σχετικὴν συμφωνίαν μεταξὺ τῶν Ἠνωμένων Πολιτειῶν καὶ Καναδά.

χειριστοῦ ραδιοεπικοινωνιῶν διὰ τὴν κινητὴν ναυτικὴν ὑπηρεσίαν πληροῦν τὰς διατάξεις τῶν Κανονισμῶν Ραδιοεπικοινωνίας, ὁ ὁποῖος χρησιμοποιεῖται εἰς τὸν σταθμὸν ραδιοτηλεγράφου ἐνὸς πλοίου, τὸ ὁποῖον εἶναι ἐφωδιασμένον διὰ τοιοῦτου σταθμοῦ πληροῦντος τὰς διατάξεις τοῦ Κανονισμοῦ 3 ἢ τοῦ Κανονισμοῦ 4 τοῦ παρόντος Κεφαλαίου.

(στ) «Χειριστὴς Ραδιοτηλεφώνου» σημαίνει πρόσωπον κατέχον σχετικὸν πτυχίον συμφώνως πρὸς τὰς διατάξεις τῶν Κανονισμῶν Ραδιοεπικοινωνίας.

(ζ) «Ἐπάρχουσα ἐγκατάστασις» σημαίνει:

- (i) Ἐγκατάστασιν πλήρως ἐγκατεστημένην ἐπὶ τοῦ πλοίου πρὸ τῆς ἡμερομηνίας κατὰ τὴν ὁποίαν ἡ παροῦσα Σύμβασις τίθεται ἐν ἰσχύϊ, ἀνεξαρτήτως τῆς ἡμερομηνίας καθ' ἣν πραγματοποιεῖται ἡ ἀποδοχὴ ὑπὸ τῆς ἐνδιαφερομένης Ἀρχῆς, καὶ
- (ii) ἐγκατάστασιν τινα, μέρος τῆς ὁποίας ὑπῆρχεν ἐγκατεστημένον ἐπὶ τοῦ πλοίου πρὸ τῆς ἐνάρξεως τῆς ἰσχύος τῆς παρούσης Συμβάσεως καὶ τῆς ὁποίας τὸ λοιπὸν μέρος συνίσταται εἴτε ἐκ μερῶν ἐγκατασθέντων εἰς ἀντικατάστασιν ὁμοίων μερῶν, εἴτε ἐκ μερῶν πληρούντων τὰς ἀπαιτήσεις τοῦ παρόντος Κεφαλαίου.

(η) «Νέα ἐγκατάστασις» σημαίνει ἐγκατάστασιν, ἣτις δὲν εἶναι ὑπάρχουσα ἐγκατάστασις.

Κανονισμὸς 3

Σταθμὸς Ραδιοτηλεγράφου

Τὰ ἐπιβατηγὰ πλοῖα ἀνεξαρτήτως μεγέθους καὶ τὰ φορτηγὰ πλοῖα ὀλικῆς χωρητικότητος 1.600 κόρων καὶ ἄνω, ἐκτὸς ἐὰν ἐξαιροῦνται ὑπὸ τοῦ Κανονισμοῦ 5 τοῦ παρόντος Κεφαλαίου, θὰ εἶναι ἐφωδιασμένα διὰ ραδιοτηλεγραφικοῦ σταθμοῦ ὅστις θὰ πληροῖ τὰς διατάξεις τῶν Κανονισμῶν 9 καὶ 10 τοῦ παρόντος Κεφαλαίου.

Κανονισμὸς 4

Σταθμὸς Ραδιοτηλεφώνου

Φορτηγὰ πλοῖα ὀλικῆς χωρητικότητος 300 κόρων καὶ ἄνω ἀλλὰ κάτω τῶν 1.600 κόρων, ἐκτὸς ἐὰν ἔχουν ἐφοδιασθῆ διὰ σταθμοῦ ραδιοτηλεγράφου ὅστις πληροῖ τὰς διατάξεις τῶν Κανονισμῶν 9 καὶ 10 τοῦ παρόντος Κεφαλαίου, ὀφείλουν, ἐὰν δὲν ἀπαλλάσσονται ὑπὸ τοῦ Κανονισμοῦ 5 τοῦ παρόντος Κεφαλαίου, νὰ εἶναι ἐφωδιασμένα διὰ σταθμοῦ ραδιοτηλεφώνου πληροῦντος πληροῦντος τὰς διατάξεις τῶν Κανονισμῶν 15 καὶ 16 τοῦ παρόντος Κεφαλαίου.

Κανονισμὸς 5

Ἐξαιρέσεις ἐκ τῶν Κανονισμῶν 3 καὶ 4

(α) Αἱ Συμβαλλόμεναι Κυβερνήσεις θεωροῦν λίαν ἐπιθυμητὸν νὰ μὴ γίνεται παρέκκλισις εἰς τὴν ἐφαρμογὴν τῶν Κανονισμῶν 3 καὶ 4 τοῦ παρόντος Κεφαλαίου. Παρὰ τὰ ἀνωτέρω ἡ Ἀρχὴ δύναται νὰ χορηγήσῃ εἰς μεμονωμένα ἐπιβατηγὰ ἢ φορτηγὰ πλοῖα ἐξαιρέσιν ἐκ τῶν διατάξεων τοῦ Κανονισμοῦ 3 ἢ τοῦ Κανονισμοῦ 4 τοῦ παρόντος Κεφαλαίου.

(β) Αί δυνάμει τῆς παραγράφου (α) τοῦ παρόντος Κανονισμοῦ ἐξαιρέσεις θά χορηγοῦνται μόνον εἰς πλοῖον ἐκτελοῦν ταξίδιον κατὰ τὸ ὁποῖον ἡ μεγίστη ἀπόστασις τοῦ πλοίου ἀπὸ τῆς ἀκτῆς, τὸ μήκος τοῦ ταξιδίου, ἡ ἀπουσία γενικῶν κινδύνων ναυσιπολοίας καὶ αἱ λοιπαὶ συνθήκαι αἱ ἐπηρεάζουσαι τὴν ἀσφάλειαν εἶναι τοιαῦται ὥστε νὰ καθιστοῦν τὴν πλήρη ἐφαρμογὴν τοῦ Κανονισμοῦ 3 ἢ τοῦ Κανονισμοῦ 4 τοῦ παρόντος Κεφαλαίου μὴ εὐλογον ἢ μὴ ἀναγκαίαν. Ὅταν λαμβάνεται ἀπόφασις ἐὰν θά χορηγηθοῦν ἢ ὄχι ἐξαιρέσεις εἰς ὄρισμένα πλοῖα, αἱ Ἄρχαι θά λαμβάνουν ὑπ' ὄψιν τὰ ἀποτελέσματα τὰ ὁποῖα αἱ ἐξαιρέσεις δύνανται νὰ ἔχουν ἐπὶ τῆς γενικῆς ἀποδόσεως τῆς ὑπηρεσίας κινδύνου διὰ τὴν ἀσφάλειαν ὄλων τῶν πλοίων. Αἱ Ἄρχαι δέον νὰ ἔχουν ὑπ' ὄψιν ὅτι εἶναι εὐκατὶον ὅπως ἀπαιτοῦν ὡς ὄρον τῆς ἀπαλλαγῆς ἀπὸ τὰ πλοῖα, ἅτινα ἐξαιροῦνται τῆς ἀπαιτήσεως τοῦ Κανονισμοῦ 3 τοῦ παρόντος Κεφαλαίου, νὰ ἐφοδιάζωνται διὰ σταθμοῦ ραδιοτηλεφώνου ὅστι νὰ πληροῖ τὰς διατάξεις τῶν Κανονισμῶν 15 καὶ 16 τοῦ παρόντος Κεφαλαίου.

(γ) Ἐκάστη Ἄρχὴ θά ὑποβάλλῃ εἰς τὸν Ὄργανισμὸν μετὰ τὴν πρώτην Ἰανουαρίου ἐκάστου ἔτους καὶ ὅσον τὸ δυνατόν ἐνωρίτερον ἑκθεσιν περιλαμβάνουσαν πάσας τὰς κατὰ τὴν διάρκειαν τοῦ προηγουμένου ἡμερολογιακοῦ ἔτους χορηγηθείσας ἐξαιρέσεις κατὰ τὰς παραγράφου (α) καὶ (β) τοῦ παρόντος Κανονισμοῦ καὶ θά δικαιολογῇ τὴν χορήγησιν τοιούτων ἐξαιρέσεων.

ΜΕΡΟΣ Β' — ΦΥΛΑΚΑΙ

Κανονισμὸς 6

Φυλακαὶ Ραδιοτηλεγράφου

(α) Πᾶν πλοῖον τὸ ὁποῖον συμφώνως πρὸς τὸν Κανονισμὸν 3 ἢ τὸν Κανονισμὸν 4 τοῦ παρόντος Κεφαλαίου εἶναι ἐφοδιασμένον διὰ σταθμοῦ ραδιοτηλεγράφου, θά ἔχῃ, ὅταν εὐρίσκεται ἐν πλῶ ἓνα τουλάχιστον ἀξιωματικὸν ἀσυρματιστὴν καὶ ἐὰν δὲν εἶναι ἐφοδιασμένον διὰ ραδιοτηλεγραφικῆς συσκευῆς αὐτομάτου σήματος κινδύνου, ὀφείλει τηρουμένων τῶν διατάξεων τῆς παραγράφου (δ) τοῦ παρόντος Κανονισμοῦ, νὰ τηρῇ συνεχῆ ἀκρόασιν ἐπὶ τῆς ραδιοτηλεγραφικῆς συχνότητος κινδύνου δι' ἀξιωματικὸν ἀσυρματισμοῦ χρησιμοποιοῦντος ἀκουστικά ἢ μεγάφωνον.

(β) Πᾶν ἐπιβατηγὸν πλοῖον τὸ ὁποῖον συμφώνως πρὸς τὸν Κανονισμὸν 3 τοῦ παρόντος Κεφαλαίου εἶναι ἐφοδιασμένον διὰ σταθμοῦ ραδιοτηλεφώνου ἐὰν εἶναι ἐφοδιασμένον διὰ ραδιοτηλεγραφικῆς συσκευῆς αὐτομάτου σήματος κινδύνου, ὀφείλει τηρουμένων τῶν διατάξεων τῆς παραγράφου (δ) τοῦ παρόντος Κανονισμοῦ καὶ ὅταν εὐρίσκεται ἐν πλῶ, νὰ τηρῇ ἀκρόασιν ἐπὶ τῆς ραδιοτηλεγραφικῆς συχνότητος κινδύνου διὰ ἀξιωματικὸν ἀσυρματισμοῦ χρησιμοποιοῦντος ἀκουστικά ἢ μεγάφωνον ὡς ἀκολούθως :

- (i) Ἐὰν μεταφέρῃ ἢ εἶναι ἐγκεκριμένον νὰ μεταφέρῃ 250 ἐπιβάτας ἢ ὀλιγωτέρους, ἀκρόασιν ὀκτῶ τουλάχιστον ὥρων ἐν συνόλῳ καθ' ἡμέραν.
- (ii) Ἐὰν μεταφέρῃ ἢ εἶναι ἐγκεκριμένον νὰ μεταφέρῃ περισσοτέρους τῶν 250 ἐπιβατῶν καὶ ἐκτελῇ ταξίδιον διαρκείας μεγαλυτέρας τῶν 16 ὥρων μεταξὺ δύο διαδοχικῶν λιμένων, ἀκρόασιν 16 ὥρων τουλάχιστον ἐν συνόλῳ καθ' ἡμέραν. Εἰς τὴν περίπτωσιν ταύτην τὸ πλοῖον θά ἔχῃ δύο τουλάχιστον ἀξιωματικούς ἀσυρματιστάς.
- (iii) Ἐὰν μεταφέρῃ ἢ εἶναι ἐγκεκριμένον νὰ μεταφέρῃ περισσοτέρους τῶν 250 ἐπιβατῶν καὶ ἐκτελῇ ταξίδιον διαρκείας μικροτέρας τῶν 16 ὥρων μεταξὺ δύο διαδοχικῶν λιμένων, ἀκρόασιν ὀκτῶ ὥρων τουλάχιστον ἐν συνόλῳ καθ' ἡμέραν.

- (γ) (i) Πάν φορτηγόν πλοῖον τὸ ὁποῖον συμφώνως πρὸς τὸν Κανονισμόν 3 τοῦ παρόντος Κεφαλαίου εἶναι ἐφωδιασμένον διὰ σταθμοῦ ραδιοτηλεφώνου, ἐὰν εἶναι ἐφωδιασμένον διὰ ραδιοτελεγραφικῆς συσκευῆς αὐτομάτου σήματος κινδύνου, ὀφείλει, τηρουμένων τῶν διατάξεων τῆς παραγράφου (δ) τοῦ παρόντος Κανονισμοῦ καὶ ὅταν εὐρίσκεται ἐν πλῶ, νὰ τηρῇ ἀκρόασιν ἐπὶ τῆς ραδιοτηλεγραφικῆς συχρότητος κινδύνου δι' ἀξιωματικοῦ ἀσυρματιστοῦ χρησιμοποιοῦντος ἀκουστικά ἢ μεγάφωνον, 8 ὥρῶν τοῦλάχιστον ἐν συνόλῳ καθ' ἡμέραν.
- (ii) Πάν φορτηγόν πλοῖον ὀλικῆς χωρητικότητος 300 κόρων καὶ ἄνω ἀλλὰ μικροτέρας τῶν 1.600 κόρων τὸ ὁποῖον εἶναι ἐφωδιασμένον διὰ σταθμοῦ ραδιοτελεγράφου κατ' ἐφαρμογὴν τοῦ Κανονισμοῦ 4 τοῦ παρόντος Κεφαλαίου, ἐὰν εἶναι ἐφωδιασμένον διὰ ραδιοτηλεγραφικῆς συσκευῆς αὐτομάτου σήματος κινδύνου, ὀφείλει, τηρουμένων τῶν διατάξεων τῆς παραγράφου (δ) τοῦ παρόντος Κανονισμοῦ, καὶ ὅταν εὐρίσκεται ἐν πλῶ, νὰ τηρῇ ἀκρόασιν ἐπὶ τῆς ραδιοτηλεγραφικῆς συχρότητος κινδύνου δι' ἀξιωματικοῦ ἀσυρματιστοῦ χρησιμοποιοῦντος ἀκουστικά ἢ μεγάφωνον, κατὰ τὰς περιόδους ἅτινας δύναται νὰ καθορίζη ἡ Ἄρχῃ. Αἱ Ἄρχαι ἐν τούτοις, δεόν νὰ ἔχουν ὑπ' ὄψιν ὅτι εἶναι εὐκαταῖον ὅπως ἀπαιτοῦν ὁσάκις εἶναι πρακτικῶς δυνατόν φυλακὴν ἀκροάσεως 8 ὥρῶν τοῦλάχιστον ἐν συνόλῳ καθ' ἡμέραν.
- (δ) (i) Κατὰ τὰς περιόδους κατὰ τὰς ὁποίας ὁ ἀξιωματικὸς ἀσυρματιστὴς ἀπαιτεῖται ὑπὸ τοῦ παρόντος Κανονισμοῦ νὰ τηρῇ ἀκρόασιν ἐπὶ τῆς ραδιοτηλεγραφικῆς συχρότητος κινδύνου, ὁ ἀξιωματικὸς ἀσυρματιστὴς δύναται νὰ διακόπη τοιαύτην ἀκρόασιν κατὰ τὸν χρόνον κατὰ τὸν ὁποῖον ἐνεργεῖ ἀνταπόκρισιν ἐπὶ ἄλλων συχνοτήτων, ἢ ἐκτελεῖ ἄλλα οὐσιώδη καθήκοντα τοῦ ἀσυρμάτου, ἀλλὰ μόνον ὅταν εἶναι πρακτικῶς ἀδύνατον νὰ ἀκροᾶται δι' ἀκουστικῶν ἢ μεγάλων. Ἡ φυλακὴ ἀκροάσεως θὰ τηρῆται πάντοτε ὑπὸ ἀξιωματικοῦ ἀσυρματιστοῦ χρησιμοποιοῦντος ἀκουστικά ἢ μεγάφωνον κατὰ τὰς περιόδους σιωπῆς τὰς προβλεπομένας ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας.
- Ὁ ὅρος «οὐσιώδη καθήκοντα ἀσυρμάτου» εἰς τὴν παρούσαν παράγραφον περιλαμβάνει ἐπισκευὰς ἐπείγουσας φύσεως τῶν:
- (1) ὀργάνων ραδιοεπικοινωνίας τῶν χρησιμοποιοῦμένων διὰ τὴν ἀσφάλειαν καὶ
 - (2)^κ ραδιοναυτικῶν ὀργάνων κατόπιν διαταγῆς τοῦ πλοιάρχου.
- (ii) Ἐπιπλέον τῶν διατάξεων τοῦ ἐδαφίου (i) τῆς παρούσης παραγράφου, ἐπὶ πλοίων ἅτινα δὲν εἶναι ἐπιβατηγὰ πλοῖα μετὰ πολλαπλῶν θέσεων ἀξιωματικῶν ἀσυρματιστῶν, ὁ ἀξιωματικὸς ἀσυρματιστὴς δύναται εἰς ἐξαιρετικὰς περιπτώσεις π.χ. ὅτε δὲν εἶναι πρακτικῶς ἐφικτὸν νὰ ἀκροᾶται δι' ἀκουστικῶν ἢ μεγάλων νὰ διακόπη τὴν ἀκρόασιν κατόπιν διαταγῆς τοῦ πλοιάρχου πρὸς τὸν σκοπὸν ὅπως ἀσχοληθῇ μὲ συντήρησιν ἀπαιτούμενη ἵνα προληφθῇ ἐπικείμενη βλάβη εἰς:
- ὄργανα ραδιοεπικοινωνίας χρησιμοποιοῦμένα διὰ τὴν ἀσφάλειαν
 - ραδιοναυτικὰ ὄργανα, ἢ
 - ἕτερα ἠλεκτρονικὰ ναυτικὰ ὄργανα περιλαμβανομένης καὶ τῆς ἐπισκευῆς των, ἐφ' ὅσον :
- (1) ὁ ἀξιωματικὸς ἀσυρματιστὴς, κατὰ τὴν κρίσιν τῆς ἐνδιαφερομένης Ἄρχῆς, ἔχει τὰ ἀπαιτούμενα προσόντα ἵνα ἀσχοληθῇ μὲ τοιαῦτα καθήκοντα, καὶ
 - (2) τὸ πλοῖον φέρῃ ἐγκατάστασιν αὐτομάτου δέκτου ἀνταποκρινομένου πρὸς τὰ ἀπαιτήσεις τῶν Κανονισμῶν Ραδιοεπικοινωνίας,

(3) ή φυλακή άκροάσεως τηρείται πάντοτε από άξιωματικόν άσυρματιστήν όστις χρησιμοποιεί άκουστικά ή μεγάφωνον κατά τās περιόδους σιωπής τās προβλεπομένες υπό τών Κανονισμών Ραδιοεπικοινωνίας.

- (ε) Είς όλα τὰ πλοία τὰ έφωδιασμένα διά ραδιοτηλεγραφικής συσκευής αυτομάτου σήματος κινδύνου δέον όπως ή συσκευή αυτή είναι εν λειτουργία, όταν τὸ πλοϊον εϋρίσκεται εν πλῆ, όποτεδήποτε δέν εκτελείται φυλακή άκροάσεως κατά τās παραγράφους (β), (γ), ή (δ) τοϋ παρόντος Κανονισμού καί, όσάκις είναι πρακτικῶς δυνατόν, κατά τόν χρόνον λειτουργίας τοϋ ραδιογωνιομέτρου.
- (στ) Αί περίοδοι άκροάσεως αί προβλεπόμεναι υπό τοϋ παρόντος Κανονισμού, περιλαμβανομένων καί τών καθοριζομένων υπό τής 'Αρχής, δέον νά τηροϋνται κατά προτίμησιν κατά τās περιόδους τās καθοριζόμενας διά τήν ύπηρεσίαν ραδιοτηλεγράφου υπό τών Κανονισμών Ραδιοεπικοινωνίας.

Κανονισμός 7

Φυλακαί Ραδιοτηλεφώνου

(α) Πάν πλοϊον έφωδιασμένον διά ραδιοτηλεφωνικου σταθμου συμφώνως προς τόν Κανονισμόν 4 τοϋ παρόντος Κεφαλαίου, θά έχη διά λόγους άσφαλείας, ένα τουλάχιστον χειριστήν ραδιοτηλεφώνου (όστις δύναται νά είναι ο πλοίαρχος, είς άξιωματικός, ή εν μέλος τοϋ πληρώματος κατέχον πιστοποιητικόν ραδιοτηλεφωνητοϋ) καί θά τηρή, όταν τὸ πλοϊον εϋρίσκεται εν πλῆ, συνεχή φυλακήν άκροάσεως επί τής ραδιοτηλεφωνικής συχνότητος κινδύνου εκ τής θέσεως επί τοϋ πλοϊου εκ τής όποιας τουτο συνήθως κυβερνάται, διά τής χρήσεως δέκτου άκροάσεως ραδιοτηλεφωνικής συχνότητος κινδύνου μετά μεγαφώνου, μεγαφώνου μετά φίλτρου ή ραδιοτηλεφωνικής συσκευής αυτομάτου σήματος κινδύνου.

(β) Πάν πλοϊον έφωδιασμένον συμφώνως προς τόν Κανονισμόν 3 ή τόν Κανονισμόν 4 τοϋ παρόντος Κεφαλαίου διά ραδιοτηλεγραφικου σταθμου θά τηρή, όταν εϋρίσκεται εν πλῆ, συνεχή φυλακήν ραδιοτηλεφωνικής συχνότητος κινδύνου είς θέσιν καθοριζομένην υπό τής 'Αρχής, διά τής χρήσεως δέκτου άκροάσεως ραδιοτηλεφωνικής συσκευής αυτομάτου σήματος κινδύνου μετά μεγαφώνου, μεγαφώνου μετά φίλτρου ή ραδιοτηλεφωνικής συσκευής αυτομάτου σήματος κινδύνου.

Κανονισμός 8

Φυλακαί-Ραδιοτηλεφώνου VHF

Έκαστον πλοϊον διά τὸ όποϊον προβλέπεται σταθμός ραδιοτηλεφώνου Λίαν 'Υψηλών Συχνότητων (VHF), συμφώνως τῷ Κανονισμῷ 18 τοϋ Κεφαλαίου V, θά τηρή φυλακήν άκροάσεως επί τής γεφύρας επί τόσας περιόδους καί είς τοιούτους διαύλους, ως ήθελε άπαιτηθῆ υπό τής Συμβαλλομένης Κυβερνήσεως τής αναφερομένης είς προμνησθέντα Κανονισμόν.

ΜΕΡΟΣ Γ'—ΤΕΧΝΙΚΑΙ ΑΠΑΙΤΗΣΕΙΣ

Κανονισμός 9

Σταθμοί Ραδιοτηλεγράφου

(α) 'Ο σταθμός ραδιοτηλεγράφου θά είναι είς τοιαύτην θέσιν έγκατεστημένος, ώστε οϋδεμία επιζήμιος παρεμβολή έξ έξωτερικου μηχανικου ή άλλου θορύβου νά προξε-

νήται εις την καλήν λήψιν των ραδιοτηλεγραφικῶν σημάτων. Ὁ σταθμὸς θὰ εἶναι τοποθετημένος ὅσον τὸ δυνατόν ὑψηλότερον ἐπὶ τοῦ πλοίου, εις τρόπον ὥστε νὰ ἐξασφαλίζεται ὁ μέγιστος δυνατὸς βαθμὸς ἀσφαλείας.

(β) Ὁ θάλαμος λειτουργίας τοῦ ραδιοτηλεγράφου θὰ εἶναι ἐπαρκῶν διαστάσεων καὶ θὰ ἔχη ἐπαρκῆ ἀερισμὸν ἵνα ἐπιτρέπεται ἡ ἀποδοτικὴ λειτουργία τῆς κυρίας καὶ τῆς ἐφεδρικῆς ραδιοτηλεγραφικῆς ἐγκαταστάσεως καὶ δὲν θὰ χρησιμοποιῆται δι' ἕτερον σκοπὸν ὅστι θὰ ἐμποδίζῃ τὴν λειτουργίαν τοῦ σταθμοῦ ραδιοτηλεγράφου.

(γ) Ὁ κοιτωνίσκος ἐνὸς τοῦλάχιστον ἀξιωματικοῦ ἀσυρματιστοῦ θὰ εἶναι, ὅσον εἶναι πρακτικῶς δυνατόν, πλησιέστερον εἰς τὸν θάλαμον τοῦ ἀσυρμάτου. Εἰς τὰ νέα πλοῖα, ὁ κοιτωνίσκος οὗτος δὲν πρέπει νὰ εἶναι ἐντὸς τοῦ θαλάμου τοῦ ραδιοτηλεγράφου.

(δ) Θὰ προβλέπεται μεταξὺ τοῦ θαλάμου τοῦ ραδιοτηλεγράφου καὶ τῆς γεφύρας καὶ ἐτέρας τινὸς θέσεως, ἐὰν ὑπάρχῃ τοιαύτη, ἐκ τῆς ὁποίας τὸ πλοῖον κυβερνᾶται, ἓν ἀποδοτικὸν δίπλευρον σύστημα ἐπικοινωνίας, κλήσεως καὶ ὁμιλίας τὸ ὁποῖον θὰ εἶναι ἀνεξάρτητον τοῦ κυρίου συστήματος συνεννοήσεως ἐν τῷ πλοίῳ.

(ε) Ἡ ραδιοτηλεγραφικὴ ἐγκατάστασις θὰ εἶναι ἐγκατεστημένη εἰς τοιαύτην θέσιν ὥστε νὰ εἶναι προστατευμένη ἀπὸ πάσης ἀνωμαλίας προξενουμένης ἐκ τοῦ ὕδατος ἢ τῶν ὑψηλῶν θερμοκρασιῶν. Θὰ εἶναι εὐκόλως προσιτὴ τόσον διὰ ἄμεσον χρῆσιν εἰς περιπτώσιν κινδύνου ὅσον καὶ διὰ τὰς ἐπισκευὰς.

(στ) Θὰ ὑπάρχῃ ἓν ὥρολόγιον ἀσφαλοῦς λειτουργίας ἔχον δίσκον διαμέτρου οὐχὶ μικροτέρας τῶν 12,5 ἑκατοστομέτρων (ἢ πέντε δακτύλων) καὶ ὁμόκεντρον δείκτην δευτερολέπτων, ἢ ἐπιφάνεια τοῦ ὁποίου θὰ ἔχη σημανθῆ εἰς τρόπον ὥστε νὰ δεικνύῃ τὰς περιόδους σιωπῆς τὰς καθοριζομένας διὰ τὴν ραδιοτηλεγραφικὴν ὑπηρεσίαν ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας. Θὰ εἶναι στερεῶς τοποθετημένον ἐντὸς τοῦ θαλάμου τοῦ ραδιοτηλεφώνου εἰς τοιαύτην θέσιν ὥστε ὁλόκληρος ὁ δίσκος νὰ εἶναι εὐκόλως καὶ μετ' ἀκριβείας ὁρατὸς παρὰ τοῦ ἀξιωματικοῦ ἀσυρματιστοῦ ἀπὸ τῆς θέσεως χειρισμοῦ τῆς συσκευῆς ραδιοτηλεγράφου καθὼς καὶ ἐκ τῆς θέσεως δοκιμῆς τῆς ραδιοτηλεγραφικῆς αὐτομάτου σήματος κινδύνου.

(ζ) Θὰ ὑπάρχῃ ἐντὸς τοῦ θαλάμου τοῦ ραδιοτηλεγράφου φωτισμὸς κινδύνου ἀσφαλοῦς λειτουργίας, ἀποτελούμενος ἐξ ἠλεκτρικῆς λυχνίας μονίμως τοποθετημένης κατὰ τοιοῦτον τρόπον ὥστε νὰ παρέχῃ ἱκανοποιητικὸν φωτισμὸν εἰς τὰ χειριστήρια ἐλέγχου τῆς κυρίας καὶ ἐφεδρικῆς ἐγκαταστάσεως, καθὼς καὶ εἰς τὸ ὥρολόγιον τὸ προβλεπόμενον ὑπὸ τῆς παραγράφου (στ) τοῦ παρόντος Κανονισμοῦ. Εἰς τὰς νέας ἐγκατάσεις, ἐὰν ἡ λυχνία αὕτη τροφοδοτῆται ἐκ τῆς ἐφεδρικῆς πηγῆς ἐνεργείας τῆς ἀπαιτουμένης ὑπὸ τοῦ ἐδαφίου (ii) τῆς παραγράφου (α) τοῦ Κανονισμοῦ 10 τοῦ παρόντος Κεφαλαίου, θὰ ἐλέγχεται ὑπὸ διπλῆς ἐνεργείας διακοπῶν τοποθετημένων εἰς τὴν κυρίαν εἴσοδον τοῦ θαλάμου τοῦ ραδιοτηλεγράφου καὶ εἰς τὴν θέσιν χειρισμοῦ τῆς ραδιοτηλεγραφικῆς συσκευῆς ἐκτὸς ἐὰν τοῦτο δὲν δικαιολογῆται ἐκ τῆς διατάξεως τοῦ θαλάμου ραδιοτηλεγράφου. Οἱ διακόπται οὗτοι θὰ ἔχουν εὐκρινῆ πινακίδα δεικνύουσαν τὴν χρῆσιν αὐτῶν.

(η) Μία φορητὴ ἠλεκτρικὴ λυχνία ἐπιθεωρήσεως τροφοδοτουμένη ἐκ τῆς ἐφεδρικῆς πηγῆς ἐνεργείας τῆς ἀπαιτουμένης ὑπὸ τοῦ ἐδαφίου (iii) τῆς παραγράφου (α) τοῦ Κανονισμοῦ 10 τοῦ παρόντος Κεφαλαίου καὶ ἐφωδιασμένη δι' εὐκάμπτου καλωδίου ἐπαρκοῦς μήκους, εἴτε μία αὐτόνομος φορητὴ λυχνία θὰ προβλέπεται καὶ θὰ φυλάσσεται ἐντὸς τοῦ θαλάμου ραδιοτηλεγράφου.

(θ) Ὁ σταθμὸς ραδιοτηλεγράφου θὰ ἐφοδιάζεται διὰ τοιούτων ἀνταλλακτικῶν, ἐργαλείων καὶ συσκευῶν ἐλέγχου ὥστε ἡ ραδιοτηλεγραφικὴ ἐγκατάστασις νὰ

δύναται νά τηρήται εἰς καλήν κατάστασιν λειτουργίας κατὰ τὸν πλοῦν. Αἱ συσκευαὶ ἐλέγχου θὰ περιλαμβάνουν ὄργανον ἢ ὄργανα μετρήσεως τάσεως Βόλτ ἐναλλασσομένου καὶ συνεχοῦς ρεύματος καθὼς καὶ ἀντιστάσεως ΩΜ.

(i) Ἐὰν ὑπάρχη χωριστὸς ἐφεδρικός σταθμὸς ραδιοτηλεγράφου θὰ πληροῖ οὗτος τὰς διατάξεις τῶν παραγράφων (δ), (ε), (στ), (ζ) καὶ (η) τοῦ παρόντος Κανονισμοῦ.

Κανονισμὸς 10

Ραδιοτηλεγραφικαὶ Ἐγκαταστάσεις.

(α) Ἐκτὸς ἐὰν ἄλλως ρητῶς προβλέπεται ἐν τῷ παρόντι Κανονισμῷ:

- (i) Ὁ σταθμὸς ραδιοτηλεγράφου θὰ περιλαμβάνῃ μίαν κυρίαν ἐγκατάστασιν καὶ μίαν ἐφεδρικήν ἐγκατάστασιν, ἠλεκτρικῶς κεχωρισμένας καὶ ἠλεκτρικῶς ἀνεξαρτήτους ἀπ' ἀλλήλων.
- (ii) Ἡ κυρία ἐγκατάστασις θὰ περιλαμβάνῃ ἓνα κύριον πομπόν, κύριον δέκτην ἀκροάσεως ραδιοτηλεφωκῆς συχνότητος κινδύνου καὶ κυρίαν πηγὴν ἐνεργείας.
- (iii) Ἡ ἐφεδρική ἐγκατάστασις θὰ περιλαμβάνῃ ἓνα ἐφεδρικό πομπόν, ἐφεδρικὸν δέκτην καὶ ἐφεδρικήν πηγὴν ἐνεργείας.
- (iv) Θὰ προβλέπωνται καὶ θὰ ἐγκαθίστανται μία κυρία καὶ μία ἐφεδρική κεραία, νοεῖται ὅμως ὅτι ἡ Ἀρχὴ δύναται νά ἐξαιρέσῃ οἰονδήποτε πλοῖον τῆς ἐφεδρικῆς κεραίας ἐὰν πεισθῇ ὅτι ἡ ἐγκατάστασις τοιαύτης κεραίας δὲν εἶναι πρακτικῶς δυνατὴ ἢ εὐλογος, ἀλλὰ εἰς τὴν περίπτωσιν ταύτην θὰ ὑπάρχη κατάλληλος ἀνταλλακτικὴ κεραία πλήρως συναρμολογημένη δι' ἄμεσον ἐγκατάστασιν. Ἐπιπροσθέτως, θὰ προβλέπεται εἰς πάσας τὰς περιπτώσεις ἐπαρκῆς ποσότης σύρματος κεραίας καὶ μονωτήρων, ἵνα εἶναι δυνατὴ ἡ ἐγκατάστασις μιᾶς καταλλήλου κεραίας. Ἐὰν ἡ κυρία κεραία κρεμάται μεταξὺ ὑποστηριγμάτων ὑποκειμένων εἰς κραδασμούς, αὕτη θὰ προστατεύεται καταλλήλως ἐναντι θραύσεως.

(β) Εἰς τὰς ἐγκαταστάσεις φορτηγῶν πλοίων (ἐξαιρέσει ἐκείνων ἐπὶ φορτηγῶν πλοίων ὀλικῆς χωρητικότητος 1.600 κόνων καὶ ἄνω αἵτινες ἐγκατεστάθησαν τὴν 19 Νοεμβρίου 1952 ἢ μεταγενεστέρως), ἐὰν ὁ κύριος πομπὸς πληροῖ ὅλας τὰς διὰ τὸν ἐφεδρικὸν πομπὸν ἀπαιτήσεις, ὁ τελευταῖος οὗτος δὲν εἶναι ὑποχρεωτικός.

- (γ) (i) Ὁ κύριος καὶ ὁ ἐφεδρικός πομπὸς δέον νά δύνανται νά συνδεθοῦν ταχέως καὶ νά συντονισθοῦν μετὰ τῆς κυρίας κεραίας καὶ μετὰ τῆς ἐφεδρικῆς κεραίας ἐὰν ὑπάρχη τοιαυτὴ.
- (ii) Ὁ κύριος καὶ ὁ ἐφεδρικός δέκτης δέον νά δύνανται νά συνδεθοῦν ταχέως μετὰ πάσης κεραίας μετὰ τῆς ὁποίας ἀπαιτεῖται νά χρησιμοποιηθοῦν.

(δ) Ὅλα τὰ μέρη τῆς ἐφεδρικῆς ἐγκαταστάσεως θὰ τοπθετοῦνται, ὅσον εἶναι πρακτικῶς δυνατόν, ὑψηλότερον ἐπὶ τοῦ πλοίου εἰς τρόπον ὥστε νά ἐπιτυγχάνεται ὁ μέγιστος βαθμὸς ἀσφαλείας.

(ε) Ὁ κύριος καὶ ὁ βοηθητικός πομπὸς θὰ δύνανται νά ἐκπέμπουν ἐπὶ τῆς ραδιοτηλεγραφικῆς συχνότητος κινδύνου χρησιμοποιοῦντες μίαν κατηγορίαν ἐκπομπῆς καθοριζομένην ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας διὰ τὴν συχνότητα ταύτην. Ἐπιπροσθέτως, ὁ κύριος πομπὸς θὰ δύναται νά ἐκπέμπῃ ἐπὶ δύο τοῦλάχιστον

συχνότητων λειτουργίας εντός των επισήμων ζωνών μεταξύ 405 KHZ και 535 KHZ χρησιμοποιών κατηγορίας εκπομπής, αΐτινες καθορίζονται από τους Κανονισμούς Ραδιοεπικοινωνίας δι' αὐτάς τὰς συχνότητες. Ὁ εφεδρικός πομπός δύναται νὰ εἶναι ὁ πομπός κινδύνου τοῦ πλοίου ὡς οὗτος καθορίζεται καὶ περιορίζεται κατὰ χρῆσιν ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας.

(στ) Ὁ κύριος καὶ ὁ βοηθητικός πομπός δέον ὄπως, ἐάν ἡ διαμορφουμένη εκπομπή καθορίζεται ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας, ἔχουν ποσοστόν διαμορφώσεως οὐχὶ μικρότερον τοῦ 70 τοῖς ἑκατόν καὶ συχνότητα διαμορφώσεως μεταξύ 450 καὶ 1.350 κύκλων ἀνά δευτερόλεπον.

(ζ) Ὃταν ὁ κύριος καὶ ὁ εφεδρικός πομπός συνδέωνται πρὸς τὴν κυρίαν κεραϊάν θά ἔχουν ἐλαχίστην κανονικὴν ἐμβέλειαν, ὡς αὕτη καθορίζεται κατωτέρω, ἤτοι δέον ὄπως δύναται νὰ μεταδίδουν ἐν καιρῷ ἡμέρας εὐκρινῶς ἀντιληπτά σήματα ἀπὸ πλοίου εἰς πλοῖον καὶ ὑπὸ κανονικὰς συνθήκας καὶ περιπτώσεις εἰς τὰς καθοριζόμενας ἀποστάσεις* (Σήματα εὐκρινῶς ἀντιληπτά δύναται κανονικῶς νὰ λαμβάνωνται ἐάν ἡ

	Ἐλάχιστη κανονικὴ ἐμβέλεια εἰς μίλια	
	Κύριος πομπός	Ἐφεδρικός
Ὅλα τὰ ἐπιβατηγὰ πλοῖα καὶ τὰ φορτηγὰ ὀλικῆς χωρητικότητος 1.600 κόρων καὶ ἄνω.	150	100
Φορτηγὰ πλοῖα ὀλικῆς χωρητικότητος κατωτέρας τῶν 1.600 κόρων.	100	75

* Ἐν ἀδυναμίᾳ ἀμέσους μετρήσεως τῆς ἐντάσεως τοῦ πεδίου, τὰ ἀκόλουθα δεδομένα δύναται νὰ χρησιμοποιῶνται ὡς ὁδηγὸς διὰ τὸν κατὰ προσέγγισιν καθορισμὸν τῆς κανονικῆς ἐμβελείας.

Κανονικὴ ἐμβέλεια εἰς μίλια	Μέτρα-Ἀμπέρ ¹	Συνολικὴ ἰσχύς κεραίας (βάττ) ²
200	128	200
175	102	125
150	76	71
125	58	41
100	45	25
75	34	14

¹ Ὁ ἀριθμὸς οὗτος παριστᾷ τὸ γινόμενον τοῦ μεγίστου ὕψους τῆς κεραίας ἀνωθεν τῆς μεγίστης ἐμφόρου ἰσάλου γραμμῆς εἰς μέτρα ἐπὶ τὸ ρεῦμα τῆς κεραίας εἰς ἀμπέρ (Τιμὴ R.M.S.). Αἱ τιμαὶ αἱ διδόμεναι εἰς τὴν δευτέραν στήλην τοῦ πίνακος ἀντιστοιχοῦν εἰς μίαν μέσην τιμὴν τῆς ἀναλογίας

$$\frac{\text{πραγματικὸν ὕψος κεραίας}}{\text{μέγιστον ὕψος κεραίας}} = 0,47$$

² Ἡ ἀναλογία αὕτη ποικίλλει ἀναλόγως τῶν τοπικῶν συνθηκῶν τῆς κεραίας καὶ δύναται νὰ ποικίλλῃ μεταξύ 0,30 καὶ 0,7 περίπου.

Αἱ τιμαὶ αἱ διδόμεναι εἰς τὴν τρίτην στήλην τοῦ πίνακος ἀντιστοιχοῦν πρὸς μίαν μέσην τιμὴν τῆς ἀναλογίας:

$$\frac{\text{Ἰσχύς ἀκτινοβολουμένη ὑπὸ τῆς κεραίας}}{\text{συνολικὴ ἰσχύς κεραίας}} = 0,08$$

³ Ἡ ἀναλογία αὕτη ποικίλλει σημαντικῶς ἀναλόγως τῶν τιμῶν τοῦ πραγματικοῦ ὕψους τῆς κεραίας καὶ τῆς ἀντιστάσεως τῆς κεραίας.

τιμή R.M.S. τῆς ἐντάσεως τοῦ πεδίου εἰς τὸν δέκτην εἶναι τοῦλάχιστον 50 μικροβόλτ ἀνά μέτρον).

- (η) (i) Ὁ κύριος καὶ ὁ βοηθητικός δέκτης θά δύνανται νά λαμβάνουν ἐπὶ τῆς Ραδιοτηλεγραφικῆς συχνότητος κινδύνου καὶ εἰς τὴν κατηγορίαν ἐκπομπῆς τὴν καθοριζομένην ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας διὰ τὴν συχνότητα ταύτην.
- (ii) Ἐπὶ πλέον, ὁ κύριος δέκτης θά δύνανται νά λαμβάνη ἐπὶ τῶν συχνοτήτων καὶ εἰς τὰς κατηγορίας ἐκπομπῶν τῶν χρησιμοποιουμένων διὰ τὴν μεταβίβασιν τῶν σημάτων ὥρας, τῶν μετεωρολογικῶν δελτίων καὶ ὄλων τῶν ἄλλων ἀνακοινώσεων τῶν σχετικῶν μὲ τὴν ἀσφάλειαν ναυσιπλοΐας τὰς ὁποίας ἡ Ἀρχὴ ἤθελε κρίνει ἀναγκαΐας.
- (iii) Ὁ δέκτης ἀκροάσεως τῆς ραδιοτηλεφωνικῆς συχνότητος κινδύνου δέον ὅπως ρυθμισθῆ ἔκ τῶν προτέρων εἰς τὴν συχνότητα ταύτην. Θά ἐφοδιάζεται μὲ φίλτρον ἢ μὲ συσκευὴν σιγαστήρος τοῦ μεγαφώνου ἐφ' ὅσον εὐρίσκεται ἐπὶ τῆς γεφύρας καὶ ἐν ἀπουσίᾳ ραδιοτηλεφωνικοῦ σήματος κινδύνου. Ἡ ὥς ἀνω συσκευὴ σιγαστήρος θά δύνανται νά τεθῆ εὐχερῶς εἰς λειτουργίαν καὶ ἔκτος λειτουργίας καὶ θά δύνανται νά χρησιμοποιηθῶσι, κατὰ τὴν κρίσιν τοῦ πλοιάρχου, ἢ τήρησις φυλακῆς ἀκροάσεως θά δημιουργηθῆ παρεμβολὰς ἐπηρεαζούσας τὴν ἀσφαλῆ ναυσιπλοΐαν τοῦ πλοίου.
- (iv) (1) Ραδιοτηλεφωνικός πομπός, ἐφ' ὅσον προβλέπεται, δέον νά ἐφοδιάζεται διὰ μιᾶς αὐτομάτου συσκευῆς διὰ τὴν παραγωγὴν τοῦ ραδιοτηλεφωνικοῦ σήματος κινδύνου, ἐσχεδιασμένης κατὰ τοιοῦτον τρόπον ὥστε νά προλαμβάνεται ἐνεργοποίησις ἐκ λάθους καὶ συμμορφουμένης πρὸς τὰς ἀπαιτήσεις τῆς παραγράφου (ε) τοῦ Κανονισμοῦ 16 τοῦ παρόντος Κεφαλαίου. Ἡ συσκευὴ θά δύνανται νά τεθῆ ἔκτος λειτουργίας καθ' οἷονδήποτε χρόνον ἵνα καταστῆ δυνατὴ ἢ ἄμεσος μετάδοσις ἐνὸς μηνύματος κινδύνου.
- (2) Θά προβλέπωνται μέσα διὰ τὸν περιοδικὸν ἔλεγχον τῆς κανονικῆς λειτουργίας τῆς αὐτομάτου συσκευῆς παραγωγῆς ραδιοτηλεφωνικοῦ σήματος κινδύνου ἐπὶ συχνοτήτων διαφόρων τῆς ραδιοτηλεφωνικῆς συχνότητος κινδύνου τῆ βοηθείᾳ καταλλήλου τεχνητῆς κεραίας.
- (θ) Ὁ κύριος δέκτης θά ἔχη ἐπαρκῆ εὐαισθησίαν διὰ νά παράγῃ σήματα εἰς ἀκουστικά ἢ μέσω μεγαφώνου, ὅταν ἀκόμη ἢ τάσις εἰς τὴν εἴσοδον τοῦ δέκτου δέν εἶναι παρά 50 μικροβόλτ. Ὁ βοηθητικός δέκτης δέον νά ἔχη ἐπαρκῆ εὐαισθησίαν ἵνα παράγῃ τοιαῦτα σήματα ὅταν ἢ τάσις εἰς τὴν εἴσοδον τοῦ δέκτου δέν εἶναι παρά 100 μικροβόλτ.
- (ι) Θά ὑπάρχη ἀνά πᾶσαν στιγμὴν, ὅταν τὸ πλοῖον εἶναι ἐν πλῶ, διαθέσιμος ἠλεκτρικὴ ἐνέργεια ἐπαρκῆς νά θέτῃ εἰς λειτουργίαν τὴν κυρίαν ἐγκατάστασιν ὑπὸ τὴν κανονικὴ ἐμβέλειαν τὴν ἀπαιτουμένην ὑπὸ τῆς παραγράφου (ζ) τοῦ παρόντος Κανονισμοῦ, καθὼς ἐπίσης διὰ τὸν σκοπὸν φορτίσεως τῶν συστοιχιῶν συσσωρευτῶν τῶν ἀποτελουσῶν μέρος τοῦ σταθμοῦ ραδιοτηλεγράφου. Ἡ τάσις τροφοδοτήσεως κυρίας ἐγκαταστάσεως θά τηρῆται, εἰς τὴν περίπτωσιν τῶν νέων πλοίων, ἐντὸς τῶν ± 10 τοῖς ἑκατὸν τῆς κανονικῆς τάσεως. Εἰς τὴν περίπτωσιν τῶν ὑπαρχόντων πλοίων θά τηρῆται ὅσον τὸ δυνατόν πλησιέστερον τῆς κανονικῆς τάσεως καὶ ἐὰν εἶναι πρακτικῶς δυνατόν ἐντὸς ± 10 τοῖς ἑκατὸν ταύτης.
- (ια) Ἡ ἐφεδρική ἐγκατάστασις θά τροφοδοτῆται ὑπὸ πηγῆς ἐνεργείας ἀνεξαρτήτου ἀπὸ τὴν πρωστῆριον δύναμιν τοῦ πλοίου καὶ ἀπὸ τὴν ἠλεκτρικὴν ἐγκατάστασιν τοῦ πλοίου.

- (ιβ) (i) Ἡ ἐφεδρική πηγή ἐνεργείας θὰ συνίσταται κατὰ προτίμησιν ἐκ συστοιχιῶν συσσωρευτῶν αἰτίνες θὰ δύνανται νὰ φορτίζωνται ἐκ τοῦ ἠλεκτρικοῦ συστήματος τοῦ πλοίου καὶ θὰ εἶναι ἱκαναί, ὑπὸ πάσας τὰς περιστάσεις, νὰ τίθενται ἀμέσως εἰς λειτουργίαν καὶ νὰ τροφοδοτοῦν τὸν ἐφεδρικὸν πομπὸν καὶ δέκτην ἐπὶ ἕξ τοῦλάχιστον συνεχεῖς ὥρας ὑπὸ κανονικᾶς συνθήκας λειτουργίας, προσέτι δὲ νὰ ἀνταποκρίνωνται εἰς οἰονδήποτε τῶν προσθέτων φορτίων τῶν ἀναφερομένων εἰς τὰς παραγράφους (ιγ) καὶ (ιδ) τοῦ παρόντος Κανονισμοῦ.*
- (ii) Ἡ ἐφεδρική πηγή ἐνεργείας ἀπαιτεῖται ὅπως εἶναι ἐπαρκοῦς ἰκανότητος ἵνα ἐξασφαλίσῃ συγχρόνως τὴν λειτουργίαν τοῦ ἐφεδρικοῦ πομποῦ καὶ τῆς ἐγκαταστάσεως VHF, ὅτε ὑφίσταται τοιαύτη, ἐπὶ χρονικὴν διάρκειαν τοῦλάχιστον ἕξ ὥρῶν, ἐκτὸς ἐὰν ὑφίσταται συσκευὴ διακόπτου ἐξασφαλίζοντος ἐναλλακτικὴν λειτουργίαν μόνον. Ἡ χρησιμοποίησις τῆς ἐφεδρικής πηγῆς ἐνεργείας διὰ τὸ VHF δέον ὅπως περιορίζεται διὰ τὰς περιπτώσεις κινδύνου, ἐπείγοντος καὶ ἐπικοινωνίας σχετικῆς πρὸς τὴν ἀσφάλειαν. Ἐναλλακτικῶς, ἰδιαιτέρα πηγὴ ἐφεδρικής ἐνεργείας δύναται νὰ προβλέπεται διὰ τὴν ἐγκατάστασιν VHF.
- (ιγ) Ἡ ἐφεδρική πηγὴ ἐνεργείας θὰ χρησιμοποιηθῆται ὅπως τροφοδοτῆ τὴν ἐφεδρικὴν ἐγκατάστασιν καὶ τὸ μέσον χειρισμοῦ ἐκπομπῆς τοῦ αὐτομάτου σήματος κινδύνου τοῦ καθοριζομένου εἰς τὴν παράγραφον (ιη) τοῦ παρόντος Κανονισμοῦ, ἐὰν λειτουργῆ ἠλεκτρικῶς.
- Ἡ ἐφεδρική πηγὴ ἐνεργείας δύναται ἐπίσης νὰ χρησιμοποιηθῆται ὅπως τροφοδοτῆ:
- (i) Τὴν ραδιοτηλεγραφικὴν συσκευὴν αὐτομάτου σήματος κινδύνου.
 - (ii) Τὸν φωτισμὸν κινδύνου τὸν καθοριζόμενον εἰς τὴν παράγραφον (ζ) τοῦ Κανονισμοῦ 9 τοῦ παρόντος Κεφαλαίου.
 - (iii) Τὸ ραδιογωνιόμετρον.
 - (iv) Τὴν ἐγκατάστασιν VHF.
 - (v) Τὴν συσκευὴν παραγωγῆς ραδιοτηλεφωνικοῦ σήματος κινδύνου, ἐὰν ὑφίσταται.
 - (vi) Πᾶν μέσον καθοριζόμενον ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας ἐπιτρέπον τὴν ἐναλλαγὴν ἀπὸ τῆς ἐκπομπῆς εἰς τὴν λήψιν καὶ ἀντιστρόφως. Ὑπὸ τὴν ἐπιφύλαξιν τῶν διατάξεων τῆς παραγράφου (ιδ) τοῦ παρόντος Κανονισμοῦ ἡ ἐφεδρική πηγὴ ἐνεργείας δὲν θὰ χρησιμοποιηθῆται ἄλλως παρὰ διὰ τοὺς σκοποὺς τοὺς καθοριζομένους εἰς τὴν παρούσαν παράγραφον.
- (ιδ) Παρὰ τὰς διατάξεις τῆς παραγράφου (ιγ) τοῦ παρόντος Κανονισμοῦ ἡ Ἀρχὴ δύναται νὰ ἐπιτρέψῃ τὴν χρησιμοποίησιν ἐπὶ φορτηγῶν πλοίων τῆς ἐφεδρικής πηγῆς ἐνεργείας διὰ μικρὸν ἀριθμὸν κυκλωμάτων κινδύνου χαμηλῆς ἰσχύος ἐξ ὀλοκλήρου ἐντοπισμένων εἰς τὸ ἀνώτερον μέρος τοῦ πλοίου, ὡς ὁ φωτισμὸς κινδύνου ἐπὶ τοῦ

* Πρὸς τὸν σκοπὸν καθορισμοῦ τοῦ ἠλεκτρικοῦ φορτίου τὸ ὁποῖον δέον νὰ παρέχῃ ἡ ἐφεδρική πηγὴ ἐνεργείας, συνίσταται ἐνδεικτικῶς ὁ ἀκόλουθος τύπος:

1/2 τῆς καταναλώσεως ρεύματος τοῦ πομποῦ μὲ χειριστήριον κάτω (σῆμα)

+ 1/2 τῆς καταναλώσεως ρεύματος τοῦ πομποῦ μὲ χειριστήριον ἄνω (διάλειμμα)

+ κατανάλωσις ρεύματος τοῦ δέκτου καὶ τῶν προσθέτων κυκλωμάτων τῶν συνδεδεμένων μετὰ τῆς ἐφεδρικής πηγῆς ἐνεργείας.

καταστρώματος λέμβων, υπό τὸν ὄρον ὅπως ταῦτα δύνανται νὰ ἀποσυνδεθοῦν εὐχερῶς ἔαν παραστῆ ἀνάγκη καὶ ἡ πηγή ἐνεργείας εἶναι ἱκανότητος ἐπαρκοῦς νὰ βαστάζη τὸ πρόσθετον φορτίον ἢ φορτία.

(ιε) Ἡ ἐφεδρική πηγή ἐνεργείας καὶ ὁ πίναξ διανομῆς αὐτῆς θὰ εἶναι τοποθετημένα ὅσον εἶναι πρακτικῶς δυνατὸν ὑψηλότερον ἐν τῷ πλοίῳ καὶ εὐκόλως προσιτὰ εἰς τὸν ἀξιοματικὸν ἀσυρματιστήν. Ὁ πίναξ διανομῆς θὰ τοποθετῆται, ἔαν εἶναι δυνατόν, ἐντὸς ραδιοθαλάμου. Ἐὰν ὄχι, θὰ εἶναι ἐφωδιασμένος μὲ μέσον φωτισμοῦ.

(ιστ) Ὅταν τὸ πλοῖον εὐρίσκεται ἐν πλῶ, αἱ συστοιχίαι συσσωρευτῶν, εἴτε ἀποτελοῦν μέρος τῆς κυρίας ἐγκαταστάσεως, εἴτε τῆς ἐφεδρικῆς ἐγκαταστάσεως, θὰ φορτίζονται καθ' ἑκάστην ἡμέραν εἰς τὴν κανονικὴν πλήρη φόρτισιν.

(ιζ) Θὰ λαμβάνονται ὅλα τὰ μέτρα διὰ τὴν κατὰ τὸ δυνατὸν ἐξάλειψιν τῶν αἰτιῶν καὶ τὴν καταστολὴν τῶν ραδιοπαρεμβολῶν ἐκ τῶν ἐπὶ τοῦ πλοίου ἠλεκτρικῶν καὶ ἄλλων συσκευῶν. Ἐὰν εἶναι ἀναγκαῖον, θὰ λαμβάνονται μέτρα πρὸς ἐξασφάλισιν ὅτι αἱ κεραεῖαι αἱ συνδεόμεναι εἰς τοὺς δέκτας ραδιοφωνίας δὲν θὰ ἐμποδίζουσιν τὴν ἱκανοποιητικὴν ἢ ἀκριβῆ λειτουργίαν τῆς ραδιοτηλεγραφικῆς ἐγκαταστάσεως. Εἰδικὴ προσοχὴ θὰ δίδεται εἰς τὴν ἀπαιτήσιν ταύτην κατὰ τὴν σχεδιάσιν νέων πλοίων.

(ιη) Ἐπιπροσθέτως πρὸς τὸ μέσον διὰ τὴν διὰ τῆς χειρὸς ἐκπομπὴν τοῦ ραδιοτηλεγραφικοῦ σήματος κινδύνου, θὰ ὑπάρχη ἐν μέσον αὐτομάτου χειρισμοῦ τῆς ραδιοτηλεγραφικῆς συσκευῆς αὐτομάτου σήματος κινδύνου, δυνάμενον νὰ θέτῃ εἰς λειτουργίαν τὸν κύριον καὶ τὸν ἐφεδρικὸν πομπὸν διὰ τὴν ἐκπομπὴν τοῦ ραδιοτηλεγραφικοῦ σήματος κινδύνου. Τὸ μέσον τοῦτο θὰ δύναται νὰ τίθεται ἀνὰ πάντα χρόνον ἐκτὸς λειτουργίας, ἵνα ἐπιτρέπη τὸν ἄμεσον χειρισμὸν τοῦ πομποῦ διὰ τῆς χειρὸς. Ἐὰν τὸ μέσον τοῦτο λειτουργῇ ἠλεκτρικῶς, δέον νὰ δύναται νὰ λειτουργῇ ἐκ τῆς ἐφεδρικῆς πηγῆς ἐνεργείας.

(ιθ) Ὅταν τὸ πλοῖον εὐρίσκεται ἐν πλῶ, ὁ ἐφεδρικός πομπός, ἔαν δὲν χρησιμοποιῆται δι' ἐπικοινωνίαν, θὰ δοκιμάζεται καθημερινῶς διὰ χρησιμοποίησεως μιᾶς καταλλήλου τεχνητῆς κεραεῖας καὶ ἅπαξ τοῦλάχιστον κατὰ ταξιδιον διὰ χρησιμοποίησεως τῆς ἐφεδρικῆς κεραεῖας, ἔαν ὑπάρχη τοιαύτη. Ἡ ἐφεδρική πηγὴ ἐνεργείας θὰ δοκιμάζεται ἐπίσης καθημερινῶς.

(κ) Ὅλαι αἱ συσκευαί, αἱ ἀποτελοῦσαι μέρος τῆς ραδιοτηλεγραφικῆς ἐγκαταστάσεως, θὰ εἶναι ἀσφαλοῦς λειτουργίας καὶ θὰ εἶναι κατασκευασμένα κατὰ τρόπον ὥστε νὰ εἶναι εὐκόλως προσιτὰ διὰ σκοποὺς συντηρήσεως.

(κα) Παρὰ τὰς διατάξεις τοῦ Κανονισμοῦ 4 τοῦ παρόντος Κεφαλαίου, ἡ Ἀρχὴ δύναται, εἰς τὴν περίπτωσιν φορτηγῶν πλοίων ὀλικῆς χωρητικότητος κατωτέρας τῶν 1.600 κόρων, νὰ ἀπαλλάξη τῆς ἐφαρμογῆς πασῶν τῶν ἀπαιτήσεων τοῦ Κανονισμοῦ 9 τοῦ Κεφαλαίου τούτου καὶ τοῦ παρόντος Κανονισμοῦ, ὑπὸ τὸν ὄρον ὅπως ἐν οὐδεμιᾷ περιπτώσει τὸ ἐπίπεδον τοῦ σταθμοῦ ραδιοτηλεγράφου εἶναι κατώτερον τοῦ ἰσοδυνάμου ἐκεῖνου ὅπερ καθορίζεται ὑπὸ τοῦ Κανονισμοῦ 15 καὶ τοῦ Κανονισμοῦ 16 τοῦ παρόντος Κεφαλαίου διὰ σταθμοὺς ραδιοτηλεφωνίας, καθ' ὅσον εἶναι ἐφαρμόσιμοι. Εἰδικῶς, εἰς τὴν περίπτωσιν φορτηγῶν πλοίων ὀλικῆς χωρητικότητος 300 κόρων καὶ ἄνω ἀλλὰ κάτω τῶν 500 κόρων ὀλικῆς χωρητικότητος, ἡ Ἀρχὴ δύναται νὰ μὴ ἀπαιτήσῃ:

- (i) Τὸν ἐφεδρικὸν δέκτην.
- (ii) Τὴν ἐφεδρικήν πηγὴν ἐνεργείας εἰς τὰς ὑπαρχούσας ἐγκαταστάσεις.
- (iii) Τὴν προστασίαν τῆς κυρίας κεραεῖας ἐναντι θραύσεως ἐκ κραδασμῶν.

- (iv) Τὰ μέσα ἐπικοινωνίας μεταξύ τοῦ σταθμοῦ ἀσυρμάτου καὶ τῆς γέφυρας νὰ εἶναι ἀνεξάρτητα τοῦ κυρίου συστήματος ἐπικοινωνίας.
- (v) Τὴν ἐμβέλεια τοῦ δέκτου νὰ εἶναι μεγαλύτερα τῶν 75 μιλίων

Κανονισμὸς 11

Ραδιοτηλεγραφικὸν Αὐτόματον Σῆμα Κινδύνου.

(α) Πᾶσα ραδιοτηλεγραφικὴ συσκευή αὐτομάτου σήματος κινδύνου ἐγκαθισταμένη μετὰ τὴν 26ην Μαΐου 1965 θὰ πληροῖ κατ' ἐλάχιστον τὰς ἀκολουθοῦσας διατάξεις:

- (i) Ἐν ἀπουσίᾳ παρεμβολῆς παντὸς εἶδους, θὰ εἶναι ἰκανὴ νὰ τίθεται εἰς λειτουργίαν ἄνευ ρυθμίσεως διὰ χειρὸς, ὑπὸ παντὸς ραδιοτηλεγραφικοῦ σήματος κινδύνου μεταδιδομένου ἐπὶ τῆς ραδιοτηλεγραφικῆς συχνότητος κινδύνου ὑπὸ παρακτίου σταθμοῦ, ὑπὸ πομποῦ κινδύνου πλοίου ἢ σωστικοῦ πλωτοῦ μέσου, λειτουργοῦντος συμφώνως πρὸς τοὺς Κανονισμοὺς Ραδιο-ἐπικοινωνίας, νοουμένου ὅτι ἡ τάσις τοῦ σήματος εἰς τὴν εἴσοδον τοῦ δέκτου εἶναι ἀνωτέρα τῶν 100 μικροβόλτ καὶ κατωτέρα τοῦ 1 βόλτ.
- (ii) Ἐν ἀπουσίᾳ παρεμβολῆς παντὸς εἶδους, θὰ τίθεται εἰς λειτουργίαν ὑπὸ τριῶν ἢ τεσσάρων διαδοχικῶν παυλῶν ὅταν αἱ παῦλαι ποικίλλουν εἰς μῆκος ἀπὸ 3,5 μέχρι ὅσον τὸ δυνατόν πλησιέστερον τῶν 6 δευτερολέπτων καὶ τὰ διαλείμματα ποικίλλουν εἰς μῆκος μεταξύ 1,5 δευτερολέπτων καὶ τῆς κατωτάτης πρακτικῶς δυνατῆς τιμῆς, κατὰ προτίμησιν οὐχὶ μεγαλύτερας τῶν 10 χιλιοστῶν τοῦ δευτερολέπτου.
- (iii) Δὲν θὰ τίθεται εἰς λειτουργίαν ὑπὸ ἀτμοσφαιρικῶν παρασίτων ἢ ὑπὸ ἑτέρου σήματος πλὴν τοῦ ραδιοτηλεγραφικοῦ σήματος κινδύνου, ἐφ' ὅσον τὰ λαμβανόμενα σήματα δὲν ἀποτελοῦν πραγματικῶς σῆμα ἐμπίπτον μετὰ τῶν ὀρίων ἀνοχῆς τῶν ὀριζομένων εἰς τὸ ἐδάφιον (ii).
- (iv) Ἡ ἐπιλεκτικότης τῆς ραδιοτηλεγραφικῆς συσκευῆς αὐτομάτου σήματος κινδύνου θὰ εἶναι τοιαύτη ὥστε νὰ παρουσιάσῃ μίαν πρακτικῶς ὁμοίω-μορφον εὐαισθησίαν ἐπὶ ζώνης ἐκτεινομένης οὐχὶ ὀλιγώτερον τῶν 4 KHZ καὶ οὐχὶ περισσότερο τῶν 8 KHZ ἑκατέρωθεν τῆς ραδιοτηλεγραφικῆς συχνότητος κινδύνου καὶ νὰ παρουσιάσῃ ἐξωτερικῶς τῆς ζώνης ταύτης εὐαισθησίαν ἥτις μειοῦται ὅσον τὸ δυνατόν ταχέως συμφώνως πρὸς τοὺς ἀρίστους κανόνας τῆς τεχνικῆς.
- (v) Ἐὰν εἶναι πρακτικῶς δυνατόν, ἡ ραδιοτηλεγραφικὴ συσκευή αὐτομάτου σήματος κινδύνου θὰ ρυθμίζεται ἀφ' ἑαυτῆς αὐτομάτως ἐν παρουσίᾳ ἀτμοσφαιρικῶν παρασίτων ἢ παρεμβαλλομένων σημάτων, οὕτως ὥστε εἰς διάστημα λογικῶς βραχὺ νὰ πλησιάσῃ τὰς συθῆκας εἰς τὰς ὁποίας τὸ ραδιοτηλεγραφικὸν σῆμα κινδύνου δύναται τὸ εὐκολώτερον νὰ γίνῃ διακριτόν.
- (vi) Ὅταν τίθεται εἰς λειτουργίαν ὑπὸ ραδιοτηλεγραφικοῦ σήματος κινδύνου ἢ εἰς περίπτωσιν βλάβης τῆς συσκευῆς, ἡ ραδιοτηλεγραφικὴ συσκευή αὐτομάτου σήματος κινδύνου θὰ παράγῃ συνεχῆς εἰδοποιητικὸν σῆμα ἀκουόμενον εἰς τὸν θάλαμον ραδιοτηλεγράφου, εἰς τὸν κοιτωνίσκον τοῦ ἀξιωματικοῦ ἀσυρματιστοῦ καὶ εἰς τὴν γέφυραν. Ἐὰν εἶναι πρακτικῶς δυνατόν, θὰ δίδεται ἐπίσης εἰδοποιητικὸν σῆμα καὶ εἰς περίπτωσιν βλάβης οἰουδήποτε μέρους ὀλοκλήρου τοῦ συστήματος λήψεως σήματος κινδύνου. Εἰς μόνον διακόπτης θὰ ὑπάρχῃ διὰ τὴν διακοπὴν τοῦ εἰδοποιητικοῦ σήματος καὶ οὗτος θὰ εὐρίσκειται ἐντὸς τοῦ θαλάμου ραδιοτηλεγράφου.
- (vii) Πρὸς τὸν σκοπὸν τακτικῶν δοκιμῶν τῆς ραδιοτηλεγραφικῆς συσκευῆς αὐτομάτου σήματος κινδύνου, ἡ συσκευή θὰ περιλαμβάνῃ μίαν γεννήτριαν

ἐκ τῶν προτέρων ρυθμισμένην εἰς τὴν ραδιοτηλεγραφικὴν συχνότητα κινδύνου καὶ ἔν μέσον χειρισμοῦ διὰ τοῦ ὁποίου νὰ παράγεται ραδιοτηλεγραφικὸν σήμα κινδύνου τῆς ἐλαχίστης τάσεως τῆς ὀριζομένης εἰς τὸ ἄνωτέρω ἐδάφιον (i). Θὰ ὑπάρχη ἐπίσης μέσον διὰ τὴν προσάρτησιν ἀκουστικῶν πρὸς τὸν σκοπὸν ἀκροάσεως τῶν λαμβανομένων σημάτων ὑπὸ τῆς ραδιοτηλεγραφικῆς συσκευῆς αὐτομάτου σήματος κινδύνου.

- (viii) Ἡ ραδιοτηλεγραφικὴ συσκευὴ αὐτομάτου σήματος κινδύνου θὰ εἶναι ἱκανὴ νὰ ἀντέχη εἰς τοὺς κραδασμούς, τὴν ὑγρασίαν καὶ τὰς μεταβολὰς τῆς θερμοκρασίας τὰς ἀντιστοιχοῦσας εἰς τὰς δυσμενεῖς συνθήκας τὰς ἐπικρατοῦσας ἐπὶ τῶν πλοίων ἐν θαλάσῃ καὶ δεόν νὰ ἐξακολουθῇ νὰ λειτουργῇ ὑπὸ τοιαύτας συνθήκας.

(β) Πρὸ τῆς ἐγκρίσεως νέου τύπου ραδιοτηλεγραφικῆς συσκευῆς αὐτομάτου σήματος κινδύνου, ἡ ἐνδιαφερομένη Ἀρχὴ δεόν νὰ πεισθῇ, διὰ πρακτικῶν δοκιμῶν ἐκτελουμένων ὑπὸ συνθήκας λειτουργίας ἰσοδυνάμους πρὸς τὰς ἐν τῇ πράξει, ὅτι ἡ συσκευὴ πληροῖ τοὺς ὅρους τῆς παραγράφου (α) τοῦ παρόντος Κανονισμοῦ.

(γ) Εἰς πλοῖα ἐφωδιασμένα διὰ ραδιοτηλεγραφικῆς συσκευῆς αὐτομάτου σήματος κινδύνου, ἡ ἀποδοτικότης αὐτῆς θὰ δοκιμάζεται ὑπὸ ἀξιωματικοῦ ἀσυρματιστοῦ τοῦλάχιστον ἄπαξ κατὰ 24 ὥρων ἐν πλῆ. Ἐὰν αὕτη δὲν εἶναι εἰς κατάστασιν λειτουργίας, ὁ ἀξιωματικὸς ἀσυρματιστὴς θὰ ἀναφέρῃ τοῦτο εἰς τὸν πλοίαρχον ἢ εἰς τὸν ἐν τῇ γεφυρᾷ ἀξιωματικὸν φυλακῆς.

(δ) Εἰς ἀξιωματικὸς ἀσυρματιστῆς θὰ ἐλέγξη περιοδικῶς τὴν καλὴν λειτουργίαν τῆς ραδιοτηλεγραφικῆς συσκευῆς αὐτομάτου δέκτου σήματος κινδύνου συνδεδεμένης μετὰ τῆς κανονικῆς κεραίας, δι' ἀκροάσεως σημάτων καὶ συγκρίσεως τούτων πρὸς ὅμοια σήματα ληφθέντα διὰ τῆς κυρίας ἐγκαταστάσεως ἐπὶ τῆς ραδιοτηλεγραφικῆς συχνότητος κινδύνου.

(ε) Ὅσον εἶναι πρακτικῶς δυνατόν, ἡ ραδιοτηλεγραφικὴ συσκευὴ αὐτομάτου σήματος κινδύνου, ὅταν εἶναι συνδεδεμένη εἰς κεραίαν, δεόν νὰ μὴ ἐπηρεάζῃ τὴν ἀκρίβειαν τοῦ ραδιογωνιομέτρου.

Κανονισμὸς 12

Ραδιογωνιόμετρα

- (α) (i) Ἡ συσκευὴ ραδιογωνιομέτρου ἡ ἀπαιτουμένη ὑπὸ τοῦ κανονισμοῦ 12 τοῦ Κεφαλαίου V θὰ πρέπει νὰ εἶναι καλῆς ἀποδόσεως καὶ ἱκανὴ νὰ δέχεται σήματα μὲ ἐλάχιστον θόρυβον τοῦ δέκτου καὶ νὰ λαμβάνῃ διοπτεύσεις ἐκ τῶν ὁποίων νὰ δύνανται νὰ καθορίζωνται ἡ ἀληθῆς διόπτεισις καὶ ἡ διεύθυνσις.
- (ii) Θὰ εἶναι ἱκανὴ νὰ δέχεται σήματα ἐπὶ τῶν ραδιοτηλεγραφικῶν συχνότητων τῶν προσδιοριζομένων ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας διὰ τὰς περιπτώσεις κινδύνου καὶ ραδιογωνιομετρήσεως καθὼς καὶ διὰ τοὺς ναυτιλιακοὺς ραδιοφάρους.
- (iii) Ἐν ἀπουσίᾳ παρεμβολῶν, ἡ συσκευὴ ραδιογωνιομέτρου θὰ ἔχη ἀρκετὴν εὐασθησίαν ἵνα ἐπιτρέπη τὴν λήψιν ἀκριβῶν διοπτύσεων ἐπὶ σήματος ἔχοντος τάσιν τόσον χαμηλὴν ὅσον 50 μικροβόλτ ἀνὰ μέτρον.
- (iv) Ὅσον εἶναι πρακτικῶς δυνατόν, ἡ συσκευὴ ραδιογωνιομέτρου θὰ εἶναι οὕτω τοποθετημένη ὥστε ὅσον τὸ δυνατόν ὀλιγώτεροι παρεμβολαὶ ἐκ μηχανικῶν ἢ ἑτέρων θορύβων νὰ προξενοῦνται εἰς τὸν ἀκριβῆ καθορισμὸν τῶν διοπτύσεων.
- (v) Ὅσον εἶναι πρακτικῶς δυνατόν, τὸ σύστημα τῆς κεραίας τοῦ

ραδιογωνιομέτρου θά είναι εγκαταστημένον κατά τοιοῦτον τρόπον ὥστε ὁ ἀκριβῆς καθορισμός τῶν διοπτύσεων νά ἐμποδίζεται ὅσον τό δυνατόν ὀλιγώτερον ἐκ τῆς ἀμέσου γεινιάσεως πρὸς ἄλλας κεραίας, φορτωτήρας, συρμάτινα ἀγόμενα ἢ ἕτερα ὀγκώδη μεταλλικά ἀντικείμενα.

- (vi) Θά προβλέπεται ἀποδοτικόν δίπλευρον μέσον ἐπικοινωνίας κλήσεως καί ὁμιλίας μεταξύ τοῦ ραδιογωνιομέτρου καί τῆς γεφύρας.
- (vii) Ὅλα τά ραδιογωνιόμετρα θά διαμετρῶνται κατά τήν πρώτην ἐγκατάστασιν κατά τρόπον ἱκανοποιούντα τήν Ἀρχήν. Ἡ διαμέτρησις θά ἐξακριβῶται διά λήψεως διοπτύσεων ἐλέγχου ἢ δι' ἐκτελέσεως νέας διαμετρήσεως ὁσάκις λαμβάνουν χώραν μεταβολαί τῆς θέσεως οἰασθήποτε κεραίας ἢ οἰουδήποτε κατασκευάσματος ἐπὶ τοῦ καταστρώματος, αἵτινες θά ἠδύναντο νά ἐπηρεάσουν αἰσθητῶς τήν ἀκρίβειαν τοῦ ραδιογωνιομέτρου. Τά χαρακτηριστικά τῆς διαμετρήσεως θά ἐλέγχωνται κατ' ἔτος ἢ κατά χρονικά διαστήματα ὅσον τό δυνατόν ἐγγύτερον τοῦ ἐνός ἔτους. Θά γίνεται καταχώρησις τῶν διαμετρήσεων καί ὄλων τῶν γενομένων ἐλέγχων ἐπὶ τῆς ἀκριβείας αὐτῶν.
- (β) (i) Ἡ ραδιοεντοπιστικὴ συσκευή ἐπὶ τῆς ραδιοτηλεφωνικῆς συχνότητος κινδύνου δέον ὅπως δύναται νά λαμβάνη γωνιομετρικὰς διοπτύσεις εἰς τήν συχνότητα ταύτην ἄνευ παρανοήσεων ὡς πρὸς τήν ἔννοιαν ἐντός τῆς 30 μοιρῶν ἐκτεινομένου ἐκατέρωθεν τῆς πῶρας.
- (ii) Κατά τήν ἐγκατάστασιν καί δοκιμὴν τῆς συσκευῆς ἥτις ἀναφέρεται εἰς τήν παρούσαν παράγραφον δέον ὅπως λαμβάνεται ὑπ' ὄψιν ἡ σχετικὴ σύστασις τῆς Διεθνούς Συμβουλευτικῆς Ἐπιτροπῆς Ραδιοεπικοινωνίας (C.C.I.R.).
- (iii) Θά λαμβάνονται ὄλα τά λογικῶς δυνατὰ μέτρα ἵνα ἐξασφαλισθῇ ἡ ραδιοεντοπιστικὴ ἱκανότης ἥτις ἀπαιτεῖται ὑπὸ τῆς παρούσης παραγράφου. Εἰς περιπτώσεις κατὰ τὰς ὁποίας συνεπέια τεχνικῶν δυσχερειῶν ἢ ἱκανότης ραδιοεντοπισμοῦ δέν εἶναι δυνατόν νά ἐπιτευχθῇ, αἱ Ἀρχαί δύναται νά χορηγοῦν ἐξαιρέσεις εἰς συγκεκριμένα πλοῖα ἐκ τῶν ἀπαιτήσεων τῆς παρούσης παραγράφου.

Κανονισμός 13

Ραδιοτηλεγραφικαὶ Συσκευαὶ ἐπὶ τῶν μετὰ Κινητήρος Σωσιβίων Λέμβων

- (α) Ἡ ραδιοτηλεγραφικὴ ἐγκατάστασις ἡ ἀπαιτούμενη ὑπὸ τοῦ Κανονισμοῦ 14 τοῦ Κεφαλαίου III θά περιλαμβάνη ἕνα πομπόν, ἕνα δέκτην καί μίαν πηγὴν ἐνεργείας. Θά εἶναι κατασκευασμένη κατά τοιοῦτον τρόπον ὥστε νά δύναται νά χρησιμοποιηθῇ εἰς περίπτωσιν κινδύνου ὑπὸ μὴ πεπειραμένου προσώπου.
- (β) Ὁ πομπός θά δύναται νά ἐκπέμπῃ ἐπὶ τῆς ραδιοτηλεγραφικῆς συχνότητος κινδύνου χρησιμοποιῶν μίαν κατηγορίαν ἐκπομπῆς καθοριζομένην ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας διά τήν συχνότητα ταύτην. Ὁ πομπός θά εἶναι ἐπίσης ἱκανός νά ἐκπέμπῃ ἐπὶ τῆς συχνότητος καί νά χρησιμοποιηθῇ μίαν κατηγορίαν ἐκπομπῆς ἐκ τῶν καθοριζομένων ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας πρὸς χρῆσιν τῶν πλωτῶν σωστικῶν μέσων εἰς τὰς ζῶνας μεταξύ 4.000 kHz καί 27500 kHz.
- (γ) Ἐὰν καθορίζεται διαμορφουμένη ἐκπομπὴ ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας, ὁ πομπός θά ἔχη ποσοστὸν διαμορφώσεως τοῦλάχιστον 70 τοῖς ἑκατὸν καί συχνότητα διαμορφώσεως μεταξύ 450 καί 1.350 κύκλων ἀνά δευτερόλεπτον.

- (δ) Ἐπί πλέον τοῦ χειριστηρίου διά ἐκπομπάς διά τῆς χειρός, ὁ πομπός θά ἐφοδιάζεται δι' αὐτομάτου μέσου χειρισμοῦ διά τήν ἐκπομπήν ραδιοτηλεγραφικῶν σημάτων εἰδοποιητικοῦ καί κινδύνου.
- (ε) Ἐπί τῆς ραδιοτηλεγραφικῆς συχνότητος κινδύνου, ὁ πομπός θά ἔχη ἐλαχίστην κανονικὴν ἐμβέλεια (ὡς αὕτη καθορίζεται εἰς τὴν παράγραφον (ζ) τοῦ Κανονισμοῦ 10 τοῦ παρόντος Κεφαλαίου) 25 μιλίων ὅταν χρησιμοποιῆ τὴν στῆθεράν κεραίαν*.
- (στ) Ὁ δέκτης θά εἶναι ἰκανός νά λαμβάνῃ ἐπὶ τῆς ραδιοτηλεγραφικῆς συχνότητος κινδύνου καί εἰς τὰς κατηγορίας ἐκπομπῆς τὰς καθοριζομένας ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας διά τὴν συχνότητα ταύτην.
- (ζ) Ἡ πηγὴ ἐνεργείας θά ἀποτελῆται ἐκ μιᾶς συστοιχίας συσσωρευτῶν ἐπαρκοῦς χωρητικότητος, ὥστε νά τροφοδοτῆ τὸν πομπὸν ἐπὶ τέσσαρας συνεχεῖς ὥρας ὑπὸ κανονικᾶς συνθήκας λειτουργίας. Ἐάν ἡ συστοιχία εἶναι τύπου ἀπαιτοῦντος φῶρτι-σιν, θά ὑπάρχουν μέσα διά τὴν φόρτισιν ταύτης ἐκ τῆς ἠλεκτρικῆς ἐνεργείας τοῦ πλοίου. Ἐπί πλέον, θά ὑπάρχῃ μέσον φορτίσεως ταύτης μετὰ τὴν καθαιρέσιν τῆς σωσιβίου λέμβου εἰς τὴν θάλασσαν.
- (η) Ἐάν ἡ ἐνέργεια διά τὴν ραδιοτηλεγραφικὴν ἐγκατάστασιν καί τὸν προβολέα τὸν ἀπαιτούμενον ὑπὸ τοῦ Κανονισμοῦ 14 τοῦ Κεφαλαίου III χορηγῆται ὑπὸ τῆς αὐτῆς συστοιχίας, θά ἔχη αὕτη ἐπαρκῆ χωρητικότητα ὥστε νά ἐπαρκῆ διά τὸ ἐπιπρόσθετον φορτίον τοῦ προβολέως.
- (θ) Θά ὑπάρχῃ κεραία σταθεροῦ τύπου καθὼς καί τὰ μέσα στηρίξεως ταύτης εἰς τὸ μέγιστον πρακτικῶς δυνατόν ὕψος. Ἐπί πλέον, θά ὑπάρχῃ μία κεραία ὑποβασταζομένη ὑπὸ χαρταετοῦ ἢ ἀεροστάτου, ἐάν τοῦτο εἶναι πρακτικῶς δυνατόν.
- (ι) Κατὰ τὴν διάρκειαν τοῦ πλοῦ καί καθ' ἑβδομάδα εἰς ἀξιωματικὸς ἀσυρματιστῆς θά δοκιμάζῃ τὸν πομπὸν χρησιμοποιῶν κατάλληλον τεχνητὴν κεραίαν καί θά φορτίσῃ τὴν συστοιχίαν εἰς πλήρη φόρτισιν ἐάν αὕτη εἶναι τύπου ἀπαιτοῦντος ἐπιπλέον φόρτισιν.

Κανονισμός 14

Φορητὰ Συσκευὰ Ἀσυρμάτου διὰ τὰ Πλωτὰ Σωστικὰ Μέσα

- (α) Ἡ ἀπαιτούμενη ὑπὸ τοῦ Κανονισμοῦ 13 τοῦ Κεφαλαίου III συσκευή θά περιλαμβάνῃ ἓνα πομπόν, ἓνα δέκτην, μίαν κεραίαν καί μίαν πηγὴν ἐνεργείας. Θά εἶναι κατεσκευασμένη κατὰ τοιοῦτον τρόπον ὥστε νά δύναται νά χρησιμοποιηθῆ εἰς περιπτώσιν κινδύνου ὑπὸ μὴ πεπειραμένου προσώπου.
- (β) Ἡ συσκευή θά εἶναι εὐχερῶς φορητὴ, ὕδατοστεγῆς, ἰκανὴ νά ἐπιπλῆ ἐν θαλασσίῳ ὕδατι καί δυναμένη νά ρίπτεται εἰς τὴν θάλασσαν χωρὶς νά ὑποστῇ ζημίαν. Αἱ νέαι συσκευαὶ θά εἶναι, ὅσον εἶναι πρακτικῶς δυνατόν, ἐλαφραὶ καί συμπαγεῖς καί θά δύναται κατὰ προτίμησιν νά χρησιμοποιοῦνται τόσον εἰς τὰς σωσιβίους λέμβους, ὅσον καί εἰς τὰς σωσιβίους σχεδίας.
- (γ) Ὁ πομπός θά εἶναι ἰκανός νά ἐκπέμπῃ ἐπὶ τῆς ραδιοτηλεγραφικῆς συχνότητος κινδύνου χρησιμοποιῶν μίαν κατηγορίαν ἐκπομπῆς καθοριζομένην ὑπὸ τῶν

* Ἐν ἐλλείψει μετρήσεως τῆς ἐντάσεως τοῦ πεδίου, δύναται νά γίνῃ δεκτόν ὅτι ἡ ἐμβέλεια αὕτη, θά ἐπιτευχθῆ ἐάν τὸ γινόμενον τοῦ ὕψους τῆς κεραίας ὑπεράνω τῆς ἐπιφανείας τῆς θαλάσσης ἐπὶ τὴν ἐντάσιν ρεύματος τῆς κεραίας (Τιμὴ R.M.R.) εἶναι 10 μέτρα-ἡμέρ.

Κανονισμών Ραδιοεπικοινωνίας διά τήν συχνότητα ταύτην, καθώς και νά εκπέμψη επί τής ραδιοηλεγραφικής συχνότητος και νά χρησιμοποιή μίαν κατηγορίαν εκπομπής καθοριζομένην υπό τών Κανονισμών Ραδιοεπικοινωνίας διά τά πλωτά σωστικά μέσα εις τās ζώνας μεταξύ 4.000 kHz και 27.500 kHz. Ἡ Ἀρχή δύναται ἐν τούτοις νά ἐπιτρέψη ὅπως ὁ πομπός εἶναι ἰκανός νά εκπέμψη ἐπί τής ραδιοηλεφωνικῆς συχνότητος κινδύνου και νά χρησιμοποιή τήν κατηγορίαν εκπομπής τήν καθοριζομένην υπό τών Κανονισμών Ραδιοεπικοινωνίας διά τήν συχνότητα ταύτην, ἐναλλακτικῶς ἢ ἐπιπροσθέτως τής εκπομπής ἐπί τής ραδιοηλεγραφικῆς συχνότητος τής καθοριζομένης υπό τών Κανονισμών Ραδιοεπικοινωνίας διά πλωτά σωστικά μέσα εις τās ζώνας μεταξύ 4.000 kHz και 27.500 kHz.

(δ) Ἐάν καθορίζεται διαμορφουμένη εκπομπή υπό τών Κανονισμών Ραδιοεπικοινωνίας, ὁ πομπός θά ἔχη ποσοστόν διαμορφώσεως τοῦλάχιστον 70 τοῖς ἑκατόν και εις τήν περίπτωσιν ραδιοηλεγραφικῆς εκπομπής θά ἔχη συχνότητα διαμορφώσεως μεταξύ 450 και 1.350 κύκλων.

(ε) Ἐπί πλέον τοῦ χειριστηρίου διά εκπομπάς διά τής χειρός, ὁ πομπός θά ἐφοδιάζεται δι' αὐτομάτου μέσου χειρισμοῦ διά τήν εκπομπήν σημάτων εἰδοποιητικοῦ και κινδύνου. Ἐάν ὁ πομπός δύναται νά εκπέμψη ἐπί τής ραδιοηλεφωνικῆς συχνότητος κινδύνου θά ἐφοδιάζεται δι' αὐτομάτου μέσου, πληροῦντος τās ἀπαιτήσεις τής παραγράφου (ε) τοῦ Κανονισμοῦ 16 τοῦ παρόντος Κεφαλαίου, διά τήν εκπομπήν τοῦ ραδιοηλεφωνικοῦ σήματος κινδύνου.

(στ) Ὁ δέκτης θά εἶναι ἰκανός νά λαμβάνη ἐπί τής ραδιοηλεγραφικῆς συχνότητος κινδύνου και εις τās κατηγορίας εκπομπής τās καθοριζομένας υπό τών Κανονισμών Ραδιοεπικοινωνίας διά τήν συχνότητα ταύτην. Ἐάν ὁ πομπός εἶναι ἰκανός νά εκπέμψη ἐπί τής ραδιοηλεφωνικῆς συχνότητος κινδύνου, ὁ δέκτης θά εἶναι ὁμοίως ἰκανός νά λαμβάνη ἐπί τής συχνότητος ταύτης και εις τήν κατηγορίαν εκπομπής τήν καθοριζομένην υπό τών Κανονισμών Ραδιοεπικοινωνίας διά τήν συχνότητα ταύτην.

(ζ) Ἡ κεραία θά εἶναι, εἴτε αὐτοστηριζομένη, εἴτε θά δύναται νά ὑποστηρίζεται υπό τοῦ ἴστού μῆς σωσιβίου λέμβου εις τό μέγιστον δυνατόν ὕψος. Ἐπί πλέον, εἶναι εὐκαταῖον ὅπως προβλέπεται μία κεραία ὑποβασταζομένη υπό χαρταετοῦ ἢ ἀεροστάτου, ἔάν τοῦτο εἶναι πρακτικῶς δυνατόν

(η) Ὁ πομπός θά παρέχη ἐπαρκῆ ἰσχύνη* ὑψηλῆς συχνότητος εις τήν κεραίαν τήν ἀπαιτουμένην υπό τής παραγράφου (α) τοῦ παρόντος Κανονισμοῦ και θά τροφοδοτῆται κατά προτίμησιν υπό γεννητῆρας κινουμένης διά τής χειρός. Ἐάν τροφοδοτῆται υπό συστοιχίας συσσωρευτῶν, ἢ συστοιχία θά πληροῖ τοῦς ὄρους τούς καθοριζομένους υπό τής Ἀρχῆς ἵνα ἐξασφαλίζεται ὅτι εἶναι ἀνθεκτικοῦ τύπου και ἐπαρκοῦς χωρητικότητος.

(θ) Κατά τήν διάρκειαν τοῦ πλοῦ και καθ' ἐβδομάδα εις ἀξιωματικὸς ἀσυρματιστῆς ἢ χειριστῆς ραδιοηλεφωνητῆς, ὡς θά εἶναι πρόσφορον, θά δοκιμάζη τόν πομπόν χρησιμοποιῶν κατάλληλον τεχνητὴν κεραίαν και θά φορτίζη τήν συστοιχίαν εις πλήρη φόρτισιν ἔάν εἶναι τύπου ἀπαιτοῦντος φόρτισιν.

(ι) Διά τόν σκοπόν τοῦ παρόντος Κανονισμοῦ, ὁ ὄρος «νέα συσκευή» σημαίνει τήν συσκευὴν τήν χορηγουμένην εις ἓν πλοῖον μετά τήν ἡμερομηνίαν ἐνάρξεως τής ἰσχύος τής παρουσίας Συμβάσεως.

* Δύναται νά θεωρηθῆ ὅτι οἱ σκοποὶ τοῦ παρόντος Κανονισμοῦ θά ἰκανοποιῶνται διά τών κατωτέρω ἀπαιτήσεων:

Ἡ ἰσχύς εἰσόδου εις τήν ἄνοδον τής τελικῆς διαβαθμίσεως νά εἶναι τοῦλάχιστον 10 βᾶττ. ἢ ἰσχύς ἐξόδου εἰς ὑψηλὴν συχνότητα νά εἶναι τοῦλάχιστον 2 βᾶττ (εκπομπή Α2) ἐπί συχνότητος 500 kHz ἐντός τεχνητῆς κεραίας ἔχουσας πραγματικὴν ἀντίστασιν 15 Ω ἐν σειρά με χωρητικότητα 100×10^{-12} φαραδ. Τό ποσοστόν διαμορφώσεως θά εἶναι τοῦλάχιστον 70 τοῖς ἑκατόν.

Κανονισμός 15*Ραδιοτηλεφωνικοί Σταθμοί*

- (α) Ο ραδιοτηλεφωνικός σταθμός θα εύρισκεται εις τό άνωτερον μέρος τού πλοίου καί θα είναι τοποθετημένος ούτως ώστε νά προφυλάσσεται δσον τό δυνατόν καλλίτερον εκ τών θορούβων οΐτινες θα ήδύναντο νά έμποδίζου τήν άκριβή λήψιν μηνυμάτων καί σημάτων.
- (β) Θα ύπάρχη κατάλληλος επικοινωνία μεταξύ του ραδιοτηλεφωνικού σταθμού καί τής γεφύρας.
- (γ) Έν ώρολόγιον άσφαλοϋς λειτουργίας θα είναι καλώς στερεωμένον εις τοιαύτην θέσιν ώστε όλόκληρος ό δίσκος νά είναι εύκόλως θεατός εκ τής θέσεως χειρισμού του ραδιοτηλεφώνου.
- (δ) Θα προβλέπεται φωτισμός κινδύνου άσφαλοϋς λειτουργίας, άνεξάρτητος του συστήματος τό όποιον τροφοδοτεί τον κανονικόν φωτισμόν τής εγκαταστάσεως ραδιοτηλεφώνου καί μονίμως εγκατεστημένος, ούτως ώστε νά είναι ικανός νά παρέχη έπαρκή φωτισμόν εις τά χειριστήρια λειτουργίας τής ραδιοτηλεφωνικής εγκαταστάσεως, εις τό ώρολόγιον τό άπαιτούμενον υπό τής παραγράφου (γ) του παρόντος Κανονισμού καί εις τόν πίνακα οδηγίων τόν άπαιτούμενον υπό τής παραγράφου (στ).
- (ε) Έάν ή πηγή ένεργείας άποτελείται εκ μιās ή περισσοτέρων συστοιχιών συσσωρευτών, ό ραδιοτηλεφωνικός σταθμός θα έφοδιάζεται διά μέσων διά τών όποιων θα εκτιμάται ή κατάστασις φορτίσεως.
- (στ) Εις πίναξ οδηγίων δίδων σαφή περίληψιν τής άκολουθητέας διά του ραδιοτηλεφώνου διαδικασίας εν κινδύνω θα είναι άνηρτημένος εις καταφανή εκ τής θέσεως χειρισμού του ραδιοτηλεφώνου θέσιν.

Κανονισμός 16*Ραδιοτηλεφωνικά εγκαταστάσεις*

- (α) Η ραδιοτηλεφωνική εγκατάστασις θα περιλαμβάνη όργανα εκπομπής καί λήψεως καθός καί καταλλήλους πηγής ένεργείας (μνημονευόμενα εις τās άκολουθους παραγράφους ως «ό πομπός», «ό δέκτης», «ό δέκτης ραδιοτηλεφωνικής συχνότητας κινδύνου», καί «ή πηγή ένεργείας» αντίστοίχως).
- (β) Ο πομπός θα είναι ικανός νά μεταδίδη επί τής ραδιοτηλεφωνικής συχνότητος κινδύνου καί επί μιās τουλάχιστον έτέρας συχνότητος εις τās ζώνας μεταξύ 1.605 ΚΗΖ καί 2.850 ΚΗΖ χρησιμοποιών τήν κατηγορίαν εκπομπής τήν καθοριζομένην υπό τών κανονισμών Ραδιοεπικοινωνίας διά τās συχνότητας ταύτας.
Υπό κανονικάς συνθήκας λειτουργίας μία εκπομπή διπλής πλευρικής ζώνης (D.S.B.) ή εκπομπή μονής πλευρικής ζώνης (S.S.B.) μέ πλήρες φέρον κύμα (π.χ. Α3Η), θα έχη ποσοστόν διαμορφώσεως τουλάχιστον 70% εις τήν μεγίστην έντασιν. Διαμόρφωσις τής μονοπλεύρου εκπομπής (SSB) μέ μειωμένον ή εξαλειφθέν φέρον κύμα (Α3Α, Α3J) θα είναι τοιαύτη ώστε τό άποτέλεσμα (ή τά παράγωγα) τής ένδοδιαμορφώσεως δέν θα υπερβαινη τās τιμάς αι όποιαι δίδονται εις τούς Κανονισμούς Ραδιοεπικοινωνιών.
- (γ) (i) Εις τήν περίπτωσην φορτηγών πλοίων όλικης χωρητικότητος 500 κόρων καί άνω αλλά μικροτέρας τών 1.600 κόρων, ό πομπός θα έχη έλαχίστην

κανονικὴν ἐμβέλεια 150 μιλίων, ἤτοι θὰ εἶναι ἰκανὸς νὰ ἐκπέμπῃ εἰς τὴν ἐμβέλεια* ταύτην σήματα σαφῶς ἀντιληπτά ἀπὸ πλοίου εἰς πλοῖον ἐν καιρῷ ἡμέρας καὶ ὑπὸ κανονικὰς συνθήκας καὶ περιστάσεις. (Σαφῶς ἀντιληπτά σήματα δύνανται κανονικῶς νὰ λαμβάνωνται ἐάν ἡ τιμὴ R.M.S. τῆς ἐντάσεως τοῦ πεδίου τῆς παραγομένης εἰς τὸν δέκτην ὑπὸ τοῦ φέροντος μὴ διαμορφωμένου κύματος εἶναι τοῦλάχιστον 25 μικροβόλτ κατὰ μέτρον).

- (ii) Εἰς τὴν περίπτωσιν φορτηγῶν πλοίων ὀλικῆς χωρητικότητος 300 κόρων καὶ ἄνω ἀλλὰ μικροτέρας τῶν 500 κόρων:
- (1) διὰ τὰς ὑπαρχούσας ἐγκαταστάσεις ὁ πομπὸς θὰ ἔχῃ ἐλαχίστην κανονικὴν ἐμβέλεια 75 μιλίων τοῦλάχιστον, καὶ
 - (2) διὰ τὰς νέας ἐγκαταστάσεις ὁ πομπὸς θὰ παρέχῃ εἰς τὴν κεραίαν ἰσχύον τοῦλάχιστον 15 βάττ (μὴ διαμορφωμένον φέρον κύμα).

(δ) Ὁ πομπὸς θὰ εἶναι ἐφωδιασμένος διὰ προοριζομένου νὰ παράγῃ τὸ ραδιοηλεκτρονικὸν σήμα κινδύνου αὐτομάτου μέσου οὕτω πως ἐσχεδιασμένου ὥστε νὰ ἀποφεύγηται ἐνεργοποίησις ἐκ παραδρομῆς. Τὸ μέσον τοῦτο θὰ δύναται νὰ τίθεται ἐκτὸς λειτουργίας ἀνὰ πᾶσαν στιγμὴν ἵνα ἐπιτρέπεται ἡ ἄμεσος ἐκπομπὴ σήματος κινδύνου. Δέον ὅπως ὑφίστανται διατάξεις ἵνα κατὰ κανονικὰ διαστήματα ἐλέγχεται ἡ κανονικὴ ἀπόδοσις τοῦ ὡς ἄνω μέσου εἰς συχνότητος διαφόρους τῆς ραδιοηλεκτρονικῆς συχνότητος κινδύνου διὰ τῆς χρήσεως καταλλήλου τεχνητῆς κεραίας.

(ε) Τὸ ἀπαιτούμενον μέσον ὑπὸ τῆς παραγράφου (δ) τοῦ παρόντος Κανονισμοῦ θὰ πληροῖ τοὺς κατωτέρω ὄρους:

- (i) Ἡ ἀνοχὴ ἐπὶ τῆς συχνότητος ἐκάστου τόνου θὰ εἶναι $\pm 1,5$ τοῖς ἑκατόν.
- (ii) Ἡ ἀνοχὴ ἐπὶ τῆς διαρκείας ἐκάστου τόνου θὰ εἶναι ± 50 χιλιοστά τοῦ δευτερολέπτου.
- (iii) Τὸ μεταξύ δύο διαδοχικῶν τόνων διάστημα δέν θὰ ὑπερβαίῃ τὰ 50 χιλιοστά τοῦ δευτερολέπτου.
- (iv) Ὁ λόγος εὔρους τοῦ ἰσχυροτέρου τόνου πρὸς τὸν τοῦ ἀσθενεστεροῦ τόνου θὰ εὑρίσκειται μεταξύ 1 καὶ 1,2.

(στ) Ὁ ὑπὸ τῆς παραγράφου (α) τοῦ παρόντος Κανονισμοῦ ἀπαιτούμενος δέκτης θὰ εἶναι ἰκανὸς νὰ λαμβάνῃ ἐπὶ τῆς ραδιοηλεκτρονικῆς συχνότητος κινδύνου καὶ ἐπὶ μιᾶς τοῦλάχιστον ἑτέρας συχνότητος διαθεσίμου διὰ τοὺς ναυτικούς ραδιοηλεκτρονικούς σταθμούς εἰς τὰς ζῶνας μεταξύ 1.605 KHZ καὶ 2.850 KHZ διὰ χρησιμοποίησεως τῆς κατηγορίας ἐκπομπῆς τῆς καθοριζομένης ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας διὰ τὰς συχνότητος ταύτας. Ἐπί πλέον, ὁ δέκτης θὰ ἐπιτρέπῃ τὴν λήψιν ἐπὶ ἐτέρων τοιούτων συχνότητων καὶ εἰς τὰς κατηγορίας ἐκπομπῆς τὰς καθοριζομένας ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας, ὡς αὗται χρησιμοποιοῦνται διὰ τὴν ἐκπομπὴν Ραδιοηλεκτρονικῶς μετεωρολογικῶν δελτίων καὶ ἐτέρων τοιούτων ἀνακοινώσεων σχετικῶν πρὸς τὴν ἀσφάλειαν νευσιπλοΐας, ὡς ἡ Ἀρχὴ ἤθελε κρίνει ἀναγκαῖον. Ὁ δέκτης θὰ ἔχῃ ἀρκετὴν εὐαισθησίαν διὰ νὰ δίδῃ σήματα διὰ μεγαφώνου δταν ἡ ἐντασις εἰς τὴν εἴσοδον τοῦ δέκτου εἶναι χαμηλὴ μέχρι 50 μικροβόλτ.

(ζ) Ὁ χρησιμοποιούμενος δέκτης διὰ τὴν φυλακὴν ἐπὶ τῆς ραδιοηλεκτρονικῆς συχνότητος κινδύνου θὰ ρυθμίζεται ἐκ τῶν προτέρων εἰς τὴν συχνότητα ταύτην. Θὰ εἶναι ἐφωδιασμένος διὰ συσκευῆς φίλτρου ἢ τοιαύτης ἰκανῆς ὅπως διατηρῇ τὸ

* Ἐν ἐλλείψει μετρήσεων τῆς ἐντάσεως τοῦ πεδίου, δύναται νὰ γίνῃ δεκτὸν ὅτι ἡ ἐμβέλεια αὕτη θέλει ἐπιτευχθῆ με ἰσχύον 15 βάττ ἐπὶ τῆς κεραίας (μὴ διαμορφωμένον φέρον κύμα) με 27% ἀπόδοσιν τῆς κεραίας.

μεγάφωνον ἐν σιγῇ ἐφ' ὅσον δέν θά ὑφίσταται ραδιοτηλεφωνικόν σῆμα κινδύνου. Ἡ συσκευή θά εἶναι ἰκανή ὅπως εὐχερῶς τίθεται εἰς λειτουργίαν καί ἐκτός λειτουργίας καί θά δύναται νά χρησιμοποιηθῆτε, κατά τήν κρίσιν τοῦ πλοιάρχου, αἰ συνθήκαι εἶναι τοιαῦται ὥστε ἡ διατήρησις τῆς φυλακῆς ἀκροάσεως θά παρεκάλυε τήν ἀσφαλῆ ναυσιπλοΐαν τοῦ πλοίου.

(η) Ἦνα ἐπιτρέπεται ἡ ταχεῖα ἐναλλαγή ἀπό ἐκπομπῆς εἰς λῆψιν, ὅταν ἡ ἐναλλαγή ἐκτελεθῆται διά τῆς χειρός, τό χειριστήριον τοῦ μέσου ἐναλλαγῆς θά εἶναι τοποθετημένον, ἐφ' ὅσον εἶναι πρακτικῶς δυνατόν, ἐπί τοῦ μικροφώνου ἢ ἐπί τῆς συσκευῆς.

(θ) Ὄταν τό πλοῖον εὐρίσκεται ἐν πλῶ, θά ὑπάρχη κυρία πηγή ἐνεργείας διαθέσιμος ἀνά πᾶσαν στιγμὴν ἰκανή νά θέσῃ τήν ἐγκατάστασιν εἰς λειτουργίαν εἰς τήν κανονικὴν ἐμβέλεια τήν καθοριζομένην ὑπὸ τῆς παραγράφου (γ) τοῦ παρόντος Κανονισμοῦ. Ἦάν προβλέπονται συστοιχίαι συσσωρευτῶν, αὗται θά ἔχουν εἰς πάσας τὰς περιστάσεις ἰκανὴν χωρητικότητα ἵνα θέτουν εἰς λειτουργίαν τὸν πομπὸν καί τὸν δέκτην ἐπὶ ἕξ τοῦλάχιστον συνεχεῖς ὥρας ὑπὸ κανονικῆς συνθήκας λειτουργίας*. Εἰς τὰς ἐγκαταστάσεις φορτηγῶν πλοίων ὀλικῆς χωρητικότητος 500 κόνων καί ἄνω ἀλλὰ μικροτέρας τῶν 1.600 κόνων γενομένης τήν 15 Νοεμβρίου 1952 ἢ βραδύτερον θά προβλέπεται ἐφεδρική πηγή ἐνεργείας εἰς τὸ ἀνώτερον μέρος τοῦ πλοίου, ἐκτός ἐάν ἡ κυρία πηγή ἐνεργείας εἶναι τοποθετημένη ἐκεῖ.

(ι) Ἦ ἐφεδρική πηγή ἐνεργείας, ἐάν ὑπάρχη, δύναται νά χρησιμοποιηθῆται μόνον ὅπως τροφοδοτῆ:

- (i) τήν ραδιοτηλεφωνικὴν ἐγκατάστασιν.
- (ii) τὸν φωτισμὸν κινδύνου τὸν καθοριζόμενον ὑπὸ τῆς παραγράφου (δ) τοῦ Κανονισμοῦ 15 τοῦ παρόντος Κεφαλαίου, καί
- (iii) τὸ ὑπὸ τῆς παραγράφου (δ) τοῦ παρόντος Κανονισμοῦ ἀπαιτούμενον μέσον διά τήν παραγωγὴν τοῦ ραδιοτηλεφωνικοῦ σήματος κινδύνου.
- (iv) τήν ἐγκατάστασιν VHF.

(ια) Παρά τὰς διατάξεις τῆς παραγράφου (ι) τοῦ παρόντος Κανονισμοῦ, ἡ Ἀρχὴ δύναται νά ἐπιτρέψῃ τήν χρῆσιν τῆς ἐφεδρικῆς πηγῆς ἐνεργείας, ἐάν ὑπάρχη αὕτη, διά τό ραδιογωνιόμετρον, ἐάν ὑπάρχη τοῦτο, καί δι' ἀριθμὸν κυκλωμάτων κινδύνου χαμηλῆς ἰσχύος ἅτινα περιορίζονται ἐξ ὀλοκλήρου εἰς τὸ ἀνώτερον μέρος τοῦ πλοίου, ὡς τό τοῦ φωτισμοῦ κινδύνου ἐπὶ τοῦ καταστρώματος λέμβων, ὑπὸ τὸν ὄρον ὅτι τὰ ἐπιπρόσθετα φορτία δύναται εὐκόλως νά ἀποσυνδεθοῦν καί ἡ πηγή ἐνεργείας εἶναι ἐπαρκὺς χωρητικότητος ἵνα ἀντιμετωπίσῃ ταῦτα.

(ιβ) Ὄταν τό πλοῖον εὐρίσκεται ἐν πλῶ, αἱ συστοιχίαι, ἐάν ὑπάρχουν, θά τηροῦνται φορτισμέναι ἵνα ἀνταποκρίνονται εἰς τὰς ἀπαιτήσεις τῆς παραγράφου (θ) τοῦ παρόντος Κανονισμοῦ.

* Πρὸς τὸν σκοπὸν καθορισμοῦ τοῦ ἠλεκτρικοῦ φορτίου τό ὁποῖον θά χορηγῆται ὑπὸ τῶν συστοιχιῶν διά τὰς ὁποίας ἀπαιτεῖται νά ἔχουν περιθώριον χωρητικότητος ἕξ ὥρων, ὁ κατωτέρω τύπος συνιστάται ἐνδεικτικῶς:
 — τό $\frac{1}{2}$ τῆς ἀπαιτουμένης καταναλώσεως ρεύματος διά μετάδοσιν ὁμιλίας,
 — τήν κατανάλωσιν ρεύματος τοῦ δέκτου,
 — τήν κατανάλωσιν ρεύματος ὄλων τῶν προσθέτων φορτίων τὰ ὁποῖα αἱ συστοιχίαι δυνατόν νά τροφοδοτοῦν εἰς περίπτωσιν κινδύνου ἢ ἐπείγουσης ἀνάγκης.

(1γ) Θα προβλέπεται και θα εγκαθίσταται μία κεραία και εάν αυτή κρέμαται εκ στηριγμάτων άτινα υπόκεινται εις κραδασμούς, τότε εις τα πλοία όλικής χωρητικότητας 500 κόρων και άνω άλλα κατωτέρας των 1.600 κόρων, θα προστατεύεται αυτή έναντι θραύσεως. 'Επί πλέον, θα υπάρχει μία άμοιβή κεραία πλήρως συναρμο-λογημένη προς άμεσον αντικατάστασιν ή, όταν τούτο δεν είναι πρακτικώς δυνατόν, θα υπάρχει αρκετή ποσότης σύρματος κεραίας και μονωτήρες διά την τοποθέτησιν μιās άμοιβής κεραίας. Θα προβλέπωνται επίσης τα άπαιτούμενα εργαλεία διά την τοποθέτησιν τής κεραίας.

Κανονισμός 17

Σταθμοί ραδιοτηλεφώνου VHF.

(α) "Όταν, συμφώνως προς τον Κανονισμόν 18 του Κεφαλαίου V, προβλέπεται σταθμός ραδιοτηλεφώνου Λίαν 'Υψηλής Συχνότητος, ούτος θα εύρίσκειται εις τό άνωτάτον μέρος του πλοίου και θα περιλαμβάνη εγκατάστασιν ραδιοτηλεφώνου VHF πληροῦσαν τās άπαιτήσεις του Κανονισμού τούτου και περιλαμβάνουσαν έναν πομπόν και ένα δέκτην, μίαν πηγήν ενεργείας ικανήν να ενεργοποιη τούτους εις τὰ ανάλογα επίπεδα ενεργείας και μίαν κεραίαν ικανήν προς έπαρκή έκπομπήν και λήψιν σημάτων εις τās συχνότητας λειτουργίας.

(β) Μία τοιαύτη εγκατάστασις θα συμμορφουται προς τās άπαιτήσεις τās διαλαμβανομένας εις τούς κανονισμούς Ραδιοεπικοινωνιών, τās σχετικας προς τον έξοπλισμόν των χρησιμοποιούμενων εις την Κινητήν Ναυτικήν 'Υπηρεσίαν Ραδιοτηλεφώνου VHF και θα είναι ικανή να λειτουργή εις τούς καθοριζόμενους υπό των Κανονισμών Ραδιοεπικοινωνιών διαύλους ως και καθ' όν τρόπον θα ήδύνατο ν' άπαιτήση ή Συμβαλλομένη Κυβέρνησις ή αναφερομένη εις τον Κανονισμόν 18 του Κεφαλαίου V.

(γ) 'Η Συμβαλλομένη Κυβέρνησις δεν θ' άπαιτήση ή Ισχύς έξόδου του πομπού R.F. να είαι μεγαλύτερα των 10 βάττ. 'Η κεραία καθ' όσον είναι πρακτικόν, θα έχη άνεμπόδιστον θέαν προς όλας τās κατευθύνσεις.*

(δ) Θα είναι δυνατός ό άμεσος από τής γεφύρας έλεγχος όλων των διαύλων VHF των άπαιτούμένων διά την ασφάλειαν τής ναυσιπολοίας και κατάλληλος διά την αντίστοιχον θέσιν, και, όπου παρίσταται ανάγκη, θα υπάρχουν επίσης δυνατότητες ραδιοεπικοινωνιών από τās πλευράς τής γεφύρας.

Κανονισμός 18

Ραδιοτηλεφωνικόν Αυτόματον Σήμα Κινδύνου

(α) 'Η Ραδιοτηλεφωνική συσκευη αυτομάτου σήματος κινδύνου δέον να συμμορφουται προς τās κατωτέρω έλαχίστας άπαιτήσεις :

- (i) αι συχνότητες τής μεγίστης αντιδράσεως των συντονισμένων κυκλωμάτων και των ετέρων εξαρτημάτων έπιλογής τόνου θα υπόκεινται εις άνοχήν $\pm 1,5$ επί τοίς εκατόν εις εκάστην περίπτωσηιν. 'Επίσης ή αντίδρασις δεν θα πίπτη κάτωθεν του 50% τής μεγίστης αντιδράσεως διά συχνότητας εντός του 3% τής συχνότητος τής μεγίστης αντιδράσεως.

* Προς επεξήγησιν διευκρινίζεται ότι εκαστον πλοιον θα ήδύνατο να έξοπλισθ ή με μίαν κατακορύφως μεμονωμένην μονάδα άπολαυής κεραίας εις όνομαστικόν ύψος 9,15 μέτρων (30 ποδών) υπεράνω του ύδατος, με ένα πομπόν R.F. Ισχύος έξόδου 10 βάττ και με δέκτην εδαισθησίας 2 μικροβόλτ κατά πλάτος των άκροδεκτών διά λόγον σήματος προς τα παράσιτα 20 decibel.

- (ii) ἐν τῇ ἀπουσίᾳ θορύβου ἢ παρεμβολῆς, τὸ ὄργανον αὐτομάτου λήψεως θὰ εἶναι ἱκανὸν νὰ λειτουργῆ ἐκ τοῦ σήματος κινδύνου εἰς περίοδον οὐχὶ μικροτέραν τῶν τεσσάρων καὶ οὐχὶ μεγαλυτέραν τῶν ἑξ δευτερολέπτων·
 - (iii) τὸ ὄργανον αὐτομάτου λήψεως δέον ὅπως ἀντιδρᾷ εἰς τὸ σῆμα κινδύνου ὑπὸ συνθήκας διακοπτομένης παρεμβολῆς συνεπείᾳ ἀτμοσφαιρικῶν καὶ ἰσχυρῶν σημάτων διαφόρων τοῦ σήματος κινδύνου, κατὰ προτίμησιν χωρὶς νὰ ἀπαιτῆται προσαρμογὴ διὰ τῆς χειρὸς κατὰ τὴν διάρκειαν οἰασδῆποτε περιόδου τηρουμένης φυλακῆς διὰ τοῦ ὄργανου·
 - (iv) τὸ ὄργανον αὐτομάτου λήψεως δὲν θὰ ἐνεργοποιηθῆται ὑπὸ τῶν ἀτμοσφαιρικῶν ἢ ὑπὸ ἰσχυρῶν σημάτων διαφόρων τοῦ σήματος κινδύνου·
 - (v) τὸ ὄργανον αὐτομάτου λήψεως θὰ λειτουργῆ ἀποτελεσματικῶς εἰς ἀπόστασιν μεγαλυτέραν ἐκείνης ἣτις ἀπαιτεῖται διὰ μετάδοσιν ἱκανοποιητικῆς ὁμιλίας·
 - (vi) τὸ ὄργανον αὐτομάτου λήψεως θὰ δύναται νὰ λειτουργῆ παρὰ τὴν ὑπαρξιν κραδασμῶν, ὑγρασίας, μεταβολῶν θερμοκρασίας καὶ διαφοροποιήσεων τῆς παροχῆς ἐνεργείας εἰς βολτὰς ἀναλόγων πρὸς τὰς ἀντιξόους συνθήκας ἄτινας, ἀντιμετωπίζουν τὰ πλοῖα ἐν θαλάσῃ, καὶ θὰ δύναται νὰ συνεχίσῃ λειτουργοῦν ὑπὸ τοιαύτας συνθήκας·
 - (vii) τὸ ὄργανον αὐτομάτου λήψεως δέον ὅσον εἶναι πρακτικῶς δυνατόν νὰ δίδῃ προειδοποίησιν περὶ σφαλμάτων τὰ ὁποῖα θὰ παρεκάλυον τὴν κανονικὴν τῆς ἀπόδοσιν κατὰ τὴν διάρκειαν τῶν ὥρων φυλακῆς.
- (β) Πρὶν ἢ τύχῃ ἀποδοχῆς μία ραδιοτηλεφωνικὴ συσκευὴ αὐτομάτου σήματος κινδύνου, ἢ ἐνδιαφερομένη Ἄρχὴ δέον ὅπως ἱκανοποιηθῆ διὰ πρακτικῶν δοκιμῶν πραγματοποιουμένων ὑπὸ ἰσοδυνάμους συνθήκας λειτουργίας πρὸς ἐκείνας αἰτινας ἀπαντῶνται ἐν τῇ πράξει, ὅτι ἡ συσκευὴ πληροῖ τὴν παράγραφον (α) τοῦ παρόντος Κανονισμοῦ.

ΜΕΡΟΣ Δ'—ΗΜΕΡΟΛΟΓΙΑ—ΑΣΥΡΜΑΤΟΥ

Κανονισμὸς 19

Ἡμερολόγια Ἄσυρμάτου

(α) Τὸ ἡμερολόγιον ἀσυρμάτου (ἡμερολόγιον ὑπηρεσίας ἀσυρμάτου) ὅπερ ἀπαιτεῖται παρὰ τῶν Κανονισμῶν Ραδιοεπικοινωνίας διὰ πλοίων τὸ ὁποῖον διαθέτει ραδιοτηλεφωνικὸν σταθμὸν συμφώνως πρὸς τὸν Κανονισμὸν 3 ἢ τὸν Κανονισμὸν 4 τοῦ παρόντος Κεφαλαίου θὰ τηρῆται ἐντὸς τοῦ θαλάμου ραδιοτηλεγράφου κατὰ τὸν πλοῦν. Ἐκαστος ἀξιωματικὸς ἀσυρματιστῆς θὰ καταχωρῆ ἐν τῷ ἡμερολόγιῳ τὸ ὄνομα αὐτοῦ, τὰς ὥρας ἐνάρξεως καὶ λήξεως τῆς φυλακῆς αὐτοῦ, πάντα τὰ γεγονότα σχετικὰ μὲ τὴν ὑπηρεσίαν ἀσυρμάτου ἅτινα ἔλαβον χώραν διαρκούσης τῆς φυλακῆς αὐτοῦ καὶ ἅτινα φαίνονται νὰ ἔχουν σημασίαν διὰ τὴν ἀσφάλειαν τῆς ζωῆς ἐν θαλάσῃ. Ἐπὶ πλεόν, θὰ καταχωροῦνται εἰς τὸ ἡμερολόγιον :

- (i) Αἱ ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας ἀπαιτούμεναι καταχωρήσεις.
- (ii) Λεπτομέρειαι συντηρήσεως, περιλαμβανομένης τῆς ἀναγραφῆς φορτίσεως τῶν συστοιχιῶν κατὰ τὸν τύπον τὸν προσδιοριζόμενον ὑπὸ τῆς Ἄρχῆς.
- (iii) Ἡμερησίᾳ ἔκθεσις ἀναφέρουσα ὅτι ἐξεπληρώθησαν αἱ ἀπαιτήσεις τῆς παραγράφου (ιστ) τοῦ Κανονισμοῦ 10 τοῦ παρόντος Κεφαλαίου.

- (iv) Λεπτομέρειαι τῶν δοκιμῶν τοῦ ἐφεδρικοῦ πομποῦ καί τῆς ἐφεδρικής πηγῆς ἐνεργείας ἐκτελεσθεισῶν συμφώνως πρὸς τὴν παράγραφον (ιβ) τοῦ Κανονισμοῦ 10 τοῦ παρόντος Κεφαλαίου.
- (v) Ἐπί πλοίων ἐφωδιασμένων διὰ ραδιοτηλεγραφικοῦ αὐτομάτου σήματος κινδύνου, λεπτομέρειαι γενομένων δοκιμῶν συμφώνως πρὸς τὴν παράγραφον (γ) τοῦ Κανονισμοῦ 11 τοῦ παρόντος Κεφαλαίου.
- (vi) Λεπτομέρειαι συντηρήσεως τῶν συστοιχιῶν, περιλαμβανομένης τῆς ἀναγραφῆς τῆς φορτίσεως αὐτῶν (ἐὰν ἔλαβε χώραν) τῆς ἀπαιτουμένης ὑπὸ τῆς παραγράφου (ι) τοῦ Κανονισμοῦ 13 τοῦ παρόντος Κεφαλαίου καί λεπτομέρειαι τῶν δοκιμῶν τῶν ἀπαιτουμένων ὑπὸ τῆς παραγράφου ταύτης σχετικῶς πρὸς τοὺς πομποὺς τοὺς ἐγκατεστημένους εἰς τὰς μετὰ κινητήρος σωσιβίους λέμβους.
- (vii) Λεπτομέρειαι συντηρήσεως τῶν συστοιχιῶν, περιλαμβανομένης τῆς ἀναγραφῆς τῆς φορτίσεως αὐτῶν (ἐὰν ἔλαβε χώραν) τῆς ἀπαιτουμένης ὑπὸ τῆς παραγράφου (θ) τοῦ Κανονισμοῦ 14 τοῦ παρόντος Κεφαλαίου καί λεπτομέρειαι τῶν ἀπαιτουμένων δοκιμῶν ὑπὸ τῆς παραγράφου ταύτης σχετικῶν πρὸς τὰς φορητὰς συσκευὰς ἀσυρμάτου διὰ τὰ πλωτὰ σωστικά μέσα.
- (viii) Ὁ χρόνος κατὰ τὸν ὁποῖον ἡ φυλακὴ ἀκροάσεως διεκόπη συμφώνως πρὸς τὴν παράγραφον (δ) τοῦ Κανονισμοῦ 6 τοῦ παρόντος Κεφαλαίου, ὁμοῦ μετὰ τῶν λόγων καί τοῦ χρόνου κατὰ τὸν ὁποῖον ἡ φυλακὴ ἀκροάσεως ἐπανελήφθη.
- (β) Τὸ ἡμερολόγιον ἀσυρμάτου (ἡμερολόγιον ὑπηρεσίας ἀσυρμάτου) τὸ ἀπαιτούμενον ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας διὰ πλοίων ἐφωδιασμένων διὰ ραδιοτηλεφωνικοῦ σταθμοῦ συμφώνως πρὸς τὸν Κανονισμόν 4 τοῦ παρόντος Κεφαλαίου, θά τηρῆται εἰς τὴν θέσιν εἰς τὴν ὁποίαν τηρεῖται ἡ φυλακὴ ἀκροάσεως. Πᾶς προσοντοῦχος ραδιοτηλεφωνητῆς καί πᾶς πλοίαρχος, ἀξιωματικός ἢ μέλος πληρώματος ὅστις ἐκτελεῖ φυλακὴν ἀκροάσεως συμφώνως πρὸς τὸν Κανονισμόν 7 τοῦ παρόντος Κεφαλαίου, θά καταχωρῆ εἰς τὸ ἡμερολόγιον, μετὰ τοῦ ὀνόματος αὐτοῦ, τὰς λεπτομερείας πάντων τῶν συμβάντων σχετικῶν πρὸς τὴν ὑπηρεσίαν ἀσυρμάτου ἅτινα λαμβάνουν χώραν κατὰ τὴν φυλακὴν αὐτοῦ καί ἅτινα φαίνονται νὰ ἔχουν σημασίαν διὰ τὴν ἀσφάλειαν τῆς ἀνθρωπίνης ζωῆς ἐν θαλάσῃ. Ἐπί πλέον θά καταχωροῦνται εἰς τὸ ἡμερολόγιον:
- (i) Αἱ ἀπαιτούμεναι λεπτομέρειαι ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας.
- (ii) Ἡ ὥρα κατὰ τὴν ὁποίαν ἄρχεται ἡ φυλακὴ ἀκροάσεως δταν τὸ πλοῖον ἀποπλέη ἐκ τοῦ λιμένος καί ἡ ὥρα κατὰ τὴν ὁποίαν λήγει ἡ φυλακὴ κατὰ τὸν κατάπλου τοῦ πλοίου εἰς τὸν λιμένα.
- (iii) Ἡ ὥρα κατὰ τὴν ὁποίαν ἡ φυλακὴ ἀκροάσεως διεκόπη δι' οἰονδήποτε λόγον, καθὼς καί ἡ αἰτία διακοπῆς καί ἡ ὥρα κατὰ τὴν ὁποίαν ἡ φυλακὴ ἀκροάσεως ἐπανελήφθη.
- (iv) Λεπτομέρειαι τῆς συντηρήσεως τῶν συστοιχιῶν (ἐὰν ὑπάρχουν) περιλαμβανομένης τῆς ἀναγραφῆς φορτίσεως τῆς ἀπαιτουμένης ὑπὸ τῆς παραγράφου (ιβ) τοῦ Κανονισμοῦ 16 τοῦ παρόντος Κεφαλαίου.
- (v) Λεπτομέρειαι τῆς συντηρήσεως τῶν συστοιχιῶν, συμπεριλαμβανομένης τῆς ἀναγραφῆς τῆς φορτίσεως (ἐὰν ἔλαβε χώραν) τῆς ἀπαιτουμένης ὑπὸ τῆς παραγράφου (θ) τοῦ Κανονισμοῦ 14 τοῦ παρόντος Κεφαλαίου, καί λεπτομέρειαι τῶν ὑπὸ τῆς αὐτῆς παραγράφου ἀπαιτουμένων δοκιμῶν σχετικῶς πρὸς τὰς φορητὰς συσκευὰς ἀσυρμάτου διὰ πλωτὰ σωστικά μέσα.
- (γ) Τὰ ἡμερολόγια τοῦ ἀσυρμάτου θά εἶναι διαθέσιμα πρὸς ἐπιθεώρησιν ὑπὸ τῶν ἐξουσιοδοτημένων ὑπὸ τῆς Ἀρχῆς ἀρμοδίων διὰ τοιαύτην ἐπιθεώρησιν.

ΚΕΦΑΛΑΙΟΝ V
ΑΣΦΑΛΕΙΑ ΝΑΥΣΙΠΛΟΪΑΣ

Κανονισμός 1

Ἐφαρμογή.

Τό παρόν Κεφάλαιον, ἐκτός ἐάν ἄλλως ρητῶς ὀρίζεται ἐν τῷ Κεφαλαίῳ τούτῳ, ἐφαρμόζεται εἰς ὅλα τὰ πλοῖα δι' ὅλα τὰ ταξίδια, ἐξαιρέσει τῶν πολεμικῶν πλοίων καί τῶν πλοίων τῶν ναυσιπλοούντων ἀποκλειστικῶς ἐντός τῶν Μεγάλων Λιμνῶν τῆς Βορείου Ἀμερικῆς καί τῶν συγκοινωνούντων καί τῶν εἰσρεόντων εἰς ταύτας ὕδατων καί πρὸς ἀνατολάς τόσον, ὅσον ἢ κατωτέρω ἔξοδος τοῦ φράγματος τοῦ Ἁγίου Λαμβέρτου εἰς Μοντρεάλ τῆς Ἐπαρχίας Κεμπέκ (Καναδάς).

Κανονισμός 2

Σήματα Κινδύνου

(α) Ὁ πλοίαρχος παντός πλοίου ὄπερ συναντᾷ ἐπικινδύνους πάγους, ἐπικίνδυνον ἐγκαταλελειμμένον|ναυάγιον ἢ πάντα ἄλλον ἄμεσον κίνδυνον διὰ τὴν ναυσιπλοῖαν, ἢ τροπικὴν θυέλλαν, ἢ συναντᾷ θερμοκρασίας ἀέρος κατωτέρας τοῦ βαθμοῦ πήξεως ἐν συνδυασμῷ μετ' ἀνέμων δυνάμεως καταγίδος, προκαλούντων τὴν ἐπικάθισιν πάγου ἐπὶ τῶν ὑπερκατασκευῶν, ἢ ἀνέμους δυνάμεως 10 ἢ ἀνωτέρας τῶν 10 τῆς κλίμακος Μπῶφορ διὰ τοὺς ὁποίους δέν ἔχει ληφθῆ σῆμα θυέλλης, ὑποχρεοῦται νά πληροφορηθῆσιν περὶ τούτου διὰ παντός εἰς τὴν διάθεσίν του μέσου τὰ ἐν τῇ γειτνιαζούσῃ περιοχῇ πλοῖα, καθὼς καί τὰς ἀρμοδίας Ἀρχάς τοῦ πρώτου σημείου τῆς ἀκτῆς μετὰ τοῦ ὁποίου δύναται νά ἐπικοινωνήσῃ. Ὁ τύπος κατὰ τὸν ὁποῖον διαβιβάζεται ἡ πληροφορία δέν εἶναι ὑποχρεωτικός. Δύναται νά μεταδίδεται εἴτε εἰς ἀπλὴν γλῶσσαν (κατὰ προτίμησιν Ἀγγλικήν), εἴτε διὰ μέσου τοῦ Διεθνoῦς Κώδικος Σημάτων. Θά μεταδίδεται πρὸς πάντα τὰ γειτνιάζοντα πλοῖα καί θά ἀποστέλλεται εἰς τὸ πρῶτον σημείον τῆς ἀκτῆς μετὰ τοῦ ὁποίου δυνατόν νά γίνῃ ἐπικοινωνία, μετὰ τὴν αἴτησιν ὅπως μεταδοθῆ εἰς τὰς ἀρμοδίας Ἀρχάς.

(β) Πᾶν συμβαλλόμενον Κράτος θά λάβῃ τὰ ἀναγκαῖα μέτρα ἵνα ἐξασφαλίζεται ὅτι δταν λαμβάνεται πληροφορία περὶ τῶν κινδύνων τῶν προσδιορισθένων εἰς τὴν παράγραφον (α), αὕτη θά φέρεται ταχέως εἰς γνῶσιν τῶν ἐνδιαφερομένων καί θά κοινοποιῆται εἰς τὰ ἄλλα ἐνδιαφερόμενα Κράτη.

(γ) Ἡ μεταβίβασις σημάτων ἀφορώντων εἰς τοὺς καθοριζομένους κινδύνους πραγματοποιεῖται ἀτελῶς διὰ τὰ ἐνδιαφερόμενα πλοῖα.

(δ) Εἰς ὅλα τὰ ραδιοσήματα τὰ διαβιβαζόμενα συμφώνως πρὸς τὴν παράγραφον (α) τοῦ παρόντος Κανονισμοῦ θά προηγήται τὸ Σῆμα Ἀσφαλείας, χρησιμοποιουμένης τῆς διαδικασίας τῆς καθοριζομένης ὑπὸ τῶν Κανονισμῶν Ραδιοεπικοινωνίας τῶν ὀριζομένων ὑπὸ τοῦ Κανονισμοῦ 2 τοῦ Κεφαλαίου IV.

Κανονισμός 3

Πληροφορίαι Ἀπαιτούμεναι εἰς τὰ Σήματα Κινδύνου

Αἱ ἀκόλουθοι πληροφορίαι ἀπαιτοῦνται εἰς τὰ σήματα κινδύνου:

(α) Πάγοι, Ἐγκαταλελειμμένα Ναυάγια καί ἄλλοι ἄμεσοι Κίνδυνοι εἰς τὴν Ναυσιπλοῖαν

- (i) Τό είδος τοῦ πάγου, τοῦ ἐγκαταλελειμένου ναυαγίου ἢ τοῦ κινδύνου εἴτινα παρατηρήθησαν.
- (ii) Ἡ θέσις τοῦ πάγου, τοῦ ἐγκαταλελειμένου ναυαγίου ἢ τοῦ κινδύνου κατά τήν τελευταίαν γενομένην παρατήρησιν.
- (iii) Ἡ ὄρα καί ἡ ἡμερομηνία (μέση ὄρα Γκρήνουϊτς) κατά τὰς ὁποίας παρατηρήθη τελευταίως ὁ κίνδυνος.
- (β) *Τροπικαί θύελλαι* (Λαίλαπες εἰς τὰς Δυτικές Ἰνδίας, Τυφῶνες εἰς τήν Σινικήν Θάλασσαν, Κυκλώνες εἰς τὰ Ἰνδικά ὕδατα καί Θύελλαι ὁμοίας φύσεως εἰς ἄλλας περιοχάς).
- (i) Ἀνακοίνωσις διτι συνητήθη τροπική θύελλα. Ἡ ὑποχρέωσις αὐτῆ δέον νά ἐρμηνεύεται ἐν εὐρείᾳ πνεύματι καί ἡ πληροφορία νά διαβιβάζεται ὁσάκις ὁ πλοίαρχος ἔχει πάντα λόγον νά πιστεύῃ διτι τροπική θύελλα ἀναπτύσσεται ἢ ὑπάρχει εἰς τήν γειτνιάζουσαν περιοχὴν.
- (ii) Ὡρα, ἡμερομηνία (μέση ὄρα Γκρήνουϊτς) καί θέσις τοῦ πλοίου ὅταν ἐγένετο ἡ παρατήρησις.
- (iii) Τό μήνυμα θά περιλαμβάνῃ περισσοτέρας, ὅσον εἶναι δυνατόν, ἐκ τῶν ἀκολουθῶν πληροφοριῶν:
- Τήν βαρομετρικὴν πίεσιν, κατά προτίμησιν διορθωμένην (δεικνυομένην εἰς χιλιοβαρίδας, χιλιοστόμετρα ἢ δακτύλους καί ἐάν εἶναι διορθωμένη ἢ μή).
 - Τήν βαρομετρικὴν τάσιν (τήν ἐπελθοῦσαν ἀλλαγὴν βαρομετρικῆς πιέσεως κατά τὰς τρεῖς τελευταίας ὥρας).
 - Τήν πραγματικὴν διεύθυνσιν ἀνέμου.
 - Τήν δυνάμιν ἀνέμου (κλίμαξ Μπωφόρ).
 - Τήν κατάστασιν τῆς θαλάσσης (εὐθαλασσία, μετρία, τεταραγμένη, τρικυμώδης).
 - Τήν ἀποθαλασσίαν (ἐλαφρά, μετρία, ἰσχυρά) καί τήν πραγματικὴν διεύθυνσιν ἐκ τῆς ὁποίας προέρχεται. Ἡ περίοδος ἢ τὸ μήκος τῆς ἀποθαλασσίας (βραχεῖα, μέση, μακρά) θά ἦτο ἐπίσης χρήσιμος.
 - Τήν ἀληθῆ πορείαν καί τήν ταχύτητα τοῦ πλοίου.
- (γ) *Μεταγενέστεραι Παρατηρήσεις*
- Ὅσακις ὁ πλοίαρχος ἔχει ἀναφέρει τροπικὴν ἢ ἄλλην ἐπικίνδυνον θύελλαν, εὐκταῖον θά εἶναι, οὐχὶ ὅμως καί ὑποχρεωτικόν, νά ἐκτελοῦνται περαιτέρω παρατηρήσεις καί νά διαβιβάζωνται ἀνά ὥραν, ἐάν εἶναι πρακτικῶς δυνατόν, ἀλλ' ἐν πάσῃ περιπτώσει κατά διαστήματα οὐχὶ μεγαλύτερα τῶν τριῶν ὥρων, καθ' ὅλην τήν διάρκειαν παραμονῆς τοῦ πλοίου ὑπὸ τήν ἐπίδρασιν τῆς θυέλλης.
- (δ) *Ἄνεμοι δυνάμεως 10 ἢ ἀνωτέρας τῆς κλίμακος Μπωφόρ διὰ τοὺς ὁποίους δέν ἔχει ληφθῆ μήνυμα θυέλλης.*
- Ἡ περίπτωση αὐτῆ ἀφορᾷ ἄλλας θυέλλας πλὴν τῶν τροπικῶν τῶν ἀναφερομένων εἰς τήν παράγραφον (β). Ὅταν συναντᾶται τοιαύτη θύελλα, τὸ σῆμα θά περιλαμβάνῃ ὁμοίας πληροφορίας πρὸς τὰς ἀναφερομένας εἰς τήν παράγραφον (β) ἐξαιρουμένων τῶν λεπτομερειῶν τῶν ἀφορωσῶν τήν κατάστασιν τῆς θαλάσσης καί τῆς ἀποθαλασσίας.

- (ε) *Θερμοκρασία άέρος κατώτεραι του βαθμού πήξεως εν συνδυασμῶ μετά άνέμων δυνάμεως καταγίδος αί όποια προξενούν σοβαράν συμπύκνωσιν πάγου επί τών ύπερκατασκευών.*
- (ι) *Ώρα καί ήμερομηνία (μέση ὠρα Γκρήνουϊτς).*
- (ii) *Θερμοκρασία άέρος.*
- (iii) *Θερμοκρασία θαλάσσης (έάν είναι δυνατόν).*
- (iv) *Ίσχύς άνέμου καί διεύθυνσις.*

Παραδείγματα

Πάγος

ΤΤΤ Πάγος. Μέγα παγόβουνον έθεάθη εις 4605 Β., 4410 Δ., ὠρα 0800 GMT. Μαΐου 15.

Ναύγια εγκαταλελειμμένα

ΤΤΤ Ναύγιον εγκαταλελειμμένον Παρατηρηθέν ναύγιον εγκαταλελειμμένον σχεδόν εν ύποπλεύσει εις 4006 Β., 1243 Δ., ὠραν 1630 GMT, ΄Απριλίου 21.

Κίνδυνος εις ναυσιπλοϊαν

ΤΤΤ Ναυσιπλοία. Πυρσωρίς ΄Αλφα εκτός θέσεώς της, 1800 GMT. ΄Ιανουαρίου 3.

Τροπική θύελλα

ΤΤΤ Θύελλα, 0030 GMT, Αύγουστου 18, 2004 Β., 11354 Α., Βαρόμετρον διορθωμένον 994 χιλιοβαρίδες, τάσις εις πῶσιν 6 χιλιοβαρίδες. ΄Ανεμος ΒΔ, δύναμις 9, Ισχυραί ριπαί. ΄Ισχυρά άποθαλασσία άγατολικῶς. Πορεία 067,5 κόμβοι.

ΤΤΤ Θύελλα. ΄Ενδείξεις προσεγγίσεως λαίλαπος. 1300 GMT. Σεπτεμβρίου 14, 2200 Β., 7326 Δ., Βαρόμετρον διορθωμένον 29,64 δάκτυλοι, τάσις πῶσεως 0,015 δάκτυλοι. ΄Ανεμος ΒΑ, δύναμις 8, συχνοί καταιγισμοί βροχής. Πορεία 035,9 κόμβοι.

ΤΤΤ Θύελλα. Συνθήκαι δεικνύουσιν σχηματισμόν Ισχυροῦ κυκλῶνος. 0200 GMT Μαΐου 4, 1620 Β., 9203 Α., Βαρόμετρον μή διορθωμένον 753 χιλιοστόμετρα, τάσις πῶσεως 5 χιλιοστόμετρα. ΄Ανεμος Ν πρὸς Δ. δύναμις 5, Πορεία 300, 8 κόμβοι.

ΤΤΤ Θύελλα. Τυφών πρὸς ΝΑ. 0300 GMT, 12 ΄Ιουνίου. 1812 Β., 12605 Α., Βαρόμετρον πίπτον ταχέως. ΄Ανεμος αὐξάνων άπό Β.

ΤΤΤ Θύελλα. Δύναμις άνέμου 11, δέν ελήφθη είδοποίησις θυέλλης, 0300 GMT, Μαΐου 4, 4830 Β., Δ., Βαρόμετρον διορθωμένον 983 χιλιοβαρίδες, τάσις πῶσεως 4 χιλιοβαρίδες. ΄Ανεμος ΝΔ, δύναμις 11 μεταβαλλομένη. Πορεία 260, 6 κόμβοι.

΄Επικάθισις πάγου

ΤΤΤ Σοβαρά επικάθισις πάγου. 1400 GMT, Μαρτίου 2, 69 Β., 10 Δ., Θερμοκρασία άέρος 18. Θερμοκρασία θαλάσσης 29, ΄Ανεμος ΒΑ., δύναμις 8.

Κανονισμός 4

Μετεωρολογικαί ΄Υπηρεσίαι

(α) Αί Συμβαλλόμεναι Κυβερνήσεις άναλαμβάνουν την ύποχρέωσιν νά ενθαρρύνουν την συλλογήν ύπό τών εν πλῶ πλοίων μετεωρολογικῶν στοιχείων καί νά μεριμνούν διά την εξέτασιν αὐτῶν, διάδοσιν καί άνταλλαγην αὐτῶν κατά τόν λυσιτελέστερον τρόπον πρὸς τόν σκοπόν εξυπηρετήσεως τῆς ναυτιλίας. Αί ΄Αρχαί θά ενθαρρύνουν την χρῆσιν ὀργάνων μεγάλου βαθμοῦ ακριβείας, καί θά διευκολύνουν τόν έλεγχον τών τοιούτων ὀργάνων, όταν ζητῆται τοῦτο.

(β) Ἰδιαιτέρως αἱ Συμβαλλόμεναι Κυβερνήσεις ἀναλαμβάνουν νά συνεργάζωνται διὰ τὴν ἐφαρμογὴν, ὅσον εἶναι πρακτικῶς δυνατόν, τῶν ἀκολουθῶν μετεωρολογικῶν διατάξεων :

- (i) Νά προειδοποιῶν τὰ πλοῖα διὰ καταιγίδας, θυέλλας καὶ τροπικὰς θυέλλας δι' ἀμφοτέρων τῶν μέσων, ἤτοι τόσον δι' ἐκπομπῆς ραδιομηνυμάτων ὅσον καὶ δι' ἐπιδείξεως καταλλήλων σημάτων εἰς σημεῖα τῆς ἀκτῆς.
- (ii) νά ἐκδίδουν ἡμερησίως διὰ τοῦ ἀσυρμάτου μετεωρολογικὰ δελτία κατάλληλα διὰ τὴν ναυτιλίαν, περιέχοντα πληροφορίας περὶ τῶν ὑφισταμένων συνθηκῶν καιροῦ, κυματισμοῦ καὶ πάγου, προγνωστικὰ καί, ἐάν εἶναι δυνατόν, ἐπαρκεῖς προσθέτους πληροφορίας διὰ τὸν καταρτισμὸν ἐν πλῆ ἀπλῶν μετεωρολογικῶν χαρτῶν καὶ νά ἐνθαρρύνουν ἐπίσης τὴν μετάδοσιν καταλλήλων πανομοιοτύπων μετεωρολογικῶν χαρτῶν.
- (iii) Νά καταρτίζουν καὶ νά ἐκδίδουν τὰ ἀναγκαίουδντα δημοσιεύματα διὰ τὴν ἀποτελεσματικὴν διεξαγωγὴν μετεωρολογικῶν ἐργασιῶν ἐν πλῆ καὶ νά μεριμνοῦν, ὅσον εἶναι πρακτικῶς δυνατόν, διὰ τὴν δημοσίευσιν καὶ τὴν διάθεσιν ἡμερησίων μετεωρολογικῶν χαρτῶν πρὸς πληροφoρίαν τῶν ἀποπλεόντων πλοίων.
- (iv) Νά μεριμνοῦν ὅπως ἐπιλεγόμενα πλοῖα ἐφοδιάζονται διὰ δεδοκιμασμένων ὀργάνων (καθὼς βαρόμετρον, βαρογράφον, ψυχρόμετρον καὶ κατάλληλον συσκευὴν διὰ τὴν μέτρησιν τῆς θερμοκρασίας τῆς θαλάσσης) προοριζομένων διὰ τὴν ὑπηρεσίαν ταύτην καὶ νά προβαίνουν εἰς μετεωρολογικὰς παρατηρήσεις καθ' ὄρισμένης συμβατικῆς ὥρας διὰ συνοπτικὰς παρατηρήσεις ἐπιφανείας (τετράκις τῆς ἡμέρας τοῦλάχιστον, ὁσάκις αἱ περιστάσεις τὸ ἐπιτρέπουν) καὶ νά ἐνθαρρύνουν ἄλλα πλοῖα νά λαμβάνουν παρατηρήσεις ὑπὸ ἄλλην μορφήν, ἰδιαιτέρως ὅταν εὐρίσκονται εἰς περιοχὰς ἐνθα ἢ ναυσιπλοῖα εἶναι ἀραιά. Τὰ πλοῖα ταῦτα νά μεταδίδουν τὰς παρατηρήσεις τῶν διὰ τοῦ ἀσυρμάτου πρὸς ἐξυπηρέτησιν τῶν διαφορῶν ἐπιστήμων μετεωρολογικῶν ὑπηρεσιῶν, ἐπαναλαμβάνοντα τὰς πληροφορίας τῶν πρὸς ἐξυπηρέτησιν τῶν εἰς γεινιάζουσαν περιοχὴ πλοίων. Ὄταν γεινιάζουν πρὸς τροπικὴν θυέλλαν ἢ πρὸς ὑποπτον τροπικὴν θυέλλαν τὰ πλοῖα δεῶν νά ἐνθαρρύνωνται ὅπως λαμβάνουν καὶ μεταδίδουν τὰς παρατηρήσεις τῶν εἰς συχνότερα διαστήματα ὁσάκις εἶναι πρακτικῶς δυνατόν, λαμβανομένων ὑπ' ὄψιν τῶν εἰς καθήκοντα ναυσιπλοῖας ἀπασχολήσεων τῶν ἀξιωματικῶν τοῦ πλοίου κατὰ τὴν διάρκειαν τῆς θυέλλης.
- (v) Νά μεριμνοῦν διὰ τὴν λῆψιν καὶ μετάδοσιν ὑπὸ τῶν παρακτίων σταθμῶν ἀσυρμάτου μετεωρολογικῶν δελτίων ἐκ τῶν πλοίων καὶ πρὸς τὰ πλοῖα. Εἰς τὰ πλοῖα ἅτινα δὲν δύνανται νά ἐπικοινωνήσουν ἀπ' εὐθείας μετὰ τὴν ἀκτὴν θὰ συνιστᾶται ὅπως μεταδίδουν τὰ μετεωρολογικὰ τῶν δελτία μέσῳ τῶν ὠκεανοπόρων πλοίων μετεωρολογικῆς ὑπηρεσίας, ἢ μέσῳ ἄλλων πλοίων ἅτινα εὐρίσκονται εἰς ἐπαφὴν μετὰ τὴν ἀκτὴν.
- (vi) Νά συνιστοῦν εἰς ὅλους τοὺς πλοιάρχους ὅπως εἰδοποιῶν τὰ γεινιάζοντα πλοῖα καὶ τοὺς παρακτίους σταθμοὺς ὁσάκις συναντοῦν ἄνεμον ταχύτητος 50 κόμβων καὶ ἄνω (δύναμις 10 κλίμακος Μπωφόρ).
- (vii) Νά προσπαθοῦν δι' ἐπίτευξιν ὁμοιόμορφου διαδικασίας, καί, ὅσον εἶναι πρακτικῶς δυνατόν, νά συμμορφοῦνται πρὸς τοὺς Τεχνικοὺς Κανονισμοὺς καὶ πρὸς τὰς γενομένας συστάσεις ὑπὸ τοῦ Διεθνoῦς Μετεωρολογικοῦ Ὄργανισμοῦ, εἰς τὸν ὁποῖον αἱ συμβαλλόμεναι Κυβερνήσεις δύνανται νά ἀναφέρωνται πρὸς μελέτην καὶ συμβουλὴν ἐπὶ παντὸς ζητήματος μετεωρολογικῆς φύσεως ὅπερ δυνατόν νά ἀνακύψῃ κατὰ τὴν ἐφαρμογὴν τῆς παρoῦσης Συμβάσεως.

(γ) Αί πληροφορίες περί ουδ' ο παρών Κανονισμός θά δίδονται υπό τόν τύπον τόν προβλεπόμενον διά μετάδοσιν και θά μεταδίδονται κατά την σειράν προτεραιότητος, την καθοριζομένην υπό τών Κανονισμών Ραδιοεπικοινωνίας, κατά δέ την μετάδοσιν «πρός δλους τούς σταθμούς» μετεωρολογικῶν πληροφοριῶν, προγνωστικῶν και προειδοποιήσεων, ὅλοι οἱ σταθμοὶ τῶν πλοίων δέον νά συμμορφοῦνται πρὸς τὰς διατάξεις τῶν Κανονισμῶν Ραδιοεπικοινωνίας.

(δ) Προγνωστικά, προειδοποιήσεις, συνοπτικά και ἄλλαι μετεωρολογικαὶ ἐκθέσεις προοριζόμεναι διά πλοῖα, θά ἐκπέμπωνται και θά μεταδίδονται υπό τῆς ἐθνικῆς ὑπηρεσίας ἐκ τῆς καταλληλοτέρας θέσεως πρὸς ἐξυπηρέτησιν τῶν διαφόρων ζωνῶν και περιοχῶν, συμφώνως πρὸς τὰς ἀμοιβαίας συμφωνίας τὰς γενομένας μεταξὺ τῶν ἐνδιαφερομένων Συμβαλλομένων Κυβερνήσεων.

Κανονισμός 5

Ἑπηρεσία Περιπολίας Πάγων

(α) Αἱ συμβαλλόμεναι Κυβερνήσεις ἀναλαμβάνουν τὴν ὑποχρέωσιν νά διατηροῦν ὑπηρεσίαν περιπολίας πάγων και ὑπηρεσίαν μελέτης και παρατηρήσεων τῆς καταστάσεως τῶν πάγων ἐν τῷ Βορείῳ Ἀτλαντικῷ. Καθ' ὅλην τὴν διάρκειαν τῆς ἐποχῆς τῶν πάγων, τὰ νοτιοανατολικά, τὰ νότια και τὰ νοτιοδυτικά ὄρια τῶν περιοχῶν τῶν παγοβούνων πλησίον τῶν Μεγάλων Ὑφάλων τῆς Νέας Γῆς θά ἐπιτηροῦνται πρὸς τὸν σκοπὸν ὅπως πληροφοροῦν τὰ διερχόμενα πλοῖα περὶ τῆς ἐκτάσεως τῆς ἐπικινδύνου ταύτης περιοχῆς, πρὸς μελέτην τῆς καταστάσεως τῶν πάγων γενικῶς και πρὸς τὸν σκοπὸν ὅπως παρέχεται βοήθεια εἰς τὰ πλοῖα και τὰ πληρώματα τὰ ἔχοντα ἀνάγκην τοιαύτης ἐντὸς τῆς ἀκτίνας δράσεως τῶν περιπολικῶν πλοίων. Κατὰ τὸ ὑπόλοιπον ἔτος ἡ μελέτη και ἡ παρατήρησις τῆς καταστάσεως τῶν πάγων θά τηρῆται ἐφ' ὅσον κρίνεται σκόπιμον.

(β) Εἰς πλοῖα και ἀεροσκάφη χρησιμοποιοῦμενα εἰς τὴν ὑπηρεσίαν περιπολίας πάγων και τὴν μελέτην και παρατήρησιν τῆς καταστάσεως τῶν πάγων δύνανται νά ἀνατεθοῦν υπό τῆς διαχειριστρίας Κυβερνήσεως και ἄλλα καθήκοντα, υπό τὸν ὄρον ὅπως τὰ καθήκοντα ταῦτα μὴ παρεμποδίζουν τὴν κυρίαν ἀποστολὴν των ἢ μὴ αὐξάνουν τὰ ἐξοδα τῆς ὑπηρεσίας ταύτης.

Κανονισμός 6

Περιπολία Πάγων. Διαχειρίσις και Δαπάναι

(α) Ἡ Κυβέρνησις τῶν Ἠνωμένων Πολιτειῶν τῆς Ἀμερικῆς δέχεται νά συνεχίσῃ τὴν διαχείρισιν τῆς ὑπηρεσίας περιπολίας πάγων και τὴν μελέτην και παρατήρησιν τῆς καταστάσεως τῶν πάγων, περιλαμβανομένης τῆς μεταδόσεως τῶν οὕτω ἐπιτευχθεισῶν πληροφοριῶν. Αἱ Συμβαλλόμεναι Κυβερνήσεις ἰδιαιτέρως ἐνδιαφερόμεναι διά τὰς ὑπηρεσίας ταύτας ἀναλαμβάνουν τὴν ὑποχρέωσιν νά συνεισφέρουν εἰς τὰς δαπάνας συντηρήσεως και λειτουργίας τῶν ὑπηρεσιῶν τούτων. Ἐκάστη εἰσφορὰ θά βασίζεται ἐπὶ τῆς ὀλικῆς χωρητικότητος τῶν πλοίων ἐκάστης συνεισφέρουσης Κυβερνήσεως τῶν διερχομένων διά τῶν περιοχῶν τῶν παγοβούνων τῶν ἐπιτηρουμένων υπό τῆς Ἑπηρεσίας Περιπολίας Πάγων. Ἰδιαιτέρως ἐκάστη Συμβαλλομένη Κυβέρνησις εἰδικῶς ἐνδιαφερομένη ἀναλαμβάνει τὴν ὑποχρέωσιν νά συνεισφέρῃ ἐτησίως εἰς τὰς δαπάνας συντηρήσεως και λειτουργίας τῶν ὑπηρεσιῶν τούτων ποσὸν καθοριζόμενον υπό τῆς ἀναλογίας τοῦ συνόλου τῆς ὀλικῆς χωρητικότητος τῶν πλοίων τῆς Συμβαλλομένης ταύτης Κυβερνήσεως τῶν διερχομένων κατὰ τὴν ἐποχὴν τῶν πάγων διά τῶν περιοχῶν τῶν παγοβούνων τῶν ἐπιτηρουμένων υπό τῆς Ἑπηρεσίας Περιπολίας Πάγων πρὸς τὸ σύνολον τῆς ὀλικῆς χωρητικότητος τῶν πλοίων ὄλων τῶν Συμβαλλομένων Κυβερνήσεων τῶν διερχομένων κατὰ τὴν ἐποχὴν τῶν πάγων διά τῶν περιοχῶν τῶν

ἐπιτηρουμένων ὑπὸ τῆς Ὑπηρεσίας Περιπολίας Πάγων. Αἱ μὴ Συμβαλλόμεναι Κυβερνήσεις αἵτινες ἐνδιαφέρονται εἰδικῶς δύνανται νὰ συνυσφέρουν, ἐπὶ τῆς αὐτῆς βάσεως, εἰς τὴν δαπάνην συντηρήσεως καὶ λειτουργίας τῶν ὑπηρεσιῶν τούτων. Ἡ διαχειρίστρια Κυβέρνησις θὰ παρέχῃ ἐτησίως εἰς ἕκαστην συνεισφέρουσα Κυβέρνησιν ἕκθεσιν τῆς ὀλικῆς δαπάνης συντηρήσεως καὶ λειτουργίας τῆς Περιπολίας Πάγων καὶ τῆς κατ' ἀναλογίαν συμμετοχῆς ἐκάστης Συμβαλλομένης Κυβερνήσεως.

(β) Ἐκαστὴ τῶν συνεισφερουσῶν Κυβερνήσεων ἔχει τὸ δικαίωμα νὰ τροποποιῇ ἢ νὰ διακόπτῃ τὴν εἰσφορὰν αὐτῆς καὶ ἄλλαι Συμβαλλόμεναι Κυβερνήσεις δύνανται νὰ ἀναλάβουν νὰ συνεισφέρουν εἰς τὴν δαπάνην. Ἡ συνεισφέρουσα Κυβέρνησις ἥτις θὰ κάμῃ χῆσιν τοῦ δικαιώματος τούτου θὰ ἐξακολουθῇ νὰ εἶναι ὑπόχρεως διὰ τὴν τρέχουσαν εἰσφορὰν τῆς μέχρι τῆς 1ης Σεπτεμβρίου, ἥτις ἔπεται τῆς ἡμερομηνίας κατὰ τὴν ὁποίαν εἰδοποίησε περὶ τῆς προθέσεως αὐτῆς ὅπως τροποποιήσῃ ἢ διακόψῃ τὴν εἰσφορὰν τῆς. Ἴνα κάμῃ χῆσιν τοῦ ρηθέντος δικαιώματος δεόν ὅπως εἰδοποίησῃ τὴν διαχειρίστριαν Κυβέρνησιν ἕξ τοῦλάχιστον μηνῆς πρὸ τῆς ρηθείσης 1ης Σεπτεμβρίου.

(γ) Ἐάν, καθ' οἰονδήποτε χρόνον, ἡ Κυβέρνησις τῶν Ἠνωμένων Πολιτειῶν ἐπιθυμῆσῃ νὰ διακόψῃ τὰς ὑπηρεσίας ταύτας, ἢ ἐάν μία τῶν συνεισφερουσῶν Κυβερνήσεων ἐκφράσῃ τὴν ἐπιθυμίαν νὰ ἀπαλλαγῇ τῆς εὐθύνης διὰ τὴν χρηματικὴν εἰσφορὰν τῆς, ἢ νὰ τροποποιήσῃ τὴν εἰσφορὰν τῆς ἢ ἕτερα Συμβαλλόμενη Κυβέρνησις ἤθελεν ἐπιθυμῆσαι ὅπως ἀναλάβῃ νὰ εἰσφέρῃ εἰς τὴν δαπάνην, αἱ συνεισφέρουσαι Κυβερνήσεις θέλουν διακανονίσει τὸ ζήτημα συμφώνως πρὸς τὰ ἀμοιβαία αὐτῶν συμφέροντα.

(δ) Αἱ συνεισφέρουσαι Κυβερνήσεις θὰ ἔχουν τὸ δικαίωμα κατόπιν κοινῆς συμφωνίας νὰ προβαίνουν ἀπὸ καιροῦ εἰς καιρὸν εἰς τροποποιήσεις τῶν διατάξεων τοῦ παρόντος Κανονισμοῦ καὶ τοῦ Κανονισμοῦ 5 τοῦ παρόντος Κεφαλαίου ὅσας ἤθελον κρίνει ἐπιθυμητάς.

(ε) Ὅπου ὁ παρὼν Κανονισμὸς προβλέπει ὅτι μέτρον τι δύναται νὰ ληφθῇ κατόπιν συμφωνίας μεταξὺ τῶν Συμβαλλομένων Κυβερνήσεων, αἱ ὑποβαλλόμεναι προτάσεις ὑπὸ οἰασδήποτε Συμβαλλομένης Κυβερνήσεως πρὸς λήψιν τοῦ μέτρου τούτου θὰ κοινοποιῶνται πρὸς τὴν διαχειρίστριαν Κυβέρνησιν, ἥτις θὰ ἐπικοινωνήσῃ μετὰ τῶν ἄλλων συνεισφερουσῶν Κυβερνήσεων πρὸς τὸν σκοπὸν νὰ ἐξακριβώσῃ ἐὰν δέχωνται τὰς τοιαύτας προτάσεις. Τὰ ἀποτελέσματα τῆς τοιαύτης ἐρεύνης θὰ ἀποστέλλωνται πρὸς τὰς λοιπὰς συνεισφερούσας Κυβερνήσεις καὶ τὴν ὑποβάλλουσαν τὴν πρότασιν Συμβαλλομένην Κυβέρνησιν Ἰδιαιτέρως, αἱ γενόμεναι ρυθμίσεις σχετικῶς πρὸς τὰς εἰσφορὰς εἰς τὴν δαπάνην τῶν ὑπηρεσιῶν θὰ ἀναθεωροῦνται ὑπὸ τῶν συνεισφερουσῶν Κυβερνήσεων κατὰ διαστήματα μὴ ὑπερβαίνοντα τὴν τριετίαν. Ἡ διαχειρίστρια Κυβέρνησις θὰ ἀναλαμβάνῃ τὴν πρωτοβουλίαν διὰ τὴν ἐκτέλεσιν τῶν δεόντων πρὸς τὸν σκοπὸν τούτον.

Κανονισμὸς 7

Ταχύτης εἰς τὴν περιοχὴν τῶν Πάγων

Ὅσάκις ἀναφέρεται παρουσία πάγων ἐπὶ τῆς πορείας του ἢ πλησίον ταύτης, ὁ πλοίαρχος παντός πλοίου ὑποχρεοῦται ὅπως κατὰ τὴν νύκτα πλῆθι μὲ μετρίαν ταχύτητα, ἢ ὅπως μεταβάλλῃ πορείαν οὕτως ὥστε νὰ διέλθῃ ἐπαρκῶς μακρὰν τῆς ἐπικινδύνου ζώνης.

Κανονισμὸς 8

Πορειογράφῃς (Routeing)

(α) Ἡ κρατήσασα πρακτικὴ ν' ἀκολουθῶνται, ἰδίᾳ εἰς συγκλινοῦσας περιοχάς, πορεῖαι υἱοθετοῦμεναι πρὸς τὸν σκοπὸν διαχωρισμοῦ τῆς κυκλοφορίας περιλαμβανομένης τῆς ἀποφυγῆς διελεύσεως μέσω περιοχῶν αἵτινες καθωρίσθησαν

ως περιοχαι τας οποιας δεον ν' αποφευγουν πλοια η ωρισμεναι κατηγοριαι πλοιων, η προς τον σκοπον αποφυγης επισφαλων συνθηκων, εχει συμβαλει εις την προαγωγην της ασφαλειας της ναυσιπλοιας και ως ακ τουτου συνισταται προς χρησιν υφ' απαντων των ενδιαφερομενων πλοιων.

(β) Ο IMCO αναγνωριζεται ως το μονον διεθνες οργανον προς καθιερωσιν και υιοθετησιν, επι διεθνους επιπεδου, μετρων αφορωντων εις την εγκαθιδρυσιν συστηματων πορειων και τον καθορισμον περιοχων αιτινες δεον ν' αποφευγωνται υπο των πλοιων η ωρισμενων κατηγοριων πλοιων. Θα συγκεντρωνη και διανεμη εις τας Συμβαλλομενας Κυβερνησεις απασας τας συναφεις πληροφοριας.

(γ) Η επιλογη των πορειων και η σχετικως προς αυτας πρωτοβουλια ενεργειας, ως και ο καθορισμος του τι συνιστα τας συγκλινουσας περιοχας θ' αποτελη, κατ' αρχην, ευθυνην των ενδιαφερομενων Κυβερνησεων. Κατα την σχεδιασιν συστηματων πορειων, τα οποια διερχονται δια διεθνων υδατων, η ετερων συναφων συστηματων τα οποια αυται θα επεθymουν να τυχουν της συστασεως του Οργανισμου (IMCO), αι Κυβερνησεις θα μελετουν δεοντως τα υπο τουτου δημοσιευομενα συναφη στοιχεια και πληροφοριας.

(δ) Αι Συμβαλλομεναι Κυβερνησεις θ' ασκησουν την επιρροην των προς εξασφαλισιν της κανονικης χρησιμοποιησεως των υιοθετουμενων πορειων, προς δε θα πραξουν παν το κατ' αυτας δυνατον προς καθιερωσιν των υπο του Οργανισμου υοθετουμενων μετρων των σχεσιν εχοντων με τα συστηματα πορειων των πλοιων.

(ε) Αι Συμβαλλομεναι Κυβερνησεις θα παρακινουyn, προσετι απαντα τα πλοια τα κατευθυνομενα εις περιοχας γειτνιαζουσας προς την περιοχην Grand Banks της Νεας Γης (Newfoundland), οπως, κατα το πρακτικως δυνατον, αποφευγουν τ' αλιπεδα της Νεας Γης βορειως του 43ου βορειου παραλληλου και διερχωνται εκτος των περιοχων αι οποiai ειναι γνωστον η πιστευεται οτι εκτιθενται εις τον κινδυνον των παγων.

Κανονισμός 9

Κακη Χρησις Σημάτων Κινδύνου

Η χρησις διεθνους σηματος κινδυνου, εκτος δια τον σκοπον οπως δειξη οτι πλοιον τι η αεροσκαφος ευρισκεται εν κινδυνω και η χρησις σηματος το οποιον δυναται να συγχισθη προς διεθνες σημα κινδυνου, απαγορευεται εις ολα τα πλοια η τα αεροσκαφη.

Κανονισμός 10

Σήματα Κινδύνου. Υποχρεώσεις και Διαδικασίαι

(α) Ο πλοιαρχος παντος πλοιου ευρισκομενου εν πλω οστις λαμβανει σημα εξ οιασδηποτε πηγης οτι πλοιον η αεροσκαφος η σωστικον μεσον αυτων ευρισκεται εν κινδυνω, υποχρεοται να πλευση ολοταχως προς βοθηειαν των εν κινδυνω προσωπων, ειδοποιων ταυτα, εαν ειναι δυνατον, περι τουτου. Εαν δεν δυναται να πραξη τουτο η εαν, λογω των ειδικων συνθηκων εις την περιπτωσην ταυτην, δεν θεωρη ευλογον η αναγκαιον να προστρεξη εις βοθηειαν των, οφειλει να καταχωρηση εις το ημερολογιον τον λογον δια τον οποιον δεν προστρεχει εις βοθηειαν των κινδυνευοντων προσωπων.

(β) Ο πλοιαρχος πλοιου ευρισκομενου εν κινδυνω, αφ' ου συνεννοηθη οσον τουτο ειναι δυνατον, μετα των πλοιαρχων των πλοιων ατινα απηνητησαν εις την υπ' αυτου γενομενην επικλησιν βοθηειας, εχει το δικαίωμα να επιταξη εν η πλειονα εκ των

πλοίων τούτων τά ὁποῖα θεωρεῖ τά πλέον ἱκανά νά παράσχουν βοήθειαν, καί ὁ πλοίαρχος ἢ οἱ πλοίαρχοι τοῦ πλοίου ἢ τῶν πλοίων τῶν ἐπιταχθέντων, ἔχουν καθήκον νά συμμορφωθοῦν πρὸς τήν ἐπίταξιν, ἐξακολουθοῦντες νά πλέσν δλοταχῶς πρὸς βοήθειαν τῶν κινδυνευόντων προσώπων.

(γ) Ὁ πλοίαρχος πλοίου τινός ἀπαλάσσειται τῆς ὑποχρέωσέως τῆς ἐπιβαλλομένης ὑπὸ τῆς παραγράφου (α) τοῦ παρόντος Κανονισμοῦ, ἐάν πληροφορηθῇ ὅτι, ἐν ἡ περισσότερα πλοία ἐκτός τοῦ ἰδικοῦ του ἔχουν ἐπιταχθῆ καί ἔχουν συμμορφωθῆ πρὸς τήν ἐπίταξιν.

(δ) Ὁ πλοίαρχος πλοίου τινός ἀπαλλάσσειται τῆς ὑποχρέωσέως τῆς ἐπιβαλλομένης ὑπὸ τῆς παραγράφου (α) τοῦ παρόντος Κανονισμοῦ, καί, ἐάν τὸ πλοῖον του ἔχη ἐπιταχθῆ, ἀπὸ τῆς ὑποχρέωσέως τῆς ἐπιβαλλομένης ὑπὸ τῆς παραγράφου (β) τοῦ παρόντος Κανονισμοῦ, ἐάν εἰδοποιηθῇ ὑπὸ τῶν κινδυνευόντων προσώπων, ἢ ὑπὸ τοῦ πλοίαρχου ἐτέρου πλοίου τὸ ὁποῖον κατέφθασε εἰς τὰ πρόσωπα ταῦτα, ὅτι ἡ βοήθεια δὲν εἶναι πλέον ἀναγκαία.

(ε) Αἱ διατάξεις τοῦ παρόντος Κανονισμοῦ δὲν ἐπηρεάζουν τὴν Διεθνή Σύμβασιν περὶ ἐνοποιήσεως κανόνων τινῶν ^{ἀποκλειστικῶν} ἀποκλειστικῶν εἰς τὴν Βοήθειαν καὶ τὴν Διάσωσιν ἐν Θαλάσσει, τὴν ὑπογραφεῖσαν ἐν Βρυξέλλαις τὴν 23ην Σεπτεμβρίου 1910, ἰδιαιτέρως πρὸς τὴν ὑποχρέωσιν διὰ παροχὴν βοήθειας τὴν ἐπιβαλλομένην ὑπὸ τοῦ ἀρθροῦ 11 τῆς Συμβάσεως ταύτης.

Κανονισμός 11

Φανοὶ Σημάτων

Ὅλα τὰ πλοῖα ὀλικῆς χωρητικότητος ἀνωτέρας τῶν 150 κόνων, ὅταν ἐκτελοῦν διεθνεῖς πλόας, θὰ φέρουν ἓνα φανὸν σημάτων ἡμέρας καλῆς ἀποδόσεως, ὅστις δὲν θὰ τροφοδοτῆται ἀποκλειστικῶς μόνον ἐκ τῆς κυρίας ἡλεκτρικῆς ἐνεργείας τοῦ πλοίου.

Κανονισμός 12

Ναυτιλιακά Ὅργανα Φερόμενα Ἐπὶ Πλοίων.

(α) Ἄπαντα τὰ πλοῖα 1.600 κ.ο.χ. καὶ ἄνω θὰ εἶναι ἐφοδιασμένα διὰ Συσκευῆς Radar τύπου ἐγκεκριμένου ὑπὸ τῆς Ἀρχῆς. Ἐπὶ τῆς γεφύρας τῶν πλοίων τούτων θὰ ὑφίστανται μέσα διὰ τὴν ὑποτύπωσιν τῶν ἐνδείξεων τοῦ Radar.

(β) Ἄπαντα τὰ πλοῖα 1.600 κ.ο.χ. καὶ ἄνω, ἐφ' ὅσον ἐκτελοῦν διεθνεῖς πλόας, θὰ εἶναι ἐφοδιασμένα διὰ συσκευῆς ραδιογωνιομέτρου, ἥτις θὰ πληροῖ τὰς διατάξεις τοῦ Κανονισμοῦ 12 τοῦ Κεφαλαίου IV. Ἡ Ἀρχὴ δύναται, ἐντός περιοχῶν ὅπου θεωρεῖ ὅτι ὁ ἐφοδιασμὸς διὰ τοιαύτης συσκευῆς δὲν εἶναι εὐλογος ἢ ἀναγκαῖος, νὰ ἐξαιρέση τῆς ἀπαιτήσεως ταύτης πᾶν πλοῖον ὀλικῆς χωρητικότητος κατωτέρας τῶν 5.000 κόνων, λαμβανομένου σοβαρῶς ὑπ' ὄψιν τοῦ γεγονότος ὅτι ἡ συσκευή Ραδιογωνιομέτρου εἶναι διπλῆς ἀξίας, ἥτοι ὡς ναυτιλιακὸν ὄργανον καὶ ὡς βοήθεια ἐντοπισμοῦ τῶν πλοίων, ἀεροσκαφῶν ἢ πλωτῶν σωστικῶν μέσων.

(γ) Ἄπαντα τὰ πλοῖα 1.600 κ.ο.χ. καὶ ἄνω, ἐφ' ὅσον ἐκτελοῦν διεθνεῖς πλόας θὰ εἶναι ἐφοδιασμένα διὰ γυροσκοπικῆς πυξίδος ἐπιπλέον τῆς μαγνητικῆς τοιαύτης. Ἡ Ἀρχὴ ἐφ' ὅσον θεωρεῖ ὡς μὴ εὐλογον ἢ ἀναγκαίαν τὴν ἀπαιτήσιν γυροπυξίδος δύναται νὰ ἐξαιρέση ταύτης πλοῖα κάτω τῶν 5.000 κ.ο.χ.

(δ) Ἄπαντα τὰ νέα πλοῖα 500 κ.ο.χ. καὶ ἄνω, ἐφ' ὅσον ἐκτελοῦν διεθνεῖς πλόας, θὰ εἶναι ἐφοδιασμένα διὰ μιᾶς ἡχοβολιστικῆς συσκευῆς.

(ε) Ἐφ' ὅσον θά λαμβάνωνται ἅπαντα τὰ λογικῶς ἀπαιτούμενα μέτρα διά τήν διατήρησιν τῶν ὀργάνων εἰς κατάστασιν καλῆς λειτουργίας, βλάβη. εἰς τήν συσκευήν Radar, γυροσκοπικήν πυξίδα ἢ ἠχοβολιστικήν συσκευήν δέν θά θεωρεῖται ὡς καθιστώσα τό πλοῖον ἀναξιοπλοῦν ἢ ὡς λόγος κατακρατήσεως τούτου εἰς λιμένας ἔνθα εὐκόλῃαι διά τήν ἐπισκευήν δέν εἶναι ἀμέσως διαθέσιμοι.

(στ) Ἐπαντα τὰ νέα πλοῖα 1.600 κ.ο.χ. καί ἄνω, ἐφ' ὅσον ἐκτελοῦν διεθνεῖς πλόας, θά εἶναι ἐφωδιασμένα μέ μιάν ραδιοεντοπιστικήν συσκευήν ἐπί τῆς ραδιοτηλεφωνικῆς συχνότητος κινδύνου πληροῦσαν τὰς σχετικὰς διατάξεις τῆς παραγράφου (β) τοῦ Κανονισμοῦ 12 τοῦ Κεφαλαίου IV.

Κανονισμός 13

Ἐπάνδρωσις.

Αἱ Συμβαλλόμεναι Κυβερνήσεις ἀναλαμβάνουν, ἐκάστη διὰ τὰ πλοῖα τῆς ἐθνικότητός της, νά τηροῦν ἐν ἰσχύϊ, ἢ, ἐάν εἶναι ἀναγκαῖον, νά υἱοθετοῦν μέτρα πρὸς τὸν σκοπὸν ὅπως ἐξασφαλίζεται, δι, ἀπὸ ἀπόψεως ἀσφαλείας τῆς ἀνθρωπίνης ζωῆς ἐν θαλάσσῃ, ὅλα τὰ πλοῖα θά εἶναι ἐπαρκῶς καὶ ποιοτικῶς ἐπηνδρωμένα.

Κανονισμός 14

Βοηθήματα Ναυσιπλοίας.

Αἱ Συμβαλλόμεναι Κυβερνήσεις ἀναλαμβάνουν τὴν ὑποχρέωσιν ὅπως μεριμνοῦν διὰ τὴν ἐγκατάστασιν καὶ συντήρησιν τοιούτων βοηθημάτων ναυσιπλοίας, περιλαμβανομένων τῶν ραδιοφάρων καὶ ἠλεκτρονικῶν βοηθημάτων, ὅσα κατὰ τὴν γνώμην τῶν δικαιολογεῖ ὁ ὄγκος τῆς ναυτιλιακῆς κινήσεως καὶ ἀπαιτεῖ ὁ βαθμὸς τοῦ κινδύνου καὶ νά μεριμνοῦν ὅπως αἱ πληροφορίες αἱ σχετικαὶ πρὸς τὰ βοηθήματα ταῦτα τίθενται εἰς τὴν διάθεσιν πάντων τῶν ἐνδιαφερομένων.

Κανονισμός 15

Ἔρευνα καὶ Διάσωσις

(α) Ἐκάστη Συμβαλλομένη Κυβέρνησις ἀναλαμβάνει τὴν ὑποχρέωσιν ὅπως ἐξασφαλίσῃ τὴν λήψιν τῶν ἀναγκαιούτων μέτρων διὰ τὴν ἐπιτήρησιν τῶν ἀκτῶν καὶ τὴν διάσωσιν κινδυνευόντων προσώπων εἰς τὴν περίξ τῶν ἀκτῶν τῆς θάλασσαν. Τὰ μέτρα ταῦτα θά περιλαμβάνουν τὴν ἴδρυσιν, τὴν λειτουργίαν καὶ τὴν συντήρησιν τοιούτων μέσων ναυτιλιακῆς ἀσφαλείας, ὅσα κρίνονται πρακτικῶς ἐφαρμόσιμα καὶ ἀναγκαῖα, λαμβανομένης ὑπ' ὄψιν τῆς πυκνότητος τῆς ναυτιλιακῆς κινήσεως καὶ τῶν κινδύνων τῆς ναυσιπλοίας καὶ θά παρέχουν, ὅσον εἶναι δυνατόν, κατάλληλα μέσα διὰ τὸν ἐντοπισμὸν καὶ τὴν διάσωσιν τῶν προσώπων τούτων.

(β) Ἐκάστη Συμβαλλομένη Κυβέρνησις ἀναλαμβάνει νά παρέχῃ πληροφορίας σχετικὰς πρὸς τὰ ὑπάρχοντα μέσα διασώσεως ἅτινα διαθέτει καὶ τὰ σχέδια τροποποιήσεως τούτων, ἐὰν ὑπάρχουν τοιαῦτα.

Κανονισμός 16

Σήματα Διασώσεως

Τὰ ἀκόλουθα σήματα θά χρησιμοποιοῦνται ὑπὸ τῶν σταθμῶν διασώσεως καὶ τῶν ναυτικῶν μονάδων διασώσεως ὅταν ἐπικοινωνοῦν μετὰ πλοίων ἢ προσώπων ἐν κινδύνῳ καὶ ὑπὸ τῶν πλοίων ἢ προσώπων ἐκ κινδύνῳ ὅταν ἐπικοινωνοῦν μετὰ τῶν σταθμῶν

διασώσεως καὶ τῶν ναυτικῶν μονάδων διασώσεως. Τὰ χρησιμοποιούμενα σήματα ὑπὸ ἀεροσκαφῶν ἐκτελούντων ἐργασίας ἐρεῦνης καὶ διασώσεως διὰ τὴν καθοδήγησιν τῶν πλοίων καθορίζονται εἰς τὴν κατωτέρω παράγραφον (δ). Εἰς εἰκονογραφημένους πίναξ περιγράφων τὰ κατωτέρω ἀναφερόμενα σήματα θά εἶναι πάντοτε διαθέσιμος εἰς τὸν ἀξιωματικὸν φυλακῆς ἐκάστου πλοίου εἰς τὸ ὁποῖον τὸ παρὸν Κεφάλαιον ἐφαρμόζεται.

(α) Ἀπαντήσεις σταθμῶν διασώσεως ἢ ναυτικῶν μονάδων διασώσεως εἰς τὰ σήματα κινδύνου τὰ ἐκπεμπόμενα ὑπὸ πλοίου ἢ προσώπου:

Σῆμα.

Σημασία.

Τὴν ἡμέραν. Σῆμα καπνοῦ πορτοκαλόχρου ἢ σύνδυασμένον φωτεινὸν καὶ ἠχητικὸν σῆμα (ἀστραπή βροντή) συνιστάμενον ἐκ τριῶν ἀπλῶν σημάτων πυροδοτουμένων κατὰ διαστήματα ἐνὸς λεπτοῦ περίπου.

Τὴν νύκτα. Σκυταλὶς λευκῶν ἀστέρων συνιστάμενη ἐκ τριῶν ἀπλῶν σημάτων πυροδοτουμένων κατὰ διαστήματα ἐνὸς λεπτοῦ περίπου.

«Σὰς βλέπομεν-βοήθεια θά σὰς παρασχεθῆ ὅσον τὸ δυνατόν ταχύτερον».

(Ἡ ἐπανάληψις τῶν σημάτων τούτων θά ἔχη τὴν αὐτὴν σημασίαν)

Ἐάν παραστῆ ἀνάγκη, τὰ σήματα τῆς ἡμέρας δύνανται νὰ ἐκπέμπωνται τὴν νύκτα ἢ τὰ σήματα τῆς νυκτός τὴν ἡμέραν.

(β) Σήματα δι' ἀποβίβασιν πρὸς ὁδηγίαν μικρῶν λέμβων μεταφεροσῶν πληρώματα ἢ πρόσωπα ἐν κινδύνῳ:

Σῆμα

Σημασία.

Τὴν ἡμέραν. Κατακόρυφος κίνησις λευκῆς σημαίας ἢ τῶν βραχιόνων ἢ πυροδότησις σήματος πρασίνων ἀστέρων ἢ σηματοδότησις τοῦ γράμματος «Κ» (-.-) τοῦ κώδικος διδομένου ὑπὸ συσκευῆς παραγούσης σήματα φωτεινὰ ἢ ἠχητικά.

Τὴν νύκτα. Κατακόρυφος κίνησις λευκῆς σημαίας ἢ λευκοῦ πυρσοῦ, ἢ πυροδότησις σήματος πρασίνων ἀστέρων ἢ σηματοδότησις τοῦ γράμματος «Κ» (-.-) τοῦ κώδικος διδομένου ὑπὸ συσκευῆς παραγούσης σήματα φωτεινὰ ἢ ἠχητικά. Γραμμὴ καταφυγῆς (ἐνδειξις κατευθύνσεως) δύνανται νὰ δοθῆ διὰ τῆς τοποθετήσεως λευκοῦ σταθεροῦ φωτός ἢ λευκοῦ πυρσοῦ εἰς χαμηλότερον ἐπίπεδον καὶ εἰς εὐθείαν γραμμὴν μὲ τὸν παρατηρητήν.

«Αὐτὴ εἶναι ἡ καλλιτέρα θέσις δι' ἀποβίβασιν».

Σῆμα

Σημασία.

Τὴν ἡμέραν. Ὁριζόντιος κίνησις λευκῆς σημαίας ἢ τῶν βραχιόνων ἐκτεινομένων ὀριζοντίως ἢ πυροδότησις σήματος ἐρυθρῶν ἀστέρων ἢ σηματοδότησις τοῦ γράμματος «S» (...) τοῦ κώδικος διδομένου ὑπὸ συσκευῆς παραγούσης σήματα φωτεινὰ ἢ ἠχητικά.

Τὴν νύκτα. Ὁριζόντιος κίνησις λευκοῦ φωτός, ἢ λευκοῦ πυρσοῦ ἢ πυροδότησις σήματος ἐρυθρῶν ἀστέρων ἢ σηματοδότησις τοῦ γράμματος «S» (...) τοῦ κώδικος διδομένου ὑπὸ συσκευῆς παραγούσης σήματα φωτεινὰ ἢ ἠχητικά.

«Ἡ ἀποβίβασις ἐνταῦθα εἶναι ἐξαιρετικῶς ἐπικίνδυνος».

Τὴν ἡμέραν. Ὅριζόντιος κίνησις λευκῆς σημαίας ἀκολουθουμένη ὑπὸ τῆς ἐμπήξεως τῆς λευκῆς σημαίας εἰς τὸ ἔδαφος καὶ ἑτέρας λευκῆς σημαίας φερομένης πρὸς τὴν ὑποδεικτέαν διεύθυνσιν, ἢ πυροδότησις κατακορύφως ἐνὸς σήματος ἐρυθρῶν ἀστέρων καὶ ἐνὸς σήματος λευκῶν ἀστέρων κατὰ τὴν διεύθυνσιν τῆς καλλιτέρας θέσεως ἀποβιβάσεως, ἢ σηματοδότησις τοῦ γράμματος «S» (...) τοῦ κώδικος ἀκολουθουμένου ὑπὸ τοῦ γράμματος «R» (-.) τοῦ κώδικος ἐάν καλλιτέρα θέσις ἀποβιβάσεως τῆς ἐν κινδύνῳ λέμβου ὑπάρχη περισσώτερον πρὸς τὰ δεξιὰ τῆς διευθύνσεως προσεγγίσεως, ἢ σηματοδότησις τοῦ γράμματος «L» (-.) τοῦ κώδικος ἐάν ὑπάρχη καλλιτέρα θέσις ἀποβιβάσεως τῆς ἐν κινδύνῳ λέμβου περισσώτερον πρὸς τὰ ἀριστερά τῆς διευθύνσεως προσεγγίσεως.

«Ἡ ἀποβίβασις ἐνταῦθα εἶναι ἐξαιρετικῶς ἐπικίνδυνος. Εὐνοϊκώτερα θέσις πρὸς ἀποβίβασιν εὐρίσκεται εἰς τὴν ὑποδεικνυομένην κατεύθυνσιν.

Τὴν νύκτα. Ὅριζόντιος κίνησις λευκοῦ φωτός ἢ πυρσοῦ ἀκολουθουμένη ὑπὸ τῆς τοποθετήσεως τοῦ λευκοῦ φωτός εἰς τὸ ἔδαφος καὶ ἑτέρου λευκοῦ φωτός ἢ πυρσοῦ διευθυνομένου πρὸς τὴν ὑποδεικτέαν διεύθυνσιν, ἢ πυροδότησις κατακορύφως ἐνὸς σήματος ἐρυθρῶν ἀστέρων καὶ ἐνὸς σήματος λευκῶν ἀστέρων κατὰ τὴν διεύθυνσιν τῆς καλλιτέρας θέσεως ἀποβιβάσεως, ἢ σηματοδότησις τοῦ γράμματος «S» (...) τοῦ κώδικος ἀκολουθουμένου ὑπὸ τοῦ γράμματος «R» (-.) τοῦ κώδικος ἐάν καλλιτέρα θέσις ἀποβιβάσεως τῆς ἐν κινδύνῳ λέμβου ὑπάρχη περισσώτερον πρὸς τὰ δεξιὰ τῆς διευθύνσεως προσεγγίσεως, ἢ σηματοδότησις τοῦ γράμματος «L» (-.) τοῦ κώδικος ἐάν ὑπάρχη καλλιτέρα θέσις ἀποβιβάσεως τῆς ἐν κινδύνῳ λέμβου περισσώτερον πρὸς τὰ ἀριστερά τῆς διευθύνσεως προσεγγίσεως.

«Ἡ ἀποβίβασις ἐνταῦθα εἶναι ἐξαιρετικῶς ἐπικίνδυνος. Εὐνοϊκώτερα θέσις πρὸς ἀποβίβασιν εὐρίσκεται εἰς τὴν ὑποδεικνυομένην κατεύθυνσιν.

(γ) Σήματα χρησιμοποιοιτέα ἐν συσχετισμῷ πρὸς τὴν χρησιμοποίησιν παρακτιῶν μέσων διασώσεως:

Σῆμα

Τὴν ἡμέραν. Κατακόρυφος κίνησις λευκῆς σημαίας ἢ τῶν βραχιόνων, ἢ πυροδότησις σήματος πρασίνων ἀστέρων.

Τὴν νύκτα. Κατακόρυφος κίνησις λευκοῦ φωτός ἢ λευκοῦ πυρσοῦ, ἢ πυροδότησις σήματος πρασίνων ἀστέρων.

Τὴν ἡμέραν. Ὅριζόντιος κίνησις λευκῆς σημαίας ἢ τῶν βραχιόνων ἐκτεινομένων ὀριζοντίως, ἢ πυροδότησις σήματος ἐρυθρῶν ἀστέρων.

Τὴν νύκτα. Ὅριζόντιος κίνησις λευκοῦ φωτός ἢ πυρσοῦ ἢ πυροδότησις σήματος ἐρυθρῶν ἀστέρων.

Σημασία.

Γενικῶς: «Καταφατικόν».

Εἰδικῶς:

«Σχοινίον σκυταλίδος κρατεῖται».

«Ἐνούρος τρόχιλος προσεδέθη».

«Ῥῦμα προσεδέθη».

«Ἄνθρωπος εὐρίσκεται ἐντός σωσιβίου συσκευῆς».

«Ἐλῆατε».

Γενικῶς: «Ἀρνητικόν».

Εἰδικῶς:

«Χαλαρώσατε».

«Κράτει ἔλξιν».

(δ) Σήματα χρησιμοποιούμενα υπό αεροσκαφών εκτελούντων εργασίας έρευνας και διασώσεως διά νά κατευθύνουν τά πλοία προς έν αεροσκάφος, έν πλοϊον, ή πρόσωπον έν κινδύνω. (Βλέπε έπεξηγηματικήν Σημείωσιν κατωτέρω.)

(i) Οί κατωτέρω χειρισμοί εκτελούμενοι κατά σειράν υπό αεροσκάφους σημαίνουν ότι τό αεροσκάφος κατευθύνει πλοϊον έπιφανείας προς έν αεροσκάφος ή προς έν πλοϊον έν κινδύνω.

(1) Διαγράφει ένα τουλάχιστον κύκλον περίξ του πλοίου.

(2) Διασταυρώνει εις τό χαμηλόν ύψος τήν μέλλουσαν πορείαν του πλοίου έπιφανείας πλησίον τής πρώρας αυτού, αύξάνον και μειώνον τόν θόρυβον των κινητήρων ή μεταβάλλον τό βήμα των έλικων.

(3) Κατευθύνεται προς τήν διεύθυνσιν εις τήν όποϊαν τό πλοϊον έπιφανείας δέον νά κατευθυνθῆ.

Ή επανάληψις των χειρισμών τούτων έχει τήν αυτήν σημασίαν.

(ii) 'Ο ακόλουθος χειρισμός εκτελούμενος υπό αεροσκάφους σημαίνει ότι δέν απαιτείται πλέον ή περαιτέρω βοήθεια του πλοίου έπιφανείας προς τό όποϊον άπηρθύνετο τό σήμα:

-διασταυρώνει τό ίχνος του πλοίου εις χαμηλόν ύψος πλησίον τής πρύμνης, αύξάνον ή μειώνον τόν θόρυβον των κινητήρων ή μεταβάλλον τό βήμα των έλικων.

Σημείωσις: 'Ο όργανισμός θα γνωστοποιῆ εκ των προτέρων τας μεταβολάς εις τά σήματα ταύτα, ως θα είναι αναγκαίον.

Κανονισμός 17

Κλίμακες Πλοηγών και Μηχανικοί 'Ανελκυστήρες Πλοηγών.

Πλοία εκτελούντα ταξίδια κατά τήν διάρκειαν των όποϊων είναι ένδεχόμενον νά έπιβιθασθώσι πλοηγοί, θα συμμορφούνται προς τας ακόλουθους απαιτήσεις:

(α). *Κλίμακες Πλοηγών*

(i) 'Η κλίμαξ θα είναι κατάλληλος διά νά επιτρέπη εις τους πλοηγούς όπως έπιβιβάζωνται και άποβιβάζωνται άσφαλώς, θα τηρήται καθαρά και εις καλήν κατάστασιν και δύναται νά χρησιμοποιηται υπό ύπηρεσιακών και έτέρων προσώπων όταν τό πλοϊον καταπλήξ εις ή άποπλήξ εκ λιμένος τινός.

(ii) 'Η κλίμαξ θα άσφαλίζεται εις θέσιν τοιαύτην ώστε νά είναι μακράν οίασδήποτε έκβολής εκ του πλοίου, εκάστη βαθμίς θα έφάπτεται σταθερώς εις τήν πλευράν του πλοίου, θα είναι όσον είναι πρακτικώς δυνατόν μακράν των καμπύλων έπιφανειών του σκάφους και ό πλοηγός θα δύναται νά άνέλθῃ άσφαλώς και εύκόλως επί του πλοίου χωρίς νά άναρριχηθῆ όλιγώτερον του 1,5 μέτρου (ή 5 ποδών) και περισσότερο των 9 μέτρων (ή 30 ποδών). 'Η χρησιμοποιουμένη κλίμαξ θα άποτελείται εκ ενός τεμαχίου (μονοκόμματη) και θα δύναται νά φθάνη τό ύδωρ εις τό σημείον προσβάσεως του πλοίου. Διά νά έξασφαλισθῆ τό τελευταίον δέον όπως διατίθεται έπαρκές πλεονάζον μήκος κλίμακος ίνα καλύπτονται άπασαι αι καταστάσεις φορτώσεως και διαμήκους κλίσεως του πλοίου καθώς και ή περίπτωσης έγκαρσίας κλίσεως προς τήν αντίθετον πλευράν μέχρι 15 μοιρών.

(iii) Αί βαθμίδες τής κλίμακος πλοηγού θα είναι:

- (1) Έκ σκληρῆς ξυλείας ἢ ἑτέρου ὕλικου ἰσοδυνάμων χαρακτηριστικῶν, κατεσκευασμένοι ἐξ ἑνὸς τεμαχίου ξύλου ἄνευ ὀζων (ρόζων), θά διαθέτουν κατάλληλον ἀντιολισθηρὰν ἐπιφάνειαν. Αἱ τέσσαρες τελευταῖα βαθμίδες δύνανται νά εἶναι κατεσκευασμένοι ἐξ ἐλαστικοῦ ἐπαρκοῦς ἀνοτοχῆς καί σκληρότητος ἢ ἐξ ἄλλου καταλλήλου ὕλικου ἰσοδυνάμων χαρακτηριστικῶν.
- (2) Θά εἶναι κατ' ἐλάχιστον μήκους 480 χιλ / τρων (ἢ 19 δακτύλων), πλάτους 115 χιλ / τρων (ἢ 4,5 δακτύλων) καί πάχους 25 χιλ / τρων (ἢ 1 δακτύλου), ἐξαιρουμένης τῆς τυχόν ὑπαρχούσης ἀντιολισθηρᾶς ἐπιστρώσεως.
- (3) Θά ἀπέχουν μεταξύ των ἐξ ἴσου οὐχί ὀλιγώτερον τῶν 300 χιλ / τρων (ἢ 12 δακτύλων) καί οὐχί περισσότερον τῶν 380 χιλ / τρων (ἢ 15 δακτύλων) καί θά συγκρατῶνται κατά τοιοῦτον τρόπον ὥστε νά παραμένουν ὀριζόντιοι.
- (iv) Αἱ κλίμακες πλοηγοῦ δέν ἐπιτρέπεται νά φέρον βαθμίδας προερχομένας ἐξ ἀντικαταστάσεως περισσοτέρας τῶν δύο αἰ ὁποῖαι συγκρατῶνται εἰς τήν θέσιν των διά μεθόδου διαφόρου τῆς χρησιμοποιηθείσης κατά τήν ἀρχικὴν κατασκευὴν αὐτῶν. Βαθμίδες συγκρατοῦμεναι κατά τοιοῦτον τρόπον δέον ὥπως ἀντικαθίστανται τό ταχύτερον λογικῶς καί πρακτικῶς δυνατόν διά βαθμίδων συγκρατοῦμένων εἰς τήν θέσιν των διά μεθόδου χρησιμοποιηθείσης κατά τήν ἀρχικὴν κατασκευὴν. Ὅτε οἰαδήποτε βαθμὶς προερχομένη ἐξ ἀντικαταστάσεως συγκρατεῖται ὑπό τῶν πλευρικῶν σχοινίων δι' ἔντομων εἰς τὰ ἄκρα τῆς βαθμίδος, αἱ τοιαῦται ἔντομαί θά χαράσσωνται ἐπὶ τῶν ἐπιμηκεστέρων πλευρῶν τῆς βαθμίδος.
- (v) Τὰ πλευρικά σχοινία τῆς κλίμακος θά ἀποτελοῦνται ἀπὸ δύο ἀκάλυπτα τοιαῦτα τύπου Manila εἰς ἐκάστην πλευράν, περιμέτρου οὐχί μικροτέρας τῶν 60 χιλ / τρων (ἢ 2,5 δακτύλων). Ἐκαστον σχοινίον θά εἶναι συνεχές ἄνευ δεσμῶν (κόμβων) εἰς οἰονδήποτε σημεῖον κάτωθεν τῆς ἀνωτάτης βαθμίδος. Δύο σχοινιοὶ χειραγωγοὶ καλῶς στερεωμένοι ἐπὶ τοῦ πλοίου καί περιμέτρου οὐχί μικροτέρας τῶν 65 χιλ / τρων (ἢ 2,5 δακτύλων) καί ἕν σχοινίον ἀσφαλείας θά διατίθενται ἔτοιμα πρὸς χρῆσιν διε τοῦτο ἀπαιτηθῆ.
- (vi) Τραβέρσαι κατεσκευασμένοι ἐκ σκληρῆς ξυλείας ἢ ἑτέρου ὕλικου ἰσοδυνάμων χαρακτηριστικῶν, ἀποτελοῦμεναι ἐξ ἑνὸς μόνου τεμαχίου ξύλου μήκους οὐχί μικροτέρου τῶν 1.80 μέτρων (ἢ 5 ποδῶν καί 10 δακτύλων), θά ὑφίστανται εἰς τοιαῦτα διαστήματα ὥστε νά ἐμποδίζουσι τήν περιέλιξιν τῆς κλίμακος. Ἡ κατωτάτη τραβέρσα θά εἶναι εἰς τήν πέμπτην βαθμίδα ἐκ τῶν κάτω καί τὰ διαστήματα μεταξύ οἰασδήποτε τραβέρσας καί τῆς ἐπομένης δέν θά ὑπερβαίνουσι τὰς 9 βαθμίδας.
- (vii) Θά ὑφίστανται μέσα διά τήν ἐξασφάλισιν τῆς ἀσφαλοῦς καί ἀνέτου διελεύσεως ἔντος, ἐπὶ ἢ ἐκτός τοῦ πλοίου μεταξύ τοῦ ἀνωτάτου σημείου τῆς κλίμακος πλοηγοῦ ἢ οἰασδήποτε κλίμακος ἀποεπιβίβασεως ἢ ἑτέρου ἀναλόγου μέσου. Ὅπου ἡ τοιαύτη διέλευσις πραγματοποιεῖται διά θυρίδος εἰσόδου ἐπὶ τῶν κιγκλιδωμάτων τῆς κουπαστῆς, θά ὑφίστανται κατάλληλοι χειρολαβαί. Ὅπου ἡ τοιαύτη διέλευσις πραγματοποιεῖται διά κλίμακος κουπαστῆς, ἡ κλίμαξ αὕτη θά συνδέεται ἀσφαλῶς ἐπὶ τῶν κιγκλιδωμάτων τῆς κουπαστῆς ἢ ἐπὶ πλατφόρμας καί θά ὑφίστανται δύο φηλίσκι ικανοὶ ὥπως ἀποτελέσουσι στήριγμα διά τῶν χειρῶν εἰς τό σημεῖον εἰσόδου ἢ ἐξόδου ἐκ τοῦ πλοίου καί εἰς ἀπόστασιν μεταξύ των οὐχί μικροτέρας τῶν 0,70 μέτρων (ἢ 2 ποδῶν καί 3 δακτύλων) καί οὐχί μεγαλυτέραν τῶν 0,80 μέτρων (ἢ 2 ποδῶν καί 7 δακτύλων). Ἐκαστος στύλισκος θά εἶναι σταθερῶς συνδεδεμένος μέ τήν κατασκευὴν τοῦ πλοίου ἐπὶ ἢ πλησίον τῆς βάσεως αὐτοῦ καθὼς καί εἰς τὴν

σημειον ύψηλότερον. Θά ἔχη διάμετρον οὐχί μικροτέραν τῶν 40 χιλ / τρων (ἢ 1,5 δακτύλων) καί θά ἔκτεινεται ὑπεράνω τῆς κουπαστῆς οὐχί ὀλιγώτερον τῶν 1,20 μέτρων (ἢ 3 ποδῶν καί 11 δακτύλων).

- (νιι) Κατά τήν νύκτα θά ὑφίσταται φωτισμός τοιοῦτος ὥστε τόσον ἡ κλίμαξ πλοηγοῦ ἐπί τῆς πλευρᾶς τοῦ πλοίου ὅσον καί τό σημειον ἐπιβίβασεως τοῦ πλοηγοῦ νά φωτίζονται ἐπαρκῶς. Ἐν κυκλικόν σωσίβιον ἐφωδιασμένον δι' αὐτομάτου φωτός θά τηρῆται ἀμέσως διαθέσιμον πρὸς χρήσιν. Ἐν ὄρμιδιον θά τηρῆται ἀμέσως διαθέσιμον πρὸς χρήσιν ἐὰν ἤθελε ἀπαιτηθῆ:
- (ιχ) Θά ὑφίστανται μέσα καθιστῶντα τήν κλίμακα πλοηγοῦ ἱκανήν ὅπως χρησιμοποιηθῆ εἰς ἑκατέραν πλευράν τοῦ πλοίου.
- (χ) Ἡ ἀνάρτησις τῆς κλίμακος καί ἡ ἀποεπιβίβασις τοῦ πλοηγοῦ θά παρακολουθῆται ὑπό ὑπευθύνου ἀξιωματικοῦ τοῦ πλοίου.
- (χι) Ὅπου ἐπί οἰουδήποτε πλοίου κατασκευαστικά χαρακτηριστικά, ὡς προεξέχοντα περιζώματα, δυνατόν νά ἐμποδίζουσι τήν ἐφαρμογήν οἰασδήποτε ἐκ τῶν ἀνω διατάξεων, θά λαμβάνωνται εἰδικά μέτρα πρὸς ἱκανοποίησιν τῆς Ἀρχῆς ἵνα ἐξασφαλισθῆ ὅτι ἐπιβίβασις καί ἀποβίβασις προσώπων ἐπί τοῦ πλοίου δύναται νά πραγματοποιηθῆ ἀσφαλῶς.
- (β) *Μηχανικοὶ Ἀνελκυστήρες Πλοηγῶν.*
- (ι) Μηχανικὸς ἀνελκυστήρ πλοηγοῦ, ἐφ' ὅσον ὑφίσταται καί βοηθητικὸς ἐξαρτισμὸς αὐτοῦ, θά εἶναι τύπου ἐγκεκριμένου ὑπὸ τῆς Ἀρχῆς. Θά εἶναι τοιουτοτρόπως σχεδιασμένον καί κατασκευασμένον ὥστε νά ἐξασφαλίζεται ὅτι ὁ πλοηγὸς δύναται νά ἀνέλθῃ ἐπ' αὐτοῦ καί κατέλθῃ καθὼς καί ἐπιβιασθῆ εἰς τό κατάστρωμα ἀσφαλῆς καί ἀντιστρόφως.
- (ιι) Κλίμαξ πλοηγοῦ συμμορφουμένη πρὸς τὰς διατάξεις τῆς παραγράφου (α) τοῦ παρόντος Κανονισμοῦ θά φυλάσσεται ἐπὶ τοῦ καταστρώματος πλησίον τοῦ ἀνελκυστήρος διαθέσιμη πρὸς ἄμεσον χρήσιν.

Κανονισμός 18

Σταθμοὶ Ραδιοτηλεφώνου V.H.F.

Ὅτε Συμβαλλομένη Κυβέρνησις ἀπαιτεῖ ὅπως πλοῖα ναυσιπλοῦντα εἰς τήν περιοχὴν τῆς κυριαρχίας της εἶναι ἐφωδιασμένα μὲ σταθμὸν ραδιοτηλεφώνου VHF ἵνα οὗτος χρησιμοποιηθῆ ἐν συνδυασμῷ πρὸς ἐγκατεστημένον σύστημα ἀποσκοποῦν εἰς τήν ἐπαύξησιν τῶν προϋποθέσεων ἀσφαλοῦς ναυσιπλοΐας, ὁ τοιοῦτος σταθμὸς θά συμμορφῶται πρὸς τὰς διατάξεις τοῦ Κανονισμοῦ 17 τοῦ Κεφαλαίου IV καί θά λειτουργῆ συμφώνως πρὸς τὸν Κανονισμὸν 8 τοῦ Κεφαλαίου IV.

Κανονισμός 19

Χρήσις τοῦ Ἀτομάτου Πηδαλιούχου.

(α) Εἰς περιοχὰς μεγάλης κυκλοφοριακῆς συμφορήσεως, ὑπὸ συνθήκας περιορισμένης ὁρατότητος καί εἰς οἰανδήποτε ἄλλην ἐπικίνδυνον κατάστασιν ναυσιπλοΐας, ἐφ' ὅσον χρησιμοποιεῖται αὐτόματος πηδαλιούχος, θά εἶναι δυνατὴ ἡ ἄμεσος μετατροπὴ τῆς αὐτομάτου πηδαλιουχίας εἰς ὑπὸ ἀνθρώπινον ἔλεγχον τοιαύτην.

(β) Ὑπὸ συνθήκας ὡς αἱ ἀνωτέρω, θά εἶναι δυνατόν ὁ ἀξιωματικὸς φυλακῆς νά ἔχη εἰς τήν διάθεσίν του ἄνευ καθυστερήσεως τὰς ὑπηρεσίας ἱκανοῦ πηδαλιούχου ὁ ὁποῖος θά εἶναι ἔτοιμος ἀνὰ πᾶσαν στιγμὴν νά ἀναλάβῃ τὸν ἔλεγχον τοῦ πηδαλίου.

(γ) Ἡ μεταφορά ἐκ τῆς αὐτομάτου εἰς τὴν χειροκίνητον πηδαλιουχίαν καὶ ἀντιστρόφως θὰ πραγματοποιηθῆται ὑπὸ ὑπευθύνου ἀξιωματικοῦ ἢ ὑπὸ τὸν ἔλεγχον αὐτοῦ.

Κανονισμός 20

Ναυτιλιακαὶ Ἐκδόσεις.

Ἄπαντα τὰ πλοῖα θὰ φέρουν ἐπαρκεῖς εἰς ἀριθμὸν καὶ εἶδος ἐνημερωμένους χάρτας, ναυτιλιακὰς ὁδηγίας, φαροδείκτας, ἀγγελίας πρὸς ναυτιλλομένους, πίνακας παλιρροϊῶν καὶ ἄλλας ναυτιλιακὰς ἐκδόσεις ἀπαραιτήτους διὰ τὸ ἐπικείμενον ταξείδιον.

Κανονισμός 21

Διεθνῆς Κώδις Σημάτων.

Ἄπαντα τὰ πλοῖα τὰ ὁποῖα συμφώνως πρὸς τὴν παροῦσαν Σύμβασιν ἀπαιτεῖται ὅπως φέρουν ραδιοτηλεγραφικὴν ἢ ραδιοτηλεφωνικὴν ἐγκατάστασιν, θὰ εἶναι ἐφωδιασμένα μὲ τὸν Διεθνῆ Κώδικα Σημάτων. Ἡ ὡς ἄνω ἐκδοσις θὰ φέρεται καὶ ὑπὸ οἰουδήποτε ἄλλου πλοίου ὑπὸ τοῦ ὁποίου κατὰ τὴν κρίσιν τῆς Ἀρχῆς θὰ εἶναι ἀναγκαία ἢ χρήσις.

ΚΕΦΑΛΑΙΟΝ VI

ΜΕΤΑΦΟΡΑ ΣΙΤΗΡΩΝ

ΜΕΡΟΣ Α' — ΓΕΝΙΚΑΙ ΔΙΑΤΑΞΕΙΣ

Κανονισμός 1

Ἐφαρμογή

Ἐκτός ἐάν ἄλλως ρητῶς ὀρίζεται, τὸ παρὸν Κεφάλαιον, περιλαμβανομένων τῶν Μερῶν Α', Β', καὶ Γ', ἔχει ἐφαρμογὴν εἰς τὴν μεταφορὰν σιτηρῶν ὑπὸ ὄλων τῶν πλοίων ἐπὶ τῶν ὁποίων οἱ παρόντες Κανονισμοὶ ἐφαρμόζονται.

Κανονισμός 2

Ὁρισμοί

- (α) Ὁ ὅρος «σιτηρά» περιλαμβάνει σίτον, ἀραβόσιτον, βρώμην, σίκαλιν, κριθήν, ὄρυζαν, ὄσπρια, σπόρους ὡς καὶ τὰς ἐπεξεργασμένας μορφάς αὐτῶν, ἢ συμπεριφορά τῶν ὁποίων εἶναι παρομοία πρὸς τὴν φυσικὴν κατάστασιν τῶν σιτηρῶν.
- (β) Ὁ ὅρος «πλήρες διαμέρισμα» ἀναφέρεται εἰς οἰονδήποτε διαμέρισμα ἐντὸς τοῦ ὁποίου μετὰ τὴν φόρτωσιν καὶ διευθέτησιν ὡς ἀπαιτεῖται ὑπὸ τοῦ Κανονισμοῦ 3, τὰ χύδην σιτηρά εἶναι εἰς τὴν ἀνωτέραν δυνατὴν στάθμην των.
- (γ) Ὁ ὅρος «μερικῶς πεπληρωμένον διαμέρισμα» ἀναφέρεται εἰς οἰονδήποτε διαμέρισμα ὅπου τὰ χύδην σιτηρά δὲν ἔχουν φορτωθῆ διὰ τοῦ τρόπου τοῦ περιγραφομένου εἰς τὴν παράγραφον (β) τοῦ παρόντος Κανονισμοῦ.
- (δ) Ὁ ὅρος «γωνία κατακλύσεως» (ΘF) εἶναι ἡ γωνία κλίσεως κατὰ τὴν ὁποίαν ἀνοίγματα εἰς τὸ σκάφος, τὰ ὑπερστεγάσματα ἢ τὰς ὑπερκατασκευὰς τὰ ὁποῖα δὲν δύνανται νὰ κλείσουν καιροστεγῶς, ἐμβυθίζονται. Κατὰ τὴν ἐφαρμογὴν τοῦ παρόντος ὀρισμοῦ μικρὰ ἀνοίγματα μέσφ τῶν ὁποίων δὲν δύνανται νὰ λάβῃ χώραν προοδευτικὴ κατάκλυσις, δὲν εἶναι ἀπαραίτητον νὰ θεωρηθοῦν ὡς ἀνοικτά.

Κανονισμός 3

Διευθέτησις Σιτηρῶν

Ὅλαι αἱ ἀναγκαῖαι καὶ εὐλογοὶ διευθετήσεις δέον ὄπως ἐκτελεσθοῦν ἵνα ἅπασαι αἱ ἐλεύθεραι ἐπιφάνειαι τῶν σιτηρῶν ταυτισθοῦν πρὸς τὸ ὀριζόντιον ἐπίπεδον καὶ ἐλαττωθῇ ἡ ἐπίδρασις ἐκ τῆς μετακινήσεως αὐτῶν.

- (α) Ἐντὸς οἰονδήποτε «πλήρους διαμερίσματος» τὰ σιτηρά χύδην δέον ὄπως διευθετῶνται κατὰ τοιοῦτον τρόπον ὥστε νὰ πληροῦνται ἅπαντες οἱ ὑπὸ τὰ καταστρώματα καὶ καλύμματα στομιῶν κυτῶν χώροι εἰς τὸν μέγιστον δυνατὸν βαθμόν.
- (β) Μετὰ τὴν φόρτωσιν, ἅπασαι αἱ ἐλεύθεραι ἐπιφάνειαι σιτηρῶν ἐντὸς τῶν μερικῶς πεπληρωμένων διαμερισμάτων» δέον ὄπως ἔχουν διευθετηθῇ ὥστε νὰ ταυτίζονται πρὸς τὸ ὀριζόντιον ἐπίπεδον.
- (γ) Ἡ Ἀρχὴ δύνатаι, κατὰ τὴν ἐκδοσιν τοῦ ἐγγράφου ἐξουσιοδοτήσεως, συμφώνως πρὸς τὸν Κανονισμὸν 9 τοῦ παρόντος Κεφαλαίου νὰ ἐξαιρέσῃ τῆς

διευθετήσεως ταύτης περιπτώσεις κατά τὰς ὁποίας τὰ γεωμετρικά στοιχεῖα τοῦ ὑπὸ τὸ κατάστρωμα κενοῦ τὰ προκύπτοντα ἐκ τῶν ἐλευθέρως ρεόντων σιτηρῶν ἐντὸς διαμερίσματος τινός, μέσω τροφοδοτικῶν στομιῶν, διατρήτων καταστρωμάτων ἢ ἐτέρων παρεμφερῶν μέσων, ἐλήφθησαν ὑπ' ὄψιν πρὸς ἱκανοποίησίν τῆς κατὰ τοὺς ὑπολογισμοὺς τοῦ βάθους τοῦ κενοῦ.

Κανονισμός 4

Ἀπαιτήσεις Εὐσταθείας εἰς τὴν Ἀθικτον Κατάστασιν

(α) Οἱ ἀπαιτούμενοι ὑπολογισμοὶ ὑπὸ τοῦ παρόντος Κανονισμοῦ θὰ βασιζῶνται εἰς τὰς πληροφορίες εὐσταθείας αἵτινες δίδονται συμφώνως πρὸς τὸν Κανονισμὸν 19 τοῦ Κεφαλαίου II-1 τῆς παρούσης Συμβάσεως, ἢ συμφώνως πρὸς τὰς ἀπαιτήσεις τῆς ἐκδιούσης τὸ ἔγγραφον ἐξουσιοδοτήσεως Ἀρχῆς κατὰ τὸν Κανονισμὸν 10 τοῦ παρόντος Κεφαλαίου.

(β) Τὰ χαρακτηριστικά τῆς ἀθικτου εὐσταθείας οἰοῦδήποτε πλοίου μεταφέροντος σιτηρὰ χύδην θὰ ἐμφαίνουσι ὅτι πληροῦνται, κατὰ τὴν διάρκειαν τοῦ ταξειδίου, τοῦλάχιστον τὰ κατωτέρω κριτήρια ἀφοῦ ληφθῶσι ὑπ' ὄψιν αἱ κατὰ τὸν εἰς τὸ Μέρος Β' περιγραφόμενον τρόπον ροπαὶ κλίσεως συνεπεῖα μετακινήσεως τῶν σιτηρῶν.

(i) ἡ γωνία κλίσεως συνεπεῖα μετακινήσεως τῶν σιτηρῶν δέν θὰ εἶναι μεγαλυτέρα τῶν 12 μοιρῶν ἐκτός τῆς περιπτώσεως κατὰ τὴν ὁποίαν ἡ Ἀρχή, παρέχουσα ἐξουσιοδοτήσιν συμφώνως πρὸς τὸν Κανονισμὸν 10 τοῦ παρόντος Κεφαλαίου, δυνατόν νά ἀπαιτήσῃ μικροτέραν γωνίαν κλίσεως ἐάν θεωρῇ ὅτι ἐκ τῆς πείρας τοῦτο ἀπεδείχθη ἀπαραίτητον*,

(ii) εἰς τὸ διάγραμμα στατικῆς εὐσταθείας, ἢ καθαρά ἢ ἀπομένουσα ἐπιφάνεια μεταξὺ τῆς καμπύλης μοχλοβραχίονος κλίσεως καὶ τῆς καμπύλης μοχλοβραχίονος ἐπαναφορᾶς μέχρι τῆς γωνίας κλίσεως τῆς μεγίστης διαφορᾶς μεταξὺ τῶν τεταγμένων τῶν δύο καμπύλων, ἢ 40 μοιρῶν ἢ τῆς «γωνίας κατακλύσεως» (ΘF), οἰαδήποτε εἶναι μικροτέρα, θὰ εἶναι ὑφ' ἀπάσας τὰς συνθήκας φορτώσεως οὐχὶ μικροτέρα τῶν 0,075 μετροακτινίων, καὶ

(iii) τὸ ἀρχικόν μετακεντρικόν ὕψος, μετὰ τὴν διόρθωσιν τῶν ἐπιδράσεων τῶν ἐλευθέρων ἐπιφανειῶν τῶν ὑγρῶν εἰς τὰς δεξαμενάς, δέν θὰ εἶναι μικρότερον τῶν 0,30 μέτρων.

(γ) Πρὸ τῆς φορτώσεως σιτηρῶν χύδην ὁ πλοίαρχος, ἐφ' ὅσον ἀπαιτηθῇ τοῦτο ὑπὸ τῆς Συμβαλλομένης Κυβερνήσεως τῆς Χώρας τοῦ λιμένος φορτώσεως, θὰ ἐπιδεικνύῃ τὴν ἱκανότητα τοῦ πλοίου ὅπως συμμορφωθῇ πρὸς τὰ κριτήρια εὐσταθείας τὰ ἀπαιτούμενα ὑπὸ τῆς παραγράφου (β) τοῦ παρόντος Κανονισμοῦ, εἰς ὅλα τὰ στάδια οἰοῦδήποτε ταξειδίου διὰ τῆς χρήσεως πληροφοριῶν ἐγκεκριμένων καὶ ἐκδοθειῶν συμφώνως πρὸς τοὺς Κανονισμοὺς 10 καὶ 11 τοῦ παρόντος Κεφαλαίου.

(δ) Μετὰ τὴν φόρτωσιν ὁ πλοίαρχος θὰ ἐξασφαλίσῃ ὅτι τὸ πλοῖον εἶναι εἰς ὀρθίαν θέσιν πρὶν ἢ ἀνοιχθῇ εἰς τὴν θάλασσαν.

Κανονισμός 5

Διαμήκη Διαφράγματα καὶ Λεκάνας

(α) Εἰς ἀμφοτέρας τὰς περιπτώσεις τῶν «πλήρων» καὶ «μερικῶς πεπληρωμένων διαμερισμάτων» διαμήκη διαφράγματα δύνανται νά ἐγκαθίστανται ὡς μέσα ἢ διὰ νά

* Ἐπὶ παραδείγματι, ἡ ἐπιτροπὴ γωνία κλίσεως δύναται νά περιορισθῇ εἰς τὴν γωνίαν κλίσεως κατὰ τὴν ὁποίαν ἡ ἀκμὴ τοῦ κυρίου καταστρώματος θὰ ἐμβυθίζεται ὑπὸ συνθήκας ἡρεμοῦντος ὕδατος.

μειώσουν τās δυσμενείς επιδράσεις κλίσεως εκ τής μετακινήσεως τών σιτηρών η διά νά περιορίσουν τό ύψος του φορτίου του χρησιμοποιουμένου διά νά ασφαλισθῆ ἡ ἐπιφάνεια τών σιτηρών. Τοιαυτά διαφράγματα δέον ὄπως κατασκευάζονται σιτοστεγῶς, συμφώνως πρός τās ἀπαιτήσεις του Τμήματος I του Μέρους Γ' του παρόντος Κεφαλαίου.

(β) Ἐντός «πλήρους διαμερίσματος» ἐφ' ὅσον τοποθετεῖται διάφραγμα ἵνα περιορίση τās δυσμενείς επιδράσεις εκ τής μετακινήσεως τών σιτηρών:

- (i) θά ἐπεκτείνεται ἀπό καταστρώματος εἰς κατάστρωμα εἰς διαμέρισμα μετά ἐνδιαμέσου καταστρώματος, καί
- (ii) θά ἐπεκτείνεται πρός τά κάτω εκ τής κάτω ὀψεως του καταστρώματος ἢ τών καλυμμάτων τών στομιῶν κυτῶν μέχρις ἀποστάσεως καθοριζομένης ὑπό του Τμήματος II του Μέρους Β του παρόντος Κεφαλαίου.

Ἐκτός τής περιπτώσεως τών λινοσπόρων ἢ ἐτέρων σπόρων ἐχόντων παρόμοια χαρακτηριστικά, τὰ διαμήκη διαφράγματα κάτωθεν του στομιῦ κύτους δύνανται νά ἀντικατασταθοῦν διά λεκάνης σχηματιζομένης διά του τρόπου του καθοριζομένου ὑπό του Τμήματος I του Μέρους Γ' του παρόντος Κεφαλαίου.

(γ) Ἐντός «μερικῶς πεπληρωμένου διαμερίσματος», ἐφ' ὅσον τοποθετεῖται διάφραγμα, δέον ὄπως τοῦτο ἐκτείνεται εἰς ὕψος ἴσον πρός τό ἐν ὄγδοον του μεγίστου πλάτους του διαμερίσματος ὑπεράνω τής ἐπιφανείας τών σιτηρών ὡς καί κάτωθεν τής ἐπιφανείας τών σιτηρών κατά τήν αὐτήν ἀπόστασιν. Ὅτε τό διάφραγμα τοῦτο χρησιμοποιεῖται ἵνα περιορίση τό βάθος του φορτίου του προοριζομένου διά τήν ἀσφάλισιν τής ἐπιφανείας, τό ὕψος του κεντρικοῦ διαφράγματος δέον ὄπως μὴ εἶναι ὀλιγώτερον τών 0,60 μέτρων ὑπεράνω τής ἐπιφανείας τών σιτηρών.

(δ) Πλέον τών ἀνωτέρω, αἱ δυσμενείς επιδράσεις κλίσεως εκ τής μετακινήσεως τών σιτηρών δύνανται νά μειωθοῦν διά συμπαγῶς στοιβασίας πρός τās πλευράς καί τά ἐγκάρσια διαφράγματα του διαμερίσματος διά σάκκων, πεπληρωμένων διά σιτηρών ἢ ἐτέρου ὁμοίου φορτίου ἐπαρκῶς προστατευομένου εκ τής μετακινήσεως.

Κανονισμός 6

Ἀσφάλισις

(α) Ἐκτός τής περιπτώσεως καθ' ἣν ἔχει ληφθῆ ὑπ' ὄψιν ἡ δυσμενής ἐπίδρασις κλίσεως συνεπεία μετακινήσεως τών σιτηρών συμφώνως πρός τούς παρόντας Κανονισμούς, ἡ ἐπιφάνεια τών χύδην σιτηρών ἐντός οἰουδήποτε «μερικῶς πεπληρωμένου διαμερίσματος» δέον ὄπως διευθετῆται ὀριζοντίως καί καλύπτεται διά σιτηρών ἐντός σάκκων συμπαγῶς ἐστοιβαγμένων καί ἐκτεινομένων εἰς ὕψος οὐχί ὀλιγώτερον του $\frac{1}{16}$ του μεγίστου πλάτους τής ἐλευθέρως ἐπιφανείας τών σιτηρών ἢ 1,20 μέτρων, οἰουδήποτε εἶναι τό μεγαλύτερον. Ἐντὶ τών ἐνσακκισμένων σιτηρών, ἕτερον κατάλλον φορτίον ἐξασκοῦν τοῦλάχιστον τήν ἴδιαν πίεσιν δύνανται νά χρησιμοποιηθῶν.

(β) Τὰ ἐνσακκισμένα σιτηρά ἢ ἕτερον κατάλληλον φορτίον δέον ὄπως ὀποστηρίζονται μέ τόν περιγραφόμενον τρόπον εἰς τό Τμήμα II του Μέρους Γ' του παρόντος Κεφαλαίου. Ἐναλλακτικῶς ἡ ἐπιφάνεια τών χύδην σιτηρών δύνανται νά ασφαλίξεται διά ταινιῶν ἢ συρματοσχοιῶν ὡς ταῦτα περιγράφονται εἰς τό Τμήμα ἐκεῖνο.

Κανονισμός 7

Τροφοδοτικά Στόμια καί Ὀχετοί

Ἐάν τροφοδοτικά στόμια ἢ ὀχετοί ἔχωσι τοποθετηθῶν, δέον ὄπως ληφθοῦν καταλ-

λήλως ὑπ' ὄψιν αἱ ἐξ αὐτῶν ἐπιδράσεις κατὰ τὸν ὑπολογισμόν τῶν ροπῶν κλίσεως ὡς περιγράφονται εἰς τὸ Τμήμα III τοῦ Μέρους Β' τοῦ παρόντος Κεφαλαίου. Ἡ ἀντοχή τῶν διαφραγμάτων ἄτινα σχηματίζουν τὰ τροφοδοτικά στόμια, δέον ὅπως ἀνταποκρίνεται πρὸς τὰς ἀπαιτήσεις τοῦ Τμήματος I τοῦ Μέρους Γ' τοῦ παρόντος Κεφαλαίου.

Κανονισμός 8

Συνδυασμοὶ Διατάξεων

Κατώτερα κύτῃ καὶ ὑπερκεείμενα αὐτῶν διαφράγματα δύνανται νὰ φορτωθοῦν ὡς ἐν διαμέρισμα, ὑπὸ τὴν προϋπόθεσιν ὅτι κατὰ τὸν ὑπολογισμόν τῶν ροπῶν ἐγκαρσίας κλίσεως θὰ λαμβάνεται καταλλήλως ὑπ' ὄψιν ἡ ροὴ τῶν σιτηρῶν πρὸς τοὺς κατώτερους χώρους.

Κανονισμός 9

Ἐφαρμογὴ τῶν Μερῶν Β' καὶ Γ'

Μία Ἀρχὴ ἢ μία Συμβαλλομένη Κυβέρνησις ἐνεργοῦσα διὰ λογαριασμόν Ἀρχῆς τινὸς δύνανται νὰ ἐπιτρέψῃ ἀπόκλινιν ἐκ τῶν ὑποθετικῶν δεδομένων ἄτινα περιέχονται εἰς τὰ Μέρη Β' καὶ Γ' τοῦ παρόντος Κεφαλαίου εἰς τὰς περιπτώσεις ἐκείνας ὅπου θεωρεῖ ὅτι τοῦτο δικαιολογεῖται, λαμβάνουσα ὑπ' ὄψιν τὰς διατάξεις διὰ τὴν φόρτωσιν ἢ τὰ κατασκευαστικά στοιχεῖα, ἐφ' ὅσον ἔχουν τηρηθῆ τὰ κριτήρια εὐσταθείας τῆς παραγράφου (β) τοῦ Κανονισμοῦ 4 τοῦ παρόντος Κεφαλαίου. Ὅπου ἔχει χορηγηθῆ τοιαύτη ἐξουσιοδοτήσις συμφώνως πρὸς τὸν παρόντα Κανονισμόν, εἰς τὴν ἔγγραφον ἐξουσιοδοτήσιν θὰ περιλαμβάνονται πληροφορίες καὶ στοιχεῖα φορτώσεως σιτηρῶν.

Κανονισμός 10

Ἐξουσιοδοτήσεις

(α.) Ἐγγραφοῦ ἐξουσιοδοτήσις θὰ ἐκδίδεται δι' ἕκαστον πλοῖον τὸ ὅποιον φορτῶναι συμφώνως πρὸς τοὺς Κανονισμοὺς τοῦ παρόντος Κεφαλαίου εἴτε ὑπὸ τῆς Ἀρχῆς εἴτε ὑπὸ τινος Ὁργανισμοῦ ἀνεγνωρισμένου ὑπ' αὐτῆς εἴτε ὑπὸ Συμβαλλομένης Κυβερνήσεως ἐνεργοῦσης διὰ λογαριασμόν τῆς Ἀρχῆς. Αὕτη θὰ γίνεται ἀποδεκτὴ ὡς ἀπόδειξις ὅτι τὸ πλοῖον εἶναι ἱκανὸν ὅπως συμμορφωθῆ πρὸς τὰς ἀπαιτήσεις τῶν παρόντων Κανονισμῶν.

(β.) Τὸ ἔγγραφον θὰ συνοδεύῃ καὶ θὰ ἀναφέρεται εἰς τὸ ἐγχειρίδιον εὐσταθείας φορτώσεως σιτηρῶν ἵνα καθιστᾷ τὸν πλοίαρχον ἱκανὸν ὅπως συμμορφωθῆ πρὸς τὰς ἀπαιτήσεις τῆς παραγράφου (γ) τοῦ Κανονισμοῦ 4 τοῦ παρόντος Κεφαλαίου. Τὸ ἐγχειρίδιον τοῦτο θὰ συμμορφοῦται πρὸς τὰς ἀπαιτήσεις τοῦ Κανονισμοῦ II τοῦ παρόντος Κεφαλαίου.

(γ.) Τὸ ἔγγραφον, τὰ στοιχεῖα εὐσταθείας φορτώσεως σιτηρῶν καὶ τὰ συναφῆ σχέδια δύνανται νὰ συντάσσωνται εἰς τὴν ἐπίσημον γλῶσσαν ἢ γλῶσσας τῆς χώρας ἐκδόσεως. Ἐάν ἡ χρησιμοποιουμένη γλῶσσα δέν εἶναι Ἀγγλικά ἢ Γαλλικά, τὸ κείμενον θὰ περιλαμβάνῃ μετάφρασιν εἰς μίαν ἐκ τῶν γλωσσῶν τούτων.

(δ.) Ἀντίγραφον τοῦ ἐγγράφου, τῶν στοιχείων εὐσταθείας φορτώσεως σιτηρῶν καὶ τῶν συναφῶν σχεδίων δέον ὅπως εὐρίσκωνται ἐπὶ τοῦ πλοίου πρὸς τὸν σκοπὸν ὅπως ὁ Πλοίαρχος, ἐὰν ζητηθῆ, ἐπιδεικνύῃ ταῦτα πρὸς ἐπιθεώρησιν ὑπὸ τῆς Συμβαλλομένης Κυβερνήσεως τῆς Χώρας τοῦ λιμένος φορτώσεως.

(ε.) Πλοῖον ἄνευ τοιαύτης ἐγγράφου ἐξουσιοδοτήσεως δέν θὰ φορτωθῇ σιτηρὰ μέχρις ὅτου ὁ Πλοίαρχος ἐπιδείξῃ πρὸς ἱκανοποίησιν τῆς Ἀρχῆς ἢ τῆς Συμβαλλομέ-

νης Κυβερνήσεως τοῦ λιμένος φορτώσεως ἐνεργοῦσης διὰ λογαριασμόν τῆς Ἀρχῆς, ὅτι τὸ πλοῖον εἰς τὴν προτεινομένην κατάστασιν φορτώσεως θὰ συμμορφωθῆ πρὸς τὰς ἀπαιτήσεις τῶν παρόντων Κανονισμῶν.

Κανονισμός 11

Πληροφορίαὶ Φορτώσεως Σιτηρῶν

Αἱ πληροφορίες αὗται θὰ εἶναι ἐπαρκεῖς ἵνα ἐπιτρέψουν εἰς τὸν Πλοίαρχον νὰ κρίνῃ, εἰς ἀπάσας τὰς λογικῶς πιθανὰς καταστάσεις φορτώσεως, τὰς ροπὰς κλίσεως συνεπεῖα μετακινήσεως τῶν σιτηρῶν, ὑπολογιζομένας συμφῶνως πρὸς τὸ Μῆρος Β' τοῦ παρόντος Κεφαλαίου. Θὰ περιλαμβάνουν τὰ ἀκόλουθα:

(α) Πληροφορίαὶ ἐγκεκριμέναὶ ὑπὸ τῆς Ἀρχῆς ἢ ὑπὸ Συμβαλλομένης Κυβερνήσεως ἐνεργοῦσης διὰ λογαριασμόν τῆς Ἀρχῆς:

- (i) καμπύλας ἢ πίνακας ροπῶν κλίσεως σιτηρῶν δι' ἕκαστον διαμέρισμα, πλήρως ἢ μερικῶς πεπληρωμένον ἢ συνδυασμὸν αὐτῶν, περιλαμβανομένων καὶ ἐπιδράσεων ἐκ προσωρινῶν ἐγκαταστάσεων.
- (ii) πίνακας τῶν ἀνωτάτων ἐπιτρεπομένων ροπῶν κλίσεως ἢ ἐτέρας πληροφορίας ἐπαρκεῖς ὅπως ἐπιτρέψουν εἰς τὸν Πλοίαρχον νὰ ἐπιδείξῃ συμμόρφωσιν πρὸς τὰς ἀπαιτήσεις τῆς παραγράφου (γ) τοῦ Κανονισμοῦ 4 τοῦ παρόντος Κεφαλαίου,
- (iii) λεπτομερείας τῶν στοιχείων οἰωνδήποτε προσωρινῶν ἐγκαταστάσεων καὶ ὅπου τοῦτο ἔχει ἐφαρμογὴν, τὰς ἀπαραιτήτους προϋποθέσεις ἵνα ἐξασφαλισθῆ συμμόρφωσις πρὸς τὰς ἀπαιτήσεις τοῦ Τμήματος I(E) τοῦ Μέρους Γ' τοῦ παρόντος Κεφαλαίου.
- (iv) τυπικὰς καταστάσεις φορτώσεως κατὰ τὸν ἀπόπλουν καὶ τὴν ἀφίξιν εἰς λιμένα καὶ, ὅπου τοῦτο εἶναι ἀναγκαῖον, ἐνδιαμέσους καταστάσεις ἐξαιρετικῶς ἀνεπιθυμητοῦ μορφῆς.
- (v) παράδειγμα προγενεστερᾶς χρήσεως πρὸς καθοδήγησιν τοῦ Πλοίαρχου,
- (vi) ὁδηγίας φορτώσεως ὑπὸ μορφὴν σημειώσεων αἱ ὁποῖαι θὰ ἀποδίδουν ἐν περιλήψει τὰς ἀπαιτήσεις τοῦ παρόντος Κεφαλαίου.

(β) Πληροφορίαὶ αἱ ὁποῖαι θὰ εἶναι ἀποδεκταὶ ὑπὸ τῆς Ἀρχῆς ἢ ὑπὸ συμβαλλομένης Κυβερνήσεως ἐνεργοῦσης διὰ λογαριασμόν τῆς Ἀρχῆς.

- (i) χαρακτηριστικὰ τοῦ πλοίου,
- (ii) ἀφορτον ἐκτόπισμα καὶ τὴν κατακόρυφον ἀπόστασιν ἀπὸ τὴν τομὴν τῆς γραμμῆς βάσεως ἔξωθι τῶν νομέων μετὰ τῆς ἐγκαρσίας τομῆς εἰς τὸ μέσον τοῦ πλοίου, ἕως τὸ κέντρον βάρους τοῦ πλοίου (KG),
- (iii) πίνακα διορθώσεως ἐλευθέρων ἐπιφανειῶν,
- (iv) χωρητικότητες καὶ κέντρα βάρους.

Κανονισμός 12

Ἴσοδύναμα

Ὅπου ἐπιρριζεῖται ἰσοδύναμον τί ἀποδεκτὸν ὑπὸ τῆς Ἀρχῆς συμφῶνως πρὸς τὸν Κανονισμὸν I τοῦ Κεφαλαίου I τῆς παρούσης Συμβάσεως, στοιχεῖα περὶ τούτου δεόν

δπως περιλαμβάνονται εις την Έγγραφον Έξουσιοδότησιν η τας πληροφορίας περι φορτώσεως σιτηρών.

Κανονισμός 13

Έξαιρέσεις δι' Ωρισμένα Ταξείδια

Ἡ Ἀρχή, ἢ Συμβαλλομένη Κυβέρνησις ἐνεργοῦσα διὰ λογαριασμῶν τῆς Ἀρχῆς, δύναται νὰ ἐξαιρέσῃ συγκεκριμένα πλοῖα ἢ κατηγορίας πλοίων ἐκ τῆς ἐφαρμογῆς ἀπαιτήσεων τινῶν τῶν Κανονισμῶν 3 ἕως 12 τοῦ παρόντος Κεφαλαίου ἐὰν θεωρῆ ὅτι τὸ προστατευμένον τῆς περιοχῆς καὶ αἱ συνθήκαι τοῦ ταξιδίου εἶναι τοιαῦται ὥστε νὰ καθιστοῦν τὴν ἐφαρμογὴν τῶν ἀπαιτήσεων αὐτῶν παράλογον ἢ μὴ ἀναγκαίαν.

ΜΕΡΟΣ Β' — ΥΠΟΛΟΓΙΣΜΟΣ ΥΠΟΘΕΤΙΚΩΝ ΡΟΠΩΝ ΚΛΙΣΕΩΣ

ΤΜΗΜΑ Ι — ΠΕΡΙΓΡΑΦΗ ΤΩΝ ΥΠΟΘΕΤΙΚΩΝ ΚΕΝΩΝ ΚΑΙ ΜΕΘΟΔΟΣ ΥΠΟΛΟΓΙΣΜΟΥ ΤΗΣ ΑΘΙΚΤΟΥ ΕΥΣΤΑΘΕΙΑΣ

ΤΜΗΜΑ ΙΙ — ΥΠΟΘΕΤΙΚΗ ΟΓΚΟΜΕΤΡΙΚΗ ΡΟΠΗ ΚΛΙΣΕΩΣ ΠΛΗΡΟΥΣ ΔΙΑΜΕΡΙΣΜΑΤΟΣ

ΤΜΗΜΑ ΙΙΙ — ΥΠΟΘΕΤΙΚΗ ΟΓΚΟΜΕΤΡΙΚΗ ΡΟΠΗ ΚΛΙΣΕΩΣ ΤΡΟΦΟΔΟΤΙΚΩΝ ΣΤΟΜΙΩΝ ΚΑΙ ΟΧΕΤΩΝ

ΤΜΗΜΑ ΙV — ΥΠΟΘΕΤΙΚΗ ΟΓΚΟΜΕΤΡΙΚΗ ΡΟΠΗ ΜΕΡΙΚΩΣ ΠΕΠΛΗΡΩΜΕΝΩΝ ΔΙΑΜΕΡΙΣΜΑΤΩΝ

ΤΜΗΜΑ V — ΕΝΑΛΛΑΚΤΙΚΑΙ ΔΙΑΤΑΞΕΙΣ ΦΟΡΤΩΣΕΩΣ ΔΙ' ΥΠΑΡΧΟΝΤΑ ΠΛΟΙΑ

ΤΜΗΜΑ Ι — ΠΕΡΙΓΡΑΦΗ ΤΩΝ ΥΠΟΘΕΤΙΚΩΝ ΚΕΝΩΝ ΚΑΙ ΜΕΘΟΔΟΣ ΥΠΟΛΟΓΙΣΜΟΥ ΤΗΣ ΑΘΙΚΤΟΥ ΕΥΣΤΑΘΕΙΑΣ

(Α) ΓΕΝΙΚΑ

(α) Πρὸς τὸν σκοπὸν ὑπολογισμοῦ τῆς ἐπικινδύνου ροπῆς κλίσεως συνεπεία μετακινήσεως τῆς ἐπιφανείας τοῦ φορτίου ἐπὶ πλοίων μεταφερόντων σιτηρὰ χύδην, θά ὑποτίθεται ὅτι:

- (i) Ἐντὸς «πλήρων διαμερισμάτων» τὰ ὁποῖα ἔχουν διευθετηθῆ συμφώνως πρὸς τὸν Κανονισμὸν 3 τοῦ παρόντος Κεφαλαίου, ὑφίσταται κενὸν κάτωθεν ἀπασῶν τῶν ὀριακῶν ἐπιφανείων ἔχον κλίσιν πρὸς τὸ ὀριζόντιον μικρότεραν τῶν 30 μοιρῶν καὶ ὅτι τὸ κενὸν τοῦτο εἶναι παράλληλον πρὸς τὴν ὀριακὴν ἐπιφάνειαν μὲ μέσον βάθος ὑπολογιζόμενον συμφώνως πρὸς τὸν κατωτέρω τύπον:

$$Vd = Vd_1 + 0,75(d - 600) \text{ χιλ/τρα (mm)}$$

Ἐνθα:

$$Vd = \text{Μέσον βάθος κενοῦ εἰς χιλ/τρα (mm)}$$

$$Vd_1 = \text{Σταθερὸν βάθος κενοῦ ἐκ τοῦ Πίνακος I κατωτέρω}$$

$$d = \text{Πραγματικὸν βάθος δοκοῦ εἰς χιλ/τρα (mm)}$$

Εἰς οὐδεμίαν περίπτωσιν τὸ Vd θά ὑποτίθεται ὅτι εἶναι μικρότερον τῶν 100 χιλ/τρων (mm).

ΠΙΝΑΞ Ι

Απόστασις ἐκ τῶν ἄκρων ἢ
πλευρῶν τοῦ στομίου κύτους
ἕως τὰ ὅρια τοῦ διαμερισματος

Σταθερὸν βάθος κενοῦ
Vd₁

<i>metres</i>	<i>mm</i>
0.5	570
1.0	530
1.5	500
2.0	480
2.5	450
3.0	440
3.5	430
4.0	430
4.5	430
5.0	430
5.5	450
6.0	470
6.5	490
7.0	520
7.5	550
8.0	590

Σημειώσεις ἐπὶ τοῦ Πίνακος I:

Δι' ἀποστάσεις μεγαλύτερας τῶν 8,0 μέτρων τὸ σταθερὸν βάθος τοῦ κενοῦ Vd₁ θὰ ὑπολογίζεται δι' εὐθείας παρεμβολῆς κατὰ 80 χλ/τρα (mm) ἀξανάμενον δι' ἐκάστην κατὰ 1 μέτρον ἀξίησιν τῆς ἀποστάσεως. Ὅπου ὑφίσταται διαφορὰ εἰς τὸ βάθος μεταξὺ τῆς πλευρικῆς σταθμίδος στομίου κύτους ἢ τῆς συνεχείας αὐτῆς καὶ τῆς δοκοῦ τοῦ ἄκρου τοῦ στομίου κύτους θὰ γίνεται χρῆσις τοῦ μεγαλύτερου βάθους.

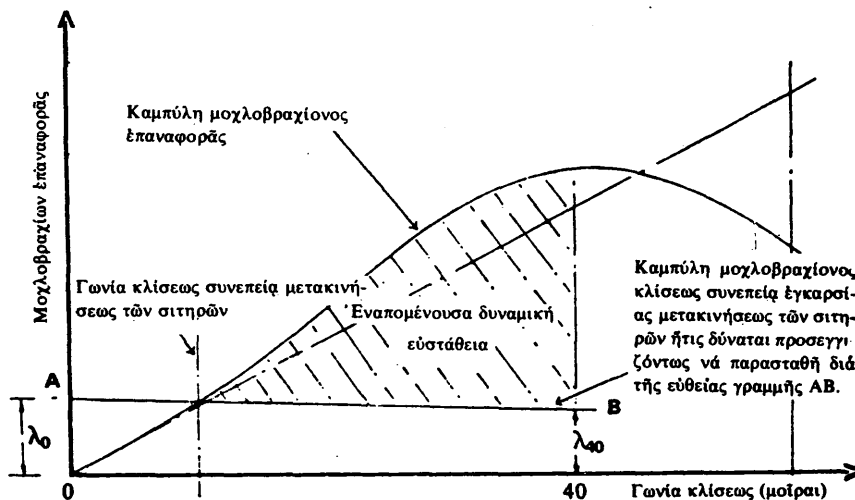
- (1) ὅτε ἡ πλευρικὴ σταθμὶς τοῦ στομίου κύτους ἢ ἡ συνέχεια αὐτῆς εἶναι περισσότερον ρηχὴ τῆς δοκοῦ τοῦ ἄκρου τοῦ στομίου κύτους, τὰ κενὰ παραπλευρῶς τοῦ στομίου κύτους δύνανται νὰ ὑπολογίζωνται διὰ τῆς χρησιμοποίησεως τοῦ μικροτέρου βάθους, καὶ
 - (2) ὅτε ἡ δοκὸς τοῦ ἄκρου τοῦ στομίου κύτους εἶναι περισσότερον ρηχὴ τῆς πλευρικῆς σταθμίδος τοῦ στομίου κύτους ἢ τῆς συνεχείας αὐτῆς, τὰ κενὰ τοῦ στομίου κύτους πρὸς πῶραν ἢ πρὸς πρύμναν ἐσωτερικῶς τῆς συνεχείας τῆς πλευρικῆς σταθμίδος, δύνανται νὰ ὑπολογίζωνται διὰ τῆς χρησιμοποίησεως τοῦ μικροτέρου βάθους,
 - (3) ὅτε ὑφίσταται ὑπερυψωμένον καταστρώμα εἰς ἀπόστασιν ἐκ τοῦ στομίου κύτους, τὸ μέσον βάθος κενοῦ μετρούμενον ἐκ τῆς κάτω πλευρᾶς τοῦ ὑπερυψωμένου καταστρώματος θὰ ὑπολογίζεται διὰ τῆς χρησιμοποίησεως τοῦ σταθεροῦ βάθους κενοῦ ἐν συσχετίζει πρὸς τὸ βάθος μιᾶς σταθμίδος τῆς δοκοῦ τοῦ ἄκρου τοῦ στομίου κύτους σὺν τοῦ ὑπερυψωμένου καταστρώματος.
- (ii) Ἐντὸς «πλήρων διαμερισμάτων» τὰ ὁποῖα δὲν ἔχουν διευθετηθῆ συμφώνως πρὸς τὸν Κανονισμόν 3 τοῦ παρόντος Κεφαλαίου καὶ ὅπου ἡ ὀριανὴ ἐπιφάνεια ἔχει μίαν κλίσιν ὡς πρὸς τὸ ὀριζόντιον ἥτις εἶναι μικρότερα τῶν 30 μοιρῶν, ἡ ἐπιφάνεια τοῦ φορτίου ἔχει μίαν κλίσιν 30 μοιρῶν ὡς πρὸς τὸ ὀριζόντιον μετὰ τὴν φόρτωσιν.
- (iii) Ἐντὸς τῶν πεπληρωμένων στομιῶν κυτῶν καὶ ἐπιπλέον πρὸς οἰονδήποτε ἀνοικτὸν κενὸν ἐντὸς τοῦ καλύμματος τοῦ στομίου κύτους, ὑφίσταται κενὸν μέσου βάθους 150 χιλ/τρων (mm) μετρούμενον πρὸς τὰ κάτω ἐκ τοῦ κατωτέρου μέρους τοῦ καλύμματος τοῦ στομίου κύτους εἰς τὴν ἐπιφάνειαν τῶν σιτηρῶν ἢ τοῦ ἀνωτάτου σημείου τοῦ πλευρικοῦ χείλους τοῦ στομίου κύτους, οἰονδήποτε εὐρίσκεται χαμηλότερον.

(β) Ἡ περιγραφή τοῦ πρωτοτύπου τῆς ὑποθετικῆς συμπεριφορᾶς τῆς ἐπιφανείας τῶν σιτηρῶν ἐντός «μερικῶς πεπληρωμένων διαμερισμάτων» ἐμφαίνεται εἰς τό Τμήμα IV τοῦ παρόντος Μέρους.

(γ) Πρός τόν σκοπόν ὅπως ἐπιδειχθῆ συμμόρφωσις πρός τά κριτήρια εὐσταθείας τῆς παραγράφου (β) τοῦ Κανονισμοῦ 4 τοῦ παρόντος Κεφαλαίου (δρα Σχήμα 1), οἱ ὑπολογισμοί εὐσταθείας τοῦ πλοίου θά βασίζωνται κανονικῶς ἐπί τῆς ὑποθέσεως ὅτι τό κέντρον βάρους τοῦ φορτίου εἰς ἓν «πλήρες διαμέρισμα» εὐρίσκεται ἐπί τοῦ ὀγκομετρικοῦ κέντρου ὀλοκλήρου τοῦ χώρου τοῦ φορτίου. Εἰς τὰς περιπτώσεις ἐκεῖνας ὅπου ἡ Ἀρχή ἐπιτρέπει ὅπως ληφθῆ ὑπ' ὄψιν ἡ ἐπίδρασις τῶν ὑποθετικῶν, ὑπό τό κατάστρωμα, κενῶν εἰς τήν κατακόρυφον θέσιν τοῦ κέντρου βάρους τοῦ φορτίου ἐντός «πληρῶν διαμερισμάτων», θά εἶναι ἀπαραίτητον ὅπως ἀντισταθμισθῆ διά τή ἐπιζήμιαν ἐπίδρασιν τῆς κατακόρυφου μετακινήσεως τῶν ἐπιφανειῶν τῶν σιτηρῶν, διά τῆς αὐξήσεως τῆς ὑποθετικῆς ροπῆς κλίσεως συνεπεία τῆς ἐγκαρσίας μετακινήσεως τῶν σιτηρῶν ὡς κατωτέρω:

ὀλική ροπή κλίσεως = $1,06 \times$ ὑπολογισθεῖσα ἐγκαρσία ροπή κλίσεως

Εἰς ἀπάσας τὰς περιπτώσεις τό βάρος τοῦ φορτίου ἐντός ἐνός «πλήρους διαμερισματος» θά εἶναι ὁ ὄγκος ὀλοκλήρου τοῦ χώρου φορτίου διαιρούμενος πρός τόν δείκτην στοιβασίας.



Σχήμα 1

Σημειώσεις ἐπί τοῦ Σχήματος 1 :

(1) Ἐνθα:

$$\lambda_0 = \frac{\text{Ὑποθετικὴ ὀγκομετρικὴ ροπή κλίσεως συνεπεία ἐγκαρσίας μετακινήσεως}}{\text{Συντελεστὴς στοιβασίας} \times \text{Ἐκτόπισμα}}$$

$$\lambda_{40} = 0,8 \times \lambda_0$$

Συντελεστὴς στοιβασίας = Ὀγκος κατὰ μονάδα βάρους τοῦ φορτίου σιτηρῶν,

Ἐκτόπισμα = Βάρος τοῦ πλοίου, καύσιμα, γλυκὸ ὕδωρ, ἐφόδια καὶ φορτίον.

(2) Ἡ καμπύλη τοῦ μοχλοβραχίονος ἐπιφανείας θά ἐξάγεται ἀπὸ τὰ σημεῖα διασταυρώσεως τῶν καμπῶν τὰ ὅποια εἶναι ἐπαρκῆ εἰς ἀριθμὸν ἵνα καθορισθῆ ἐπακριβῶς ἡ καμπύλη πρός τόν σκοπὸν τῶν παρούσων ἀπαιτήσεων καὶ θά περιλαμβάνη τὰ σημεῖα διασταυρώσεως τῶν καμπῶν εἰς τὰς 12 μοίρας καὶ 40 μοίρας.

(δ) Ἐντός τῶν «μερικῶς πεπληρωμένων διαμερισμάτων» ἡ ἐπικίνδυνος ἐπίδρασις τῆς κατακορύφου μετακινήσεως τῆς ἐπιφανείας τῶν σιτηρῶν θά λαμβάνεται ὑπ' ὄψιν ὡς ἀκολουθῶς:

$$\delta\lambda\iota\kappa\acute{\eta}\ \rho\omicron\pi\eta\ \kappa\lambda\iota\sigma\epsilon\omega\varsigma = 1.12 \times \text{ὑπολογισθεῖσα ἐγκαρσία ροπή κλίσεως}$$

(ε) Οἰαδήποτε ἔτερα μέθοδος ἐξ ἴσου ἀποτελεσματικὴ δύναται νά υἱοθετηθῆ ἵνα ἐξασφαλισθῆ ἡ ἀντιστάθμισις ἣτις ἀπαιτεῖται εἰς τὰς παραγράφους (γ) καὶ (δ) ἀνωτέρω.

ΤΜΗΜΑ ΙΙ — ΥΠΟΘΕΤΙΚΗ ΟΓΚΟΜΕΤΡΙΚΗ ΡΟΠΗ ΚΛΙΣΕΩΣ ΕΝΟΣ ΠΛΗΡΟΥΣ ΔΙΑΜΕΡΙΣΜΑΤΟΣ

(Α) ΓΕΝΙΚΑ

(α) Τό ὑπόδειγμα τῆς κινήσεως τῆς ἐπιφανείας τῶν σιτηρῶν ἀναφέρεται εἰς ἐγκάρσιον τμήμα κατὰ μήκος τοῦ μέρους τοῦ διαμερίσματος τό ὁποῖον ἐξετάζεται καί ἡ ὡς ἀποτέλεσμα προκύπτουσα ροπή κλίσεως θά πολλαπλασιάζεται ἐπὶ τό μήκος ἵνα εὐρεθῆ ἡ ὄλική ροπή διὰ τό μέρος τοῦτο.

(β) Ἡ ὑποθετικὴ ἐγκαρσία ροπή κλίσεως συνεπεῖα μετακινήσεως τῶν σιτηρῶν εἶναι ἀποτέλεσμα τῶν τελικῶν μεταβολῶν τοῦ σχήματος καί τῆς θέσεως τῶν κενῶν μετὰ τήν μετακίνησιν τῶν σιτηρῶν ἐκ τῆς ὑψηλοτέρας πλευρᾶς εἰς τήν χαμηλοτέραν τοιαύτην.

(γ) Ἡ ὡς ἀποτέλεσμα προκύπτουσα ἐπιφάνεια τῶν σιτηρῶν μετὰ τήν μετακίνησιν θά ὑποτίθεται ὅτι σχηματίζει κλίσιν πρὸς τό ὀριζόντιον 15 μοιρῶν.

(δ) Ὑπολογίζοντας τήν μεγίστην περιοχὴν τοῦ κενοῦ ἣτις δύναται νά σχηματισθῆ ἐπὶ τινος διαμήκου κατασκευαστικοῦ στοιχείου, αἱ ἐπιδράσεις οἰωνδήποτε ὀριζοντίων ἐπιφανειῶν, π.χ. περιαιχενίων ἢ μετωπικῶν δοκῶν, δέν θά ὑπολογίζωνται.

(ε) Αἱ ὄλικαί περιοχαί τῶν ἀρχικῶν καί τελικῶν κενῶν θά ἰσοῦνται μεταξύ των.

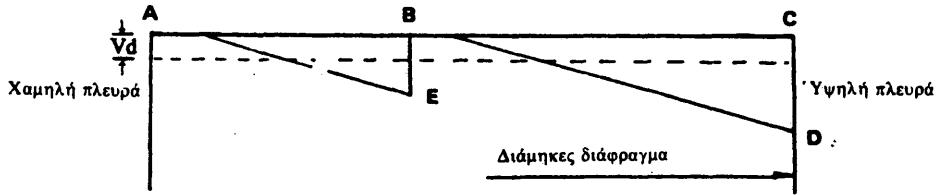
(στ) Διάμηκες διάφραγμα οὐχί συνεχές θά ὑπολογίζεται ὅτι ἐπιδρᾷ διὰ τοῦ πλήρους μήκουσ αὐτοῦ.

(Β) ΥΠΟΘΕΤΙΚΑ ΔΕΔΟΜΕΝΑ

Εἰς τὰς ἀκολουθοῦσας παραγράφους λαμβάνεται ὡς ὑπόθεσις ὅτι ἡ ὄλική ροπή κλίσεως δι' ἓν διαμέρισμα εὐρίσκεται διὰ τῆς προσθέσεως τῶν ἀποτελεσμάτων τῶν κεχωρισμένων ὑπολογισμῶν τῶν κατωτέρω μερῶν του:

(α) *Πρώραθεν καὶ πρύμνηθεν τῶν στομίων κυτῶν:*

- (i) Ἐάν ἓν διαμέρισμα ἔχη δύο ἢ περισσότερα κύρια στόμια κύτους μέσω τῶν ὀποιῶν δύναται νά λάβῃ χώραν φόρτωσις, τό βάθος τῶν κενῶν κάτωθεν τοῦ καταστρώματος διὰ τό (τά) μέρος (ἠ) μεταξύ τῶν τοιούτων στομίων κυτῶν θά ὑπολογίζεται διὰ τῆς χρήσεως τῆς πρὸς πῶραν καί πρὸς πρύμνην ἀποστάσεως ἐκ τοῦ σημείου ἰσαποστάσεως μεταξύ τῶν στομίων κυτῶν.
- (ii) Μετὰ τήν ὑποθετικὴν μετακίνησιν τῶν σιτηρῶν τό τελικόν κενόν ὑποδείγματος θά εἶναι ὡς ἐμφαίνηται εἰς τό Σχῆμα 2 κατωτέρω



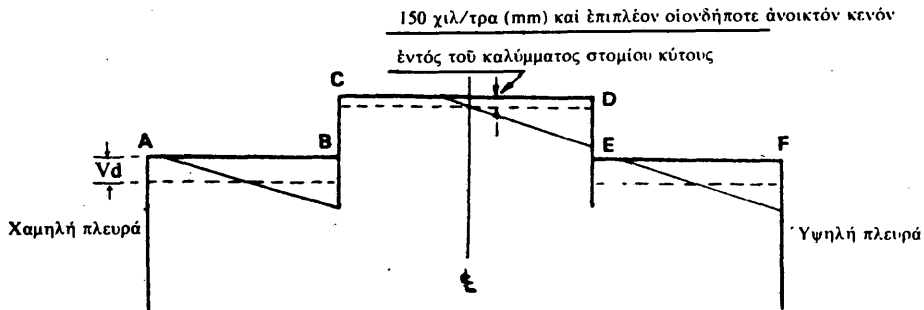
Σχήμα 2

Σημειώσεις επί του Σχήματος 2 :

- (1) 'Εάν ή μεγάλη περιοχή κενού ή τις δύναται νά σχηματισθή επί της σταθμίδος εις τό σημείον B είναι μικρότερα της αρχικής περιοχής κενού κάτωθεν του τμήματος AB, λ.χ. $AB \times Vd$. ή πλεονάζουσα περιοχή θά υποτίθεται ότι μεταφέρεται εις τό τελικόν κενόν επί της ύψηλης πλευράς.
- (2) 'Εάν τό διάμηκες διάφραγμα εις τό C είναι έκ των προβλεπομένων υπό του έδαφίου β(ii) του Κανονισμού 5 του παρόντος Κεφαλαίου, θά έπακτείνεται κατά τουλάχιστον 0,6 μέτρα κάτωθεν του D ή E, οιονδήποτε δίδει τό μεγαλύτερον βάθος.

(β) 'Εντός και παραπλεύρως των στομιών κυτών :

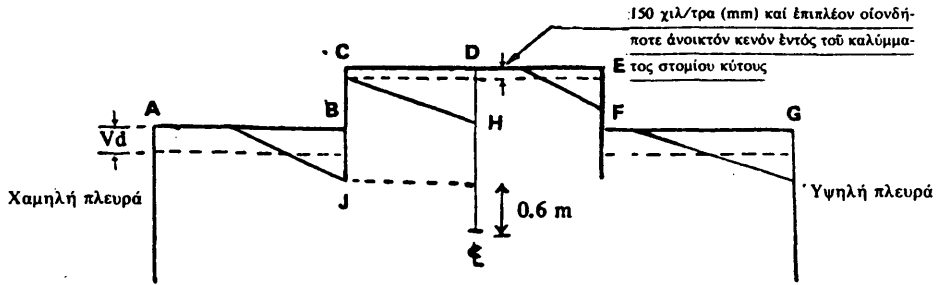
Μετά την υποθετική μετακίνηση των σιτηρών τό τελικόν κενόν υποδείματος θά είναι ως ενδείκνυται εις τά ακόλουθα σχήματα 3 ή 4.



Σχήμα 3

Σημειώσεις επί του Σχήματος 3 :

- (1) AB Οιαδήποτε περιοχή καθ' ύπερβασιν εκείνης ή τις δύναται νά σχηματισθή επί της σταθμίδος εις τό B θά μεταφέρεται εις την τελικήν περιοχήν κενού εις τό στόμιον κύτους.
- (2) CD Οιαδήποτε περιοχή καθ' ύπερβασιν εκείνης ή τις δύναται νά σχηματισθή επί της σταθμίδος εις τό E θά μεταφέρεται εις την τελικήν περιοχήν κενού επί της ύψηλης πλευράς.



Σχήμα 4

Σημειώσεις επί του Σχήματος 4:

- (1) 'Εάν τό κεντρικόν διάμηκες διάφραγμα είναι εκ τών προβλεπομένων υπό του έδαφίου β(ι') του Κανονισμού 5 του παρόντος Κεφαλαίου θά επεκτείνεται κατά τουλάχιστον 0,6 μέτρα κάτωθεν του Η ή του J, οιονδήποτε δίδει τό μεγαλύτερον βάθος.
- (2) 'Η καθ' ύπερβασην περιοχή κενού εκ του ΑΒ θά μεταφέρεται εις τό ήμισυ τής χαμηλής πλευράς του στομίου κύτους έντός του οποίου δύο κεχωρισμένα περιοχά κενού θά σχηματίζωνται, ήτοι μία επί του κεντρικού διαμήκους διαφράγματος και ή έτέρα επί των χειλέων και τής σταθμίδος τής πλευράς του στομίου κύτους επί τής ύψηλης πλευράς.
- (3) 'Εάν έχη σχηματισθή λεκάνη ή δέμα εξ ενσακκισμένων σιτηρών εις τό στόμιον κύτους, θά υποτίθεται προς τόν σκοπόν του υπολογισμού τής έγκαρσίας ροπής κλίσεως ότι τοιαύτη διάταξις είναι τουλάχιστον ίσοδύναμος προς τό κεντρικόν διάμηκες διάφραγμα.

(Γ) ΔΙΑΜΕΡΙΣΜΑΤΑ ΕΙΣ ΤΑ ΟΠΟΙΑ Η ΦΟΡΤΩΣΙΣ ΕΓΕΝΕΤΟ ΚΑΤΑ ΣΥΝΔΥΑΣΜΟΝ

Αί ακόλουθοι παράγραφοι περιγράφουν ύποδείγματα τής συμπεριφοράς του κενού τό όποιον θά υποτίθεται ότι σχηματίζεται ότε εις διαμερίσματα τινά ή φόρτωσις έγένητο κατά συνδυασμόν:

(α) *Άνευ άποτελεσματικων κεντρικων διαμηκων διαφραγματων:*

- (i) Κάτωθεν του άνωτέρου καταστρώματος — ως διά τας περιπτώσεις πλοίων μονού καταστρώματος αί όποια περιεγράφησαν εις τό τμήμα II(B) του παρόντος Μέρους.
- (ii) Κάτωθεν του δευτέρου καταστρώματος — ή διαθέσιμος περιοχή κενού διά μεταφοράν εκ τής χαμηλής πλευράς λ.χ. άρχική περιοχή κενού μικροτέρα τής περιοχής κενού επί τής σταθμίδος τής πλευράς του στομίου κύτους θά ύτίθεται ότι μεταφέρεται ως άκολούθως:

τό ήμισυ εις τό στόμιον κύτους του άνωτέρου καταστρώματος και άνά έν τέταρτον εις τήν ύψηλήν πλευράν κάτωθεν του άνωτέρου και δευτέρου καταστρώματος.

- (iii) Κάτωθεν του τρίτου ή και χαμηλοτέρων καταστρωμάτων αί διαθέσιμοι περιοχά κενού προς μεταφοράν εκ τής χαμηλής πλευράς εκάστου τών καταστρωμάτων τούτων, θά υποτίθεται ότι μεταφέρεται εις όμοίας ποσότητας εις άπαντα τά κενά κάτωθεν τών καταστρωμάτων επί τής ύψηλης πλευράς και τό κενόν εις τό στόμιον κύτους του άνωτέρου καταστρώματος

(β) *Μετά άποτελεσματικων κεντρικων διαμηκων διαφραγματων επεκτεινομενων εντός του στομίου κύτους του άνωτέρου καταστρώματος.*

- (i) Είς άπαντα τά επίπεδα καταστρώματος παραπλεύρως του διαφράγματος, αϊ διαθέσιμοι περιοχαι κενου προς μεταφοράν εκ τής χαμηλής πλευράς θά υποτίθεται ότι μεταφέρονται εις τό κενόν κάτωθεν του ήμίσεος τής χαμηλής πλευράς του στομίου κύτους του άνωτέρου καταστρώματος.
- (ii) Είς τό επίπεδον του καταστρώματος ακριβώς κάτωθεν του κατωτάτου σημείου του διαφράγματος, ή διαθέσιμος περιοχή κενου προς μεταφοράν εκ τής χαμηλής πλευράς θά υποτίθεται ότι μεταφέρεται ως άκολουθως:
- τό ήμισυ του κενου κάτωθεν τής χαμηλής πλευράς του στομίου κύτους του άνωτέρου καταστρώματος και τό υπόλοιπον εις ίσας ποσότητας κάτωθεν των καταστρωμάτων επί τής ύψηλής πλευράς.
- (iii) Είς επίπεδα καταστρώματος έτερα των περιγραφομένων εις τά εδάφια (i) και (ii) τής παρούσης παραγράφου ή διαθέσιμος περιοχή κενου προς μεταφοράν εκ τής χαμηλής πλευράς εκάστου των καταστρωμάτων τούτων θά υποτίθεται ότι μεταφέρεται εις ίσας ποσότητας εις τά κενά εκάστου εκ των δύο ήμίσεων του στομίου κύτους του άνωτέρου καταστρώματος έφ' εκάστης πλευράς του διαφράγματος και τά κενά κάτωθεν των καταστρωμάτων επί τής ύψηλής πλευράς.
- (γ) *Μετά άποτελεσματικων κεντρικων διαμήκων διαφραγματων μη επεκτεινομενων εντός του στομίου κύτους του άνωτέρου καταστρώματος:*

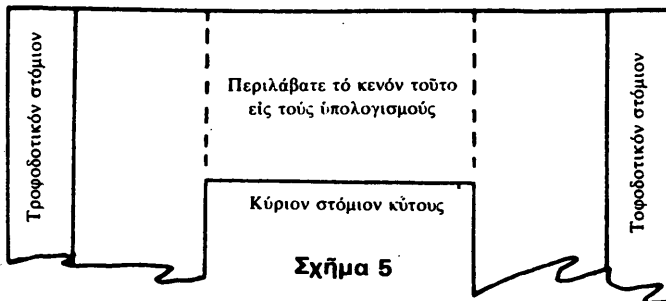
Λαμβανομένου υπ' όψιν ότι δεν είναι δυνατόν να υποτεθῆ όριζοντία μετατόπισις των κενων λαμβάνουσα χώραν εις τό αυτό επίπεδον καταστρώματος του διαφράγματος, ή διαθέσιμος περιοχή κενου προς μετατόπισιν εκ τής χαμηλής πλευράς εις τό επίπεδον τούτο, θά υποτίθεται ότι μεταφέρεται υπεράνω του διαφράγματος εις κενά επί τής ύψηλής πλευράς συμφώνως προς τας άρχάς των άνωτέρω παραγράφων (α) και (β).

ΤΜΗΜΑ ΙΙΙ — ΥΠΟΘΕΤΙΚΗ ΟΓΚΟΜΕΤΡΙΚΗ ΡΟΠΗ ΚΛΙΣΕΩΣ ΤΡΟΦΟΔΟΤΙΚΩΝ ΣΤΟΜΙΩΝ ΚΑΙ ΟΧΕΤΩΝ

(Α) ΚΑΤΑΛΛΗΛΩΣ ΤΟΠΟΘΕΤΗΜΕΝΑ ΠΛΕΥΡΙΚΑ ΤΡΟΦΟΔΟΤΙΚΑ ΣΤΟΜΙΑ (Σχήμα 5)

Δύναται να υποτεθῆ ότι υπό τήν επίδρασιν τής κινήσεως του πλοίου κενά κάτωθεν του καταστρώματος θά πληρωθούν ούσιωδώς εκ τής ροής των σιτηρών έξ ενός ζεύγους διαμήκων τροφοδοτικων στομιών υπό τήν προϋπόθεσιν ότι:

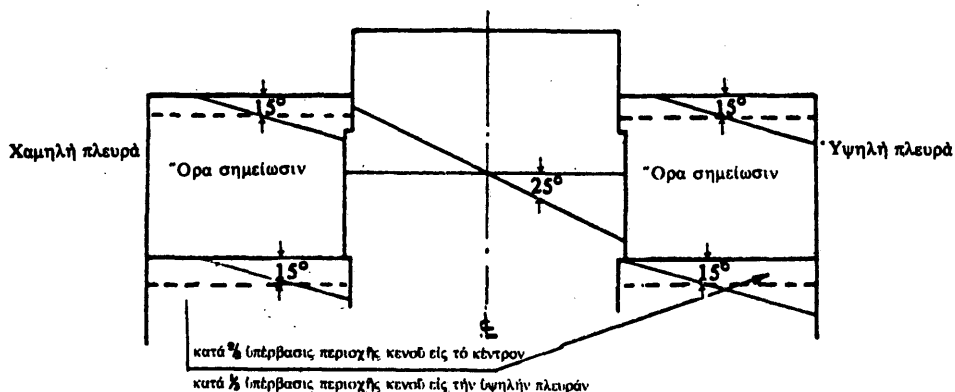
(α) τά τροφοδοτικά στόμια εκτείνονται καθ' όλον τό μήκος του καταστρώματος και αϊ εκείσε όπαι έχουν διαταχθῆ καταλλήλως.



(β) ὁ ὄγκος ἐκάστου τροφοδοτικοῦ στομίου εἶναι ἴσος πρὸς τὸν ὄγκον τοῦ κάτωθεν τοῦ καταστρώματος κενοῦ ἔξωθεν τῆς πλευρικῆς σταθμίδος τοῦ στομίου κύτους καὶ τῆς συνεχείας αὐτῆς.

(B) ΟΧΕΤΟΙ ΤΟΠΟΘΕΤΗΜΕΝΟΙ ΥΠΕΡΑΝΩ ΤΩΝ ΚΥΡΙΩΝ ΣΤΟΜΙΩΝ ΚΥΤΩΝ

Μετὰ τὴν ὑποθετικὴν μετακίνησιν τῶν σιτηρῶν τὸ τελικόν ὑπόδειγμα κενοῦ θά εἶναι ὡς ἐμφαίνεται εἰς τὸ Σχῆμα 6.



Σχῆμα 6

Σημειώσεις ἐπὶ τοῦ Σχήματος 6 :

Ἐάν αἱ περιοχαὶ τῶν πλευρῶν ἔξωθεν τοῦ ὀχετοῦ δὲν εἶναι δυνατόν νὰ διευθετηθοῦν κανονικῶς συμφώνως πρὸς τὸν Κανονισμόν 3 τοῦ παρόντος Κεφαλαίου, θά ὑποτίθεται ὅτι λαμβάνει χώραν μετακίνησις ἐπιφανείας 25 μοιρῶν.

ΤΜΗΜΑ IV — ΥΠΟΘΕΤΙΚΗ ΟΓΚΟΜΕΤΡΙΚΗ ΡΟΠΗ ΚΛΙΣΕΩΣ ΜΕΡΙΚΩΣ ΠΕΠΛΗΡΩΜΕΝΩΝ ΔΙΑΜΕΡΙΣΜΑΤΩΝ

(A) ΓΕΝΙΚΑ

Ὅτε ἡ ἐλευθέρη ἐπιφάνεια τῶν χύδην σιτηρῶν δὲν ἔχει ἀσφαλισθῆ συμφώνως πρὸς τὰς διατάξεις τοῦ Κανονισμοῦ 6 τοῦ παρόντος Κεφαλαίου, θά ὑποτεθῆ ὅτι ἡ ἐπιφάνεια τῶν σιτηρῶν κατόπιν μετατοπίσεως θά εἶναι 25 μοιρῶν πρὸς τὸ ὀριζόντιον.

(B) ΑΣΥΝΕΧΗ ΔΙΑΜΗΚΗ ΔΙΑΦΡΑΓΜΑΤΑ

Εἰς ἓν διαμέρισμα ἐντός τοῦ ὁποίου τὰ διαμήκη διαφράγματα δὲν εἶναι συνεχῆ μετὰ τῶν ἐγκαρσίων ὀρίων (φρακτῶν), τὸ μήκος ὑπεράνω τοῦ ὁποίου οἰαδήποτε ἐκ τῶν τοιούτων διαφραγμάτων ἐνεργοῦν ὡς μέσα προλήψεως πλήρους κατὰ πλάτος μετακινήσεως τῶν ἐπιφανειῶν τῶν σιτηρῶν, θά λαμβάνεται ὅτι εἶναι τὸ πραγματικόν μήκος τοῦ ἐξεταζομένου διαφράγματος μείον δύο ἑβδομα τῆς μεγαλυτέρας ἐκ τῶν δύο ἐγκαρσίων ἀποστάσεων μετὰ τοῦ διαφράγματος καὶ τοῦ γειτνιάζοντος διαφράγματος τῆς πλευρᾶς τοῦ πλοίου.

Ἡ ὡς ἄνω διόρθωσις δὲν ἐφαρμόζεται ἐπὶ τῶν κατωτέρων διαμερισμάτων οἰουδήποτε συνδυασμοῦ φορτώσεως κατὰ τὸν ὁποῖον τὰ ἀνώτερα διαμερίσματα εἶναι ἢ «πλήρη διαμερίσματα» ἢ «μερικῶς κεπληρωμένα διαμερίσματα».

ΤΜΗΜΑ V— ΕΝΑΛΛΑΚΤΙΚΑΙ ΔΙΑΤΑΞΕΙΣ ΦΟΡΤΩΣΕΩΣ ΔΙ' ΥΠΑΡΧΟΝΤΑ ΠΛΟΙΑ

(Α) ΓΕΝΙΚΑ

Πλοίων οπερ εφορτώθη συμφώνως είτε πρὸς τὸ Ὑπό-Τμήμα (Β) είτε τὸ Ὑπό-Τμήμα (Γ) κατωτέρω θὰ θεωρεῖται ὅτι ἔχει χαρακτηριστικὰ ἀθίκτου εὐσταθείας τοῦλάχιστον ἰσοδύναμα πρὸς τὰς ἀπαιτήσεις τῆς παραγράφου (β) τοῦ Κανονισμοῦ 4 τοῦ παρόντος Κεφαλαίου. Ἐγγραφῶν ἐξουσιοδοτήσεις ἐπιτρέπουσαι τοιαύτας φορτώσεις θὰ γίνωνται ἀποδεκταὶ συμφώνως πρὸς τὰς διατάξεις τῆς παραγράφου (ε) τοῦ Κανονισμοῦ 10 τοῦ παρόντος Κεφαλαίου.

Πρὸς ἐκπλήρωσιν τῶν σκοπῶν τοῦ παρόντος Μέρους, ὁ ὅρος «Ὑπάρχον Πλοίων» σημαίνει πλοίων τοῦ ὁποίου ἡ τρόπις ἐτέθη πρὸ τῆς ἡμερομηνίας θέσεως ἐν ἰσχύϊ τοῦ παρόντος Κεφαλαίου.

(Β) ΣΤΟΙΒΑΣΙΑ ΕΝΤΟΣ ΕΙΔΙΚΩΣ ΚΑΤΑΛΛΗΛΩΝ ΠΛΟΙΩΝ

(α) Παρὰ τὰς διατάξεις τοῦ Μέρους Β' τοῦ παρόντος Κεφαλαίου, σιτηρὰ χύδην δύνανται νὰ μεταφέρονται ἄνευ συμμορφώσεως πρὸς τὰς ἀπαιτήσεις αἰτνες καθορίζονται ἐκεῖσε ὑπὸ πλοίων ἅτινα εἶναι κατασκευασμένα μετὰ δύο ἢ περισσοτέρων κατακορύφων ἢ ἐπικλινῶν σιτοστεγῶν διαμήκων διαφραγμάτων καταλλήλως διατεθέντα ἵνα περιορίσουν τὸ ἀποτέλεσμα ἐξ οἰασδήποτε διαμήκους μετακινήσεως τῶν σιτηρῶν ὑπὸ τοῦς κατωτέρω ὅρους:

(i) ὅσον τὸ δυνατόν περισσότερα κύτῃ καὶ διαμερίσματα θὰ πληροῦνται καὶ διευθετῶνται πλήρως,

(ii) μὲ οἰανδήποτε εἰδικὴν διάταξιν στοιβασίας τὸ πλοῖον δὲν θὰ ἔχη κλίσιν μεγαλύτεραν τῶν 5 μοιρῶν εἰς οἰανδήποτε φάσιν τοῦ ταξειδίου ἐνθα:

(1) ἐντὸς κυτῶν ἢ διαμερισμάτων τὰ ὁποῖα διευθετήθησαν πλήρως ἢ ἐπιφάνεια τῶν σιτηρῶν κατεκάθισεν κατὰ 2 τοῖς ἑκατόν τοῦ ὄγκου ἐκ τῆς ἀρχικῆς ἐπιφανείας καὶ κατόπιν μετακινήσεως ἐσταθεροποιήθη ὑπὸ γωνίαν ἐπιφανείας 12 μοιρῶν πρὸς ἀπάσας τὰς πλευράς τῶν κυτῶν τούτων καὶ διαμερισμάτων αἱ ὁποῖαι ἔχουν κλίσιν πρὸς τὸ ὀριζόντιον μικροτέραν τῶν 30 μοιρῶν.

(2) ἐντὸς τῶν «μερικῶς πεπληρωμένων διαμερισμάτων ἢ κυτῶν» ἐλεύθεραι ἐπιφάνειαι σιτηρῶν κατακαθίσασαι καὶ ἐκ μετακινήσεως σταθεροποιηθεῖσαι ὡς τὸ ἐδάφιον (ii)(1) τῆς παρούσης παραγράφου ἢ κατὰ γωνίαν τόσον μεγαλύτεραν ὅσον δυνατόν νὰ θεωρηθῇ ἀναγκαία ὑπὸ τῆς Ἀρχῆς ἢ ὑπὸ Συμβαλλομένης Κυβερνήσεως ἐνεργοῦσης διὰ λογαριασμὸν τῆς Ἀρχῆς, καὶ ἐπιφάνειαι σιτηρῶν, ἐφ' ὅσον ἐγένετο ὑπερπλήρωσις συμφώνως πρὸς τὸν Κανονισμόν 5 τοῦ παρόντος Κεφαλαίου, μετακινῶνται κατὰ γωνίαν 8 μοιρῶν πρὸς τὰς ἀρχικὰς ἰσοπεδοθείσας ἐπιφάνειας. Πρὸς ἐκπλήρωσιν τῶν σκοπῶν τοῦ ἐδαφίου (ii) τῆς παρούσης παραγράφου, παραφράγματα, ἐφ' ὅσον ὑφίστανται, θὰ θεωροῦνται ὡς περιορίζοντα τὴν διαμήκη μετακίνησιν τῆς ἐπιφανείας τῶν σιτηρῶν.

(iii) ὁ πλοίαρχος εἶναι ἐφωδιασμένος μὲ ἓν σχέδιον φορτώσεως σιτηρῶν οπερ καλύπτει τὰς διατάξεις στοιβασίας αἰτνες δέον ὅπως υἱοθετηθῶν καὶ ἐν ἐγχειρίδιον εὐσταθείας, ἀμφότερα ἐγκεκριμένα ὑπὸ τῆς Ἀρχῆς ἢ ὑπὸ Συμβαλλομένης Κυβερνήσεως ἐνεργοῦσης διὰ λογαριασμὸν τῆς Ἀρχῆς, δεικνύοντα τὰς συνθήκας εὐσταθείας ἐπὶ τῶν ὁποίων βασίζονται οἱ ὑπολογισμοὶ οἵτινες δίδονται εἰς τὸ ἐδάφιον (ii) τῆς παρούσης παραγράφου.

(β) Ἡ Ἀρχή, ἢ Συμβαλλομένη Κυβέρνησις ἐνεργοῦσα διὰ λογαριασμόν τῆς Ἀρχῆς, θά καθορίσῃ τὰς προφυλάξεις αἰτινες δέον νά λαμβάνωνται κατά τῆς μετακινήσεως εἰς ἀπάσας τὰς λοιπὰς συνθήκας φορτώσεως τῶν πλοίων ἅτινα εἶναι ἐσχεδιασμένα συμφώνως πρὸς τὴν παράγραφον (B)(a) τοῦ παρόντος Τμήματος καὶ ἅτινα πληροῦν τὰς ἀπαιτήσεις τῶν ἐδαφίων (ii) καὶ (iii) τῆς παραγράφου ἐκείνης.

(Γ) ΠΛΟΙΑ ἈΝΕΥ ΕΓΓΡΑΦΩΝ ΕΞΟΥΣΙΟΔΟΤΗΣΕΩΝ

Εἰς πλοῖον μὴ φέρον ἔγγραφον ἐξουσιοδότησιν ἐκδοθεῖσαν συμφώνως πρὸς τοὺς Κανονισμοὺς 4 καὶ 10 τοῦ παρόντος Κεφαλαίου δύναται νά ἐπιτραπῇ ἡ φόρτωσις σιτηρῶν χύδην ὑπὸ τοῖς ὅροις τοῦ Ὑπο-Τμήματος (B) τοῦ παρόντος Τμήματος ἢ ὑπὸ τὰς κάτωθι προϋποθέσεις:

(α) Ἄπαντα τὰ «πλήρη διαμερίσματα» θά φέρουν διαμήκη κεντρικά διαφράγματα καταλαμβάνοντα ὅλον τὸ μῆκος τῶν τοιούτων διαμερισμάτων καὶ ἐπεκτεινόμενα πρὸς τὰ κάτω ἕκ τῆς κάτω πλευρᾶς τοῦ καταστρώματος ἢ τοῦ καλύμματος στομίου κύτους εἰς ἀπόστασιν κάτωθεν τῆς γραμμῆς καταστρώματος τοῦλάχιστον ἴσην πρὸς τὸ ἕν ὄγδοον (1/8) τοῦ μεγίστου πλάτους τοῦ διαμερισματος ἢ 2,4 μέτρων οἰονδήποτε εἶναι μεγαλύτερον. ἔκτός ἐάν ὑφίστανται λεκάναι κατεσκευασμέναι συμφώνως πρὸς τὸ Τμήμα II τοῦ Μέρους Γ' ἐντός καὶ κάτωθεν τοῦ στομίου κύτους, αἱ ὁποῖαι δύνανται νά γίνων ἀποδεκταὶ ἀντὶ τοῦ κεντρικοῦ διαμήκου διαφράγματος. *Ἐκτός ἐάν προέλθῃ πρὸς ἀνεκτικὸν ἢ ἐξέγκων ὁρίων ἐκόντων τὰς αὐτὰς εἰρήσεις.*

(β) Ἄπαντα τὰ στόμια κυτῶν τῶν «πλήρων διαμερισμάτων» θά κλείωνται καὶ τὰ καλύμματα αὐτῶν θά ἀσφαλίζωνται.

(γ) Ἄπασαι αἱ ἐπιφάνειαι σιτηρῶν ἐντός τῶν «μερικῶς πεπληρωμένων διαμερισμάτων» θά διευθετῶνται ἵνα ὀριζοντιωθοῦν καὶ θά ἀσφαλίζωνται συμφώνως πρὸς τὸ Τμήμα II τοῦ Μέρους Γ'.

(δ) Καθ' ὅλην τὴν διάρκειαν τοῦ ταξειδίου τὸ μετακεντρικόν ὕψος, μετὰ τὴν διόρθωσιν διὰ τὰς ἐπιδράσεις τῶν ἐλευθέρων ἐπιφανειῶν τῶν ὑγρῶν εἰς τὰς δεξαμενάς, θά εἶναι 0.3 μέτρα ἢ τὸ προκύπτον ἐκ τοῦ ἀκολουθοῦ τύπου, οἰονδήποτε εἶναι μεγαλύτερον:

$$GM_R = \frac{L B Vd (0.25 B - 0.645 \sqrt{Vd B})}{SF \times \Delta \times 0.0875}$$

Ἐνθα:

L = συνολικόν μῆκος ἀπάντων τῶν πεπληρωμένων διαμερισμάτων,

B = πλάτος τοῦ πλοίου ἐξωθεν τῶν νομέων,

SF = συντελεστὴς στοιβασίας,

Vd = ὑπολογισθὲν μέσον βάθος κενοῦ συμφώνως πρὸς τὴν παράγραφον (α)(i) τοῦ Τμήματος I(A) τοῦ παρόντος Μέρους,

Δ = ἐκτόπισμα.

ΜΕΡΟΣ Γ' — ΕΞΑΡΤΗΜΑΤΑ ΚΑΙ ΑΣΦΑΛΙΣΙΣ ΤΩΝ ΣΙΤΗΡΩΝ

ΤΜΗΜΑ I — ΑΝΤΟΧΗ ΤΩΝ ΕΞΑΡΤΗΜΑΤΩΝ ΦΟΡΤΩΣΕΩΣ ΣΙΤΗΡΩΝ

(A) Γενικὰ (περιλαμβανομένων καὶ τῶν τάσεων λειτουργίας)

(B) Διαφράγματα φορτωθέντα ἐξ ἀμφοτέρων τῶν πλευρῶν

(Γ) Διαφράγματα φορτωθέντα ἐκ μιᾶς πλευρᾶς μόνον

- (Δ) Λεκάναι
- (Ε) Σχηματισμός δεμάτων σιτηρών χύδην
- (ΣΤ) Ἀσφάλις τῶν στομίων κυτῶν τῶν πλήρων διαμερισμάτων

ΤΜΗΜΑ ΙΙ — ΑΣΦΑΛΙΣΙΣ ΤΩΝ ΜΕΡΙΚΩΣ ΠΕΠΛΗΡΩΜΕΝΩΝ ΔΙΑΜΕΡΙΣΜΑΤΩΝ

- (Α) Λωρίδες ἢ συρματοσόχαινα
- (Β) Διατάξεις ὑπερφορτώσεως
- (Γ) Σιτηρά εἰς σάκκους

ΤΜΗΜΑ Ι — ΑΝΤΟΧΗ ΤΩΝ ΕΞΑΡΤΗΜΑΤΩΝ ΦΟΡΤΩΣΕΩΣ ΣΙΤΗΡΩΝ

(Α) ΓΕΝΙΚΑ

(α) Ξυλεία

Ἡ Ξυλεία ἤτις χρησιμοποιεῖται διὰ τὰ ἐξαρτήματα φορτώσεως σιτηρῶν, δέον ὅπως εἶναι ἐξ ἀρίστης ποιότητος ἄνευ ἐλαττωμάτων, τύπου καὶ εἶδους τὸ ὁποῖον ἀπεδείχθη ἱκανοποιητικόν διὰ τὸν σκοπὸν αὐτόν. Αἱ πραγματικαὶ κατειργασμένοι διαστάσεις τῆς ξυλείας δέον ὅπως εἶναι σύμφωνοι πρὸς τὰς τοιαύτας αἰτινες καθορίζονται εἰς τὸ παρὸν Μέρος. Ἀντικολλητὸν ξύλον (κοντρα-πλακέ) ἐξωτερικῆς χρήσεως συνδεδεμένον δι' ὕδατοστεγοῦς κόλλας καὶ τοποθετημένον κατὰ τοιοῦτον τρόπον ὥστε ἡ κατεύθυνσις τῶν ἰνῶν ἐπὶ τῶν ἐπιφανειακῶν φύλλων εἶναι κάθετος πρὸς τοὺς ὑποστηρίζοντας ὀρθοστάτας ἢ συνδετικόν, δύναται νὰ χρησιμοποιηθῇ ὑπὸ τὴν προϋπόθεσιν ὅτι ἡ ἀντοχή του εἶναι ἰσοδύναμος τῆς τοιαύτης τῆς ἀκεραίας ξυλείας καταλλήλων διαστάσεων.

(β) Τάσεις λειτουργίας

Ὅτε ὑπολογίζονται αἱ διαστάσεις τῶν διαφραγμάτων φορτωθέντων ἐκ τῆς μιᾶς πλευρᾶς, χρησιμοποιοῦντες τοὺς Πίνακας τῶν παραγράφων (α) καὶ (β) τοῦ Ὑπο-τμήματος (Γ) τοῦ παρόντος Τμήματος, αἱ ἀκόλουθοι τάσεις λειτουργίας δέον ὅπως υἰοθετηθοῦν:

Διὰ διαφράγματα ἐκ χάλυβος 2000 χιλιογρ./cm²

Διὰ διαφράγματα ἐκ ξυλείας 160 χιλιογρ./cm²

(γ) Ἴτερα ὕλικά

Ὑλικά ἐκτός τοῦ ξύλου ἢ τοῦ χάλυβος δύναται νὰ γίνουσι ἀποδεκτὰ διὰ τοιαῦτα διαφράγματα ὑπὸ τὴν προϋπόθεσιν ὅτι ἔχει καταβληθῇ ἡ ἀπαιτούμενη προσοχή διὰ τὰς μηχανικὰς τῶν ιδιοτήτας.

(δ) Ὄρθοστάται

- (i) Ἐκτός τῆς περιπτώσεως καθ' ἣν προβλέπονται μέσα διὰ τὴν πρόληψιν ἐκτοπίσεως τῶν ἄκρων τῶν ὀρθοστατῶν ἐκ τῶν ὑποδοχέων των, τὸ βάθος τῆς ὑποδοχῆς ἐκάστου ἄκρου ἐκάστου ὀρθοστατοῦ δέον ὅπως μὴ εἶναι μικρότερον τῶν 75 χιλ./των (mm). Ἐάν εἰς ὀρθοστατῆς δέν εἶναι ἀσφαλισμένος εἰς τὴν κορυφὴν, τὸ ἀνώτατον στήριγμα ἢ ὁ ἐντατήρ δέον ὅπως εἶναι συνδεδεμένος πρὸς αὐτὴν εἰς σημεῖον ὅσον πλησιέστερον εἶναι πρακτικῶς δυνατόν.

- (ii) Αί προβλεπόμενα διατάξεις ενθέσεως τῶν φορητῶν σανίδων δέον ὅπως εἶναι τοιαῦται οὕτως ὥστε αἱ συνεπεία τῆς ἀφαιρέσεως μέρους τῆς τομῆς ὀρθοστάτου δημιουργοῦμεναι τοπικαί τάσεις, μὴ εἶναι ὑπερβολικῶς ὑψηλαί.
- (iii) Ἡ μέγιστη ροπή κάμψεως ἢ ἀσκουμένη ἐφ' ἐνὸς ὀρθοστάτου ὑποστηρίζοντος ἐν διάφραγμα φορτωθέν ἐπὶ τῆς μιᾶς πλευρᾶς, δέον ὅπως ὑπὸ ὁμαλᾶς συνθήκας ὑπολογίζεται ἐπὶ τῇ ὑποθέσει ὅτι τὰ ἄκρα τῶν ὀρθοστατικῶν ὑποστηρίζονται ἐλευθέρως. Πάντως ἐάν μία Ἄρχή ἱκανοποιηθῇ ὅτι οἰσοδήποτε βαθμὸς ὑποθεθείσης στηρίξεως θά ἐπιτευχθῇ ἐν τῇ πράξει, δυνατόν νά ληφθῇ ὑπ' ὄψιν οἰσοδήποτε ἐκπτώσις τῆς μέγιστης ροπῆς κάμψεως ἥτις θά παρουσιασθῇ ἐξ οἰσοδήποτε βαθμοῦ στηρίξεως ὅστις θά προβλέπεται εἰς τὰ ἄκρα τῶν ὀρθοστατῶν.

(ε) *Σύνθετα τμήματα*

Ὅτε ὀρθοστάται, συνδέεται ἢ οἰσοδήποτε ἕτερα μέλη ἐνδυναμώσεως σχηματίζονται ἀπὸ δύο κεχωρισμένα τμήματα, ἕκαστον τοποθετημένον ἐφ' ἑκάστης πλευρᾶς τοῦ διαφράγματος καὶ συνδεδεμένων μεταξύ των διὰ κοχλιῶν εἰς ἐπαρκῆ μεταξύ των διαστήματα, ἢ ἐνεργὸς ροπή ἀντιστάσεως τμήματος δέον ὅπως λαμβάνεται ὡς τό ἄθροισμα τῶν δύο ροπῶν τῶν χωριστῶν τμημάτων.

(στ) *Τμηματικὸν διάφραγμα*

Ὅτε τὰ διαφράγματα δέν ἐπεκτείνονται καθ' ὅλον τό βάθος τοῦ κύτους, ταῦτα καὶ οἱ ὀρθοστάται των δέον ὅπως ὑποστηρίζονται ἢ ἴστανται κατὰ τρόπον τοῦλάχιστον ἴσης ἀποτελεσματικότητος πρὸς ἐκεῖνα ἅτινα ἐκτείνονται εἰς ὀλόκληρον τό βάθος τοῦ κύτους.

(B) ΔΙΑΦΡΑΓΜΑΤΑ ΦΟΡΤΩΘΕΝΤΑ ΕΞ ΑΜΦΟΤΕΡΩΝ ΤΩΝ ΠΛΕΥΡΩΝ

(α) *Κινητά διαφράγματα*

- (i) Τά κινητά διαφράγματα δέον ὅπως ἔχουν πάχος οὐχὶ ὀλιγώτερον τῶν 50 χιλ/τρων (mm) καὶ ἔχουν τοποθετηθῇ ὥστε νά εἶναι σιτοσεγῆ καὶ δπου εἶναι ἀναγκαῖον νά ὑποβαστάζονται ὑπὸ ὀρθοστατῶν.
- (ii) Ἡ μέγιστη ἀπόστασις μεταξύ δύο στηριγμάτων κινητῶν διαφραγμάτων διαφορῶν παχῶν δέον ὅπως εἶναι ἡ ἐξῆς:

<i>Πάχος</i>	<i>Μέγιστη ἀπόστασις</i>
50 mm	2,5 μέτρα
60 mm	3,0 μέτρα
70 mm	3,5 μέτρα
80 mm	4,0 μέτρα

Ἐάν πάχη μεγαλύτερα τῶν ἀνωτέρω προβλέπωνται, ἡ μέγιστη ἀπόστασις μεταξύ δύο στηριγμάτων θά αὐξάνεται κατὰ τρόπον εὐθέως ἀνάλογον μέ τῆν αὐξήσιν τοῦ πάχους.

- (iii) Τὰ ἄκρα ὄλων τῶν κινητῶν διαφραγμάτων δέον ὅπως εἶναι ἐνθυλακωμένα ἐντός θυλάκων μήκους τοῦλάχιστον 75 mm.

(β) *Ἑτερα ὀλικά*

Διαφράγματα σχηματισθέντα διὰ τῆς χρησιμοποίησεως ἐτέρων ὀλικῶν πλὴν τοῦ ξύλου δέον ὅπως ἔχουν ἀντοχήν τοῦλάχιστον ἰσοδύναμον πρὸς τὴν ἀπαιτουμένην διὰ τὰ κινητά διαφράγματα τῆς παραγράφου (α) τοῦ παρόντος Ὑπό-Τμήματος.

(γ) Ὀρθοστάται

- (i) Χαλύβδινοι ὀρθοστάται χρησιμοποιούμενοι ἵνα ὑποστηρίξουν διαφράγματα μέ φόρτωσιν ἐπ' ἀμφοτέρων τῶν πλευρῶν, δέον ὅπως ἔχουν ροπήν ἀντιστάσεως διδομένην ὑπὸ τοῦ τύπου:

$$W = \alpha \cdot W_1$$

Ἐνθα:

W = ροπή ἀντιστάσεως εἰς cm^3 .

α = ὀριζόντια ἀπόστασις μεταξὺ δύο διαδοχικῶν ὀρθοστατῶν εἰς μέτρα.

Ἡ ροπή ἀντιστάσεως ἀνά μέτρον ἀποστάσεως W_1 , δέον ὅπως μὴ εἶναι μικρότερα τῆς διδομένης ἐκ τοῦ τύπου:

$$W_1 = 14,8 (h_1 - 1,2) \text{ cm}^3 \text{ ἀνά μέτρον.}$$

Ἐνθα:

h_1 εἶναι τὸ κατακόρυφον μὴ ὑποβασταζόμενον τμήμα εἰς μέτρα καὶ δέον ὅπως λαμβάνεται ὡς ἡ μεγίστη τιμὴ τῆς ἀποστάσεως μεταξὺ δύο γειτονικῶν στηριγμάτων ἢ μεταξὺ τοῦ στηρίγματος ἢ ἑκατέρου τῶν ἄκρων τοῦ ὀρθοστάτου. Ὅτε ἡ ἀπόστασις αὕτη εἶναι μικρότερα τῶν 2,4 μέτρων ἢ ἀντίστοιχος ροπή δέον ὅπως ὑπολογίζεται ὡς ἐάν ἡ πραγματικὴ τιμὴ νά ἦτο 2,4 μέτρα.

- (ii) Αἱ ροπαὶ ἀντιστάσεως τῶν ξυλίνων ὀρθοστατῶν θά καθορίζωνται διὰ τοῦ πολλαπλασιασμοῦ τῶν ἀντιστοιχῶν ροπῶν τῶν χαλύβδινων ὀρθοστατῶν ἐπὶ 12,5. Ἐάν χρησιμοποιοῦνται ἕτερα ὑλικά, αἱ ροπαὶ τῶν δέον ὅπως εἶναι τοῦλάχιστον αἱ ἀπαιτούμεναι διὰ χάλυβα, ἠϋξημέναι κατὰ τὸν λόγον τῶν ἐπιτρεπομένων τάσεων διὰ τὸν χάλυβα πρὸς τὰς τοῦ χρησιμοποιουμένου ὑλικοῦ. Εἰς τὰς περιπτώσεις ταύτας, δέον ὅπως καταβάλλεται προσοχὴ ἐπίσης, εἰς τὴν σχετικὴν ἀκαμψίαν ἑκάστου ὀρθοστάτου πρὸς βεβαίωσιν ὅτι ἡ ἀπόκλισις δέν εἶναι ὑπερβολικὴ.
- (iii) Ἡ ὀριζόντιος ἀπόστασις μεταξὺ τῶν ὀρθοστατῶν, δέον ὅπως εἶναι τοιαύτη ὥστε τὰ μὴ ὑποβασταζόμενα τμήματα τῶν κινητῶν διαφραγμάτων δέν ὑπερβαίνουν εἰς μήκος τὴν μεγίστην ἀπόστασιν μεταξὺ τῶν ὀρθοστατῶν ἣτις καθορίζεται εἰς τὸ ἐδάφιον (ii) τῆς παραγράφου (α) τοῦ παρόντος Ὑπό-Τμήματος.

(δ) Στηρίγματα (δοκοί)

- (i) Ξύλινα στηρίγματα, ὅτε χρησιμοποιοῦνται, δέον ὅπως ἀποτελοῦνται ἐξ ἐνὸς μόνον τεμαχίου καὶ δέον ὅπως εἶναι ἀσφαλῶς τοποθετημένα ἐφ' ἑκάστου ἄκρου καὶ ὑπὸ κλίσιν ὡς πρὸς τὴν μόνιμον κατασκευὴν τοῦ πλοίου, πλὴν ὅμως δέν θά ἀγωνται ἀπ' εὐθείας πρὸς τὰ πλευρικά ἐλάσματα τοῦ πλοίου.
- (ii) Τηρουμένων τῶν προϋποθέσεων τῶν ἐδαφίων (iii) καὶ (iv) κατωτέρω, τὸ ἐλάχιστον μέγεθος τῶν ξυλίνων στηριγμάτων (δοκῶν) δέον ὅπως εἶναι ὡς ἀκολούθως:

<i>Μήκος του στηρίγματος εις μέτρα</i>	<i>Τετράπλευρος τομή εις mm</i>	<i>Διάμετρος κυκλικής (δοκού) εις mm</i>
Μέχρι 3 μέτρα	150 × 100	140
Από 3 έως 5 μέτρα	150 × 150	165
Από 5 έως 6 μέτρα	150 × 150	180
Από 6 έως 7 μέτρα	200 × 150	190
Από 7 έως 8 μέτρα	200 × 150	200
Ανω τῶν 8 μέτρων	200 × 150	215

Στηρίγματα μήκους από 7 μέτρων καὶ ἄνω δέον ὅπως γεφυροῦνται ἀσφαλῶς περίπου εἰς τὸ μέσον τοῦ μήκους.

- (iii) Ὅτε ἡ ὀριζόντιος ἀπόστασις μεταξύ τῶν ὀρθοστατῶν διαφέρει οὐσιωδῶς ἀπὸ τὰ 4 μέτρα, αἱ ροπαὶ ἀδρανεῖας τῶν στηριγμάτων δύνανται νὰ ἀλλάξουν κατ' εὐθείαν ἀναλογίαν.
- (iv) Ὅτε ἡ γωνία τοῦ στηρίγματος (δοκού) ὡς πρὸς τὸ ὀριζόντιον ὑπερβαίνει τὰς 10 μοίρας, τὸ ἐπόμενον μεγαλύτερον στηρίγμα πρὸς τὸ ἀπαιτούμενον ὑπὸ τῆς ὑποπαραγράφου (ii) τῆς παρούσης παραγράφου δέον ὅπως τοποθετῆται, νοουμένου ὅτι εἰς οὐδεμίαν περίπτωσιν ἡ γωνία μεταξύ οἰουδήποτε στηρίγματος καὶ τοῦ ὀριζοντίου ἐπιπέδου θὰ ὑπερβαίῃ τὰς 45 μοίρας.

(ε) Ἐντατῆρες

Ὅτε χρησιμοποιοῦνται ἐντατῆρες διὰ νὰ συγκρατήσουν διαφράγματα μέ φόρτωσιν ἐπ' ἀμφοτέρων τῶν πλευρῶν, δέον ὅπως τοποθετῶνται ὀριζοντίως ἢ ὅσον πλησιέστερον πρὸς τὸ ὀριζόντιον εἶναι πρακτικῶς δυνατόν, καλῶς ἠσφαλισμένοι εἰς ἕκαστον ἄκρον καὶ ἀποτελούμενοι ἐκ χαλυβδίνου συρματοσχοίνου. Τὰ μεγέθη τῶν συρματοσχοίνων δέον ὅπως καθορίζονται ἐπὶ τῇ ὑποθέσει ὅτι τὰ διαφράγματα καὶ ὁ ὀρθοστάτης τὰ ὅποια ὁ ἐντατῆρ ὑποστηρίζει εἶναι φορτωμένα ὁμοιόμορφως εἰς 500 χιλιογρ./m². Τὸ φορτίον ἐργασίας ὑποτιθέμενον κατὰ τὰ ἀνωτέρω, δέον ὅπως μὴ ὑπερβαίῃ τὸ ἐν τρίτον τοῦ φορτίου θραύσεως αὐτοῦ.

(Γ) ΔΙΑΦΡΑΓΜΑΤΑ ΦΟΡΤΩΘΕΝΤΑ ΕΚ ΤΗΣ ΜΙΑΣ ΠΛΕΥΡΑΣ ΜΟΝΟΝ

(α) Διαμήκη διαφράγματα

Τό φορτίον εις χιλιόγραμμα ανά μέτρον μήκους διαφράγματος δέον δπως λαμβάνεται ότι είναι τό ακόλουθον:

ΠΙΝΑΞ 1¹

h (m)	B (m)							
	2	3	4	5	6	7	8	10
1.5	850	900	1010	1225	1500	1770	2060	2645
2.0	1390	1505	1710	1985	2295	2605	2930	3590
2.5	1985	2160	2430	2740	3090	3435	3800	4535
3.0	2615	2845	3150	3500	3885	4270	4670	5480
3.5	3245	3525	3870	4255	4680	5100	5540	6425
4.0	3890	4210	4590	5015	5475	5935	6410	7370
4.5	4535	4890	5310	5770	6270	6765	7280	8315
5.0	5185	5570	6030	6530	7065	7600	8150	9260
6.0	6475	6935	7470	8045	8655	9265	9890	11150
7.0	7765	8300	8910	9560	10245	10930	11630	13040
8.0	9055	9665	10350	11075	11835	12595	13370	14930
9.0	10345	11030	11790	12590	13425	14260	15110	16820
10.0	11635	12395	13230	14105	15015	15925	16850	18710

h = Ύψος σιτηρών εις μέτρα εκ του κατωτάτου σημείου του διαφράγματος²

B = Έγκαρσία έκτασις των χύδην σιτηρών εις μέτρα

Δι'έτερας τιμάς του h ή B, τά φορτία δέον δπως υπολογίζονται διά γραμμικής παρεμβολής ή υπερβολής, ως είναι άναγκαίον.

¹ Πρός τόν σκοπόν δπως μετατραπούν τά άνωτέρω φορτία εις Άγγλικάς μονάδας (τόννοι/πόδες), 1 χιλιογρ. ανά μέτρον μήκους δέον δπως λαμβάνεται ότι είναι ισοδύναμον πρός 0,0003 τόννους ανά πόδα μήκους

² Οτε ή άπόστασις εκ του διαφράγματος εως έν τροφοδοτικών στόμιον ή στόμιον κύτους είναι Εγ μέτρον ή όλιγώτερον τό ύψος - h - δέον δπως λαμβάνεται εις τό επίπεδον των σιτηρών έντός του στομίου τούτου ή του τροφοδοτικού στομίου. Εις άπάσας τάς λοιπάς περιπτώσεις τό ύψος δέον δπως λαμβάνεται εκ του υπερκειμένου καταστρώματος εις τήν περιοχήν του διαφράγματος.

(β) Έγκαιρια διαφράγματα

Τό φορτίον εις χιλιόγραμμα ανά μέτρον μήκους τών διαφραγμάτων δέον δπως λαμβάνεται διτι είναι τό ακόλουθον:

ΠΙΝΑΞ ΙΙ¹

L (m)

h (m)	2	3	4	5	6	7	8	10	12	14	16
1.5	670	690	730	780	835	890	935	1000	1040	1050	1050
2.0	1040	1100	1170	1245	1325	1400	1470	1575	1640	1660	1660
2.5	1460	1565	1675	1780	1880	1980	2075	2210	2285	2305	2305
3.0	1925	2065	2205	2340	2470	2590	2695	2845	2925	2950	2950
3.5	2425	2605	2770	2930	3075	3205	3320	3480	3570	3595	3595
4.0	2950	3160	3355	3535	3690	3830	3950	4120	4210	4235	4240
4.5	3495	3725	3940	4130	4295	4440	4565	4750	4850	4880	4885
5.0	4050	4305	4535	4735	4910	5060	5190	5385	5490	5525	5530
6.0	5175	5465	5720	5945	6135	6300	6445	6655	6775	6815	6825
7.0	6300	6620	6905	7150	7365	7445	7700	7930	8055	8105	8115
8.0	7425	7780	8090	8360	8590	8685	8950	9200	9340	9395	9410
9.0	8550	8935	9275	9565	9820	9930	10205	10475	10620	10685	10705
10.0	9680	10095	10460	10770	11045	11270	11460	11745	11905	11975	11997

h = Ύψος τών σιτηρών εις μέτρα εκ τοῦ κατωτάτου σημείου τοῦ διαφράγματος²

L = Διαμήκης ἑκτάσις τών χύδην σιτηρών εις μέτρα

Δι' ἑτέρας τιμάς h ἢ L τὰ φορτία δέον δπως ὑπολογίζονται διὰ γραμμικῆς παρεμβολῆς, ἢ ὑπερβολῆς, ὡς εἶναι ἀναγκαῖον.

¹ Πρὸς τὸν σκοπὸν δπως μετατραποῦν τὰ ἀνωτέρω φορτία εις Ἀγγλικὰς μονάδας (τόννοι/κόδες), 1 χιλιόγρ. ἀνά μέτρον μήκους, δέον δπως λαμβάνεται διτι εἶναι ἰσοδύναμον πρὸς 0.0003 τόννους ἀνά πόδα μήκους.

² Ὅτε ἡ ἀπόστασις εκ τοῦ διαφράγματος ἕως ἐν τροφοδοτικὸν στόμιον κύτους εἶναι ἐν μέτρον ἢ ὀλιγώτερον, τὸ ὕψος - h - δέον δπως λαμβάνεται εις τὸ ἐπίπεδον τών σιτηρών ἐντὸς τοῦ στομίου τούτου ἢ τοῦ τροφοδοτικῆς στομίου. Εἰς ἀπῶσαι τὰς λοιπὰς περιπτώσεις τὸ ὕψος δέον δπως λαμβάνεται εκ τοῦ ὑπερκεκλιμένου καταστρώματος, εις τὴν περιοχὴν τοῦ διαφράγματος.

(γ) Κατακόρυφος κατανομή τῶν φορτίων

Τό συνολικόν φορτίον ἀνά μονάδα μήκους τῶν διαφραγμάτων τό ἐμφαινόμενον εἰς τοὺς Πίνακας I καὶ II ἀνωτέρω, δύναται, ἐάν θεωρηθῇ ἀναγκαῖον, νά ὑποτεθῇ ὅτι εἶχει τραπεζοειδῆ κατανομήν καθ' ὕψος. Εἰς τοιαύτας περιπτώσεις τά φορτία ἀντιδράσεως ἐπὶ τῶν ἀνωτέρων καὶ κατωτέρων ἄκρων ἐνός κατακόρυφου μέλους ἢ ὀρθοστάτου δέν εἶναι ἴσα. Τά φορτία ἀντιδράσεως ἐπὶ τοῦ ἀνωτέρου ἄκρου, ἐκπεφρασμένα, ὡς ποσοστά τοῦ συνολικοῦ φορτίου τό ὁποῖον ὑποστηρίζεται ὑπὸ τοῦ κατακόρυφου μέλους ἢ ὀρθοστάτου, δέον ὅπως λαμβάνωνται ἐκ τῶν πινάκων III καὶ IV κατωτέρω.

ΠΙΝΑΞ III

ΔΙΑΜΗΚΗ ΔΙΑΦΡΑΓΜΑΤΑ ΦΟΡΤΩΘΕΝΤΑ ΕΚ ΤΗΣ ΜΙΑΣ ΠΛΕΥΡΑΣ ΜΟΝΟΝ

* Ἀντιδράσεις ἐδράσεως εἰς τό ἀνώτερον ἄκρον τοῦ ὀρθοστάτου ἐκπεφρασμένα εἰς ποσοστά τοῦ φορτίου (Πίναξ I)

B (m)

h (m)	2	3	4	5	6	7	8	10
1.5	43.3	45.1	45.9	46.2	46.2	46.2	46.2	46.2
2	44.5	46.7	47.6	47.8	47.8	47.8	47.8	47.8
2.5	45.4	47.6	48.6	48.8	48.8	48.8	48.8	48.8
3	46.0	48.3	49.2	49.4	49.4	49.4	49.4	49.4
3.5	46.5	48.8	49.7	49.8	49.8	49.8	49.8	49.8
4	47.0	49.1	49.9	50.1	50.1	50.1	50.1	50.1
4.5	47.4	49.4	50.1	50.2	50.2	50.2	50.2	50.2
5	47.7	49.4	50.1	50.2	50.2	50.2	50.2	50.2
6	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2
7	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2
8	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2
9	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2
10	47.9	49.5	50.1	50.2	50.2	50.2	50.2	50.2

B = Ἐγκαρσία ἑκτασις τῶν χυδῶν σιτηρῶν εἰς μέτρα

Δι' ἑτέρας τιμᾶς h ἢ B τά φορτία ἀντιδράσεως θά εὐρίσκωνται δι' εὐθείας παρεμβολῆς ἢ ὑπερβολῆς, ὡς εἶναι ἀναγκαῖον.

ΠΙΝΑΞ IV

ΕΓΚΑΡΣΙΑ ΔΙΑΦΡΑΓΜΑΤΑ ΦΟΡΤΩΘΕΝΤΑ ΕΚ ΤΗΣ ΜΙΑΣ ΠΛΕΥΡΑΣ ΜΟΝΟΝ

* Αντίδρασις ξδράσεως εις τό άνώτερον άκρον του όρθοστατού εκπεφρασμένη εις ποσοστά του φορτίου (Πίναξ II)

h (m)	L (m)										
	2	3	4	5	6	7	8	10	12	14	16
1.5	37.3	38.7	39.7	40.6	41.4	42.1	42.6	43.6	44.3	44.8	45.0
2	39.6	40.6	41.4	42.1	42.7	43.1	43.6	44.3	44.7	45.0	45.2
2.5	41.0	41.8	42.5	43.0	43.5	43.8	44.2	44.7	45.0	45.2	45.2
3	42.1	42.8	43.3	43.8	44.2	44.5	44.7	45.0	45.2	45.3	45.3
3.5	42.9	43.5	43.9	44.3	44.6	44.8	45.0	45.2	45.3	45.3	45.3
4	43.5	44.0	44.4	44.7	44.9	45.0	45.2	45.4	45.4	45.4	45.4
5	43.9	44.3	44.6	44.8	45.0	45.2	45.3	45.5	45.5	45.5	45.5
6	44.2	44.5	44.8	45.0	45.2	45.3	45.4	45.6	45.6	45.6	45.6
7	44.3	44.6	44.9	45.1	45.3	45.4	45.5	45.6	45.6	45.6	45.6
8	44.3	44.6	44.9	45.1	45.3	45.4	45.5	45.6	45.6	45.6	45.6
9	44.3	44.6	44.9	45.1	45.3	45.4	45.5	45.6	45.6	45.6	45.6
10	44.3	44.6	44.9	45.1	45.3	45.4	45.5	45.6	45.6	45.6	45.6

L = Διαμήκης έκτασις των χύδην σιτηρών εις μέτρα

Δι' έτέρας τιμάς h ή L τά φορτία αντίδράσεως θά εύρίσκωνται δι' εύθειας παρεμβολής ή ύπερβολής, ώς είναι αναγκαίον.

* Η άντοχή των άκραίων συνδέσεων τοιούτων κατακορύφων μελών ή όρθοστατών δύναται νά ύπολογισθή μέ βάσιν τό μέγιστον φορτίον τό όποιον είναι πιθανόν νά επιπέση εις εκάτερον άκρον. Τά φορτία ταύτα έχουσι ώς άκολουθώς:

Διαμήκη διαφράγματα

Μέγιστον βάρος εις την κορυφήν..... 50% του καταλλήλου όλικού βάρους εκ του Πίνακος I

Μέγιστον βάρος εις την βάση..... 55% του καταλλήλου όλικού βάρους εκ του Πίνακος I.

* Εγκάρσια διαφράγματα

Μέγιστον βάρος εις την κορυφήν..... 45% του καταλλήλου όλικού βάρους εκ του Πίνακος II.

Μέγιστον βάρος εις την βάση..... 60% του καταλλήλου όλικού βάρους εκ του Πίνακος II.

Τό πάχος τῶν ὀριζοντίων ξυλίνων σανίδων δύναται ἐπίσης νά ὑπολογισθῇ ἐν σχέσει πρὸς τὴν κατακόρυφον κατανομὴν τῆς φορτώσεως ἣτις παρίσταται εἰς τοὺς Πίνακας III καὶ IV ἀνωτέρω καὶ εἰς τὰς περιπτώσεις ταύτας,

$$t = 10a \sqrt{\frac{p \times k}{h \times 213.3}}$$

Ἐνθα:

t = πάχος τῆς σανίδος εἰς χιλ/τρα (mm)

a = ὀριζόντιον μὴ ὑποβασταζόμενον τμῆμα τῆς σανίδος, π.χ. ἀπόστασις μεταξὺ τῶν ὀρθοστατῶν εἰς μέτρα

h = κατακόρυφος ἀπόστασις μεταξὺ κατωτάτης ἀκμῆς τοῦ διαφράγματος καὶ ἐπιφανείας σιτηρῶν

p = ὀλικὸν βᾶρος ἀνά μονάδα μήκους ἐξαγόμενον ἐκ τοῦ Πίνακος I ἢ II εἰς χιλιόγραμμα

k = συντελεστὴς ἐξαρτώμενος ἐκ τῆς κατακόρυφου κατανομῆς τῆς φορτώσεως.

Ὅτε ἡ κατακόρυφος κατανομὴ τῆς φορτώσεως ὑποτίθεται ὅτι εἶναι ὁμοίμορφος π.χ. ὀρθογώνιον παραλληλόγραμμον, k δέον ὅπως λαμβάνεται ὡς ἴσον πρὸς 1,0. Διὰ τραπεζοειδῆ κατανομὴν,

$$k = 1.0 + 0.06(50 - R)$$

Ἐνθα:

R = ἡ ἀντίδρασις ἐδράσεως τοῦ ἀνωτέρου ἄκρου ἢ προκύπτουσα ἐκ τῶν Πινάκων III ἢ IV.

(δ) Ἐντατήρες ἢ Δοκοί

Τὰ μεγέθη τῶν ἐντατήρων καὶ δοκῶν δέον ὅπως ὑπολογίζονται οὕτως ὥστε τὰ ἐξαγόμενα φορτία ἐκ τῶν Πινάκων I καὶ II εἰς τὰς προηγουμένας παραγράφους (α) καὶ (β) μὴ ὑπερβαίνουν τὸ ἐν τρίτον τοῦ φορτίου θραύσεως.

(Δ) ΛΕΚΑΝΑΙ

Ὅτε χρησιμοποιεῖται λεκάνη πρὸς τὸν σκοπὸν μειώσεως τῶν ροπῶν κλίσεως εἰς ἐν πλῆρες διαμέρισμα, τὸ βάθος τῆς, μετρούμενον ἐκ τῆς βάσεως τῆς λεκάνης ἕως τὴν γραμμὴν κάταστρώματος, δέον ὅπως εἶναι ὡς ἀκολούθως :

Διὰ πλοῖα πλάτους ἐσωτερικῶς τῶν ἐλασμάτων ἕως 9,1 μέτρα, οὐχὶ ὀλιγώτερον ἀπὸ 1,2 μέτρα.

Διὰ πλοῖα πλάτους ἐσωτερικῶς τῶν ἐλασμάτων πέραν τῶν 18,3 μέτρα, οὐχὶ ὀλιγώτερον ἀπὸ 1,8 μέτρα.

Διὰ πλοῖα πλάτους μεταξὺ 9,1 μέτρων καὶ 18,3 μέτρων, τὸ ἐλάχιστον βάθος τῆς λεκάνης δέον ὅπως ὑπολογίζεται διὰ παρεμβολῆς.

Ἡ κορυφή (στόμιον) τῆς λεκάνης δέον ὅπως σχηματίζεται ὑπὸ τῆς ὑπὸ τὸ κατάστρωμα κατασκευῆς εἰς τὴν περιοχὴν τοῦ στομίου κύτους, π.χ. πλευρικῶν σταθμίδων ἢ τοιχωμάτων καὶ ἐγκαρσίων ζυγῶν τοῦ στομίου κύτους. Ἡ λεκάνη καὶ τὸ ἄνωθεν αὐτῆς στόμιον κύτους δέον ὅπως εἶναι ἀπολύτως πεπληρωμένα διὰ σιτηρῶν εἰς σάκκους ἢ ἐτέρου καταλλήλου φορτίου διευθετημένου ἐπὶ διαχωριστικοῦ ὑφάσματος ἢ ἰσοδυνά-

μου του και έστοιβαγμένου στερεώς επί των γειτνιαζόντων κατασκευαστικών μελών και των φορητών ζυγών εάν τά τελευταία είναι εις τήν θέσιν των.

(Ε) ΣΧΗΜΑΤΙΣΜΟΣ ΔΕΜΑΤΩΝ ΣΙΤΗΡΩΝ ΧΥΔΗΝ

Έναλλακτικώς τής πληρώσεως τής λεκάνης διά σιτηρών εις σάκκους ή έτέρου καταλλήλου φορτίου δύναται νά χρησιμοποιηθῆ δέμα εκ σιτηρών χύδην υπό τήν προϋπόθεσιν ότι:

(α) Η λεκάνη σχηματίζεται υπό ύλικού (ύφασματος) έγκεκριμένου υπό τής Έρχῆς έχοντος άντοχήν έφελκυσμού ούχι μικροτέραν των 274 χιλιογράμμων επί λωρίδος πάχους 5 εκατ/τρων και έφωδιασμένον διά καταλλήλων μέσων άσφαλίσεως εις τήν κορυφήν.

(β) Έναλλακτικώς πρός τήν παράγραφον (α) άνωτέρω ύλικόν έγκεκριμένον υπό τής Έρχῆς έχον άντοχήν έφελκυσμού ούχι μικροτέραν των 137 χιλιογράμμων επί λωρίδος 5 εκατ/τρων, δύναται νά χρησιμοποιηθῆ εάν ή λεκάνη κατασκευάζεται ως κατωτέρω:

Λωρίδες εκ τής μιās πλευράς του πλοίου εις τήν έτέραν έγκεκριμένοι υπό τής Έρχῆς θά τοποθετώνται έσωτερικώς τής λεκάνης σχηματιζόμεναι εντός των χύδην σιτηρών κατά διαστήματα ούχι μεγαλύτερα των 2,4 μέτρων. Αί λωρίδες αύται θά είναι έπαρκούς μήκους ίνα επιτρέπουν τήν έχμασιν στερεώς και τήν άσφάλισιν των εις τήν κορυφήν τής λεκάνης.

Ξύλινα σανίδες πάχους ούχι μικροτέρου των 25 χιλ/τρων (mm) ή εξ άλλου καταλλήλου ύλικού ίσης άντοχής και εδρους μεταξύ 150 και 300 χιλ/τρων (mm) θά τοποθετούνται πρός πρῶραν και πρός πύμναν των τοιούτων λωρίδων ίνα προλαμβάνεται ή θραύσις ή φθορά εκ τριβῆς του ύλικού (ύφασματος) τό όποιον θά τοποθετείται εκείσε ίνα σχηματίσῃ τήν λεκάνην.

(γ) Η λεκάνη θά πληροῦται διά σιτηρών χύδην και θά άσφαλίζεται εις τήν κορυφήν, εκτός τής περιπτώσεως χρησιμοποιήσεως ύλικού έγκεκριμένου κατά τά εν τῇ άνωτέρω παραγράφω (β) διαλαμβανόμενα, κατά τήν όποιαν απαιτούνται πλείονες ξύλινα σανίδες πρός τοποθέτησιν των εις τήν κορυφήν μετά τήν επικάλυψιν διά του ύλικού (ύφασματος) τής λεκάνης και πρό τής άσφαλίσεως αύτης διά τής έχμάσεως των λωρίδων.

(δ) Έάν χρησιμοποιούνται πλείονα του ενός τεμάχια ύφασματος ίνα σχηματίσουν τήν λεκάνην θά συνδέονται εις τήν βάση είτε διά ραφῆς είτε διά διπλῆς επικάλυψεως.

(ε) Η κορυφή τής λεκάνης θά συμπίπτῃ μετά των βάσεων των δοκῶν δε αύται τοποθετηθοῦν εις τήν θέσιν των και κατάλληλον γενικόν φορτίον ή χύδην σιτηρά δύνανται νά τοποθετηθοῦν μεταξύ των δοκῶν εις τήν κορυφήν τής λεκάνης.

(ΣΤ) ΑΣΦΑΛΙΣΙΣ ΤΩΝ ΣΤΟΜΙΩΝ ΚΥΤΩΝ ΤΩΝ ΠΛΗΡΩΝ ΔΙΑΜΕΡΙΣΜΑΤΩΝ

Έάν δέν ύφίσταται φορτίον χύδην σιτηρών ή έτερον τοιοῦτον υπεράνω ενός «πλήρους διαμερίσματος», τά καλύμματα στομίων κυτῶν θά άσφαλίζονται συμφώνως πρός ένα έγκεκριμένον τρόπον λαμβανομένου υπ' όψιν του βάρους και των μονίμων διατάξεων αίτινες προβλέπονται ίνα άσφαλίζονται τά τοιαῦτα καλύμματα.

Αί έγγραφοι έξουσιοδοτήσεις αι εκδοθεΐσαι συμφώνως πρός τον Κανονισμόν 10 του παρόντος Κεφαλαίου θά περιλαμβάνουν μνείαν του τρόπου άσφαλίσεως όστις έθεωρήθη αναγκαίος υπό τής Έρχῆς ήτις εξέδωσεν τά ως άνω έγγραφα.

ΤΜΗΜΑ ΙΙ — ΑΣΦΑΛΙΣΙΣ ΤΩΝ ΜΕΡΙΚΩΣ ΠΕΠΛΗΡΩΜΕΝΩΝ
ΔΙΑΜΕΡΙΣΜΑΤΩΝ

(Α) ΛΩΡΙΔΕΣ Ή ΣΥΡΜΑΤΟΣΧΟΙΝΑ

(α) "Ότε, πρὸς τὸν σκοπὸν τῆς ἐξουδετερώσεως τῶν ροπῶν κλίσεως, ἐντὸς μερικῶς πεπληρωμένων διαμερισμάτων, χρησιμοποιοῦνται λωρίδες ἢ συρματόσχοινα ἢ ἀσφάλισις δέον ὅπως πραγματοποιεῖται ὡς ἀκολούθως:

- (i) Τὰ σιτηρὰ δέον ὅπως διευθετῶνται καὶ ὀριζοντιοῦνται ὥστε ἡ ἐπιφάνειά των νὰ ἔχη λιαν μικρὰν λοφοειδῆ κυρτότητα καὶ νὰ εἶναι κεκαλυμμένα διὰ διαχωριστικοῦ ὑφάσματος ἐκ λινάτσας, ὀθόνης ἢ ἐτέρου ἰσοδύναμου.
- (ii) Αἱ ἄκμαι τῶν διαχωριστικῶν ὑφασμάτων ἢ καὶ τῶν ὀθονῶν δέον ὅπως ἀλληλοεπικαλύπτωνται τοῦλάχιστον κατὰ 1,8 μέτρα.
- (iii) Δύο συμπαγῆ δάπεδα ἐκ σκληρᾶς ξυλείας πάχους 25 mm ἐπὶ 150 mm ἕως 300 mm δέον ὅπως εἶναι τοποθετημένα κατὰ τοιοῦτον τρόπον ὥστε τὸ ἄνω δάπεδον νὰ διήκη διαμήκως καὶ νὰ εἶναι καρφωμένον ἐπὶ τοῦ κατωτέρου ὅπερ θὰ διήκη ἐγκαρσίως. Ἐναλλακτικῶς, ἐν συμπαγῆς δάπεδον ἐκ ξυλείας πάχους 50 mm διήκον διαμήκως καὶ καρφωμένον ὑπεράνω φορέως πάχους 50 mm καὶ εὗρους ὄχι μικροτέρου τῶν 150 mm δύναται νὰ χρησιμοποιηθῆ. Οἱ κατώτεροι φορεῖς δέον ὅπως διήκουν καθ' ὅλον τὸ πλάτος τοῦ διαμερίσματος καὶ δέον ὅπως εἶναι τοποθετημένοι εἰς ἀπόστασιν μεταξύ των οὐχὶ μεγαλυτέραν τῶν 2,4 μέτρων. Διατάξεις αἵτινες θὰ συνίστανται ἐκ τῆς χρησιμοποίησεως ἐτέρων ὑλικῶν καὶ θεωρούμεναι ὑπὸ τῆς Ἀρχῆς ὡς ἰσοδύναμοι πρὸς τὰς ἀνωτέρω, δύναται νὰ γίνουιν ἀποδεκταί.
- (iv) Συρματόσχοινον μεγάλης ἀντοχῆς καὶ ἐφελκυσμοῦ (διαμέτρου 19 mm ἢ ἰσοδύναμον), διπλῆ χαλυβδίνη λωρίς (50 mm X 1,3 mm καὶ ἔχουσα φορτίον θραύσεως τοῦλάχιστον 5000 χλγρ.) ἢ ἄλλοσσος ἰσοδύναμου ἀντοχῆς ἕκαστον τῶν ὁποίων θὰ εἶναι συνδεδεμένον στερεῶς μέσῳ κοχλιωτῶν ἐντατήρων τῶν 32 mm, δύναται νὰ χρησιμοποιηθῆ διὰ τὴν ἔχμασιν, Εἰς συσφιγκτῆρ μετὰ στροφίου τύπου βαρούλκου χρησιμοποιούμενος ἐν συνδυασμῷ με βραχίονα ἀσφαλίσεως (κλειδώσεως) δύναται νὰ ἀντικαταστήσῃ τὸν κοχλιωτὸν ἐντατήρα τῶν 32 mm ὅτε χαλυβδίνη λωρίς χρησιμοποιεῖται ὑπὸ τὴν προϋπόθεσιν ὅτι κατάλληλοι κλειδὲς διατίθενται διὰ τὴν σύσφιξιν ὡς εἶναι ἀπαραίτητον. "Ότε χρησιμοποιεῖται χαλυβδίνη λωρίς, οὐχὶ ὀλιγώτερα τῶν τριῶν συνδετικῶν σφραγισμάτων δέον ὅπως χρησιμοποιῶνται διὰ τὴν ἀσφάλισιν τῶν ἄκρων. "Ότε χρησιμοποιεῖται συρματόσχοινον, τοῦλάχιστον τέσσαρες σφυγκτῆρες, δέον ὅπως χρησιμοποιῶνται διὰ νὰ σχηματισθοῦν ἀγκῦλαι εἰς τὰς ἔχμασεις.
- (v) Πρὸ τῆς συμπληρώσεως τῆς φορτώσεως ἡ ἔχμασις δέον ὅπως συνδέεται θετικῶς μετὰ τῶν νομέων εἰς ἓν σημεῖον περίπου 450 mm κάτωθεν τῆς ὑπολογιζομένης τελικῆς ἐπιφανείας τῶν σιτηρῶν δι' ἀγκυλίου τῶν 25 mm ἢ ἀρπάγης δοκοῦ ἰσοδύναμου ἀντοχῆς.
- (vi) Αἱ ἔχμασεις δέον ὅπως τοποθετῶνται εἰς ἀπόστασιν μεταξύ των οὐχὶ μεγαλυτέραν τῶν 2,4 μέτρων καὶ ἐκάστη δέον ὅπως ὑποστηρίζεται διὰ μιᾶς βάσεως ἥτις εἶναι καρφωμένη ὑπεράνω τῆς κορυφῆς τῆς διαμήκους ὀροφῆς. Ἡ βᾶσις δέον ὅπως συνίσταται ἐκ ξυλείας πάχους τοῦλάχιστον 25 mm X 150 mm ἢ ἰσοδύναμου πρὸς τοῦτο καὶ δέον ὅπως διήκη καθ' ὅλον τὸ πλάτος τοῦ κύτους.
- (vii) Κατὰ τὴν διάρκειαν τοῦ ταξειδίου ἢ ἀσφαλίσεως διὰ τῶν λωρίδων θὰ ἐπιθεωρῆται τακτικῶς καὶ θὰ ἀποκαθίσταται εἰς περιπτώσεις ἐνθα θεωρεῖται ἀναγκαῖον.

(Β) ΔΙΑΤΑΞΕΙΣ ΥΠΕΡΦΟΡΤΩΣΕΩΣ

Όπου σιτηρά εις σάκκους ἢ ἕτερον κατάλληλον φορτίον χρησιμοποιεῖται πρὸς τὸν σκοπὸν τῆς ἀσφαλίσεως «μερικῶς πεπληρωμένων διαμερισμάτων», ἡ ἐλευθέρα ἐπιφάνεια τῶν σιτηρῶν δέον ὅπως καλύπτεται διὰ διαχωριστικοῦ ὑφάσματος ἢ ἰσοδύναμου ἢ ὑπὸ ἐνός καταλλήλου δαπέδου. Τὸ τοιοῦτον δάπεδον δέον ὅπως συνίσταται ἐκ φορέων οἵτινες εἶναι τοποθετημένοι εἰς ἀπόστασιν μεταξύ των οὐχὶ μεγαλυτέραν τῶν 1,2 μέτρων καὶ σανίδων πάχους 25 mm τοποθετημένων εἰς ἀπόστασιν μεταξύ των οὐχὶ μεγαλυτέραν τῶν 100 mm. Τὰ δάπεδα δύνανται νά εἶναι κατασκευασμένα ὑπὸ ἑτέρων ὑλικῶν ὑπὸ τινὲν προϋπόθεσιν ὅτι ταῦτα θεωροῦνται ὑπὸ μιᾶς Ἀρχῆς ὅτι εἶναι ἰσοδύναμα.

(Γ) ΣΙΤΗΡΑ ΕΙΣ ΣΑΚΚΟΥΣ

Σιτηρά εις σάκκους δέον ὅπως φέρονται ἐντός σάκκων διατελούντων ἐν καλῇ καταστάσει, οἵτινες δέον ὅπως πληροῦνται καλῶς καὶ κλείωνται ἀσφαλῶς.

ΚΕΦΑΛΑΙΟΝ VII

ΜΕΤΑΦΟΡΑ ΕΠΙΚΙΝΔΥΝΩΝ ΕΜΠΟΡΕΥΜΑΤΩΝ

Κανονισμός 1

Έφαρμογή

(α) Έκτός εάν άλλως ρητώς προβλέπεται, τό Κεφάλαιον τούτο εφαρμόζεται εις τήν μεταφοράν επικινδύνων εμπορευμάτων ἐφ' ὄλων τῶν πλοίων εις τά ὁποῖα οἱ παρόντες Κανονισμοί εφαρμόζονται.

(β) Αἱ διατάξεις τοῦ παρόντος Κεφαλαίου δέν εφαρμόζονται εις τά ἐφόδια καί εις τά ὑλικά ἐξαρτισμοῦ τοῦ πλοίου ἤ εις τά ἰδιαίτερα φορτία τά μεταφερόμενα ἐπί πλοίων εἰδικῶς κατεσκευασμένων ἤ ἐξ ὀλοκλήρου μετεσκευασμένων διά τόν σκοπόν τούτον, ὡς εἶναι τά δεξαμενόπλοια.

(γ) Ἡ μεταφορά επικινδύνων εμπορευμάτων ἀπαγορεύεται, ἐκτός εάν ἐκτελεῖται συμφώνως πρός τάς διατάξεις τοῦ παρόντος Κεφαλαίου.

(δ) Διά τήν συμπλήρωσιν τῶν διατάξεων τοῦ παρόντος Κεφαλαίου, ἐκάστη Συμβαλλομένη Κυβέρνησις θά ἐκδώσῃ ἢ θά προκαλέσῃ τήν ἐκδοσιν λεπτομερῶν ὁδηγιῶν διά τήν ἀσφαλῆ συσκευασίαν καί τήν στοιβασίαν ὄρισμένων επικινδύνων εμπορευμάτων ἢ κατηγοριῶν επικινδύνων εμπορευμάτων, αἱ ὁποῖαι ὁδηγίαι θά περιλαμβάνουσι τάς ἀναγκαίας προφυλάξεις ἐν σχέσει πρός τά ἄλλα φορτία.

Κανονισμός 2

Κατάταξις

Τά επικίνδυνα εμπορεύματα θά ὑποδιαιροῦνται εις τάς ἀκολουθοῦσας κλάσεις:

- Κλάσις 1 - Ἐκρηκτικαί ὕλαι
- Κλάσις 2 - Ἀέρια: πεπιεσμένα, ὑγροποιημένα ἢ διαλελυμένα ὑπό πίεσιν.
- Κλάσις 3 - Εὐφλεκτα ὑγρά.
- Κλάσις 4.1 - Εὐφλεκτα στερεά
- Κλάσις 4.2 - Εὐφλεκτα στερεά ἢ ὕλαι ὑποκείμενα εις αὐτόματον ἀνάφλεξιν.
- Κλάσις 4.3 - Εὐφλεκτα στερεά ἢ ὕλαι αἰτινες ἐρχόμεναι ἐν ἐπαφῇ μετά τοῦ ὕδατος ἀναδίδουσι εὐφλεκτα ἀέρια.
- Κλάσις 5.1 - Ὄξειδωτικά ὕλαι
- Κλάσις 5.2 - Ὄργανικά ὑπεροξειδία
- Κλάσις 6.1 - Δηλητηριώδεις (τοξικά) ὕλαι.
- Κλάσις 6.2 - Μολυσματικά ὕλαι.
- Κλάσις 7 - Ραδιενεργοί ὕλαι.
- Κλάσις 8 - Διαβρωτικά ὕλαι.
- Κλάσις 9 - Διάφοροι επικίνδυνοι ὕλαι, ἤτοι πᾶσα ἄλλη ὕλη διά τήν ὁποίαν ἡ πείρα ἔχει ἀποδείξει, ἢ δύναται νά ἀποδείξῃ, ὅτι εἶναι τοιαύτης ἐπικινδύνου φύσεως ὥστε θά ἔδει νά εφαρμόζωνται δι' αὐτήν αἱ διατάξεις τοῦ παρόντος Κεφαλαίου.

Κανονισμός 3

Συσκευασία

(α) Ἡ συσκευασία τῶν επικινδύνων εμπορευμάτων δέον ὄπως:

- (i) ἔχη καλῶς ἐκτελεσθῆ καὶ εἶναι εἰς καλὴν κατάστασιν,
 - (ii) εἶναι τοιαύτης φύσεως ὥστε οἰαδήποτε ἐσωτερικὴ ἐπιφάνεια, μετὰ τῆς ὁποίας τὸ περιεχόμενον δύναται νὰ ἔλθῃ εἰς ἐπαφὴν, μὴ προσβάλλεται ἐπικινδύνως ὑπὸ τῆς μεταφερομένης ὕλης, καὶ
 - (iii) δύναται νὰ ἀντέχῃ εἰς τοὺς συνήθεις κινδύνους φορτώσεως καὶ μεταφορᾶς διὰ θαλάσσης.
- (β) Ὃταν ἡ χρησιμοποίησις ὑλικοῦ ἀπορροφητικοῦ ἢ προστατευτικοῦ εἶναι συνήθης διὰ τὴν συσκευασίαν τῶν ὑγρῶν ἐντὸς δοχείων, τὸ ὑλικόν τοῦτο πρέπει νὰ εἶναι:
- (i) ἱκανόν νὰ μειῶνῃ τοὺς κινδύνους τοὺς ὁποίους τὸ ὑγρὸν δύναται νὰ προκαλέσῃ,
 - (ii) οὕτω τοποθετημένον ὥστε νὰ προλαμβάνῃ τὴν μετακίνησιν καὶ νὰ ἐξασφαλίζεται ἢ περικάλυψις τοῦ δοχείου, καὶ
 - (iii) ἐπαρκoὺς ποσότητος ὥστε, κατὰ τὸ εὐλόγως δυνατόν, νὰ ἀπορροφᾷ τὸ ὑγρὸν εἰς περίπτωσιν θραύσεως τοῦ δοχείου.
- (γ) Τὰ δοχεῖα τὰ περιέχοντα ἐπικίνδυνα ὑγρά θὰ ἔχουν κενόν περιθώριον πρὸς συμπλήρωσιν εἰς τὴν θερμοκρασίαν πληρώσεως, ἐπαρκές διὰ νὰ ἀντιμετωπίσῃ τὴν ὑψίστην θερμοκρασίαν κατὰ τὴν διάρκειαν μεταφορᾶς ὑπὸ κανονικᾶς συνθήκας.
- (δ) Οἱ κύλινδροι ἢ τὰ δοχεῖα διὰ ἀέρια ὑπὸ πίεσιν θὰ εἶναι καταλλήλως κατεσκευασμένα, δεδοκιμασμένα, συντηρημένα καὶ κανονικῶς πεπληρωμένα.
- (ε) Τὰ κενὰ δοχεῖα ἅτινα εἶχον προηγουμένως χρησιμοποιηθῆ διὰ τὴν μεταφορὰν ἐπικινδύνων ἐμπορευμάτων θὰ θεωροῦνται καὶ ταῦτα ὡς ἐπικίνδυνα ἐμπορεύματα, ἐκτός ἐάν ἔχουν καθαρισθῆ καὶ στεγνωθῆ, ἢ ἔχουν ἀσφαλῶς κλεισθῆ, ὅταν ἡ φύσις τῆς οὐσίας τὴν ὁποίαν περιέχουν ἐπιτρέπῃ τὸ κλείσιμον μετ' ἀσφαλείας

Κανονισμός 4

Σήμανσις καὶ Ἐπιγραφή

Ἐκαστον δοχεῖον περιέχον ἐπικίνδυνον ἐμπόρευμα θὰ σημαίνεται διὰ τῆς ἀκριβοῦς τεχνικῆς ὀνομασίας (δέν θὰ χρησιμοποιῶνται ὀνομασίαι ἐμπορικαί) καὶ θὰ φέρῃ διακριτικὴν ἐτικέτταν ἢ ἐπιγραφὴν χρωματισμένην μέσῳ διατρήτου ἐλάσματος, εἰς τρόπον ὥστε νὰ εἶναι καταφανής ἡ ἐπικίνδυνος φύσις τοῦ ἐμπορεύματος. Ἐκαστον δοχεῖον θὰ φέρῃ τοιαύτην ἐπιγραφὴν, ἐκτός τῶν δοχείων τῶν περιεχόντων χημικὰς οὐσίας συσκευασμένας εἰς περιωρισμένας ποσότητας ἀλλὰ ἀποτελούσας ὁμοῦ σημαντικὴν ποσότητα φορτίου, καὶ ἅτινα δύνανται νὰ στοιβάζωνται, φορτώνωνται καὶ χαρακτηρίζωνται ὡς μία μονάς.

Κανονισμός 5

Ἐγγραφα

(α) Εἰς ὅλα τὰ ἔγγραφα τὰ σχετικὰ πρὸς τὴν μεταφορὰν ἐπικινδύνων ἐμπορευμάτων διὰ θαλάσσης εἰς ἃ ἀναγράφεται ἢ ὀνομασία των θὰ χρησιμοποιηθῆτῃ ἡ ἀκριβὴς τεχνικὴ ὀνομασία τῶν ἐμπορευμάτων (δέν θὰ χρησιμοποιῶνται ἐμπορικαὶ ὀνομασίαι) καὶ θὰ δίδεται ἀκριβὴς περιγραφή συμφώνως πρὸς τὴν κατάταξιν τὴν ἀναφερομένην εἰς τὸν Κανονισμόν 2 τοῦ παρόντος Κεφαλαίου.

(β) Τὰ ὑπὸ τοῦ φορτωτοῦ καταρτιζόμενα φορτωτικά ἔγγραφα θὰ περιλαμβάνουν ἢ θὰ συνοδεύωνται ὑπὸ πιστοποιητικοῦ ἢ δηλώσεως ὅτι τὸ ἐμπόρευμα τὸ προσφερόμενον

διά μεταφοράν είναι καταλλήλως σύσκευασμένον, ἔχει σημανθῆ καὶ φέρει ἐπιγραφὴν καὶ εἶναι εἰς καλὴν κατάστασιν διὰ μεταφοράν.

(γ) Ἐκαστον πλοῖον μεταφέρον ἐπικίνδυνα ἐμπορεύματα θά ἔχη εἰδικὸν πίνακα ἢ δηλωτικὸν ἀναφέρον, συμφώνως πρὸς τὸν Κανονισμόν 2 τοῦ παρόντος Κεφαλαίου, τὰ ἐπὶ τοῦ πλοίου ἐπικίνδυνα ἐμπορεύματα καὶ τὴν θέσιν τῶν ἐπ' αὐτοῦ. Δύναται νὰ χρησιμοποιηθῆται λεπτομερὲς διάγραμμα στοιβασίας δεικνύον κατὰ κλάσεις καὶ καθορίζον τὴν θέσιν ὅλων τῶν ἐπικινδύνων ἐμπορευμάτων ἐπὶ τοῦ πλοίου ἀντὶ τοῦ ἀνωτέρω εἰδικοῦ πίνακος ἢ δηλωτικοῦ.

Κανονισμός 6

Ἀπαιτήσεις στοιβασίας

(α) Ἐπικίνδυνα ἐμπορεύματα θά στοιβάζονται ἀσφαλῶς καὶ καταλλήλως καὶ συμφώνως πρὸς τὴν φύσιν τῶν ἐμπορευμάτων. Τὰ μὴ ἐπιδεχόμενα ἀνάμειξιν ἐμπορεύματα, θά χωρίζονται ἀπ' ἀλλήλων.

(β) Ἐκρηκτικαὶ ὕλαι (ἐκτὸς πυρομαχικῶν) αἵτινες παρουσιάζουν σοβαρὸν κίνδυνον, θά στοιβάζονται ἐντὸς εἰδικῆς ἀποθήκης ἣτις θά παραμένῃ ἀσφαλῶς κλειστὴ κατὰ τὸν πλοῦν. Αἱ ἐκρηκτικαὶ αὐταὶ ὕλαι θά χωρίζονται ἀπὸ τοὺς πυροκρουστικῆρας. Αἱ ἠλεκτρικαὶ συσκευαὶ καὶ τὰ ἠλεκτρικὰ καλώδια τὰ κείμενα ἐντὸς οἴουδῆποτε διαμερίσματος ἐντὸς τοῦ ὁποίου μεταφέρονται ἐκρηκτικαὶ ὕλαι, θά εἶναι τοιαύτης κατασκευῆς καὶ θά χρησιμοποιοῦνται κατὰ τοιοῦτον τρόπον, ὥστε νὰ μειοῦται ὁ κίνδυνος πυρκαϊᾶς ἢ ἐκρήξεως.

(γ) Τὰ ἀναδίδοντα ἐπικινδύνους ἀτμοὺς ἐμπορεύματα θά στοιβάζονται εἰς χώρους καλῶς ἀεριζομένους ἢ ἐπὶ τοῦ καταστρώματος.

(δ) Εἰς πλοῖα μεταφέροντα εὐφλεκτα ὑγρά ἢ ἀέρια θά λαμβάνονται, ἐὰν ἀπαιτῆται εἰδικαὶ προφυλάξεις ἐναντίον πυρκαϊᾶς ἢ ἐκρήξεως.

(ε) Ὑλαι αἵτινες εἶναι ὑποκείμεναι εἰς αὐτόματον θέρμανσιν ἢ καῦσιν δὲν θά μεταφέρονται, ἐκτὸς ἐὰν ἔχουν ληφθῆ κατάλληλοι προφυλάξεις πρὸς πρόληψιν ἐκρήξεως πυρκαϊᾶς.

Κανονισμός 7

Ἐκρηκτικαὶ ὕλαι ἐπὶ Ἐπιβατηγῶν Πλοίων

(α) Αἱ ἀκόλουθοι ἐκρηκτικαὶ ὕλαι μόνον δύνανται νὰ μεταφέρονται ἐπὶ τῶν ἐπιβατηγῶν πλοίων:

(i) φυσίγγια καὶ καψύλια ἀσφαλείας.

(ii) μικραὶ ποσότητες ἐκρηκτικῶν ὑλῶν βάρους οὐχὶ μεγαλυτέρου τῶν 9 χιλιόγραμμων ἢ (20 λιβρῶν) συνολικοῦ καθαροῦ βάρους,

(iii) σήματα κινδύνου πρὸς χρησιμοποίησιν ὑπὸ τῶν πλοίων ἢ τῶν ἀεροσκαφῶν, ἐὰν τὸ ὄλικόν βᾶρος τῶν σημάτων τούτων δὲν ὑπερβαίνῃ τὰ 1016 χιλιόγραμμα (ἢ 2240 λίβρας).

(iv) πυροτεχνήματα αἵτινα εἶναι ἀπίθανον νὰ ἐκραγοῦν ἀποτόμως, ἐξαιρέσει ἐπὶ τῶν πλοίων τῶν μεταφερόντων ἐπιβάτας καταστρώματος.

(β) Παρὰ τὰς διατάξεις τῆς παραγράφου (α) τοῦ παρόντος Κανονισμοῦ, δύνανται νὰ μεταφέρονται ἐπιπρόσθετοι ποσότητες ἢ τύποι ἐκρηκτικῶν ὑλῶν ἐπὶ ἐπιβατηγῶν πλοίων ἐπὶ τῶν ὁποίων ἐφαρμόζονται εἰδικὰ μέτρα ἀσφαλείας ἐγκεκριμένα ὑπὸ τῆς Ἀρχῆς.

ΚΕΦΑΛΑΙΟΝ VIII
ΠΥΡΗΝΟΚΙΝΗΤΑ ΠΛΟΙΑ

Κανονισμός 1

Ἐφαρμογή

Τό παρόν Κεφάλαιον ἐφαρμόζεται εἰς δλα τά πυρηνοκίνητα πλοῖα, ἐξαιρέσει τῶν πολεμικῶν πλοίων.

Κανονισμός 2

Ἐφαρμογή τῶν ἄλλων Κεφαλαίων

Οἱ περιεχόμενοι εἰς τά ἄλλα Κεφάλαια Κανονισμοί τῆς παρούσης Συμβάσεως ἐφαρμόζονται εἰς τά πυρηνοκίνητα πλοῖα, ἐκτός τῶν ὑπό τοῦ παρόντος Κεφαλαίου ἐπιφερομένων διαφοροποιήσεων.

Κανονισμός 3

Ἐξαιρέσεις

Πυρηνοκίνητον πλοῖον δέν θά δύναται νά τύχη ἀπαλλαγῆς εἰς οὐδεμίαν περίστασιν ἐκ τῶν διατάξεων οἰουδήποτε Κανονισμοῦ τῆς παρούσης Συμβάσεως.

Κανονισμός 4

Ἐγκρίσις Ἐγκαταστάσεως Ἀντιδραστήρος

Ἡ μελέτη, ἡ κατασκευή, οἱ κανόνες τῆς ἐποπτείας καί τῆς συναρμολογήσεως τῆς ἐγκαταστάσεως ἀντιδραστήρος θά ὑπόκεινται εἰς τήν ἐγκρίσιν καί θά ἱκανοποιῶν τήν Ἀρχήν καί θά λαμβάνουν ὑπ' ὄψιν τοὺς περιορισμοὺς οἵτινες θά ἐπιβληθοῦν εἰς τὰς ἐπιθεωρήσεις λόγῳ τῆς παρουσίας ραδιενεργείας.

Κανονισμός 5

Καταλληλότης Ἐγκαταστάσεως Ἀντιδραστήρος δι' Ὑπηρεσίαν ἐπὶ πλοίου

Ἡ ἐγκατάστασις ἀντιδραστήρος θά σχεδιάζεται λαμβανομένων ὑπ' ὄψιν τῶν εἰδικῶν συνθηκῶν ὑπηρεσίας ἐπὶ πλοίου τόσον ὑπὸ συνήθεις ὄσον καί ὑπὸ ἐκτάκτους περιστάσεις ναυσιπλοίας.

Κανονισμός 6

Ἀσφάλεια ἐκ ραδιενεργείας

Ἡ Ἀρχή θά λαμβάνη μέτρα ἵνα ἐξασφαλίξεται ὅτι δέν θά ὑπάρχη ἀδικοιολόγητος ραδιενέργεια ἢ ἕτεροι κίνδυνοι ἐκ τῆς πυρηνικῆς ἐνεργείας, ἐν πλῆ ἢ ἐντός λιμένος, διὰ τὸ πλήρωμα, τοὺς ἐπιβάτας, ἢ τὸ κοινόν, ἢ τὰς ἀρτηρίας ναυσιπλοίας ἢ τὰς προμηθείας τροφίμων ἢ ὕδατος.

Κανονισμός 7*Έκθεσις Ασφαλείας*

(α) Θά συντάσσεται Έκθεσις Ασφαλείας επιτρέπουσα τήν εκτίμησιν τής εγκαταστάσεως πυρηνικής ενεργείας και τής ασφαλείας του πλοίου, ίνα εξασφαλίζεται ότι δέν υπάρχει άδικοιολόγητος ραδιενέργεια ή έτεροι κίνδυνοι εν πλώ ή εντός λιμένος διά τό πλήρωμα, τούς επιβάτας ή τό κοινόν, ή τας άρτηρίας ναυσιπλοΐας ή τας προμηθειάς τροφίμων ή ύδατος. Έάν ή Αρχή μένη ικανοποιημένη θά εγκρίνη τήν έκθεσιν ταύτην ασφαλείας ήτις θά τηρηται πάντοτε ένημερωμένη.

(β) Η Έκθεσις Ασφαλείας θά τίθεται έγκαίρως εκ τών προτέρων εις τήν διάθεσιν τών Συμβαλλομένων Κυβερνήσεων τών χωρών τας όποιας πρόκειται νά επισκεφθή πυρηνοκίνητον πλοΐον, εις τρόπον ώστε νά δύνανται ταυτα νά εκτιμούν τήν ασφάλειαν του πλοίου.

Κανονισμός 8*Έγχειρίδιον Λειτουργίας*

Θά καταρτίζεται λεπτομερές Έγχειρίδιον Λειτουργίας διά τόν κατατοπισμόν και καθοδήγησιν του άσχολουμένου προσωπικού εις τά καθήκοντα αυτού επί όλων τών ζητημάτων τών σχετικών προς τήν λειτουργίαν τής εγκαταστάσεως πυρηνικής ενεργείας και έχόντων σοβαράν επίδρασιν επί τής ασφαλείας. Έάν ή Αρχή μένη ικανοποιημένη, θά εγκρίνη τό Έγχειρίδιον Ασφαλείας του όποίου αντίτυπον θά τηρηται επί του πλοίου. Τό Έγχειρίδιον Ασφαλείας θά τηρηται πάντοτε ένημερωμένον.

Κανονισμός 9*Έπιθεωρήσεις*

Η επιθεώρησις τών πυρηνοκινήτων πλοίων θά περιλαμβάνη τας εφαρμοστέας άπαιτήσεις του Κανονισμού 7 του Κεφαλαίου I, ή τών Κανονισμών 8, 9 και 10 του Κεφαλαίου I, έξαιρέσει τών επιθεωρήσεων τών περιοριζομένων εκ τής παρουσίας ραδιενεργείας. Έπιπροσθέτως, αι επιθεωρήσεις θά περιλαμβάνουν πΰσαν ειδικήν άπαιτήσιν τής Έκθέσεως Ασφαλείας και εις πάσας τας περιπτώσεις, παρά τας διατάξεις τών Κανονισμών 8 και 10 του Κεφαλαίου I, θά λαμβάνουν χώραν τουλάχιστον άπαξ του έτους.

Κανονισμός 10*Πιστοποιητικά*

(α) Αί διατάξεις τής παραγράφου (α) του Κανονισμού 12 του Κεφαλαίου I και του Κανονισμού 14 του Κεφαλαίου I δέν θά εφαρμόζωνται εις τά πυρηνοκίνητα πλοία.

(β) Πιστοποιητικόν, καλούμενον Πιστοποιητικόν Ασφαλείας Πυρηνοκινήτου Έπιβατηγού Πλοίου, θά χορηγηται κατόπιν εξέτάσεως και επιθεωρήσεως εις πυρηνοκίνητον έπιβατηγόν πλοΐον τό όποϊον πληροί τας άπαιτήσεις τών Κεφαλαίων II-1, II-2, III, IV, και VIII και τας έτέρας σχετικές άπαιτήσεις τών παρόντων Κανονισμών.

(γ) Πιστοποιητικόν, καλούμενον Πιστοποιητικόν Ασφαλείας Πυρηνοκινήτου Φορτηγού Πλοίου, θά χορηγηται κατόπιν εξέτάσεως και επιθεωρήσεως εις πυρηνοκίνητον φορτηγόν πλοΐον τό όποϊον ικανοποιεί τας άπαιτήσεις επιθεωρήσεως διά φορτηγά πλοία τας καθοριζόμενας διά του Κανονισμού 10 του Κεφαλαίου I και πληροί τας άπαιτήσεις τών Κεφαλαίων II-1, II-2, III, IV και VIII και τας έτέρας σχετικές άπαιτήσεις τών παρόντων Κανονισμών.

(δ) Τά Πιστοποιητικά Ἀσφαλείας Πυρηνοκινήτων Ἐπιβατηγῶν Πλοίων καί τά Πιστοποιητικά Ἀσφαλείας Πυρηνοκινήτων Φορτηγῶν Πλοίων θά ἀναγράφουν ὅτι: «Τό πλοῖον, τό ὁποῖον εἶναι πυρηνοκίνητον πληροῖ ὄλας τάς ἀπαιτήσεις τοῦ Κεφαλαίου VIII τῆς Συμβάσεως καί ἀνταποκρίνεται εἰς τήν Ἐκθεσιν Ἀσφαλείας τήν ἐγκριθεῖσαν διά τό πλοῖον».

(ε) Τά Πιστοποιητικά Ἀσφαλείας Πυρηνοκινήτων Ἐπιβατηγῶν Πλοίων καί τά Πιστοποιητικά Ἀσφαλείας Πυρηνοκινήτων Φορτηγῶν Πλοίων θά ἰσχύουν διά χρονικήν περίοδον οὐχί μεγαλύτεραν τῶν 12 μηνῶν.

(στ) Τά Πιστοποιητικά Ἀσφαλείας Πυρηνοκινήτων Ἐπιβατηγῶν Πλοίων καί τά Πιστοποιητικά Ἀσφαλείας Πυρηνοκινήτων Φορτηγῶν Πλοίων θά ἐκδίδονται ὑπό τῆς Ἀρχῆς ἢ ὑπό παντός προσώπου ἢ ὀργανισμοῦ δεόντων ὑπ' αὐτῆς ἐξουσιοδοτημένου. Ἐν πάσῃ περιπτώσει, ἡ Ἀρχή αὕτη ἀναλαμβάνει πᾶσαν εὐθύνην διά τό Πιστοποιητικόν.

Κανονισμός 11

Εἰδικός Ἐλεγχος

Ἐπιπροσθέτως πρὸς τὸν ὑπὸ τοῦ Κανονισμοῦ 19 τοῦ Κεφαλαίου I προβλεπόμενον ἔλεγχον, τὰ πυρηνοκίνητα πλοῖα θά ὑπόκεινται εἰς εἰδικὸν ἔλεγχον πρὸ τῆς εἰσόδου εἰς λιμένας καί ἐντὸς τῶν λιμένων τῶν Συμβαλλομένων Κρατῶν, πρὸς τὸν σκοπὸν ἐξακριβώσεως ὅτι ὑπάρχει ἐπὶ τοῦ πλοίου Πιστοποιητικὸν Ἀσφαλείας Πυρηνοκινήτου Πλοίου ἐν ἰσχύϊ καί ὅτι δὲν ὑπάρχει ἀδικοιολόγητος ραδιενέργεια ἢ ἕτεροι κίνδυνοι ἐν πλῆϊ ἢ ἐντὸς τοῦ λιμένος διὰ τὸ πλήρωμα, τοὺς ἐπιβάτας ἢ τὸ κοινόν, ἢ τὰς ἀρτηρίας ναυσιπλοίας ἢ τὰς προμηθείας τροφίμων ἢ ὕδατος.

Κανονισμός 12

Ἀτυχήματα

Εἰς περίπτωσιν οἰουδήποτε ἀτυχήματος δυναμένου νὰ προκαλέσῃ κίνδυνον διὰ τὸ περιβάλλον, ὁ πλοίαρχος τοῦ πυρηνοκινήτου πλοίου θά εἰδοποιῆ ἀμέσως τὴν Ἀρχήν. Οὗτος θά εἰδοποιῆ ὡσαύτως ἀμέσως τὴν ἀρμοδίαν Κυβερνητικὴν ἀρχὴν τῆς χώρας εἰς τὰ ὕδατα τῆς ὁποίας δυνατὸν νὰ εὐρίσκεται τὸ πλοῖον, ἢ εἰς τὰ ὕδατα τῆς ὁποίας τὸ πλοῖον προσεγγίζει εἰς κατάστασιν ἀβαρίας.

ΠΡΟΣΑΡΤΗΜΑ

Υπόδειγμα Πιστοποιητικού Ασφαλείας δι' Επιβατηγά Πλοία

ΠΙΣΤΟΠΟΙΗΤΙΚΟΝ ΑΣΦΑΛΕΙΑΣ ΕΠΙΒΑΤΗΓΟΥ ΠΛΟΙΟΥ

(Επίσημος Σφραγίς)

(Χώρα)

διά (διεθνή ή βραχύν διεθνή) πλοῦν

Έκδοθέν συμφώνως πρὸς τὰς διατάξεις τῆς

ΔΙΕΘΝΟΥΣ ΣΥΜΒΑΣΕΩΣ ΠΕΡΙ ΑΣΦΑΛΕΙΑΣ ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ
ΕΝ ΘΑΛΑΣΣΗ, 1974

Όνομα πλοίου	Διεθνές διακριτικόν σήμα	Λιμὴν νηολογήσεως	Όλική χωρητικότητα	Λεπτομέρειαι ταξειδίου, ἐάν υπάρχουν, ὑπὸ τούς ὄρους τοῦ Κανονισμοῦ 27(γ) νῆι τοῦ Κεφαλαίου III	Ἡμερομηνία κατὰ τὴν ὁποίαν ἐτοποιητήθη ἡ τρόπις. (Βλέπε κατωτέρω σημείωσιν)

Ἡ Κυβέρνησις (ὄνομα Κυβερνήσεως)

πιστοποιεῖ:

Ὁ ὑπογεγραμμένος (ὄνομα)

πιστοποιῶ:

I. Ὅτι τὸ ἀνωτέρω ἀναφερόμενον πλοῖον ἔχει δεόντως ἐπιθεωρηθῆ συμφώνως πρὸς τὰς διατάξεις τῆς ἀνωτέρω ἀναφερομένης Συμβάσεως.

II. Ὅτι ἡ ἐπιθεώρησις ἀπέδειξεν ὅτι τὸ πλοῖον πληροῖ τὰς ἀπαιτήσεις τῶν Κανονισμῶν τῶν προσηρητημένων εἰς τὴν ρηθεῖσαν Σύμβασιν, ὅσον ἀφορᾷ:

- (1) Τὸ κατασκευάσμα τοῦ σκάφους, τούς κυρίους καὶ βοηθητικούς λέβητας, τὰ λοιπὰ σκευὴ πίεσεως καὶ τὰς μηχανάς.
- (2) Τὰς διατάξεις καὶ τὰς λεπτομερείας τῆς στεγανῆς ὑποδιαίρέσεως.
- (3) Τὰς ἀκολούθους ἐμφόρτους ἰσάλους γραμμὰς ὑποδιαίρέσεως:

Ἐμφόρτοι ἰσάλου γραμμὰς ὑποδιαίρέσεως καθορισθεῖσαι καὶ σημανθεῖσαι ἐπὶ τῆς πλευρᾶς περὶ τὸ μέσον τοῦ πλοίου (Κανονισμὸς 11 τοῦ Κεφαλαίου II-1)	Ἔγος ἐξάλων	Ἐφαρμόζεται ὅταν οἱ χῶροι ἐπιβατῶν περιλαμβάνουν τούς κάτωθι χῶρους δυναμένους νὰ χρησιμοποιηθοῦν ἐναλλακτικῶς εἴτε δι' ἐπιβάτας, εἴτε διὰ φορτία
C.1
C.2
C.3

III. Ότι τά σωστικά μέσα επαρκούν διά συνολικόν αριθμόν

- ατόμων κατ' ανώτατον ὄριον, ἤτοι:
- σωσίβιοι λέμβοι (συμπεριλαμβάνουσαι σωσίβιους λέμβους μετά κινητήρος) ἱκαναί νά φέρουν ἄτομα, καί σωσίβιοι λέμβοι μετά κινητήρος ἐφοδιασμένοι διά ραδιοηλεκτρογραφικῆς συσκευῆς (συμπεριλαμβάνόμεναι εἰς τόν ανώτερω ἀναφερόμενον συνολικόν ἀριθμόν σωσιβίων λέμβων) καί σωσίβιοι λέμβοι μετά κινητήρος ἐφοδιασμένοι διά προβολέως μόνον (συμπεριλαμβάνόμεναι ἐπίσης εἰς τόν ανώτερω ἀναφερόμενον συνολικόν ἀριθμόν σωσιβίων λέμβων), ἀπαιτοῦσαι πτυχιούχους ἀνδρας σωσιβίων λέμβων.
- σωσίβιοι σχεδία, διά τὰς ὁποίας ἀπαιτοῦνται ἐγκεκριμένα μέσα καθαιρέσεως, ἱκαναί νά φέρουν ἄτομα, καί
- σωσίβιοι σχεδία, διά τὰς ὁποίας δέν ἀπαιτοῦνται ἐγκεκριμένα μέσα καθαιρέσεως, ἱκαναί νά φέρουν ἄτομα.
- πλευστικά συσκευαί ἱκαναί νά ὑποβαστάζουν ἄτομα.
- κυκλικά σωσίβια.
- σωσίβιοι ζῶναι.

IV. Ότι αἱ σωσίβιοι λέμβοι καί αἱ σωσίβιοι σχεδία εἶναι ἐφοδιασμένοι συμφώνως πρὸς τὰς διατάξεις τῶν Κανονισμῶν.

V. Ότι τό πλοῖον εἶναι ἐφοδιασμένον διά μιᾶς ὀρμιδοβόλου συσκευῆς καί φορητῆς συσκευῆς ἀσυρμάτου διά πλωτόν σωστικόν μέσον συμφώνως πρὸς τὰς διατάξεις τῶν Κανονισμῶν.

VI. Ότι τό πλοῖον πληροῖ τὰς ἀπαιτήσεις τῶν Κανονισμῶν ὅσον ἀφορᾷ τὰς ραδιοηλεκτρογραφικὰς ἐγκαταστάσεις, ἤτοι:

	* Απαιτούμενα κατά τούς Κανονισμούς	Διατιθέμενα ἐν τῷ πλοίῳ
* Ὄρα ἀκροάσεως ἀσυρματιστοῦ
* Αριθμός ἀσυρματιστῶν
* Εἰς τὴν ἀπάρχην αὐτόματος δέκτης σήματος κινδύνου
* Εἰς τὴν ἀπάρχην κυρία ἐγκατάστασις
* Εἰς τὴν ἀπάρχην ἐφεδρική ἐγκατάστασις
* Εἰς τὸν κύριον καί τὸν ἐφεδρικόν πομπὸς εἶναι ἠλεκτρικῶς κεχωρισμένοι ἢ συνδυασμένοι
* Εἰς τὴν ἀπάρχην ραδιογωνιόμετρον
* Εἰς τὴν ἀπάρχην ραδιοεντοπιστικῆς συσκευῆς ἐπὶ τῆς ραδιοηλεκτρογραφικῆς συχνότητος κινδύνου
* Εἰς τὴν ἀπάρχην Radar
* Αριθμός ἐπιβατῶν διά τόν ὅποιον ἐξεδόθη τό πᾶρον πιστοποιητικόν

VII. Ότι ἡ λειτουργία τῶν ραδιοηλεκτρογραφικῶν ἐγκαταστάσεων διά τὰς σωσίβιους λέμβους μετά κινητήρος καί (ἢ) τῆς φορητῆς συσκευῆς ἀσυρμάτου διά πλωτόν σωσίβιον μέσον, εἰς τὰς διατάξεις τῶν Κανονισμῶν.

VIII. Ότι τό πλοῖον συμμορφοῦται πρὸς τὰς διατάξεις τῶν Κανονισμῶν ὅσον ἀφορᾷ τὰς συσκευὰς ἐντοπισμοῦ καί σβέσεως πυρκαϊᾶς, Radar, ἠχοβολιστικῆν συσκευήν καί γυροσκοπικὴν π ξίδα καί ὅτι εἶναι ἐφοδιασμένον διά πλοϊκῶν φῶτων καί σχημάτων, κλίμακος πλοηγοῦ καί μέσων ἐκπομπῆς ἠχητικῶν σημάτων καί σημάτων κινδύνου,

συμφώνως πρὸς τὰς διατάξεις τῶν Κανονισμῶν καθὼς καὶ τοὺς ἐν ἰσχύϊ Διεθνεῖς Κανονισμοὺς Ἀποφυγῆς Συγκρούσεων ἐν Θαλάσσει.

ΙΧ. Ὅτι ἀπὸ πάσης ἐτέρας ἀπόψεως τὸ πλοῖον συμμορφοῦται πρὸς τὰς διατάξεις τῶν Κανονισμῶν, ὅσοι τούτων ἐφαρμόζονται ἐπ' αὐτοῦ.

Τὸ παρὸν πιστοποιητικὸν ἐκδίδεται κατ' ἐξουσιοδότησιν τῆς Κυβερνήσεως. Ἰσχύει μέχρι

Ἐξεδόθη ἐν τῆς 19

Ἔπεται ἡ σφραγὶς ἢ ἡ ὑπογραφή τῆς ἐξουσιοδοτημένης διὰ τὴν ἔκδοσιν τοῦ πιστοποιητικοῦ Ἀρχῆς.

(Σφραγὶς)

Ἐάν τὸ πιστοποιητικὸν εἶναι ὑπογεγραμμένον, προστίθεται ἡ ἀκόλουθος παράγραφος:

Ὁ ὑπογεγραμμένος δηλῶ ὅτι εἶμαι δεόντως ἐξουσιοδοτημένος ὑπὸ τῆς ἀνωτέρω Κυβερνήσεως ὅπως ἐκδόσω τὸ παρὸν πιστοποιητικόν.

(Ἵ Υπογραφή)

ΣΗΜΕΙΩΣΙΣ: Θὰ ἀρκῆ νὰ ἀναγράφεται τὸ ἔτος κατὰ τὸ ὁποῖον ἐτοποθετήθη ἡ τρύπις, ἢ ὅτε τὸ πλοῖον εὐρίσκετο εἰς παρεμφερές στάδιον κατασκευῆς ἐξαιρέσει τῶν ἐτῶν 1952 καὶ 1965 καὶ τοῦ ἔτους τῆς ἐναρξέως τῆς ἰσχύος τῆς Διεθνούς Συμβάσεως περὶ Ἀσφαλείας τῆς Ἀνθρωπίνης Ζωῆς ἐν Θαλάσσει, 1974, διὰ τὴν περίπτωσιν τῶν ὁποίων θὰ ἀναφέρεται ἡ πραγματικὴ ἡμερομηνία.

Εἰς τὴν περίπτωσιν κλοίου τὸ ὁποῖον ὑπέστη μετατροπὴν, ὡς προβλέπεται εἰς τὸν Κανονισμόν 1(β)(ι) τοῦ Κεφαλαίου II-1 ἢ τὸν Κανονισμόν 1(α)(ι) τοῦ Κεφαλαίου II-2 τῆς Συμβάσεως, θὰ ἀναφέρεται ἡ ἡμερομηνία ἐναρξέως τῶν ἐργασιῶν τῆς μετατροπῆς.

**Υπόδειγμα Πιστοποιητικού Ασφαλείας Κατασκευής διά Φορτηγά Πλοία*

ΠΙΣΤΟΠΟΙΗΤΙΚΟΝ ΑΣΦΑΛΕΙΑΣ ΚΑΤΑΣΚΕΥΗΣ ΦΟΡΤΗΓΟΥ ΠΛΟΙΟΥ

(**Επίσημος Σφραγίς*)

(*Χώρα*)

*Εκδοθέν συμφώνως προς τās διατάξεις τής

**ΔΙΕΘΝΟΥΣ ΣΥΜΒΑΣΕΩΣ ΠΕΡΙ ΑΣΦΑΛΕΙΑΣ ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ
ΕΝ ΘΑΛΑΣΣΗ, 1974**

Όνομα πλοίου	Διεθνές διακριτικόν	Λιμνήν νηολογήσεως	*Ολική χωρητικότητα	*Ημερομηνία κατά την οποίαν έτοποθετήθη ή τρόπις (Βλέπε κατωτέρω σημείωσιν)

*Η Κυβέρνησις (*ὄνομα Κυβερνήσεως*)

πιστοποιεί:

*Ο ὑπογεγραμμένος (*ὄνομα*)

πιστοποιῶ:

"Οτι τό ἀνωτέρω ἀναφερόμενον πλοῖον ἔχει δεόντως ἐπιθεωρηθῆ συμφώνως πρὸς τās διατάξεις τοῦ Κανονισμοῦ 10 τοῦ Κεφαλαίου I τής ἀνωτέρω ἀναφερομένης Συμβάσεως καὶ ὅτι ἡ ἐπιθεώρησις ἀπέδειξεν ὅτι ἡ κατάστασις τοῦ σκάφους, τῶν μηχανῶν καὶ τοῦ ἐξαρτισμοῦ, ὡς ταῦτα καθορίζονται εἰς τόν ἀνωτέρω Κανονισμόν, εἶναι καθ' ὅλα ἱκανοποιητικά καὶ ὅτι τό πλοῖον πληροῖ τās ἐφαρμοστέας ἀπαιτήσεις τοῦ Κεφαλαίου II-1 καὶ τοῦ Κεφαλαίου II-2 (ἐκτὸς τῶν ἀναφερομένων εἰς τās συσκευὰς σβέσεως πυρκαϊᾶς καὶ τὰ σχέδια ἐλέγχου πυρκαϊᾶς).

Τό παρόν πιστοποιητικόν ἐκδίδεται κατ' ἐξουσιοδότησιν τής..... Κυβερνήσεως. Ἰσχύει μέχρι

*Εξεδόθη ἐν

τῆ

19..

**Ἐπεται ἡ σφραγίς ἢ ἡ ὑπογραφή τής ἐξουσιοδοτημένης διά τήν ἐκδοσιν τοῦ πιστοποιητικού Ἀρχῆς.*

(*Σφραγίς*)

**Ἐάν τό πιστοποιητικόν εἶναι ὑπογεγραμμένον, προστίθεται ἡ ἀκόλουθος παράγραφος:*

*Ο ὑπογεγραμμένος δηλῶ ὅτι εἶμαι δεόντως ἐξουσιοδοτημένος ὑπό τής ἀνωτέρω Κυβερνήσεως ὅπως ἐκδόσω τό παρόν πιστοποιητικόν.

(**Υπογραφή*)

ΣΗΜΕΙΩΣΙΣ: Θά ἀρκῆ νά ἀναγράφεται τό ἔτος κατά τό ὁποῖον ἐτοποθετήθη ἡ τρόπις ἢ ὅτε τό πλοῖον εὑρίσκετο εἰς παρεμφερές στάδιον κατασκευῆς ἐξαιρέσει τῶν ἐτῶν 1952 καὶ 1965 καὶ τοῦ ἔτους ἐνάρξεως τής ἰσχύος τής Διεθνούς Συμβάσεως περί Ἀσφαλείας τής Ἀνθρώπινης Ζωῆς ἐν Θαλάσσῃ 1974 διά τήν περίπτωσιν τῶν ὁποίων θά ἀναφέρεται ἡ πραγματικὴ ἡμερομηνία.

Υπόδειγμα Πιστοποιητικού Ασφαλείας Έξαρτισμού διά Φορτηγά Πλοία

ΠΙΣΤΟΠΟΙΗΤΙΚΟΝ ΑΣΦΑΛΕΙΑΣ ΕΞΑΡΤΙΣΜΟΥ ΦΟΡΤΗΓΟΥ ΠΛΟΙΟΥ

(Έπίσημος Σφραγίς)

(Χώρα)

Έκδοθέν συμφώνως πρὸς τὰς διατάξεις τῆς

ΔΙΕΘΝΟΥΣ ΣΥΜΒΑΣΕΩΣ ΠΕΡΙ ΑΣΦΑΛΕΙΑΣ ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ
ΕΝ ΘΑΛΑΣΣΗ, 1974

Όνομα πλοίου	Διεθνές διακριτικὸν σήμα	Λιμὴν νηολογήσεως	Όλική χρηστικότητα	Ἡμερομηνία κατὰ τὴν ὁποίαν ἐτοποιηθῆ ἢ τροπὶς (βλέπε κατωτέρω σημειώσιν)

Ἡ Κυβέρνησις (ὄνομα Κυβερνήσεως)

πιστοποιεῖ:

Ὁ ὑπογεγραμμένος (ὄνομα)

πιστοποιῶ:

I. Ὅτι τὸ ἀνωτέρω ἀναφερόμενον πλοῖον ἔχει δεόντως ἐπιθεωρηθῆ συμφώνως πρὸς τὰς διατάξεις τῆς ἀνωτέρω ἀναφερομένης Συμβάσεως.

II. Ὅτι ἡ ἐπιθεώρησις ἀπέδειξεν ὅτι τὰ σωστικά μέσα ἐπαρκοῦν διὰ συνολικὸν ἀριθμὸν ἀτόμων κατ' ἀνώτατον ὄριον, ἦτοι:

..... σωσίβιοι λέμβοι εἰς τὴν ἀριστερὰν πλευρὰν ἱκαναί νά φέρουν ἄτομα.

..... σωσίβιοι λέμβοι εἰς τὴν δεξιὰν πλευρὰν ἱκαναί νά φέρουν ἄτομα.

..... σωσίβιοι λέμβοι μετὰ κινητῆρος (συμπεριλαμβανόμενοι εἰς τὸν ἀνωτέρω ἀναφερόμενον συνολικὸν ἀριθμὸν σωσιβίων λέμβων) συμπεριλαμβάνουσαι σωσιβίους λέμβους μετὰ κινητῆρος ἐφοδιασμένας διὰ ραδιοτηλεγραφικῆς ἐγκαταστάσεως καὶ προβολέως, καὶ σωσιβίους λέμβους μετὰ κινητῆρος ἐφοδιασμένας διὰ προβολέως μόνον.

..... σωσίβιοι σχεδίαι, διὰ τὰς ὁποίας ἀπαιτοῦνται ἐγκεκριμένα μέσα καθαιρέσεως, ἱκαναί νά φέρουν ἄτομα, καὶ

..... σωσίβιοι σχεδίαι διὰ τὰς ὁποίας δέν ἀπαιτοῦνται ἐγκεκριμένα μέσα καθαιρέσεως, ἱκαναί νά φέρουν ἄτομα.

..... κυκλικά σωσίβια.

..... σωσίβιοι ζῶναι.

III. Ὅτι αἱ σωσίβιοι λέμβοι καὶ αἱ σωσίβιοι σχεδίαι εἶναι ἐφοδιασμένοι συμφώνως πρὸς τὰς διατάξεις τῶν Κανονισμῶν τῶν προσηρτημένων εἰς τὴν Σύμβασιν.

IV. Ὅτι τὸ πλοῖον εἶναι ἐφωδιασμένον διὰ μιᾶς ὀρμιδοβόλου συσκευῆς καὶ φορητῆς συσκευῆς ἀσυρμάτου διὰ πλωτῶν σωστικῶν μέσων συμφώνως πρὸς τὰς διατάξεις τῶν Κανονισμῶν.

V. Ὅτι ἡ ἐπιθεώρησις ἀπέδειξεν ὅτι τὸ πλοῖον συμμορφοῦται πρὸς τὰς διατάξεις τῆς ἀναφερομένης Συμβάσεως, ὅσον ἀφορᾷ εἰς τὰς συσκευὰς σβέσεως πυρκαϊᾶς καὶ τὰ σχέδια ἐλέγχου πυρκαϊᾶς, ἠχοβολιστικὴν συσκευὴν καὶ γυροσκοπικὴν πυξίδα, καὶ εἶναι ἐφωδιασμένον διὰ πλοϊκῶν φώτων καὶ σχημάτων, κλίμακος πλοηγοῦ καὶ μέσων ἐκπομπῆς ἠχητικῶν σημάτων καὶ Κανονισμῶν καθὼς καὶ τοὺς ἐν ἰσχύϊ Διεθνεῖς Κανονισμοὺς Ἐπιφυγῆς Συγκρούσεων ἐν Θαλάσσει.

VI. Ὅτι ἀπὸ πάσης ἐτέρας ἀπόψεως τὸ πλοῖον συμμορφοῦται πρὸς τὰς ἀπαιτήσεις τῶν Κανονισμῶν, ὅσαι ἐφαρμόζονται ἐπὶ τούτου.

Τὸ παρὸν πιστοποιητικὸν ἐκδίδεται κατ' ἐξουσιοδότησιν τῆς..... Κυβερνήσεως. Ἰσχύει μέχρι τῆς

Ἐξεδόθη ἐν

τῆ

19..

Ἔπεται ἡ σφραγὶς ἢ ἡ ὑπογραφή τῆς ἐξουσιοδοτημένης διὰ τὴν ἐκδοσιν τοῦ πιστοποιητικοῦ Ἀρχῆς.

(Σφραγὶς)

Ἐάν τὸ πιστοποιητικὸν εἶναι ὑπογεγραμμένον προστίθεται ἡ ἀκόλουθος παράγραφος:

Ὁ ὑπογεγραμμένος δηλῶ ὅτι εἶμαι δεόντως ἐξουσιοδοτημένος ὑπὸ τῆς ρηθείσεως Κυβερνήσεως ὅπως ἐκδώσω τὸ παρὸν πιστοποιητικόν.

(Ἐπιγραφή)

ΣΗΜΕΙΩΣΙΣ: Θὰ ἀρκῆ νὰ ἀναγράφεται τὸ ἔτος κατὰ τὸ ὁποῖον ἐτοποθετήθη ἡ τρύπις, ἢ ὅτε τὸ πλοῖον εὐρίσκετο εἰς παρεμφερέσ στάδιον κατασκευῆς, ἐξαιρέσει τῶν ἐτῶν 1952 καὶ 1965 καὶ τοῦ ἔτους ἐνάρξεως τῆς ἰσχύος τῆς Διεθνούς Συμβάσεως Ἀσφαλείας τῆς Ἀνθρωπίνης Ζωῆς ἐν Θαλάσσει, 1974, διὰ τὴν περίπτωσιν τῶν ὁποίων θὰ ἀναφέρεται ἡ πραγματικὴ ἡμερομηνία.

Υπόδειγμα Πιστοποιητικού Ασφαλείας Ραδιοτηλεγραφίας διά Φορητά Πλοία
ΠΙΣΤΟΠΟΙΗΤΙΚΟΝ ΑΣΦΑΛΕΙΑΣ ΡΑΔΙΟΤΗΛΕΓΡΑΦΙΑΣ ΦΟΡΤΗΓΟΥ ΠΛΟΙΟΥ
 (Έπισημος Σφραγίς) (Χώρα)

Έκδοθέν συμφώνως προς τάς διατάξεις τής

**ΔΙΕΘΝΟΥΣ ΣΥΜΒΑΣΕΩΣ ΠΕΡΙ ΑΣΦΑΛΕΙΑΣ ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ
 ΕΝ ΘΑΛΑΣΣΗ 1974**

Όνομα πλοίου	Διεθνές διακριτικόν σήμα	Λιμήν νηολογήσεως	Όλική χωρητικότητα	Ημερομηνία κατά τήν ὁποίαν ἐτοποθετήθη ἡ τρόπις (Βλέπε κατωτέρω σημείωσιν)

Ἡ Κυβέρνησις (Όνομα Κυβερνήσεως)

πιστοποιεῖ:

Ὁ ὑπογεγραμμένος (Όνομα)

πιστοποιῶ:

I. Ὅτι τό ἀνωτέρω ἀναφερόμενον πλοῖον πληροῖ τάς διατάξεις τῶν Κανονισμῶν τῶν προσηρηθέντων εἰς τήν ἀνωτέρω ἀναφερομένην Σύμβασιν, ὅσον ἀφορᾷ τήν Ραδιοτηλεγραφίαν καί radar:

	Ἀπαιτούμενα κατά τούς Κανονισμούς	Διατιθέμενα ἐν τῷ πλοίῳ
Ἦραι ἀκρόσεως ἀσυρματιστοῦ
Ἀριθμός ἀσυρματιστῶν
Ἐάν ὑπάρχη αὐτόματος δέκτης κινδύνου
Ἐάν ὑπάρχη κυρία ἐγκατάστασις
Ἐάν ὑπάρχη ἐφεδρική ἐγκατάστασις
Ἐάν ὁ κύριος καί ὁ ἐφεδρικός πομπός εἶναι ἠλεκτρικῶς κεχωρισμένοι ἢ συνδυασμένοι
Ἐάν ὑπάρχη ραδιογωνιόμετρον
Ἐάν ὑπάρχη ραδιοεντοπιστική συσκευή ἐπὶ τῆς ραδιοτηλεφωνικῆς συχνότητος κινδύνου
Ἐάν ὑπάρχη radar

II. Ὅτι ἡ λειτουργία τῶν ραδιοτηλεγραφικῶν ἐγκαταστάσεων διά τάς σωσιβίους λέμβους μετά κινητήρος καί (ἢ) τῆς φορητῆς συσκευῆς ἀσυρμάτου διά πλωτῶν σωστικῶν μέσον, ἐάν ὑπάρχη αὕτη, ἀνταποκρίνεται εἰς τάς διατάξεις τῶν ρηθέντων Κανονισμῶν.

Τό παρόν πιστοποιητικόν ἐκδίδεται κατ' ἐξουσιοδότησιν τῆς Κυβερνήσεως. Ἰσχύει μέχρι τῆς

Ἐξεδόθη ἐν

τῆ

19 ..

Ἐπεται ἡ σφραγίς ἢ ἡ ὑπογραφή τῆς ἐξουσιοδοτημένης διά τήν ἔκδοσιν τοῦ πιστοποιητικοῦ Ἀρχῆς.

(Σφραγίς)

Ἐάν τό πιστοποιητικόν εἶναι ὑπογεγραμμένον, προστίθεται ἡ ἀκόλουθος παράγραφος:

Ὁ ὑπογεγραμμένος δηλῶ ὅτι εἶμαι δεόντως ἐξουσιοδοτημένος ὑπό τῆς ρηθείσης Κυβερνήσεως ὅπως ἐκδώσω τό παρόν πιστοποιητικόν.

(Υπογραφή)

ΣΗΜΕΙΩΣΙΣ: Θά ἀρκῆ νά ἀναγράφεται τό ἔτος κατά τό ὁποῖον ἐτοποθετήθη ἡ τρόπις ἢ δετε τό πλοῖον εὐρίσκετο εἰς παρεμφερές στάδιον κατασκευῆς, ἐξαιρέσει τῶν ἐτῶν 1952 καί 1965 καί τοῦ ἔτους τῆς ἐνάρξεως τῆς ἰσχύος τῆς Διεθνούς Συμβάσεως περί Ἀσφαλείας τῆς Ἀνθρωπίνης Ζωῆς ἐν Θαλάσσει, 1974, διά τήν περίπτωσιν τῶν ὁποίων θά ἀναφέρεται ἡ πραγματικῆ ἡμερομηνία.

Υπόδειγμα Πιστοποιητικού Ασφαλείας Ραδιοτηλεφωνίας διά Φορτηγά Πλοία
ΠΙΣΤΟΠΟΙΗΤΙΚΟΝ ΑΣΦΑΛΕΙΑΣ ΡΑΔΙΟΤΗΛΕΦΩΝΙΑΣ ΦΟΡΤΗΓΟΥ ΠΛΟΙΟΥ
 (Έπισημος Σφραγίς) (Χώρα)

Έκδοθέν συμφώνως προς τας διατάξεις τής
**ΔΙΕΘΝΟΥΣ ΣΥΜΒΑΣΕΩΣ ΠΕΡΙ ΑΣΦΑΛΕΙΑΣ ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ
 ΕΝ ΘΑΛΑΣΣΗ 1974**

Όνομα Πλοίου	Διεθνές διακριτικόν σημα	Λιμήν νηολογήσεως	Όλική χωρητικότητα	Ημερομηνία κατά τήν όποιαν έτοποθετήθη ή τρόπος (Βλέπε κατωτέ- ρω σημείωσιν)

Η Κυβέρνησις (Όνομα Κυβερνήσεως)

πιστοποιεί:

Ο ύπογεγραμμένος (Όνομα)

πιστοποιώ:

I. Ότι τό άνωτέρω άναφερόμενον πλοϊον πληροί τας διατάξεις τών Κανονισμών τών προσηρητέμων εις τήν άνωτέρω άναφερομένην Σύμβασιν δσον άφορᾷ τήν Ραδιοτηλεφωνίαν:

	Απαιτούμενα υπό τών Κανονισμών	Διατιθέμενα υπό τοῦ πλοίου
Όραι άκρόάσεως
Αριθμός χειριστῶν

II. Ότι ή λειτουργία τής φορητής ραδιοτηλεφωνικής συσκευής διά πλωτόν σωστικόν μέσον, εάν ύπάρχη τοιαύτη, άνταποκρίνεται εις τας διατάξεις τών ρηθέντων Κανονισμών.

Τό παρόν πιστοποιητικόν εκδίδεται κατ' έξουσιοδότησιν τής Κυβερνήσεως. Ίσχύει μέχρι τής

Έξεδόθη έν

τῆ

19..

Έπεται ή σφραγίς ή ή ύπογραφή τής έξουσιοδοτημένης διά τήν εκδοσιν τοῦ πιστοποιητικού Αρχῆς.

(Σφραγίς)

Εάν τό πιστοποιητικόν είναι ύπογεγραμμένον, προστίθεται ή άκόλουθος παράγραφος:

Ο ύπογεγραμμένος δηλώ ότι είμαι δεόντως έξουσιοδοτημένος υπό τής ρηθείσης Κυβερνήσεως όπως εκδώσω τό παρόν πιστοποιητικόν.

(Υπογραφή)

ΣΗΜΕΙΩΣΙΣ: Θα άρκη νά άναγράφεται τό έτος κατά τό όποιον έτοποθετήθη ή τρόπος ή δε το πλοϊον εύρίσκειτο εις παρεμπερές στάδιον κατασκευής, έξαιρέσει τών έτών 1952 και 1965 και τοῦ έτους έναρξεως τής ισχύος τής Διεθνούς Συμβάσεως περί Ασφαλείας τής Ανθρωπίνης Ζωής έν Θαλάσση 1974, διά τήν περίπτωσιν τών όποιων θα άναγράφεται ή πραγματική ήμερομηνία.

Υπόδειγμα Πιστοποιητικού Απαλλαγής
ΠΙΣΤΟΠΟΙΗΤΙΚΟΝ ΑΠΑΛΛΑΓΗΣ

(Έπίσημος Σφραγίς)

(Χώρα)

Έκδοθέν συμφώνως προς τας διατάξεις τής

ΔΙΕΘΝΟΥΣ ΣΥΜΒΑΣΕΩΣ ΠΕΡΙ ΑΣΦΑΛΕΙΑΣ ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ
ΕΝ ΘΑΛΑΣΣΗ 1974

Όνομα πλοίου	Διεθνές διακριτικόν σήμα	Λιμήν νηολογήσεως	Όλική χωρητικότητα

Η Κυβέρνησις (Όνομα Κυβερνήσεως)

πιστοποιεί:

Ο ύπογεγραμμένος (Όνομα)

πιστοποιώ:

Ότι τό άνωτέρω άναφερόμενον πλοϊον έξαιρείται,κατ' έφαρμογήν του παρεχομένου δικαιώματος υπό του Κανονισμού του Κεφαλαίου τών Κανονισμών τών προσηρτημένων εις τήν άνωτέρω άναφερομένην Σύμβασιν, τών άπαιτήσεων τών* τής Συμβάσεως διά τά ταξείδια από μέχρι

Αναγράψατε ένταῦθα τούς δρους, εάν υπάρχουν, υπό τούς οποίους χορηγείται τό πιστοποιητικόν άπαλλαγής.

Τό παρόν πιστοποιητικόν έκδίδεται κατ' έξουσιοδότησιν τής Κυβερνήσεως
Ισχύει μέχρι

Έξεδόθη έν

τῆ

19..

Έπειτα ή σφραγίς ή ή ύπογραφή τής έξουσιοδοτημένης διά τήν Έκδοσιν του πιστοποιητικού Αρχής.

(Σφραγίς)

Εάν τό πιστοποιητικόν είναι ύπογεγραμμένον, προστίθεται ή ακόλουθος παράγραφος:

Ο ύπογεγραμμένος δηλώ ότι είμαι δεόντως έξουσιοδοτημένος υπό τής άνωτέρω Κυβερνήσεως όπως έκδώσω τό παρόν πιστοποιητικόν.

(Υπογραφή)

* Αναγράψατε ένταῦθα τά Κεφάλαια καί τούς Κανονισμούς μετά τών σχετικών παραγράφων.

Υπόδειγμα Πιστοποιητικού Ασφαλείας διά Πυρηνοκίνητα Έπιβατηγά Πλοία
ΠΙΣΤΟΠΟΙΗΤΙΚΟΝ ΑΣΦΑΛΕΙΑΣ ΠΥΡΗΝΟΚΙΝΗΤΟΥ ΕΠΙΒΑΤΗΓΟΥ ΠΛΟΙΟΥ
 (Έπίσημος Σφραγίς) (Χώρα)

Έκδοθεν συμφώνως προς τās διατάξεις τής

**ΔΙΕΘΝΟΥΣ ΣΥΜΒΑΣΕΩΣ ΠΕΡΙ ΑΣΦΑΛΕΙΑΣ ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ
 ΕΝ ΘΑΛΑΣΣΗ, 1974**

Όνομα πλοίου	Διεθνές διακριτικόν σήμα	Λιμήν νηολογήσεως	Όλική χωρητικότητα	Λεπτομέρειαι ταξιδίου, εάν υπάρχουν, υπό τούς δ-ρους του Κανονισμού 27(γ) (νι) του Κεφαλαίου III	Ημερομηνία κατά τήν οποίαν έτοποθετήθη ή τρώπις (Βλέπε κατωτέρω σημειώσιν)

Η Κυβέρνησις (Όνομα Κυβερνήσεως)

πιστοποιεί:

Ο ύπογεγραμμένος (Όνομα)

πιστοποιώ:

I. Ότι τό άνωτέρω άναφερόμενον πλοιον έχει δεόντως έπιθεωρηθή συμφώνως προς τās διατάξεις τής άνωτέρω άναφερομένης Συμβάσεως.

II. Ότι τό πλοιον, τό όποιον είναι πυρηνοκίνητον, πληροί δλας τās άπαιτήσεις του Κεφαλαίου VIII τής Συμβάσεως και συμμορφούται προς τήν Έκθεσιν Άσφαλείας τήν έγκριθείσαν διά τό πλοιον.

III. Ότι ή έπιθεώρησις άπέδειξεν ότι τό πλοιον πληροί τās άπαιτήσεις των Κανονισμών των προσηρητημένων εις τήν ρηθείσαν Σύμβασιν δσον άφορά:

(1) τό κατασκευασμα του σκάφους, τούς κυρίους και βοηθητικούς λέβητας και λοιπά σκεύη πίεσεως και τās μηχανάς.

(2) τās διατάξεις και λεπτομερείαι τής στεγανής ύποδιαιρέσεως,

(3) τās άκολουθους έμφόρτους ισάλους γραμμάς ύποδιαιρέσεως:

Έμφορτοι ίσάλου γραμμαί ύποδιαιρέσεως καθορισθείσαι και σημανθείσαι επί τής πλευράς περί τό μέσον του πλοίου (Κανονισμός II του Κεφαλαίου II-1)	Υψος έξάλων	Έφαρμόζεται όταν οι χώροι έπιβατών περιλαμβάνουν τούς κάτω χώρους, δυναμένους νά χρησιμοποιηθούν έναλλακτικώς είτε δι' έπιβάτας είτε διά φορτία
C.1
C.2
C.3

IV. Ότι τά σωστικά μέσα έπαρκούν διά συνολικόν άριθμόν ατόμων κατ' άνωτατον δριον, ήτοι:

..... σωσίβιοι λέμβοι (συμπεριλαμβάνουσαι σωσιβίους λέμβους μετά κινητήρος) ίκαναί νά φέρουν άτομα, και σωσίβιοι λέμβοι έφωδιασμένοι διά ραδιοτηλεγραφικής έγκαταστάσεως και προβολέας (περιλαμβανόμενοι εις τόν άνωτέρω άναφερόμενον συνολικόν άριθμόν σωσιβίων λέμβων) και σωσίβιοι λέμβοι μετά κινητήρος έφωδιασμένοι διά προβολέας μόνον (έπίσης συμπεριλαμβανόμενοι εις τόν άνωτέρω άναφερόμενον συνολικόν άριθμόν σωσιβίων λέμβων), άπαιτούσαι πτυχιούχους άνδρας σωσιβίων λέμβων.

..... σωσίβιοι σχεδίαί διά τās όποιαις άπαιτούνται έγκεκριμένα μέσα καθαίρεσεως, ίκαναί νά φέρουν άτομα, και

..... σωσίβιοι σχεδίαί διά τās όποιαις δέν άπαιτούνται έγκεκριμένα μέσα καθαί-

ρέσεως, ίκαναί νά φέρουν άτομα,
 πλευστικά συσκευαί ίκαναί νά υποβαστάζουν άτομα,
 κυκλικά σωσίβια,
 σωσίβιοι ζώναι.

V. "Ότι αί σωσίβιοι λέμβοι και αί σωσίβιοι σχεδίαί είναι εφωδιασμέναί συμφώνως πρός τάς διατάξεις τών Κανονισμών.

VI. "Ότι τό πλοῖον είναι εφωδιασμένον διά μιᾶς ὀρμιδοβόλου συσκευῆς και διά φορητῆς συσκευῆς ἀσυρμάτου διά πλωτόν σωσίβιον μέσον, συμφώνως πρός τάς διατάξεις τών Κανονισμών.

VII. "Ότι τό πλοῖον πληροῖ τάς ἀπαιτήσεις τών Κανονισμών ὅσον ἀφορᾷ τάς ραδιοτηλεγραφικάς ἐγκαταστάσεις, ἤτοι:

	Ἀπαιτούμενα κατά τούς Κανονισμούς	Διατιθέμενα ἐν τῷ πλοίῳ
* Ὡραι ἀκροάσεως ἀσυρματιστοῦ
* Ἀριθμός ἀσυρματιστῶν
* Ἐάν ὑπάρχη αὐτόματος δέκτης σήματος κινδύνου
* Ἐάν ὑπάρχη κυρία ἐγκατάστασις
* Ἐάν ὑπάρχη ἐφεδρική ἐγκατάστασις
* Ἐάν ὁ κύριος και ὁ ἐφεδρικός πομπός εἶναι ἠλεκτρικῶς κεχωρισμένοι ἢ συνδυασμένοι
* Ἐάν ὑπάρχη ραδιογωνιόμετρον
* Ἐάν ὑπάρχη ραδιοεντοπιστική συσκευή ἐπί τῆς ραδιοτηλεφωνικῆς συχνότητος κινδύνου
* Ἐάν ὑπάρχη radar
* Ἀριθμός ἐπιβατῶν διά τόν ὁποῖον ἐξεδόθη τό πιστοποιητικόν

VIII. "Ότι ἡ λειτουργία τών ραδιοτηλεγραφικῶν ἐγκαταστάσεων διά τάς σωσίβιους λέμβους μετά κινητήρος και (ἤ) τῆς φορητῆς συσκευῆς ἀσυρμάτου διά πλωτόν σωσίβιον μέσον, ἐάν ὑπάρχη αὕτη, ἀνταποκρίνεται εἰς τάς διατάξεις τών Κανονισμών.

IX. "Ότι τό πλοῖον συμμορφοῦται πρός τάς διατάξεις τών Κανονισμών ὅσον ἀφορᾷ τάς συσκευάς ἀνιχνεύσεως και σβέσεως πυρκαϊᾶς radar, ἠχοβολιστικῆν συσκευήν και γυροσκοπικήν πυξίδα και ὅτι εἶναι εφωδιασμένον διά πλοϊκῶν φανῶν και σχημάτων, κλίμακος πλοηγοῦ και μέσων ἐκπομπῆς ἠχητικῶν σημάτων και σημάτων κινδύνου, συμφώνως πρός τάς διατάξεις τών Κανονισμών καθῶς και τοὺς ἐν ἰσχύϊ Διεθνεῖς Κανονισμοὺς Ἀποφυγῆς Συγκρούσεων ἐν Θαλάσσει.

X. "Ότι ἀπό πάσης ἐτέρας ἀπόψεως τό πλοῖον συμμορφοῦται πρός τάς ἀπαιτήσεις τών Κανονισμών, ὅσαι ἐφαρμόζονται ἐπί τούτου.

Τό παρόν πιστοποιητικόν ἐκδίδεται κατ' ἐξουσιοδότησιν τῆς Κυβερνήσεως. Ἰσχύει μέχρι

Ἐξεδόθη ἐν

τῇ

19..

Ἐπεται ἡ σφραγίς ἢ ἡ ὑπογραφή τῆς ἐξουσιοδοτημένης διά τήν ἔκδοσιν τοῦ πιστοποιητικοῦ Ἀρχῆς.

(Σφραγίς)

Ἐάν τό πιστοποιητικόν εἶναι ὑπογεγραμμένον προστίθεται ἡ ἀκόλουθος παράγραφος:

Ὁ ὑπογεγραμμένος δηλῶ ὅτι εἶμαι δεόντως ἐξουσιοδοτημένος ὑπό τῆς ρηθείσης

Κυβερνήσεως όπως εκδώσω τό παρόν πιστοποιητικόν.

(*Υπογραφή*)

ΣΗΜΕΙΩΣΙΣ: Θά άρκή νά αναγράφεται τό έτος κατά τό όποιον έτοποθετήθη ή τρόπις ή ότε τό πλοϊον εύρίσκετο εις παρεμφερές στάδιον κατασκευής εξαιρέσει του έτους 1965 και του έτους έναρξεως της ισχύος της Διεθνούς Συμβάσεως περί Ασφαλείας της Ανθρωπίνης Ζωής εν Θαλάσση 1974, διά τήν περίπτωση τών όποιων θά αναφέρεται ή πραγματική ήμερομηνία.

Εις τήν περίπτωση πλοϊου τό όποιον υπέστη μετατροπήν, ως προβλέπεται εις τόν Κανονισμόν 1(β)(ι) του Κεφαλαίου II-1 ή του Κανονισμού 1(α)(ι) του Κεφαλαίου II-2 της Συμβάσεως, θά αναφέρεται ή ήμερομηνία έναρξεως τών έργασιών της μετατροπής.

Υπόδειγμα Πιστοποιητικού Ασφαλείας Πυρηνοκινήτου Φορτηγού Πλοίου

ΠΙΣΤΟΠΟΙΗΤΙΚΟΝ ΑΣΦΑΛΕΙΑΣ ΠΥΡΗΝΟΚΙΝΗΤΟΥ ΦΟΡΤΗΓΟΥ ΠΛΟΙΟΥ

(*Επίσημος Σφραγίς*)

(*Χώρα*)

Έκδοθέν συμφώνως πρός τάς διατάξεις της

**ΔΙΕΘΝΟΥΣ ΣΥΜΒΑΣΕΩΣ ΠΕΡΙ ΑΣΦΑΛΕΙΑΣ ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ
ΕΝ ΘΑΛΑΣΣΗ, 1974**

Όνομα πλοίου	Διεθνές Διακριτικόν	Λιμήν νηολογήσεως	Όλική χωρητικότητα	Ημερομηνία κατά τήν όποιαν έτοποθετήθη ή τρόπις (Βλέπε κατωτέρω σημείωσιν)

Η Κυβέρνησις (*Όνομα Κυβερνήσεως*)

πιστοποιεί:

Ο ύπογεγραμμένος (*Όνομα*)

πιστοποιώ:

I. Ότι τό άνωτέρω αναφερόμενον πλοϊον έχει δεόντως επιθεωρηθή συμφώνως πρός τάς διατάξεις της άνωτέρω αναφερομένης Συμβάσεως.

II. Ότι τό πλοϊον, τό όποϊον είναι πυρηνοκίνητον, πληροί όλας τάς άπαιτήσεις του Κεφαλαίου VIII της Συμβάσεως και συμμορφούται πρός τήν Έκθεσιν Ασφαλείας τήν εγκριθείσαν διά τό πλοϊον.

III. Ότι ή επιθεώρησις απέδειξεν ότι τό πλοϊον πληροί τάς άπαιτήσεις τάς καθοριζόμενας εις τόν Κανονισμόν 10 του Κεφαλαίου I της Συμβάσεως, όσον άφορά τό σκάφος, τάς μηχανάς και τόν εξαρτισμόν και πληροί τάς σχετικές άπαιτήσεις του Κεφαλαίου II-1 και Κεφαλαίου II-2.

IV. Ότι τά σωστικά μέσα επαρκούν διά συνολικόν αριθμόν ατόμων κατ' άνωτατον όριον, ήτοι:

. σωσίβιοι λέμβοι εις τήν άριστεράν πλευράν ικαναί νά φέρουν άτομα,

. σωσίβιοι λέμβοι εις τήν δεξιάν πλευράν ικαναί νά φέρουν άτομα,

. σωσίβιοι λέμβοι μετά κινητήρος (συμπεριλαμβανόμεναι, εις τόν άνωτέρω αναφερόμενον συνολικόν αριθμόν) συμπεριλαμβάνουσαι σωσίβιους λέμβους μετά κινητήρος εφωδιασμένας διά ραδιοτηλεγραφικής εγκαταστάσεως και προβολέως, και σωσίβιους λέμβους μετά κινητήρος εφωδιασμένας διά προβολέως μόνον.

. σωσίβιοι σχεδία διά τάς όποιας απαιτούνται έγκεκριμένα μέσα καθαιρέσεως, ικαναί νά φέρουν άτομα, και

. σωσίβιοι σχεδία διά τάς όποιας δέν απαιτούνται έγκεκριμένα μέσα καθαιρέσεως, ικαναί νά φέρουν άτομα,

..... κυκλικά σωσίβια,

..... σωσίβιοι ζώναι.

V. "Ότι αἱ σωσίβιοι λέμβοι καὶ αἱ σχεδία εἶναι ἐφωδιασμένοι διὰ τῶν ἐφοδίων τῶν καθοριζομένων εἰς τοὺς Κανονισμοὺς τοὺς προσηρητημένους εἰς τὴν Σύμβασιν.

VI. "Ότι τὸ πλοῖον εἶναι ἐφωδιασμένον διὰ μιᾶς ὀρμηδοβόλου συσκευῆς καὶ φορητῆς συσκευῆς ἀσυρμάτου διὰ πλωτῶν σωστικῶν μέσων συμφώνως πρὸς τὰς διατάξεις τῶν Κανονισμῶν.

VII. "Ότι τὸ πλοῖον πληροῖ τὰς ἀπαιτήσεις τῶν Κανονισμῶν ὅσον ἀφορᾷ τὰς ραδιοτηλεγραφικὰς ἐγκαταστάσεις, ἤτοι:

	Ἀπαιτούμενα κατὰ τοὺς Κανονισμοὺς	Διατιθέμενα ἐν τῷ πλοίῳ
* Ὡραι ἀκροάσεως ἀσυρματιστοῦ
* Ἀριθμὸς ἀσυρματιστῶν.....
* Ἐάν ὑπάρξη αὐτόματος δέκτης σήματος κινδύνου.....
* Ἐάν ὑπάρξη κυρία ἐγκατάστασις.....
* Ἐάν ὑπάρξη ἐφεδρική ἐγκατάστασις.....
* Ἐάν ὁ κύριος καὶ ὁ ἐφεδρικός παμπὸς εἶναι ἠλεκτρικῶς κεχωρισμένοι ἢ συνδυασμένοι
* Ἐάν ὑπάρξη ραδιογωνιόμετρον
* Ἐάν ὑπάρξη ραδιοεντοπιστικὴ συσκευή ἐπὶ τῆς ραδιότηλεφωνικῆς συχνότητος κινδύνου.....
* Ἐάν ὑπάρξη radar.....

VIII. "Ότι ἡ λειτουργία τῶν ραδιοτηλεγραφικῶν ἐγκαταστάσεων διὰ τὰς σωσίβιους λέμβους μετὰ κινητήρος καὶ (ἢ) τῆς φορητῆς συσκευῆς ἀσυρμάτου διὰ πλωτῶν σωσίβιον μέσον, ἐάν ὑπάρξη αὕτη, ἀνταποκρίνεται εἰς τὰς διατάξεις τῶν Κανονισμῶν.

IX. "Ότι ἡ ἐπιθεώρησις ἀπέδειξεν ὅτι τὸ πλοῖον συμμορφοῦται πρὸς τὰς ἀπαιτήσεις τῆς ρηθείσεως Συμβάσεως, ὅσον ἀφορᾷ εἰς τὰς συσκευὰς σβέσεως πυρκαϊᾶς, radar, ἠχοβολιστικὴν συσκευὴν καὶ γυροσκοπικὴν πυξίδα καὶ εἶναι ἐφωδιασμένον διὰ πλοϊκῶν φανῶν καὶ σχημάτων, κλίμακος καὶ σημάτων κινδύνου συμφώνως πρὸς τὰς διατάξεις τῶν Κανονισμῶν καθὼς καὶ τοὺς ἐν ἰσχύϊ Διεθνεῖς Κανονισμοὺς Ἀποφυγῆς Συγκρούσεων ἐν Θαλάσῃ.

X. "Ότι ἀπὸ πάσης ἐτέρας ἀπόψεως τὸ πλοῖον συμμορφοῦται πρὸς τὰς ἀπαιτήσεις τῶν Κανονισμῶν, ὅσαι ἐφαρμόζονται ἐπὶ τούτου.

Τὸ παρὸν πιστοποιητικὸν ἐκδίδεται κατ' ἐξουσιοδότησιν τῆς Κυβερνήσεως. Ἰσχύει μέχρι.

Ἐξεδόθη ἐν

τῆ

19..

Ἐπεται ἡ σφραγὶς ἢ ἡ ὑπογραφή τῆς ἐξουσιοδοτημένης διὰ τὴν ἐκδοσιν τοῦ πιστοποιητικοῦ Ἀρχῆς.

(Σφραγίς)

Ἐάν τὸ πιστοποιητικὸν εἶναι ὑπογεγραμμένον προστίθεται ἡ ἀκόλουθος παράγραφος:

Ὁ ὑπογεγραμμένος δηλῶ ὅτι εἶμαι δεόντως ἐξουσιοδοτημένος ὑπὸ τῆς ἀνωτέρω Κυβερνήσεως ὅπως ἐκδώσω τὸ παρὸν πιστοποιητικόν.

(* Ὑπογραφή)

ΣΗΜΕΙΩΣΙΣ: θὰ ἀρκῆ νὰ ἀναγράφεται τὸ ἔτος κατὰ τὸ ὁποῖον ἐποθετήθη ἡ τρόπις ἐξαιρέσει τοῦ ἔτους 1965 καὶ τοῦ ἔτους ἐνάρξεως τῆς ἰσχύος τῆς Διεθνούς Συμβάσεως περὶ Ἀσφαλείας τῆς Ἀνθρωπίνης Ζωῆς ἐν Θαλάσῃ, 1974, διὰ τὴν περίπτωσιν τῶν ὁποίων θὰ ἀναφέρεται ἡ πραγματικὴ ἡμερομηνία.

ΠΡΩΤΟΚΟΛΛΟΝ 1978 ΑΦΟΡΩΝ ΕΙΣ ΤΗΝ
ΔΙΕΘΝΗ ΣΥΜΒΑΣΙΝ ΠΕΡΙ ΑΣΦΑΛΕΙΑΣ
ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ ΕΝ ΘΑΛΑΣΣΗ,
1974

ΤΑ ΣΥΜΒΑΛΛΟΜΕΝΑ ΚΡΑΤΗ ΤΟΥ ΠΑΡΟΝΤΟΣ ΠΡΩΤΟΚΟΛΛΟΥ,

ΟΝΤΑ ΜΕΛΗ της Διεθνούς Συμβάσεως περί Ασφαλείας της Ανθρωπίνης Ζωής εν Θαλάσση, 1974, γενομένην εν Λονδίνω την 1ην Νοεμβρίου 1974,

ΑΝΑΓΝΩΡΙΖΟΝΤΑ την σπουδαίαν συνεισφοράν η οποία μπορεί να προσέλθει, από την ανωτέρω μνημονευθείσαν Σύμβασιν, εις την προαγωγήν της ασφαλείας των πλοίων και της περιουσίας εις την θάλασσαν και των ανθρωπίνων ζών των επιβαινόντων των πλοίων.

ΑΝΑΓΝΩΡΙΖΟΝΤΑ ΕΠΙΣΗΣ την αναγκαιότητα της περαιτέρω προαγωγής της ασφαλείας των πλοίων, ειδικώτερον των δεξαμενοπλοίων,

ΘΕΩΡΟΥΝΤΑ ότι αυτό μπορεί να επιτερχθεί διά της συνάψεως ενός Πρωτοκόλλου αφορώντος εις την Διεθνή Σύμβασιν περί Ασφαλείας της Ανθρωπίνης Ζωής εν Θαλάσση, 1974,

ΣΥΝΕΦΩΝΗΣΑΝ τα ακόλουθα:

Άρθρον I

Γενικά υποχρεώσεις

Τα Συμβαλλόμενα Κράτη του παρόντος Πρωτοκόλλου αναλαμβάνουν την υποχρέωσιν να θέσουν εις εφαρμογήν τας διατάξεις του παρόντος Πρωτοκόλλου και του συνημμένου εις αυτό Παραρτήματος το οποίο θα αποτελεί αναπόσπαστον τμήμα του παρόντος Πρωτοκόλλου. Πάσα αναφορά εις το παρόν Πρωτόκολλον συνιστά ταυτοχρόνως αναφοράν εις το Παράρτημα αυτού.

Άρθρον II

Εφαρμογή

1. Αι διατάξεις των άρθρων II, III (εκτός της παραγράφου (α)), IV, VI (β), (γ) και (δ), VII και VIII της Διεθνούς Συμβάσεως περί Ασφαλείας της Ανθρωπίνης Ζωής εν

θαλάσση, 1974 (εφ'εξής αναφερομένης ως "η Σύμβασις") ενσωματώνονται εις το παρόν Πρωτόκολλον, προβλεπομένου ότι αναφοράι εις εκείνα τα άρθρα της Συμβάσεως και εις τας συμβαλλομένας Κυβερνήσεις θα εκλαμβάνονται ως αναφοράι εις το παρόν Πρωτόκολλον και εις τα συμβαλλόμενα Κράτη του παρόντος Πρωτοκόλλου, αντιστοίχως.

2. Παν πλοϊον εις το οποίον εφαρμόζεται το παρόν Πρωτόκολλον θα πληροί τας απαιτήσεις της Συμβάσεως, υποκειμένας εις τας τροποποιήσεις και τας προσθήκας τας αναφερομένας εις το παρόν Πρωτόκολλον.

3. Όσον αφορά εις τα πλοία μη συμβαλλομένων Κρατών της Συμβάσεως και του παρόντος Πρωτοκόλλου, τα συμβαλλόμενα Κράτη του παρόντος Πρωτοκόλλου θα εφαρμόζουν τας απαιτήσεις της Συμβάσεως και του παρόντος Πρωτοκόλλου όταν τούτοι θεωρείται αναγκαίον διά να εξασφαλισθή ότι τα πλοία ταύτα δεν τυγχάνουν ευνοϊκώτερας μεταχειρίσεως.

Άρθρον III

Γνωστοποιήσεις κληροφοριών

Τα συμβαλλόμενα Κράτη του παρόντος Πρωτοκόλλου αναλαμβάνουν την υποχρέωσιν να γνωστοποιούν και να καταθέτουν, εις τον Γενικόν Γραμματέα του Διακυβερνητικού Ναυτιλιακού Συμβουλευτικού Οργανισμού (εφ'εξής αναφερομένου ως "ο Οργανισμός"), κατάλογον διορισμένων επιθεωρητών ή ανεγνωρισμένων οργανισμών, οι οποίοι είναι εξουσιοδοτημένοι να ενεργούν διά λογαριασμόν των εις την εφαρμογήν μέτρων διά την ασφάλειαν της ανθρώπινης ζωής εν θαλάσση, διά την κοινοποίησιν εις τα συμβαλλόμενα Κράτη προς ενημέρωσιν των οργάνων των. Η Αρχή όθεν θα γνωστοποιή εις τον Οργανισμόν τας ειδικάς αρμοδιότητας και τους όρους της παρεχομένης εξουσιοδοτήσεως, εις τους διορισμένους επιθεωρητάς ή ανεγνωρισμένους οργανισμούς.

Άρθρον IV

Υπογραφή, Κύρωσις, Αποδοχή,

Έγκρισις και Προσχώρησις.

1. Το παρόν Πρωτόκολλον θα παραμείνη ανοικτόν προς υπογραφήν εις την έδραν του Οργανισμού από 1ης Ιουνίου 1978 μέχρι 1ης Μαρτίου 1979 και κατόπιν αυτού θα παραμείνει ανοικτόν διά προσχώρησιν.

Υπό τους όρους των διατάξεων της παραγράφου 3 του παρόντος άρθρου, χῶραι δύνανται να γίνουν μέλη του παρόντος Πρωτοκόλλου διά:

- (α) υπογραφής άνευ επιφυλάξεως όσον αφορά την κύρωσιν, αποδοχήν ή έγκρισιν, ή
- (β) υπογραφής υπό τον όρον της κυρώσεως, αποδοχής ή εγκρίσεως, ακολουθουμένης υπό κυρώσεως, αποδοχής ή εγκρίσεως, ή
- (γ) προσχωρήσεως.

2. Κύρωσις, αποδοχή, έγκρισις ή προσχώρησις θα γίνεται διά της καταθέσεως σχετικού εγγράφου εις τον Γενικόν Γραμματέα του Οργανισμού.

3. Το παρόν Πρωτόκολλον δύναται να υπογραφῆ άνευ επιφυλάξεως, να κυρωθῆ, να γίνῃ αποδεκτόν, να εγκριθῆ ή να προσχωρήσουν εις αυτό μόνον αι χῶραι αι οποίαι έχουν υπογράψει άνευ επιφυλάξεως, κυρώσει, αποδεχθεί, εγκρίνει ή προχωρήσει εις την Σύμβασιν.

Άρθρον V

Θέσις εν ισχύι

1. Το παρόν Πρωτόκολλον θα τεθῆ εν ισχύι έξ (6) μήνας μετά την ημερομηνίαν κατά την οποίαν ουχί ολιγώτεροι των δέκα πέντε (15) Κρατών, οι συνολικοί εμπορικοί στόλοι των οποίων απαρτίζουν ουχί ολιγώτερον του 50% των κόρων της ολικής χωρητικότητας της παγκοσμίου εμπορικής ναυτιλίας, έχουν γίνει μέλη εις αυτό συμφώνως προς τας διατάξεις του άρθρου IV του παρόντος Πρωτοκόλλου, υπό την προϋπόθεσιν όμως ότι το παρόν Πρωτόκολλον δεν θα τεθῆ εν ισχύι προ της θέσεως εν ισχύι της Συμβάσεως.

2. Οιονδήποτε έγγραφον κυρώσεως, αποδοχής, εγκρίσεως ή προσχωρήσεως το οποίον κατατίθεται μετά την ημερομηνίαν θέσεως εν ισχύι του παρόντος Πρωτοκόλλου, θα λαμβάνῃ ισχύν τρεις μήνας μετά την ημερομηνίαν της καταθέσεως.

3. Μετά την ημερομηνίαν κατά την οποίαν τροποποιήσις του παρόντος Πρωτοκόλλου θεωρείται ότι έχει γίνει αποδεκτή, συμφώνως προς τας διατάξεις του άρθρου VIII της Συμβάσεως, οιονδήποτε έγγραφον κυρώσεως, αποδοχής, εγκρίσεως ή προσχωρήσεως, το οποίον κατατίθεται, θα αναφέρεται εις το παρόν Πρωτόκολλον ως τούτο ετροποποιήθη.

Άρθρον VI

Καταγγελία

1. Το παρόν Πρωτόκολλον δύναται να καταγγελθῆ παρ' οιοδήποτε συμβαλλομένου Κράτους εις οιονδήποτε χρόνον μετά την παρέλευσιν πέντε (5) ετών από της ημερομηνίας κατά την οποίαν το παρόν Πρωτόκολλον τίθεται εν ισχύϊ διά το Κράτος τούτο.

2. Καταγγελία θα γίνεται διά της καταθέσεως εγγράφου καταγγελίας εις τον Γενικόν Γραμματέα του Οργανισμού.

3. Καταγγελία θα ισχύη μετά εν (1) έτος, ή μετά τοιαύτην μακροτέραν χρονικήν περίοδον, η οποία δυνατόν να καθορίζεται εις το έγγραφον της καταγγελίας, μετά την λήψη της υπό του Γενικού Γραμματέως του Οργανισμού.

4. Καταγγελία της Συμβάσεως υπό συμβαλλομένου Κράτους θεωρείται και ως καταγγελία του παρόντος Πρωτοκόλλου υπό του Κράτους τούτου.

Άρθρον VII

Θεματοφύλαξ

1. Ο Θεματοφύλαξ του παρόντος Πρωτοκόλλου θα είναι ο Γενικός Γραμματέυς του Οργανισμού (εφ' εξής αναφερόμενος ως "ο Θεματοφύλαξ").

2. Ο Θεματοφύλαξ θα:

- (α) πληροφορή όλες τας χώρας αι οποίαι έχουν υπογράψει το παρόν Πρωτόκολλον ή προσεχώρησαν εις αυτό περί:
 - (i) εκάστης νέας υπογραφής ή καταθέσεως εγγράφου κυρώσεως, αποδοχής, εγκρίσεως ή προσχωρήσεως, μετά της ημερομηνίας αυτών·
 - (ii) της ημερομηνίας θέσεως εν ισχύϊ του παρόντος Πρωτοκόλλου·
 - (iii) της καταθέσεως οιονδήποτε εγγράφου καταγγελίας του παρόντος Πρωτοκόλλου μετά της ημερομηνίας λήψεως αυτού και της ημερομηνίας ενάρξεως ισχύος της καταγγελίας·
- (β) διαβιβάξη . . . κειυρωμένη πιστά αντίγραφα του παρόντος Πρωτοκόλλου εις όλες τας χώρας αι οποίαι έχουν υπογράψει το παρόν Πρωτόκολλον ή προσεχώρησαν εις τούτο.

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3. Ευθύς ως τεθή εν ισχύι το παρόν Πρωτόκολλον, κεκυρωμένον πιστόν αντίγραφον τούτου θα διαβιβασθή υπό του Θεματοφύλακος εις την Γραμματείαν των Ηνωμένων Εθνών, διά καταχώρησιν και δημοσίευσιν συμφώνως προς τας διατάξεις του άρθρου 102 του Χάρτου των Ηνωμένων Εθνών.

Άρθρον VIII

Γλώσσα

Το παρόν Πρωτόκολλον κατηρτίσθη εις απλούν πρωτότυπον εις την Κινεζικήν, Αγγλικήν, Γαλλικήν, Ρωσικήν και Ισπανικήν γλώσσαν, εκάστου κειμένου όντος εξ' ίσου αυθεντικού.

Επίσημοι μεταφράσεις εις την Αραβικήν, Γερμανικήν και Ιταλικήν γλώσσαν θα γίνουν και θα κατατεθούν μετά του υπογεγραμμένου πρωτοτύπου.

ΕΙΣ ΠΙΣΤΩΣΙΝ ΤΩΝ ΑΝΩΤΕΡΩ οι υπογεγραμμένοι όντες αρμοδίως εξουσιοδοτημένοι υπό των αντιστοίχων Κυβερνήσεων των προς τον σκοπόν αυτόν υπέγραψαν το παρόν Πρωτόκολλον.

ΕΓΕΝΕΤΟ ΕΝ ΛΟΝΔΙΝΩ, την 17ην Φεβρουαρίου του 1978.

ΠΑΡΑΡΤΗΜΑ

ΤΡΟΠΟΠΟΙΗΣΕΙΣ ΚΑΙ ΠΡΟΣΘΗΚΑΙ ΕΙΣ ΤΗΝ ΔΙΕΘΝΗ
ΣΥΜΒΑΣΙΝ ΠΕΡΙ ΑΣΦΑΛΕΙΑΣ ΤΗΣ ΑΝΘΡΩ-
ΠΙΝΗΣ ΖΩΗΣ ΕΝ ΘΑΛΑΣΣΗ, 1974

ΚΕΦΑΛΑΙΟΝ Ι

ΓΕΝΙΚΑΙ ΔΙΑΤΑΞΕΙΣ

ΜΕΡΟΣ Α - ΕΦΑΡΜΟΓΗ, ΟΡΙΣΜΟΙ κ.τ.λ.

Κανονισμός 2

Ορισμοί

Η ακόλουθος παράγραφος προστίθεται εις το υπάρχον κείμενον:

(η) "Ηλικία του πλοίου" εννοείται η παρελθούσα χρονική περίοδος η θεωρουμένη από του έτους ναυπηγήσεως όπως εμφάνηται εις τα έγγραφα νηολογήσεως του πλοίου.

ΜΕΡΟΣ Β - ΕΞΕΤΑΣΕΙΣ ΚΑΙ ΠΙΣΤΟΠΟΙΗΤΙΚΑ

Κανονισμός 6

Επιθεώρησις και εξέτασις

Το υπάρχον κείμενον του Κανονισμού 6 αντικαθίσταται ως ακολούθως:

(α) Η επιθεώρησις και εξέτασις των πλοίων, καθ' όσον αφορά την εφαρμογήν των διατάξεων των παρόντων Κανονισμών και την παροχήν των εκ τούτων εξαιρέσεων, θα διενεργούνται υπό οργάνων της Αρχής. Η Αρχή δύναται οπωσδήποτε να εμπιστευθή τας επιθεωρήσεις και εξετάσεις είτε εις επιθεωρητάς διορισμένους προς τούτο, ή εις οργανισμούς ανεγνωρισμένους παρ' αυτής.

(β) Η Αρχή θα συστήση μηχανισμόν διά την διενέργειαν εκτάκτων επιθεωρήσεων κατά την διάρκειαν της χρονικής περιόδου ισχύος του πιστοποιητικού. Τοιαύται επιθεωρήσεις θα εξασφαλίζουν ότι το πλοίο και ο εξοπλισμός του διατηρείται από πάσης απόψεως ικανοποιητικός διά την υπηρεσίαν διά την οποίαν το πλοίο προορίζεται. Αι επιθεωρήσεις αυταί δύναται να διενεργούνται υπό των Υπηρεσιών επιθεωρήσεως της Αρχής ή υπό διορισμένων επιθεωρητών ή υπό ανεγνωρισμένων οργανισμών ή υπό ετέρων συμβαλλομένων Κρατών τη αιτήσει της Αρχής. Όταν η Αρχή, κατά τας διατάξεις των Κανονισμών 8 και 10 του παρόντος Κεφαλαίου καθιερούι υποχρεωτικάς ετησίας επιθεωρήσεις, αι ανωτέρω έκτακτοι επιθεωρήσεις δεν θα είναι υποχρεωτικάί.

(γ) Αρχή διορίζουσα επιθεωρητάς ή αναγνωρίζουσα οργανισμούς να διενεργούν επιθεωρήσεις και εξετάσεις, ως προβλέπεται εις τας παραγράφους (α) και (β) του παρόντος Κανονισμού, θα εξουσιοδοτηθή κατ'ελάχιστον κάθε διορισμένον επιθεωρητήν ή ανεγνωρισμένον οργανισμόν όπως:

- (i) απαιτεί επισκευάς εις πλοίων, και
- (ii) διενεργή επιθεωρήσεις και εξετάσεις εάν ζητηθούν υπό των αρμοδίων αρχών της Χώρας του Λιμένος.

Η Αρχή θα γνωστοποιή εις τον Οργανισμόν τας ειδικάς αρμοδιότητας και όρους της παραχωρηθείσης εξουσιοδοτήσεως εις τους διορισμένους επιθεωρητάς ή ανεγνωρισμένους οργανισμούς.

(δ) Όταν διορισμένος επιθεωρητής ή ανεγνωρισμένος οργανισμός αποφαινεται ότι η κατάσταση του πλοίου ή του εξοπλισμού του δεν ανταποκρίνεται ουσιαστικώς προς τα στοιχεία του πιστοποιητικού, ή είναι τοιαύτη ώστε το πλοίον δεν κρίνεται ικανόν να ανοιγή εις την θάλασσαν άνευ κινδύνου διά το πλοίον ή διά τους επιβαίνοντας, ο εν λόγω επιθεωρητής ή οργανισμός θα βεβαιούται αμέσως ότι ανελήφθη ενέργεια αποκαταστάσεως και εν ευθέτω χρόνω θα ενημερώση την Αρχήν. Εάν τοιαύτη ενέργεια αποκαταστάσεως δεν ανελήφθη, το σχετικόν πιστοποιητικόν δέον να ανακληθή και η Αρχή θα ενημερωθή αμέσως εάν δε το πλοίον ευρίσκειται εις λιμένα ετέρου συμβαλλομένου Κράτους, αι αρμόδιαι Αρχαί της Χώρας του Λιμένος θα ενημερωθούν επίσης αμέσως. Όταν υπάλληλος της Αρχής, διορισμένος επιθεωρητής ή ανεγνωρισμένος οργανισμός, ενημερώση τας αρμοδίας Αρχάς της Χώρας του Λιμένος, η Κυβέρνησις της Χώρας του Λιμένος θα παρέξη εις το εν λόγω όργανον, επιθεωρητήν ή οργανισμόν πάσαν αναγκαίαν συνδρομήν διά να ανταποκριθή εις τας υποχρεώσεις του αι οποίαι καθορίζονται υπό του παρόντος Κανονισμού. Όταν επιβάλλεται η Κυβέρνησις της Χώρας του Λιμένος θα εξασφαλίζη ότι το πλοίον δεν θα αποκλεισθή μέχρις ότου δυνηθή άνευ κινδύνου εις το πλοίον ή εις τους επιβαίνοντας αυτού να ανοιγή εις την θάλασσαν ή να αναχωρήση εκ του λιμένος με προορισμόν κατάλληλον επισκευαστικήν βάση.

(ε) Εις πάσαν περίπτωση, η Αρχή θα εγγυάται απολύτως διά την πληρότητα και αποτελεσματικότητα της επιθεωρήσεως και εξετασεως και θα αναλαμβάνη να εξασφαλίζη τα αναγκαία μέτρα διά την ικανοποίησιν της παρούσης υποχρεώσεως.

Κανονισμός 7

Επιθεωρήσεις Επιβατηγών Πλοίων

Το υπάρχον κείμενον της παραγράφου (β) (iii) αντικαθίσταται ως ακολούθως:

- (iii) Επιθεωρήσεις γενική ή μερική, αναλόγως των περιστάσεων θα διενεργείται μετά από επισκευήν επιβαλλομένην

συνεπεία ερευνών δυνάμει του Κανονισμού 11 του παρόντος Κεφαλαίου ή οποτεδήποτε γίνονται σοβαρά επισκευαί ή ανανεώσεις. Η επιθεώρησις θα είναι τοιαύτη ώστε να εξασφαλισθή ότι αι αναγκαίαι επισκευαί ή ανανεώσεις έχουν γίνει ικανοποιητικώς, ότι το υλικόν και η εκτέλεσις της εργασίας των τοιούτων επισκευών ή ανανεώσεων είναι από πάσης απόψεως ικανοποιητικά και ότι το πλοίον πληροί από πάσης απόψεως τας διατάξεις της Συμβάσεως και του παρόντος Πρωτοκόλλου και των ισχυόντων Διεθνών Κανονισμών προς Αποφυγήν Συγκρούσεων εις την Θάλασσαν και των δυνάμει αυτών εκδιδομένων υπό της Αρχής Νόμων, Διαταγμάτων, Διαταγών και Κανονισμών.

Κανονισμός 8

Επιθεώρησις σωσιβίων μέσων και λοιπού εξαρτισμού φορτηγών πλοίων

Το υπάρχον κείμενον του Κανονισμού 8 αντικαθίσταται ως ακολούθως :

(α) Τα σωσίβια μέσα, εκτός της ραδιοτηλεγραφικής εγκαταστάσεως της μηχανοκίνητης σωσιβίου λέμβου ή της φορητής ραδιοσυσκευής σωσιβίου σχεδίας, η ηχοβολιστική συσκευή, η γυροπυξίδα, ο πυροσβεστικός εξαρτισμός και το σύστημα αδρανούς αερίου των φορτηγών πλοίων εις τα οποία εφαρμόζονται τα Κεφάλαια II-1, II-2, III και V της Συμβάσεως και του παρόντος Πρωτοκόλλου, θα υπόκεινται εις αρχικάς και περιοδικάς επιθεωρήσεις όπως καθορίζεται δι' επιβατηγά πλοία εις τον Κανονισμόν 7 του Κεφαλαίου I της Συμβάσεως και του παρόντος Πρωτοκόλλου διά της αντικαταστάσεως των 12 μηνών υπό 24 εις την υποπαράγραφον (α) (ii) του Κανονισμού εκείνου. Τα σχέδια ελέγχου κυρκαίας εις νέα πλοία και αι κλίμακες πλοηγών, οι μηχανικοί ανυψωτήρες πλοηγών, τα φώτα, τα σχήματα και μέσα παραγωγής ηχητικών σημάτων τα φερόμενα υπό νέων και υπάρχόντων πλοίων, θα περιλαμβάνονται εις τας επιθεωρήσεις προς τον σκοπόν εξασφαλίσεως απολύτου συμμορφώσεως προς τας απαιτήσεις της Συμβάσεως και του παρόντος Πρωτοκόλλου και, όπου είναι πρακτικώς δυνατόν, προς τους ισχύοντας Διεθνείς Κανονισμούς προς Αποφυγήν Συγκρούσεων εις την Θάλασσαν.

(β) Ενδιάμεσοι επιθεωρήσεις θα διενεργούνται εις δεξαμενόπλοια ηλικίας ανωτέρας των δέκα (10) ετών, εντός τριών (3) μηνών πριν ή μετά την ημερομηνίαν (ANNIVERSARY DATE) εκδόσεως του Πιστοποιητικού Ασφαλείας Εξαρτισμού Φορτηγού Πλοίου, διά να εξασφαλισθή ότι ο εξαρτισμός ο καθοριζόμενος εις την παράγραφον (α) του παρόντος Κανονισμού έχει συντηρηθή συμφώνως προς τον Κανονισμόν 11 του παρόντος Κεφαλαίου

και ότι ευρίσκεται εις καλήν κατάστασιν εργασίας. Τοιαύται ενδιάμεσοι επιθεωρήσεις θα οπισθογράφονται εις το Πιστοποιητικόν Ασφαλείας Εξαρτισμού Φορτηγού Πλοίου εκδοθέντος συμφώνως προς τας διατάξεις του Κανονισμού 12 (α) (iii) του Κεφαλαίου I της Συμβάσεως.

Κανονισμός 10

Επιθεωρήσεις του Σκάφους, των Μηχανημάτων και του Εξαρτισμού φορτηγών πλοίων.

Το υπάρχον κείμενον του Κανονισμού 10 αντικαθίσταται ως ακολούθως:

(α) Το σκάφος, τα μηχανήματα και ο εξαρτισμός (εκτός των τομέων εκείνων τα οποία καλύπτονται από την έκδοσιν των Πιστοποιητικών Ασφαλείας Εξαρτισμού Φορτηγού Πλοίου, των Πιστοποιητικών Ασφαλείας Ραδιοτηλεγραφίας Φορτηγού Πλοίου ή Πιστοποιητικών Ασφαλείας Ραδιοτηλεφωνίας Φορτηγού Πλοίου), φορτηγού πλοίου θα επιθεωρούνται επί τη συμπληρώσει και εν συνεχεία κατά τοιούτον τρόπον που η Αρχή δύναται να θεωρή αναγκαίον εις τρόπον ώστε να εξασφαλίση ότι η κατάστασις των είναι από πάσης απόψεως ικανοποιητική και εις τα ακόλουθα διαστήματα:

- (i) Εις διαστήματα καθοριζόμενα υπό της Αρχής αλλά μη υπερβαίνοντα τα πέντε (5) έτη (περιοδικά επιθεωρήσεις).
- (ii) Επιπροσθέτως των τοιούτων περιοδικών επιθεωρήσεων δεξαμενόπλοιοι ηλικίας ακωτέρας των δέκα (10) ετών, θα υπόκειται κατ'ελάχιστον, εις μίαν ενδιάμεσον επιθεώρησιν κατά την διάρκειαν της περιόδου ισχύος του Πιστοποιητικού Ασφαλείας Κατασκευής Φορτηγού Πλοίου. Εις περιπτώσεις όπου μόνον μία τοιαύτη ενδιάμεσος επιθεώρησις διενεργείται εις την χρονικήν περίοδον ισχύος του Πιστοποιητικού, αυτή θα λαμβάνη χώραν ουχί εκωρίτερον των εξ (6) μηνών πριν και ουχί αργότερον των εξ (6) μηνών μετά την ημερομηνίαν συμπληρώσεως της ημίσειας περιόδου ισχύος του πιστοποιητικού.

(β) Η αρχική και περιοδική επιθεώρησις θα είναι τοιαύται ώστε να εξασφαλισθή ότι η διάταξις, τα υλικά και η αντοχή της κατασκευής, οι λέβητες και έτεροι συσκευαί πίεσεως, τα εξαρτήματά των, τα κύρια και βοηθητικά μηχανήματα περιλαμβανομένου του μηχανισμού κινήσεως πηδάλιου και των συνδεδεμένων συστημάτων ελέγχου, η ηλεκτρική εγκατάστασις

και ο λοιπός εξοπλισμός είναι από πάσαν άποψιν ικανοποιητικά διά την υπηρεσίαν διά την οποίαν προορίζεται το πλοίο. Τοιαύται εξετάσεις εις την περίπτωσιν δεξαμενοπλοίων θα περιλαμβάνουν επίσης επιθεώρησιν της εξωτερικής επιφανείας της γάστρας του πλοίου, των αντλιοστασίων, των συστημάτων σωληνώσεων φορτίου και καυσίμου πετρελαίου, σωληνώσεων αερισμού, βαλβίδων πιέσεως κενού και οθονών φλογός.

(γ) Η ενδιάμεσος επιθεώρησις των δεξαμενοπλοίων ηλικίας ακωτέρας των δέκα (10) ετών θα περιλαμβάνη επιθεώρησιν του εξοπλισμού κινήσεως πηδαλίου και των συνδεδεμένων συστημάτων ελέγχου των αντλιοστασίων, των επί του καταστρώματος και εντός των αντλιοστασίων συστημάτων σωληνώσεων φορτίου και καυσίμου πετρελαίου, σωληνώσεως αερισμού, βαλβίδων πιέσεως κενού και οθονών φλογός, της ηλεκτρικής εγκαταστάσεως εις επικινδύνους ζώνας και της εξωτερικής επιφανείας της γάστρας του πλοίου. Επιπροσθέτως της οπτικής επιθεωρήσεως της ηλεκτρικής εγκαταστάσεως θα ελέγχεται η αντίστασις μονώσεως της ηλεκτρικής εγκαταστάσεως των επικινδύνων ζωνών. Εάν, κατά την επιθεώρησιν δημιουργηθή τυχόν αμφιβολία ως προς την κατάστασιν της σωληνώσεως, θα ληφθούν έκτακτα αναγκαία μέτρα, όπως δοκιμές πιέσεως και εξετάσεις του πάχους. Τοιαύται ενδιάμεσοι επιθεωρήσεις καταχωρούνται εις το Πιστοποιητικό Ασφαλείας Κατασκευής Φορητού Πλοίου εκδοθέν συμφώνως προς τον Κανονισμόν 12(α) (ii) του Κεφαλαίου I της Συμβάσεως.

(δ) Επιθεώρησις είτε γενική είτε μερική αναλόγως των περιστάσεων, θα διενεργείται όταν απαιτήται μετά διερεύνησιν δυνάμει του Κανονισμού 11 του παρόντος Κεφαλαίου ή οποτεδήποτε γίνονται σημαντικά επισκευαί ή ανανεώσεις. Η επιθεώρησις θα είναι τοιαύτη ώστε να εξασφαλίζεται ότι αι αναγκαίαι επισκευαί ή ανανεώσεις έχουν γίνει αποτελεσματικώς, ότι το υλικόν και η εργασία των τοιούτων επισκευών ή ανανεώσεων είναι από πάσης απόψεως ικανοποιητική και ότι το πλοίο είναι ικανόν να ανοιγή εις την θάλασσαν άνευ κινδύνου εις το πλοίο ή εις τους επιβαίνοντας αυτού.

Κανονισμός 11

Τήρησις των όρων μετά την επιθεώρησιν

Το υπάρχον κείμενον του Κανονισμού 11 αντικαθίσταται ως ακολούθως:

(α) Η κατάστασις του πλοίου και του εξαρτισμού του θα διατηρήται συμφώνως προς τας διατάξεις της Συμβάσεως και του παρόντος Πρωτοκόλλου ώστε να εξασφαλίζεται ότι το πλοίο από πάσης απόψεως θα παραμείνη ικανόν να ανοιγή εις την θάλασσαν άνευ κινδύνου εις το πλοίο ή εις τους επιβαίνοντας αυτού.

(β) Μετά από κάθε επιθεώρησιν του πλοίου κατά τους Κανονισμούς 6, 7, 8, 9, ή 10 του Κεφαλαίου Ι της Συμβάσεως και του παρόντος Πρωτοκόλλου ουδεμία μεταβολή θα επέλθῃ εἰς τὴν διάταξιν κατασκευῆς του σκάφους, εἰς τὰ μηχανήματα, τὸν εξοπλισμὸν καὶ εἰς λοιποὺς τομεῖς καλυπτομένους ὑπὸ τῆς επιθεωρήσεως, ἀνευ ἀδείας τῆς Αρχῆς.

(γ) Ὅσῳκις συμβαίνει ατύχημα εἰς τὸ πλοῖον ἢ ἀνακαλύπτεται ἐλάττωμα, τὸ ὁποῖον ἢ ἐπηρεάζει δυσμενῶς τὴν ἀσφάλειαν τοῦ πλοίου ἢ τὴν ἀπόδοσιν ἢ τὴν ἐπάρκειαν τῶν σωσίων αὐτοῦ μέσων ἢ τοῦ λοιποῦ εξαρτισμοῦ, ὁ πλοίαρχος ἢ ὁ πλοιοκτῆτης τοῦ πλοίου θα ἀναφέρουν τούτο τὸ ταχύτερον δυνατόν εἰς τὴν Αρχὴν, εἰς τὴν διορισμένον ἐπιθεωρητὴν ἢ τὸν ἀνεγνωρισμένον ὀργανισμὸν, ὑπευθύνους διὰ τὴν ἐκδοσὶν τοῦ σχετικοῦ πιστοποιητικοῦ, οἱ ὁποῖοι θα πρὸβουν εἰς διευρύνσιν διὰ νὰ ἀποφασίσουν εἰς εἶναι ἀναγκαῖα ἡ διενέργεια ἐπιθεωρήσεως ὅπως ἀπαιτῆται ὑπὸ τῶν Κανονισμῶν 6, 7, 8, 9 ἢ 10 τοῦ Κεφαλαίου Ι τῆς Συμβάσεως καὶ τοῦ παρόντος Πρωτοκόλλου. Ἐάν τὸ πλοῖον εὐρίσκεται εἰς λιμένα ἑτέρου συμβαλλομένου Κράτους, ὁ πλοίαρχος ἢ ὁ πλοιοκτῆτης θα ἀναφέρουν ἐπίσης ἀμέσως εἰς τὰς ἀρμοδίαις Αρχαῖς τῆς Χώρας τοῦ λιμένος καὶ ὁ διορισμένος ἐπιθεωρητὴς ἢ ὁ ἀνεγνωρισμένος ὀργανισμὸς θα ἐξακριβῶνουν ὅτι ἐγένετο τοιαύτη ἀναφορά.

Κανονισμὸς 14

Διάρκεια καὶ ἰσχὺς τῶν Πιστοποιητικῶν

Τὸ ὑπάρχον κείμενον τοῦ Κανονισμοῦ 14 ἀντικαθίσταται ὡς ἀκολούθως:

(α) Τα πιστοποιητικὰ, ἐκτὸς τοῦ Πιστοποιητικοῦ Ασφαλείας Κατασκευῆς Φορτηγῶν Πλοίων, τὸ Πιστοποιητικὸν Ασφαλείας Ἐξαρτισμοῦ Φορτηγῶν Πλοίων καὶ τῶν Πιστοποιητικῶν Ἀπαλλαγῆς θα ἐκδίδωνται διὰ χρονικὴν περίοδον μὴ υπερβαίνουσαν τοὺς δώδεκα (12) μῆνας. Τὸ Πιστοποιητικὸν Ασφαλείας Κατασκευῆς Φορτηγῶν Πλοίων θα ἐκδίδεται διὰ χρονικὴν περίοδον μὴ υπερβαίνουσαν τὰ πέντε (5) ἔτη. Τὸ Πιστοποιητικὸν Ασφαλείας Ἐξαρτισμοῦ Φορτηγῶν Πλοίων θα ἐκδίδεται διὰ χρονικὴν περίοδον μὴ υπερβαίνουσαν τοὺς εἴκοσι τέσσαρες (24) μῆνας. Τα Πιστοποιητικὰ Ἀπαλλαγῆς (ἐξαιρέσεων) δὲν θα ἰσχύουν πέραν τῆς περιόδου ἰσχύος τῶν Πιστοποιητικῶν εἰς τὰ ὁποῖα αὐτὰ ἀναφέρονται.

(β) Δὲν θα ἐπιτρέπεται παράτασις τῆς πενταετοῦς ἰσχύος Πιστοποιητικοῦ Ασφαλείας Κατασκευῆς Φορτηγῶν Πλοίων.

(γ) Ἐάν ἐπιθεωρήσις λαμβάνῃ χώραν ἐντὸς δύο (2) μηνῶν πρὸ τῆς λήξεως τῆς χρονικῆς περιόδου διὰ τὴν ὅποیان ἀρχικῶς ἐξεδόθη Πιστοποιητικὸν Ασφαλείας Ραδιοτηλεγραφίας Φορτηγῶν Πλοίων ἢ Πιστοποιητικὸν Ασφαλείας Ραδιοτηλεφώνιας Φορτηγῶν Πλοίων, διὰ φορτηγὸν πλοῖον ὀλικῆς χωρητικότητος

300 κόρων και άνω αλλά κατωτέρας των 500 κόρων, το Πιστοποιητικόν τούτο δύναται να ανακληθῆ και δύναται να εκδοθῆ νέον πιστοποιητικόν το οποίον θα λήγη δώδεκα (12) μήνας μετά το τέλος της ρηθείσης χρονικής περιόδου.

(δ) Εάν το πλοίον, κατά τον χρόνον λήξεως της ισχύος Πιστοποιητικού του, εκτός του Πιστοποιητικού του αναφερομένου εις την παράγραφον (β) του παρόντος Κανονισμού, δεν ευρίσκεται εις λιμένα του Κράτους του οποίου σημαίας δικαιούται να κέρη ή εις τον οποίον πρόκειται να επιθεωρηθῆ, η Αρχή δύναται να παρατείνη το πιστοποιητικόν, αλλά τοιαύτη παράτασις θα χορηγήται μόνον προς τον σκοπόν διευκολύνσεως του πλοίου να συμπληρώσει το ταξιδιόν του εις το Κράτος του οποίου σημαίας δικαιούται να κέρη ή εις το οποίον πρόκειται να επιθεωρηθῆ και τούτο μόνον εις περιπτώσεις κατά τας οποίας κρίνεται κρέπον και λογικόν να χορηγηθῆ η παράτασις αὐτή.

(ε) Ουδενός πιστοποιητικού η ισχύς θα παρατείνεται κατά τας διατάξεις της παραγράφου (δ) του παρόντος Κανονισμού διά περίοδον πέραν των πέντε (5) μηνών και πλοίον εις το οποίον εχορηγήθη τοιαύτη παράτασις, καταπλέον εις το Κράτος του οποίου σημαίας δικαιούται να κέρη ή εις τον λιμένα εις τον οποίον πρόκειται να επιθεωρηθῆ, δεν δύναται δυνάμει της παρατάσεως ταύτης να αποκλείσει εκ του λιμένος τούτου ή του Κράτους τούτου πριν ή εφοδιασθῆ διά νέον πιστοποιητικού.

(στ) Πιστοποιητικόν, εκτός του αναφερομένου εις την παράγραφον (β) του παρόντος Κανονισμού, το οποίον δεν παρετάθη κατά τας ανωτέρω διατάξεις του παρόντος Κανονισμού, μπορεί να παραταθῆ υπό της Αρχής χαριστικώς διά χρονικήν περίοδον μέχρις ενός (1) μηνός από της ημερομηνίας λήξεως της αναγραφομένης εις το πιστοποιητικόν.

(ζ) Πιστοποιητικόν θα παύση να ισχύη:

- (i) Εάν οι επιθεωρήσεις και εξετάσεις δεν διετηγούνται εντός των χρονικών ορίων των καθοριζομένων υπό των Κανονισμών 7(α), 8, 9 και 10(α) του Κεφαλαίου I της Συμβάσεως και του παρόντος Πρωτοκόλλου ή εντός των ορίων τα οποία αυτά μπορεί να έχουν παραταθῆ συμφώνως προς τας παραγράφους (δ), (ε) ή (στ) του παρόντος Κανονισμού, ή
- (ii) Επί αλλαγῆς της σημαίας του πλοίου εις σημαίαν ετέρας χώρας. Νέον πιστοποιητικόν θα εκδίδεται μόνον όταν η χώρα η εκδίδουσα το νέον πιστοποιητικόν εἶναι απολύτως ικανοποιημένη ὅτι το πλοίον συμμορφούται προς τας

απαιτήσεις του Κανονισμού 11(α) και (β) του παρόντος Κεφαλαίου. Εις την περίπτωσην αλλαγής σημαίας μεταξύ χωρών-μελών, εάν ζητηθή εντός τριών (3) μηνών αφ' ότου λάβει χώραν η αλλαγή σημαίας, η Κυβέρνησις της χώρας - μέλους την σημαίαν της οποίας έφε- ρεν το πλοΐον προηγουμένως θα αποστείλη, το ταχύτερον δυνατόν, εις την Αρχήν αντί- γραφα των Πιστοποιητικών τα οποία το πλοΐον έφερεν προ της αλλαγής της σημαίας και, εάν διατίθενται, αντίγραφα των σχετικών εσθλάσεων επιθεωρήσεως.

Κανονισμός 19

Έλεγχος

Το υπάρχον κείμενον του Κανονισμού 19 αντικαθίσταται ως ακολούθως :

(α) Παν πλοΐον ευρισκόμενον εις λιμένα ετέρου συμβαλ- λομένου Κράτους υπόκειται εις έλεγχον υπό υπάλληλων αρμο- δίως εξουσιοδοτημένων υπό της Κυβερνήσεως ούτου, περιορι- ζομένου του ελέγχου τούτου εις την εξακρίβωσιν ότι τα πι- στοποιητικά τα εκδοθέντα κατά τον Κανονισμόν 12 ή τον Κανονισμόν 13 του Κεφαλαίου I της Συμβάσεως είναι εν ισχύϊ.

(β) Τα πιστοποιητικά ταύτα, εάν είναι εν ισχύϊ, θα γίνωνται αποδεκτά εκτός εάν υπάρχουν φανεραί ενδείξεις κείθουσαι ότι η κατάστασις του πλοΐου ή του εξοπλισμού του δεν ανταποκρίνεται ουσιωδώς εις τας ενδείξεις οιουδή- ποτε εκ των πιστοποιητικών ή ότι το πλοΐον και ο εξοπλισμός του δεν είναι σύμφωνος προς τας διατάξεις του Κανονισμού 11(α) και (β) του παρόντος Κεφαλαίου.

(γ) Εις τας περιπτώσεις τας διδομένας εις την παρά- γραφον (β) του παρόντος Κανονισμού ή όταν πιστοποιητικόν έχει λήξει ή έπαυσε να ισχύη, ο υπάλληλος όστις ενεργεί τον έλεγχον θα λάβη τα αναγκαία μέτρα, ώστε να εξασφα- λισθή ότι το πλοΐον δεν θα αποκλείση μέχρις ότου τούτο καταστή ικανόν να εκτελέση πλούν ή να εγκαταλείψη τον λιμένα προς τον σκοπόν να κατακλείση εις κατάλληλον επι- σκευαστικήν βάρειν άνευ κινδύνου εις το πλοΐον ή εις τους επιβαίνοντας αυτού.

(δ) Εάν κατά την ενέργειαν του παρόντος ελέγχου προ- κύψη ζήτημα οισοδήποτε παρεμβάσεως, ο υπάλληλος θ' ενεργών τον έλεγχον, θα πληροφορεί αμέσως εγγράφως τον Πρόξενον

ή εν απουσία του, τον πλησιέστερον διπλωματικόν αντιπρόσωπον του Κράτους την σημαίαν του οποίου φέρει το πλοίον περί όλων των συνθηκών υπό τας οποίας η παρέμβασις κατέστη αναγκαία. Επιπροσθέτως θα ενημερώνωνται οι διορισμένοι επιθεωρηταί ή οι ανεγνωρισμένοι οργανισμοί οι υπεύθυνοι διά την έκδοσιν των πιστοποιητικών. Τα γεγονότα αφορώντα εις την παρέμβασιν θα αναφέρονται εις τον Οργανισμόν.

(ε) Η ενδιαφερομένη Αρχή της χώρας του λιμένος θα γνωστοποιεί απάσας τας σχετικές πληροφορίας περί του πλοίου, επιπροσθέτως των συμβαλλομένων Κρατών των αναφερομένων εις την παράγραφον (δ) του παρόντος Κανονισμού, εις τας Αρχάς του επομένου λιμένος κατάπλου, εφ' όσον αυτή αδυνατεί να προβή εις ενεργείας ως καθορίζονται εις τας παραγράφους (γ) και (δ) του παρόντος Κανονισμού ή εάν εις το πλοίον επετράπη ο απόπλους διά τον επόμενον λιμένα προσεγγίσεως.

(στ) Όταν ασκείται έλεγχος κατά τον παρόντα Κανονισμόν θα καταβάλλωνται όλες οι δυνατές προσπάθειες διά να αποφευχθή αδικαιολόγητη παρακράτησις ή καθυστέρησις πλοίου. Εάν ένεκα τούτου πλοίον παρακρατηθή ή καθυστερηθή αδικαιολογήτως, τούτο θα παρέξη το δικαίωμα δι' αποζημίωσιν διά πάσαν προκληθησομένην απώλειαν ή ζημίαν.

ΚΕΦΑΛΑΙΟΝ-ΙΙ-1

ΚΑΤΑΣΚΕΥΗ - ΥΠΟΔΙΑΓΡΕΣΙΣ ΚΑΙ ΕΥΣΤΑΘΕΙΑ,
ΜΗΧΑΝΟΛΟΓΙΚΗ ΚΑΙ ΗΛΕΚΤΡΟΛΟΓΙΚΗ
ΕΓΚΑΤΑΣΤΑΣΙΣ

ΜΕΡΟΣ Α - ΓΕΝΙΚΑ

Κανονισμός 1

Εφαρμογή

Αι ακόλουθοι υποπαράγραφοι προστίθενται εις το υπάρχον κείμενον της παραγράφου (β):

- (iii) Παρά τας διατάξεις της υποπαραγράφου (ii) της παρούσης παραγράφου και της υποπαραγράφου (α) (iii) του παρόντος Κανονισμού, διά τους σκοπούς της παραγράφου (δ) του Κανονισμού 29 του παρόντος Κεφαλαίου, νέον δεξαμενόπλοιοι σημαίνει το δεξαμενόπλοιοι:
- (1) διά το οποίον η σύμβασις ναυπηγήσεως συνωμολογήθη μετά την 1 Ιουνίου 1979, ή
 - (2) εις περίπτωσιν μη υπάρξεως συμβάσεως ναυπηγήσεως, η τρόπις του σκοίου ετέθη ή το σκοίον ευρίσκεται εις όμοιον στάδιον κατασκευής μετά την 1 Ιανουαρίου 1980, ή
 - (3) η παράδοσις του σκοίου γίνεται μετά την 1 Ιουνίου 1982, ή
 - (4) το σκοίον υπέστη μεταβολήν ή τροποποίησιν ευρείας εκτάσεως:
 - (α) διά την σκοίαν η σύμβασις συνωμολογήθη μετά την 1 Ιουνίου 1979, ή
 - (β) εις περίπτωσιν μη υπάρξεως συμβάσεως, η εργασία κατασκευής της σκοίας ήρχισε μετά την 1 Ιανουαρίου 1980, ή
 - (γ) η σκοία αποπερατούται μετά την 1 Ιουνίου 1982.
- (iv) Διά τους σκοπούς της παραγράφου (δ) του Κανονισμού 29 του παρόντος Κεφαλαίου, υπάρχον δεξαμενόπλοιοι είναι δεξαμενόπλοιοι το σκοίον δεν είναι νέον δεξαμενόπλοιοι όπως καθορίζεται εις την υποπαραγραφον (iii) της παρούσης παραγράφου.

- (ν) Διὰ τους σκοπούς της υποπαραγράφου (ιιι) της παρούσης παραγράφου, μετασκευή υπάρχοντος δεξαμενοπλοίου 20.000 μετρικών τόνων νεκρού βάρους και άνω διὰ να συμμορφωθή εις τας απαιτήσεις του παρόντος Πρωτοκόλλου ή πόνυ Πρωτοκόλλου 1978 του αφορώντος εις την Διεθνή Σύμβασιν περί Προλήψεως της ρυπάνσεως εκ Πλοίων 1973, δεν θα θεωρείται ότι αποτελεί μεταβολήν ή τροποποίησιν ευρείας εκτάσεως.

Κανονισμός 2

Ορισμοί

Αι ακόλουθοι παράγραφοι προστίθενται εις το υπάρχον κείμενον:

(κ) Το σύστημα ελέγχου του μηχανισμού κινήσεως πηδαλίου εξ απομακρυσμένης θέσεως είναι το μέσον διὰ του οποίου αι λέγχια κινήσεως του πηδαλίου μεταβιβάζονται από την γέφυραν ναυσιπλοίας εις τας μονάδας ισχύος του συστήματος ελέγχου του μηχανισμού κινήσεως πηδαλίου.

(λ) Ο κύριος μηχανισμός κινήσεως πηδαλίου είναι ο μηχανισμός, οι μονάδες ισχύος κινήσεως πηδαλίου, εάν υπάρχουν, και ο βοηθητικός εξοπλισμός και τα μέσα εφαρμογής ροπής, στρέψεως εις τον κορμόν πηδαλίου (π.χ. οίαξ ή στεφάνη οίακος ή τετραγωνικόν) απαραίτητα δι' αποτελεσματικήν κίνησιν του πηδαλίου διὰ τους σκοπούς της πηδαλιουχίσεως του πλοίου υπό κανονικάς συνθήκας υπηρεσίας.

(μ) Η μονάδα ισχύος του μηχανισμού κινήσεως πηδαλίου είναι:

- (i) Εις την περίπτωσιν του ηλεκτρικού μηχανισμού κινήσεως πηδαλίου, ηλεκτροκινητήρας μετά του σχετικού ηλεκτρικού εξοπλισμού.
- (ii) Εις την περίπτωσιν του ηλεκτρο - υδραυλικού μηχανισμού κινήσεως πηδαλίου, ηλεκτροκινητήρας μετά του σχετικού ηλεκτρικού εξοπλισμού και συνδεδεμένης αντλίας.
- (iii) Εις την περίπτωσιν ετέρου υδραυλικού μηχανισμού κινήσεως πηδαλίου, κινούσα μηχανή και συνδεδεμένη αντλία.

(ν) Ο βοηθητικός μηχανισμός κινήσεως πηδαλίου είναι ο εξοπλισμός εκείνος ο οποίος προβλέπεται δι' αποτελεσματικήν κίνησιν του πηδαλίου διὰ τους σκοπούς πηδαλιουχίσεως του πλοίου εις περιπτώσιν βλάβης του κυρίου μηχανισμού κινήσεως πηδαλίου.

ΜΕΡΟΣ Γ - ΜΗΧΑΝΟΛΟΓΙΚΗ ΚΑΙ ΗΛΕΚΤΡΟΛΟΓΙΚΗ
ΕΓΚΑΤΑΣΤΑΣΙΣ

Κανονισμός 29

Μηχανισμός κινήσεως πηδαλίου

Η ακόλουθος παράγραφος προστίθεται εις το υπάρχον
κειμένον:

(δ) Δεξαμενόπλοια μόνον

(i) Τα ακόλουθα θα εφαρμόζονται εις κάθε νέον δεξαμενόπλοιο 10.000 κόνων ολικής χωρητικότητας και άνω και, ουχί αργότερον των (2) δύο ετών από της ημερομηνίας θέσεως εν ισχύι του παρόντος Πρωτοκόλλου, εις κάθε υπάρχον δεξαμενόπλοιο 10.000 κόνων ολικής χωρητικότητας και άνω:

(1) Δύο (2) συστήματα χειρισμού εξ απομακρυσμένης θέσεως του μηχανισμού κινήσεως πηδαλίου θα προβλέπωνται, έκαστον των οποίων θα εργάζεται ανεξαρτήτως εκ της γέφυρας ναυσιπλοίας. Τούτο δεν απαιτεί εις διπλούν τροχόν ή μοχλόν πηδαλιουχήσεως. Εις περίπτωσιν βλάβης εν λειτουργία του συστήματος χειρισμού εξ απομακρυσμένης θέσεως του μηχανισμού κινήσεως πηδαλίου, το έτερον σύστημα θα είναι ικανόν να τίθεται εις άμεσση λειτουργίαν εκ θέσεως ευρισκομένης εις την γέφυραν ναυσιπλοίας. Έκαστον σύστημα χειρισμού εξ απομακρυσμένης θέσεως του μηχανισμού κινήσεως πηδαλίου, εάν είναι ηλεκτρικόν, θα εξυπηρετείται υπό ξεχωριστού ιδιικού του κυκλώματος τροφοδοτούμενου υπό της πηγής ισχύος του μηχανισμού κινήσεως πηδαλίου, εκ σημείου κειμένου εντός του θεμερίσματος του μηχανισμού κινήσεως πηδαλίου. Εις περίπτωσιν βλάβης του συστήματος παροχής ηλεκτρικής ισχύος εις τον μηχανισμόν τηλεχειρισμού κινήσεως πηδαλίου, θα δίδεται σήμα κινδύνου εις την γέφυρα ναυσιπλοίας. Τα σήματα κινδύνου τα προβλεπόμενα υπό της παρούσης υποπαραγράφου θα είναι συγχρόνως ακουστικά και οπτικά και τα μέσα σημάνεως κινδύνου θα τοποθετούνται εις θέσιν, εις την γέφυραν ναυσιπλοίας, όπου θα δύναται ευκόλως να γίνουν αντιληπτά.

- (2) Χειρισμός του κυρίου μηχανισμού κινήσεως πηδαλίου θα προβλέπεται επίσης εις το διαμέρισμα του μηχανισμού κινήσεως πηδαλίου.
- (3) Μέσα θα προβλέπωνται εις το διαμέρισμα του μηχανισμού κινήσεως πηδαλίου, διά την αποσύνδεσιν του συστήματος χειρισμού εξ απομακρυσμένης θέσεως του μηχανισμού κινήσεως πηδαλίου εκ της πηγής ισχύος.
- (4) Μέσα επικοινωνίας θα προβλέπωνται μεταξύ γεφύρας ναυσιπλοίας και διαμερίσματος μηχανισμού κινήσεως πηδαλίου.
- (5) Η ακριβής γωνιακή θέσις του πηδαλίου θα εμφανίηται εις την γέφυραν ναυσιπλοίας. Ο ενδείκτης της γωνίας πηδαλίου θα είναι ανεξάρτητος του συστήματος χειρισμού εξ απομακρυσμένης θέσεως του μηχανισμού κινήσεως πηδαλίου, και
- (6) Η γωνιακή θέσις του πηδαλίου θα είναι εμφανής εις το διαμέρισμα του μηχανισμού κινήσεως πηδαλίου.
- (ii) Εις παν νέον δεξαμενόπλοιο 10.000 κόνων ολικής χωρητικότητας και άνω, επιπροσθέτως των απαιτήσεων της παραγράφου (α) και υποπαραγράφου (δ)(ι) του παρόντος Κανονισμού, θα απαιτούνται τα ακόλουθα:
- (1) Ο κύριος μηχανισμός κινήσεως πηδαλίου θα περιλαμβάνη δύο ή περισσότερας ομοίας μονάδας ισχύος και θα είναι ικανός διά χειρισμόν του πηδαλίου όπως απαιτείται υπό της υποπαραγράφου (δ) (ii)(2) του παρόντος Κανονισμού ενώ λειτουργεί μετά μιας ή περισσότερων μονάδων ισχύος. Καθόσον είναι λογικόν και πρακτικόν, ο κύριος μηχανισμός κινήσεως πηδαλίου θα είναι κατά τοιούτον τρόπον διατεταγμένος ώστε απλή βλάβη εις την σωλήνωσίν του ή εις την μίαν μονάδα ισχύος να μη επηρεάζουν δυσμενώς την ακεραιότητα του υπολοίπου μέρους του μηχανισμού κινήσεως πηδαλίου. Άπαντες οι μηχανικοί σύνδεσμοι οι οποίοι

είναι τμήμα του μηχανισμού κινήσεως πηδαλίου και οι μηχανικαί ενώσεις μετά του συστήματος χειρισμού εξ απομακρυσμένης θέσεως του μηχανισμού κινήσεως πηδαλίου, εάν υπάρχει τοιούτος, θα είναι ισχυράς και καταλλήλου κατασκευής ικανοποιούσαι την Αρχήν.

- (2) Ο κύριος μηχανισμός κινήσεως πηδαλίου θα είναι ικανός όπως θέτη το πηδάλιον από 35 μοίρας της μιας πλευράς εις 35 μοίρας της ετέρας πλευράς, του πλοίου ναυσιπλοούντος μετά του βαθύτερου βυθίσματος και μετά της μεγίστης υπηρεσιακής ταχύτητος προς τα πρόσω. Το πηδάλιον θα δύναται να τίθεται από 35 μοίρας της μιας πλευράς εις 30 μοίρας της ετέρας πλευράς εις χρόνον ουχί μεγαλύτερον των 28 δευτερολέπτων, υπό τας αυτάς συνθήκας.
- (3) Ο κύριος μηχανισμός κινήσεως πηδαλίου θα λειτουργή διά παροχής ισχύος όπου απαιτείται διά να πληροί τας απαιτήσεις της υποπαραγράφου (δ) (ii) (2) του παρόντος Κανονισμού.
- (4) Οι μονάδες ισχύος του κυρίου μηχανισμού κινήσεως πηδαλίου θα είναι διατεγμέναι εις τρόπον ώστε να εκκινούν αυτομάτως όταν η ισχύς αποκαθίσταται μετά βλάβην αυτής.
- (5) Εις περίπτωσιν βλάβης οιασδήποτε εκ των μονάδων ισχύος του μηχανισμού κινήσεως πηδαλίου, θα δίδεται σήμα κινδύνου εις την γέφυραν ναυσιπλοίας. Κάθε μονάδα ισχύος κινήσεως του μηχανισμού πηδαλίου θα δύναται να τίθεται εις λειτουργίαν είτε αυτομάτως, είτε χειροκινήτως εκ θέσεως ευρισκομένης εις την γέφυραν ναυσιπλοίας, και
- (6) Ξναλλακτική τροφοδοτική ισχύς θα προβλέπεται τουλάχιστον επαρκής να τροφοδοτήση την μονάδα ισχύος μηχανισμού κινήσεως πηδαλίου αυτομάτως εντός 45 δευτερολέπτων είτε εκ της πηγής ηλεκτρικής ισχύος ανάγκης είτε εξ οιασδήποτε ανεξαρτήτου πηγής ισχύος τοποθετημένης εις το διαμέρισμα του μηχανισμού κινήσεως πηδαλίου, εις τρόπον ώστε να καταστήση τούτον ικανόν να κινήση το πηδάλιον ως καθορίζεται κατωτέρω και να τροφοδοτήση επίσης το συνδεδεμένο σύστημα χειρισμού εξ απομακρυσμένης θέσεως του μηχανισμού κινήσεως πηδαλίου και τον ενδείκτην γωνίας πηδαλίου. Η ανεξάρτητος αυτή

πηγή ισχύος θα χρησιμοποιείται μόνον δι'αυτόν τον σκοπόν και θα είναι επαρκούς χρητηκότητας διά συνεχή τροφοδοτήσιν επί ημίσειαν ($\frac{1}{2}$) ώραν. Η μονάδα ισχύος του μηχανισμού κινήσεως πηδαλίου, όταν τροφοδοτήται υπό της εναλλακτικής τροφοδοτικής ισχύος θα είναι ικανή όπως θέτη το πηδάλιον από 15 μοίρας της μιας πλευράς εις 15 μοίρας της ετέρας πλευράς εις χρόνον ουχί περισσότερο των 60 δευτερολέπτων, του πλοίου ναυσιπλοούντος μετά του βαθυτέρου βυθίσματος εις την ημίσειαν της μεγίστης αυτού υπηρεσιακής ταχύτητος ή εις 7 κόμβους οιαδήποτε εκ των δύο είναι η μεγαλύτερα.

ΚΕΦΑΛΑΙΟΝ ΙΙ-2

ΚΑΤΑΣΚΕΥΗ-ΠΡΟΣΤΑΣΙΑ ΚΑΤΑ ΤΗΣ ΠΥΡΚΑΙΑΣ
ΑΝΙΧΝΕΥΣΙΣ ΚΑΙ ΚΑΤΑΣΒΕΣΙΣ ΠΥΡΚΑΙΑΣ

ΜΕΡΟΣ Α - ΓΕΝΙΚΑ

Κανονισμός 1

Εφαρμογή

Αι ακόλουθοι υποπαραγράφοι προστίθενται εις το υπάρχον κείμενον της παραγράφου (α) :

- (ιν) Παρά τας διατάξεις των υποπαραγράφων (ii) και (iii) της παρούσης παραγράφου, διά τους σκοπούς της παραγράφου (α)(ii) του Κανονισμού 55 και του Κανονισμού 60 του παρόντος Κεφαλαίου, νέον δεξαμενόπλοιον σημαίνει δεξαμενόπλοιον:
- (1) διά το οποίον η σύμβασις ναυπηγήσεως συνωμολογήθη μετά την 1 Ιουνίου 1979· ή
 - (2) εις περίπτωσιν μή υπάρξεως συμβάσεως ναυπηγήσεως, η τρόπις του οποίου ετέθη ή το οποίον ευρίσκεται εις όμοιον στάδιον κατασκευής μετά την 1 Ιανουαρίου 1980· ή
 - (3) η παράδοσις του οποίου γίνεται μετά την 1 Ιουνίου 1982· ή
 - (4) το οποίον υπέστη μεταβολήν ή τροποποίησιν ευρείας εκτάσεως:
 - (α) διά την οποίαν η σύμβασις συνωμολογήθη μετά την 1 Ιουνίου 1979· ή
 - (β) εις περίπτωσιν μή υπάρξεως συμβάσεως, η εργασία κατασκευής της οποίας ήρχισε μετά την 1 Ιανουαρίου 1980· ή
 - (γ) η οποία αποπερατούται μετά την 1 Ιουνίου 1982.
- (ν) Διά τους σκοπούς της παραγράφου (α)(ii) του Κανονισμού 55 και του Κανονισμού 60 του παρόντος Κεφαλαίου, υπάρχον δεξαμενόπλοιον είναι το δεξαμενόπλοιον όπως καθορίζεται εις την υποπαραγράφον (ιν) της παρούσης παραγράφου.

- (νι) Διά τους σκοπούς της υποπαραγράφου (ιν) της παρούσης παραγράφου, μετασκευή υπάρχοντος δεξαμενοπλοίου 20.000 μετρικών τόννων νεκρού βάρους και άνω διά να συμμορφωθεί προς τας απαιτήσεις του παρόντος Πρωτοκόλλου ή του Πρωτοκόλλου 1978 του αφορώντος εις την Διεθνή Σύμβασιν περί Προλήψεως της Ευπάνσεως εκ Πλοίων 1973 δεν θα θεωρείται ότι αποτελεί μεταβολήν ή τροποποίησιν ευρείας εκτάσεως.

Κανονισμός 3

Ορισμοί

Το υπάρχον κείμενον της παραγράφου (ν) αντικαθίσταται ως ακολούθως:

- (ν) "Αφορτον εκτόπισμα" σημαίνει το εκτόπισμα του πλοίου εις μετρικούς τόννους άνευ φορτίου, καυσίμου, λιπαντικού ελαίου, υδατέρματος, ποσίμου και τροφοδοτικού ύδατος εις δεξαμενάς, αναλωσίμων υλικών και επιβατών και πληρωμάτων μετά των αποσκευών των.

Η εκομένη παράγραφος προστίθεται εις το υπάρχον κείμενον:

- (χ) "Αργόν πετρέλαιον" σημαίνει κάθε είδος πετρελαίου απαντώμενον εις την φυσικήν κατάστασιν εντός της γης επεξεργασμένον ή μη διά να καταστή κατάλληλον διά μεταφοράν και περιλαμβάνει:
- (i) αργόν πετρέλαιον από το οποίο διάφορα παράγωγα αποστάξεως δυνατόν να έχουν αφαιρεθή, και
 - (ii) αργόν πετρέλαιον εις το οποίο διάφορα παράγωγα αποστάξεως δυνατόν να έχουν προστεθή.

ΜΕΡΟΣ Ε - ΜΕΤΡΑ ΑΣΦΑΛΕΙΑΣ ΔΙΑ ΔΕΞΑΜΕΝΟΠΛΟΙΑ

Κανονισμός 55

Εφαρμογή

Το υπάρχον κείμενον του παρόντος Κανονισμού αντικαθίσταται ως ακολούθως:

- (α) Εκτός εάν άλλως ρητώς προβλέπεται:
- (i) το παρόν Μέρος εφαρμόζεται εις άπαντα τα νέα δεξαμενόπλοια μεταφέροντα αργόν πετρέλαιον ή παράγωγα πετρελαίου έχοντα σημείον αναφλέξεως μη υπερβαίνον τους 60° C (140°F)

(δοκιμή κλειστού δοχείου), ως απεδείχθη από εγκεκριμένης συσκευής σημείου αναφλέξεως και πίεσιν ατμού "Ρήντ" κατωτέραν της ατμοσφαιρικής πίεσεως και ετέρων υγρών παραγώγων εχόντων παρόμοιον κίνδυνον πυρκαϊάς και

- (ii) επιπροσθέτως άπαντα τα πλοία εις τα οποία εφαρμόζεται το παρόν μέρος θα συμμορφώνονται προς τας απαιτήσεις των Κανονισμών 52, 53 και 54 του Κεφαλαίου II-2 της Συμβάσεως, εκτός των μονίμων συστημάτων κατασβέσεως πυρκαϊάς δι' αερίου εις τους χώρους φορτίου, τα οποία δεν θα χρησιμοποιούνται εις νέα δεξαμενόπλοια και εις εκείνα εκ των υπάρχοντων δεξαμενόπλοιων τα οποία συμμορφώνονται προς τον Κανονισμόν 60 του παρόντος Κεφαλαίου. Διά υπάρχοντα δεξαμενόπλοια διά τα οποία δεν απαιτείται να συμμορφωθούν προς τον Κανονισμόν 60, η Αρχή εφαρμόζουσα τας απαιτήσεις της παραγράφου (στ) του Κανονισμού 52, δύναται να αποδεχθή σύστημα αφρού ικανόν να καταθλίβη αφρόν εσωτερικώς ή εξωτερικώς των δεξαμενών. Αι λεπτομέρειαι της εγκαταστάσεως θα καθορίζονται κατά την κρίσιν της Αρχής.

(β) Όπου προβλέπονται να μεταφερθούν φορτία, εκτός εκείνων τα οποία αναφέρονται εις την υποπαράγραφον (α) (i) του παρόντος Κανονισμού τα οποία εγχυμονούν επιπροσθέτους κινδύνους πυρκαϊάς, πρόσθετα μέτρα ασφαλείας θα απαιτούνται κατά την κρίσιν της Αρχής.

(γ) Πλοία μικτού φορτίου δεν θα μεταφέρουν στερεά φορτία εκτός εάν άπασαι αι δεξαμεναί φορτίου είναι κενές πετρελαίου και ελεύθερες αερίου ή εκτός εάν εις εκάστην περίπτωσηιν η Αρχή ικανοποιείται με τρον τρόπο φορτώσεως.

Κανονισμός 60

Προστασία δεξαμενών φορτίου

Το υπάρχον κείμενον του παρόντος Κανονισμού αντικαθίσταται ως ακολούθως:

(α) Διά νέα δεξαμενόπλοια 20.000 μετρικών τόννων γεκρού βάραις και άνω, η προστασία της περιοχής καταστρώματος των δεξαμενών φορτίου και των δεξαμενών φορτίου θα επιτυγχάνεται διά μονίμου συστήματος αφρού καταστρώματος και διά μονίμου συστήματος αδρανούς αερίου συμφώνως προς τας απαιτήσεις των Κανονισμών 61 και 62 του Κεφαλαίου II-2 της

Συμβάσεως, εκτός εάν αντί των ανωτέρω εγκαταστάσεων η Αρχή, μετά εξέτασιν της διαρρυθμίσεως και του εξοπλισμού του πλοίου, δύναται να αποδεχθή ετέρους συνδυασμούς μονίμων εγκαταστάσεων, εάν ούτοι παρέχουν ισοδύναμον προστασίαν προς τα ανωτέρω, συμφώνως προς τον Κανονισμόν 5 του Κεφαλαίου Ι της Συμβάσεως.

(β) Διά να θεωρηθή ισοδύναμον το σύστημα το προτεινόμενον αντί του συστήματος αφρού καταστρώματος πρέπει να:

- (i) είναι ικανόν διά κατάσβεσιν πυρκαϊών εξ υπερχειλίσεως και επίσης να αποκλείη ανάφλεξιν υπερχειλισθέντος πετρελαίου μη αναφλεγέντος εισέτι, και
- (ii) είναι ικανόν διά καταπολέμησιν πυρκαϊών εις διαρρηγμένας δεξαμενάς.

(γ) Διά να θεωρηθή ισοδύναμον το σύστημα το προτεινόμενον αντί του συστήματος αδρανούς αερίου πρέπει να:

- (i) είναι ικανόν διά πρόληψιν επικινδύνων συσσωρεύσεων εκρηκτικών μιγμάτων εις αθίκτους δεξαμενάς φορτίου κατά την διάρκειαν συνήθους υπηρεσίας καθ'όλην την διάρκειαν του ταξιδίου υπό έρμα και κατά τας απαιτούμενας εντός δεξαμενής εργασίας, και
- (ii) είναι κατά τοιούτον τρόπον σχεδιασμένον ώστε να μειώνη εις το ελάχιστον τον κίνδυνον αναφλέξεως εκ της δημιουργίας στατικού ηλεκτρισμού υπό αυτού τούτου του συστήματος.

(δ) Εις παν υπάρχον δεξαμενόπλοιο 20.000 μετρικών τόννων νεκρού βάρους και άνω, απασχολούμενον εις ταξείδια μεταφοράς αργού πετρελαίου θα εγκαθίσταται σύστημα αδρανούς αερίου πληρούν τας απαιτήσεις της παραγράφου (α) του παρόντος Κανονισμού, ουχί αργότερον της ημερομηνίας:

- (i) δύο (2) ετών μετά την ημερομηνίαν θέσεως εις εφαρμογήν του παρόντος Πρωτοκόλλου διά δεξαμενόπλοιο 70.000 μετρικών τόννων νεκρού βάρους και άνω και
- (ii) τεσσάρων (4) ετών, μετά την ημερομηνίαν θέσεως εις εφαρμογήν του παρόντος Πρωτοκόλλου, διά δεξαμενόπλοιο μικρότερον των 70.000 μετρικών τόννων νεκρού βάρους, εκτός των δεξαμενόπλοιων μικροτέρων των 40.000 μετρικών τόννων νεκρού βάρους τα οποία δεν είναι εφοδιασμένα μετά μηχανημάτων πλυσίματος δεξαμενών εχόντων ατομικήν απόδοσιν μεγαλύτεραν των 60 κυβικών μέτρων καθ'ώραν και διά τα οποία η Αρχή δύναται να εξαιρεί υπάρχοντα δεξαμενόπλοια από τας απαιτήσεις της παρούσης παραγράφου, εάν θεωρηθή μή λογικόν και μή πρακτικόν να εφαρμογή εκείνας τας απαιτήσεις, λαμβάνουσα υπόψη τα χαρακτηριστικά σχεδιάσεως του πλοίου.

(ε) Εις παν υπάρχον δεξαμενόπλοιοι 40.000 μετρικών τόννων νεκρού βάρους και άνω, απασχολούμενον εις ταξίδια μεταφοράς πετρελαίου εκτός αργού πετρελαίου και παν τοιούτον δεξαμενόπλοιοι 20.000 μετρικών τόννων νεκρού βάρους και άνω απασχολούμενον εις ταξίδια μεταφοράς πετρελαίου εκτός αργού πετρελαίου, εφοδιασμένον μετά μηχανήματων πλυσίματος δεξαμενών έχοντος ατομικήν απόδοσιν μεγαλυτέραν των 60 κυβικών μέτρων καθ'ώραν θα εγκαθίσταται σύστημα αδρανούς αερίου, πληρούν τας διατάξεις της παραγράφου (α) του παρόντος Κανονισμού, ουχί αργότερον της ημερομηνίας:

- (i) δύο (2) ετών μετά την ημερομηνίαν θέσεως εις εφαρμογήν του παρόντος Πρωτοκόλλου, διά δεξαμενόπλοιοι 70.000 μετρικών τόννων νεκρού βάρους και άνω και
- (ii) τεσσάρων (4) ετών μετά την ημερομηνίαν θέσεως εις εφαρμογήν του παρόντος Πρωτοκόλλου, διά δεξαμενόπλοιοι μικρότερον των 70.000 μετρικών τόννων νεκρού βάρους.

(στ) Εις παν δεξαμενόπλοιοι εφοδιασμένον μετά συστήματος καθαρισμού των δεξαμενών φορτίου, χρησιμοποιούντος ως μέσον πλυσίματος αργόν πετρέλαιον, θα εγκαθίσταται σύστημα αδρανούς αερίου πληρούν τας απαιτήσεις του Κανονισμού 62 του Κεφαλαίου II-2 της Συμβάσεως και μόνιμα μηχανήματα πλυσίματος δεξαμενών.

(ζ) Άπαντα τα δεξαμενόπλοια τα εφοδιασμένα μετά μόνιμου συστήματος αδρανούς αερίου θα εφοδιάζονται μετά κλειστού συστήματος καταμετρήσεως στάθμης.

(η) Παν νέον δεξαμενόπλοιοι 2.000 κόρων ολικής χωρητικότητος και άνω μή εμπέκτον εις την παράγραφον (α) του παρόντος Κανονισμού θα εφοδιάζεται μετά συστήματος αφρού ικανού να καταθλίβη αφρόν εσωτερικώς ή εξωτερικώς των δεξαμενών. Αι λεπτομέρειαι της τοιαύτης εγκαταστάσεως θα είναι κατά την κρίσιν της Αρχής.

ΚΕΦΑΛΑΙΟΝ V

ΑΣΦΑΛΕΙΑ ΝΑΥΣΙΠΛΟΙΑΣ

Κανονισμός 12

Εξοπλισμός Ναυσιπλοίας Πλοίου

Το υπάρχον κείμενον της παραγράφου (α) αντικαθίσταται ως ακολούθως :

(α) Ἄπαντα τα πλοία ολικῆς χωρητικότητος 1.600 κόνων και ἄνω ἀλλὰ κατωτέρας των 10.000 κόνων θα εἶναι εφοδιασμένα διὰ μίας (1) τουλάχιστον συσκευῆ ραντάρ. Ἄπαντα τα πλοία ολικῆς χωρητικότητος 10.000 κόνων και ἄνω θα εἶναι εφοδιασμένα διὰ δύο (2) τουλάχιστον συσκευῶν ραντάρ, ἐκάστης δυναμένης να λειτουργῆ ανεξαρτήτως της ἐτέρας. Ἄπανσαι αἱ συσκευαὶ ραντάρ αἱ τοποθετούμεναι κατ' ἐφαρμογὴν του παρόντος Κανονισμοῦ θα εἶναι τύπου εγκεκριμένου ὑπὸ της Ἀρχῆς και θα συμμορφούνται εἰς λειτουργικὰ ἐπίπεδα οὐχὶ κατώτερα ἐκείνων τα οποία ἐνεκρίθησαν ὑπὸ του Ὄργανισμοῦ. Ἐπὶ της γεφύρας των ἀνωτέρω πλοίων θα προβλέπονται ευκολίαι ἐλέγχου των ἐνδείξεων των συσκευῶν ραντάρ.

Κανονισμός 19

Χρήσις του Αυτομάτου Πιλότου

Ἡ ἀκόλουθος παράγραφος προστίθεται εἰς το υπάρχον κείμενον :

(δ) Το χειροκίνητον πηδάλιον θα δοκιμάζεται μετὰ παρατεταμένην χρήσιν του αυτομάτου πιλότου και προ της εἰσόδου εἰς περιοχὰς ὅπου η ναυσιπλοία ἀπαιτεῖ εἰδικὴν προσοχὴν.

Οἱ ἀκόλουθοι νέοι Κανονισμοὶ προστίθενται εἰς το παρὸν κεφάλαιον :

Κανονισμός 19-1

Λειτουργία του Μηχανισμοῦ κινήσεως πηδαλίου

Εἰς περιοχὰς ὅπου η ναυσιπλοία ἀπαιτεῖ εἰδικὴν προσοχὴν, τα πλοία θα ἔχουν ἐν λειτουργίᾳ περισσοτέρας της μίας μονάδος ἰσχύος του μηχανισμοῦ κινήσεως πηδαλίου, ὅταν τοιαῦται μονάδαι εἶναι ἱκαναὶ να λειτουργοῦν συγχρόνως.

Κανονισμός 19-2

Μηχανισμός Κινήσεως Πηδαλίου - Δοκιμή και Γυμνάσια

(α) Εντός δώδεκα (12) ωρών προ της αναχωρήσεως ο μηχανισμός κινήσεως πηδαλίου θα ελέγχεται και θα δοκιμάζεται υπό του πληρώματος του πλοίου. Η διαδικασία ελέγχου θα περιλαμβάνη, όπου είναι εφαρμόσιμον, λειτουργίαν των ακολούθων:

- (i) του κυρίου μηχανισμού κινήσεως πηδαλίου,
- (ii) του βοηθητικού μηχανισμού κινήσεως πηδαλίου,
- (iii) του συστήματος ελέγχου εξ απομεμακρυσμένης θέσεως του μηχανισμού κινήσεως πηδαλίου,
- (iv) του ενδείκτου της θέσεως του πηδαλίου τοποθετημένου εις την γέφυραν ναυσιπλοίας,
- (v) της παροχής ισχύος κινδύνου,
- (vi) τους ενδείκτας γωνίας του πηδαλίου εν σχέσει προς την πραγματικήν θέσιν του πηδαλίου,
- (vii) του συναγερμού διακοπής παροχής ισχύος εις το σύστημα ελέγχου εξ απομεμακρυσμένης θέσεως του μηχανισμού κινήσεως του πηδαλίου, και
- (viii) του συναγερμού διακοπής παροχής ισχύος εις τον μηχανισμόν κινήσεως πηδαλίου.

(β) Οι έλεγχοι και αι δοκιμαί θα περιλαμβάνουν:

- (i) πλήρη κίνησιν του πηδαλίου συμφώνως προς τας απαιτούμενας δυνατότητας του μηχανισμού κινήσεως πηδαλίου,
- (ii) οπτικήν επιθεώρησιν του μηχανισμού κινήσεως πηδαλίου και των μέσων συνδεσμολογίας του, και
- (iii) λειτουργίαν των μέσων επικοινωνίας μεταξύ γεφύρας ναυσιπλοίας και διαμερίσματος μηχανισμού κινήσεως πηδαλίου.

(γ) (i) Απλάι οδηγίαι λειτουργίας μετά διαγράμματος εμφανίζοντος τας ενεργείας δι' αλλαγὴν τρόπου χειρισμοῦ των συστημάτων ελέγχου εξ απομεμακρυσμένης θέσεως του μηχανισμού κινήσεως πηδαλίου και των μονάδων ισχύος του μηχανισμού κινήσεως πηδαλίου θα ευρίσκωνται μόνιμως ανηρτημένοι εις την γέφυραν ναυσιπλοίας και εις το διαμέρισμα μηχανισμού κινήσεως πηδαλίου.

(ii) Άπαντες οι αξιωματικοί τους οποίους αφορά η λειτουργία και/ή συντήρησις του μηχανισμού κινήσεως πηδαλίου θα είναι εξοικειωμένοι με την λειτουργίαν των συστημάτων πηδαλιουχίας των τοποθετημένων επί του πλοίου και με τας ενεργείας δι' αλλαγὴν ἀπὸ το ένα σύστημα εις το ἕτερον.

(δ) Επιπροσθέτως των τακτικών ελέγχων και δοκιμών των περιγραφομένων εις τας παραγράφους (α) και (β) του παρόντος Κανονισμού θα λαμβάνουν χώραν γυμνάσια πηδαιουχίσεως εκτάκτου ανάγκης τουλάχιστον μίαν φοράν κάθε τρεις (3) μήνες προς τον σκοπόν εξασκήσεως επί των ενεργειών πηδαιουχίσεως εκτάκτου ανάγκης. Τα γυμνάσια αυτά θα περιλαμβάνουν απ' ευθείας έλεγχον μέσα από το διαμέρισμα του μηχανισμού κινήσεως πηδαλίου, τα μέσα επικοινωνίας μετά της γεφύρας ναυσιπλοίας και, όπου είναι εφαρμόσιμον, την λειτουργίαν των εναλλακτικών παροχών ισχύος.

(ε) Η Αρχή δύναται να παραιτηθή της αξιώσεως διεξαγωγής των ελέγχων και δοκιμών των περιγραφομένων εις τας παραγράφους (α) και (β) του παρόντος Κανονισμού, διά πλοία τα οποία απασχολούνται τακτικώς εις ταξίδια βραχείας διαρκείας. Τοιαύτα πλοία θα διενεργούν τους ελέγχους και τας δοκιμάς ταύτας τουλάχιστον μίαν φοράν την εβδομάδα.

(στ) Η ημερομηνία κατά την οποίαν διενεργούνται οι έλεγχοι και αι δοκιμαί αι καθοριζόμεναι εις τας παραγράφους (α) και (β) του παρόντος Κανονισμού και η ημερομηνία και αι λεπτομέρειαι των γυμνασίων πηδαιουχίσεως εκτάκτου ανάγκης, των διενεργουμένων κατά την παράγραφον (δ) του παρόντος Κανονισμού, θα αναγράφονται εις το ημερολόγιον όπως καθορίζεται υπό της Αρχής.

Ημερομηνία της συμφωνίας ναυπηγήσεως ή μεταβολής τροποποιήσεως ευρείας εκτάσεως

Ημερομηνία τοποθετήσεως της τρύπιδος ή κατά την οποίαν το πλοίο ήτο εις παρόμοιον στάδιον κατασκευής ή κατά την οποίαν ήρξατο μεταβολή ή τροποποιήσις ευρείας εκτάσεως

Ημερομηνία παραδόσεως ή συμπληρώσεως μεταβολής τροποποιήσεως ευρείας εκτάσεως

ΔΙΑ ΤΟΥ ΠΑΡΟΝΤΟΣ ΠΙΣΤΟΠΟΙΕΙΤΑΙ:

Ότι το πλοίον έχει επιθεωρηθή συμφώνως προς τον Κανονισμόν 10 του Κεφαλαίου Ι του Πρωτοκόλλου 1978 του Αφορώντος εις την Διεθνή Σύμβασιν περί Ασφαλείας της Ανθρώπινης Ζωής εν θαλάσση 1974 και ότι η επιθεώρησις αλέδειξεν ότι η κατάστασις του σκάφους, των μηχανών και του εξαρτισμού, όπως καθωρίσθησαν εις τον ανωτέρω Κανονισμόν, ήτο από πάσης απόψεως ικανοποιητική και ότι το πλοίον συνεμμορφούτο προς τας απαιτήσεις του Πρωτοκόλλου αυτού.

Το παρόν πιστοποιητικόν ισχύει μέχρι
υποκείμενον εις ενδιάμεσον (σους) Επιθεώρησιν (σεις)
εις χρονικά διαστήματα των

Έξεδόθη εις

(τόπος εκδόσεως του Πιστοποιητικού)

.....19.....

(Υπογραφή του αρμοδίου εξουσιοδοτημένου διά την έκδοσιν του πιστοποιητικού οργάνου)

(Σφραγίς ή ένσημον της εκδούσης Αρχής, όπως καθορίζεται).

ΕΝΔΙΑΜΕΣΟΣ ΕΠΙΘΕΩΡΗΣΙΣ

Διά του παρόντος πιστοποιείται ότι κατά ενδιάμεσον επιθεώρησιν απαιτουμένην υπό του Κανονισμού 10 του Κεφαλαίου I του Πρωτοκόλλου 1970 του Αφορώντος εις την Διεθνή Σύμβασιν περί Ασφαλείας της Ανθρωπίνης ζωής εν Θαλάσση 1974, το πλοίον ευρέθη πληρούν τας σχετικές διατάξεις του Πρωτοκόλλου αυτού.

Υπογράφων
(Υπογραφή του αρμοδίως εξουσιοδοτημένου οργάνου)

Τόπος

Ημερομηνία

Ημερομηνία προσεχούς ενδιάμεσου επιθεωρήσεως
.....

(Σφραγίς ή ένσημον της Αρχής, όπως καθορίζεται)

Υπογράφων
(Υπογραφή του αρμοδίως εξουσιοδοτημένου οργάνου)

Τόπος

Ημερομηνία

Ημερομηνία προσεχούς ενδιάμεσου επιθεωρήσεως
.....

(Σφραγίς ή ένσημον της Αρχής, όπως καθορίζεται)

Υπογράφων
(Υπογραφή του αρμοδίως εξουσιοδοτημένου οργάνου)

Τόπος

Ημερομηνία

Ημερομηνία προσεχούς ενδιάμεσου επιθεωρήσεως
.....

(Σφραγίς ή ένσημον της Αρχής, όπως καθορίζεται)

Υπογράφων
(Υπογραφή του αρμοδίως εξουσιοδοτημένου οργάνου)

Τόπος

Ημερομηνία

(Σφραγίς ή ένσημον της Αρχής, όπως καθορίζεται)

Υπόδειγμα πιστοποιητικού Ασφαλείας Εξαρτισμού δια
Φορτηγά Πλοία.

Το ακόλουθο υπόδειγμα προσθήκης προστίθεται εις το υπάρχον υπόδειγμα:

ΠΡΟΣΘΗΚΗ

ΕΙΣ ΤΟ ΠΙΣΤΟΠΟΙΗΤΙΚΟΝ ΑΣΦΑΛΕΙΑΣ
ΕΞΑΡΤΙΣΜΟΥ ΦΟΡΤΗΓΟΥ ΠΛΟΙΟΥ

(Επίσημος σφραγίς)

(Εκδόιδον Κράτος)

Εκδόθεν συμφώνως προς τας διατάξεις του
ΠΡΩΤΟΚΟΛΛΟΥ 1978 ΑΦΟΡΩΝΤΟΣ ΕΙΣ ΤΗΝ ΔΙΕΘΝΗ
ΣΥΜΒΑΣΙΝ ΠΕΡΙ ΑΣΦΑΛΕΙΑΣ ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ
ΖΩΗΣ ΕΝ ΘΑΛΑΣΣΗ 1974

Όνομα Πλοίου	Διακριτικός Αριθμός ή Βράβια	Λιμήν Μηλο- γήσεως	Νεκρόν Βάρος Πλοίου (εις μετρη- κούς τόννους)	Έτος Ναυκη- γήσεως

Τύπος πλοίου:

Δεξαμενόπλοιοι απασχολούμενοι εις ταξείδια μεταφοράς αργού πετρελαίου*

Δεξαμενόπλοιοι απασχολούμενοι εις ταξείδια μεταφοράς πετρελαίου εκτός αργού πετρελαίου*

Δεξαμενόπλοιοι απασχολούμενοι εις ταξείδια μεταφοράς αργού /...τέρου πετρελαίου*

Φορτηγόν πλοίων εκτός δεξαμενοπλοίου απασχολούμενοι εις ταξείδια μεταφοράς πετρελαίου*

Ημερομηνία της συμφωνίας ναυπηγήσεως ή μεταβολής ή τροποποιήσεως ευρείας εκτάσεως

Ημερομηνία τοποθετήσεως της τρόικδος ή κατά την οποίαν το πλοίο ήτο εις παρόμοιον στάδιον κατασκευής ή κατά την οποίαν ήρξατο μεταβολή ή τροποποιήσις ευρείας εκτάσεως

Ημερομηνία παραδόσεως ή συμπληρώσεως μεταβολής ή τροποποιήσεως ευρείας εκτάσεως

* Διαγράφεται καταλλήλως.

Η παρούσα Προσθήκη θα είναι προσηρτημένη μονίμως εις το Πιστοποιητικόν Ασφαλείας εξαρτισμού Φορτηγού Πλοίου.

ΔΙΑ ΤΟΥ ΠΑΡΟΝΤΟΣ ΠΙΣΤΟΠΟΙΕΙΤΑΙ:

Ότι το κλοίον έχει επιθεωρηθεί συμφώνως προς τον Κανονισμόν 8 του Κεφαλαίου Ι του Πρωτοκόλλου 4978 του Αφορώντος εις την Διεθνή Σύμβασιν περί Ασφαλείας της Ανθρωπίνης ζωής εν θαλάσση, 1974, και

Ότι η επιθεώρησις απέδειξεν ότι η κατάστασις του εξαρτισμού ασφαλείας, όπως καθορίσθη εις τον ανωτέρω Κανονισμόν, ήτο από πάσης απόψεως ικανοποιητική και ότι το κλοίον συνεμμορφούτο προς τας απαιτήσεις του Πρωτοκόλλου αυτού.

Το παρόν Πιστοποιητικόν ισχύει μέχρι
..... υποκειμένον εις ενδιά-
μεσον (σους) επιθεώρησιν(σεις) εις χρονικά διαστήματα
των

Εξεδόθη εις
(τόπος εκδόσεως του πιστοποιητικού)

..... 19..
(Υπογραφή του αρμοδίως εξου-
σιοδοτημένου, διά την έκδοσιν
του πιστοποιητικού, οργάνου).

(Σφραγίς ή ένσημον της εκδούσης Αρχής, όπως καθο-
ρίζεται)

ΕΝΔΙΑΜΕΣΟΣ ΕΠΙΘΕΩΡΗΣΙΣ

Για τον παρόντος πιστοποιείται ότι κατά ενδιάμεσον επιθεώρησιν απαιτούμενην υπό του Κανονισμού 8 του Κεφαλαίου I του Πρωτοκόλλου 1978 του Αφορώντος εις την Διεθνή Σύμβασιν περί ασφαλείας της ανθρώπινης ζωής εν θαλάσση 1974, το κλοϊον ευρέθη κληρούν τας σχετικές διατάξεις του Πρωτοκόλλου αυτού.

Υπογράφων
(Υπογραφή του αρμοδίως εξουσιοδοτημένου οργάνου)

Τόπος

Ημερομηνία

Ημερομηνία προσεχούς ενδιάμεσου επιθεωρήσεως
.....

(Σφραγίς ή ένσημον της Αρχής, όπως καθορίζεται)

Υπογράφων
(Υπογραφή του αρμοδίως εξουσιοδοτημένου οργάνου)

Τόπος

Ημερομηνία

Ημερομηνία προσεχούς ενδιάμεσου επιθεωρήσεως
.....

(Σφραγίς ή ένσημον της Αρχής, όπως καθορίζεται)

Συμφώνως προς τας διατάξεις του Κανονισμού 14 του Κεφαλαίου I του Πρωτοκόλλου η ισχύς του παρόντος Πιστοποιητικού παρατείνεται μέχρι

Υπογράφων
(Υπογραφή του αρμοδίως εξουσιοδοτημένου οργάνου)

Τόπος

Ημερομηνία

(Σφραγίς ή ένσημον της Αρχής, όπως καθορίζεται).

ΑΠΟΦΑΣΗ LSC 1 (XLV)

Υιοθετηθείσα την 20η Νοεμβρίου 1981

ΥΙΟΘΕΤΗΣΗ ΤΡΟΠΟΠΟΙΗΣΕΩΝ ΣΤΗ ΔΙΕΘΝΗ ΣΥΜΒΑΣΗ ΓΙΑ ΤΗΝ ΑΣΦΑΛΕΙΑ ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ ΣΤΗ ΘΑΛΑΣΣΑ 1974,

Η ΕΠΙΤΡΟΠΗ ΝΑΥΤΙΚΗΣ ΑΣΦΑΛΕΙΑΣ,

ΕΧΟΝΤΑΣ ΥΠΟΥΧΗ το άρθρο VIII(β) της Διεθνούς Σύμβασης για την Ασφάλεια της Ανθρωπίνης Ζωής στη Θάλασσα 1974, η οποία θα αναφέρεται στη συνέχεια ως "η Σύμβαση", που αφορά στη διαδικασία τροποποίησης του Παραρτήματος της Σύμβασης, εκτός από τις διατάξεις του Κεφαλαίου I αυτής,

ΕΧΟΝΤΑΣ ΠΑΡΑΠΕΡΑ ΥΠΟΥΧΗ τις αρμοδιότητες τις οποίες η Σύμβαση παρέχει στην Επιτροπή Ναυτικής Ασφάλειας για την εξέταση και υιοθέτηση τροποποιήσεων στη Σύμβαση,

ΑΦΟΥ ΕΞΕΤΑΣΕ στην τεσσαρακοστή πέμπτη σύνοδό της τροποποιήσεις στη Σύμβαση που προτάθηκαν και κυκλοφόρησαν σύμφωνα με το Άρθρο VIII (β)(ι) αυτής,

1. ΥΙΟΘΕΤΕΙ σύμφωνα με το άρθρο VIII(β)(iv) της Σύμβασης τροποποιήσεις στα Κεφάλαια II-1, II-2, III, IV, V και VI της Σύμβασης, το κείμενο των οποίων δίνεται στο Παράρτημα της απόφασης αυτής ;
2. ΚΑΘΟΡΙΖΕΙ σύμφωνα με το άρθρο VIII(β)(vi)(2)(ββ) της Σύμβασης ότι όλες οι τροποποιήσεις που αναφέρονται παραπάνω θα θεωρούνται ότι έχουν γίνει αποδεκτές, εκτός αν πριν από την 1 Μαρτίου 1984, περισσότερα από το ένα τρίτο των Συμβαλλομένων Κρατών-Μελών της Σύμβασης ή Συμβαλλόμενα Κράτη των οποίων το άθροισμα των εμπορικών τους στόλων αποτελεί όχι λιγότερο από το 50% της ολικής χωρητικότητας του παγκόσμιου Εμπορικού στόλου, έχουν γνωστοποιήσει τις αντιθέσεις τους στις τροποποιήσεις,
3. ΚΑΛΕΙ τα Συμβαλλόμενα Κράτη να σημειώσουν ότι σύμφωνα με το Άρθρο VIII(β)(vi)(2) της Σύμβασης, οι τροποποιήσεις, μετά την αποδοχή τους σύμφωνα με την παραπάνω παράγραφο 2 θα τεθούν σε ισχύ την 1 Σεπτεμβρίου 1984.
4. ΠΑΡΑΚΑΛΕΙ τον Γενικό Γραμματέα σύμφωνα με το Άρθρο VIII(β)(v) της Σύμβασης να διαβιβάσει θεωρημένα αντίγραφα της απόφασης αυτής και του κειμένου των τροποποιήσεων που περιλαμβάνεται στο Παράρτημα σε όλα τα Συμβαλλόμενα Κράτη Μέλη της Διεθνούς Σύμβασης για την Ασφάλεια της Ανθρωπίνης Ζωής στη Θάλασσα.
5. ΠΑΡΑΚΑΛΕΙ ΕΠΙΣΗΣ τον Γενικό Γραμματέα να διαβιβάσει αντίγραφα της απόφασης και του Παραρτήματός της στα Μέλη του Οργανισμού που δεν είναι Συμβαλλόμενα Κράτη Μέλη της Σύμβασης.

ΚΕΦΑΛΑΙΟ ΙΙ-Ι

ΚΑΤΑΣΚΕΥΗ-ΥΠΟΔΙΑΓΡΕΨΗ ΚΑΙ ΕΥΣΤΑΘΕΙΑ,
ΜΗΧΑΝΟΛΟΓΙΚΕΣ ΚΑΙ ΗΛΕΚΤΡΟΛΟΓΙΚΕΣ ΕΓΚΑΤΆΣΤΑΣΕΙΣ

Το υπόχρον κείμενο του Κεφαλαίου ΙΙ-1 αντικαθίσταται από το ακό-
λουθο :

ΜΕΡΟΣ Α - ΓΕΝΙΚΑ

Κανονισμός 1

Εφαρμογή

- 1.1 Εκτός αν ρητά ορίζεται διαφορετικά, το Κεφάλαιο αυτό θα εφαρμόζε-
ται σε πλοία που οι τρόπιδές τους τοποθετήθηκαν ή που ευρίσκοντο
σε παρεμφερές στάδιο κατασκευής την ή μετά την 1 Σεπτεμβρίου 1984
- 1.2 Για το σκοπό του Κεφαλαίου αυτού ο όρος "παρεμφερές στάδιο κατα-
σκευής" σημαίνει το στάδιο κατά το οποίο :
- .1 αρχίζει η κατασκευή που χαρακτηρίζει συγκεκριμένο πλοίο, και
 - .2 η συναρμολόγηση του πλοίου αυτού έχει αρχίσει περιλαμβάνοντας
τουλάχιστο 50 τόννους ή 1 % της προβλεπόμενης μάζας όλων των
κατασκευαστικών υλικών, οποιοδήποτε είναι μικρότερο.
- 1.3 Για το σκοπό του Κεφαλαίου αυτού :
- .1 ο όρος "πλοία που έχουν κατασκευασθεί" σημαίνει "πλοία που οι
τρόπιδές τους τοποθετήθηκαν ή που ευρίσκοντο σε παρεμφερές
στάδιο κατασκευής"
 - .2 ο όρος "όλα τα πλοία" σημαίνει "πλοία που έχουν κατασκευασθεί
πριν, την ή μετά την 1 Σεπτεμβρίου 1984"
 - .3 φορτηγό πλοίο, ανεξάρτητα από την ημερομηνία ναυπήγησής
του, που μετασκευάζεται σε επιβατηγό πλοίο θα θεωρείται σαν επι-
βατηγό πλοίο που έχει κατασκευασθεί την ημερομηνία που αρχίζει
η μετασκευή αυτή.
2. Εκτός αν ρητά ορίζεται διαφορετικά :
- .1 για πλοία που έχουν κατασκευασθεί πριν από την 1 Σεπτεμβρίου 1984
η Αρχή θα εξασφαλίζει ότι, με την επιπλέον ^{διατάξιν} της παραγράφου
2.2, πληρούνται οι απαιτήσεις του Κεφαλαίου ΙΙ-1 της Διεθνούς
Σύμβασης για την Ασφάλεια της Ανθρωπίνης Ζωής στη Θάλασσα 1974*,
που έχουν εφαρμογή στα νέα ή υπάρχοντα πλοία όπως ορίζονται στο
Κεφάλαιο εκείνο.
 - .2 για δεξαμενόπλοια που έχουν κατασκευασθεί πριν από την 1 Σεπτεμ-
βρίου 1984, η Αρχή θα εξασφαλίζει ότι πληρούνται οι απαιτήσεις
του Κεφαλαίου ΙΙ-1 του Παραρτήματος του Πρωτοκόλλου 1978 που ανα-
φέρεται στην Διεθνή Σύμβαση για την Ασφάλεια της Ανθρωπίνης Ζωής

* Το κείμενο όπως υιοθετήθηκε από την Διεθνή Διάσκεψη για την Ασφάλεια
της Ανθρωπίνης Ζωής στη Θάλασσα 1974.

στη θάλασσα, 1974, όπως τροποποιήθηκε το 1981, που έχουν εφαρμογή στα νέα ή υπάρχοντα πλοία όπως ορίζονται στο Κεφάλαιο εκείνο.

3. Όλα τα πλοία στα οποία εκτελούνται επισκευές, μετασκευές, μετατροπές και σχετικοί εξοπλισμοί πρέπει να συνεχίσουν να συμμορφώνονται τουλάχιστον με τις απαιτήσεις που είχαν προηγουμένως εφαρμογή στα πλοία αυτά. Τέτοια πλοία αν έχουν κατασκευασθεί πριν από την 1η Σεπτεμβρίου 1984 πρέπει κατά κανόνα, να συμμορφώνονται με τις απαιτήσεις για πλοία που έχουν κατασκευασθεί την ή μετά την ημερομηνία αυτή στην ίδια τουλάχιστον έκταση που συμμορφωνόντουσαν πριν υποστούν τέτοιες επισκευές, μετασκευές, μετατροπές ή εξοπλισμούς. Επισκευές, μετασκευές και μετατροπές ευρείας έκτασης και σχετικοί εξοπλισμοί πρέπει να πληρούν τις απαιτήσεις για πλοία που έχουν κατασκευασθεί την ή μετά την 1η Σεπτεμβρίου 1984 σε τόση έκταση όση η Αρχή κρίνει λογική και πρακτική.
4. Η Αρχή ενός Κράτους μπορεί, αν κρίνει ότι η προασπισμένη φύση και οι συνθήκες του ταξιδιού είναι τέτοιες που να καθιστούν την εφαρμογή οποιωνδήποτε συγκεκριμένων απαιτήσεων του Κεφαλαίου αυτού παράλογη ή μη αναγκαία, να εξαιρέσει από τις απαιτήσεις αυτές συγκεκριμένα πλοία ή κατηγορίες πλοίων που έχουν το δικαίωμα να φέρουν τη σημαία αυτού του κράτους, εφόσον κατά την ικανότητα του ταξιδιού τους, δεν απομακρύνονται περισσότερο από 20 μίλια από τη πλησιέστερη ξηρά.
5. Κάθε επιβατηγό πλοίο που επιτρέπεται, σύμφωνα με τον Κανονισμό III /27(γ) να φέρει αριθμό ατόμων μεγαλύτερο από τη χωρητικότητα των σσιβίων λέμβων που διαθέτει, πρέπει να συμμορφώνεται με τους ειδικούς κανόνες υποδιαίρεσης που περιέχονται στον Κανονισμό 6.5 και τις σχετικές ειδικές διατάξεις που αναφέρονται στην διαχωρητικότητα του Κανονισμού 5.4, εκτός αν η Αρχή, αφού λάβει υπόψη την φύση και τις συνθήκες του ταξιδιού, θεωρήσει επαρκή την συμμόρφωση με τις άλλες διατάξεις των Κανονισμών αυτού του Κεφαλαίου και του Κεφαλαίου II-2.

6. Στην περίπτωση επιβατηγών πλοίων που χρησιμοποιούνται σε ταξίδια για την μεταφορά μεγάλου αριθμού επιβατών ειδικών μεταφορών, όπως οι μεταφορές προσκυνητών, η Αρχή του Κράτους του οποίου την σημαία τέτοια πλοία έχουν το δικαίωμα να φέρουν, αν κρίνει ότι δεν είναι πρακτικά δυνατό να επιβάλει συμμόρφωση προς τις απαιτήσεις του Κεφαλαίου αυτού μπορεί να εξαιρέσει τέτοια πλοία από εκείνες τις απαιτήσεις, υπό την προϋπόθεση ότι συμμορφώνονται πλήρως με τις διατάξεις:
- 1 των Κανονισμών που επισυνάπτονται στην Συμφωνία Επιβατηγών Πλοίων Ειδικών Μεταφορών, 1971, και
 - 2 των Κανονισμών που επισυνάπτονται στο Πρωτόκολλο περί Απαιτήσεων Χώρων για Επιβατηγά Πλοία Ειδικών Μεταφορών, 1973.

Κανονισμός 2

Ορισμοί

Για τους σκοπούς αυτού του Κεφαλαίου, εκτός αν ρητά ορίζεται διαφορετικά:

- 1.1 "Έμφορτη ίσαλος γραμμή υποδιαίρεσης" είναι η ίσαλος γραμμή που λαμβάνεται υπ' όψη κατά τον προσδιορισμό της υποδιαίρεσης του πλοίου.
- 1.2 "Ανώτατη έμφορτη ίσαλος γραμμή υποδιαίρεσης" είναι η ίσαλος γραμμή που αντιστοιχεί στο μέγιστο βύθισμα που επιτρέπεται από τις εφαρμοζόμενες απαιτήσεις υποδιαίρεσης.
2. "Μήκος του πλοίου" είναι το μήκος που μετράται μεταξύ καθέτων που φέρονται στα άκρα της ανώτατης έμφορτης ισάλου γραμμής υποδιαίρεσης.
3. "Πλάτος του πλοίου" είναι το μέγιστο πλάτος εξωτερικά από τους νομείς, που μετράται στην ή κάτω από την ανώτατη έμφορτη ίσαλο γραμμή υποδιαίρεσης.
4. "Βύθισμα" είναι η κατακόρυφη απόσταση στο μέσο του πλοίου, που μετράται από την άνω όψη της τροπίδας μέχρι την έμφορτη ίσαλο γραμμή υποδιαίρεσης.

5. "Κατάστρωμα στεγανών διαφραγμάτων" είναι το ανώτατο κατάστρωμα μέχρι το οποίο φθάνουν τα εγκάρσια στεγανά διαφράγματα.
6. "Γραμμή ορίου βύθισης" είναι μία γραμμή που χαράσσεται τουλάχιστο 76 χιλιοστάμετρα κάτω από την άνω επιφάνεια του καταστρώματος στεγανών διαφραγμάτων στην πλευρά του πλοίου.
7. "Διαχωρητότητα ενός χώρου" είναι το εκατοστιαίο ποσοστό του χώρου αυτού που μπορεί να καταληφθεί από νερό. Ο όγκος ενός χώρου που εκτείνεται πάνω από τη γραμμή ορίου βύθισης θα μετράται μόνο μέχρι το ύψος της γραμμής αυτής.
8. Ως "χώρος μηχανών" λαμβάνεται ο χώρος που εκτείνεται από την άνω όψη της τρόπιδας μέχρι τη γραμμή ορίου βύθισης και μεταξύ των ακραίων κύριων εγκαρσίων στεγανών διαφραγμάτων που αποτελούν τα όρια των χώρων που περιέχουν τις κύριες και βοηθητικές μηχανές πρόωσης, τους λέβητες που εξυπηρετούν ανάγκες πρόωσης και όλες τις μόνιμες αποθήκες γαιανθράκων. Στην περίπτωση ασυνήθιστης διάταξης των χώρων, η Αρχή μπορεί να ορίζει τα όρια των χώρων μηχανών.
9. "Χώροι επιβατών" είναι οι χώροι που προορίζονται για την ενδιαίτηση και χρήση των επιβατών, εκτός από τους χώρους αποσκευών, αποθηκών, τροφαποθηκών και χώρων ταχυδρομείου. Για τους σκοπούς των Κανονισμών 5 και 6, χώροι κάτω από τη γραμμή ορίου βύθισης που προορίζονται για ενδιαίτηση και χρήση του πληρώματος, θα θεωρούνται σαν χώροι επιβατών.
10. Σε όλες τις περιπτώσεις οι όγκοι και οι επιφάνειες θα υπολογίζονται μέχρι τις γραμμές του πλοίου εξωτερικά από τους νομείς και τα ζυγά.
11. "Καιροστεγές " σημαίνει ότι, σε οποιαδήποτε κατάσταση θάλασσας, δεν θα συμβεί είσοδος νερού στο πλοίο.

Κανονισμός 3

Ορισμοί που αναφέρονται στα Μέρη Γ, Δ και Ε

Για τους σκοπούς των Μερών Γ, Δ και Ε εκτός αν ρητά ορίζεται διαφορετικά:

I. "Σύστημα ελέγχου μηχανισμού πηδαλίου" είναι οι συσκευές

με τις οποίες μεταδίδονται εντολές από την γέφυρα ναυσιπλοΐας στις μηχανοκίνητες μονάδες του μηχανισμού πηδαλίου. Τα συστήματα ελέγχου μηχανισμού πηδαλίου περιλαμβάνουν πομπούς, δέκτες, υδραυλικές αντλίες ελέγχου και τους σχετικούς κινητήρες, διατάξεις ελέγχου κινητήρων, σωληνώσεις και καλωδιώσεις.

2. "Κύριος μηχανισμός πηδαλίου" είναι τα μηχανήματα, οι διατάξεις ενεργοποίησης του πηδαλίου, οι μηχανοκίνητες μονάδες μηχανισμού πηδαλίου, αν υπάρχουν, και οι βοηθητικές συσκευές και τα μέσα για την εφαρμογή ροπής στον κορμό του πηδαλίου (π.χ οίακας ή τόξο πηδαλίου) αναγκαία για την πραγματοποίηση κίνησης πηδαλίου με σκοπό την πηδαλιούχηση του πλοίου σε κανονικές συνθήκες λειτουργίας.
3. "Μηχανοκίνητη μονάδα μηχανισμού πηδαλίου" είναι:
 1. Στην περίπτωση ηλεκτρικού μηχανισμού πηδαλίου, ένας ηλεκτρικός κινητήρας και τα σχετικά ηλεκτρικά εξαρτήματά του.
 2. Στην περίπτωση ηλεκτροϋδραυλικού μηχανισμού πηδαλίου, ένας ηλεκτρικός κινητήρας και τα σχετικά ηλεκτρικά εξαρτήματά του και η συνδεδεμένη αντλία.
 3. Στην περίπτωση άλλου υδραυλικού μηχανισμού πηδαλίου, μια κινητήρια μηχανή και η συνδεδεμένη αντλία.
4. "Βοηθητικός μηχανισμός πηδαλίου" είναι οι συσκευές, εκτός από οποιοδήποτε μέρος του κύριου μηχανισμού πηδαλίου, οι αναγκαίες για την πηδαλιούχηση του πλοίου σε περίπτωση βλάβης του κύριου μηχανισμού πηδαλίου, χωρίς όμως να περιλαμβάνονται ο οίακας και το τόξο πηδαλίου ή εξαρτήματα που εξυπηρετούν τον ίδιο σκοπό.
5. "Κατάσταση κανονικής λειτουργίας και διαβίωσης" είναι μία κατάσταση στην οποία το πλοίο σαν σύνολο, τα μηχανήματα, οι υπηρεσίες, τα μέσα και βοηθήματα που εξασφαλίζουν την πρόωση, η ικανότητα για πηδαλιούχηση, η ασφαλής ναυσιπλοΐα, η ασφάλεια έναντι πυρκαϊάς και κατάκλισης, οι εσωτερικές και εξωτερικές επικοινωνίες και σήματα, τα μέσα διαφυγής και τα βαρούλκα λέμβων ανάγκης καθώς και οι σχεδιασμένες άνετες συνθήκες διαβίωσης είναι σε κατάσταση λειτουργίας και εργάζονται κανονικά.

6. "Κατάσταση ανάγκης" είναι μία κατάσταση στην οποία οποιοσδήποτε υπηρεσίες που απαιτούνται για κανονική λειτουργία και διαβίωση δεν είναι σε κατάσταση λειτουργίας λόγω βλάβης της κύριας πηγής ηλεκτρικής ενέργειας.
7. "Κύρια πηγή ηλεκτρικής ενέργειας" είναι μία πηγή προορισμένη να παρέχει ηλεκτρική ενέργεια στον κύριο ηλεκτρικό πίνακα για διανομή σε όλες τις αναγκαίες υπηρεσίες για τη διατήρηση του πλοίου σε κατάσταση κανονικής λειτουργίας και διαβίωσης.
8. "Κατάσταση νεκρού πλοίου" είναι η κατάσταση κατά την οποία η κύρια εγκατάσταση πρόωσης, οι λέβητες και τα βοηθητικά μηχανήματα δεν λειτουργούν λόγω έλλειψης ισχύος.
9. "Κύριος ηλεκτροπαραγωγός σταθμός" είναι ο χώρος στον οποίο ευρίσκεται η κύρια πηγή ηλεκτρικής ενέργειας.
10. "Κύριος ηλεκτρικός πίνακας" είναι ένας ηλεκτρικός πίνακας που τροφοδοτείται απ'ευθείας από την κύρια πηγή ηλεκτρικής ενέργειας και αποσκοπεί στη διανομή ηλεκτρικής ενέργειας στις υπηρεσίες του πλοίου.
11. "Ηλεκτρικός πίνακας ανάγκης" είναι ένας ηλεκτρικός πίνακας που σε περίπτωση βλάβης του κύριου συστήματος παροχής ηλεκτρικής ενέργειας τροφοδοτείται απ'ευθείας από τη πηγή ηλεκτρικής ενέργειας ανάγκης από τη μεταβατική πηγή της ενέργειας ανάγκης και αποσκοπεί στη διανομή ηλεκτρικής ενέργειας στις υπηρεσίες ανάγκης.
12. "Πηγή ηλεκτρικής ενέργειας ανάγκης" είναι μία πηγή ηλεκτρικής ενέργειας που αποσκοπεί στην τροφοδότηση του ηλεκτρικού πίνακα ανάγκης σε περίπτωση βλάβης της τροφοδότησης από την κύρια πηγή ηλεκτρικής ενέργειας.
13. "Μηχανοκίνητο σύστημα μετάδοσης κίνησης" είναι ο υδραυλικός εξοπλισμός που διατίθεται για την παροχή ισχύος για τη στρέψη του κορμού του πηδαλίου, περιλαμβανομένων μίας ή περισσότερων μηχανοκινήτων μονάδων μηχανισμού πηδαλίου, μαζί με τις σχετικές σωληνώσεις και εξαρτήματα ^{και μια διατάξη} ενεργοποίησης πηδαλίου. Τα μηχανοκίνητα συστήματα ^{ενεργοποίησης} μπορεί να έχουν κοινά μηχανικά εξαρτήματα π.χ ολικά, τξο πηδαλίου και κορμό πηδαλίου, ή εξαρτήματα που εξυπηρετούν τον ίδιο σκοπό.

14. "Μέγιστη υπηρεσιακή ταχύτητα πρόωσης" είναι η μέγιστη ταχύτητα την οποία το πλοίο είναι σχεδιασμένο να διατηρεί κατά την πλεύση του στη θάλασσα στο μέγιστο βύθισμα πλεύσης.
15. "Μέγιστη ταχύτητα αναπόδισης" είναι η ταχύτητα που εκτιμάται ότι το πλοίο μπορεί να επιτύχει στη μέγιστη προς τα πίσω ισχύ σχεδίασης στο μέγιστο βύθισμα πλεύσης.
16. "Χώροι μηχανών" είναι ολοι οι χώροι μηχανών Κατηγορίας "Α" και ολοι οι άλλοι χώροι που περιέχουν μηχανές πρόωσης, λέβητες, μονάδες καύσιμου πετρελαίου, μηχανές ατμού και εσωτερικής καύσης, γεννήτριες και μεγάλες ηλεκτρικές μηχανές, σταθμούς παραλαβής πετρελαίου, φυκτικά μηχανήματα, σταθεροτήρες, μηχανήματα αερισμού και κλιματισμού, και παρόμοιοι χώροι και οχετοί προς τέτοιους χώρους.
17. "Χώροι μηχανών Κατηγορίας Α" είναι εκείνοι οι χώροι και οχετοί προς τέτοιους χώρους που περιέχουν:
1. Μηχανές εσωτερικής καύσης που χρησιμοποιούνται για κύρια πρόωση· ή
 2. Μηχανές εσωτερικής καύσης που χρησιμοποιούνται για σκοπούς άλλους από την κύρια πρόωση, όταν οι μηχανές αυτές έχουν αθροιστικά συνολική ισχύ εξόδου όχι μικρότερη από 375 kW· ή
 3. Οποιοδήποτε πετρελαιολέβητα ή μονάδα καυσίμου πετρελαίου.
18. "Σταθμοί ελέγχου" είναι οι χώροι στους οποίους ευρίσκονται ο ασύρματος του πλοίου ή τα κύρια όργανα ναυσιπλοΐας ή η πηγή ενέργειας ανάγκης ή όπου είναι συγκεντρωμένες οι συσκευές καταγραφής ή ελέγχου πυρκαϊάς.
19. "Χημικά δεξαμενόπλοια" είναι ένα φορτηγό πλοίο που κατασκευάσθηκε ή προσαρμόσθηκε και χρησιμοποιείται για τη μεταφορά χύμα οποιουδήποτε υγρού προϊόντος που είναι καταχωρημένο στην περίληψη των ελάχιστων απαιτήσεων του Κώδικα για την Κατασκευή και Εξοπλισμό των Πλοίων που Μεταφέρουν Επικίνδυνα Χημικά Χύμα, ο ^{ο οποίος} πρόκειται να υιοθετηθή από την Επιτροπή Ναυτικής Ασφάλειας με την εξουσιοδότηση της Συνέλευσης του

Οργανισμού που παρέχεται από την απόφαση Α 490 (ΧΙΙ), και ^{οποίας} στο εξής θα αναφέρεται ως "Κώδικας Χημικών Χύμα" όπως μπορεί να τροποποιηθεί από τον Οργανισμό, η οποιαδήποτε υγρή ουσία καταχωρημένη ή προσωρινά καθορισμένη ως κατηγορία Α, Β ή Γ στο Προσάρτημα ΙΙ του Παραρτήματος ΙΙ της ^{Διεθνούς} Σύμβασης για την Αποφυγή Ρύπανσης από Πλοία.

20. "Υγραεριοφόρο" είναι ένα φορτηγό πλοίο που κατασκευάστηκε ή προσαρμόστηκε και χρησιμοποιείται για τη μεταφορά χύμα οποιουδήποτε υγροποιημένου αερίου ή άλλης ουσίας καταχωρημένων στο Κεφάλαιο ΧΙΧ του Κώδικα για τη Κατασκευή και ^{Εξοπλισμό} των πλοίων που μεταφέρουν Υγροποιημένα Αέρια Χύμα, ^{ο οποίος} υιοθετήθηκε από τη Συνέλευση του Οργανισμού με την απόφαση Α 328 (ΙΧ) και ^{οι} στο εξής θα αναφέρεται ως "Κώδικας Υγραεριοφόρων" όπως έχει ή μπορεί να τροποποιηθεί από τον Οργανισμό.
21. "Νεκρό βάρος" είναι η διαφορά σε τόννους μεταξύ του εκτόπισματος ενός πλοίου σε νερό ειδικού βάρους 1,025 στην έμπορτη γραμμή ισάλλου που αντιστοιχεί στο καθορισμένο ύψος εξάλων θέρους και του άφορτου εκτόπισματος του πλοίου.
22. "Άφορτο εκτόπισμα" είναι το εκτόπισμα ενός πλοίου σε τόννους χωρίς φορτίο, καύσιμα, λιπαντικά, θαλασσέρμα, πόσιμο και τροφοδοτικό νερό στις δεξαμενές, αναλώσιμα υλικά, και περιβάτες και πλήρωμα και τα προσωπικά τους είδη.

ΜΕΡΟΣ Β - ΥΠΟΔΙΑΙΡΕΣΗ ΚΑΙ ΕΥΣΤΑΘΕΙΑ*

(Το μέρος Β εφαρμόζεται σε επιβατηγά πλοία και σε φορτηγά πλοία, όπως καθορίζεται στους κανονισμούς)

Κανονισμός 4

Κατακλύσιμο μήκος σε επιβατηγά πλοία

1. Το κατακλύσιμο μήκος σε οποιοδήποτε σημείο του μήκους του πλοίου θα καθορίζεται με μέθοδο υπολογισμού, που λαμβάνει υπόψη το σχήμα, το βύθισμα και άλλα χαρακτηριστικά του εξεταζόμενου πλοίου.
2. Σε πλοίο με συνεχές κατάστρωμα στεγανών διαφραγμάτων, το κατακλύσιμο μήκος σε δοσμένο σημείο είναι το μέγιστο τμήμα του μήκους του πλοίου ^{ως κέντρο} το οποίο, έχοντας ^{ως κέντρο} ή το σημείο αυτό, μπορεί να κατακλυσθεί με τις συγκεκριμένες παραδοχές που καθορίζονται στον Κανονισμό 5, χωρίς το πλοίο να βυθισθεί κάτω από τη γραμμή ορίου βύθισης.
- 3.1 Στη περίπτωση πλοίου χωρίς συνεχές κατάστρωμα στεγανών διαφραγμάτων, το κατακλύσιμο μήκος σε οποιοδήποτε σημείο μπορεί να προσδιορισθεί ως προς μία υποθετική γραμμή ορίου βύθισης, της οποίας κανένα σημείο δεν θα εφίσκεται σε απόσταση μικρότερη από 76 MM κάτω από το άνω μέρος του καταστρώματος (στη πλευρά) μέχρι το το οποίο τα εξεταζόμενα στεγανά διαφράγματα και το εξωτερικό περίβλημα του σκάφους διατηρούνται στεγανά.
- 3.2 Όπου ένα τμήμα της υποθετικής γραμμής ορίου βύθισης είναι αισθητά κάτω από το κατάστρωμα μέχρι το οποίο εκτείνονται τα στεγανά διαφράγματα, η Αρχή μπορεί να επιτρέψει περιορισμένη απόκλιση στη στεγανότητα των τμημάτων εκείνων των διαφραγμάτων που βρίσκονται πάνω από τη γραμμή ορίου βύθισης και αμέσως κάτω από το ανώτερο κατάστρωμα.

*Αντί των απαιτήσεων του Μέρους αυτού μπορούν να χρησιμοποιηθούν, εφ' όσον εφαρμοσθούν στο σύνολό τους, οι Κανονισμοί Υποδιαίρεσης και Ευστάθειας Επιβατηγών Πλοίων που υιοθετήθηκαν από τον Οργανισμό με την Απόφαση Α 265(VIII), ως Ισοδύναμοι του Μέρους Β του Κεφαλαίου II της Διεθνούς Σύμβασης για την Ασφάλεια της Ανθρώπινης Ζωής στην Θάλασσα 1960.

Κανονισμός 5

Διαχωρητότητα σε επιβατηγά πλοία

- 1.1** Οι αναφερόμενες στον Κανονισμό 4 συγκεκριμένες παραδοχές αφορούν στις διαχωρητότητες των χώρων που ευρίσκονται κάτω από τη γραμμή ορίου βύθισης.
- 1.2** Κατά τον προσδιορισμό του κατακλύσιμου μήκους, θα λαμβάνεται μία μέση ενιαία διαχωρητότητα σε όλο το μήκος καθενός, από τα ακόλουθα τμήματα του πλοίου κάτω από τη γραμμή ορίου βύθισης:
- .1 του χώρου μηχανών όπως αυτός ορίζεται στον Κανονισμό 2.
 - .2 του τμήματος πλώρης του χώρου μηχανών και
 - .3 του τμήματος πρυμνιάς του χώρου μηχανών.
- 2.1** Η μέση ενιαία διαχωρητότητα σε όλη την έκταση του χώρου μηχανών θα προσδιορίζεται από τον τύπο:

$$85 + 10 \left(\frac{\alpha - \epsilon}{\nu} \right)$$

όπου:

- α = όγκος των χώρων επιβατών, όπως ορίζονται στο Κανονισμό 2, οι οποίοι ευρίσκονται κάτω από τη γραμμή ορίου βύθισης και μέσα στα όρια του χώρου μηχανών.
- ϵ = όγκος των χώρων των υποφραγμάτων κάτω από τη γραμμή ορίου βύθισης και μέσα στα όρια του χώρου μηχανών, οι οποίοι είναι κατάλληλοι για φορτίο, γαιάνθρακες ή αποθήκες.
- ν = Ο συνολικός όγκος του χώρου μηχανών κάτω από τη γραμμή ορίου βύθισης.

- 2.2.** - Όπου μπορεί να αποδειχθεί, κατά τρόπο που να ικανοποιεί την Αρχή ότι η μέση διαχωρητότητα, όπως αυτή προσδιορίζεται με λεπτομερείς υπολογισμούς, είναι μικρότερη από εκείνη που δίνεται από τον τύπο, τότε μπορεί να χρησιμοποιηθεί η λεπτομερώς υπολογισμένη τιμή. Για ένα τέτοιο υπολογισμό, η διαχωρητότητα των χώρων επιβατών, όπως ορίζονται στον Κανονισμό 2, θα λαμβάνεται 95, εκείνη των χώρων φορτίου, γαιανθράκων και αποθηκών 60, και εκείνη των διπυθμένων, δεξαμενών καυσίμου πετρελαίου και λοιπών δεξαμενών τύση, δση ήθελε εγκριθεί σε κάθε περίπτωση.

3. Εκτός από τις περιπτώσεις που προβλέπονται στην παράγραφο 4, η ενιαία μέση διαχωρητότητα σε όλο το τμήμα του πλοίου, πρωραίως ή πρυμναίως του χώρου μηχανών θα προσδιορίζεται από τον τύπο:

$$63 + 35 \frac{\alpha}{V}$$

όπου:

α = Ο όγκος των χώρων επιβατών, όπως ορίζονται στον Κανονισμό 2, οι οποίοι ευρίσκονται κάτω από τη γραμμή ορίου βύθισης, πρωραίως ή πρυμναίως του χώρου μηχανών, και

V = Ο συνολικός όγκος του τμήματος του πλοίου κάτω από τη γραμμή ορίου βύθισης πρωραίως ή πρυμναίως του χώρου μηχανών.

- 4.1 Στη περίπτωση πλοίου που επιτρέπεται σύμφωνα με τον Κανονισμό III/27 (γ) να μεταφέρει αριθμό ατόμων μεγαλύτερο από την χωρητικότητα των σσιβίων λέμβων του, και το οποίο απαιτείται σύμφωνα με τον Κανονισμό I.5 να συμμορφώνεται με ειδικές διατάξεις, η ενιαία μέση διαχωρητότητα σε όλα τα τμήματα του πλοίου πρωραίως ή πρυμναίως του χώρου μηχανών θα προσδιορίζεται από τον τύπο:

$$95 - 35 \frac{b}{V}$$

όπου:

b = Ο όγκος των χώρων κάτω από τη γραμμή ορίου βύθισης και πάνω από το άνω μέρος των δαπέδων, του εσωτερικού πυθμένα, ή των δεξαμενών ζυγοστάθμισης, ανάλογα με τη περίπτωση, οι οποίοι είναι κατάλληλοι και χρησιμοποιούνται σαν χώροι φορτίου, γαιανθρακαποθήκες ή δεξαμενές καυσίμου πετρελαίου, χώροι αποθηκών, αποσκευών, ταχυδρομείου, φρεάτια αλυσίδων και δεξαμενές πλυσίμου νερού πρωραίως ή πρυμναίως του χώρου μηχανών, και

V = Ο συνολικός όγκος του τμήματος του πλοίου κάτω από τη γραμμή ορίου βύθισης πρωραίως ή πρυμναίως του χώρου μηχανών.

- 4.2 Στη περίπτωση πλοίων που απασχολούνται σε υπηρεσίες όπου τα κύττα φορτίου δεν καταλαμβάνονται γενικά από σημαντικές ποσότητες φορτίου, στον υπολογισμό του " b " δεν θα περιλαμβάνεται ^{κανένα} τμήμα των χώρων φορτίου.

5. Στη περίπτωση ασυνήθιστης διάταξης του πλοίου η Αρχή μπορεί να επιτρέψει ή να απαιτήσει λεπτομερή υπολογισμό της μέσης διαχωρητότητας για τα τμήματα πρωραίως ή πρυμναίως του χώρου μηχανών. Για ένα τέτοιο υπολογισμό η διαχωρητότητα των χώρων επιβατών, όπως ορίζονται στον Κανονισμό 2, θα λαμβάνεται 95, εκείνη των χώρων που περιέχουν μηχανές 85, εκείνη των χώρων φορτίου, γαιανθράκων και αποθηκών 60, και εκείνη των διπυθμένων, δεξαμενών καυσίμου πετρελαίου και λοιπών δεξαμενών τύσης, όση ήθελε εγκριθεί σε κάθε περίπτωση.
6. Όπου ένα χώρος υποφράγματος μεταξύ δύο εγκάρσιων στεγανών διαφραγμάτων περιλαμβάνει κάποιο χώρο επιβατών ή πληρώματος, ολόκληρος ο χώρος του υποφράγματος αυτού, εκτός από οποιοδήποτε χώρο που είναι πλήρως περιφραγμένος με μόνιμα χαλύβδινα διαφράγματα και είναι κατάλληλος για άλλους σκοπούς, θα θεωρείται ως χώρος επιβατών. Όπου όμως αυτός ο χώρος επιβατών ή πληρώματος είναι πλήρως περιφραγμένος με μόνιμα χαλύβδινα διαφράγματα, μόνο ο χώρος που είναι έτσι περιφραγμένος θα θεωρείται ως χώρος επιβατών.

Κανονισμός 6

Επιτρεπόμενο μήκος διαμερισμάτων σε επιβατηγά πλοία

1. Τα πλοία θα είναι όσο το δυνατό αποτελεσματικά υποδιαιρεμένα, λαμβάνοντας υπόψη τη φύση της υπηρεσίας για την οποία προορίζονται. Ο βαθμός υποδιαίρεσης θα ποικίλει ανάλογα με το μήκος του πλοίου και με την υπηρεσία, κατά τέτοιο τρόπο ώστε ο ανώτατος βαθμός υποδιαίρεσης να αντιστοιχεί με τα πλοία μέγιστου μήκους που απασχολούνται κυρίως 67η μεταφορά επιβατών.
2. Συντελεστής υποδιαίρεσης
- 2.1 Το μέγιστο επιτρεπόμενο μήκος ενός διαμερίσματος, που έχει το κέντρο του σε οποιοδήποτε σημείο του μήκους του πλοίου, λαμβάνεται από το κατακλύσιμο μήκος πολλαπλασιαζόμενο με ένα κατάλληλο συντελεστή, που καλείται συντελεστής υποδιαίρεσης.
- 2.2 Ο συντελεστής υποδιαίρεσης θα εξαρτάται από το μήκος του πλοίου και για δοσμένο μήκος θα μεταβάλλεται σύμφωνα με τη φύση της υπηρεσίας για την οποία το πλοίο προορίζεται. Ο συντελεστής αυτός θα ελαττώνεται κατά τρόπο κανονικό και συνεχής:

- 1 καθώς το μήκος του πλοίου αυξάνει, και
- 2 από ένα συντελεστή A, που εφαρμόζεται σε πλοία απασχολούμενα κυρίως στη μεταφορά φορτίων, σε ένα συντελεστή B που εφαρμόζεται σε πλοία απασχολούμενα κυρίως στη μεταφορά επιβατών.
- 2.3 Οι μεταβολές των συντελεστών A και B θα εκφράζονται από τους παρακάτω τύπους (1) και (2) όπου L είναι το μήκος του πλοίου, όπως ορίζεται στον Κανονισμό 2:

$$A = \frac{58,2}{L-60} + 0,18 \quad (L=131 \text{ M και άνω}) \dots\dots\dots(1)$$

$$B = \frac{30,2}{L-42} + 0,18 \quad (L=79 \text{ M και άνω}) \dots\dots\dots(2)$$

3. Κριτήριο υπηρεσίας

- 3.1 Για ένα πλοίο δοσμένου μήκους, ο κατάλληλος συντελεστής υποδιαίρεσης θα προσδιορίζεται από το δείκτη κριτηρίου υπηρεσίας (στο εξής θα λέγεται δείκτης κριτηρίου) σύμφωνα με τους ακόλουθους τύπους (3) και (4) όπου:

C_S = Δείκτης κριτηρίου.

L = Το μήκος του πλοίου (σε μέτρα) όπως ορίζεται στον Κανονισμό 2.

M = Ο όγκος του χώρου μηχανών (κυβικά μέτρα) όπως ορίζεται στον Κανονισμό 2, με την προσθήκη του όγκου οποιωνδήποτε μονίμων δεξαμενών καυσίμου πετρελαίου, οι οποίες τυχόν ευρίσκονται πάνω από τον εσωτερικό πυθμένα και πρωταίως ή πυρμαίως του χώρου μηχανών.

P = Ο συνολικός όγκος των χώρων επιβατών κάτω από τη γραμμή ορίου βύθισης, όπως ορίζονται στον Κανονισμό 2 (σε κυβικά μέτρα).

V = Ο συνολικός όγκος του πλοίου κάτω από τη γραμμή ορίου βύθισης (σε κυβικά μέτρα).

P_I = KN όπου:

N = Ο αριθμός επιβατών, για τον οποίο πρόκειται το πλοίο να λάβει πιστοποιητικό, και

K = 0,056L

3.2 Όπου η τιμή του KN είναι μεγαλύτερη από το άθροισμα του P και του συνολικού όγκου των πραγματικών χώρων επιβατών, πάνω από τη γραμμή ορίου βύθισης, η τιμή που θα ληφθεί σαν P_I είναι αυτό το άθροισμα ή τα δύο τρίτα του KN, οποιoδήποτε είναι μεγαλύτερο.

Όταν το P_I είναι μεγαλύτερο του P

$$C_S = 72 \frac{M + 2P_I}{V + P_I - P} \dots\dots\dots(3)$$

και στις άλλες περιπτώσεις

$$C_S = 72 \frac{M + 2P}{V} \dots\dots\dots(4)$$

3.3 Για πλοία που δεν έχουν συνεχές κατάστρωμα στεγανών διαφραγμάτων οι όγκοι θα λαμβάνονται μέχρι τις πραγματικές γραμμές ορίου βύθισης, που χρησιμοποιηθήκανε κατά τον προσδιορισμό των κατακλύσιμων μηκών.

4. Κανόνες υποδιαίρεσης πλοίων που δεν καλύπτονται από την παράγραφο 5.

4.1 Η υποδιαίρεση πρυμναίως της πρωραίας δεξαμενής ζυγοστάθμισης πλοίων μήκους 131 μέτρων και άνω που έχουν δείκτη κριτηρίου 23 ή μικρότερο τύπου (1)• εκείνων που έχουν δείκτη κριτηρίου I23 και άνω με τον συντελεστή B που δίνεται από τον τύπο (2)• και εκείνων που έχουν δείκτη κριτηρίου μεταξύ 23 και I23 με τον συντελεστή F που λαμβάνεται με γραμμική παρεμβολή μεταξύ των συντελεστών A και B, χρησιμοποιώντας τον τύπο:

$$F = A - \frac{(A - B)(C_S - 23)}{100} \dots\dots\dots(5)$$

Ανεξάρτητα από τα παραπάνω, όταν ο δείκτης κριτηρίου είναι ίσος ή μεγαλύτερος από 45 και ταυτόχρονα ο υπολογιζόμενος συντελεστής υποδιαίρεσης όπως δίνεται από τον τύπο (5) είναι μικρότερος ή ίσος του 0,65 αλλά μεγαλύτερος από 0,50, η υποδιαίρεση του πλοίου πρυμναίως της πρωραίας δεξαμενής ζυγοστάθμισης θα προσδιορίζεται με συντελεστή 0,50.

4.2 Όπου ο συντελεστής F είναι μικρότερος από 0,40 και αποδεικνύεται κατά τρόπο που να ικανοποιεί την Αρχή ότι δεν είναι πρακτικά δυνατό να τηρηθεί ο συντελεστής F σε κάποιο διαμέρισμα μηχανών του πλοίου, η υποδιαίρεση του διαμερίσματος αυτού μπορεί να προσδιορισθεί με ένα αυξημένο συντελεστή, που όμως δεν θα είναι μεγαλύτερος από 0,40.

- 4.3 Η υποδιαίρεση πρυμναίως της πρωαίας δεξαμενής ζυγοστάθμισης πλοίων μήκους μικρότερου από 131 μέτρα αλλά όχι μικρότερου από 79 μέτρα που έχουν δείκτη κριτηρίου ίσο με S , όπου:

$$S = \frac{3,574 - 25L}{13}$$

θα προσδιορίζεται με συντελεστή ίσο με τη μονάδα, εκείνων που έχουν δείκτη κριτηρίου $I23$ και άνω με το συντελεστή B που δίνεται από τον τύπο (2), εκείνων που έχουν δείκτη κριτηρίου μεταξύ S και $I23$ με συντελεστή F που λαμβάνεται με γραμμική παρεμβολή μεταξύ της μονάδας και του συντελεστή B , χρησιμοποιώντας τον τύπο:

$$F = 1 - \frac{(I-B)(I_2 - S)}{I23 - S} \dots\dots\dots(6)$$

- 4.4 Η υποδιαίρεση πρυμναίως της πρωαίας δεξαμενής ζυγοστάθμισης πλοίων μήκους μικρότερου από 131 μέτρα, αλλά όχι μικρότερου από 79 μέτρα, που έχουν δείκτη κριτηρίου μικρότερο από S , και πλοίων μήκους μικρότερου από 79 μέτρα θα προσδιορίζεται με συντελεστή ίσο με τη μονάδα εκτός αν αποδειχθεί στη μιά ή στην άλλη περίπτωση κατά τρόπο που να ικανοποιεί την Αρχή ότι δεν είναι πρακτικά δυνατό να τηρηθεί ο συντελεστής αυτός σε οποιοδήποτε τμήμα του πλοίου, οπότε η Αρχή μπορεί να επιτρέψει μιά τέτοια παρέκκλιση, εφόσον φαίνεται ότι δικαιολογείται αφού ληφθούν υπόψη όλες οι περιστάσεις.
- 4.5 Οι διατάξεις της παραγράφου 4.4. θα εφαρμόζονται επίσης σε πλοία οποιουδήποτε μήκους, τα οποία πρόκειται να λάβουν πιστοποιητικό για μεταφορά αριθμού επιβατών που υπερβαίνει τους $I2$, αλλά που δεν υπερβαίνει τον μικρότερο από τους εξής δύο αριθμούς:

$$\frac{L^2}{650} \quad \text{ή} \quad 50$$

5. Ειδικοί Κανόνες υποδιαίρεσης πλοίων τα οποία επιτρέπεται σύμφωνα με τον Κανονισμό III/27 (γ) να μεταφέρουν αριθμό ατόμων μεγαλύτερο της χωρητικότητας των σωσίβιων λέμβων τους και υποχρεώνονται σύμφωνα με τον Κανονισμό I.5 να συμμορφώνονται με ειδικές διατάξεις.

5.1.1 Στην περίπτωση πλοίων που χρησιμοποιούνται κυρίως για μεταφορά επιβατών, η υποδιαίρεση πρυμναίως της πρωαίας δεξαμενής ζυγοστάθμισης θα προσδιορίζεται με συντελεστή 0,50 ή με τον συντελεστή που καθορίζεται σύμφωνα με τις παραγράφους 3 και 4, εφ' όσον είναι μικρότερος από 0,50.

5.1.2 Στη περίπτωση τέτοιων πλοίων μήκους μικρότερου από 91,5 μέτρα, αν η Αρχή κρίνει ότι δεν είναι πρακτικά δυνατό να τηρηθεί τέτοιος συντελεστής σ' ένα διαμέρισμα, μπορεί να επιτρέψει τον υπολογισμό του μήκους του διαμερίσματος αυτού με μεγαλύτερο συντελεστή με την προϋπόθεση ότι ο συντελεστής που θα χρησιμοποιηθεί είναι ο ελάχιστος που πρακτικά και λογικά επιτρέπουν οι περιστάσεις.

5.2 Όπου, στη περίπτωση οποιουδήποτε πλοίου ανεξάρτητα αν το μήκος του είναι μικρότερο από 91,5 μέτρα ή όχι, η ανάγκη μεταφοράς σημαντικών ποσοτήτων φορτίου καθιστά μη πρακτική την απαίτηση προσδιορισμού της υποδιαίρεσης πρυμναίως της πρωαίας δεξαμενής ζυγοστάθμισης με συντελεστή που δεν υπερβαίνει το 0,50, ο κανόνας υποδιαίρεσης που θα εφαρμοσθεί θα καθορίζεται σύμφωνα με τις επόμενες υποπαραγράφους. 1 μέχρι .5, υπό τον όρο ότι όπου η Αρχή κρίνει ότι η εμμονή στην αυστηρή εφαρμογή από κάθε άποψη θα ήταν παράλογη μπορεί να επιτρέψει μία τέτοια εναλλακτική διάταξη των στεγανών διαφραγμάτων η οποία φαίνεται δικαιολογημένη από τις περιστάσεις και που δεν θα μειώνει την γενική αποτελεσματικότητα της υποδιαίρεσης.

.1. Θα εφαρμόζονται οι διατάξεις της παραγράφου 3 που αναφέρονται στον δείκτη κριτηρίου με την εξαίρεση ότι κατά τον υπολογισμό της τιμής του P_T για επιβάτες με κλίνη, το K πρέπει να έχει την τιμή που ορίζεται στην παράγραφο 3 ή την τιμή $3,5 m^3$, οποιαδήποτε είναι μεγαλύτερη, και για επιβάτες χωρίς κλίνη το K πρέπει να έχει την τιμή $3,5 m^3$.

.2. Ο συντελεστής B της παραγράφου 2 θα αντικαθίσταται με τον συντελεστή $B B$ που προκύπτει από τον επόμενο τύπο:

$$B B = \frac{L-6}{L-33} + 0,22 \quad (L=55 \text{ μέτρα και άνω})$$

- 3 Η υποδιαίρεση πρυμναίως της πρωαίας δεξαμενής ζυγοστάθμισης πλοίων μήκους I3I μέτρων και άνω που έχουν δείκτη κριτηρίου 23 ή μικρότερο, θα προσδιορίζεται με τον συντελεστή A που δίνεται από τον τύπο (1) στην παράγραφο 2.3, εκείνων που έχουν δείκτη κριτηρίου I23 και άνω με τον συντελεστή BB που δίνεται από τον τύπο της παραγράφου 5.2.2 και εκείνων που έχουν δείκτη κριτηρίου μεταξύ 23 και I23 με τον συντελεστή F που λαμβάνεται με γραμμική παρεμβολή μεταξύ των συντελεστών A και BB, χρησιμοποιώντας τον τύπο:

$$F = A - \frac{(A-BB)(C_S-23)}{I00}$$

με την εξαίρεση ότι αν ο συντελεστής F που λαμβάνεται από τον παραπάνω τύπο είναι μικρότερος από 0,50 ο συντελεστής που θα χρησιμοποιηθεί θα είναι είτε ο 0,50 είτε ο συντελεστής που υπολογίζεται σύμφωνα με τις διατάξεις της παραγράφου 4.1, οποιοσδήποτε είναι μικρότερος.

- 4 Η υποδιαίρεση πρυμναίως της πρωαίας δεξαμενής ζυγοστάθμισης πλοίων μήκους μικρότερου από I3I μέτρα, αλλά όχι μικρότερου από 55 μέτρα, που έχουν δείκτη κριτηρίου ίσο με S_I όπου :

$$S_I = \frac{37I2 - 25L}{I9}$$

θα προσδιορίζεται με συντελεστή ίσο με τη μονάδα, εκείνων που έχουν δείκτη κριτηρίου I23 και άνω με ^Tσυντελεστή BB που δίνεται από τον τύπο της παραγράφου 5.2.2, εκείνων που έχουν δείκτη κριτηρίου μεταξύ S_I και I23 με ^Tσυντελεστή F που λαμβάνεται με γραμμική παρεμβολή μεταξύ της μονάδας και του συντελεστή BB χρησιμοποιώντας τον τύπο:

$$F = \frac{(I-BB)(C_I - S_I)}{I23 - S_I}$$

με την εξαίρεση ότι σε οποιαδήποτε από τις δύο τελευταίες περιπτώσεις, αν ο συντελεστής που λαμβάνεται από τον παραπάνω τύπο είναι μικρότερος από 0,50, η υποδιαίρεση μπορεί να προσδιορισθεί με συντελεστή που δεν υπερβαίνει το 0,50.

5. Η υποδιαίρεση πρυμναίως της πρωραίας δεξαμενής ζυγοστάθμισης πλοίων μήκους μικρότερου από 131 μέτρα αλλά όχι μικρότερου από 55 μέτρα, που έχουν δείκτη κριτηρίου μικρότερο του S_T και πλοίων μήκους μικρότερου από 55 μέτρα θα προσδιορίζεται με συντελεστή ίσο με τη μονάδα, εκτός αν αποδειχθεί κατά τρόπο που να ικανοποιεί την Αρχή ότι δεν είναι πρακτικά δυνατό να τηρηθεί ο συντελεστής αυτός σε ορισμένα διαμερίσματα, οπότε η Αρχή μπορεί να επιτρέψει τέτοιες παρεκκλίσεις αναφορικά με τα διαμερίσματα αυτά εφ'όσον οι παρεκκλίσεις αυτές φαίνεται ότι δικαιολογούνται αφού ληφθούν υπόψη όλες οι περιστάσεις, με την προϋπόθεση ότι το ακρότατο προς πρύμνη διαμέρισμα και όσο το δυνατόν περισσότερα από τα πρωραία διαμερίσματα (μεταξύ της πρωραίας δεξαμενής ζυγοστάθμισης και του πρυμναίου άκρου του χώρου μηχανών) δεν θα έχουν μήκος μεγαλύτερο του κατακλύσιμου μήκους.

Κανονισμός 7

Ειδικές απαιτήσεις που αναφέρονται στην υποδιαίρεση επιβατηγών πλοίων

1. Όταν σ'ένα τμήμα ή τμήματα του πλοίου, τα στεγανά διαφράγματα εκτείνονται μέχρι ενός υψηλότερου καταστρώματος απ'ότι στα υπόλοιπα τμήματα του πλοίου και είναι επιθυμητό να γίνει επωφελής χρήση της υψηλότερης αυτής επέκτασης των διαφραγμάτων κατά τον υπολογισμό του κατακλύσιμου μήκους μπορεί να χρησιμοποιηθούν ξεχωριστές γραμμές ορίου βύθισης για κάθε ένα τέτοιο τμήμα του πλοίου, υπό την προϋπόθεση ότι:
 1. Οι πλευρές του πλοίου εκτείνονται καθ'όλο το μήκος του πλοίου μέχρι το κατάστρωμα που αντιστοιχεί στην ανώτερη γραμμή ορίου βύθισης και όλα τα ανοίγματα στο εξωτερικό περίβλημα κάτω από το κατάστρωμα αυτό καθ'όλο το μήκος του πλοίου, θεωρούνται ότι ευρίσκονται κάτω από τη γραμμή ορίου βύθισης για τους σκοπούς του Κανονισμού I7, και
 2. Τα δύο παρακείμενα διαμερίσματα στη βαθμίδα του καταστρώματος στεγανών διαφραγμάτων είναι καθένα μέσα στα όρια του επιτρεπόμενου μήκους που ανταποκρίνεται στις αντίστοιχες γραμμές ορίου βύθισης και επιπρόσθετα, το συνδυασμένο μήκος τους δεν υπερβαίνει το διπλάσιο του επιτρεπόμενου μήκους με βάση την κατώτερη γραμμή ορίου βύθισης.

- 2.1. Ένα διαμέρισμα μπορεί να έχει μήκος που να υπερβαίνει το επιτρεπόμενο μήκος που ορίζεται από τις διατάξεις του Κανονισμού 6, με την προϋπόθεση ότι το συνδυασμένο μήκος κάθε ζεύγους παρακειμένων διαμερισμάτων προς τα οποία το διαμέρισμα αυτό συνορεύει δεν υπερβαίνει το κατακλύσιμο μήκος ή το διπλάσιο του επιτρεπόμενου μήκους, οποιοδήποτε είναι μικρότερο.
- 2.2. Αν το ένα από τα δύο παρακειμένα διαμερίσματα ευρίσκεται μέσα στο χώρο μηχανών και το δεύτερο ευρίσκεται έξω από το χώρο μηχανών και η μέση διαχωρητικότητα του τμήματος του πλοίου στο οποίο ευρίσκεται το δεύτερο διαμέρισμα διαφέρει αυτής του χώρου μηχανών, το συνδυασμένο μήκος των δύο διαμερισμάτων θα προσαρμόζεται στη μέση διαχωρητικότητα των δύο τμημάτων του πλοίου στα οποία ευρίσκονται τα δύο διαμερίσματα.
- 2.3. Όπου τα δύο παρακειμένα διαμερίσματα έχουν διαφορετικούς συντελεστές υποδιαίρεσης, το συνδυασμένο μήκος των δύο διαμερισμάτων θα προσδιορίζεται αναλογικά.
3. Δε πλοία μήκους 100 μέτρων και άνω, ένα από τα κύρια εγκάρσια διάφραγμα πυρμαίως της πρωαίας δεξαμενής ζυγοστάθμισης θα τοποθετείται σε απόσταση από τη πρωαία κάθετο όχι μεγαλύτερη από το επιτρεπόμενο μήκος.
4. Ένα κύριο εγκάρσιο διάφραγμα μπορεί να έχει εσοχή με τη προϋπόθεση ότι όλα τα τμήματα της εσοχής ευρίσκονται εσωτερικά κατακόρυφων επιφανειών και στις δύο πλευρές του πλοίου και απέχουν από τα ελάσματα του περιβλήματος απόσταση ίση προς το ένα πέμπτο του πλάτους του πλοίου, όπως ορίζεται στον Κανονισμό 2, και ^{οποια} η ^{οποια} γίνεται κάθετα προς την κεντρική γραμμή στο ύψος της ανώτατης έμπορτης ισάλου γραμμής υποδιαίρεσης. Οποιοδήποτε μέρος εσοχής που ευρίσκεται έξω απ' αυτά τα όρια θα θεωρείται σαν βαθμίδα σύμφωνα με την παράγραφο 5.
5. Κύριο εγκάρσιο διάφραγμα μπορεί να σχηματίζει βαθμίδα υπό τον όρο ότι πληροί μία από τις ακόλουθες προϋποθέσεις:

1. το συνδυασμένο μήκος των δύο διαμερισμάτων, που χωρίζονται από το διάφραγμα αυτό, δεν υπερβαίνει είτε τα 90% του κατακλύσιμου μήκους ή το διπλάσιο του επιτρεπόμενου μήκους, με την εξαίρεση ότι σε πλοία με συντελεστή υποδιαίρεσης μεγαλύτερο από 0,9 το συνδυασμένο μήκος των δύο εξεταζομένων διαμερισμάτων δεν υπερβαίνει το επιτρεπόμενο μήκος.
 2. προβλέπεται πρόσθετη υποδιαίρεση στην περιοχή της βαθμίδας ώστε να διατηρείται το ίδιο επίπεδο ασφάλειας όπως εκείνο που εξασφαλίζεται με ένα επίπεδο διάφραγμα.
 3. το διαμέρισμα πάνω από το οποίο εκτείνεται η βαθμίδα, δεν υπερβαίνει το επιτρεπόμενο μήκος που αντιστοιχεί σε μία γραμμή ορίου βύθσης που λαμβάνεται 76 χιλιοστά κάτω από τη βαθμίδα.
6. Όπου ένα κύριο εγκάρσιο διάφραγμα σχηματίζει εσοχή ή βαθμίδα, θα χρησιμοποιείται ένα ισοδύναμο επίπεδο διάφραγμα κατά τον προσδιορισμό της υποδιαίρεσης.
7. Αν η απόσταση μεταξύ δύο παρακειμένων κύριων εγκάρσιων διαφραγμάτων ή των ισοδύναμων επιπέδων διαφραγμάτων, ή η απόσταση μεταξύ των εγκάρσιων επιπέδων που διέρχονται από τα πλησιέστερα σημεία των βαθμίδων των διαφραγμάτων είναι μικρότερη από 3,0 μέτρα συν 3% του μήκους του πλοίου, ή από 11,0 μέτρα, οποιοδήποτε είναι το μικρότερο, τότε ένα μόνο από αυτά τα διαφράγματα θα θεωρείται ότι αποτελεί μέρος της υποδιαίρεσης του πλοίου σύμφωνα με τις διατάξεις του Κανονισμού 6.
8. Όπου ένα κύριο εγκάρσιο στεγανό διαμέρισμα περιέχει τοπική υποδιαίρεση και μπορεί να αποδειχθεί κατά τρόπο που να ικανοποιεί την Αρχή ότι, μετά από οποιαδήποτε υποθετική πλευρική βλάβη που εκτείνεται σε μήκος 3,0 μέτρων σύν 3% του μήκους του πλοίου ή 11,0 μέτρων, οποιοδήποτε είναι μικρότερο, ο συνολικός όγκος του κύριου διαμερίσματος δεν θα κατακλυσθεί, μπορεί να επιτραπεί ανάλογη επαύξηση του επιτρεπόμενου μήκους, το οποίο διαφορετικά θα απαιτείτο γι' αυτό το διαμέρισμα. Σ' αυτή τη περίπτωση ^{ε όγκου} της πραγματικής άντωσης, που λαμβάνεται στη πλευρά χωρίς βλάβη δεν θα είναι μεγαλύτερος από τον όγκο που λαμβάνεται στη πλευρά της βλάβης.

9. Όπου ο απαιτούμενος συντελεστής υποδιαίρεσης είναι 0,50 ή μικρότερος, το συνδυασμένο μήκος οποιωνδήποτε δύο παρακείμενων διαμερισμάτων δεν θα υπερβαίνει το κατακλύσιμο μήκος.

Κανονισμός 8

Ευστάθεια επιβατηγών πλοίων σε περίπτωση βλάβης

- 1.1 Πρέπει να προβλέπεται επαρκής ευστάθεια στην άθικτη κατάσταση, σέ όλες τις συνθήκες υπηρεσίας ώστε το πλοίο να μπορεί να αντιμετωπίζει το τελικό στάδιο κατάκλυσης οποιουδήποτε κύριου διαμερισματος του οποίου το μήκος απαιτείται να μη υπερβαίνει το κατακλύσιμο μήκος.
- 1.2 Όπου δύο παρακείμενα κύρια διαμερίσματα χωρίζονται με διάφραγμα που σχηματίζει βαθμίδα υπό τις προϋποθέσεις του Κανονισμού 7.5.1 η ευστάθεια στην άθικτη κατάσταση θα είναι επαρκής να αντέξει την κατάκλυση των δύο αυτών παρακείμενων κύριων διαμερισμάτων.
- 1.3 Όπου ο απαιτούμενος συντελεστής υποδιαίρεσης είναι 0,50 ή μικρότερος, αλλά μεγαλύτερος από 0,33 η ευστάθεια στην άθικτη κατάσταση θα είναι επαρκής να αντέξει την κατάκλυση δύο οποιωνδήποτε παρακείμενων κύριων διαμερισμάτων.
- 1.4 Όπου ο απαιτούμενος συντελεστής υποδιαίρεσης είναι 0,33 ή μικρότερος η ευστάθεια στην άθικτη κατάσταση θα είναι επαρκής να αντέξει την κατάκλυση οποιωνδήποτε τριών παρακείμενων κύριων διαμερισμάτων.
- 2.1 Οι απαιτήσεις της παραγράφου 1 θα καθορίζονται με υπολογισμούς σύμφωνα με τις παραγράφους 3,4, και 6 που λαμβάνουν υπόψη τις αναλογίες και τα χαρακτηριστικά σχεδίασης του πλοίου καθώς και τη διάταξη και διαμόρφωση των διαμερισμάτων που έπαθαν βλάβη. Κατά την εκτέλεση των υπολογισμών αυτών το πλοίο πρέπει να θεωρείται ότι ευρίσκεται υπό τις χειρότερες αναμενόμενες συνθήκες υπηρεσίας από άποψη ευστάθειας.
- 2.2 Όπου σχεδιάζεται η εγκατάσταση καταστρωμάτων, εσωτερικών περιβλημάτων ή διαμήκων διαφραγμάτων επαρκούς στεγανότητας για τον σημαντικό περιορισμό της ροής νερού, η Αρχή θα πρέπει να πεισθεί ότι κατά τους υπολογισμούς έχουν ληφθεί κατάλληλα υπόψη οι πλοιοσταθμικοί αυτοί.

2.3. Στις περιπτώσεις που η Αρχή έχει αμφιβολίες ως προς την έκταση της ευστάθειας στην κατάσταση βλάβης, μπορεί να ζητήσει την έρευνα του θέματος αυτού.

3. Για τον υπολογισμό της ευστάθειας σε περίπτωση βλάβης, οι διαχωρητότητες όγκου και επιφάνειας θα είναι γενικά οι εξής:

Χ Ω Ρ Ο Ι	Διαχωρητότητα
Προορισμένοι για φορτίο, γαιάνθρακες ή αποθήκες	60
Καταλαμβανόμενοι από ενδιαιτήματα	95
Καταλαμβανόμενοι από μηχανήματα	85
Προορισμένοι για υγρά	0 ή 95*

* Οποιαδήποτε έχει σαν αποτέλεσμα αυστηρότερες απαιτήσεις.

Μεγαλύτερες διαχωρητότητες επιφάνειας θα λαμβάνονται για τους χώρους οι οποίοι, στην περιοχή της επιφάνειας του νερού στο σημείο της ζημιάς, δεν περιέχουν σημαντική ποσότητα ενδιαιτημάτων ή μηχανημάτων και για τους χώρους που δεν καταλαμβάνονται γενικά από σημαντικές ποσότητες φορτίου ή εφοδίων.

4. Η υποθετική έκταση βλάβης θα είναι ως εξής:

1. Διαμήκης έκταση: 3,0 μέτρα συν 3^ο/ο του μήκους του πλοίου ή 11 μέτρα, οποιοδήποτε είναι μικρότερο. Όπου ο απαιτούμενος συντελεστής υποδιαίρεσης είναι 0,33 ή μικρότερος, η υποθετική έκταση της βλάβης θα αυξάνεται όσο χρειάζεται ώστε να περιλάβει οποιαδήποτε δύο διαδοχικά κύρια εγκάρσια στεγανά διαφράγματα.
2. Εγκάρσια έκταση (μετρούμενη από το εσωτερικό της πλευράς του πλοίου, ορθογώνια προς την κεντρική γραμμή στο ύψος της ανώτατης έμφορτης ισάλου γραμμής υποδιαίρεσης): Απόσταση ίση προς το ένα πέμπτο του πλάτους του πλοίου, όπως τούτο καθορίζεται στον Κανονισμό 2^ο και
3. Κάθετη έκταση: από την βασική γραμμή προς τα άνω απεριόριστα

4. Αν οποιαδήποτε βλάβη μικρότερης έκτασης από εκείνη που αναφέρεται στις παραγράφους 4.1, 4.2 και 4.3 θα είχε σαν αποτέλεσμα σοβαρότερη κατάσταση από άποψη πλευρικής κλίσης ή απώλειας του μετακεντρικού ύψους, η βλάβη αυτή θα λαμβάνεται υπ' όψη κατά τους υπολογισμούς.
5. Η ασύμμετρη κατάκλυση θα διατηρείται στο ελάχιστο με αποτελεσματικές διατάξεις. Όπου είναι αναγκαία η διόρθωση μεγάλων γωνιών εγκάρσιας κλίσης, τα αποδεκτά μέσα για την επαναφορά πρέπει, όπου είναι πρακτικά δυνατό, να είναι αυτόματα, αλλά οποσδήποτε όπου προβλέπονται μέσα ελέγχου των διατάξεων αντίρροπης κατάκλυσης αυτά θα χειρίζονται πάνω από το κατάστρωμα στεγανών διαφραγμάτων. Οι διατάξεις αυτές μαζί με τα μέσα ελέγχου των καθώς και η μεγίστη πλευρική κλίση του πλοίου πριν από την επαναφορά θα είναι αποδεκτές από την Αρχή. Όπου απαιτούνται διατάξεις αντίρροπης κατάκλυσης ο χρόνος επαναφοράς δεν θα υπερβαίνει τα 15 πρώτα λεπτά. Κατάλληλες οδηγίες σχετικά με την χρήση των διατάξεων αντίρροπης κατάκλυσης θα χορηγούνται στο Πλοίαρχο του πλοίου*.
6. Η τελική κατάσταση του πλοίου μετά τη βλάβη και, στη περίπτωση ασύμμετρης κατάκλυσης, μετά την λήψη των μέτρων επαναφοράς, θα είναι ως εξής:
1. Στη περίπτωση συμμετρικής κατάκλυσης, πρέπει να υπάρχει ένα απομένον θετικό μετακεντρικό ύψος τουλάχιστο 50 χιλιοστομέτρων όπως υπολογίζεται με τη μέθοδο σταθερού εκτοπίσματος.
 2. Στη περίπτωση ασύμμετρης κατάκλυσης η συνολική κλίση δεν πρέπει να υπερβαίνει τις 7° , με την εξαίρεση ότι σε ειδικές περιπτώσεις η Αρχή μπορεί να επιτρέψει πρόσθετη κλίση λόγω ασύμμετρης ροπής, αλλά σε καμιά περίπτωση η τελική κλίση θα υπερβεί τις 15° .
 3. Σε καμιά περίπτωση η γραμμή ορίου βύθισης θα βυθισθεί κατά το τελικό στάδιο κατάκλυσης. Αν θεωρηθεί ότι η γραμμή

* Γίνεται μνεία της Σύστασης για Πρότυπη Μέθοδο για την Επίτευξη Συμμόρφωσης προς τις Απαιτήσεις για τις Διατάξεις Αντίρροπης Κατάκλυσης στα Επιβατηγά Πλοία, που υιοθετήθηκε από τον Οργανισμό με την Απόφαση A266(VIII).

ορίου βύθισης μπορεί να βυθισθεί σ'ένα ενδιάμεσο στάδιο κατάκλυσης, η Αρχή μπορεί να απαιτήσει όσες έρευνες και διατάξεις θεωρεί αναγκαίες για την ασφάλεια του πλοίου.

7. Ο πλοίαρχος του πλοίου θα εφοδιάζεται με τα απαραίτητα στοιχεία ώστε να διατηρεί κατά τις συνθήκες υπηρεσίας επαρκή ευστάθεια στην άθικτη κατάσταση που να επιτρέπει στο πλοίο να αντέξει την επικίνδυνη βλάβη. Στην περίπτωση πλοίων που απαιτούν αντίρροπη κατάκλυση, ο πλοίαρχος του πλοίου θα ενημερώνεται για τις συνθήκες ευστάθειας στις οποίες βασίζονται οι υπολογισμοί πλευρικής κλίσης και θα προειδοποιείται ότι το πλοίο μπορεί να λάβει υπερβολική κλίση αν υποστεί βλάβη όταν ευρίσκεται σε λιγότερο ευνοϊκή κατάσταση ευστάθειας.
- 8.1 Η Αρχή δεν μπορεί να εξετάσει αποκλίσεις από τις απαιτήσεις ευστάθειας σε περίπτωση βλάβης, εκτός αν αποδειχθεί ότι το μετακεντρικό ύψος του πλοίου στην άθικτη κατάσταση σε οποιαδήποτε συνθήκη υπηρεσίας, το οποίο απαιτείται για τη συμμόρφωση με τις απαιτήσεις αυτές, είναι υπεραρκετό για την προβλεπόμενη υπηρεσία.
- 8.2 Αποκλίσεις από τις απαιτήσεις ευστάθειας σε περίπτωση βλάβης θα επιτρέπονται μόνο σε εξαιρετικές περιπτώσεις και με την προϋπόθεση ότι η Αρχή κρίνει ότι οι αναλογίες, διατάξεις και άλλα χαρακτηριστικά του πλοίου είναι, για την ευστάθεια σε περίπτωση βλάβης, τα πιδ' ευνοϊκά που μπορούν πρακτικά και λογικά να γίνουν αποδεκτά στις συγκεκριμένες περιπτώσεις.

Κανονισμός 9

Ερματισμός επιβατηγών πλοίων

1. Έρμα νερού δεν θα μεταφέρεται γενικά σε δεξαμενές που προορίζονται για καύσιμο πετρέλαιο. Σε πλοία στα οποία δεν είναι πρακτική η αποφυγή διοχέτευσης νερού σε δεξαμενές καυσίμου πετρελαίου, θα τοποθετείται συσκευή διαχωρισμού πετρελαίου-νερού που να ικανοποιεί την Αρχή ή θα προβλέπονται αλλά εβαλλακτικά μέσα, αποδεκτά από την Αρχή, όπως εκφόρτωση του ακαθάρτου έρματος σε ευκολίες υποδοχής ξηράς.

- 2.- Οι διατάξεις του Κανονισμού αυτού δεν θίγουν τις διατάξεις της Διεθνούς Σύμβασης για την Αποφυγή βύπανσης από Πλοία,

Κανονισμός ΙΟ

Ακρσία- διαφράγματα και διαφράγματα χώρου μηχανών, σήραγγες ελικοφόρων αξόνων κλπ σε επιβατηγά πλοία

1. Θα τοποθετείται διάφραγμα πρωραίας δεξαμενής ζυγοστάθμισης ή σύγκρουσης που θα είναι στεγανό μέχρι το κατάστρωμα στεγανών διαφραγμάτων. Το διάφραγμα αυτό θα ευρίσκεται σε απόσταση από την πρωραία κάθετο όχι μικρότερη από 5% του μήκους του πλοίου και όχι μεγαλύτερη από 3,0 μέτρα σύ 5% του μήκους του πλοίου.
2. Όπου κάποιο τμήμα του πλοίου κάτω από την ίσαλο εκτείνεται πρωραίως της πρωραίας καθέτου, π.χ μία βολβοειδής πλώρη, οι αποστάσεις που καθορίζονται στην παράγραφο 1 θα μετρώνται από ένα σημείο είτε:
 1. στο μέσο του μήκους της επέκτασης αυτής, είτε
 2. σε απόσταση ίση με 1,5% του μήκους του πλοίου πρωραίως της πρωραίας καθέτου, είτε
 3. σε απόσταση 3 μέτρων πρωραίως της πρωραίας καθέτου, οποιοδήποτε από τα ^{τρία αυτά} δίνει την μικρότερη μέτρηση.
3. Όπου υπάρχει μακριά πρωραία υπερκατασκευή, το διάφραγμα της πρωραίας δεξαμενής ζυγοστάθμισης ή σύγκρουσης θα επεκτείνεται καιροστεγώς μέχρι το επόμενο κατάστρωμα πάνω από το κατάστρωμα στεγανών διαφραγμάτων. Η επέκταση δεν χρειάζεται να τοποθετείται ακριβώς πάνω από το υποκείμενο διάφραγμα εφ' όσον ευρίσκεται μέσα στα όρια που καθορίζονται στη παράγραφο 1 ή 2 με την επιτρεπόμενη εξαίρεση από την παράγραφο 4 και το τμήμα του καταστρώματος που σχηματίζει την βαθμίδα είναι αποτελεσματικά καιροστεγές.
4. Όπου τοποθετούνται πρωραίες θύρες και ένα κεκλιμένο επίπεδο φόρτωσης (ράμπα) σχηματίζει μέρος της επέκτασης του διαφράγματος σύγκρουσης πάνω από το κατάστρωμα στεγανών, το μέρος του κεκλιμένου επιπέδου που απέχει περισσότερο από 2,3 μέτρα πάνω από το κατάστρωμα στεγανών μπορεί να εκτείνεται πρωραίως του ορίου που καθορίζεται στη παράγραφο 1 και 2. Το κεκλιμένο επίπεδο θα είναι καιροστεγές σε

ολόκληρο το μήκος του.

5. Θα τοποθετούνται επίσης διάφραγμα πρυμναίας δεξαμενής ζυγοστάθμισης, και διαφράγματα που διαχωρίζουν τον χώρο μηχανών, όπως ορίζεται στον Κανονισμό 2, από τους χώρους φορτίου και επιβατών προς πλήρη και πρύμνη τα οποία θα είναι στεγανά μέχρι το κατάστρωμα στεγανών ^{διαφραγμάτων}. Πάντως το διάφραγμα της πρυμναίας δεξαμενής ζυγοστάθμισης μπορεί να έχει βαθμίδα κάτω από το κατάστρωμα στεγανών ^{διαφραγμάτων} εφ' όσον ο βαθμός ασφάλειας του πλοίου, σε ό,τι αφορά την υποδιαίρεση, δεν μειώνεται απ' αυτή τη διάταξη.
6. Σε όλες τις περιπτώσεις οι χοάνες των ελικοφόρων αξόνων θα είναι κλεισμένες μέσα σε στεγανούς χώρους περιθωρισμένου όγκου. Ο πρυμναίος στυκιοθλίπτης θα είναι τοποθετημένος σε μία στεγανή σήραγγα άξονα ή σε άλλο στεγανό χώρο χωριστό από το χώρο της χοάνης του ελικοφόρου άξονα και τέτοιου όγκου ώστε αν κατακλυσθεί από διαρροή του στυκιοθλίπτη να μην βυθισθεί η γραμμή ορίου βύθισης.

Κανονισμός 11

Διάφραγμα σύγκρουσης σε φορτηγά πλοία

1. Για το σκοπό του Κανονισμού αυτού οι όροι "κατάστρωμα εξάλων" "μήκος πλοίου" και "πρωραία κάθετος" έχουν τις έννοιες που ορίζονται στην ισχύουσα Διεθνή Σύμβαση περί Γραμμών Φόρτωσης.
2. Θα τοποθετείται διάφραγμα σύγκρουσης που θα είναι στεγανό μέχρι το κατάστρωμα εξάλων. Το διάφραγμα αυτό θα ευρίσκεται σε απόσταση από τη πρωραία κάθετο όχι μικρότερη από 5% του μήκους του πλοίου ή 10 μέτρα, οποιοδήποτε είναι μικρότερο και εκτός αν επιτραπεί από την Αρχή, όχι μεγαλύτερη από 8% του μήκους του πλοίου.
3. Όπου κάποιο τμήμα του πλοίου κάτω από την ίσαλο, εκτείνεται πρωραίως της πρωραίας καθέτου π.χ. μία βολβοειδής πλώρη, οι αποστάσεις που καθορίζονται στη παράγραφο 2 θα μετρώνται από ένα σημείο είτε:

- .1. στο μέσο του μήκους της επέκτασης αυτής, είτε
- .2 σε απόσταση ίση με $1,5^{\circ}$ του μήκους του πλοίου πωραίως της πωραίας καθέτου, είτε
- .3 σε απόσταση 3 μέτρων πωραίως της πωραίας καθέτου, ^{το ανώτερο} οποιοδήποτε ~~από~~ δίνει την μικρότερη μέτρηση.
4. Το διάφραγμα μπορεί να έχει βαθμίδες ή εσοχές εφ' όσον αυτές είναι μέσα στα όρια που καθορίζονται στη παράγραφο 2 ή 3. Σωληνώσεις που διαπερνούν το στεγανό σύγκρουσης θα εφοδιάζονται με κατάλληλα επιστόμια χειριζόμενα πάνω από το κατάστρωμα εξάλων και το σώμα του επιστομίου θα τοποθετείται ασφαλώς στο

διάφραγμα εσωτερικά της πωραίας δεξαμενής ζυγοστάθμισης. Τα επιστόμια μπορούν να τοποθετούνται στη πρυμναία πλευρά του διαφράγματος σύγκρουσης εφ' όσον είναι αμέσως προσιτά σε όλες τις συνθήκες υπηρεσίας και ο χώρος στον οποίο ευρίσκονται δεν είναι χώρος φορτίου. Όλα τα επιστόμια θα είναι από χάλυβα, ορείχαλκο ή άλλο εγκεκριμένο ελατό υλικό. Επιστόμια από συνήθη χυτοσίδηρο ή παρόμοιο υλικό δεν είναι αποδεκτά. Στο διάφραγμα αυτό δεν θα τοποθετούνται θύρες, ανθρωποθυρίδες, αγωγοί αερισμού ή οποιοδήποτε άλλο άνοιγμα.

- 5.- Όπου υπάρχει μακριά πωραία υπερκατασκευή το διάφραγμα σύγκρουσης θα εκτείνεται καιροστεγώς μέχρι το επόμενο κατάστρωμα πάνω από το κατάστρωμα εξάλων. Η επέκταση δεν χρειάζεται να τοποθετείται ακριβώς πάνω από το υποκείμενο διάφραγμα, εφ' όσον ευρίσκεται μέσα στα όρια που καθορίζονται στην παράγραφο 2 ή 3 με την επιτρεπόμενη ~~από την παράγραφο 6~~ ^{εξαιρέση} και το τμήμα του καταστρώματος που σχηματίζει την βαθμίδα είναι αποτελεσματικά καιροστεγές.
- 6.- Όπου τοποθετούνται πωραίες θύρες και ένα κεκλιμένο επίπεδο φόρτωσης (ράμπα) σχηματίζει μέρος της επέκτασης του διαφράγματος σύγκρουσης πάνω από το κατάστρωμα εξάλων, το μέρος του κεκλιμένου επιπέδου που απέχει περισσότερο από 2,3 μέτρα πάνω από το κατάστρωμα εξάλων μπορεί να

εκτείνεται πρωραίως το όριου που καθορίζεται στη παράγραφο 2 ή 3. Το κεκλιμένο επίπεδο θα είναι καιροστεγές σε ολόκληρο το μήκος του

7. Ο αριθμός των ανοιγμάτων στην επέκταση του διαφράγματος σύγκρουσης πάνω από το κατάστρωμα εξάλων θα περιορίζεται στο ελάχιστο δυνατό σύμφωνα με την σχεδίαση και κανονική λειτουργία του πλοίου. Όλα αυτά τα ανοίγματα θα μπορούν να κλείνουν καιροστεγώς.

Κανονισμός Ι2

Διπύθμενα σε επιβατηγά πλοία

1. Θα τοποθετείται διπύθμενο εκτεινόμενο από το διάφραγμα της πρωραίας δεξαμενής ζυγοστάθμισης μέχρι το διάφραγμα της πρυμναίας δεξαμενής ζυγοστάθμισης, όσο αυτό είναι πρακτικά δυνατό και συμβιβαστό με τη σχεδίαση και την κανονική λειτουργία του πλοίου.
 1. Σε πλοία μήκους 50 μέτρων και άνω αλλά μικρότερα από 61 μέτρα θα τοποθετείται διπύθμενο τουλάχιστον από το χώρο του μηχανοστασίου μέχρι το διάφραγμα της πρωραίας δεξαμενής ζυγοστάθμισης ή όσο πλησιέστερα σ' αυτό είναι πρακτικά δυνατό.
 2. Σε πλοία μήκους 61 μέτρων και άνω αλλά μικρότερα από 76 μέτρα θα τοποθετείται διπύθμενο τουλάχιστον εκτός του χώρου μηχανών και θα εκτείνεται μέχρι τα διαφράγματα της πρωραίας και πρυμναίας δεξαμενής ζυγοστάθμισης ή όσο πλησιέστερα σ' αυτά ^{είναι} πρακτικά δυνατό.
 3. Σε πλοία μήκους 76 μέτρων και άνω θα τοποθετείται διπύθμενο στο μέσο του πλοίου και θα εκτείνεται μέχρι τα διαφράγματα της πρωραίας και πρυμναίας δεξαμενής ζυγοστάθμισης ή όσο πλησιέστερα σ' αυτά είναι πρακτικά δυνατό.
2. Όπου απαιτείται η τοποθέτηση διπυθμένου το ύψος του θα ικανοποιεί την Αρχή και ο εσωτερικός πυθμένας θα συνεχίζεται μέχρι τις πλευρές του πλοίου, κατά τέτοιο τρόπο ώστε ο πυθμένας να προστατεύεται μέχρι το κυρτό μέρος της γάστρας.

Η προστασία αυτή θα θεωρείται επαρκής αν οποιοδήποτε σημείο της γραμμής τομής της εξωτερικής ακμής του πλευρικού ελάσματος του διπύθμενου με τα ελάσματα της γάστρας δεν ευρίσκεται χαμηλότερα από ένα οριζόντιο επίπεδο που διέρχεται από το σημείο τομής με το εξωτερικό ίχνος του μέσου νομέα μιας εγκάρσιας διαγώνιας γραμμής με κλίση 25° ως προς τη βασική γραμμή αναφοράς ^{στην οποία τρέφει} σε σημείο που ευρίσκεται σε απόσταση από τον άξονα του πλοίου ίση προς το μισό του πλάτους του πλοίου εξωτερικά από τους νομείς.

3. Μικρά φρεάτια που κατασκευάζονται μέσα στο διπύθμενο που έχουν σχέση με τις διατάξεις απάντλησης των κυτών κλπ. δεν θα εκτείνονται προς τα κάτω περισσότερο από όσο είναι αναγκαίο. Το βάθος του φρεατίου σε καμμία περίπτωση θα είναι μεγαλύτερο από το βάθος του διπύθμενου στην κεντρική γραμμή πλην 460 χιλιοστόμετρα και δεν θα εκτείνεται κάτω από το οριζόντιο επίπεδο που αναφέρεται στη παράγραφο 2. Όμως, στο πρυμναίο άκρο της σήραγγας άξονα, επιτρέπεται φρεάτιο εκτεινόμενο μέχρι τον εξωτερικό πυθμένα. Η Αρχή μπορεί να επιτρέψει άλλα φρεάτια (π.χ. για λιπαντικό έλαιο κάτω από τις κύριες μηχανές) αν κρίνει ότι οι διατάξεις παρέχουν ισοδύναμη προστασία με εκείνη που παρέχεται από διπύθμενο που πληροί τον Κανονισμό αυτό.
4. Δεν είναι αναγκαία η εγκατάσταση διπύθμενου σε στεγανά διαμερίσματα μέτριου μεγέθους, που χρησιμοποιούνται αποκλειστικά για την μεταφορά υγρών, εφ' όσον κατά την κρίση της Αρχής, η ασφάλεια του πλοίου σε περίπτωση βλάβης του πυθμένα ή των πλευρών δεν επηρεάζεται δυσμενώς από αυτή την αιτία.
5. Στη περίπτωση πλοίων στα οποία εφαρμόζονται οι διατάξεις του Κανονισμού I.5 και τα οποία απασχολούνται σε κανονική υπηρεσία μέσα στα όρια βραχύ διεθνούς πλού, όπως ορίζεται στον Κανονισμό III/2, η Αρχή μπορεί να επιτρέψει την μη τοποθέτηση διπυθμένου σε οποιοδήποτε σημείο του πλοίου το οποίο υποδιαιρείται με συντελεστή που δεν υπερβαίνει το 0,50 αν κρίνει ότι η εγκατάσταση διπύθμενου σ' αυτό το τμήμα δεν συμβιβάζεται με τη σχεδίαση και την κανονική λειτουργία του πλοίου.

Κανονισμός Ι3

Προσδιορισμός, χάραξη και καταχώρηση των εμφόρτων ισάλων γραμμών υποδιαίρεσης για επιβατηγά πλοία.

1. Για να διατηρηθεί ο απαιτούμενος βαθμός υποδιαίρεσης, πρέπει να προσδιορισθεί και να χαραχθεί στις πλευρές του πλοίου μία γραμμή φόρτωσης που να αντιστοιχεί στο εγκεκριμένο βύθισμα υποδιαίρεσης. Πλοίο που διαθέτει χώρους ειδικά διασκευασμένους για ενδιάιτηση επιβατών και μεταφορά φορτίου εναλλακτικά, μπορεί, εφόσον οι πλοιοκτήτες ^{το} επιθυμούν, να έχει μία ή περισσότερες πρόσθετες γραμμές φόρτωσης προσδιορισμένες και χαραγμένες που να αντιστοιχούν στα βυθίσματα υποδιαίρεσης τα οποία η Αρχή μπορεί να εγκρίνει για τις εναλλακτικές συνθήκες υπηρεσίας.
2. Οι προσδιορισμένες και χαραγμένες γραμμές φόρτωσης υποδιαίρεσης θα καταχωρούνται στο πιστοποιητικό Ασφάλειας Επιβατηγού Πλοίου και θα χαρακτηρίζονται με την ένδειξη C.1 για κατάσταση κυρίως επιβατηγού πλοίου και C.2, C.3 κ.λ.π. για τις εναλλακτικές καταστάσεις.
3. Το ύψος εξάλων που αντιστοιχεί σε κάθε μία από αυτές τις γραμμές φόρτωσης θα μετράται στην ίδια θέση και από την ίδια γραμμή καταστρώματος, όπως προσδιορίζονται τα ύψη εξάλων σύμφωνα με την ¹⁹⁷⁸ Διεθνή Σύμβαση περί Γραμμών Φόρτωσης.
4. Το ύψος εξάλων που αντιστοιχεί σε κάθε εγκεκριμένη έμπορτη ισάλο γραμμή υποδιαίρεσης, και οι συνθήκες υπηρεσίας για τις οποίες είναι εγκεκριμένο θα αναγράφονται σαφώς στο Πιστοποιητικό Ασφάλειας Επιβατηγού Πλοίου.
5. Σε καμμία περίπτωση η χάραξη οποιασδήποτε έμπορτης ισάλου γραμμής υποδιαίρεσης θα γίνεται πάνω από την ανώτατη γραμμή φόρτωσης σε θαλάσσιο νερό, όπως αυτή προσδιορίζεται από την αντοχή του πλοίου ή την ¹⁹⁷⁸ Διεθνή Σύμβαση περί Γραμμών Φόρτωσης.
6. Οποιαδήποτε κι αν είναι η θέση χάραξης των εμφόρτων ισάλων γραμμών υποδιαίρεσης, το πλοίο σε καμμία περίπτωση θα φορτώνεται έτσι ώστε να βυθίζεται η γραμμή φόρτωσης που αντιστοιχεί στην εποχή και την περιοχή, όπως καθορίζεται σύμφωνα με την ¹⁹⁷⁸ Διεθνή Σύμβαση περί Γραμμών Φόρτωσης.
7. Ένα πλοίο, σε καμμία περίπτωση θα φορτώνεται έτσι ώστε όταν ευρίσκεται σε θαλάσσιο νερό, να βυθίζεται η έμπορτη ισάλος γραμμή υποδιαίρεσης, που αντιστοιχεί στο συγκεκριμένο ταξίδι και συνθήκη υπηρεσίας.

Κανονισμός Ι4

Κατασκευή και αρχική δοκιμή στεγανών διαφραγμάτων,
κ.λ.π. σε επιβατηγά και φορτηγά πλοία.

1. Κάθε στεγανό διάφραγμα υποδιαίρεσης είτε εγγάρσιο είτε διάμηκες, θα κατασκευάζεται κατά τέτοιο τρόπο ώστε να είναι ικανό να υφίσταται με κατάλληλο περιθώριο αντοχής, την πίεση που οφείλεται στη μέγιστη στήλη νερού που μπορεί να χρειαστεί να αντέξει σε περίπτωση βλάβης του πλοίου, τουλάχιστον όμως την πίεση που οφείλεται σε στήλη νερού που φθάνει μέχρι το ύψος της γραμμής ορίου βύθισης. Η κατασκευή των διαφραγμάτων αυτών θα ικανοποιεί την Αρχή.
- 2.1 Οι βαθμίδες και οι εσοχές των διαφραγμάτων θα είναι στεγανές και ίσης αντοχής με το διάφραγμα στη θέση όπου παρουσιάζεται κάθε μία.
- 2.2 Όπου νομείς ή ζυγά διέρχονται μέσα από στεγανό κατάστρωμα ή διάφραγμα αυτό θα κατασκευάζεται στεγανό χωρίς χρήση ξύλου ή τσιμέντου.
3. Η δοκιμή στεγανότητας των κύριων διαμερισμάτων γερμίζοντας τα με νερό δεν είναι υποχρεωτική. Όταν δεν εκτελείται η δοκιμή αυτή, τότε η δοκιμή με εκτόξευση νερού από εύκαμπτο σωλήνα είναι υποχρεωτική· η δοκιμή αυτή θα εκτελείται κατά το πιά προχωρημένο στάδιο της κατασκευής του πλοίου. Σε κάθε περίπτωση θα εκτελείται λεπτομερής επιθεώρηση των στεγανών διαφραγμάτων.
4. Η πρωραία δεξαμενή ζυγοστάθμισης, τα διπύθμενα (περιλαμβάνονται οι σωληνοειδείς τρόπιδες) και οι εσωτερικοί πυθμένες, θα δοκιμάζονται με στήλη νερού που αντιστοιχεί στις απαιτήσεις της παραγράφου 1.
5. Δεξαμενές που προορίζονται για υγρά και που αποτελούν τμήμα της υποδιαίρεσης του πλοίου, θα δοκιμάζονται ως προς την στεγανότητα, με στήλη νερού που φθάνει μέχρι την ανώτατη έμφορτη ίσαλο γραμμή υποδιαίρεσης ή μέχρι τα δύο τρίτα του ύψους από την άνω όψη της τρόπιδας μέχρι τη γραμμή ορίου βύθισης στη θέση των δεξαμενών, οποιοδήποτε είναι μεγαλύτερο, με την προϋπόθεση όμως ότι σε καμιά περίπτωση το ύψος της στήλης θα είναι μικρότερο από 0,9 μέτρα πάνω από την οροφή της δεξαμενής.
6. Οι δοκιμές που αναφέρονται στις παραγράφους 4 και 5 έχουν σκοπό την εξασφάλιση της στεγανότητας των κατασκευαστικών διατάξεων της υποδιαίρεσης και δεν θα πρέπει να θεωρούνται σαν

δοκιμές καταλληλότητας οποιουδήποτε διαμερίσματος για την αποθήκευση καύσιμου πετρελαίου ή για άλλους ειδικούς σκοπούς για τους οποίους μπορεί να απαιτείται δοκιμή αυστηρότερου χαρακτήρα που εξαρτάται από το ύψος στο οποίο μπορεί να φθάσει το υγρό στη δεξαμενή ή στις συνδέσεις της.

Κανονισμός Ι5

Ανοίγματα σε στεγανά διαφράγματα σε επιβατηγά πλοία.

1. Ο αριθμός των ανοιγμάτων στα στεγανά διαφράγματα θα περιορίζεται στο ελάχιστο σύμφωνα με τη σχεδίαση και την κανονική λειτουργία του πλοίου. Θα προβλέπονται ικανοποιητικά μέσα για το κλείσιμο των ανοιγμάτων αυτών.
- 2.1 Όπου σωλήνες, ευδιαίοι, ηλεκτρικά καλώδια κ.λ.π. διέρχονται από διαφράγματα στεγανής υποδιαίρεσης, θα λαμβάνονται μέτρα που θα εξασφαλίζουν την στεγανή ακεραιότητα των διαφραγμάτων.
- 2.2 Επιστόμια που δεν αποτελούν μέρος του συστήματος σωληνώσεων δεν επιτρέπονται στα διαφράγματα στεγανής υποδιαίρεσης.
- 2.3 Μόλυβδος ή άλλα ευαίσθητα στη θερμότητα υλικά δεν θα χρησιμοποιούνται σε συστήματα που διαπερνούν στεγανά διαφράγματα υποδιαίρεσης, όπου η βλάβη των συστημάτων αυτών σε περίπτωση πυρκαϊάς θα είχε δυσμενή επίδραση στη στεγανή ακεραιότητα των διαφραγμάτων.
- 3.1 Δεν θα επιτρέπονται θύρες, ανθρωποθυρίδες ή ανοίγματα επικοινωνίας:
 - 1 στο διάφραγμα σύγκρουσης κάτω από τη γραμμή ορίου βύθισης,
 - 2 στα εγκάρσια στεγανά διαφράγματα που χωρίζουν ένα χώρο φορτίου από γειτονικό χώρο φορτίου, ή από μόνιμη ή εφεδρική αποθήκη καυσίμου, με τις εξαιρέσεις που προβλέπονται στην παράγραφο Ι2 και στον κανονισμό Ι6.
- 3.2 Με την εξαίρεση που προβλέπεται στη παράγραφο 3.3, το διάφραγμα σύγκρουσης επιτρέπεται να διαπερνάται κάτω από τη γραμμή ορίου βύθισης το πολύ από ένα σωλήνα που διοχετεύει υγρό στη πρωραία δεξαμενή ζυγοστάθμισης, με την προϋπόθεση ότι ο σωλήνας αυτός είναι εφοδιασμένος με κοχλιωτό επιστόμιο ικανό να χειρίζεται πάνω από το κατάστρωμα στεγανών, το δε σώμα του επιστόμιου είναι στερεωμένο πάνω στο διάφραγμα σύγκρουσης μέσα στη πρωραία δεξαμενή ζυγοστάθμισης.

- 3.3 Αν η πρωραία δεξαμενή ζυγοστάθμισης υποδιαίρεται κατά τρόπο ώστε να δέχεται δύο διαφορετικά είδη υγρών η Αρχή μπορεί να επιτρέψει το διάφραγμα σύγκρουσης να διαπερνάται κάτω από τη γραμμή ορίου βύθισης από δύο σωλήνες, κάθε ένας από τους οποίους είναι τοποθετημένος όπως απαιτείται από την παράγραφο 3.2, εφόσον η Αρχή κρίνει ότι δεν υπάρχει άλλος πρακτικός τρόπος εγκατάστασης του δεύτερου αυτού σωλήνα, και ότι η ασφάλεια του πλοίου διατηρείται λαμβανομένης υπ' όψη της παρεχομένης πρόσθετης υποδιαίρεσης στη πρωραία δεξαμενή ζυγοστάθμισης.
- 4.1 Στεγανές θύρες τοποθετημένες σε διαφράγματα μεταξύ μονίμων και εφεδρικών αποθηκών καυσίμων, θα είναι πάντοτε προσιτές, με την εξαίρεση που προβλέπεται στην παράγραφο II.2 για θύρες αποθηκών καυσίμου σε υποφράγματα.
- 4.2 Θα λαμβάνονται ικανοποιητικά μέτρα με τη χρήση προφυλακτήρων ή άλλων μέσων για να αποφεύγεται η παρεμπόδιση του κλεισίματος των στεγανών θυρών των αποθηκών καυσίμου από τους γαιάνθρακες.
5. Στους χώρους που περιέχουν τις κύριες και βοηθητικές μηχανές πρόωσης, περιλαμβανομένων των λεβήτων που εξυπηρετούν ανάγκες πρόωσης και όλες τις μόνιμες αποθήκες καυσίμων, δεν μπορούν να τοποθετηθούν περισσότερες από μία θύρες σε κάθε κύριο εγκάρσιο στεγανό διάφραγμα, εκτός από τις θύρες αποθηκών καυσίμου και σηράγγων αξόνων. Αν υπάρχουν δύο ή περισσότεροι άξονες οι σήραγγες θα συνδέονται με διάδρομο εσωτερικής επικοινωνίας. Θα υπάρχει μόνο μία θύρα μεταξύ του χώρου μηχανών και του χώρου των σηράγγων όπου υπάρχουν δύο άξονες και μόνο δύο θύρες όπου υπάρχουν περισσότεροι από δύο. Όλες αυτές οι θύρες θα είναι ολισθαίνουσες και τοποθετημένες κατά τέτοιο τρόπο ώστε να έχουν τα κατώφλια τους όσο είναι πρακτικά δυνατό φηλότερα. Ο χειροκίνητος μηχανισμός για τον χειρισμό των θυρών αυτών πάνω από το κατάστρωμα στεγανών, θα ευρίσκεται έξω από τους χώρους που περιέχουν μηχανήματα αν αυτό συμβιβάζεται με ικανοποιητική διάταξη του αναγκαίου μηχανισμού.
- 6.1 Οι στεγανές θύρες θα είναι ολισθαίνουσες ή γιγγλυμωτές ή άλλου ισοδύναμου τύπου. Ελασμάτινες θύρες που στερεώνονται μόνο με κοχλίες και θύρες που κλείνουν με τη βαρύτητα ή με βάρος που πέφτει δεν επιτρέπονται.

- 6.2 Οι ολισθαίνουσες θύρες μπορεί να είναι είτε χειροκίνητες μόνο είτε μηχανοκίνητες καθώς και χειροκίνητες.
- 6.3 Οι επιτρεπόμενες στεγανές θύρες μπορούν επομένως να διααιρεθούν σε τρεις κλάσεις:
- Κλάση 1- Γιγγλυωτές θύρες.
 Κλάση 2 - Χειροκίνητες ολισθαίνουσες θύρες.
 Κλάση 3 - Ολισθαίνουσες θύρες που λειτουργούν μηχανοκίνητα καθώς και χειροκίνητα.
- 6.4 Τα μέσα χειρισμού οποιασδήποτε στεγανής θύρας είτε λειτουργεί μηχανοκίνητα είτε όχι θα είναι ικανά να κλείνουν την θύρα με κλίση του πλοίου 15° προς οποιαδήποτε πλευρά.
- 6.5 Σε όλες τις κλάσεις στεγανών θυρών θα τοποθετούνται ενδεικτικές που θα δείχνουν, σε έλους τους σταθμούς χειρισμού από τους οποίους οι θύρες δεν είναι ορατές, αν οι θύρες είναι κλειστές ή ανοικτές. Αν οποιαδήποτε από τις στεγανές θύρες, οποιασδήποτε κλάσης δεν έχει διάταξη τέτοια ώστε να μπορεί να κλείνει από κεντρικό σταθμό ελέγχου θα προβλέπεται η ύπαρξη ενός μηχανικού, ηλεκτρικού, τηλεφωνικού ή οποιουδήποτε άλλου κατάλληλου μέσου άμεσης επικοινωνίας που θα επιτρέπει στον αξιωματικό φυλακής να επικοινωνεί γρήγορα με τον υπεύθυνο για το κλείσιμο της αναφερόμενης θύρας, ύστερα από προηγηθείσες εντολές.
7. Οι γιγγλυωτές θύρες (Κλάση 1) θα εφοδιάζονται με μηχανισμούς κλεισίματος ταχείας λειτουργίας, όπως σφικτήρες που μπορούν να χειρίζονται από κάθε πλευρά του διαφράγματος.
8. Οι χειροκίνητες ολισθαίνουσες θύρες (Κλάση 2) μπορούν να έχουν οριζόντια ή κατακόρυφη κίνηση. Ο μηχανισμός της θύρας θα μπορεί να χειρισθεί τοπικά από οποιαδήποτε πλευρά της θύρας και επί πλέον από μία προσιτή θέση πάνω από το κατάστρωμα στεγανών, με κίνηση περιστρεφόμενου στρόφαλου ή με άλλη κίνηση, που παρέχει την ίδια εγγύηση ασφάλειας και είναι εγκεκριμένου τύπου. Μπορεί να επιτραπούν αποκλίσεις από την απαίτηση χειρισμού και από τις δύο πλευρές, αν η απαίτηση αυτή είναι αδύνατη λόγω της διαρρύθμισης των χώρων. Κατά την λειτουργία του χειροκίνητου μηχανισμού ο απαιτούμενος χρόνος για το πλήρες κλείσιμο της θύρας, όταν το πλοίο είναι σε δράση θέση δεν υπερβαίνει τα 90 δευτερόλεπτα.

- 9.1 Οι ολισθαίνουσες θύρες που λειτουργούν μηχανοκίνητα (Κλάση 3) μπορεί να έχουν κατακόρυφη ή οριζόντια κίνηση. Αν μία θύρα απαιτείται να λειτουργεί μηχανοκίνητα από ένα κεντρικό σταθμό ελέγχου, ο μηχανισμός θα έχει τέτοια διάταξη, ώστε η θύρα να μπορεί επιπλέον να λειτουργεί μηχανοκίνητα τοπικά και από τις δύο πλευρές. Η διάταξη θα είναι τέτοια ώστε η θύρα να κλείνει αυτόματα αν ανοιχθεί με τοπικό χειρισμό μετά το κλείσιμο της από τον κεντρικό σταθμό, και επίσης οποιαδήποτε θύρα να μπορεί να παραμένει κλειστή με τοπικά συστήματα που θα εμποδίζουν το άνοιγμα της θύρας από τον ανώτερο σταθμό ελέγχου. Θα προβλέπονται σε κάθε πλευρά του διαφράγματος χειριστήρια επιτοπίου ελέγχου, συνδεδεμένα με τον μηχανοκίνητο μηχανισμό και θα έχουν διάταξη τέτοια που να επιτρέπει σε άτομα διερχόμενα από το άνοιγμα της θύρας να κρατούν και τα δύο χειριστήρια στην ανοικτή θέση χωρίς να μπορούν να θέσουν εκούσια σε λειτουργία τον μηχανισμό κλείσιματος. Οι μηχανοκίνητες ολισθαίνουσες θύρες θα είναι εφωδιασμένες με χειροκίνητο μηχανισμό που θα λειτουργεί τοπικά από οποιαδήποτε πλευρά και από προσιτή θέση πάνω από το κατάστρωμα στεγανών με κίνηση περιστρεφόμενου στρόφαλου ή με άλλη κίνηση που παρέχει την ίδια εγγύηση ασφάλειας και είναι εγκεκριμένου τύπου, θα προβλέπεται προειδοποίηση με ηχητικό σήμα ότι η θύρα άρχισε να κλείνει και θα συνεχίσει να κινείται μέχρι να κλείσει τελείως. Το κλείσιμο της θύρας θα γίνεται σε αρκετό χρόνο ώστε να παρέχεται ασφάλεια.
- 9.2 Θα υπάρχουν δύο τουλάχιστον ανεξάρτητες πηγές ενέργειας ικανές για το άνοιγμα και το κλείσιμο όλων των ελεγχόμενων θυρών, και κάθε μία απ' αυτές θα είναι ικανή για την λειτουργία όλων των θυρών ταυτόχρονα. Οι δύο πηγές ενέργειας θα ελέγχονται από τον κεντρικό σταθμό στη γέφυρα ναυσιπλοΐας, ο οποίος θα περιλαμβάνει όλους τους αναγκαίους ενδείκτες, για τον έλεγχο ότι κάθε μία από τις δύο πηγές ενέργειας είναι ικανή να εξασφαλίζει ικανοποιητικά την απαιτούμενη υπηρεσία.
- 9.3 Στη περίπτωση υδραυλικής λειτουργίας κάθε πηγή ενέργειας θα αποτελείται από μία αντλία ικανή να κλείνει όλες τις θύρες σε χρόνο το πολύ 60 δευτερολέπτων. Επί πλέον θα υπάρχουν για το σύνολο της εγκατάστασης υδραυλικοί συσσωρευτές ικανοποιητικής χωρητικότητας για την λειτουργία όλων των θυρών τουλάχιστον τρεις φορές, δηλαδή κλείσιμο - άνοιγμα - κλείσιμο.

Το χρησιμοποιούμενο ρευστό δεν θα πήζει στις θερμοκρασίες που είναι ενδεχόμενο να παρουσιασθούν κατά την υπηρεσία του πλοίου.

- ΙΟ.1 Γιγγλυμωτές στεγανές θύρες (Κλάσης 1) σε χώρους επιβατών, πληρώματος και εργασίας επιτρέπονται μόνο εφ' όσον ευρίσκονται πάνω από το κατάστρωμα του οποιου η κάτω όψη, στο χαμηλότερο σημείο της στην πλευρά του πλοίου, είναι τουλάχιστον 2,0 μέτρα πάνω από την ανώτατη έμπορτη ίσαλο γραμμή υποδιαίρεσης.
- ΙΟ.2 Στεγανές θύρες, τα κατώφλια των οποίων ευρίσκονται πάνω από την ανώτατη γραμμή φόρτωσης και κάτω από τη γραμμή που καθορίζεται στη παράγραφο ΙΟ.1 θα είναι ολισθαίνουσες και μπορούν να είναι χειροκίνητες (Κλάση 2), εκτός από τέτοιες θύρες πλοίων που εκτελούν βραχείς διεθνείς πλόες και απαιτείται να έχουν συντελεστή υποδιαίρεσης 0,50 ή μικρότερο, οι οποίες πρέπει να είναι όλες μηχανοκίνητες. Όταν σχετοί συνδεδεμένοι με χώρους κατεφυγμένου φορτίου και αγωγοί αερισμού ή τεχνητού ελκυσμού διέρχονται από περισσότερα από ένα κάρια στεγανά διαφράγματα υποδιαίρεσης οι θύρες στα ανοίγματα αυτά θα λειτουργούν μηχανοκίνητα.
- ΙΙ.1 Στεγανές θύρες οι οποίες μπορούν μερικές φορές να ανοίγονται κατά την διάρκεια του πλοΐ και των οποίων τα κατώφλια βρίσκονται κάτω από την ανώτατη έμπορτη ίσαλο γραμμή υποδιαίρεσης θα είναι ολισθαίνουσες. Οι ακόλουθοι κανόνες θα εφαρμόζονται:
- .1 Όταν ο αριθμός τέτοιων θυρών (εξαιρουμένων των θυρών εισόδου στις σήραγγες αξόνων) υπερβαίνει τις πέντε, όλες οι θύρες αυτές, καθώς και εκείνες στην είσοδο σπράγγων αξόνων ή αγωγών αερισμού ή τεχνητού ελκυσμού, θα είναι μηχανοκίνητες (Κλάση 3) και θα μπορούν να κλείνονται ταυτόχρονα από κεντρικό σταθμό που ευρίσκεται στη γέφυρα ναυσιπλοΐας.
 - .2 Όταν ο αριθμός τέτοιων θυρών (εξαιρουμένων των θυρών εισόδου στις σήραγγες αξόνων) είναι μεγαλύτερος από μία αλλά δεν υπερβαίνει τις πέντε.
 - .2.1 Όπου το πλοίο δεν διαθέτει χώρους επιβατών κάτω από το κατάστρωμα στεγανών διαφραγμάτων όλες οι παραπάνω αναφερόμενες θύρες μπορούν να είναι χειροκίνητες (Κλάση 2).
 - .2.2 Όπου το πλοίο διαθέτει χώρους επιβατών κάτω από το κατάστρωμα στεγανών διαφραγμάτων όλες οι παραπάνω αναφερόμενες θύρες θα είναι μηχανοκίνητες (Κλάση 3), και θα μπορούν να κλείνονται ταυτόχρονα από κεντρικό σταθμό, που ευρίσκεται στη γέφυρα ναυσιπλοΐας.

- 3 Σέ οποιοδήποτε πλοίο, όπου υπάρχουν μόνο δύο τέτοιες στεγανές θύρες και ευρίσκονται στο χώρο μηχανών ή πάνω στα διαφράγματα που περικλείουν αυτό το χώρο, η Αρχή μπορεί να επιτρέψει οι δύο αυτές θύρες να είναι μόνο χειροκίνητες (Κλάση 2).
- 11.2 Αν ολισθαίνουσες στεγανές θύρες, που πρέπει μερικές φορές να ανοίγονται κατά τη διάρκεια του πλού, για διευθέτηση γαιανθράκων, είναι τοποθετημένες μεταξύ αποθηκών καυσίμων σε υποφράγματα κάτω από το κατάστρωμα στεγανών, οι θύρες αυτές θα λειτουργούν μηχανοκίνητα. Το άνοιγμα και το κλείσιμο των θυρών αυτών θα καταχωρούνται σε ημερολόγιο που μπορεί να καθορίζει η Αρχή.
- 12.1 Αν η Αρχή κρίνει ότι τέτοιες θύρες είναι αναγκαίες, μπορεί να τοποθετούνται στεγανές θύρες ικανοποιητικής κατασκευής σε στεγανά διαφράγματα που χωρίζουν χώρους φορτίου υποφραγμάτων. Οι θύρες αυτές μπορούν να είναι γιγλυμωτές, κυλιόμενες ή ολισθαίνουσες, αλλά δεν θα είναι τηλεχειριζόμενες. Θα τοποθετούνται στο ανώτατο επίπεδο και σε απόσταση όσο μεγαλύτερη είναι πρακτικά δυνατό από το εξωτερικό περίβλημα, αλλά δε καμιά περίπτωση οι εξωτερικές κατακόρυφες ακμές των θυρών αυτών θα απέχουν από το εξωτερικό περίβλημα του πλοίου απόσταση μικρότερη από το ένα πέμπτο του πλάτους του πλοίου, όπως ορίζεται στον Κανονισμό 2, η απόσταση δε αυτή θα μετράται κάθετα προς την κεντρική γραμμή του πλοίου στο ύψος της ανώτατης έμπορτης ισόλου γραμμής υποδιαίρεσης.
- 12.2 Οι θύρες αυτές θα κλείνονται πριν από την έναρξη του πλού και θα παραμένουν κλειστές κατά τη διάρκεια της ναυσιπλοΐας· ο χρόνος του ανοίγματος των θυρών αυτών στο λιμάνι, και του κλεισίματος αυτών πριν από την αναχώρηση του πλοίου από το λιμάνι θα καταχωρούνται στο ημερολόγιο. Αν οποιαδήποτε από τις θύρες είναι προσιτή κατά τον πλού θα εφοδιάζεται με διάταξη που να εμποδίζει το άνοιγμά της από μη εξουσιοδοτημένα άτομα. Όταν προτείνεται η εγκατάσταση τέτοιων θυρών ο αριθμός και οι διατάξεις τους θα εξετάζονται ειδικά από την Αρχή.
13. Δεν θα επιτρέπονται φορητά ελάσματα στα διαφράγματα παρά μόνον στους χώρους μηχανών. Τα ελάσματα αυτά θα ευρίσκονται πάντοτε στη θέση τους πριν από την αναχώρηση του πλοίου από το λιμάνι και δεν θα αφαιρούνται κατά την ναυσιπλοΐα εκτός αν υπάρχει επείγουσα ανάγκη.

θα λαμβάνονται οι αναγκαίες προφυλάξεις κατά την αντικατάσταση τους ώστε να εξασφαλίζεται ότι οι συνδέσεις είναι στεγανές.

14. Όλες οι στεγανές θύρες θα τηρούνται κλειστές κατά τη ναυσιπλοΐα εκτός αν υπάρξει ανάγκη να ανοιχθούν για τη λειτουργία του πλοίου, οπότε θα πρέπει να είναι πάντοτε έτοιμες για άμεσο κλείσιμο.
- 15.1. Όπου οχετοί ή σήραγγες για την επικοινωνία των ενδιαιτημάτων του πληρώματος με το λεβητοστάσιο ή για τη διόδο σωληνώσεων ή για οποιοδήποτε άλλο σκοπό διέρχονται από κύρια εγκάρσια στεγανά διαφράγματα, θα είναι στεγανοί και σύμφωνοι με τις απαιτήσεις του Κανονισμού I9. Η πρόσβαση στο ένα τουλάχιστο άκρο κάθε τέτοιας σήραγγας ή οχετού, εφ' όσον χρησιμοποιείται σαν διόδος κατά την διάρκεια του πλού, θα γίνεται μέσω ενός οχετού που θα εκτείνεται στεγανά μέχρις αρκετού ύψος ώστε να επιτρέπει την πρόσβαση πάνω από τη γραμμή βύθισης. Η πρόσβαση στο άλλο άκρο του οχετού ή της σήραγγας μπορεί να γίνεται μέσω στεγανής θύρας του τύπου που απαιτείται από τη θέση της στο πλοίο. Τέτοιοι οχετοί ή σήραγγες δεν θα εκτείνονται πέραν του πρώτου διαφράγματος υποδιαίρεσης, πρυμναίως του διαφράγματος σύγκρουσης.
- 15.2. Όπου προτείνεται η τοποθέτηση σπράγγων ή οχετών τεχνητού ελκυσμού που διαπερνούν κύρια εγκάρσια στεγανά διαφράγματα, η περίπτωση θα εξετάζεται ειδικά από την Αρχή.

Κανονισμός I6

Επιβατηγά πλοία που μεταφέρουν φορτηγά οχήματα και το προσωπικό που τα συνοδεύει.

1. Ο Κανονισμός αυτός εφαρμόζεται σε επιβατηγά πλοία ανεξάρτητα από την ημερομηνία κατασκευής τους που είναι σχεδιασμένα ή προσαρμοσμένα για μεταφορά φορτηγών οχημάτων και του προσωπικού που τα συνοδεύει όπου ο συνολικός αριθμός των επιβαινόντων εκτός εκείνων που ορίζονται στο Κανονισμό I/2 (ε)(ι) και (ιι) υπερβαίνει τους I2.
2. Αν σε ένα τέτοιο πλοίο ο συνολικός αριθμός των επιβατών που περιλαμβάνει το προσωπικό που συνοδεύει τα οχήματα δεν υπερβαίνει τον αριθμό $N = I2 + \frac{A}{25}$, όπου A η συνολική επιφάνεια καταστρώματος (σε τετραγωνικά μέτρα) των διαθέσιμων χώρων για τη στοιβάση των φορτηγών οχημάτων και όπου το καθαρό ύψος στη θέση στοιβάσεως και στην είσοδο των χώρων αυτών δεν είναι

μικρότερο από 4 μέτρα, τότε εφαρμόζονται οι διατάξεις του Κανονισμού 15.12 που αφορούν στις στεγανές θύρες με την εξαίρεση ότι οι θύρες μπορούν να τοποθετούνται σε οποιοδήποτε ύψος στα στεγανά διαφράγματα που χωρίζουν χώρους φορτίου. Επι πλέον, απαιτούνται ενδείκτες στη γέφυρα ναυσιπλοΐας για να δείχνουν αυτόματα αν κάθε θύρα είναι κλειστή και όλα τα μέσα στερεώσεως των θυρών είναι ασφαλισμένα.

3. Κατά την εφαρμογή των διατάξεων αυτού του Κεφαλαίου σε ένα τέτοιο πλοίο, ως Ν θα λαμβάνεται ο μέγιστος αριθμός επιβατών για τον οποίο το πλοίο μπορεί να λάβει πιστοποιητικό σύμφωνα με τον Κανονισμό αυτό.
4. Κατά την εφαρμογή του Κανονισμού 8 για τις χειρότερες συνθήκες λειτουργίας, η διαχωρητότητα για τους χώρους φορτίου που προορίζονται για τη στοιβάση φορτηγών οχημάτων και εμπορευματοκιβωτίων θα προκύπτει με υπολογισμό κατά τον οποίο τα φορτηγά οχήματα και τα εμπορευματοκιβώτια θα θεωρούνται σαν όχι στεγανά και η διαχωρητότητά τους θα λαμβάνεται 65. Για πλοία που απασχολούνται σε αποκλειστικές υπηρεσίες, μπορεί να εφαρμόζεται η πραγματική τιμή της διαχωρητότητας των φορτηγών οχημάτων ή εμπορευματοκιβωτίων. Σε καμμία περίπτωση η διαχωρητότητα των χώρων φορτίου στους οποίους μεταφέρονται φορτηγά οχήματα και εμπορευματοκιβώτια θα λαμβάνεται μικρότερη από 60.

Κανονισμός 17

Ανοίγματα στο εξωτερικό περίβλημα επιβατηγών πλοίων κάτω από τη γραμμή ορίου βύθισης.

1. Ο αριθμός των ανοιγμάτων στο εξωτερικό περίβλημα θα περιορίζεται στο ελάχιστο σύμφωνα με τη σχεδίαση και την κανονική λειτουργία του πλοίου.
2. Η διάταξη και αποτελεσματικότητα των μέσων κλεισίματος οποιουδήποτε ανοίγματος στο εξωτερικό περίβλημα, θα είναι σύμφωνες με το σκοπό για τον οποίο αυτό προορίζεται και την θέση στην οποία ευρίσκεται και γενικά θα ικανοποιούν την Αρχή.
- 3.1 Εφαρμοζομένων των απαιτήσεων της ισχύουσας Διεθνούς Σύμβασης περί γραμμών Φόρτωσης, καμμία παραφωτίδα θα τοποθετείται σε τέτοια θέση ώστε το κατώφλι της να είναι κάτω από

μία γραμμή που χαράσσεται παράλληλη προς το κατάστρωμα στεγανών διαφραγμάτων στη πλευρά και που το κατώτατο σημείο της ευρίσκεται σε απόσταση ίση με 2,5% του πλάτους του πλοίου πάνω από την ανώτατη έμφορτη ίσαλο γραμμή υποδιαίρεσης ή 500 χιλιοστόμετρα, οποιοδήποτε είναι μεγαλύτερο.

- 3.2 Όλες οι παραφωτίδες των οποίων τα κατώφλια ευρίσκονται κάτω από τη γραμμή ορίου βύθισης, όπως επιτρέπεται από την παράγραφο 3.1, θα είναι έτσι κατασκευασμένες ώστε να εμποδίζεται αποτελεσματικά το άνοιγμά τους από οποιοδήποτε άτομο χωρίς τη συγκατάθεση του πλοιάρχου του πλοίου.
- 3.3.1 Όπου σ'ένα υπόφραγμα τα κατώφλια οποιασδήποτε παραφωτίδας, που αναφέρεται στην παράγραφο 3.2, είναι κάτω από μία γραμμή που χαράσσεται παράλληλα προς το κατάστρωμα στεγανών διαφραγμάτων στην πλευρά και που το κατώτατο σημείο της απέχει 1,4 μέτρα σύν 2,5% του πλάτους του πλοίου πάνω από το νερό κατά την αναχώρηση του πλοίου από οποιοδήποτε λιμάνι, όλες οι παραφωτίδες του υποφράγματος αυτού θα κλείνονται στεγανά και θα κλειδώνονται πριν τον απόπλου και δεν θα ανοίγονται πριν το πλοίο φθάσει στο επόμενο λιμάνι. Κατά την εφαρμογή αυτής της παραγράφου θα γίνεται η κατάλληλη διδρθωση για γλυκό νερό, αν αυτό είναι εφαρμόσιμο.
- 3.3.2 Ο χρόνος ανοίγματος τέτοιων παραφωτίδων στο λιμάνι και κλεισίματος και κλειδώματος αυτών πριν την αναχώρηση του πλοίου από λιμάνι θα καταχωρούνται σε ημερολόγιο που μπορεί να καθορίζει η Αρχή.
- 3.3.3 Για οποιοδήποτε πλοίο που έχει μία ή περισσότερες παραφωτίδες έτσι τοποθετημένες ώστε να εφαρμόζονται οι απαιτήσεις της παραγράφου 3.3.1 όταν πλέει στην ανώτατη έμφορτη ίσαλο γραμμή υποδιαίρεσης, η Αρχή μπορεί να καθορίσει το οριακό μέσο βύθισμα στο οποίο οι παραφωτίδες αυτές θα έχουν το κατώφλι τους πάνω από τη γραμμή που χαράσσεται παράλληλα προς το κατάστρωμα στεγανών διαφραγμάτων στη πλευρά και που το κατώτατο σημείο της απέχει 1,4 μέτρα σύν 2,5% του πλάτους του πλοίου πάνω από την ίσαλο γραμμή που αντιστοιχεί στο οριακό μέσο βύθισμα και στο οποίο, επομένως, θα επιτρέπεται ο απόπλους χωρίς προηγούμενο κλείσιμο και κλειδώμα των παραφωτίδων και το άνοιγμά τους κατά τη διάρκεια του πλόυ προς το επόμενο λιμάνι με ευθύνη του πλοιάρχου.

Σε τροπικές ζώνες όπως ορίζονται στην ^{16/11/1964} Διεθνή Σύμβαση περί Γραμμών Φόρτωσης, το οριακό αυτό βύθισμα μπορεί να αυξηθεί κατά 0,3 μέτρα.

4. Αποτελεσματικά εσωτερικά γιγγλυμωτά καλύμματα, που να μπορούν εύκολα και αποδοτικά να κλείνονται και να ασφαρίζονται στεγανά, θα τοποθετούνται σε όλες τις παραφωτίδες, με την εξαίρεση ότι πρυμναίως από το ένα όγδοο του μήκους του πλοίου από την πρωραία κάθετο και πάνω από τη γραμμή που χαράσσεται παράλληλα προς το κατάστρωμα στεγανών διαφραγμάτων στη πλευρά και που το κατώτατο σημείο της ευρίσκεται σε ύψος 3,7 μέτρα σύν 2,5% του πλάτους του πλοίου πάνω από την ανώτατη έμφορτη ίσαλο γραμμή υποδιαίρεσης, τα καλύμματα μπορεί να είναι φορητά στα ενδιαιτήματα επιβατών, όχι όμως στα ενδιαιτήματα, που προορίζονται για επιβάτες καταστρώματος, εκτός αν τα καλύμματα απαιτούνται από την Διεθνή Σύμβαση περί Γραμμών Φόρτωσης που ισχύει να είναι μόνιμα τοποθετημένα στις κανονικές θέσεις τους. Τέτοια φορητά καλύμματα θα στοιβάζονται κοντά στις παραφωτίδες που εξυπηρετούν.
5. Οι παραφωτίδες και τα καλύμματά τους, που δεν θα είναι προσιτές κατά την διάρκεια του πλού θα κλείνονται και θα ασφαρίζονται πριν από την αναχώρηση του πλοίου από το λιμάνι.
- 6.1 Δεν θα τοποθετούνται παραφωτίδες σε χώρους που προορίζονται αποκλειστικά για μεταφορά φορτίου ή γαιανθράκων.
- 6.2 Είναι όμως δυνατό να τοποθετούνται παραφωτίδες σε χώρους που προορίζονται εναλλακτικά για μεταφορά επιβατών ή φορτίων, αλλά θα είναι έτσι κατασκευασμένες, ώστε να εμποδίζεται αποτελεσματικά το άνοιγμά τους ή το άνοιγμα των καλυμμάτων τους χωρίς τη συγκατάθεση του πλοιάρχου.
- 6.3 Αν μεταφέρεται φορτίο σε τέτοιους χώρους, οι παραφωτίδες και τα καλύμματά τους θα κλείνονται στεγανά και θα κλειδώνονται πριν από τη φόρτωση του φορτίου και το κλείσιμο και κλειδωμα αυτό θα καταχωρούνται σε ημερολόγια που μπορεί να καθορίζει η Αρχή.
7. Παραφωτίδες αυτόματου αερισμού, δεν θα τοποθετούνται στο εξωτερικό περίβλημα κάτω από τη γραμμή ορίου βύθισης χωρίς την ειδική συγκατάθεση της Αρχής.
8. Ο αριθμός των ευδιαίων, εξαγωγών υγιεινής και άλλων παρομοίων ανοιγμάτων στο εξωτερικό περίβλημα θα περιορίζεται στο ελάχιστο είτε με την εξυπηρέτηση από κάθε εξαγωγή όσο το δυ-

νατόν περισσότερων σωλήνων υγιεινής και άλλων σωλήνων, είτε με οποιοδήποτε άλλο ικανοποιητικό τρόπο.

- 9.1 Όλες οι εισαγωγές και εξαγωγές στο εξωτερικό περίβλημα θα είναι εφοδιασμένες με αποτελεσματικές και προσιτές διατάξεις για την παρεμπόδιση τυχαίας εισροής νερού μέσα στο πλοίο.
- 9.2.1 Εφαρμοζόμενων των απαιτήσεων της ¹⁹⁷⁸ Διεθνούς Σύμβασης Γραμμών Φόρτωσης και με την εξαίρεση που προβλέπεται στη παράγραφο 9.3, κάθε χωριστή εξαγωγή που διέρχεται από το εξωτερικό περίβλημα από χώρους κάτω από τη γραμμή ορίου βύθισης θα εφοδιάζεται είτε με ένα αυτόματο ανεπίστροφο επιστόμιο εφοδιασμένο με αποτελεσματικό μέσο κλεισίματός του πάνω από το κατάστρωμα στεγανών διαφραγμάτων είτε με δύο αυτόματα ανεπίστροφα επιστόμια, χωρίς αποτελεσματικά μέσα κλεισίματος, με την προϋπόθεση ότι το εσωτερικό επιστόμιο ευρίσκεται πάνω από την ανώτατη έμφορτη ίσαλο γραμμή υποδιαίρεσης και είναι πάντοτε προσιτό για επιθεώρηση υπό συνθήκες υπηρεσίας. Όπου τοποθετείται επιστόμιο με αποτελεσματικό μέσο κλεισίματος, η θέση χειρισμού πάνω από το κατάστρωμα στεγανών, θα είναι πάντοτε εύκολα προσιτή και θα προβλέπονται μέσα ένδειξης αν το επιστόμιο είναι ανοικτό ή κλειστό.
- 9.2.2 Οι απαιτήσεις της ¹⁹⁷⁸ Διεθνούς Σύμβασης Γραμμών Φόρτωσης θα εφαρμόζονται στις εξαγωγές που διέρχονται από το εξωτερικό περίβλημα από χώρους πάνω από τη γραμμή ορίου βύθισης.
- 9.3 Οι κύριες και βοηθητικές εισαγωγές και ^{εξαγωγές} του χώρου μηχανών που έχουν σχέση με τη λειτουργία των μηχανημάτων θα είναι εφοδιασμένες με επιστόμια σε εύκολα προσιτές θέσεις μεταξύ των σωλήνων και του εξωτερικού περιβλήματος ή μεταξύ των σωλήνων και των κιβωτίων που είναι προσαρμοσμένα στο εξωτερικό περίβλημα. Τα επιστόμια μπορούν να χειρίζονται τοπικά και θα είναι εφοδιασμένα με ενδείκτες που θα δείχνουν αν είναι ανοικτά ή κλειστά.
- 9.4 Όλα τα εξαρτήματα του εξωτερικού περιβλήματος και τα επιστόμια που απαιτούνται από τον Κανονισμό αυτό θα είναι από χάλυβα, ορείχαλκο, ή άλλο εγκεκριμένο ελατό υλικό. Επιστόμια από κοινό χυτοσίδηρο ή παρόμοιο υλικό δεν είναι αποδεκτά. Όλες οι σωληνώσεις που αναφέρονται στον Κανονισμό αυτό θα είναι από χάλυβα ή άλλο ισοδύναμο υλικό που να ικανοποιεί την Αρχή.

- 10.1 Θύρες επιβίβασης, φόρτωσης και ανθράκευσης, τοποθετημένες κάτω από τη γραμμή ορίου βύθισης θα είναι επαρκούς αντοχής. Θα κλείνονται αποτελεσματικά και θα ασφαλιζονται στεγανά πριν από την αναχώρηση του πλοίου από το λιμάνι^{και} θα τηρούνται κλειστές κατά την ναυσιπλοΐα.
- 10.2 Τέτοιες θύρες δεν θα είναι τοποθετημένες, σε καμμία περίπτωση, έτσι ώστε να έχουν το κατώτατο σημείο τους κάτω από την ανώτατη έμφορτη ίσαλο γραμμή υποδιαίρεσης.
- 11.1 Τα εσωτερικά ανοίγματα κάθε στομίου απόρριψης τέφρας, αποριμμάτων κ.λ.π. θα είναι εφωδιασμένα με αποτελεσματικό κάλυμμα.
- 11.2 Αν το εσωτερικό άνοιγμα ευρίσκεται κάτω από τη γραμμή ορίου βύθισης, το κάλυμμα θα είναι στεγανό και επι πλέον θα τοποθετείται ένα αυτόματο ανεπίστροφο επιστόμιο στο στόμιο απόρριψης σε μία εύκολα προσιτή θέση πάνω από την ανώτατη έμφορτη ίσαλο γραμμή υποδιαίρεσης. Όταν το στόμιο απόρριψης δεν χρησιμοποιείται, τόσο το κάλυμμα όσο και το επιστόμιο θα τηρούνται κλειστά και ασφαλισμένα.

Κανονισμός 18

Κατασκευή και αρχικές δοκιμές στεγανών θυρών παραφωτίδων κ.λ.π σε επιβατηγά και φορτηγά πλοία.

1. Σε επιβατηγά πλοία:
 - 1 η σχεδίαση, τα υλικά και η κατασκευή όλων των στεγανών θυρών, παραφωτίδων, θυρών επιβίβασης, φόρτωσης και ανθράκευσης, επιστομίων, σωληνώσεων, στομίων απόρριψης τέφρας και αποριμμάτων που αναφέρονται στους Κανονισμούς αυτούς θα ικανοποιούν την Αρχή.
 - 2 τα πλαίσια των κατακορύφων στεγανών θυρών δεν θα έχουν αυλάκωση στο κάτω μέρος τους μέσα στην οποία θα μπορούσαν να συγκεντρωθούν ακαθαρσίες και να εμποδίσουν το κανονικό κλείσιμο των θυρών.
2. Σε επιβατηγά πλοία και φορτηγά πλοία κάθε στεγανή θύρα θα δοκιμάζεται με υδραυλική πίεση ύψους στήλης νερού μέχρι το κατάστρωμα στεγανών διαφραγμάτων ή το κατάστρωμα εξάλων αντίστοιχα. Η δοκιμή αυτή θα εκτελείται πριν το πλοίο τεθεί σε υπηρεσία, είτε πριν είτε μετά την τοποθέτηση της θύρας.

Κανονισμός 19

Κατασκευή και αρχικές δοκιμές στεγανών καταστροφών, οχετών κ.λ.π σε επιβατηγά και φορτηγά πλοία.

1. Στεγανά καταστώματα, οχετοί, σήραγγες, σωληνοειδείς τρόπιδες και αεραγωγοί θα έχουν ίδια αντοχή με τα στεγανά διαφράγματα στα αντίστοιχα ύψη. Τα μέσα που χρησιμοποιούνται για την επίτευξη της στεγανότητάς τους και οι διατάξεις που εφαρμόζονται για το κλείσιμο των ανοιγμάτων σ' αυτά θα ικανοποιούν την Αρχή. Οι στεγανοί αεραγωγοί και οχετοί θα φθάνουν τουλάχιστον μέχρι το κατάστρωμα στεγανών διαφραγμάτων στα επιβατηγά πλοία και μέχρι το κατάστρωμα εξάλων στα φορτηγά πλοία.
2. Μετά το πέρας της κατασκευής, θα εκτελείται στα στεγανά καταστώματα δοκιμή με εκτόξευση νερού από εύκαμπτο σωλήνα ή δοκιμή κατάκλυσης με νερό, και στους στεγανούς οχετούς, σήραγγες και αεραγωγούς δοκιμή με εκτόξευση νερού από εύκαμπτο σωλήνα.

Κανονισμός 20

Στεγανή ακεραιότητα επιβατηγών πλοίων πάνω από τη γραμμή ορίου βύθισης.

1. Η Αρχή μπορεί να απαιτήσει την λήψη όλων των λογικών και πρακτικών μέτρων για τον περιορισμό της εισροής και εξάπλωσης νερού πάνω από το κατάστρωμα στεγανών διαφραγμάτων. Τέτοια μέτρα μπορούν να περιλαμβάνουν μερικά διαφράγματα ή πλαίσια. Όταν τοποθετούνται μερικά στεγανά διαφράγματα και πλαίσια στο κατάστρωμα στεγανών διαφραγμάτων πάνω από ή πολύ κοντά στα κύρια στεγανά διαφράγματα υποδιαίρεσης, θα ^{αυτά} συνδέονται στεγανά με το εξωτερικό περίβλημα του πλοίου και το κατάστρωμα στεγανών, έτσι ώστε να περιορίζουν την ροή του νερού κατά μήκος του καταστώματος όταν το πλοίο έχει εγκάρσια κλίση κατόπιν βλάβης. Όπου το μερικό στεγανό διάφραγμα δεν ευθυγραμμίζεται με το υποκείμενο διάφραγμα, το μεταξύ τους κατάστρωμα στεγανών διαφραγμάτων θα κατασκευάζεται αποτελεσματικά στεγανό.
2. Το κατάστρωμα στεγανών διαφραγμάτων ή το κατάστρωμα πάνω απ' αυτό θα είναι καιροστεγές.

- Όλα τα ανοίγματα στο εκτεθειμένο καιροστεγές κατάστρωμα θα έχουν τοιχώματα αρκετού ύψους και αντοχής και θα είναι εφοδιασμένα με αποτελεσματικά μέσα για το γρήγορο καιροστεγές κλείσιμό τους. Θυρίδες εκροής, κιγκλιδώματα και εψ-διαίοι θα τοποθετούνται όπως χρειάζεται, για γρήγορη απο-λαγή του εκτεθειμένου στον καιρό καταστρώματος σε όλες τις καιρικές συνθήκες.
3. Παραφωτίδες, θύρες επιβίβασης, φόρτωσης και ανθοόκευσης και άλλα μέσα για το κλείσιμο ανοιγμάτων στο εξωτερικό περίβλημα πάνω από τη γραμμή ορίου βύθισης θα είναι απο-τελεσματικά σχεδιασμένα και κατασκευασμένα και θα έχουν επαρκή αντοχή, λαμβανομένων υπόψη των χώρων στους οποίους είναι τοποθετημένα και των θέσεών τους σε σχέση με την ανώ-τατη έμφορτη ίσαλο γραμμή υποδιαίρεσης.
4. Αποτελεσματικά εσωτερικά καλύμματα τοποθετημένα έτσι ώστε να μπορούν να κλείνουν εύκολα και αποδοτικά και να ασφαλί-ζονται στεγανά, θα προβλέπονται για όλες τις παραφωτίδες χώρων κάτω από το πρώτο κατάστρωμα πάνω από το κατέστρωμα στεγανών διαφραγμάτων.

Κανονισμός 21

Διατάξεις απάντλησης κυτών

1. Επιβατηγά και φορτηγά πλοία.
- 1.1 Θα προβλέπεται αποτελεσματικό σύστημα απάντλησης κυτών ι-κανό να αντλεί από, και να αποστραγγίζει, οποιοδήποτε στε-γανό διαμέρισμα, εκτός χώρων που προορίζονται μόνιμα για την μεταφορά γλυκού νερού, θαλάσσιου έρματος, καυσίμου πε-τρέλαιου ή υγρού φορτίου και για τους οποίους προβλέπονται άλλα αποτελεσματικά μέσα άντλησης σε όλες τις συνθήκες που παρουσιάζονται στη πράξη. Θα προβλέπονται αποτελεσματι-κά μέσα για την αποστράγγιση του νερού από κύτη με μόνωση.
- 1.2 Αντλίες υγιεινής, έρματος και γενικής χρήσης μπορούν να γίνουν αποδεκτές σαν ανεξάρτητες μηχανοκίνητες αντλίες κυ-τών, αν έχουν τις αναγκαίες συνδέσεις με το σύστημα απάντλη-σης κυτών.
- 1.3 Όλοι οι σωλήνες κυτών που χρησιμοποιούνται μέσα ή κάτω από αποθήκες γαιανθράκων ή δεξαμενές αποθήκευσης καυσίμου ή σε χώρους λεβήτων ή μηχανών, περιλαμβανομένων χώρων στους οποί-

ους ευρίσκονται δεξαμενές κατακάθισης πετρελαίου ή μονάδες άντλησης καυσίμου πετρελαίου, θα είναι χαλύβδινοι ή από άλλο κατάλληλο υλικό.

- 1.4 Η διάταξη του συστήματος απάντλησης κυτών και έρματος θα είναι τέτοια ώστε να αποκλείεται η δυνατότητα εισροής νερού από τη θάλασσα και από χώρους έρματος νερού μέσα στους χώρους φορτίου και μηχανών, ή από ένα διαμέρισμα σε άλλο. Θα λαμβάνεται πρόνοια ώστε να εμποδίζεται η κατάκλυση από απροσεξία οποιασδήποτε δεξαμενής κύτους που συνδέεται με το δίκτυο κυτών και έρματος με θαλάσσιο νερό όταν περιέχει φορτίο, ή η εκκένωσή της από κάποια σωλήνα απάντλησης κυτών όταν περιέχει έρμα νερού.
- 1.5 Όλα τα κιβώτια διανομής και τα χειροκίνητα επιστόμια που έχουν σχέση με τις διατάξεις απάντλησης ^{κυτών} θα είναι σε θέσεις προσιτές υπό κανονικές συνθήκες.

2. Επιβατηγά πλοία

- 2.1 Το σύστημα απάντλησης κυτών που απαιτείται από την παράγραφο 1.1 θα είναι ικανό να λειτουργεί σε όλες τις καταστάσεις που μπορούν να παρουσιασθούν μετά από ατύχημα είτε το πλοίο είναι στην κατακόρυφη θέση είτε έχει κλίση. Γι' αυτό το σκοπό θα τοποθετούνται γενικά πλευρικές αναρροφήσεις, με εξαίρεση στενά διαμερίσματα που ευρίσκονται στα άκρα του πλοίου όπου μία αναρρόφηση μπορεί να θεωρηθεί επαρκής. Σε διαμερίσματα ασυνήθους σχήματος μπορεί να απαιτηθούν πρόσθετες αναρροφήσεις. Θα εξασφαλίζονται διατάξεις, με τις οποίες τα νερά του διαμερίσματος θα μπορούν να ρέουν προς τους σωλήνες αναρρόφησης. Όπου η Αρχή κρίνει ότι, για ορισμένα διαμερίσματα, δεν είναι επιθυμητή η ύπαρξη διατάξεων αποστράγγισης, μπορεί να επιτρέψει την μη τοποθέτησή τους, αν οι υπολογισμοί που γίνονται σύμφωνα με τις προϋποθέσεις του Κανονισμού 8.2.1 μέχρι 8.2.3 αποδεικνύουν ότι η ικανότητα επιβίωσης του πλοίου δεν θα επηρεασθεί δυσμενώς.
- 2.2 Θα εγκαθίσταται τρεις τουλάχιστον μηχανοκίνητες αντλίες συνδεδεμένες με τον κύριο αγωγό απάντλησης κυτών, από τις οποίες η μία μπορεί να κινείται από τα προωστήρια μηχανήματα. Όπου ο δείκτης κριτηρίου είναι 30 ή μεγαλύτερος, θα προβλέπεται ακόμη μία ανεξάρτητη μηχανοκίνητη αντλία.

- 2.3 Όπου είναι πρακτικά δυνατό, οι μηχανοκίνητες αντλίες κυτών θα τοποθετούνται σε χωριστά, στεγανά διαμερίσματα και θα έχουν τέτοια διάταξη ή θέση ώστε τα διαμερίσματα αυτά να μην κατακλύζονται από την ίδια βλάβη. Αν τα κύρια μηχανήματα πρόωσης, τα βοηθητικά μηχανήματα και οι λέβητες ευρίσκονται σε δύο ή περισσότερα στεγανά διαμερίσματα, οι διαθέσιμες αντλίες για την απάντληση των κυτών θα κατανέμονται όσο είναι δυνατόν σ'αυτά τα διαμερίσματα.
- 2.4 Σε πλοίο που έχει μήκος 91,5 μέτρα ή δείκτη κριτηρίου 30 ή παραπάνω, οι διατάξεις θα είναι τέτοιες ώστε μία τουλάχιστον μηχανοκίνητη αντλία να είναι διαθέσιμη για χρήση σε όλες τις καταστάσεις κατάκλυσης τις οποίες το πλοίο απαιτείται να αντιμετωπίσει, ως εξής:
- 1 Μία από τις απαιτούμενες αντλίες κυτών θα είναι αντλία ανάγκης αξιόπιστου υποβρύχιου τύπου της οποίας η πηγή ενέργειας θα ευρίσκεται πάνω από το κατάστρωμα στεγανών διαφραγμάτων, ή
 - 2 οι αντλίες κυτών και οι πηγές ενέργειάς των θα είναι έτσι κατανομημένες σε όλο το μήκος του πλοίου ώστε, να είναι διαθέσιμη μία τουλάχιστον αντλία σε διαμέρισμα που δεν έχει υποστεί βλάβη.
- 2.5 Με την εξαίρεση των πρόσθετων αντλιών που μπορεί να προβλέπονται μόνο για τις ακραίες δεξαμενές ζυγοστάθμισης, κάθε απαιτούμενη αντλία κυτών θα έχει τέτοια διάταξη ώστε να αντλεί νερό από οποιοδήποτε χώρο που απαιτείται να αποστραγγίζεται σύμφωνα με την παράγραφο 1.1.
- 2.6 Κάθε μηχανοκίνητη αντλία κυτών θα είναι ικανή να αντλεί νερό με τον απαιτούμενο κύριο αγωγό απάντλησης κυτών με ταχύτητα όχι μικρότερη από 2 μέτρα ανά δευτερόλεπτο. Ανεξάρτητες μηχανοκίνητες αντλίες κυτών οι οποίες ευρίσκονται στους χώρους μηχανών, θα έχουν απ'ευθείας αναρροφήσεις από τους χώρους αυτούς, με την εξαίρεση ότι δεν θα απαιτούνται περισσότερες από δύο τέτοιες αναρροφήσεις σε οποιοδήποτε χώρο. Όταν υπάρχουν δύο ή περισσότερες τέτοιες αναρροφήσεις θα ευρίσκεται τουλάχιστον μία σε κάθε πλευρά του πλοίου. Η Αρχή μπορεί να απαιτήσει όπως ανεξάρτητες μηχανοκίνητες αντλίες κυτών ευρισκόμενες σε άλλους χώρους έχουν χωριστές απ'ευθείας αναρροφήσεις.

Οι απ'ευθείας αναρροφήσεις θα έχουν κατάλληλη διάταξη και εκείνες που ευρίσκονται σε χώρο μηχανών θα έχουν διάμετρο όχι μικρότερη από τη διάμετρο που απαιτείται για τον κύριο αγωγό απάντλησης κυτών.

2.7.1 Επι πλέον της απ'ευθείας αναρροφήσεως ή αναρροφήσεων κυτών που απαιτούνται από τη παράγραφο 2.6, θα προβλέπεται στο χώρο μηχανών μία απ'ευθείας αναρρόφηση από την κύρια αντλία κυκλοφορίας που θα φθάνει στο επίπεδο αποστράγγισης του χώρου μηχανών και θα είναι εφοδιασμένη με ανεπίστροφο επιστόμιο. Η διάμετρος του σωλήνα αυτής της απ'ευθείας αναρρόφησης θα είναι τουλάχιστο ίση με τα $\frac{2}{3}$ της διαμέτρου του σωλήνα εισαγωγής της αντλίας στη περίπτωση των ατμοπλοίων, και με την ίδια διάμετρο του σωλήνα εισαγωγής της αντλίας στη περίπτωση γαλιονοσπλοίων.

2.7.2 Όπου κατά τη γνώμη της Αρχής η κύρια αντλία κυκλοφορίας δεν είναι κατάλληλη για το σκοπό αυτό, θα τοποθετείται μία απ'ευθείας αναρρόφηση κύτους ανάγκης από την μεγαλύτερη διαθέσιμη ανεξάρτητη μηχανοκίνητη αντλία μέχρι το επίπεδο αποστράγγισης του χώρου μηχανών. Η διάμετρος της αναρρόφησης θα είναι ίση με την διάμετρο του σωλήνα της κύριας εισαγωγής της χρησιμοποιούμενης αντλίας. Η παροχή της αντλίας που είναι έτσι συνδεδεμένη θα υπερβαίνει την παροχή μιάς απαιτούμενης αντλίας κυτών κατά ποσότητα που η Αρχή θεωρεί ικανοποιητική.

2.7.3 Τα βάντρα των επιστομιών λήψης θάλασσας και απ'ευθείας αναρροφήσεως θα εκτείνονται αρκετά πάνω από το δάπεδο του μηχανοστασίου.

2.8 Όλες οι σωληνώσεις απάντλησης κυτών μέχρι την σύνδεσή τους με τις αντλίες θα είναι ανεξάρτητες από άλλες σωληνώσεις.

2.9 Η διάμετρος d του κύριου αγωγού απάντλησης κυτών θα υπολογίζεται σύμφωνα με τον παρακάτω τύπο. Πάντως η πραγματική εσωτερική διάμετρος του κύριου αγωγού απάντλησης κυτών μπορεί να στρογγυλοποιείται στο πλησιέστερο τυποποιημένο μέγεθος που θα αποδέχεται η Αρχή:

$$d = 25 + 1,68 \sqrt{L(B+D)}$$

όπου d είναι η εσωτερική διάμετρος του κύριου αγωγού απάντλησης κυτών (χιλιοστάμετρα),

I και Β είναι το μήκος και το πλάτος του πλοίου (μέτρα) όπως ορίζονται στον Κανονισμό 2, και

D είναι το πλευρικό ύψος του πλοίου μέχρι το κατάστρωμα στεγανών διαφραγμάτων (μέτρα).

Η διάμετρος των διακλαδώσεων του κύριου αγωγού απάντλησης θα πληροί τις απαιτήσεις της Αρχής.

2.10 Θα λαμβάνεται μέριμνα ώστε να εμποδίζεται η κατάκλυση διαμερίσματος που εξυπηρετείται από οποιοδήποτε σωλήνα αναρρόφησης του δικτύου απάντλησης κυτών αν ο σωλήνας αυτός αποκοπεί ή υποστεί βλάβη από σύγκρουση ή προσάραξη σε οποιοδήποτε άλλο διαμέρισμα. Για το σκοπό αυτό, όπου ο σωλήνας ευρίσκεται σε οποιοδήποτε τμήμα σε απόσταση από τη πλευρά του πλοίου ^{μικρότερη από το ένα πέμπτο του πλάτους του πλοίου} (όπως ορίζεται στο Κανονισμό 2 και μετγόμενος, κάθετα προς την κεντρική γραμμή στο επίπεδο της ανώτατης έμπορτης ισόλου γραμμής υποδιαίρεσης) ή ευρίσκεται μέσα σε σωληνοειδή τροπίδα, θα τοποθετείται ανεπίστροφο επιστόμιο στο σωλήνα στο διαμέρισμα που περιέχει το ανοικτό άκρο του.

2.11 Κιβώτια διανομής, κρουνοί και επιστόμια που έχουν σχέση με το σύστημα απάντλησης κυτών θα έχουν τέτοια διάταξη ώστε, σε περίπτωση κατάκλυσης, μία από τις αντλίες κύτους να μπορεί να αναρροφήσει από οποιοδήποτε διαμέρισμα. Επί πλέον, βλάβη σε μία αντλία ή στο σωλήνα της που συνδέεται με τον κύριο αγωγό απάντλησης κυτών, εξωτερικά (προς την πλευρά του πλοίου) μιάς γραμμής που χαράσσεται στο ένα πέμπτο του πλάτους του πλοίου, ^{πρέπει} θέτει εκτός λειτουργίας το σύστημα απάντλησης κυτών. Αν υπάρχει ένα μόνο σύστημα σωληνώσεων κοινό για όλες τις αντλίες, τα αναγκαία επιστόμια για τον έλεγχο των αναρροφήσεων κύτους θα μπορούν να χειρίζονται πάνω από το κατάστρωμα στεγανών διαφραγμάτων. Όπου εκτός από το κύριο σύστημα, απάντλησης κυτών προβλέπεται ^{και} σύστημα απάντλησης κυτών ανάγκης, αυτό θα είναι ανεξάρτητο από το κύριο σύστημα και θα έχει τέτοια διάταξη ώστε μία αντλία να μπορεί να εξυπηρετεί οποιοδήποτε διαμέρισμα σε κατάσταση κατάκλυσης όπως καθορίζεται στην παράγραφο 2.1. Σ' αυτή τη περίπτωση μόνο τα αναγκαία επιστόμια για την λειτουργία του συστήματος ανάγκης χρειάζεται να μπορούν να χειρίζονται πάνω από το κατάστρωμα στεγανών διαφραγμάτων.

2.12 Όλοι οι κρουνοί και τα επιστόμια που αναφέρονται στην παράγραφο 2.11 που μπορούν να χειρίζονται πάνω από το κατάστρωμα στεγανών διαφραγμάτων θα έχουν τα χειριστήριά τους ευκρινώς σημασμένα στη θέση χειρισμών, και θα διαθέτουν μέσα που θα δείχνουν αν είναι ανοικτά ή κλειστά.

3. Φορτηγά πλοία.

θα προβλέπονται δύο τουλάχιστον μηχανοκίνητες αντλίες συνδεδεμένες με το κύριο σύστημα απάντλησης κυτών, από τις οποίες η μία μπορεί να κινείται από τα προωστήρια μηχανήματα. Αν η Αρχή κρίνει ότι η ασφάλεια του πλοίου δεν επηρεάζεται δυσμενώς, μπορεί να απαλλάξει ορισμένα διαμερίσματα του πλοίου από διατάξεις απάντλησης κυτών.

Κανονισμός 22

Πληροφοριακά στοιχεία ευστάθειας για επιβατηγά και φορτηγά πλοία.*

1. Σε κάθε επιβατηγό πλοίο ανεξάρτητα από το μέγεθος του και σε κάθε φορτηγό πλοίο που έχει μήκος, όπως ορίζεται στην Διεθνή Σύμβαση Γραμμών Φόρτωσης που ισχύει, 24 μέτρα και άνω, θα εκτελείται, μετά την αποπεράτωσή του, πείραμα ευστάθειας και θα καθορίζονται τα στοιχεία ευστάθειάς του. Ο πλοίαρχος θα εφοδιάζεται με τέτοια στοιχεία, ικανοποιητικά για την Αρχή, όσο χρειάζεται για να μπορεί με γρήγορες και απλές μεθόδους να λαμβάνει ακριβείς οδηγίες για την ευστάθεια του πλοίου σε διάφορες συνθήκες λειτουργίας. Αντίγραφο των στοιχείων ευστάθειας θα υποβάλλεται στην Αρχή.
2. Όταν γίνονται μετατροπές σε πλοίο που επηρεάζουν σημαντικά τα στοιχεία ευστάθειας που έχουν δοθεί στον πλοίαρχο, θα παρέχονται τροποποιημένα στοιχεία ευστάθειας. Αν είναι αναγκαίο, θα γίνεται νέο πείραμα ευστάθειας στο πλοίο.
3. Η Αρχή μπορεί να απαλλάξει συγκεκριμένο πλοίο από το πείραμα ευστάθειας εφ' όσον υπάρχουν διαθέσιμα βασικά στοιχεία ευστάθειας από το πείραμα ευστάθειας άλλου αδελφού πλοίου και αποδεικνύεται κατά τρόπο που να ικανοποιεί την Αρχή ότι

* Γίνεται μνεία της Σύστασης για την Άθικτη Ευστάθεια Επιβατηγών και Φορτηγών Πλοίων μήκους κάτω από 100 μέτρα που υιοθετήθηκε από τον Οργανισμό με την Απόφαση Α 167 (ESIV) και των Τροποποιήσεων της Σύστασης αυτής που υιοθετήθηκαν από τον Οργανισμό με την Απόφαση Α 206(VII).

αξιόπιστα στοιχεία ευστάθειας για το απαλλασσόμενο πλοίο μπορούν να ληφθούν από τέτοια βασικά στοιχεία.

4. Η Αρχή μπορεί επίσης να απαλλάξει από το πείραμα ευστάθειας συγκεκριμένο πλοίο ή κατηγορία πλοίων, που έχουν ειδικά σχεδιασθεί για την μεταφορά υγρών ή μεταλλευμάτων χύμα, όταν η εξέταση υπάρχοντων στοιχείων για όμοια πλοία δείχνει σαφώς ότι λόγω των διαστάσεων και των διατάξεων του πλοίου θα υπάρχει αρκετό μετακεντρικό ύψος σε όλες τις πιθανές συνθήκες φόρτωσης.

Κανονισμός 23

Σχέδια ελέγχου βλαβών σε επιβατηγά πλοία.

Θα υπάρχουν μόνιμα εκτεθειμένα, για καθοδήγηση του υπεύθυνου αξιωματικού του πλοίου, σχέδια που ¹⁴δείχνουν σαφώς για κάθε κατάστρωμα και κύτος τα όρια των στεγανών διαμερισμάτων, τα ανοίγματά τους με τα μέσα κλεισίματος και την θέση των χειριστηρίων τους και τις διατάξεις για τη διδρθωση οποιασδήποτε κλίσης που οφείλεται σε κατάκλυση. Επί πλέον, εγχειρίδια που θα περιέχουν τα παραπάνω στοιχεία θα διατίθενται στους αξιωματικούς του πλοίου.

Κανονισμός 24

Σήμανση, περιοδική λειτουργία και επιθεώρηση των στεγανών θυρών κ.λ.π. σε επιβατηγά πλοία.

1. Ο Κανονισμός αυτός εφαρμόζεται σε όλα τα πλοία.
- 2.1 Θα εκτελούνται εβδομαδιαία γυμνάσια λειτουργίας των στεγανών θυρών, παραφωτίδων, επιστομιών και μηχανισμών κλεισίματος ευδιαίων στομιών απόρριψης τέφρας και απορριμάτων. Σε πλοία στα οποία η διάρκεια του πλού είναι μεγαλύτερη από μία εβδομάδα θα εκτελείται πλήρες γυμνάσιο πριν από την αναχώρηση του πλοίου από το λιμάνι, και στη συνέχεια άλλα γυμνάσια τουλάχιστον μία φορά την εβδομάδα κατά την διάρκεια του πλού.
- 2.2 Όλες οι στεγανές θύρες, τόσο οι μηχανοκίνητες όσο και οι γιγγλυμωτές, σε κύρια εγκάρσια διαφράγματα που χρησιμοποιούνται κατά τη διάρκεια του πλού, θα λειτουργούν καθημερινά.
- 3.1 Οι στεγανές θύρες και όλοι οι σχετικοί μηχανισμοί και ενδείκτες, όλα τα επιστόμια, το κλείσιμο των οποίων είναι αναγκαίο για τη στεγανότητα ενός διαμερίσματος, και όλα τα επιστόμια, η λειτουργία των οποίων είναι αναγκαία για τις εγκάρσιες συνδέσεις ελέγχου βλαβών, θα επιθεωρούνται περιοδικά κατά την διάρκεια του πλού τουλάχιστον μία φορά την εβδομάδα.

- 3.2 Τα επιστόμια αυτά, οι θύρες και οι μηχανισμοί τους θα σημαίνονται κατάλληλα ώστε να εξασφαλίζεται ότι μπορούν να χρησιμοποιηθούν σωστά για την επίτευξη μέγιστης ασφάλειας.

Κανονισμός 25

Καταχωρήσεις στο ημερολόγιο επιβατηγών πλοίων.

1. Ο Κανονισμός αυτός εφαρμόζεται σε όλα τα πλοία.
2. Οι γιγγλυμωτές θύρες, τα φορητά ελάσματα, οι παραφωτίδες, οι θύρες επιβίβασης, φόρτωσης και ανθρόκνευσης και τα λοιπά ανοίγματα, που σύμφωνα με αυτούς τους Κανονισμούς πρέπει να τηρούνται κλειστά κατά τη ναυσιπλοΐα, θα κλείνονται πριν από την αναχώρηση του πλοίου από το λιμάνι. Ο χρόνος κλεισίματος και ο χρόνος ανοίγματος (εφόσον επιτρέπεται από τους Κανονισμούς αυτούς) θα καταχωρούνται σε ημερολόγιο που μπορεί να καθορίζει η Αρχή.
3. Όλα τα γυμνάσια και οι επιθεωρήσεις που απαιτούνται από τον Κανονισμό 24 θα καταχωρούνται στο ημερολόγιο και θα αναφέρεται σαφώς κάθε ελάττωμα που μπορεί να διαπιστώθηκε.

ΜΕΡΟΣ Γ - ΜΗΧΑΝΟΛΟΓΙΚΕΣ ΕΓΚΑΤΑΣΤΑΣΕΙΣ

(Το Μέρος Γ εφαρμόζεται σε επιβατηγά και φορτηγά πλοία εκτός αν ρητά προβλέπεται διαφορετικά)

Κανονισμός 26

Γενικά

1. Τα μηχανήματα, οι λέβητες και άλλα δοχεία πίεσης, τα σχετικά συστήματα σωληνώσεων και εξαρτήματα θα έχουν σχεδίαση και κατασκευή κατάλληλη για την υπηρεσία που προορίζονται και θα είναι εγκατεστημένα και προστατευμένα έτσι ώστε να ελαττώνεται στο ελάχιστο οποιοσδήποτε κίνδυνος για τους επιβαίνοντες στο πλοίο, λαμβανομένων ιδιαίτερα υπ' όψη των κινούμενων μερών, θερμών επιφανειών και άλλων κινδύνων. Η σχεδίαση θα λαμβάνει υπ' όψη τα υλικά που χρησιμοποιούνται στην κατασκευή, το σκοπό για τον οποίο προορίζεται ο εξοπλισμός, τις συνθήκες εργασίας τις οποίες θα αντιμετωπίσει και τις συνθήκες περιβάλλοντος στο πλοίο.
2. Η Αρχή θα δίδει ιδιαίτερη προσοχή στην αξιοπιστία των μοναδικών απαραίτητων εξαρτημάτων πρόωσης και μπορεί να απαιτήσει μία χωριστή πηγή ενέργειας πρόωσης ικανή να δώσει στο πλοίο μία ταχύτητα πλεύσης, ειδικά στην περίπτωση **αβιγνήθων** διατάξεων.

3. Θα προβλέπονται μέσα με τα οποία θα μπορεί να διατηρείται ή αποκαθίσταται η κανονική λειτουργία των μηχανημάτων πρόωσης, έστω και αν ένα από τα απαραίτητα βοηθητικά μηχανήματα τεθεί εκτός λειτουργίας. Θα δίνεται ιδιαίτερη προσοχή στην κακή λειτουργία:
- 1 του ηλεκτροπαραγωγού ζεύγους, που χρησιμεύει σαν κύρια πηγή ηλεκτρικής ενέργειας,
 - 2 των πηγών παροχής ατμού,
 - 3 των συστημάτων τροφοδότησης νερού στους λέβητες,
 - 4 των συστημάτων παροχής καυσίμου πετρελαίου στους λέβητες ή τις μηχανές,
 - 5 των πηγών παροχής λιπαντικού ελαίου υπό πίεση,
 - 6 των πηγών παροχής νερού υπό πίεση,
 - 7 αντλίας συμπυκνώματος και των διατάξεων διατήρησης κενού στους συμπυκνωτές,
 - 8 της μηχανικής παροχής αέρα στους λέβητες,
 - 9 αεροσυμπιεστού και δοχείου αέρα για σκοπούς εκκίνησης ή ελέγχου,
 - 10 των υδραυλικών, με πεπιεσμένο αέρα ή ηλεκτρικών μέσων ελέγχου των κύριων μηχανημάτων πρόωσης περιλαμβανομένων των ελίκων μεταβλητού βήματος.

Πάντως, η Αρχή λαμβάνοντας υπ' όψη το σύνολο των μέτρων ασφάλειας μπορεί να δεχθεί μερική μείωση της ικανότητας πρόωσης απ' αυτή της κανονικής λειτουργίας.

4. Θα προβλέπονται μέσα που εξασφαλίζουν ότι τα μηχανήματα μπορούν να τεθούν σε λειτουργία από την κατάσταση νεκρού πλοίου χωρίς εξωτερική βοήθεια.
5. Όλοι οι λέβητες, όλα τα μέρη των μηχανημάτων, όλα τα συστήματα ατμού, υδραυλικά, με πεπιεσμένο αέρα και άλλα και τα σχετικά εξαρτήματα, που ευρίσκονται υπό εσωτερική πίεση θα υπόκεινται σε κατάλληλες δοκιμές, που περιλαμβάνουν μία δοκιμή πίεσης πριν τεθούν για πρώτη φορά σε λειτουργία.
6. Τα κύρια μηχανήματα πρόωσης και όλα τα απαραίτητα βοηθητικά μηχανήματα για την πρόωση και ασφάλεια του πλοίου, θα είναι, όπως έχουν εγκατασταθεί στο πλοίο, σχεδιασμένα για να λειτουργούν όταν το πλοίο είναι σε ορθία θέση και όταν είναι σε κλίση με οποιαδήποτε γωνία εφάρσεως κλίσης μέχρι και 15° προς οποιαδήποτε πλευρά με στατικές συνθήκες και 22,5° με δυναμικές

συνθήκες (διατοιχισμός) πρὸς οποιαδήποτε πλευρά και ταυτόχρονα με δυναμική κλίση (προνευστασμός) $7,5^\circ$ πρὸς πλώρη ή πρύμνη. Η Αρχή λαμβάνοντας υπ' όψη τον τύπο, μέγεθος και τις συνθήκες υπηρεσίας του πλοίου, μπορεί να επιτρέψει απόκλιση από αυτές τις γωνίες.

7. Θα λαμβάνεται μέριμνα για τη διευκόλυνση του καθαρισμού, της επιθεώρησης και συντήρησης των κύριων μηχανημάτων πρόωσης και των βοηθητικών μηχανημάτων περιλαμβανομένων λεβήτων και δοχείων πίεσης.
8. Θα δίνεται ιδιαίτερη προσοχή στη σχεδίαση, κατασκευή και εγκατάσταση συστημάτων μηχανημάτων πρόωσης ώστε οποιαδήποτε μορφή κραδαγμών τους να μη προκαλεί υπερβολικές καταπονήσεις στα μηχανήματα αυτά στα συνήθη όρια λειτουργίας τους.

Κανονισμός 27

Μηχανήματα

1. Όπου υπάρχει κίνδυνος από υπερτάχυνση των μηχανημάτων, θα προβλέπονται μέσα που θα εξασφαλίζουν ότι η ασφαλής ταχύτητα δεν θα υπερβαίνεται.
2. Όπου κύρια ή βοηθητικά μηχανήματα περιλαμβανομένων δοχείων πίεσης ή οποιαδήποτε μέρη τέτοιων μηχανημάτων υπόκεινται σε εσωτερική πίεση και μπορούν να υποβληθούν σε επικίνδυνη υπερπίεση, θα προβλέπονται μέσα, όπου είναι πρακτικά δυνατό, για την προστασία από τέτοιες υπερβολικές πιέσεις.
3. Όλοι οι μηχανισμοί και κάθε άξονας και σύνδεσμος, που χρησιμοποιούνται για μετάδοση ενέργειας σε μηχανήματα απαραίτητα για την πρόωση και ασφάλεια του πλοίου ή για την ασφάλεια των επιβαινόντων στο πλοίο, θα είναι σχεδιασμένοι και κατασκευασμένοι έτσι ώστε να αντέχουν στις μέγιστες καταπονήσεις λειτουργίας στις οποίες είναι δυνατό να εκτεθούν σε όλες τις συνθήκες υπηρεσίας και θα δίνεται ιδιαίτερη προσοχή στον τύπο των μηχανών από τις οποίες λαμβάνουν κίνηση ή των οποίων αποτελούν τμήμα.
4. Μηχανές εσωτερικής καύσης με διάμετρο κυλίνδρου 200 χιλιοστών μετρα ή όγκο στροφαλοθάλαμου 0,6 κυβικά μέτρα και άνω θα εφοδιάζονται με ασφαλιστικές βαλβίδες έκρηξης στροφοθαλάμου κατάλληλου τύπου με επαρκή επιφάνεια απελευθέρωσης.

Οι ασφαλιστικές βαλβίδες θα έχουν τέτοια διάταξη ή θα εφοδιάζονται με τέτοια μέσα ώστε να εξασφαλίζεται ότι ή εξαγωγή τους έχει διεύθυνση που να ελαχιστοποιεί την πιθανότητα τραυματισμού του προσωπικού.

5. Κύριες στροβιλομηχανές πρόωσης και, όπου είναι εφαρμόσιμο, κύριες μηχανές πρόωσης εσωτερικής καύσης και βοηθητικά μηχανήματα θα εφοδιάζονται με αυτόματες διατάξεις διακοπής λειτουργίας σε περίπτωση βλαβών, όπως βλάβη παροχής λιπαντικού ελαίου που θα μπορούσε να οδηγήσει γρήγορα σε πλήρη καταστροφή, σοβαρή βλάβη ή έκρηξη. Η Αρχή μπορεί να επιτρέπει διατάξεις που παρακάμπτουν τις αυτόματες συσκευές διακοπής λειτουργίας.

Κανονισμός 28

Μέσα αναπόδισης.

1. Θα προβλέπεται επαρκής ισχύς για την αναπόδιση, ώστε να εξασφαλίζεται ο σωστός έλεγχος του πλοίου σε όλες τις κανονικές περιστάσεις.
2. Η ικανότητα των μηχανημάτων να αναστρέφουν την διεύθυνση ώσης της έλικας σε επαρκή χρόνο, ώστε το πλοίο να ακινητεί από τη μέγιστη υπηρεσιακή ταχύτητα πρόωσης σε λογική απόσταση, θα δοκιμάζεται και θα καταγράφεται.*
3. Οι χρόνοι ακινητοποίησης, οι κατευθύνσεις του πλοίου και οι αποστάσεις που καταγράφονται στις δοκιμές, μαζί με τα αποτελέσματα των δοκιμών για τον καθορισμό της ικανότητας των πλοίων που έχουν πολλαπλές έλικες να ναυσιπλοούν και να ελισούνται με μία ή περισσότερες έλικες εκτός λειτουργίας, θα είναι διαθέσιμοι στο πλοίο για την χρήση του πλοιάρχου ή του αρμόδιου προσωπικού.*
4. Όπου το πλοίο είναι εφοδιασμένο με συμπληρωματικά μέσα για ελιγμούς ή ακινητοποίηση, η αποτελεσματικότητα τέτοιων μέσων θα δοκιμάζεται και καταγράφεται όπως αναφέρεται στις παραγράφους 2 και 3.

* Γίνεται μνεία της Σύστασης για τα Πληροφοριακά Στοιχεία που πρέπει να περιλαμβάνονται στα Εγχειρίδια Χειρισμών που υιοθετήθηκε από τον Οργανισμό με την Απόφαση Α 209 (ΥΠ).

Κανονισμός 29

Μηχανισμός πηδαλίου

1. Εκτός αν ρητά προβλέπεται διαφορετικά, κάθε πλοίο θα είναι εφοδιασμένο με κύριο και βοηθητικό μηχανισμό πηδαλίου που ικανοποιεί την Αρχή. Ο κύριος και ο βοηθητικός μηχανισμός πηδαλίου θα έχουν τέτοια διάταξη ώστε η βλάβη ενός από αυτούς δεν θα θέτει τον άλλον εκτός λειτουργίας.
- 2.1 Όλα τα εξαρτήματα μηχανισμού πηδαλίου και ο κορμός του πηδαλίου θα είναι καλής και αξιόπιστης κατασκευής που να ικανοποιεί την Αρχή. Θα εξετάζεται με ιδιαίτερη προσοχή η καταλληλότητα οποιουδήποτε απαραίτητου εξαρτήματος που δεν είναι διπλό. Οποιοδήποτε τέτοιο απαραίτητο εξάρτημα θα χρησιμοποιεί, ανάλογα με τη περίπτωση, έδρανα αντιτριβής όπως ένσφαιρους τριβείς, κυλινδροτριβείς ή δακτυλιοτριβείς οι οποίοι θα λιπαίνονται μόνιμα ή θα έχουν εξαρτήματα λίπανσης.
- 2.2 Η πίεση σχεδίασης για τους υπολογισμούς προσδιορισμού των διαστάσεων των σωληνώσεων και άλλων εξαρτημάτων του μηχανισμού πηδαλίου που υπόκεινται σε εσωτερική υδραυλική πίεση θα είναι τουλάχιστον 1,25 φορές ^{τη μέγιστη} πίεση λειτουργίας που αναμένεται στις συνθήκες λειτουργίας που καθορίζονται στην παράγραφο 3.2, λαμβανομένης υπ' όψη οποιασδήποτε πίεσης που μπορεί να υπάρχει στη πλευρά χαμηλής πίεσης του συστήματος. Κατά την κρίση της Αρχής θα εφαρμόζονται κριτήρια κόπωσης για τη σχεδίαση σωληνώσεων και εξαρτημάτων, λαμβανομένων υπ' όψη εναλλασσομένων πιέσεων που οφείλονται σε δυναμικά φορτία.
- 2.3 Θα τοποθετούνται ασφαλιστικές βαλβίδες σε οποιοδήποτε τμήμα του υδραυλικού συστήματος, που μπορεί να απομονωθεί και στο οποίο μπορεί να δημιουργηθεί πίεση από την πηγή ενέργειας ή από εξωτερικές δυνάμεις. Η ρύθμιση των ασφαλιστικών βαλβίδων δεν θα υπερβαίνει την πίεση σχεδίασης. Οι βαλβίδες θα έχουν επαρκές μέγεθος και τέτοια διάταξη ώστε να αποφεύγεται υπερβολική αύξηση πίεσης πάνω από την πίεση σχεδίασης.
3. Ο κύριος μηχανισμός πηδαλίου και ο κορμός του πηδαλίου θα είναι:
 1. επαρκούς αντοχής και ικανός για πηδαλιούχηση του πλοίου στη μέγιστη υπηρεσιακή ταχύτητα πρόωσης που θα δοκιμάζεται,
 2. ικανός να θέτουν το πηδάλιο από γωνία 35° στη μία πλευρά σε γωνία 35° στην άλλη πλευρά με το πλοίο στο μέγιστο βύθισμα πλευσης και κινούμενο με την μέγιστη υπηρεσιακή ταχύτητα πρό-

ωσης και, στις ίδιες συνθήκες, από γωνία 35° σε μία οποιαδήποτε πλευρά σε γωνία 30° στην άλλη πλευρά, σε χρόνο όχι περισσότερο από 28 δευτερόλεπτα,

3. ικανοί να λειτουργούν με μηχανική ενέργεια όπου είναι αναγκαίο να πληρούν τις απαιτήσεις της παραγράφου 3.2 και σε οποιαδήποτε περίπτωση που η Αρχή απαιτεί κορμό πηδαλίου διαμέτρου πάνω από 120 χιλιοστάμετρα στη θέση του οίακα, εξαιρουμένης της ενίσχυσης για ναυσιπλοΐα σε πάγο, και
 4. έτσι σχεδιασμένοι ώστε να μην υφίσταται βλάβη στη μέγιστη ταχύτητα αναπόδοσης. Πάντως αυτή η απαίτηση σχεδίασης δεν χρειάζεται να αποδεικνύεται με δοκιμές στη μέγιστη ταχύτητα αναπόδοσης και στη μέγιστη γωνία πηδαλίου.
4. Ο βοηθητικός μηχανισμός πηδαλίου θα είναι:
1. επαρκούς αντοχής και ικανός για πηδαλιούχηση του πλοίου σε ταχύτητα πλεύσης και για γρήγορη λειτουργία σε περίπτωση ανάγκης,
 2. ικανός να θέτει το πηδάλιο από γωνία 15° στη μία πλευρά σε γωνία 15° στην άλλη πλευρά σε χρόνο όχι περισσότερο από 60 δευτερόλεπτα με το πλοίο στο μέγιστο βύθισμα πλεύσης και κινούμενο προς τα πρόσω με το μισό της μέγιστης υπηρεσιακής ταχύτητας πρόωσης ή με 7 κόμβους, οποιοδήποτε είναι μεγαλύτερο, και
 3. ικανός να λειτουργεί με μηχανική ενέργεια όπου είναι αναγκαίο να πληροί τις απαιτήσεις της παραγράφου 4.2 και σε οποιαδήποτε περίπτωση που η Αρχή, απαιτεί κορμό πηδαλίου διαμέτρου πάνω από 230 χιλιοστάμετρα στη θέση του οίακα, εξαιρουμένης της ενίσχυσης για ναυσιπλοΐα σε πάγο.
5. Οι μηχανοκίνητες μονάδες του κύριου και βοηθητικού μηχανισμού πηδαλίου θα έχουν:
1. διάταξη τέτοια ώστε να επανεκκινούν αυτόματα όταν αποκαθίσταται η παροχή ενέργειας μετά από τη διακοπή τους,
 2. δυνατότητα να τίθενται σε λειτουργία από θέση στη γέφυρα ναυσιπλοΐας. Σε περίπτωση διακοπής παροχής ενέργειας σε οποιαδήποτε από τις μηχανοκίνητες μονάδες μηχανισμού πηδαλίου, θα δίνεται ακουστικός και οπτικός συναγερμός στη γέφυρα ναυσιπλοΐας.

- 6.1 Όπου ο κύριος μηχανισμός πηδαλίου περιλαμβάνει δύο ή περισσότερες ίδιες μηχανοκίνητες μονάδες, δεν απαιτείται η εγκατάσταση βοηθητικού μηχανισμού πηδαλίου εφ'όσον:
- .1 σε επιβατηγό πλοίο, ο κύριος μηχανισμός πηδαλίου είναι ικανός να κινεί το πηδάλιο όπως απαιτείται από τη παράγραφο 3.2 ενώ μία οποιαδήποτε από τις μηχανοκίνητες μονάδες ευρίσκεται εκτός λειτουργίας,
 - .2 σε φορτηγό πλοίο ο κύριος μηχανισμός πηδαλίου είναι ικανός να κινεί το πηδάλιο όπως απαιτείται από τη παράγραφο 3.2 ενώ λειτουργούν όλες οι μηχανοκίνητες μονάδες,
 - .3 ο κύριος μηχανισμός πηδαλίου έχει τέτοια διάταξη ώστε μετά από μία μοναδική βλάβη στο δίκτυο σωληνώσεών του ή σε μία από τις μηχανοκίνητες μονάδες, η βλάβη να μπορεί να απομονωθεί έτσι ώστε να μπορεί να διατηρηθεί η ικανότητα πηδαλιούχησης ή να επανακτηθεί γρήγορα.
- 6.2 Η Αρχή μπορεί, μέχρι 1 Σεπτεμβρίου 1986, να αποδεχθεί την εγκατάσταση μηχανισμού πηδαλίου αποδεδειγμένης αξιοπιστίας που δεν πληροί όμως τις απαιτήσεις της παραγράφου 6.1.3 για το υδραυλικό σύστημα.
- 6.3 Μηχανισμοί πηδαλίου, άλλου τύπου από τον υδραυλικό, θα επιτυγχάνουν επιδόσεις ισοδύναμες προς τις απαιτήσεις αυτής της παραγράφου που να ικανοποιούν την Αρχή.
7. θα προβλέπεται έλεγχος του μηχανισμού πηδαλίου:
- .1 για τον κύριο μηχανισμό πηδαλίου, τόσο στη γέφυρα ναυσιπλοΐας όσο και στο διαμέρισμα μηχανισμού πηδαλίου,
 - .2 όταν ο κύριος μηχανισμός πηδαλίου έχει διάταξη σύμφωνα με την παράγραφο 6, από δύο ανεξάρτητα συστήματα ελέγχου, που να μπορούν και τα δύο να χειρισθούν από τη γέφυρα ναυσιπλοΐας. Αυτό δεν απαιτεί διπλό οιακοστρόφιο ή μοχλό πηδαλιούχησης. Όταν το σύστημα ελέγχου αποτελείται από ένα υδραυλικό τηλεκίνητηρα, δεν απαιτείται η εγκατάσταση δεύτερου ανεξάρτητου συστήματος, εκτός δεξαμενόπλοια, χημικά δεξαμενόπλοια ή υγραεριοφόρα 10.000 κβρων ολικής χωρητικότητας και άνω.
 - .3 για τον βοηθητικό μηχανισμό πηδαλίου, στο διαμέρισμα μηχανισμού πηδαλίου και, αν λειτουργεί μηχανοκίνητα, θα μπορεί να χειρίζεται από τη γέφυρα ναυσιπλοΐας και θα είναι ανεξάρτητος από το σύστημα ελέγχου για τον κύριο μηχανισμό πηδαλίου.

8. Οποιοδήποτε σύστημα ελέγχου κυρίου και βοηθητικού μηχανισμού πηδαλίου που μπορεί να χειρίζεται από τη γέφυρα ναυσιπλοΐας θα πληροί τις ακόλουθες απαιτήσεις:
1. αν είναι ηλεκτρικό, θα εξυπηρετείται από δικό του χωριστό κύκλωμα που θα τροφοδοτείται από το κύκλωμα ενέργειας μηχανισμού πηδαλίου από σημείο μέσα στο διαμέρισμα μηχανισμού πηδαλίου ή απ'ευθείας από τους ζυγούς του ηλεκτρικού πίνακα που τροφοδοτούν αυτό το κύκλωμα ενέργειας του μηχανισμού πηδαλίου σε σημείο του ηλεκτρικού πίνακα κοντά στη παροχή στο κύκλωμα ενέργειας του μηχανισμού πηδαλίου,
 2. θα προβλέπονται στο διαμέρισμα μηχανισμού πηδαλίου μέσα για την αποσύνδεση οποιουδήποτε συστήματος ελέγχου, που μπορεί να χειρίζεται από τη γέφυρα ναυσιπλοΐας, από τον μηχανισμό πηδαλίου που εξυπηρετεί,
 3. το σύστημα θα είναι ικανό να τίθεται σε λειτουργία από θέση στη γέφυρα ναυσιπλοΐας,
 4. στη περίπτωση διακοπής της παροχής ηλεκτρικής ενέργειας στο σύστημα ελέγχου, θα δίνεται ακουστικός και οπτικός συναγερμός στη γέφυρα ναυσιπλοΐας, και
 5. θα προβλέπεται προστασία έναντι βραχυκυκλώματος μόνο για τα τροφοδοτικά κυκλώματα ελέγχου μηχανισμού πηδαλίου.
9. Τα ηλεκτρικά κυκλώματα ενέργειας και τα συστήματα ελέγχου μηχανισμού πηδαλίου με τα σχετικά εξαρτήματά τους, καλώδια και σωλήνες που απαιτούνται από αυτόν τον Κανονισμό και τον Κανονισμό 30 θα είναι διαχωρισμένα, όσο είναι πρακτικά δυνατό, σε όλο το μήκος τους.
10. θα προβλέπεται μέσο επικοινωνίας μεταξύ της γέφυρας ναυσιπλοΐας και του διαμερίσματος μηχανισμού πηδαλίου.
11. Η γωνιακή θέση του πηδαλίου:
1. θα δείχνεται στη γέφυρα ναυσιπλοΐας, αν ο κύριος μηχανισμός πηδαλίου λειτουργεί μηχανοκίνητα. Η ένδειξη γωνίας πηδαλίου θα είναι ανεξάρτητη από το σύστημα ελέγχου μηχανισμού πηδαλίου,
 2. θα είναι αναγνωρίσιμη στο διαμέρισμα μηχανισμού πηδαλίου.
12. Ο υδραυλικός μηχανοκίνητος μηχανισμός πηδαλίου θα εφοδιάζεται με:
1. διατάξεις για τη διατήρηση της καθαρότητας του υδραυλικού υγρού λαμβανομένων υπ'οψη του τύπου και της σχεδίασης του υδραυλικού συστήματος,

- .2 συναγερμό χαμηλής στάθμης για κάθε δοχείο υδραυλικού υγρού για να δίνει τη συντομότερη δυνατή ένδειξη διαρροής υδραυλικού υγρού. Ακουστικοί και οπτικοί συναγερμοί θα δίνονται στη γέφυρα ναυσιπλοΐας και στον χώρο μηχανών, όπου μπορούν να γίνουν αμέσως αντιληπτοί, και
 - .3 μόνιμη αποθηκευτική δεξαμενή με επαρκή χωρητικότητα για να ξαναγεμίσει τουλάχιστο ένα σύστημα μετάδοσης ενέργειας περιλαμβανομένου του δοχείου, όπου απαιτείται ο κύριος μηχανισμός πηδαλίου να είναι μηχανοκίνητος. Η αποθηκευτική δεξαμενή θα είναι μόνιμα συνδεδεμένη με σωληνώσεις κατά τέτοιο τρόπο ώστε τα υδραυλικά συστήματα να μπορούν να ξαναγεμίσουν εύκολα από θέση μέσα στο διαμέρισμα μηχανισμού πηδαλίου και θα εφοδιάζεται με μετρητή περιεχομένου.
13. Το διαμέρισμα μηχανισμού πηδαλίου θα είναι:
- .1 εύκολα προσιτό και, όσο είναι πρακτικά δυνατό, διαχωρισμένο από τους χώρους μηχανών, και
 - .2 εφοδιασμένο με κατάλληλες διατάξεις που εξασφαλίζουν πρόσβαση για εργασία στα μηχανήματα και συστήματα ελέγχου μηχανισμού πηδαλίου. Οι διατάξεις αυτές θα περιλαμβάνουν χειρολαβές και δικτυωτά δάπεδα ή άλλες αντισοισθητικές επιφάνειες που εξασφαλίζουν κατάλληλες συνθήκες εργασίας στη περίπτωση διαρροής υδραυλικού υγρού.
14. Όπου απαιτείται ο κορμός του πηδαλίου να έχει διάμετρο μεγαλύτερη από 230 χιλιοστάμετρα στη θέση του οίακα, εξαιρουμένης της ενίσχυσης για ναυσιπλοΐα σε πάγο, μία εναλλακτική παροχή ενέργειας, επαρκής τουλάχιστον για να τροφοδοτήσει τη μηχανοκίνητη μονάδα μηχανισμού πηδαλίου, που πληροί τις απαιτήσεις της παραγράφου 4.2, καθώς επίσης και το σχετικό σύστημα ελέγχου και τον δείκτη γωνίας πηδαλίου, θα παρέχεται αυτόματα, μέσα σε 45 δευτερόλεπτα, είτε από τη πηγή ηλεκτρικής ενέργειας ανάγκης είτε από μία ανεξάρτητη πηγή ενέργειας τοποθετημένη στο διαμέρισμα μηχανισμού πηδαλίου. Αυτή η ανεξάρτητη πηγή ενέργειας θα χρησιμοποιείται μόνο γι' αυτό το σκοπό. Σε κάθε πλοίο 10.000 κόνων ολικής χωρητικότητας και άνω, η εναλλακτική παροχή ενέργειας θα έχει δυνατότητα συνεχούς λειτουργίας για τουλάχιστον 30 πρώτα λεπτά και σε οποιοδήποτε άλλο πλοίο τουλάχιστο 10 πρώτα λεπτά.

15. Σε κάθε δεξαμενόπλοιο, χημικό δεξαμενόπλοιο ή υγραεριοφόρο ολικής χωρητικότητας 10000 κόνων και άνω και σε κάθε άλλο πλοίο ολικής χωρητικότητας 70000 κόνων και άνω, ο κύριος μηχανισμός πηδαλίου θα περιλαμβάνει δύο ή περισσότερες όμοιες μηχανοκίνητες μονάδες που πληρούν τις διατάξεις της παραγράφου 6.
16. Κάθε δεξαμενόπλοιο, χημικό δεξαμενόπλοιο ή υγραεριοφόρο ολικής χωρητικότητας 10000 κόνων και άνω θα πληροί, υπό τις προϋποθέσεις της παραγράφου 17, τις ακόλουθες απαιτήσεις:
- 1. Ο κύριος μηχανισμός πηδαλίου θα έχει τέτοια διάταξη ώστε στη περίπτωση απώλειας της ικανότητας πηδαλιούχησης εξαιτίας μίας μοναδικής βλάβης σε οποιοδήποτε μέρος ενός από τα συστήματα ενεργοποίησης του κύριου μηχανισμού πηδαλίου, εξαιρουμένου του οίακα, τόξου πηδαλίου ή εξαρτημάτων που εξυπηρετούν τον ίδιο σκοπό, ή εμπλοκής των διατάξεων ενεργοποίησης πηδαλίου, η ικανότητα πηδαλιούχησης θα επανακτάται το πολύ σε 45 δευτερόλεπτα μετά την απώλεια ενός συστήματος ενεργοποίησης.
 - 2. Ο κύριος μηχανισμός πηδαλίου θα περιλαμβάνει είτε:
 - 2.1 δύο ανεξάρτητα και χωριστά συστήματα ενεργοποίησης που το καθένα θα είναι ικανό να πληροί τις απαιτήσεις της παραγράφου 3.2, ή
 - 2.2 τουλάχιστον δύο όμοια συστήματα ενεργοποίησης, τα οποία ενεργώντας ταυτόχρονα σε κανονική λειτουργία θα είναι ικανά να πληρούν τις απαιτήσεις της παραγράφου 3.2. Όπου είναι αναγκαία η συμμόρφωση με αυτή την απαίτηση, θα προβλέπεται διασύνδεση των υδραυλικών συστημάτων ενεργοποίησης. ^{πρέπει να} θα είναι δυνατή η ανίχνευση απώλειας υδραυλικού υγρού από ένα σύστημα και η αυτόματη απομόνωση του ελαττωματικού συστήματος έτσι ώστε το άλλο σύστημα ή συστήματα ενεργοποίησης να διατηρεί την ικανότητα πλήρους λειτουργίας,
 - 3. μηχανισμοί πηδαλίου άλλου τύπου από τον υδραυλικό ^{πρέπει να} θα περιτυγχάνουν ισοδύναμες επιδόσεις.
17. Για δεξαμενόπλοια, χημικά δεξαμενόπλοια ή υγραεριοφόρα ολικής χωρητικότητας 10000 κόνων και άνω, αλλά μικρότερα από 100000 τόννους νεκρού βάρους, λύσεις άλλες από εκείνες

που αναφερθήκανε στην παράγραφο 16, που δεν χρειάζεται να εφαρμόζουν το κριτήριο μοναδικής βλάβης στη διάταξη ή διατάξεις ενεργοποίησης πηδαλίου, μπορούν να επιτραπούν εφ' όσον επιτυγχάνεται ισοδύναμο επίπεδο ασφάλειας και εφ' όσον:

1. ύστερα από απώλεια της ικανότητας πηδαλιούχησης λόγω μοναδικής βλάβης οποιουδήποτε τμήματος του δικτύου σωληνώσεων ή σε μία από τις μηχανοκίνητες μονάδες, η ικανότητα πηδαλιούχησης θα επανακτάται μέσα σε 45 δευτερόλεπτα, και
 2. όπου ο μηχανισμός πηδαλίου περιλαμβάνει μόνο μία μοναδική διάταξη ενεργοποίησης πηδαλίου, θα δίνεται ιδιαίτερη προσοχή στην ανάλυση τάσεων για τη σχεδίαση, περιλαμβανομένων ανάλυσης κόπωσης και ανάλυσης μηχανικής θραύσης ανάλογα με τη περίπτωση, στο χρησιμοποιούμενο υλικό, στην εγκατάσταση διατάξεων στεγανότητας και στη δοκιμή και επιθεώρηση και παροχή αποτελεσματικής συντήρησης. Κατά την εξέταση των παραπάνω, η Αρχή θα υιοθετεί κανονισμούς που περιλαμβάνουν τις διατάξεις^{των} Οδηγιών για Αποδοχή Μη Διπλών Διατάξεων Ενεργοποίησης Πηδαλίου για Δεξαμενόπλοια, Χημικά Δεξαμενόπλοια και Υγραεριοφόρα Ολικής Χωρητικότητας 10000 κόρων και Άνω αλλά μικρότερα από 100000 Τόνους Νεκρού Βάρους, που έχουν υιοθετηθεί από τον Οργανισμό.*
18. Για δεξαμενόπλοιο, χημικό δεξαμενόπλοιο ή υγραεριοφόρο ολικής χωρητικότητας 10000 κόρων και άνω, αλλά μικρότερο από 70000 τόνους νεκρού βάρους, η Αρχή μπορεί, μέχρι 1 Σεπτεμβρίου 1986, να αποδεχθεί ένα σύστημα μηχανισμού πηδαλίου αποδεδειγμένης αξιοπιστίας που όμως δεν πληροί το κριτήριο της μοναδικής βλάβης, που απαιτείται για ένα υδραυλικό σύστημα από την παράγραφο 16.
19. Κάθε δεξαμενόπλοιο, χημικό δεξαμενόπλοιο ή υγραεριοφόρο ολικής χωρητικότητας 10000 κόρων και άνω, που κατασκευάσθηκε πριν από την 1 Σεπτεμβρίου 1984, θα συμμορφώνεται, όχι αργότερα από την 1 Σεπτεμβρίου 1986, με τα εξής:

* Γίνεται μνεία των Οδηγιών για Αποδοχή Μη-Διπλών Διατάξεων Ενεργοποίησης Πηδαλίου για Δεξαμενόπλοια, Χημικά Δεξαμενόπλοια και Υγραεριοφόρα Ολικής Χωρητικότητας 10000 κόρων και Άνω αλλά Μικρότερα από 100000 Τόνους Νεκρού Βάρους, που υιοθετήθηκαν από τον Οργανισμό με την απόφαση A467(XII)

- .1 τις απαιτήσεις των παραγράφων 7.1, 8.2, 8.4, 10, 11, 12.2, 12.3 και 13.2,
 - .2 Θα προβλέπονται δύο ανεξάρτητα συστήματα ελέγχου μηχανισμού πηδαλίου, το καθένα από τα οποία μπορεί να χειρίζεται από τη γέφυρα ναυσιπλοΐας. Αυτό δεν απαιτεί διπλό οιακοστρόφιο ή μοχλό πηδαλιούχησης,
 - .3 αν το σύστημα ελέγχου μηχανισμού πηδαλίου που λειτουργεί, υποστεί βλάβη, το δεύτερο σύστημα θα είναι ικανό να τεθεί σε άμεση λειτουργία από τη γέφυρα ναυσιπλοΐας, και
 - .4 κάθε σύστημα ελέγχου μηχανισμού πηδαλίου, αν είναι ηλεκτρικό, θα εξυπηρετείται από δικό του χωριστό κύκλωμα που θα τροφοδοτείται από το κύκλωμα ενέργειας μηχανισμού πηδαλίου ή απ' ευθείας από τους ζυγούς του ηλεκτρικού πίνακα που τροφοδοτούν αυτό το κύκλωμα ενέργειας του μηχανισμού πηδαλίου σε σημείο του ηλεκτρικού πίνακα κοντά στην παροχή στο κύκλωμα ενέργειας του μηχανισμού πηδαλίου.
20. Επί πλέον των απαιτήσεων της παραγράφου 19, σε κάθε δεξαμενόπλοιο, χημικό δεξαμενόπλοιο ή υγραεριοφόρο ολικής χωρητικότητας 40000 κόνων και άνω, που έχει κατασκευασθεί πριν από την 1 Σεπτεμβρίου 1984, ο μηχανισμός πηδαλίου, όχι αργότερα από την 1 Σεπτεμβρίου 1988, θα έχει τέτοια διάταξη ώστε, στη περίπτωση μιάς μοναδικής βλάβης των σφληνώσεων ή μιάς από τις μηχανοκίνητες μονάδες, η ικανότητα πηδαλιούχησης να μπορεί να διατηρείται ή η κίνηση του πηδαλίου να μπορεί να περιορίζεται έτσι ώστε η ικανότητα πηδαλιούχησης να μπορεί γρήγορα να επανακτηθεί. Αυτό θα επιτυγχάνεται με:
- .1 ανεξάρτητο μέσο για τη συγκράτηση του πηδαλίου, ή
 - .2 επιστόμια ταχείας ενέργειας, που μπορούν να χειρισθούν χειροκίνητα για να απομονώνουν την διάταξη ή διατάξεις ενεργοποίησης από τις εξωτερικές υδραυλικές σωληνώσεις, μαζί με μέσο απ' ευθείας επαναπλήρωσης των διατάξεων ενεργοποίησης από μία μόνιμη ανεξάρτητη μηχανοκίνητη αντλία και σύστημα σωληνώσεων, ή
 - .3 μία διάταξη τέτοια ώστε όπου υπάρχει διασύνδεση συστημάτων υδραυλικής ενέργειας, να ανιχνεύεται η απώλεια υδραυλικού υγρού από ένα σύστημα και να απομονώνεται το ελαττωματικό σύστημα είτε αυτόματα, είτε από τη γέφυρα ναυσιπλοΐας ώστε το άλλο σύστημα να διατηρεί την ικανότητα πλήρους λειτουργίας.

Κανονισμός 30

Πρόσθετες απαιτήσεις για ηλεκτρικούς και ηλεκτροϋδραυλικούς μηχανισμούς πηδαλίου.

1. Θα εγκαθίστανται στη γέφυρα ναυσιπλοΐας και σε κατάλληλη θέση ελέγχου των κύριων μηχανημάτων, μέσα ενδειξέως λειτουργίας των κινητήρων του ηλεκτρικού και ηλεκτροϋδραυλικού μηχανισμού πηδαλίου.
2. Κάθε ηλεκτρικός ή ηλεκτροϋδραυλικός μηχανισμός πηδαλίου που περιλαμβάνει μία ή περισσότερες μηχανοκίνητες μονάδες θα εξυπηρετείται από δύο τουλάχιστον αποκλειστικά κυκλώματα που τροφοδοτούνται απ'ευθείας από τον κύριο ηλεκτρικό πίνακα. Όμως, το ένα από τα κυκλώματα μπορεί να τροφοδοτείται μέσω του ηλεκτρικού πίνακα ανάγκης. Ένας βοηθητικός ηλεκτρικός ή ηλεκτροϋδραυλικός μηχανισμός πηδαλίου που συνεργάζεται με ένα κύριο ηλεκτρικό ή ηλεκτροϋδραυλικό μηχανισμό πηδαλίου μπορεί να συνδέεται σε ένα από τα κυκλώματα που τροφοδοτούν αυτόν τον κύριο μηχανισμό πηδαλίου. Τα κυκλώματα, που τροφοδοτούν ένα ηλεκτρικό ή ηλεκτροϋδραυλικό μηχανισμό πηδαλίου θα έχουν επαρκή ικανότητα για την τροφοδότηση όλων των κινητήρων που μπορούν να συνδεθούν ταυτόχρονα σ'αυτά και που μπορεί να απαιτηθεί να λειτουργήσουν ταυτόχρονα.
3. Θα προβλέπεται προστασία από βραχυκύκλωμα και συναγερμός υπερφόρτωσης για τέτοια κυκλώματα και κινητήρες. Αν παρέχεται προστασία έναντι υπερβολικού ρεύματος, περιλαμβανομένου του ρεύματος εκκίνησης, θα είναι για ρεύμα όχι μικρότερο από το διπλάσιο του υπό πλήρες φορτίο ρεύματος του κινητήρα ή του κυκλώματος που προστατεύεται έτσι, και θα έχει διάταξη που θα επιτρέπει τη διέλευση των καταλλήλων ρευμάτων εκκίνησης. Όπου χρησιμοποιείται τριφασική παροχή θα προβλέπεται συναγερμός που θα δείχνει απώλεια οποιασδήποτε των τριών φάσεων παροχής. Οι συναγερμοί που απαιτούνται σ'αυτή τη παράγραφο θα είναι και ακουστικοί και οπτικοί και θα ευρίσκονται σε εμφανή θέση στο χώρο των κυρίων μηχανημάτων ή στο χώρο ελέγχου από όπου ελέγχονται κανονικά τα κύρια μηχανήματα και όπως μπορεί να απαιτηθεί από τον Κανονισμό 51.
4. Όταν σε ένα πλοίο ολικής χωρητικότητας μικρότερης από 1600 κβρους ένας βοηθητικός μηχανισμός πηδαλίου, που απαιτείται από τον Κανονισμό 29.4.3 να λειτουργεί μηχανοκίνητα, δεν είναι ηλεκτρο-

κίνητος ή κινείται από έναν ηλεκτρικό κινητήρα που προορίζεται πρωταρχικά για άλλες υπηρεσίες, ο κύριος μηχανισμός πηδαλίου μπορεί να τροφοδοτείται από κύκλωμα από τον κύριο ηλεκτρικό πίνακα. Όπου ένας τέτοιος κινητήρας που προορίζεται πρωταρχικά για άλλες υπηρεσίες, έχει τέτοια διάταξη ώστε να κινεί ένα τέτοιο βοηθητικό μηχανισμό πηδαλίου, η απαίτηση της παραγράφου 3 μπορεί να εγκαταλειφθεί από την Αρχή αν ικανοποιηθεί από τη διάταξη προστασίας μαζί με τις απαιτήσεις του Κανονισμού 29.5.1 και .2 και 29.7.3 που έχουν εφαρμογή στο βοηθητικό μηχανισμό πηδαλίου.

Κανονισμός 31

Μέσα ελέγχου μηχανημάτων.

1. Τα κύρια και βοηθητικά μηχανήματα τα απαραίτητα για την πρόωση και ασφάλεια του πλοίου θα εφοδιάζονται με αποτελεσματικά μέσα για την λειτουργία και τον έλεγχό τους.
2. Όπου προβλέπεται τηλεχειρισμός των μηχανημάτων πρόωσης από τη γέφυρα ναυσιπλοΐας και οι χώροι μηχανών προορίζονται να είναι επανδρωμένοι, θα εφαρμόζονται τα εξής:
 - .1 Η ταχύτητα, διεύθυνση ώσης και, αν είμαι εφαρμόσιμο, το βήμα της έλικας θα μπορούν να ελέγχονται πλήρως από τη γέφυρα ναυσιπλοΐας σε όλες τις συνθήκες πλεύσης, περιλαμβανομένων των χειρισμών.
 - .2 Ο τηλεχειρισμός θα εκτελείται, για κάθε ανεξάρτητη έλικα, από συσκευή ελέγχου σχεδιασμένη και κατασκευασμένη έτσι ώστε η λειτουργία της να μην απαιτεί ιδιαίτερη προσοχή στις λειτουργικές λεπτομέρειες των μηχανημάτων. Όπου έχει σχεδιασθεί η ταυτόχρονη λειτουργία πολλαπλών ελίκων, αυτές μπορούν να ελέγχονται από μία συσκευή ελέγχου.
 - .3 Τα κύρια μηχανήματα πρόωσης θα εφοδιάζονται με συσκευή διακοπής ανάγκης στη γέφυρα ναυσιπλοΐας που θα είναι ανεξάρτητη από το σύστημα ελέγχου της γέφυρας ναυσιπλοΐας.
 - .4 Οι εντολές από τη γέφυρα ναυσιπλοΐας στα μηχανήματα πρόωσης θα δείχνονται στον χώρο ελέγχου των κυρίων μηχανημάτων ή στο επίπεδο χειρισμών, ανάλογα με τη περίπτωση.
 - .5 Ο τηλεχειρισμός των μηχανημάτων πρόωσης θα είναι δυνατός μόνο από μία θέση κάθε στιγμή. Σε τέτοιες θέσεις επιτρέπονται αλληλοσυνδεδεμένες διατάξεις ελέγχου. Σε κάθε θέση θα υπάρχει

ενδεικτής που θα δείχνει από ποιά θέση ελέγχονται τα μηχανήματα πρόωσης. Η μεταβίβαση του ελέγχου μεταξύ της γέφυρας ναυσιπλοΐας και των χώρων μηχανών θα είναι δυνατή μόνο στο χώρο κυρίων μηχανημάτων ή στο χώρο ελέγχου κυρίων μηχανημάτων. Αυτό το σύστημα θα περιλαμβάνει μέσα που θα εμποδίζουν την σημαντική μεταβολή της ώσης της έλικας όταν μεταβιβάζεται ο έλεγχος από μία θέση σε άλλη.

- .6 Θα είναι δυνατός έλεγχος των μηχανημάτων πρόωσης τοπικά, ακόμη και στη περίπτωση βλάβης σε οποιοδήποτε τμήμα του συστήματος τηλεχειρισμού.
 - .7 Η σχεδίαση του συστήματος τηλεχειρισμού θα είναι τέτοια ώστε σε περίπτωση βλάβης του θα σημαίνεται συναγεμύς. Η προκαθορισμένη ταχύτητα και διεύθυνση ώσης της έλικας θα διατηρούνται μέχρι να τεθεί σε λειτουργία ο τοπικός έλεγχος, εκτός αν η Αρχή θεωρήσει αυτό μη πρακτικό.
 - .8 Θα τοποθετούνται ενδεικτές στη γέφυρα ναυσιπλοΐας για ένδειξη:
 - .8.1 ταχύτητας και διεύθυνσης περιστροφής της έλικας στη περίπτωση ελίκων σταθερού βήματος,
 - .8.2 ταχύτητας έλικας και θέσης βήματος στη περίπτωση ελίκων μεταβλητού βήματος.
 - .9 Θα προβλέπεται σύστημα συναγεμύς στη γέφυρα ναυσιπλοΐας και στο χώρο μηχανών για ένδειξη χαμηλής πίεσης του αέρα εκκίνησης, που θα ρυθμίζεται σε επίπεδο που να επιτρέπει παραπέρα χειρισμούς εκκίνησης της κύριας μηχανής. Αν το σύστημα τηλεχειρισμού των μηχανημάτων πρόωσης είναι σχεδιασμένο για αυτόματη εκκίνηση, ο αριθμός των αυτομάτων διαδοχικών προσπαθειών που αποτυγχάνουν να πραγματοποιήσουν εκκίνηση θα είναι περιορισμένος ώστε να διαφυλάσσεται επαρκής πίεση αέρα εκκίνησης για τοπική εκκίνηση.
3. Όπου τα κύρια μηχανήματα πρόωσης και τα σχετικά μ'αυτά μηχανήματα, περιλαμβανομένων των πηγών της κύριας ηλεκτρικής παροχής, είναι εφοδιασμένα με αυτόματους ελέγχους ή τηλεχειρισμούς διαφόρων βαθμών και ευρίσκονται υπό συνεχή χειροκίνητη επίβλεψη από χώρο ελέγχου, οι διατάξεις και τα μέσα ελέγχου θα είναι σχεδιασμένα, εξοπλισμένα και εγκατεστημένα έτσι ώστε η λειτουργία των μηχανημάτων να είναι τόσο ασφαλής και αποτελεσματική, όσο θα ήταν αν ευρίσκοντο υπό άμεση επίβλεψη για το

σκοπό αυτό θα εφαρμόζονται ανάλογα οι Κανονισμοί 46 μέχρι 50. Θα δίνεται ιδιαίτερη προσοχή στην προστασία τέτοιων χώρων από πύρκαϊά και κατάκλυση.

4. Γενικά, τα συστήματα λειτουργίας και ελέγχου αυτομάτης εκκίνησης θα περιλαμβάνουν χειροκίνητα μέσα παράκαμψης των διατάξεων αυτομάτου ελέγχου. Η βλάβη οποιουδήποτε τμήματος τέτοιων συστημάτων ^{δεν πρέπει να} εμποδίζει τη χρήση των χειροκίνητων μέσων παράκαμψης.

Κανονισμός 32

Ατμολέβητες και συστήματα τροφοδοσίας λέβητων.

1. Κάθε ατμολέβητας και κάθε ατμοπαράγωγος γεννήτρια χωρίς εστία θα εφοδιάζεται με όχι λιγότερες από δύο ασφαλιστικές βαλβίδες επαρκούς ικανότητας. Όμως έχοντας υπ' όψη την έξοδο ή οποιαδήποτε άλλα χαρακτηριστικά οποιουδήποτε λέβητα ή ατμοπαραγωγού γεννήτριας χωρίς εστία, η Αρχή μπορεί να επιτρέψει την τοποθέτηση μίας μόνο ασφαλιστικής βαλβίδας, αν ικανοποιείται ότι εξασφαλίζεται επαρκής προστασία έναντι υπερπίεσης.
2. Κάθε πετρελαιολέβητας που προορίζεται να λειτουργήσει χωρίς χειροκίνητη επίβλεψη θα έχει διατάξεις ασφάλειας που θα διακόπτουν την παροχή καύσιμου και θα σημαίνουν συναγερμό στη περίπτωση χαμηλής στάθμης νερού, ανωμαλίας στη παροχή αέρα ή στη φλόγα καύσης.
3. Υδραυλικοί λέβητες που εξυπηρετούν στροβίλους πρόωσης θα εφοδιάζονται με σύστημα συναγερμού υψηλής στάθμης νερού.
4. Κάθε ατμοπαραγωγό σύστημα που παρέχει υπηρεσίες απαραίτητες για την ασφάλεια του πλοίου, ή που θα μπορούσε να καταστεί επικίνδυνο από βλάβη της τροφοδοσίας του με νερό, θα εφοδιάζεται με όχι λιγότερα από δύο χωριστά συστήματα τροφοδοσίας νερού από τις αντλίες τροφοδοσίας οι οποίες περιλαμβάνονται στα συστήματα αυτά, επισημαίνοντας ότι μία μοναδική διάτρηση του κελύφους του ατμοθάλαμου είναι αποδεκτή. Θα προβλέπονται μέσα που θα εμποδίζουν την υπερπίεση σε οποιοδήποτε τμήμα των συστημάτων, εκτός αν η υπερπίεση εμποδίζεται από τα χαρακτηριστικά της αντλίας.
5. Οι λέβητες θα εφοδιάζονται με μέσα επίβλεψης και ελέγχου της ποιότητας του τροφοδοτικού νερού. Θα προβλέπονται κατάλληλες διατάξεις που θα αποκλείουν, όσο είναι πρακτικά δυνατό, την είσοδο ελαίου ή άλλων ρυπαντών που μπορούν να έχουν δυσμενή επίδραση στο λέβητα.

6. Κάθε λέβητας απαραίτητος για την ασφάλεια του πλοίου και σχεδιασμένος να περιέχει νερό σε καθορισμένη στάθμη θα εφοδιάζεται με δύο τουλάχιστο μέσα ένδειξης στάθμης νερού, από τα οποία το ένα τουλάχιστον θα είναι ένας γυάλινος δείκτης απ'ευθείας ένδειξης.

Κανονισμός 33

Δίκτυα σωληνώσεων ατμού

1. Κάθε σωλήνας ατμού και κάθε εξάρτημα που συνδέεται σ' αυτόν διά μέσου του οποίου μπορεί να περάσει ατμός θα είναι σχεδιασμένος, κατασκευασμένος και τοποθετημένος έτσι ώστε να αντέχει στις μέγιστες καταπονήσεις λειτουργίας στις οποίες μπορεί να υποβληθεί.
2. Θα προβλέπονται μέσα αποστράγγισης κάθε σωλήνα ατμού στον οποίο θα μπορούσε διαφορετικά να συμβεί επικίνδυνη υδραυλική κρούση.
3. Αν σωλήνας ατμού ή εξάρτημα μπορεί να δεχθεί ατμό από οποιαδήποτε πηγή σε υψηλότερη πίεση από αυτήν για την οποία έχει σχεδιασθεί, θα τοποθετούνται κατάλληλος ατμομειωτήρας, ασφαλιστική βαλβίδα και μανόμετρο.

Κανονισμός 34

Συστήματα πεπιεσμένου αέρα

1. Σε κάθε πλοίο θα προβλέπονται μέσα για να εμποδίζουν την υπερπίεση σε οποιοδήποτε τμήμα των συστημάτων πεπιεσμένου αέρα και οπουδήποτε χιτώνια νερού ή περιβλήματα αεροσυμπιεστών και φυκτών θα μπορούσαν να υποστούν επικίνδυνη υπερπίεση λόγω διαρροής μέσα σ' αυτά από τμήματα συστημάτων πεπιεσμένου αέρα. Θα προβλέπονται κατάλληλες διατάξεις ανακούφισης της πίεσης για όλα τα συστήματα.
2. Οι κύριες διατάξεις εκκίνησης με αέρα για τις κύριες μηχανές πρόωσης εσωτερικής καύσης θα προστατεύονται επαρκώς έναντι επιστροφής φλόγας και εσωτερικής έκρηξης στους σωλήνες αέρα εκκίνησης.
3. Όλοι οι σωλήνες κατάθλιψης από τους αεροσυμπιεστές θα οδηγούνται απ'ευθείας στις φιάλες αέρα εκκίνησης και όλοι οι σωλήνες εκκίνησης από τις φιάλες αέρα ως τις κύριες ή βοηθητικές μηχανές θα είναι εντελώς χωριστοί από το σύστημα σωληνών κατάθλιψης του αεροσυμπιεστή.

4. θα λαμβάνεται μέριμνα για την ελάττωση στο ελάχιστο της εισόδου ελαίου μέσα στα συστήματα πεπιεσμένου αέρα και για την αποστράγγιση των συστημάτων αυτών.

Κανονισμός 35

Συστήματα αερισμού στους χώρους μηχανών.

Οι χώροι μηχανών κατηγορίας Α' θα αερίζονται επαρκώς ώστε να εξασφαλίζεται ότι όταν στους χώρους αυτούς λειτουργούν μηχανήματα ή λέβητες στη πλήρη ισχύ τους σε όλες τις καιρικές συνθήκες, περιλαμβανομένης ισχυρής κακοκαιρίας, διατηρείται επαρκής παροχή αέρα στους χώρους για την ασφάλεια και άνεση του προσωπικού και την λειτουργία των μηχανημάτων. Οποιοσδήποτε άλλος χώρος μηχανών θα αερίζεται επαρκώς ανάλογα με τον προορισμό του.

Κανονισμός 36

Προστασία έναντι του θορύβου.*

Θα λαμβάνονται μέτρα για την ελάττωση του θορύβου των μηχανημάτων στους χώρους μηχανών σε αποδεκτά επίπεδα όπως καθορίζονται από την Αρχή. Αν αυτός ο θόρυβος δεν μπορεί να ελαττωθεί ικανοποιητικά, η πηγή του υπερβολικού θορύβου θα μονώνεται κατάλληλα ή θα απομονώνεται ή θα παρέχεται ένα καταφύγιο από τον θόρυβο αν απαιτείται ο χώρος να είναι επανδρωμένος. Θα προβλέπονται ωτασπίδες για το προσωπικό που απαιτείται να εισέρχεται σ' αυτούς τους χώρους, αν είναι αναγκαίο.

Κανονισμός 37

Επικοινωνία μεταξύ γέφυρας ναυσιπλοΐας και χώρου μηχανών.

Δύο τουλάχιστον ανεξάρτητα μέσα θα προβλέπονται για την διαβίβαση εντολών από τη γέφυρα ναυσιπλοΐας στη θέση χώρου μηχανών ή του χώρου ελέγχου από την οποία ελέγχονται κανονικά οι μηχανές: το ένα απ' αυτά τα μέσα θα είναι ένας τηλεγράφος μηχανοστασίου που παρέχει οπτική ένδειξη των εντολών και απαντήσεων τόσο στο χώρο μηχανών όσο και στη γέφυρα ναυσιπλοΐας.

* Γίνεται μνεία του Κώδικα για τις Στάθμες Θορύβου στα Πλοία που υιοθετήθηκε από τον Οργανισμό με την απόφαση Α468 (XII).

Κατάλληλα μέσα επικοινωνίας θα προβλέπονται σε οποιοσδήποτε άλλες θέσεις από τις οποίες μπορούν να ελεγχθούν οι μηχανές.

Κανονισμός 38

Συστήματα συναγερμού μηχανικών.

θα προβλέπεται σύστημα συναγερμού μηχανικών που θα λειτουργεί από το χώρο ελέγχου μηχανών ή τη γέφυρα χειρισμών, ανάλογα με τη περίπτωση, και θα ακούγεται ευκρινώς στα ενδιαίτηματα των μηχανικών.

Κανονισμός 39

Θέση των εγκαταστάσεων ανάγκης σε επιβατηγά πλοία.

Οι πηγές ανάγκης της ηλεκτρικής ενέργειας, οι αντλίες πυρκαϊάς, οι αντλίες κυτών, εκτός από εκείνες που ειδικά εξυπηρετούν τους χώρους πρωραϊώς του διαφράγματος σύγκρουσης, οποιοδήποτε μόνιμο σύστημα κατάσβεσης πυρκαϊάς που απαιτείται από το Κεφάλαιο II-2 και άλλες εγκαταστάσεις ανάγκης που είναι απαραίτητες για την ασφάλεια του πλοίου, εκτός των βαρούλκων αγκύρας, δεν θα εγκαθίστανται πρωραϊώς του διαφράγματος σύγκρουσης.

ΜΕΡΟΣ Δ - ΗΛΕΚΤΡΙΚΕΣ ΕΓΚΑΤΑΣΤΑΣΕΙΣ

(Εκτός αν ρητά ορίζεται διαφορετικά το Μέρος Δ' εφαρμόζεται σε επιβατηγά και φορτηγά πλοία).

Κανονισμός 40

Γενικά

1. Οι ηλεκτρικές εγκαταστάσεις θα είναι τέτοιες ώστε:
 - .1 όλες οι βοηθητικές ηλεκτρικές υπηρεσίες οι αναγκαίες για την διατήρηση του πλοίου σε κανονικές συνθήκες λειτουργίας και διαβίωσης να εξασφαλίζονται χωρίς προσφυγή στη πηγή ηλεκτρικής ενέργειας ανάγκης,
 - .2 οι ηλεκτρικές υπηρεσίες που είναι απαραίτητες για την ασφάλεια να εξασφαλίζονται σε διάφορες καταστάσεις ανάγκης, και
 - .3 η ασφάλεια των επιβατών, του πληρώματος και του πλοίου να εξασφαλίζεται από ηλεκτρικούς κινδύνους.
2. Η Αρχή θα λαμβάνει κατάλληλα μέτρα για την εξασφάλιση ομοιομορφίας στην εφαρμογή των διατάξεων του Μέρους αυτού που αφορούν στις ηλεκτρικές εγκαταστάσεις.*

* Γίνεται μνεία των Συστάσεων που εκδόθηκαν από τη Διεθνή Ηλεκτροτεχνική Επιτροπή και ιδιαίτερα της Έκδοσης 92- Ηλεκτρικές Εγκαταστάσεις σε Πλοία.

Κανονισμός 41

Κύρια πηγή ηλεκτρικής ενέργειας και συστήματα φωτισμού.

- 1.1 Θα προβλέπεται κύρια πηγή ηλεκτρικής ενέργειας επαρκούς ικανότητας για την τροφοδότηση όλων εκείνων των υπηρεσιών που αναφέρονται στον Κανονισμό 40.1.1. Αυτή η κύρια πηγή ηλεκτρικής ενέργειας θα αποτελείται από δύο τουλάχιστον ηλεκτροπαραγωγά ζεύγη.
- 1.2 Τα ηλεκτροπαραγωγά αυτά ζεύγη θα έχουν τέτοια ικανότητα ώστε στη περίπτωση που οποιοδήποτε από τα ηλεκτροπαραγωγά ζεύγη σταματήσει, να εξακολουθεί να είναι δυνατή η τροφοδότηση των υπηρεσιών που είναι αναγκαίες για να εξασφαλίζουν κανονικές λειτουργικές συνθήκες πρόωσης και ασφάλειας. Θα εξασφαλίζονται επίσης οι ελάχιστες άνετες συνθήκες διαβίωσης που θα περιλαμβάνουν τουλάχιστον επαρκείς υπηρεσίες για μαγειρέυμα, θέρμανση, ψυγεία *κωνιτήρησης*, μηχανικό αερισμό, νερό πόσιμο και υγιεινής.
- 1.3 Οι διατάξεις της κύριας πηγής ηλεκτρικής ενέργειας του πλοίου θα είναι τέτοιες ώστε οι υπηρεσίες, που αναφέρονται στον Κανονισμό 40.1.1, να μπορούν να ^{περιτροφίς} διατηρούνται ανεξάρτητα από τη ταχύτητα και διεύθυνση των μηχανημάτων πρόωσης ή των αξόνων του πλοίου.
- 1.4 Επί πλέον τα ηλεκτροπαραγωγά ζεύγη θα είναι τέτοια ώστε να εξασφαλίζουν ότι με οποιαδήποτε γεννήτρια ή με την κύρια πηγή ενέργειας της εκτός λειτουργίας, τα ηλεκτροπαραγωγά ζεύγη που απομένουν θα είναι ικανά να παρέχουν τις ηλεκτρικές υπηρεσίες που είναι αναγκαίες για την εκκίνηση της κύριας εγκατάστασης πρόωσης από την κατάσταση νεκρού πλοίου. Η πηγή ηλεκτρικής ενέργειας ανάγκης μπορεί να χρησιμοποιηθεί για το σκοπό εκκίνησης από την κατάσταση νεκρού πλοίου αν, είτε μόνη της είτε σε συνδυασμό με οποιαδήποτε άλλη πηγή ηλεκτρικής ενέργειας, έχει επαρκή ικανότητα για να παρέχει στον ίδιο χρόνο ηλεκτρική ενέργεια σ' εκείνες τις υπηρεσίες των οποίων η τροφοδότηση απαιτείται από τους Κανονισμούς 42.2.1 μέχρι 42.2.3 ή 43.2.1 μέχρι 43.2.4.

- 1.5 Όπου μετασχηματιστές αποτελούν ουσιώδες τμήμα του συστήματος ηλεκτρικής παροχής που απαιτείται απ' αυτή τη παράγραφο, το σύστημα θα έχει τέτοια διάταξη ώστε να εξασφαλίζεται η ίδια συνέχεια παροχής που αναφέρεται σ' αυτή τη παράγραφο.
- 2.1 Ένα κύριο ηλεκτρικό σύστημα φωτισμού που θα παρέχει φωτισμό σε όλα εκείνα τα μέρη του πλοίου τα οποία είναι κανονικά προσιτά και χρησιμοποιούνται από επιβάτες ή πλήρωμα, θα τροφοδοτείται από τη κύρια πηγή ηλεκτρικής ενέργειας.
- 2.2 Η διάταξη του κύριου ηλεκτρικού συστήματος φωτισμού θα είναι τέτοια ώστε πυρκαϊά ή άλλο ατύχημα σε χώρους που περιέχουν την κύρια πηγή ηλεκτρικής ενέργειας, τους σχετικούς μετασχηματιστές, αν υπάρχουν, τον κύριο ηλεκτρικό πίνακα και τον κύριο ηλεκτρικό πίνακα φωτισμού, δεν θα θέτει εκτός λειτουργίας το ηλεκτρικό σύστημα φωτισμού ανάγκης που απαιτείται από τους Κανονισμούς 42.2.1 και 42.2.2 ή 43.2.1, 43.2.2 και 43.2.3.
- 2.3 Η διάταξη του ηλεκτρικού συστήματος φωτισμού ανάγκης θα είναι τέτοια ώστε πυρκαϊά ή άλλο ατύχημα σε χώρους που περιέχουν την πηγή ηλεκτρικής ενέργειας ανάγκης, τους σχετικούς μετασχηματιστές, αν υπάρχουν, τον ηλεκτρικό πίνακα ανάγκης και τον ηλεκτρικό πίνακα φωτισμού ανάγκης δεν θα θέτει εκτός λειτουργίας το κύριο ηλεκτρικό σύστημα φωτισμού που απαιτείται από αυτόν τον Κανονισμό.
3. Ο κύριος ηλεκτρικός πίνακας θα τοποθετείται κατά τέτοιο τρόπο σε σχέση με ένα κύριο ηλεκτροπαραγωγό σταθμό ώστε, όσο είναι πρακτικά δυνατό, η ακεραιότητα της κανονικής ηλεκτρικής παροχής να μπορεί να επηρεασθεί μόνο από πυρκαϊά ή άλλο ατύχημα σε ένα χώρο. Μία περίφραξη προστασίας του κύριου ηλεκτρικού πίνακα από το περιβάλλον, που μπορεί να παρέχεται από το χώρο ελέγχου μηχανημάτων που ευρίσκεται εσωτερικά από τα κύρια οριζικά χωρίσματα του χώρου, δεν θα θεωρείται ότι διαχωρίζει τους ηλεκτρικούς πίνακες από τις γεννήτριες.
4. Όπου η συνολική εγκατεστημένη ηλεκτρική ισχύς των κύριων ηλεκτροπαραγωγών ζευγών υπερβαίνει τα 3 MW, οι κύριοι ζυγοί θα υποδιαιρούνται σε δύο τουλάχιστο τμήματα που κανονικά θα συνδέονται με αφαιρετούς συνδέσμους ή άλλα εγκεκριμένα μέσα. Όσο είναι πρακτικά δυνατό, η σύνδεση των ηλεκτροπαραγωγών ζευγών και οποιωνδήποτε άλλων διπλών συσκευών θα υποδιαιρείται εξ' ίσου με-

ταξύ των μερών. Μπορεί να επιτρέπονται ισοδύναμες διατάξεις που να ικανοποιούν την Αρχή.

Κανονισμός 42

Πηγή ηλεκτρικής ενέργειας ανάγκης σε επιβατηγά πλοία.

- 1.1 Θα προβλέπεται αυτόνομη πηγή ηλεκτρικής ενέργειας ανάγκης.
- 1.2 Η πηγή ηλεκτρικής ενέργειας ανάγκης, οισχετικοί μετασχηματιστές, αν υπάρχουν, η μεταβατική πηγή ενέργειας ανάγκης, ο ηλεκτρικός πίνακας ανάγκης και ο ηλεκτρικός πίνακας φωτισμού ανάγκης θα ευρίσκονται πάνω από το ανώτατο συνεχές κατάστρωμα και θα είναι εύκολα προσιτάί από το ανοικτό κατάστρωμα. Δεν θα ευρίσκονται πρωραίως του διαφράγματος σύγκρουσης.
- 1.3 Η θέση της πηγής ηλεκτρικής ενέργειας ανάγκης και των σχετικών μετασχηματιστών, αν υπάρχουν, της μεταβατικής πηγής ενέργειας ανάγκης, του ηλεκτρικού πίνακα ανάγκης και των ηλεκτρικών πινάκων φωτισμού ανάγκης σε σχέση με την κύρια πηγή ηλεκτρικής ενέργειας, τους σχετικούς μετασχηματιστές, αν υπάρχουν, και τον κύριο ηλεκτρικό πίνακα θα είναι τέτοια ώστε να εξασφαλίζεται, κατά τρόπο που να ικανοποιεί την Αρχή, ότι πυρκαϊά ή άλλο ατύχημα σε χώρους που περιέχουν την κύρια πηγή ηλεκτρικής ενέργειας, τους σχετικούς μετασχηματιστές, αν υπάρχουν, και τον κύριο ηλεκτρικό πίνακα, ή σε οποιοδήποτε χώρο μηχανών κατηγορίας Α, δεν θα έχει επίδραση στη τροφοδότηση, έλεγχο και διανομή της ηλεκτρικής ενέργειας ανάγκης. Όσο είναι πρακτικά δυνατό, ο χώρος που περιέχει τη πηγή ηλεκτρικής ενέργειας ανάγκης, τους σχετικούς μετασχηματιστές, αν υπάρχουν, τη μεταβατική πηγή ηλεκτρικής ενέργειας ανάγκης και τον ηλεκτρικό πίνακα ανάγκης δεν θα έχει κοινά όρια με τους χώρους μηχανών Κατηγορίας Α ή με τους χώρους που περιέχουν την κύρια πηγή ηλεκτρικής ενέργειας, τους σχετικούς μετασχηματιστές, αν υπάρχουν, ή τον κύριο πίνακα ηλεκτρικής ενέργειας.
- 1.4 Με την προϋπόθεση ότι λαμβάνονται κατάλληλα μέτρα για εξασφάλιση ανεξάρτητης λειτουργίας ανάγκης σε όλες τις περιστάσεις, η γεννήτρια ανάγκης μπορεί να χρησιμοποιείται έκτακτα και για μικρές χρονικές περιόδους για την τροφοδότηση κυκλωμάτων που δεν είναι κυκλώματα ανάγκης.

2. Η διαθέσιμη ηλεκτρική ενέργεια θα είναι επαρκής για τη τροφοδότηση όλων των υπηρεσιών που είναι απαραίτητες για την ασφάλεια σε κατάσταση ανάγκης, λαμβανομένων υπ' όψη εκείνων των υπηρεσιών που μπορεί να χρειασθεί να λειτουργήσουν ταυτόχρονα. Η πηγή ηλεκτρικής ενέργειας ανάγκης θα είναι ικανή, λαμβανομένων υπ' όψη των ρευμάτων εκκίνησης και της μεταβατικής φύσης ορισμένων φορτίων, να τροφοδοτεί ταυτόχρονα τουλάχιστο τις ακόλουθες υπηρεσίες για τις χρονικές περιόδους που καθορίζονται παρακάτω, αν η λειτουργία τους εξαρτάται από ηλεκτρική πηγή:
- 2.1 Για χρονική περίοδο 36 ωρών, τον φωτισμό ανάγκης:
- .1 σε κάθε σταθμό επιβίβασης στο κατάστρωμα και εξωτερικά από τις πλευρές του πλοίου όπως απαιτείται από τους Κανονισμούς III/19 και III/30,
 - .2 σε όλους τους διαδρόμους υπηρεσίας και ενδιάμεσης, κλιμακοστάσια και εξόδους, θαλάμους ανελκυστήρων προσωπικού,
 - .3 στους χώρους μηχανών και κύριους ηλεκτροπαραγωγούς σταθμούς περιλαμβανομένων των θέσεων ελέγχου τους,
 - .4 σε όλους τους σταθμούς ελέγχου, χώρους ελέγχου μηχανημάτων και σε κάθε κύριο ηλεκτρικό πίνακα και ηλεκτρικό πίνακα ανάγκης,
 - .5 σε όλες τις θέσεις στοιβασίας των εξαρτήσεων πυροσβέστου,
 - .6 στο μηχανισμό πηδαλίου, και
 - .7 στην αντλία πυρκαϊάς, στην αντλία του συστήματος ραντισμού (SPRINKLER) και στην αντλία κυτών ανάγκης που αναφέρονται στη παράγραφο 2.4 και στη θέση εκκίνησης των κινητήρων τους.
- 2.2 Για χρονική περίοδο 36 ωρών, τα φώτα ναυσιπλοΐας και τα άλλα φώτα που απαιτούνται από τους ¹¹Διεθνείς Κανονισμούς για Αποφυγή Συγκρούσεων στη θάλασσα.
- 2.3 Για χρονική περίοδο 36 ωρών:
- .1 όλες τις συσκευές εσωτερικής επικοινωνίας που απαιτούνται σε κατάσταση ανάγκης,
 - .2 τα βοηθήματα ναυσιπλοΐας που απαιτούνται από τον Κανονισμό V/12. Όπου τέτοια απαίτηση είναι μη λογική ή μη πρακτική, η Αρχή μπορεί να άρει αυτή την απαίτηση για πλοία μικρότερα από 5000 κόβους ολικής χωρητικότητας,
 - .3 το σύστημα ανίχνευσης και αναγγελίας πυρκαϊάς, και το σύστημα συγκράτησης και απελευθέρωσης των θυρών πυρασφάλειας, και
 - .4 για διακοπτόμενη λειτουργία της λυχνίασημάτων ημέρας, τη

σφυρίκτρα του πλοίου, τὼς διὰ χειρὸς λειτουργούντες ἀναγγεγνήμες
 και ὄλα τα εσωτερικά σήματα που απαιτοῦνται σε κατάσταση
 ἀνάγκης, εκτός αν αυτές οι υπηρεσίες ἔχουν μία ανεξάρτητη
 τροφοδότηση για περίοδο 36 ωρῶν ἀπὸ μία συστοιχία συσσωρευ-
 τῶν κατάλληλα τοποθετημένη για χρήση σε κατάσταση ἀνάγκης.

2.4 Για χρονική περίοδο 36 ωρῶν:

1. μία ἀπὸ τις αντλίες πυρκαϊᾶς που απαιτοῦνται ἀπὸ τον Κανονισμό II-2/4.3.1 και 4.3.3,
2. την αντλία του συστήματος αὐτόματου ραντισμοῦ (SPRINKLER), και
3. την αντλία κυτῶν κινδύνου και ὄλες τις συσκευές που εἶναι ἀπαραίτητες για τη λειτουργία των ηλεκτροκίνητων τηλεχειριζόμενων επιστομιῶν κύτους.

2.5 Για τη χρονική περίοδο που απαιτεῖται ἀπὸ τον Κανονισμό 29.14, τον μηχανισμό πηδαλίου, αν απαιτεῖται να ἔχει τέτοια τροφοδότηση ἀπὸ τον Κανονισμό εκείνου.

2.6 Για χρονική περίοδο μισῆς ὥρας:

1. ὁποιοσδήποτε στεγανές θύρες που απαιτεῖται ἀπὸ τον Κανονισμό 15 να λειτουργοῦν μηχανοκίνητα μαζί με τους ενδείκτες τους και τα προειδοποιητικά σήματα. Με την προϋπόθεση ὅτι πληροῦνται οι ἀπαιτήσεις του Κανονισμοῦ 15.9.2 μπορεί να επιτραπεί η διαδοχική λειτουργία των θυρῶν ἐφ' ὅσον ὄλες οι θύρες μπορούν να κλείσουν σε 60 δευτερόλεπτα,
2. οι διατάξεις ἀνάγκης για τη μεταφορά των θαλάμων των ανελκυστήρων στο ἐπίπεδο του καταστρώματος για την διαφυγή των ατόμων. Οι θάλαμοι των ανελκυστήρων επιβατῶν μπορούν να μεταφερθοῦν στο ἐπίπεδο καταστρώματος διαδοχικά σε κατάσταση ἀνάγκης.

2.7 Σε πλοίο που κανονικά εκτελεῖ ταξίδια μικρῆς διάρκειας, η Ἀρχή, αν κρίνει ὅτι θα μπορούσε να επιτευχθεί ικανοποιητικό ἐπίπεδο ἀσφάλειας, μπορεί να δεχθεί μικρότερη περίοδο ἀπὸ τη περίοδο των 36 ωρῶν που καθορίζεται στις παραγράφους 2.1 μέχρι 2.5 ἀλλὰ ὄχι μικρότερη ἀπὸ 12 ὄρες.

3. Η πηγή ηλεκτρικής ἐνέργειας ἀνάγκης μπορεί να εἶναι εἴτε μία ηλεκτρογεννήτρια εἴτε μία συστοιχία συσσωρευτῶν, που θα πληροῖ τις ἀκόλουθες ἀπαιτήσεις:

3.1 Ὅπου η πηγή ηλεκτρικής ἐνέργειας ἀνάγκης εἶναι μία ηλεκτρογεννήτρια:

- .1 θα κινείται από κατάλληλη πρωτεύουσα πηγή κίνησης με ανεξάρτητη τροφοδότηση καύσιμου, που έχει σημείο ανάφλεξης (δοκιμή κλειστού δοχείου) όχι κατώτερο από 43°C ,
 - .2 θα εκκινεί αυτόματα σε περίπτωση βλάβης της ηλεκτρικής παροχής από τη κύρια πηγή ηλεκτρικής ενέργειας και θα συνδέεται αυτόματα στον ηλεκτρικό πίνακα ανάγκης. Οι υπηρεσίες που αναφέρονται στη παράγραφο 4 θα μεταφέρονται τότε αυτόματα στο ηλεκτροπαραγωγό ζεύγος ανάγκης. Το σύστημα αυτόματης εκκίνησης και τα χαρακτηριστικά της πρωτεύουσας πηγής κίνησης θα είναι τέτοια που θα επιτρέπουν στην ηλεκτρογεννήτρια ανάγκης να αναλάβει το πλήρες ονομαστικό φορτίο της τόσο γρήγορα όσο είναι ασφαλές και πρακτικά δυνατό, όχι όμως σε περισσότερα από 45 δευτερόλεπτα. Η μοναδική πηγή αποθηκευμένης ενέργειας θα προστατεύεται έτσι ώστε να αποκλείεται η πλήρης εκκένωσή της από το αυτόματο σύστημα εκκίνησης, εκτός αν υπάρχει δεύτερο ανεξάρτητο μέσο εκκίνησης του ηλεκτροπαραγωγού ζεύγους ανάγκης, και
 - .3 θα εφοδιάζεται με μία μεταβατική πηγή ηλεκτρικής ενέργειας ανάγκης σύμφωνα με τη παράγραφο 4.
- 3.2. Όπου η πηγή ^{πληρείται} ηλεκτρικής ενέργειας ανάγκης είναι μία συστοιχία συσσωρευτών, θα είναι ικανή:
- .1 να φέρει το ηλεκτρικό φορτίο ανάγκης χωρίς επαναφόρτιση, ενώ διατηρεί την τάση του συσσωρευτή κατά την περίοδο της εκφόρτισης στα όρια της ονομαστικής τιμής της σύν ή πλήν 12% ,
 - .2 να συνδέεται αυτόματα στον ηλεκτρικό πίνακα ανάγκης σε περίπτωση βλάβης της κύριας πηγής ηλεκτρικής ενέργειας, και
 - .3 να τροφοδοτεί αμέσως εκείνες τουλάχιστον τις υπηρεσίες που καθορίζονται στην παράγραφο 4.
4. Η μεταβατική πηγή ηλεκτρικής ενέργειας ανάγκης που απαιτείται από την παράγραφο 3.1.3 θα αποτελείται από μία συστοιχία συσσωρευτών κατάλληλα τοποθετημένη για χρήση σε κατάσταση ανάγκης, που θα λειτουργεί χωρίς επαναφόρτιση ενώ διατηρεί την τάση του συσσωρευτή κατά την περίοδο της εκφόρτισης στα όρια της ονομαστικής τιμής της σύν ή πλήν 12% και θα έχει επαρκή χωρητικότητα και τέτοια διάταξη ώστε, σε περίπτωση βλάβης είτε της κύριας πηγής ηλεκτρικής ενέργειας είτε της πηγής ηλεκτρικής ενέργειας ανάγκης, να τροφοδοτεί αυτόματα τις παρακάτω τουλάχιστον υπηρεσίες, αν η λειτουργία τους εξαρτάται από ηλεκτρική πηγή.

4.1. Για μισή ώρα:

- 1 Το φωτισμό που απαιτείται από τις παραγράφους 2.1 και 2.2,
 - 2 όλες τις υπηρεσίες που απαιτούνται από τις παραγράφους 2.3.1, 2.3.3 και 2.3.4 εκτός αν αυτές οι υπηρεσίες έχουν ανεξάρτητη τροφοδότηση για την καθορισμένη χρονική περίοδο από μια συστοιχία συσσωρευτών κατάλληλα τοποθετημένη για χρήση σε κατάσταση ανάγκης.
- 4.2 Ενέργεια για το κλείσιμο των στεγανών θυρών, αλλά όχι αναγκαστικά όλων ταυτόχρονα, μαζί με τους ενδείκτες τους και τα σήματα προειδοποίησης, που απαιτούνται από την παράγραφο 2.6.1.
- 5.1 Ο ηλεκτρικός πίνακας ανάγκης θα εγκαθίσταται όσο είναι πρακτικά δυνατό πλησιέστερα στη πηγή ηλεκτρικής ενέργειας ανάγκης.
- 5.2 Όπου η πηγή ηλεκτρικής ενέργειας ανάγκης είναι ηλεκτρογεννήτρια, ο ηλεκτρικός πίνακας ανάγκης θα ευρίσκεται στον ίδιο χώρο, εκτός αν κατ'αυτό τον τρόπο θα μπορούσε να επηρεασθεί δυσμενώς η λειτουργία του ηλεκτρικού πίνακα ανάγκης.
- 5.3 Δεν θα εγκαθίσταται συστοιχία συσσωρευτών, τοποθετημένη σύμφωνα μ'αυτό τον Κανονισμό, στον ίδιο χώρο με τον ηλεκτρικό πίνακα ανάγκης. Στον κύριο ηλεκτρικό πίνακα ή στο χώρο ελέγχου μηχανημάτων θα τοποθετείται σε κατάλληλη θέση ενδείκτης που θα δείχνει πότε εκφορτίζονται οι συσσωρευτές που αποτελούν είτε την πηγή ηλεκτρικής ενέργειας ανάγκης ή την μεταβατική πηγή ηλεκτρικής ενέργειας ανάγκης, που αναφέρεται στις παραγράφους 3.1.3 ή 4.
- 5.4 Ο ηλεκτρικός πίνακας ανάγκης κατά τη διάρκεια κανονικής λειτουργίας θα τροφοδοτείται από τον κύριο ηλεκτρικό πίνακα με ένα τροφοδοτικό αγωγό διασύνδεσης που θα προστατεύεται επαρκώς στο κύριο ηλεκτρικό πίνακα έναντι υπερφόρτωσης και βραχυκυκλώματος και θα αποσυνδέεται αυτόματα, στον ηλεκτρικό πίνακα ανάγκης σε περίπτωση βλάβης της κύριας πηγής ηλεκτρικής ενέργειας. Όπου το σύστημα έχει διάταξη για ανάστροφη τροφοδότηση, ο τροφοδοτικός αγωγός διασύνδεσης θα προστατεύεται επίσης στον ηλεκτρικό πίνακα ανάγκης, τουλάχιστον έναντι βραχυκυκλώματος.
- 5.5 Για την εξασφάλιση άμεσης διαθεσιμότητας της πηγής ηλεκτρικής ενέργειας ανάγκης θα υπάρχουν διατάξεις όπου είναι αναγκαίο για την αυτόματη αποσύνδεση των κυκλωμάτων που δεν είναι κυκλώματα ανάγκης από τον ηλεκτρικό πίνακα ανάγκης ώστε να εξασφα-

λίζεται η διάθεση ενέργειας στα κυκλώματα ανάγκης.

6. Η ηλεκτρογεννήτρια ανάγκης και η πρωτεύουσα πηγή κίνησης της και οποιαδήποτε συστοιχία συσσωρευτών ανάγκης θα είναι έτσι σχεδιασμένες και θα έχουν τέτοια διάταξη ώστε να εξασφαλίζεται η λειτουργία τους στη πλήρη ονομαστική ισχύ όταν το πλοίο είναι σε όρθια θέση και όταν είναι σε κλίση με οποιαδήποτε γωνία εγκάρσιας κλίσης μέχρι $22,5^\circ$ ή διαμήκους κλίσης μέχρι 10° προς πλώρη ή πρύμνη ή ευρίσκεται σε οποιοδήποτε συνδυασμό γωνιών μέσα στα όριά αυτά .
7. Θα προβλέπεται περιοδική δοκιμή του πλήρους συστήματος ανάγκης που θα περιλαμβάνει την δοκιμή των αυτόματων διατάξεων εκκίνησης.

Κανονισμός 43

Πηγή ηλεκτρικής ενέργειας ανάγκης σε φορτηγά πλοία.

- 1.1 Θα προβλέπεται αυτόνομη πηγή ηλεκτρικής ενέργειας ανάγκης.
- 1.2 Η πηγή ηλεκτρικής ενέργειας ανάγκης, οι σχετικοί μετασχηματιστές, αν υπάρχουν, μεταβατική πηγή ενέργειας ανάγκης, ο ηλεκτρικός πίνακας ανάγκης και ο ηλεκτρικός πίνακας φωτισμού ανάγκης θα ευρίσκονται πάνω από το ανώτατο συνεχές κατάστρωμα και θα είναι εύκολα προσιτά από το ανοικτό κατάστρωμα. Δεν θα ευρίσκονται πρωραίως του διαφράγματος σύγκρουσης εκτός αν επιτρέπεται από την Αρχή σε εξαιρετικές περιπτώσεις.
- 1.3 Η θέση της πηγής ηλεκτρικής ενέργειας ανάγκης και των σχετικών μετασχηματιστών, αν υπάρχουν, της μεταβατικής πηγής ενέργειας ανάγκης, του ηλεκτρικού πίνακα ανάγκης και του πίνακα φωτισμού ανάγκης σε σχέση με την κύρια πηγή ηλεκτρικής ενέργειας, τους σχετικούς μετασχηματιστές, αν υπάρχουν και τον κύριο ηλεκτρικό πίνακα θα είναι τέτοια ώστε να εξασφαλίζεται, κατά τρόπο που να ικανοποιεί την Αρχή, ότι πυρκαϊά ή άλλο ατύχημα στο χώρο που περιέχει την κύρια πηγή ηλεκτρικής ενέργειας, τους σχετικούς μετασχηματιστές, αν υπάρχουν, και τον κύριο ηλεκτρικό πίνακα, ή σε οποιοδήποτε χώρο μηχανών κατηγορίας Α, δεν θα έχει επίδραση στη τροφοδότηση, έλεγχο και διανομή της ηλεκτρικής ενέργειας ανάγκης. Όσο είναι πρακτικά δυνατό, ο χώρος που περιέχει τη πηγή ηλεκτρικής ενέργειας ανάγκης, τους σχετικούς μετασχηματιστές, αν υπάρχουν, τη μεταβατική πηγή ηλεκτρικής ενέργειας ανάγκης και τον ηλεκτρικό

πίνακα ανάγκης δεν θα έχει κοινά όρια με τους χώρους μηχανών Κατηγορίας Α ή με τους χώρους που περιέχουν την κύρια πηγή ηλεκτρικής ενέργειας, τους σχετικούς μετασχηματιστές, αν υπάρχουν, ή τον κύριο πίνακα ηλεκτρικής ενέργειας.

- 1.4 Με την προϋπόθεση ότι λαμβάνονται κατάλληλα μέτρα για εξασφάλιση ανεξάρτητης λειτουργίας ανάγκης, σε όλες τις περιπτώσεις η γεννήτρια ανάγκης μπορεί να χρησιμοποιείται έκτακτα, και για μικρές χρονικές περιόδους για την τροφοδότηση κυκλωμάτων που δεν είναι κυκλώματα ανάγκης.
2. Η διαθέσιμη ηλεκτρική ενέργεια θα είναι επαρκής για τη τροφοδότηση όλων των υπηρεσιών που είναι απαραίτητες για την ασφάλεια σε κατάσταση ανάγκης, λαμβανομένων υπ' όψη εκείνων των υπηρεσιών που μπορεί να χρειασθεί να λειτουργήσουν ταυτόχρονα. Η πηγή ηλεκτρικής ενέργειας ανάγκης θα είναι ικανή, λαμβανομένων υπ' όψη των ρευμάτων εκκίνησης και της μεταβατικής φύσης ορισμένων φορτίων, να τροφοδοτεί ταυτόχρονα τουλάχιστο τις ακόλουθες υπηρεσίες για τις χρονικές περιόδους που καθορίζονται παρακάτω, αν η λειτουργία τους εξαρτάται από ηλεκτρική πηγή.
 - 2.1 Για χρονική περίοδο 3 ωρών, τον φωτισμό ανάγκης σε κάθε σταθμό επιβίβασης στο κατάστρωμα και εξωτερικά από τις πλευρές του πλοίου όπως απαιτείται από τους Κανονισμούς III/I9 και III/38.
 - 2.2 Για χρονική περίοδο 18 ωρών τον φωτισμό ανάγκης:
 - 1 σε όλους τους διαδρόμους υπηρεσίας και ενδιαίτησης, κλιμακοστάσια και εξόδους, θαλάμους ανελκυστήρων προσωπικού και φρεάτια ανελκυστήρων προσωπικού,
 - 2 στους χώρους μηχανών και κύριους ηλεκτροπαραγωγούς σταθμούς περιλαμβανομένων των θέσεων ελέγχου τους,
 - 3 σε όλους τους σταθμούς ελέγχου, χώρους ελέγχου μηχανημάτων και σε κάθε κύριο ηλεκτρικό πίνακα και ηλεκτρικό πίνακα ανάγκης,
 - 4 σε όλες τις θέσεις στοιβασίας και εξαρτήσεων πυροσβέστου,
 - 5 στο μηχανισμό πηδαλίου, και
 - 6 στην αντλία πυρκαϊάς που αναφέρεται στην παράγραφο 2.5, στην αντλία του συστήματος ραντισμού (SPRINKLER), αν υπάρχει, και στην αντλία κυτών ανάγκης, αν υπάρχει, και στη θέση εκκίνησης των κινητήρων τους.

- 2.3. Για χρονική περίοδο 18 ωρών, τα φώτα ναυσιπλοΐας και τα άλλα φώτα που απαιτούνται από τους ^{ΙΕΡΘΕΝΤΕΣ} Διεθνείς Κανονισμούς για Αποφυγή Συγκρούσεων στη θάλασσα.
- 2.4. Για χρονική περίοδο 18 ωρών:
1. Όλες τις συσκευές εσωτερικής επικοινωνίας που απαιτούνται σε κατάσταση ανάγκης,
 2. Τα βοηθήματα ναυσιπλοΐας που απαιτούνται από τον Κανονισμό V/12. Όπου τέτοια απαίτηση είναι μη λογική ή μη πρακτική η Αρχή μπορεί να άρει αυτή την απαίτηση για πλοία μικρότερα από 5000 κόρους ολικής χωρητικότητας,
 3. Το σύστημα ανίχνευσης και αναγγελίας πυρκαϊάς, και
 4. Για διακοπτόμενη λειτουργία τη λυχνία σημάτων ημέρας, τη σφυρίκτρα του πλοίου, τους ^{ΔΙΑ ΚΑΘΕΣ} διακοπτόμενες αναγγελτήρες πυρκαϊάς και όλα τα εσωτερικά σήματα που απαιτούνται σε κατάσταση ανάγκης, εκτός αν αυτές οι υπηρεσίες έχουν μία ανεξάρτητη τροφοδότηση για περίοδο 18 ωρών από μία συστοιχία συσσωρευτών κατάλληλα τοποθετημένα για χρήση σε κατάσταση ανάγκης.
- 2.5. Για χρονική περίοδο 18 ωρών, μία από τις αντλίες πυρκαϊάς που απαιτούνται από τον Κανονισμό II-2/4.3.1 και 4.3.3 αν η πηγή ενέργειάς της εξαρτάται από την ηλεκτρογεννήτρια ανάγκης.
- 2.6.1 Για τη χρονική περίοδο που απαιτείται από τον Κανονισμό 29.14, τον μηχανισμό πηδαλίου, αν απαιτείται να έχει τέτοια τροφοδότηση από τον Κανονισμό εκείνο.
- 2.6.2 Σε πλοίο που κανονικά εκτελεί ταξίδια μικρής διάρκειας, η Αρχή, αν κρίνει ότι θα μπορούσε να επιτευχθεί ικανοποιητικό επίπεδο ασφάλειας, μπορεί να δεχθεί μικρότερη περίοδο από τη περίοδο των 18 ωρών που καθορίζεται στις παραγράφους 2.2 μέχρι 2.5 αλλά όχι μικρότερη από 12 ώρες.
3. Η πηγή ηλεκτρικής ενέργειας ανάγκης μπορεί να είναι είτε μία ηλεκτρογεννήτρια είτε μία συστοιχία συσσωρευτών, που θα πληροί τις ακόλουθες απαιτήσεις:
- 3.1 Όπου η πηγή ηλεκτρικής ενέργειας ανάγκης είναι μία ηλεκτρογεννήτρια:
1. Θα κινείται από κατάλληλη πρωτεύουσα πηγή κίνησης με ανεξάρτητη τροφοδότηση καυσίμου, που έχει σημείο ανάφλεξης (δοκιμη κλειστού δοχείου) όχι κατώτερο από 43°C,

- 2 Θα εκκινεί αυτόματα σε περίπτωση βλάβης της κύριας πηγής παροχής ηλεκτρικής ενέργειας εκτός αν υπάρχει μεταβατική πηγή ηλεκτρικής ενέργειας ανάγκης σύμφωνα με τη παράγραφο 3.Ι.3. Όπου η ηλεκτρογεννήτρια ανάγκης εκκινεί αυτόματα θα συνδέεται αυτόματα στον ηλεκτρικό πίνακα ανάγκης. Οι υπηρεσίες που αναφέρονται στην παράγραφο 4 θα συνδέονται τότε αυτόματα στην ηλεκτρογεννήτρια ανάγκης. Η μοναδική πηγή αποθηκευμένης ενέργειας θα προστατεύεται έτσι ώστε να αποκλείεται ή πλήρης εκκένωσή της από το αυτόματο σύστημα εκκίνησης, εκτός αν υπάρχει δεύτερο ανεξάρτητο μέσο εκκίνησης της ηλεκτρογεννήτριας ανάγκης, και
 - 3 Θα εφοδιάζεται με μεταβατική πηγή ηλεκτρικής ενέργειας ανάγκης, όπως καθορίζεται στην παράγραφο 4 εκτός αν υπάρχει ηλεκτρογεννήτρια ανάγκης ικανή να τροφοδοτεί τόσο τις υπηρεσίες που αναφέρονται στην παράγραφο εκείνη, όσο και να εκκινεί αυτόματα και να τροφοδοτεί το απαιτούμενο φορτίο τόσο γρήγορα όσο είναι ασφαλές και πρακτικά δυνατό, όχι όμως σε περισσότερα από 45 δευτερόλεπτα.
- 3.2 Όπου η πηγή ηλεκτρικής ενέργειας ανάγκης είναι μία συστοιχία συσσωρευτών, ^{πρέπει να} θα είναι ικανή:
- 1 να φέρει το ηλεκτρικό φορτίο ανάγκης χωρίς επαναφόρτιση, ενώ διατηρεί την τάση του συσσωρευτή κατά την περίοδο της εκφόρτισης στα όρια της ονομαστικής τιμής της σύν ή πλήν $I2\%$,
 - 2 να συνδέεται αυτόματα στον ηλεκτρικό πίνακα ανάγκης σε περίπτωση βλάβης της κύριας πηγής ηλεκτρικής ενέργειας και
 - 3 να τροφοδοτεί αμέσως εκείνες τουλάχιστον τις υπηρεσίες, που καθορίζονται στην παράγραφο 4.
4. Η μεταβατική πηγή ηλεκτρικής ενέργειας ανάγκης, όπου απαιτείται από την παράγραφο 3.Ι.3, θα αποτελείται από μία συστοιχία συσσωρευτών κατάλληλα τοποθετημένη για χρήση σε κατάσταση ανάγκης, που θα λειτουργεί χωρίς επαναφόρτιση ενώ διατηρεί την τάση του συσσωρευτή κατά την περίοδο της εκφόρτισης στα όρια της ονομαστικής τιμής της σύν ή πλήν $I2\%$ και θα έχει επαρκή χωρητικότητα και τέτοια διάταξη ώστε, σε περίπτωση βλάβης είτε της κύριας πηγής ηλεκτρικής ενέργειας είτε της πηγής ηλεκτρικής ενέργειας ανάγκης, να τροφοδοτεί αυτόματα για μισή ώρα τις παρακάτω τουλάχιστον υπηρεσίες, αν η λειτουργία τους εξαρτάται από ηλεκτρική πηγή:

- 1 Το φωτισμό που απαιτείται από τις παραγράφους 2.1, 2.2 και 2.3. Γι' αυτή τη μεταβατική φάση, ο απαιτούμενος ηλεκτρικός φωτισμός ανάγκης που αφορά στο χώρο μηχανών και στους χώρους ενδιαίτησης και υπηρεσίας μπορεί να παρέχεται από μόνιμα τοποθετημένες, ανεξάρτητες, αυτόματα φορτιζόμενες λυχνίες συσσωρευτών που λειτουργούν με ηλεκτρονόμο, και
- 2 όλες τις υπηρεσίες που απαιτούνται από τις παραγράφους 2.4.1, 2.4.3 και 2.4.4 εκτός αν αυτές οι υπηρεσίες έχουν ανεξάρτητη τροφοδότηση για τη χρονική περίοδο που καθορίζεται, από μία συστοιχία συσσωρευτών κατάλληλα τοποθετημένα για χρήση σε κατάσταση ανάγκης.
- 5.1 Ο ηλεκτρικός πίνακας ανάγκης θα εγκαθίσταται όσο είναι πρακτικά δυνατό πλησιέστερα στη πηγή ηλεκτρικής ενέργειας ανάγκης.
- 5.2 Όπου η πηγή ηλεκτρικής ενέργειας ανάγκης είναι ηλεκτρογεννήτρια, ο ηλεκτρικός πίνακας ανάγκης θα ευρίσκεται στον ίδιο χώρο, εκτός αν κατ'αυτόν τον τρόπο θα μπορούσε να επηρεασθεί δυσμενώς η λειτουργία του ηλεκτρικού πίνακα ανάγκης.
- 5.3 Δεν θα εγκαθίσταται συστοιχία συσσωρευτών, τοποθετημένη σύμφωνα μ'αυτό τον Κανονισμό, στον ίδιο χώρο με τον ηλεκτρικό πίνακα ανάγκης. Στον κύριο ηλεκτρικό πίνακα ή στο χώρο ελέγχου μηχανημάτων θα τοποθετείται σε κατάλληλη θέση ενδείκτης που θα δείχνει πότε εκφορτίζονται οι συσσωρευτές που αποτελούν είτε την πηγή ηλεκτρικής ενέργειας ανάγκης είτε την μεταβατική πηγή ηλεκτρικής ενέργειας, που αναφέρονται στις παραγράφους 3.2 ή 4.
- 5.4 Ο ηλεκτρικός πίνακας ανάγκης κατά τη διάρκεια κανονικής λειτουργίας θα τροφοδοτείται από τον κύριο ηλεκτρικό πίνακα με ένα τροφοδοτικό αγωγό διασύνδεσης που θα προστατεύεται επαρκώς στο κύριο ηλεκτρικό πίνακα έναντι υπερφόρτωσης και βραχυκυκλώματος και θα αποσυνδέεται αυτόματα στον ηλεκτρικό πίνακα ανάγκης σε περίπτωση βλάβης της κύριας πηγής ηλεκτρικής ενέργειας. Όπου το σύστημα έχει διάταξη για ανάστροφη τροφοδότηση, ο τροφοδοτικός αγωγός διασύνδεσης θα προστατεύεται επίσης στον ηλεκτρικό πίνακα ανάγκης, τουλάχιστον έναντι βραχυκυκλώματος.
- 5.5 Για την εξασφάλιση άμεσης διαθεσιμότητας της πηγής ηλεκτρικής ενέργειας ανάγκης θα υπάρχουν διατάξεις που είναι ανα-

γκαίο, για την αυτόματη αποσύνδεση των κυκλωμάτων που δεν είναι κυκλώματα ανάγκης από τον ηλεκτρικό πίνακα ανάγκης ώστε να εξασφαλίζεται ότι ηλεκτρική ενέργεια θα διατίθεται αυτόματα στα κυκλώματα ανάγκης.

6. Η ηλεκτρογεννήτρια ανάγκης και η πρωτεύουσα πηγή κίνησης της και οποιαδήποτε συστοιχία συσσωρευτών ανάγκης θα είναι έτσι σχεδιασμένες και θα έχουν τέτοια διάταξη ώστε να εξασφαλίζεται η λειτουργία τους στη πλήρη ονομαστική ισχύ όταν το πλοίο είναι σε όρθια θέση και όταν είναι σε κλίση με οποιαδήποτε γωνία εγκάρσιας κλίσης μέχρι $22,5^\circ$ ή διαμήκους κλίσης μέχρι 10° προς πλώρη ή πρόμνη, ή ευρίσκεται σε οποιοδήποτε συνδυασμό γωνιών μέσα στα όρια αυτά.
7. Θα προβλέπεται περιοδική δοκιμή του πλήρους συστήματος ανάγκης που θα περιλαμβάνει την δοκιμή των αυτομάτων διατάξεων εκκίνησης.

Κανονισμός 44

Διατάξεις εκκίνησης για ηλεκτροπαραγωγά ζεύγη ανάγκης.

1. Τα ηλεκτροπαραγωγά ζεύγη ανάγκης θα είναι ικανά να εκκινούν εύκολα από ψυχρή κατάσταση σε θερμοκρασία 0°C . Αν αυτό δεν είναι πρακτικά δυνατό, ή αν είναι πιθανό να αντιμετωπισθούν χαμηλότερες θερμοκρασίες, θα λαμβάνεται: μέριμνα, αποδεκτή από την Αρχή, για διατήρηση διατάξεων θέρμανσης ώστε να εξασφαλίζεται εύκολη εκκίνηση των ηλεκτροπαραγωγών ζευγών.
2. Κάθε ηλεκτροπαραγωγό ζεύγος ανάγκης με διάταξη αυτόματης εκκίνησης θα είναι εφοδιασμένο με συσκευές εκκίνησης εγκεκριμένες από την Αρχή με ικανότητα αποθηκευμένης ενέργειας τριών τουλάχιστον διαδοχικών εκκινήσεων. Θα προβλέπεται δεύτερη πηγή ενέργειας για τρεις πρόσθετες εκκινήσεις μέσα σε 30 πρώτα λεπτά εκτός αν μπορεί να αποδειχθεί ότι η χειροκίνητη εκκίνηση είναι αποτελεσματική.
3. Η αποθηκευμένη ενέργεια θα διατηρείται σε κάθε στιγμή ως εξής:
 1. Ηλεκτρικά και υδραυλικά συστήματα εκκίνησης θα διατηρούνται σε ετοιμότητα λειτουργίας από τον ηλεκτρικό πίνακα ανάγκης,
 2. Συστήματα εκκίνησης πεπιεσμένου αέρα μπορούν να διατηρούνται σε ετοιμότητα λειτουργίας από τις κύριες ή βοηθητικές φιάλες πεπιεσμένου αέρα μέσω κατάλληλης ανεπίστροφης βαλβίδας ή από ένα αεροσυμπιεστή ανάγκης, ο οποίος αν είναι ηλεκτροκίνητος, θα τροφοδοτείται από τον ηλεκτρικό πίνακα ανάγκης,

- 3 Όλες αυτές οι συσκευές εκκίνησης, φόρτισης και αποθήκευσης ενέργειας θα ευρίσκονται στο χώρο της ηλεκτρογεννήτριας ανάγκης. Οι συσκευές αυτές δεν θα χρησιμοποιούνται για οποιοδήποτε άλλο σκοπό εκτός από τη λειτουργία του ηλεκτροπαραγωγού ζεύγους ανάγκης. Αυτό δεν αποκλείει τη τροφοδότηση της φιάλης αέρα του ηλεκτροπαραγωγού ζεύγους ανάγκης από το κύριο ή βοηθητικό σύστημα πεπιεσμένου αέρα μέσω της ανεπίστροφης βαλβίδας που είναι τοποθετημένη στο χώρο της ηλεκτρογεννήτριας ανάγκης.
- 4.1 Όπου δεν απαιτείται αυτόματο σύστημα εκκίνησης, επιτρέπεται χειροκίνητη εκκίνηση, όπως: διάταξη χειροστροφάλου, εκκινητές αδράνειας, υδραυλικοί συσσωρευτές που φορτίζονται χειροκίνητα ή φύσιγγες με γόμωση σκόνης, όπου μπορεί να αποδειχθεί η αποτελεσματικότητά τους.
- 4.2 Όπου η χειροκίνητη εκκίνηση δεν είναι πρακτικά δυνατή, θα τηρούνται οι απαιτήσεις των παραγράφων 2 και 3 με την εξαίρεση ότι η εκκίνηση μπορεί να προκληθεί χειροκίνητα.

Κανονισμός 45

Προφυλάξεις κατά της ηλεκτροπληξίας, πυρκαϊάς και άλλων κινδύνων ηλεκτρικής προέλευσης.

- 1.1 Εκτεθειμένα μεταλλικά μέρη ηλεκτρικών μηχανών ή ηλεκτρικού εξοπλισμού που δεν προορίζονται να είναι υπό τάση, αλλά ενδέχεται, σε συνθήκες σφάλματος, να ευρεθούν υπό τάση θα γειώνονται εκτός αν οι μηχανές ή ο εξοπλισμός:
- 1 τροφοδοτούνται με τάση που δεν υπερβαίνει τα 55 V συνεχούς ρεύματος ή 55V R.M.S (ενεργός τιμή) μεταξύ των αγωγών. Δεν θα χρησιμοποιούνται αυτομετασχηματιστές για την επίτευξη αυτής της τάσης, ή
 - 2 τροφοδοτούνται με τάση που δεν υπερβαίνει τα 250 V από απομονωτικούς μετασχηματιστές ασφάλειας που τροφοδοτούν μόνο μία συσκευή κατανάλωσης, ή
 - 3 έχουν κατασκευασθεί σύμφωνα με την αρχή της διπλής μόνωσης.
- 1.2 Η Αρχή μπορεί να απαιτήσει πρόσθετες προφυλάξεις για φορητό ηλεκτρικό εξοπλισμό για χρήση σε περιορισμένους ή υπερβολικά υγρούς χώρους όπου μπορεί να υπάρχουν ιδιαίτεροι κίνδυνοι λόγω αγωγιμότητας.
- 1.3 Όλες οι ηλεκτρικές συσκευές θα είναι έτσι κατασκευασμένες και

- εγκατεστημένες ώστε να μην προκαλούν τραυματισμό όταν χειρίζονται ή αγγίζονται κατά τον κανονικό τρόπο.
2. Οι κύριοι ηλεκτρικοί πίνακες και οι πίνακες ανάγκης θα έχουν τέτοια διάταξη ώστε να επιτρέπουν εύκολη πρόσβαση, εφόσον χρειάζεται, σε συσκευές και εξοπλισμό, χωρίς κίνδυνο για το προσωπικό. Οι πλευρές και το πίσω μέρος και όπου είναι αναγκαίο, το εμπρός μέρος των ηλεκτρικών πινάκων θα είναι κατάλληλα προφυλαγμένο. Εκτεθειμένα μέρη υπό τάση ως προς γή, μεγαλύτερη από την τάση που θα καθορίζεται από την Αρχή δεν θα τοποθετούνται στο εμπρός μέρος τέτοιων πινάκων. Όπου είναι αναγκαίο θα προβλέπονται μονωτικοί τάπητες ή δικτυωτά δάπεδα στο εμπρός και πίσω μέρος του ηλεκτρικού πίνακα.
- 3.1 Το σύστημα διανομής με επιστροφή μέσω του σκάφους δεν θα χρησιμοποιείται για οποιοδήποτε σκοπό σε δεξαμενόπλοιο ή για κίνηση, θέρμανση ή φωτισμό σε οποιοδήποτε άλλο πλοίο ολικής χωρητικότητας 1600 κβρων και άνω.
- 3.2 Η απαίτηση της παραγράφου 3.1 δεν αποκλείει, σε συνθήκες εγκεκριμένες από την Αρχή, την χρήση:
1. συστημάτων καθοδικής προστασίας επιβαλλομένου ρεύματος,
 2. περιορισμένων και τοπικά γειωμένων συστημάτων, ή
 3. συσκευών παρακολούθησης στάθμης μόνωσης εφόσον το ρεύμα κυκλοφορίας δεν υπερβαίνει τα 30mA στις πιδ δυσμενείς συνθήκες.
- 3.3 Όπου χρησιμοποιείται το σύστημα επιστροφής μέσω του σκάφους, όλα τα τελικά υποκυκλώματα, δηλαδή όλα τα κυκλώματα που είναι εγκατεστημένα μετά την τελευταία προστατευτική διάταξη, θα είναι δύο αγωγών και θα λαμβάνονται ειδικές προφυλάξεις που θα ικανοποιούν την Αρχή.
- 4.1 Συστήματα διανομής γειωμένα δεν θα χρησιμοποιούνται σε δεξαμενόπλοια. Η Αρχή μπορεί εξαιρετικά να επιτρέψει σε δεξαμενόπλοιο την γείωση του ουδέτερου για δίκτυα ισχύος εναλασσόμενου ρεύματος 3000 V (μεταξύ φάσεων) και άνω εφόσον οποιοδήποτε ρεύμα που μπορεί να προκύψει δεν διέρχεται απ'ευθείας από οποιοδήποτε επικίνδυνο χώρο.
- 4.2 Όταν χρησιμοποιείται σύστημα διανομής, είτε πρωτεύον είτε δευτερεύον, για κίνηση, θέρμανση ή φωτισμό, χωρίς σύνδεση με την γή, θα προβλέπεται συσκευή ικανή να ελέγχει συνέχεια

τη στάθμη μόνωσης ως προς γή και να δίνει ακουστική ή οπτική ένδειξη ασυνήθως χαμηλών τιμών μόνωσης.

- 5.1 Όλες οι μεταλλικές επενδύσεις και ο οπλισμός των καλωδίων θα είναι ηλεκτρικά συνεχείς και γειωμένοι, εκτός αν η Αρχή επιτρέπει διαφορετικά σε εξαιρετικές περιστάσεις.
- 5.2 Όλοι οι ηλεκτρικοί αγωγοί και καλωδιώσεις, εξωτερικά των συσκευών, θα είναι τουλάχιστο επιβραδυντικού της μετάδοσης της φλόγας τύπου και θα είναι έτσι εγκατεστημένοι ώστε να μη παραβλάπτονται οι αρχικές τους ιδιότητες επιβράδυνσης της μετάδοσης της φλόγας. Όπου είναι αναγκαίο για ειδικές εφαρμογές η Αρχή μπορεί να επιτρέπει την χρήση ειδικών τύπων καλωδίων όπως καλώδια ραδιοσυχνοτήτων που δεν πληρούν τα προηγούμενα.
- 5.3 Ηλεκτρικοί αγωγοί και καλωδιώσεις που εξυπηρετούν ουσιαστικά κυκλώματα ή κυκλώματα ανάγκης για κίνηση, φωτισμό, ενδοσυννεύση ή σήματα δεν θα διέρχονται, όσο είναι πρακτικά δυνατό από μαγειρεία, πλυντήρια, χώρους μηχανών Κατηγορίας Α' και τα περιφράγματά τους και άλλες περιοχές υψηλού κινδύνου πυρκαϊάς. Τα καλώδια που συνδέουν τις αντλίες πυρκαϊάς με τον ηλεκτρικό πίνακα ανάγκης θα είναι πυράντοχου τύπου όπου διέρχονται μέσω περιοχών υψηλού κινδύνου πυρκαϊάς. Όπου είναι πρακτικά δυνατό, όλα αυτά τα καλώδια θα έχουν διαδρομή τέτοια ώστε να αποκλείεται η αχρήστευσή τους από τη θέρμανση των διαφραγμάτων που μπορεί να προκληθεί από πυρκαϊά σε γειτονικό χώρο.
- 5.4 Όπου καλώδια που είναι εγκατεστημένα σε επικίνδυνους χώρους παρουσιάζουν κίνδυνο πυρκαϊάς ή εκρηξης στην περίπτωση ηλεκτρικού σφάλματος σε τέτοιες περιοχές, θα λαμβάνονται ειδικές προφυλάξεις από τέτοιους κινδύνους, που ικανοποιούν την Αρχή.
- 5.5 Οι αγωγοί και οι καλωδιώσεις θα τοποθετούνται και θα στηρίζονται έτσι ώστε να αποφεύγεται η τριβή τους ή άλλη ζημιά.
- 5.6 Οι ακροδέκτες και σύνδεσμοι όλων των αγωγών θα είναι έτσι κατασκευασμένοι, ώστε να διατηρούν τις αρχικές ηλεκτρικές, μηχανικές, επιβραδυντικές της μετάδοσης φλόγας, και όπου είναι αναγκαίο, πυράντοχες ιδιότητες του καλωδίου.
- 6.1 Κάθε χωριστό κύκλωμα θα προστατεύεται από βραχυκύκλωμα και υπερφόρτωση εκτός από τις περιπτώσεις που επιτρέπονται από τους Κανονισμούς 29 και 30 ή όπου η Αρχή κατ'εξαίρεση μπορεί

να επιτρέψει διαφορετικά.

- 6.2 Θα υπάρχει μόνιμη ένδειξη της ονομαστικής τιμής ή της τιμής ρύθμισης της διάταξης προστασίας από υπερφόρτωση για κάθε κύκλωμα στη θέση της προστατευτικής διάταξης.
- 7 Τα εξαρτήματα φωτισμού θα έχουν τέτοια διάταξη ώστε να εμποδίζουν ανόδους θερμοκρασίας που θα μπορούσαν να προκαλέσουν βλάβη των αγωγών και καλωδιώσεων και να εμποδίζουν την υπερβολική θέρμανση των γειτονικών υλικών.
- 8 Όλα τα κυκλώματα φωτισμού και κίνησης που καταλήγουν σε χώρο αποθήκευσης καυσίμων ή φορτίου θα εφοδιάζονται με πολυπολικό διακόπτη έξω από το χώρο αυτό για την αποσύνδεσή τους.
- 9.1 Οι συστοιχίες συσσωρευτών θα είναι κατάλληλα τοποθετημένες και τα διαμερίσματα που χρησιμοποιούνται κυρίως για την εγκατάστασή τους θα είναι σωστά κατασκευασμένα και θα αερίζονται αποτελεσματικά.
- 9.2 Ηλεκτρικός ή άλλος εξοπλισμός που μπορεί να αποτελέσει πηγή ανάφλεξης εύφλεκτων ατμών δεν θα επιτρέπεται σ' αυτά τα διαμερίσματα εκτός αν επιτρέπεται από την παράγραφο 10.
- 9.3 Συστοιχίες συσσωρευτών δεν θα τοποθετούνται σε υπνοδωμάτια εκτός αν είναι ερμητικά κλειστές κατά τρόπο που ικανοποιεί την Αρχή.
10. Δεν θα εγκαθίσταται ηλεκτρικός εξοπλισμός σε οποιοδήποτε χώρο όπου είναι δυνατό να συγκεντρωθούν αναφλέξιμα μίγματα, περιλαμβανομένων χώρων που ευρισκονται σε δεξαμενόπλοια, ή σε διαμερίσματα που προορίζονται κυρίως για συστοιχίες συσσωρευτών, σε αποθήκες χρωμάτων, αποθήκες ασετυλίνης ή παρόμοιους χώρους, εκτός αν ο εξοπλισμός αυτός είναι κατά την κρίση της Αρχής:
- .1 απαραίτητος για λειτουργικούς σκοπούς,
 - .2 τύπου που δεν θα προκαλέσει ανάφλεξη του σχετικού μίγματος,
 - .3 κατάλληλος για τον εξεταζόμενο χώρο, και
 - .4 κατάλληλα πιστοποιημένος για ασφαλή χρήση σε σκόνες, ατμούς ή αέρια που είναι πιθανόν να παρουσιαστούν.
11. Σε επιβατηγό πλοίο, τα συστήματα διανομής θα έχουν τέτοια διάταξη, ώστε κυρκαϊά σε οποιαδήποτε κύρια κατακόρυφη ζώνη όπως ορίζεται στον Κανονισμό II-2/3.9 να μην επηρεάζει τις υπηρεσίες που είναι απαραίτητες για την ασφάλεια σε οποιαδήποτε άλλη τέτοια ζώνη. Η απαίτηση αυτή θα ικανοποιείται αν οι κύριοι τροφοδοτικοί αγωγοί και οι τροφοδοτικοί αγωγοί ανάγκης που διέρχονται μέσα από οποιαδήποτε τέτοια ζώνη διαχωρίζονται τόσο κατακόρυφα όσο

και οριζόντια, όσο ευρύτερα είναι πρακτικά δυνατά.

ΜΕΡΟΣ Ε - ΠΡΟΣΘΕΤΕΣ ΑΠΑΙΤΗΣΕΙΣ ΓΙΑ ΠΕΡΙΟΔΙΚΑ ΜΗ
ΕΠΑΝΔΡΩΜΕΝΟΥΣ ΧΩΡΟΥΣ ΜΗΧΑΝΩΝ

(Το Μέρος Ε εφαρμόζεται σε φορτηγά πλοία εκτός από τον Κανονισμό 54 που αναφέρεται σε επιβατηγά πλοία)

Κανονισμός 46

Γενικά

1. Οι διατάξεις που προβλέπονται θα είναι τέτοιες ώστε να εξασφαλίζουν ότι η ασφάλεια του πλοίου σ'όλες τις συνθήκες πλεύσης, περιλαμβανομένων των χειρισμών, είναι ισοδύναμη προς την ασφάλεια πλοίου που έχει τους χώρους μηχανών επανδρωμένους.
2. Θα λαμβάνονται μέτρα που ικανοποιούν την Αρχή για να εξασφαλίζεται ότι ο εξοπλισμός λειτουργεί κατά αξιόπιστο τρόπο και ότι γίνονται ικανοποιητικές προετοιμασίες για κανονικές επιθεωρήσεις και συνήθειες δοκιμές ώστε να εξασφαλίζεται συνεχής αξιόπιστη λειτουργία.
3. Κάθε πλοίο θα εφοδιάζεται με έγγραφα αποδεικτικά στοιχεία, που να ικανοποιούν την Αρχή, για την καταλληλότητά του να λειτουργεί με περιοδικά μη επανδρωμένους χώρους μηχανών.

Κανονισμός 47

Προφυλάξεις από πυρκαϊά.

1. Θα προβλέπονται μέσα για την ανίχνευση και αναγγελία σε αρχικό στάδιο στην περίπτωση πυρκαϊών:
 - .1 στα κελύφη αεροτροφοδότησης και στις εξαγωγές των λεβήτων, και
 - .2 στους χώρους σάρωσης αέρα των μηχανημάτων πρόωσης, εκτός αν η Αρχή δεν το θεωρεί αναγκαίο σε συγκεκριμένη περίπτωση.
2. Μηχανές εσωτερικής καύσης 2250 KW και άνω ή μηχανές που έχουν κυλίνδρους με διάμετρο μεγαλύτερη από 300 mm θα εφοδιάζονται με ανιχνευτές ελαιώδους ομίχλης στο στροφαλοθάλαμο ή συσκευές παρακολούθησης της θερμοκρασίας εδράνων της μηχανής ή ισοδύναμες συσκευές.

Κανονισμός 48

Προστασία από κατάλυση.

1. Τα φρέατια, κυτών σε περιοδικά μη επανδρωμένους χώρους μηχανών θα

τοποθετούνται και ελέγχονται κατά τρόπο ώστε να ανιχνεύεται η συσσώρευση υγρών σε κανονικές γωνίες διαγωγής και πλευρικής κλίσης και θα είναι αρκετά μεγάλα ώστε να χωρούν εύκολα την κανονική αποχέτευση κατά τη διάρκεια της μη επανδρωμένης περιόδου.

2. Όπου οι αντλίες κυτών είναι ικανές να εκκινούν αυτόματα θα προβλέπονται μέσα που θα δείχνουν πότε η εισροή υγρού είναι μεγαλύτερη από την ικανότητα της αντλίας ή πότε η αντλία λειτουργεί πιά συχνά απ'ότι κανονικά θα αναμενόταν. Σ'αυτές τις περιπτώσεις μπορούν να επιτραπούν μικρότερα φρεάτια κυτών που να καλύπτουν μία εύλογη χρονική περίοδο. Όπου προβλέπονται αυτόματα ελεγχόμενες αντλίες κυτών, θα δίνεται ιδιαίτερη προσοχή στις απαιτήσεις πρόληψης ρύπανσης από κετρέλαιο.
3. Η θέση των χειριστηρίων ελέγχου οποιουδήποτε επιστομίου, που εξυπηρετεί εισαγωγή θάλασσας, εξαγωγή κάτω από την ίσαλο γραμμή ή σύστημα αναρρόφησης κυτών, θα είναι τέτοια που να επιτρέπει επαρκή χρόνο χειρισμού σε περίπτωση εισροής νερού στο χώρο, λαμβανομένου υπ'όψη του πιθανού χρόνου που θα απαιτηθεί για την πρόσβαση στα χειριστήρια και τον χειρισμό τους. Αν η στάθμη μέχρι την οποία μπορεί να κατακλυσθεί ο χώρος ενώ το πλοίο ευρίσκεται σε κατάσταση πλήρους φόρτωσης το απαιτεί, θα προβλέπονται διατάξεις για τον χειρισμό των χειριστηρίων ελέγχου από θέση πάνω από τη στάθμη αυτή.

Κανονισμός 49

Έλεγχος των μηχανημάτων πρόωσης από τη γέφυρα ναυσιπλοΐας.

1. Σε όλες τις συνθήκες πλεύσης, περιλαμβανομένων των χειρισμών, η ταχύτητα, η διεύθυνση ώσης και, αν είναι εφαρμόσιμο, το βήμα της έλικας θα μπορούν να ελέγχονται πλήρως από τη γέφυρα ναυσιπλοΐας.
 - 1.1 Ο τηλεχειρισμός αυτός θα εκτελείται με μία μοναδική συσκευή ελέγχου για κάθε ανεξάρτητη έλικα, με αυτόματα λειτουργία όλων των σχετικών υπηρεσιών, περιλαμβανομένων, όπου είναι αναγκαίο, μέσων για την πρόληψη υπερφόρτωσης των μηχανημάτων πρόωσης.
 - 1.2 Τα κύρια μηχανήματα πρόωσης θα εφοδιάζονται με συσκευή διακοπής ανάγκης στη γέφυρα ναυσιπλοΐας, που θα είναι ανεξάρτητη από το σύστημα ελέγχου της γέφυρας ναυσιπλοΐας.

2. Οι εντολές από τη γέφυρα ναυσιπλοίας στα μηχανήματα πρόωσης θα δείχνονται στο χώρο ελέγχου των κύριων μηχανημάτων ή στη θέση ελέγχου των μηχανημάτων πρόωσης ανάλογα με τη περίπτωση.
3. Ο τηλεχειρισμός των μηχανημάτων πρόωσης θα είναι δυνατός μόνο από μία θέση κάθε στιγμή. Σε τέτοιες θέσεις επιτρέπονται αλληλοσυνδεδεμένες διατάξεις ελέγχου. Σε κάθε θέση θα υπάρχει ενδεικτής που θα δείχνει από ποιά θέση ελέγχονται τα μηχανήματα πρόωσης. Η μεταβίβαση του ελέγχου μεταξύ της γέφυρας ναυσιπλοίας και των χώρων μηχανών θα είναι δυνατή μόνο στο χώρο μηχανημάτων ή στον χώρο ελέγχου μηχανημάτων. Αυτό το σύστημα θα περιλαμβάνει μέσα που θα εμποδίζουν την σημαντική μεταβολή της ώσης της έλικας όταν μεταβιβάζεται ο έλεγχος από μία θέση σε άλλη.
4. Θα είναι δυνατός ο έλεγχος όλων των απαραίτητων για την ασφαλή λειτουργία του πλοίου μηχανημάτων, ακόμη και στη περίπτωση βλάβης σε οποιοδήποτε τμήμα του συστήματος τηλεχειρισμού.
5. Η σχεδίαση του συστήματος τηλεχειρισμού θα είναι τέτοια ώστε σε περίπτωση βλάβης του θα σημαίνεται συναγερμός. Η προκαθορισμένη ταχύτητα και η διεύθυνση της ώσης της έλικας θα διατηρούνται μέχρι να τεθεί σε λειτουργία ο τοπικός έλεγχος, εκτός αν η Αρχή θεωρήσει αυτό μη πρακτικό.
6. Θα τοποθετούνται ενδείκτες στη γέφυρα ναυσιπλοίας για ένδειξη:
 1. ταχύτητας και διεύθυνσης περιστροφής της έλικας στην περίπτωση ελίκων σταθερού βήματος,
 2. ταχύτητας και θέσης βήματος στην περίπτωση ελίκων μεταβλητού βήματος.
7. Ο αριθμός των αυτομάτων διαδοχικών προσπαθειών, που αποτυγχάνουν να πραγματοποιήσουν εκκίνηση θα είναι περιορισμένος ώστε να διαφυλάσσεται επαρκής πίεση αέρα εκκίνησης. Θα προβλέπεται σύστημα συναγερμού για ένδειξη χαμηλής πίεσης του αέρα εκκίνησης ρυθμισμένο σε επίπεδο που επιτρέπει παραπέρα χειρισμούς εκκίνησης των μηχανημάτων πρόωσης.

Κανονισμός 50

Επικοινωνία

θα προβλέπονται αξιόπιστα μέσα φωνητικής επικοινωνίας μεταξύ του χώρου ελέγχου των κύριων μηχανημάτων ή της θέσης ελέγχου των μηχανημάτων πρόωσης ανάλογα με τη περίπτωση, της γέφυρας ναυσιπλοίας και των ενδιαιτημάτων των αξιωματικών μηχανής.

Κανονισμός 51
Σύστημα συναγεργμού

1. Θα προβλέπεται σύστημα συναγεργμού που θα παρέχει ένδειξη οποιουδήποτε σφάλματος που απαιτεί προσοχή και το οποίο πρέπει:
 - 1 να είναι ικανό να σημαίνει ακουστικό συναγεργμό στο χώρο ελέγχου των κυρίων μηχανημάτων ή στη θέση ελέγχου των μηχανημάτων πρόωσης και να παρέχει οπτική ένδειξη κάθε χωριστής λειτουργίας συναγεργμού σε κατάλληλη θέση,
 - 2 να συνδέεται με τους κοινόχρηστους χώρους των μηχανικών και με κάθε καμπίνα μηχανικών μέσω επιλογικού διακόπτη, ώστε να εξασφαλίξεται σύνδεση με μία τουλάχιστον από τις καμπίνες αυτές. Οι Αρχές μπορούν να επιτρέπουν ισοδύναμες διατάξεις,
 - 3 να ενεργοποιεί ακουστικό και οπτικό συναγεργμό στη γέφυρα ναυσιπλοίας για κάθε κατάσταση που απαιτεί προσοχή ή ενέργεια από τον αξιωματικό φυλακής,
 - 4 να είναι σχεδιασμένο, όσο είναι πρακτικά δυνατό, σύμφωνα με την αρχή "ασφάλεια κατόπιν βλάβης", και
 - 5 να ενεργοποιεί το σύστημα συναγεργμού μηχανικών που απαιτείται από τον Κανονισμό 38 αν μία λειτουργία συναγεργμού δεν έχει τύχει προσοχής τοπικά μέσα σε περιορισμένο χρονικό διάστημα.
- 2.1 Το σύστημα συναγεργμού θα τροφοδοτείται συνεχώς και θα έχει αυτόματη δυνατότητα μεταγωγής σε εφεδρική παροχή ενέργειας σε περίπτωση απώλειας της κανονικής παροχής ενέργειας.
- 2.2 Βλάβη της κανονικής παροχής ενέργειας του συστήματος συναγεργμού θα σημαίνεται με συναγεργμό.
- 3.1 Το σύστημα συναγεργμού θα είναι ικανό να παρέχει ένδειξη ταυτόχρονα περισσοτέρων του ενός σφαλμάτων και η αποδοχή οποιουδήποτε συναγεργμού δεν θα εμποδίζει άλλο συναγεργμό.
- 3.2 Η αποδοχή στη θέση που αναφέρεται στην παράγραφο 1 οποιασδήποτε κατάστασης συναγεργμού θα δείχνεται στις θέσεις όπου αναγγέλθηκε. Τα σήματα συναγεργμού θα διατηρούνται μέχρι να γίνουν δεκτά και οι οπτικές ενδείξεις των διαφόρων συναγεργμών θα παραμένουν μέχρι την αποκατάσταση του σφάλματος οπότε το σύστημα συναγεργμού θα επανέρχεται αυτόματα στην κατάσταση κανονικής λειτουργίας.

Κανονισμός 52
Συστήματα ασφάλειας.

θα προβλέπεται σύστημα ασφάλειας ώστε να εξασφαλίζεται ότι σοβαρή ανωμαλία στις λειτουργίες των μηχανημάτων ή λεβήτων, που παρουσιάζει άμεσο κίνδυνο, θα θέτει σε λειτουργία τον μηχανισμό αυτόματης διακοπής του μέρους εκείνου της εγκατάστασης και θα σημαίνεται συναγερμός. Η διακοπή του συστήματος πρόωσης δεν θα ενεργοποιείται αυτόματα εκτός από περιπτώσεις που θα μπορούσαν να οδηγήσουν σε σοβαρή βλάβη, πλήρη καταστροφή ή έκρηξη. Όπου υπάρχουν διατάξεις παράκαμψης του μηχανισμού διακοπής των κύριων μηχανημάτων πρόωσης, θα είναι τέτοιες ώστε να αποκλείουν λειτουργία από απροσεξία. Θα προβλέπονται οπτικά μέσα που θα παρέχουν ένδειξη της ενεργοποίησης των διατάξεων παράκαμψης.

Κανονισμός 53

Ειδικές απαιτήσεις για εγκαταστάσεις μηχανημάτων, λεβήτων και ηλεκτρικές εγκαταστάσεις.

1. Οι ειδικές απαιτήσεις για εγκαταστάσεις μηχανημάτων, λεβήτων και ηλεκτρικές εγκαταστάσεις θα ικανοποιούν την Αρχή και θα περιλαμβάνουν τουλάχιστον τις απαιτήσεις του Κανονισμού αυτού.
2. Η κύρια πηγή ηλεκτρικής ενέργειας θα πληροί τις ακόλουθες απαιτήσεις:
 - 2.1. Όπου η ηλεκτρική ενέργεια μπορεί κανονικά να παρέχεται από μία ηλεκτρογεννήτρια, θα προβλέπονται κατάλληλες διατάξεις αποσύνδεσης φορτίων που εξασφαλίζουν ότι δεν θίγονται οι παροχές στις υπηρεσίες που απαιτούνται για πρόωση και πηδαλιούχηση καθώς επίσης και η ασφάλεια του πλοίου. Στη περίπτωση που η λειτουργούσα ηλεκτρογεννήτρια τεθεί εκτός λειτουργίας θα λαμβάνεται ικανοποιητική μέριμνα για την αυτόματη εκκίνηση και σύνδεση με τον κύριο ηλεκτρικό πίνακα μιάς εφεδρικής ηλεκτρογεννήτριας επαρκούς ικανότητας ώστε να επιτρέπει την πρόωση, την πηδαλιούχηση και να εξασφαλίζει την ασφάλεια του πλοίου με την αυτόματη επανεκκίνηση των απαραίτητων βοηθητικών μηχανημάτων περιλαμβανομένων, όπου είναι αναγκαίο, διαδοχικών λειτουργιών. Η Αρχή μπορεί να απαλλάξει από αυτή την απαίτηση πλοίο μικρότερο από 1600 κίλους ολικής χωρητικότητας, αν κρίνει ότι η συμμόρφωση του δεν είναι πρακτικά δυνατή.

- 2.2 Αν η ηλεκτρική ενέργεια παρέχεται κανονικά από περισσότερες από μία ηλεκτρογεννήτριες που λειτουργούν ταυτόχρονα παραλληλισμένες, θα λαμβάνεται μέριμνα, με αποσύνδεση φορτίων π.χ., ώστε να εξασφαλίζεται ότι, στην περίπτωση που ένα από τα ηλεκτροπαραγωγά ζεύγη τεθεί εκτός λειτουργίας, αυτά που απομένουν θα συνεχίσουν να λειτουργούν χωρίς υπερφόρτωση για να επιτρέψουν την πρόωση και πηδάλιούχηση και να εξασφαλίσουν την ασφάλεια του πλοίου.
3. Όταν απαιτούνται εφεδρικές μηχανές για άλλα βοηθητικά μηχανήματα απαραίτητα για την πρόωση, θα προβλέπονται αυτόματες μεταγωγικές συσκευές.
4. Σύστημα αυτόματου ελέγχου και συναγερμού
- 4.1 Το σύστημα ελέγχου θα είναι τέτοιο ώστε οι αναγκαίες υπηρεσίες για τη λειτουργία των κύριων μηχανημάτων πρόωσης και των βοηθητικών τους μηχανημάτων να εξασφαλίζονται μέσω των αναγκαίων αυτομάτων διατάξεων.
- 4.2 Θα σημαίνεται συναγερμός κατά την αυτόματη μεταγωγή.
- 4.3 Θα προβλέπεται σύστημα συναγερμού που πληροί τον Κανονισμό 51 για όλες τις σημαντικές πιέσεις, θερμοκρασίες και στάθμες υγρών και άλλες ουσιαστικές παραμέτρους.
- 4.4 Θα εξασφαλίζεται θέση κεντρικού ελέγχου με τους αναγκαίους πίνακες συναγερμού και τα όργανα ενδείξεως οποιουδήποτε συναγερμού.
5. Όπου χρησιμοποιούνται μηχανές εσωτερικής καύσης για κύρια πρόωση, θα προβλέπονται μέσα για τη διατήρηση της πίεσης αέρα εκκίνησης στο απαιτούμενο επίπεδο.

Κανονισμός 54

Ειδική εξέταση που αφορά σε επιβατηγά πλοία.

Τα επιβατηγά πλοία θα εξετάζονται ειδικά από την Αρχή ως προς το αν μπορούν ή όχι οι χώροι μηχανών τους να είναι περιοδικά μη επανδρωμένοι και αν είναι αναγκαίες πρόσθετες απαιτήσεις από εκείνες που καθορίζονται στους Κανονισμούς αυτούς για να επιτευχθεί ισοδύναμο επίπεδο ασφάλειας με εκείνο που παρέχεται από κανονικά επανδρωμένους χώρους μηχανών.

1963

ΚΕΦΑΛΑΙΟ ΙΙ-2

ΚΑΤΑΣΚΕΥΗ - ΠΥΡΟΠΡΟΣΤΑΣΙΑ, ΑΝΙΧΝΕΥΣΗ ΚΑΙ ΚΑΤΑΣΒΕΣΗ
ΠΥΡΚΑΙΑΣ.

Το υπάρχον κείμενο του Κεφαλαίου ΙΙ-2 αντικαθίσταται από το ακόλουθο:

ΜΕΡΟΣ Α - ΓΕΝΙΚΑ

Κανονισμός Ι

Εφαρμογή

- 1.1 Εκτός αν ρητά ορίζεται διαφορετικά, το Κεφάλαιο αυτό θα εφαρμόζεται σε πλοία που οι τρύπιδες τους τοποθετήθηκαν ή που ευρίσκοντο σε παρεμφερές στάδιο κατασκευής την ή μετά την 1^η Σεπτεμβρίου 1984.
- 1.2 Για το σκοπό του Κεφαλαίου αυτού ο όρος "Παρεμφερές στάδιο κατασκευής" σημαίνει το στάδιο κατά το οποίο:
- .1 αρχίζει η κατασκευή που χαρακτηρίζει συγκεκριμένο πλοίο, και
 - .2 η συναρμολόγηση του πλοίου αυτού έχει αρχίσει περιλαμβάνοντας τουλάχιστο 50 τόννους ή 1% της προβλεπόμενης μάζας όλων των κατασκευαστικών υλικών, οποιοδήποτε είναι μικρότερο.
- 1.3 Για το σκοπό του Κεφαλαίου αυτού:
- .1 ο όρος "πλοία που έχουν κατασκευασθεί" σημαίνει "πλοία που οι τρύπιδες τους τοποθετήθηκαν ή που ευρίσκοντο σε παρεμφερές στάδιο κατασκευής",
 - .2 ο όρος "όλα τα πλοία" σημαίνει "πλοία που έχουν κατασκευασθεί πριν, την ή μετά την 1^η Σεπτεμβρίου 1984",
 - .3 Ένα φορτηγό πλοίο, ανεξάρτητα από την ημερομηνία ναυπήγησης του, που μετασκευάζεται σε επιβατηγό πλοίο, θα θεωρείται σαν επιβατηγό πλοίο που έχει κατασκευασθεί την ημερομηνία που αρχίζει η μετασκευή αυτή.
2. Εκτός αν ρητά ορίζεται διαφορετικά:
- .1 για πλοία που έχουν κατασκευασθεί πριν από την 1^η Σεπτεμβρίου 1984, η Αρχή θα εξασφαλίζει ότι, με την επιβύλαξη των ^{διατάξεων} της παραγράφου 2.2, πληροούνται οι απαιτήσεις του Κεφαλαίου ΙΙ-2 της Διεθνούς Σύμβασης για την Ασφάλεια της Ανθρώπινης Ζωής στη Θάλασσα 1974 που έχουν εφαρμογή στα νέα ή υπάρχοντα πλοία όπως ορίζεται στο Κεφάλαιο εκείνο,

Το κείμενο όπως υιοθετήθηκε από την Διεθνή Διάσκεψη για την Ασφάλεια της Ανθρώπινης Ζωής στη Θάλασσα 1974.

- 2 για δεξαμενόπλοια που έχουν κατασκευασθεί πριν από την 1 Σεπτεμβρίου 1984, η Αρχή θα εξασφαλίζει ότι πληρούνται οι απαιτήσεις του Κεφαλαίου II - 2 του Παραρτήματος του Πρωτοκόλλου 1978 που αναφέρεται στην Διεθνή Σύμβαση για την Ασφάλεια της Ανθρώπινης Ζωής στη θάλασσα, 1974, που έχουν εφαρμογή στα νέα ή υπάρχοντα πλοία, όπως ορίζονται στο Κεφάλαιο εκείνο.
3. Όλα τα πλοία στα οποία εκτελούνται επισκευές, μετασκευές, μετατροπές και σχετικοί εξοπλισμοί πρέπει να συνεχίσουν να συμμορφώνονται τουλάχιστον με τις απαιτήσεις που είχαν προηγουμένως εφαρμογή στα πλοία αυτά. Τέτοια πλοία αν έχουν κατασκευασθεί πριν από την 1 Σεπτεμβρίου 1984 πρέπει κατά κανόνα, να συμμορφώνονται με τις απαιτήσεις για πλοία που έχουν κατασκευασθεί την ή μετά την ημερομηνία αυτή στην ίδια τουλάχιστον έκταση που συμμορφωνόντουσαν πριν υποστούν τέτοιες επισκευές, μετασκευές, μετατροπές ή εξοπλισμούς. Επισκευές, μετασκευές και μετατροπές ευρείας έκτασης και σχετικοί εξοπλισμοί πρέπει να πληρούν τις απαιτήσεις για πλοία που έχουν κατασκευασθεί την ή μετά την 1 Σεπτεμβρίου 1984 σε τόση έκταση όση η Αρχή κρίνει λογική και πρακτική.
- 4.1 Η Αρχή ενός Κράτους μπορεί, αν κρίνει ότι η προασπισμένη φύση και οι συνθήκες του ταξιδιού είναι τέτοιες που να καθιστούν την εφαρμογή οποιωνδήποτε συγκεκριμένων απαιτήσεων του Κεφαλαίου αυτού παράλογη ή μη αναγκαία, να εξαιρέσει από τις απαιτήσεις αυτές συγκεκριμένα πλοία ή κατηγορίες πλοίων που έχουν το δικαίωμα να φέρουν πλοία αυτού του κράτους, εφόσον κατά την πορεία του ταξιδιού τους δεν απομακρύνονται περισσότερο από 20 μίλια από την πλησιέστερη ξηρά.
- 4.2 Στην περίπτωση επίβατηγών πλοίων που χρησιμοποιούνται σε ταξίδια για την μεταφορά μεγάλου αριθμού επιβατών ειδικών μεταφορών, όπως οι μεταφορές προσκυνητών, η Αρχή του Κράτους του οποίου την σημαία τέτοια πλοία έχουν το δικαίωμα να φέρουν, αν κρίνει ότι δεν είναι πρακτικά δυνατό να επιβάλλει συμμόρφωση προς τις απαιτήσεις του Κεφαλαίου αυτού, μπορεί να εξαιρέσει τέτοια πλοία από εκείνες τις απαιτήσεις, υπό την προϋπόθεση ότι συμμορφώνονται πλήρως με τις διατάξεις:
- 1 των Κανονισμών που επισυνάπτονται στη Συμφωνία Επίβατηγών Πλοίων Ειδικών Μεταφορών, 1971, και

- .2. των Κανονισμών που επισυνάπτονται στο Πρωτόκολλο περί Απαιτήσεων Χώρων για Επιβατηγά Πλοία Ειδικών Μεταφορών, 1973.

Κανονισμός 2

Βασικές αρχές.

1. Σκοπός του Κεφαλαίου αυτού είναι ο καθορισμός απαιτήσεων που θα εξασφαλίζουν στο μεγαλύτερο πρακτικά δυνατό βαθμό πυροπροστασία, ανίχνευση και κατάσβεση πυρκαϊάς στα πλοία.
2. Οι Κανονισμοί του Κεφαλαίου αυτού στηρίζονται στις ακόλουθες βασικές αρχές οι οποίες έχουν κατάλληλα ενσωματωθεί σ' αυτούς, λαμβανομένων υπ' όψη των τύπων των πλοίων και του κινδύνου πυρκαϊάς που μπορεί να παρουσιασθεί:
 - .1 υποδιαίρεση του πλοίου σε κύριες κατακόρυφες ζώνες με χωρίσματα που έχουν θερμική και κατασκευαστική αντοχή,
 - .2 διαχωρισμός των χώρων ενδίαίτησης από το υπόλοιπο πλοίο με χωρίσματα που έχουν θερμική και κατασκευαστική αντοχή,
 - .3 περιορισμένη χρήση καυσίμων υλικών,
 - .4 ανίχνευση οποιασδήποτε πυρκαϊάς στη ζώνη προέλευσής της,
 - .5 περιορισμός και κατάσβεση οποιασδήποτε πυρκαϊάς στο χώρο προέλευσής της,
 - .6 προστασία των μέσων διαφυγής ή των οδών προσπέλασης για την καταπολέμηση της πυρκαϊάς,
 - .7 άμεση διαθεσιμότητα των πυροσβεστικών μέσων,
 - .8 ελαχιστοποίηση της πιθανότητας ανάφλεξης ευφλέκτων ατμών φορτίου.

Κανονισμός 3

Ορισμοί.

Για το σκοπό αυτού του Κεφαλαίου, εκτός αν ρητά προβλέπεται διαφορετικά:

1. " Άκαυστο υλικό " είναι υλικό που ούτε καίγεται ούτε αποδίδει εύφλεκτους ατμούς σε αρκετή ποσότητα για αυτανάφλεξη όταν θερμανθεί σε θερμοκρασία περίπου 750°C, σύμφωνα με μία καθιερωμένη μέθοδο δοκιμής* που ικανοποιεί την Αρχή. Οποιοδήποτε άλλο υλικό είναι καύσιμο υλικό.

* Γίνεται μνεία της Βελτιωμένης Σύστασης για τη μέθοδο Δοκιμής για τον χαρακτηρισμό Υλικών Ναυτικών Κατασκευών ως Ακαύστων που υιοθετήθηκε από τον Οργανισμό με την Απόφαση Α.472(XII).

2. "Τυποποιημένη δοκιμή πυρκαϊάς " είναι η δοκιμή κατά την οποία δείγματα διαφραγμάτων ή καταστρώματων εκτίθενται μέσα σε δοκιμαστικό κλίβανο σε θερμοκρασίες που ανταποκρίνονται περίπου στη τυποποιημένη καμπύλη χρόνου - θερμοκρασίας. Το δείγμα θα έχει εκτεθειμένη επιφάνεια όχι μικρότερη από 4,65 τετραγ. μέτρα και ύψος (ή μήκος για καταστρώματα) 2,44 μέτρα, και θα προσομοιάζει όσο το δυνατόν περισσότερο στην επιδιωκόμενη κατασκευή και θα περιλαμβάνει, όπως είναι κατάλληλο, τουλάχιστον ένα αρμό. Η τυποποιημένη καμπύλη χρόνου - θερμοκρασίας ορίζεται από μια γραφική παράσταση, που διέρχεται από τα ακόλουθα σημεία που αντιστοιχούν σε θερμοκρασίες, που μετρούνται πάνω από την αρχική θερμοκρασία του κλίβανου:

στο τέλος των πρώτων 5 λεπτών	556° C
" " " " 10 "	659° C
" " " " 15 "	718° C
" " " " 30 "	821° C
" " " " 60 "	925° C

3. "Χωρίσματα κλάσης "Α" " είναι τα χωρίσματα που σχηματίζονται από διαφράγματα και καταστρώματα, που πληρούν τα ακόλουθα:
- 1 είναι κατασκευασμένα από χάλυβα ή άλλο ισοδύναμο υλικό,
 - 2 είναι κατάλληλα ενισχυμένα,
 - 3 είναι κατασκευασμένα κατά τέτοιο τρόπο ώστε να μπορούν να εμποδίζουν την διέοδο καπνού και φλόγας μέχρι το τέλος της τυποποιημένης δοκιμής πυρκαϊάς διάρκειας μίας ώρας,
 - 4 είναι μονωμένα με εγκεκριμένα άκαυστα υλικά έτσι ώστε η μέση θερμοκρασία της μη εκτεθειμένης όψης να μην υψώνεται περισσότερο από 139° C πάνω από την αρχική θερμοκρασία ^{ούτε η θερμοκρασία} σε οποιοδήποτε σημείο, περιλαμβανομένου οποιουδήποτε αρμού, να υψώνεται περισσότερο από 180° C πάνω από την αρχική θερμοκρασία, μέσα στα χρονικά διαστήματα του παρακάτω πίνακα:
- | | |
|--------------|----------|
| Κλάση "Α-60" | 60 λεπτά |
| Κλάση "Α-30" | 30 λεπτά |
| Κλάση "Α-15" | 15 λεπτά |
| Κλάση "Α-0" | 0 λεπτά. |
- 5 Αρχή μπορεί να απαιτήσει δοκιμή ενός πρωτότυπου διαφράγματος ή καταστρώματος για να βεβαιωθεί ότι αυτό πληροί τις παραπάνω απαιτήσεις ως προς την ακεραιότητα και την ανύψωση της θερμο-

κρασίας*.

4. "Χωρίσματα κλάσης Β" είναι τα χωρίσματα που σχηματίζονται από διαφράγματα, καταστρώματα, οροφές ή επενδύσεις που πληρούν τα ακόλουθα:
1. είναι κατασκευασμένα κατά τέτοιο τρόπο ώστε να μπορούν να εμποδίζουν την διόδο φλόγας μέχρι το τέλος της πρώτης μισής ώρας της τυποποιημένης δοκιμής πυρκαϊάς,
 2. έχουν τέτοιο βαθμό μόνωσης ώστε η μέση θερμοκρασία της μη εκτεθειμένης όψης να μην υφώνεται περισσότερο από 139°C πάνω από την αρχική θερμοκρασία, ούτε η θερμοκρασία σε οποιοδήποτε σημείο, περιλαμβανομένου οποιουδήποτε αρμού, να υφώνεται περισσότερο από 225°C πάνω από την αρχική θερμοκρασία μέσα στα χρονικά διαστήματα του παρακάτω πίνακα:

Κλάση "B - 15"	15 λεπτά
Κλάση "B - 0"	0 λεπτά.

3. είναι κατασκευασμένα από εγκεκριμένα άκαυστα υλικά και όλα τα υλικά που χρησιμοποιούνται για την κατασκευή και τοποθέτηση των χωρισμάτων κλάσης "B" είναι άκαυστα, με την εξαίρεση ότι μπορούν να επιτρέπονται καύσιμες επικαλύψεις εφ'όσον πληρούν άλλες απαιτήσεις του Κεφαλαίου αυτού,
 4. η Αρχή μπορεί να απαιτήσει δοκιμή ενός πρωτότυπου χωρίσματος για να βεβαιωθεί ότι αυτό πληροί τις παραπάνω απαιτήσεις ως προς την ακεραιότητα και την ανύψωση της θερμοκρασίας*.
5. "Χωρίσματα κλάσης C" είναι χωρίσματα που κατασκευάζονται από εγκεκριμένα άκαυστα υλικά. Δεν χρειάζεται να πληρούν ούτε απαιτήσεις σχετικές με τη διόδο του καπνού και της φλόγας, ούτε περιορισμούς σχετικούς με την ανύψωση της θερμοκρασίας. Καύσιμες επικαλύψεις επιτρέπονται εφ'όσον πληρούν άλλες απαιτήσεις του Κεφαλαίου αυτού.
6. "Συνεχείς οροφές ή επενδύσεις κλάσης Β" είναι οι οροφές ή οι επενδύσεις κλάσης "B" που καταλήγουν μόνο σε χωρίσμα κλάσης "A" ή "B".
7. "Χάλυβας ή άλλο ισοδύναμο υλικό". Όπου συναντώνται οι λέξεις

* Γίνεται μνεία της Έδρασης για τις Μεθόδους Πυριμάχων Δοκιμών για Χωρίσματα Κλάσης "A" και "B", που υιοθετήθηκε από τον Οργανισμό με τις Αποφάσεις A 163 (ESIV) και A 215 (VII).

"χάλυβας ή άλλο ισοδύναμο υλικό" ο όρος "ισοδύναμο υλικό" σημαίνει οποιοδήποτε άκαυστο υλικό το οποίο είτε μόνο του είτε λόγω μόνωσης του παρουσιάζει ιδιότητες κατασκευής και ακεραιότητας ισοδύναμες προς αυτές του χάλυβα κατά το τέλος της εφαρμοζόμενης έκθεσης στην τυποποιημένη δοκιμή πυρκαϊάς (π.χ. κράμα αλουμινίου με κατάλληλη μόνωση).

8. "Χαμηλή εξάπλωση φλόγας" σημαίνει ότι η επιφάνεια που περιγράφεται έτσι θα περιορίζει αρκετά την εξάπλωση της φλόγας, σύμφωνα με καθιερωμένη μέθοδο δοκιμής που θα ικανοποιεί την Αρχή.
9. "Κύριες κατακόρυφες ζώνες" είναι τα τμήματα στα οποία υποδιαιρείται το σκάφος, η υπερκατασκευή και τα υπερστεγάσματα με χωρίσματα κλάσης "Α", το μέσο μήκος των οποίων σε οποιοδήποτε κατάστρωμα δεν υπερβαίνει γενικά τα 40 μέτρα.
10. "Χώροι ενδιαίτησης" είναι οι χώροι που χρησιμοποιούνται ως κοινόχρηστοι χώροι, διάδρομοι, χώροι υγιεινής, καμπίνες, γραφεία, νοσοκομεία, κινηματογράφοι, χώροι παιγνιδιών και ασχολιών, κουρέια, κυλικεία που δεν περιέχουν συσκευές μαγειρικής και παρδμοιοι χώροι.
11. "Κοινόχρηστοι χώροι" είναι τα τμήματα των χώρων ενδιαίτησης που χρησιμοποιούνται ως προθάλαμοι, τραπεζαρίες, σαλόνια και παρδμοιοι μόνιμα περίκλειστοι χώροι.
12. "Χώροι υπηρεσίας" είναι οι χώροι που χρησιμοποιούνται ως μαγειρεία, κυλικεία που περιέχουν συσκευές μαγειρικής, ερμάρια, χώροι ταχυδρομείου και αξιών, αποθήκες, εργαστήρια εκτός από εκείνα που αποτελούν μέρος του χώρου μηχανών, και παρδμοιοι χώροι και οχετοί προς τέτοιους χώρους.
13. "Χώροι φορτίου" είναι όλοι οι χώροι που χρησιμοποιούνται για φορτία (περιλαμβανομένων των πετρελαιοδεξαμενών φορτίου) και οι οχετοί προς τέτοιους χώρους.
14. "Χώροι φορτίου RO/RO" είναι οι χώροι, που δεν είναι κατά κανένα τρόπο κανονικά υποδιαιρεμένοι και εκτείνονται είτε σε σημαντικό μήκος είτε σε ολόκληρο το μήκος του πλοίου και στους οποίους εμπορεύματα (σε κιβώτια ή χύμα, μέσα ή πάνω σε σιδηροδρομικά ή οδικά οχήματα (περιλαμβανομένων οδικών ή σιδηροδρομικών βυτιοφόρων) ρυμουλκούμενα οχήματα, εμπορευματοκιβώτια, παλλέτες, αφαιρούμενες δεξαμενές ή μέσα ή πάνω σε παρδμοιες μονάδες στοιβάσις

ή άλλα δοχεία) μπορούν να φορτώνονται και να εκφορτώνονται κανονικά κατά οριζόντια διεύθυνση.

15. "Ανοικτοί χώροι φορτίου RO/RO" είναι οι χώροι φορτίου RO/RO που είτε είναι ανοικτοί και στα δύο άκρα, είτε είναι ανοικτοί στο ένα άκρο και στους οποίους παρέχεται επαρκής φυσικός αερισμός αποτελεσματικός σε ολόκληρο το μήκος του, μέσω μονίμων ανοιγμάτων στην πλευρά ή στην οροφή κατά τρόπο που να ικανοποιεί την Αρχή.
16. "Κλειστοί χώροι φορτίου RO/RO" είναι οι χώροι φορτίου RO/RO που δεν είναι ούτε ανοικτοί χώροι φορτίου RO/RO ούτε εκτεθειμένα στον καιρο καταστρώματα.
17. "Κατάστρωμα εκτεθειμένο στον καιρό" είναι ένα κατάστρωμα που είναι πλήρως εκτεθειμένο στον καιρό από πάνω και από τουλάχιστον δύο πλευρές.
18. "Χώροι ειδικής κατηγορίας" είναι οι περικλειστοί χώροι πάνω ή κάτω από το κατάστρωμα στεγανών διαφραγμάτων που προορίζονται για την μεταφορά μηχανοκίνητων οχημάτων με καύσιμα στις δεξιμένες τους για την κίνησή τους, προς και από τους οποίους χώρους τα οχήματα αυτά μπορούν να οδηγούνται και στους οποίους οι επιβάτες έχουν πρόσβαση.
19. "Χώροι μηχανών Κατηγορίας Α" είναι εκείνοι οι χώροι και οι οχηματοί προς τέτοιους χώρους που περιέχουν:
 - .1 μηχανές εσωτερικής καύσης, που χρησιμοποιούνται για κύρια πρόωση, ή
 - .2 μηχανές εσωτερικής καύσης, που χρησιμοποιούνται για σκοπούς άλλους από την κύρια πρόωση, όπου τέτοιες μηχανές έχουν αθροιστικά συνολική ισχύ εξόδου όχι μικρότερη από 375KW, ή
 - .3 οποιοδήποτε πετρελαιολέβητα ή μονάδα καυσίμου πετρελαίου.
20. "Χώροι μηχανών" είναι όλοι οι χώροι μηχανών Κατηγορίας Α και όλοι οι άλλοι χώροι που περιέχουν μηχανές πρόωσης, λέβητες, μονάδες καυσίμου πετρελαίου, μηχανές ατμού και εσωτερικής καύσης, γεννήτριες και μεγάλες ηλεκτρικές μηχανές, σταθμούς παραλαβής πετρελαίου, φυκτικά μηχανήματα, σταθερωτήρες, μηχανήματα αερισμού και κλιματισμού και παρόμοιοι χώροι και οχηματοί προς τέτοιους χώρους.

21. "Μονάδα καυσίμου πετρελαίου" είναι ο εξοπλισμός που χρησιμοποιείται για την προπαρασκευή καυσίμου πετρελαίου για την διοχέτευσή του σε πετρελαιολέβητα, ή ο εξοπλισμός που χρησιμοποιείται για την προπαρασκευή πετρελαίου που έχει θερμανθεί για τη διοχέτευσή του σε μηχανή εσωτερικής καύσης και περιλαμβάνει οποιαδήποτε αντλία κατάθλιψης πετρελαίου, φίλτρα και θερμαντήρες για πετρέλαιο σε πίεση μεγαλύτερη από $0,18 \text{ N/m}^2$.
22. "Σταθμοί ελέγχου" είναι οι χώροι εκείνοι στους οποίους ευρίσκονται οι ραδιοηλεκτρονικές συσκευές του πλοίου ή τα κύρια όργανα ναυσιπλοΐας ή η πηγή ενέργειας ανάγκης ή όπου είναι συγκεντρωμένες οι συσκευές καταγραφής ή ελέγχου πυρκαϊάς.
23. "Χώροι που περιέχουν επίπλωση και εξοπλισμό περιωρισμένου κινδύνου πυρκαϊάς" είναι, για το σκοπό του Κανονισμού 26, οι χώροι που περιέχουν επίπλωση και εξοπλισμό περιωρισμένου κινδύνου πυρκαϊάς (είτε είναι καμπίνες, κοινόχρηστοι χώροι, γραφεία είτε άλλης μορφής ενδιαιτήματα) στους οποίους:
1. όλα τα μόνιμα έπιπλα όπως γραφεία, ιματιοθήκες, τουαλέτες, μπουφέδες, είναι κατασκευασμένα ολοκληρωτικά από εγκεκριμένα άκαυστα υλικά, με την εξαίρεση ότι μπορεί να χρησιμοποιηθεί καθισμη επικάλυψη στις εκτεθειμένες επιφάνειες των παραπάνω αντικειμένων σε πάχος όχι μεγαλύτερο από 2mm,
 2. όλα τα κινητά έπιπλα όπως καρέκλες, καναπέδες, τραπέζια είναι κατασκευασμένα από σκελετό που αποτελείται από άκαυστα υλικά,
 3. όλες οι υφασμάτινες επιστρώσεις, τα παραπετάσματα και άλλα ανηρητημένα υφασμάτινα υλικά έχουν, σε βαθμό που ικανοποιεί την Αρχή*, ιδιότητες αντίστασης στη διάδοση της φλόγας όχι κατώτερες από εκείνες τις οποίες έχει ^{εο}μαλλι ειδικής μάζας $0,8 \text{ Kg/m}^3$,
 4. όλα τα καλύμματα ^{εαγείων} έχουν, σε βαθμό που ικανοποιεί την Αρχή, ιδιότητες αντίστασης στη διάδοση της φλόγας όχι κατώτερες από εκείνες τις οποίες έχει ισόδυναμο μάλλινο ύφασμα που χρησιμοποιείται για τον ίδιο σκοπό,
 5. όλες οι εκτεθειμένες επιφάνειες των διαφραγμάτων, επενδύσεων και οροφών έχουν χαρακτηριστικά χαμηλής εξάπλωσης φλόγας, και

* Γίνεται μνεία της Σύστασης για την Μέθοδο Δοκιμής για τον Προσδιορισμό της Αντίστασης στη Φλόγα των Κατακόρυφα Στηριζόμενων Υφασμάτων και Ταινιών, που υιοθετήθηκε από τον Οργανισμό με την Απόφαση A47I(XII).

- 6 όλα τα επίπλα με ταπετσαρία έχουν ιδιότητες αντίστασης στην ανάφλεξη και διάδοση φλόγας τέτοιες που να ικανοποιούν την Αρχή.
24. "Κατάστρωμα στεγανών διαφραγμάτων" είναι το ανώτατο κατάστρωμα μέχρι το οποίο φθάνουν τα εγκάρσια στεγανά διαφράγματα.
25. "Νεκρό βάρος" είναι η διαφορά σε τόννους μεταξύ του εκτοπίσματος ενός πλοίου σε νερό ειδικού βάρους 1,025 στην έμπορτη γραμμή ισάλου που αντιστοιχεί στο καθορισμένο ύψος εξάλων θέρους και του άφορτου εκτοπίσματος του πλοίου.
26. "Άφορτο εκτόπισμα" είναι το εκτόπισμα ενός πλοίου σε τόννους χωρίς φορτίο, καύσιμα, λιπαντικά, θαλάσσερμα, πόσιμο και τροφοδοτικό νερό στις δεξαμενές, αναλώσιμα υλικά και επιβάτες και πλήρωμα και τα προσωπικά τους είδη.
27. "Πλοίο συνδυασμένων μεταφορών" είναι δεξαμενόπλοιο σχεδιασμένο για τη μεταφορά πετρελαίου ή εναλλακτικά στερεών φορτίων χύμα.
28. "Ακατέργαστο πετρέλαιο" είναι οποιοδήποτε πετρέλαιο που συναντάται φυσικά στη γη, είτε έχει κατεργασθεί για να καταστεί κατάλληλο για μεταφορά είτε όχι και περιλαμβάνει:
1. ακατέργαστο πετρέλαιο από το οποίο μπορεί να έχουν αφαιρεθεί ορισμένα κλάσματα απόσταξης, και
 2. ακατέργαστο πετρέλαιο στο οποίο μπορεί να έχουν προστεθεί ορισμένα κλάσματα απόσταξης.
29. "Επικίνδυνα φορτία" είναι τα φορτία εκείνα που αναφέρονται στον Κανονισμό VII/2.
30. "Χημικό Δεξαμενόπλοιο" είναι ένα δεξαμενόπλοιο που κατασκευάστηκε ή προσαρμόστηκε και χρησιμοποιείται για τη μεταφορά χύμα οποιοδήποτε υγρού προϊδντος εύφλεκτης φύσης, που είναι καταχωρημένο στην περίληψη των ελαχίστων απαιτήσεων του Κώδικα για την Κατασκευή και Εξοπλισμό των Πλοίων που Μεταφέρουν Επικίνδυνα Χημικά Χύμα, που πρόκειται να υιοθετηθεί από την Επιτροπή Ναυτικής Ασφάλειας με την εξουσιοδότηση της Συνέλευσης του Οργανισμού που παρέχεται από την απόφαση Α 490 (XII), που στο εξής θα αναφέρεται ως "Κώδικας Χημικών Χύμα", όπως μπορεί να τροποποιηθεί από τον Οργανισμό.

31. "Υγραεριοφόρο" είναι ένα δεξαμενόπλοιο που κατασκευάσθηκε ή προσαρμόσθηκε και χρησιμοποιείται για τη μεταφορά χύμα οποιουδήποτε υγροποιημένου αερίου ή ορισμένων άλλων ουσιών εύφλεκτης φύσης που είναι καταχωρημένες στο Κεφάλαιο XIX του Κώδικα για την Κατασκευή και Εξοπλισμό των Πλοίων που Μεταφέρουν Υγροποιημένα Αέρια Χύμα, ⁷⁰⁰ ή νοθεύθηκε από τον Οργανισμό με την Απόφαση Α.328(IX) ^{και} (που στο εξής θα αναφέρεται ως "Κώδικας Υγραεριοφόρων", όπως έχει ή μπορεί να τροποποιηθεί από τον Οργανισμό.

Κανονισμός 4

Αντλίες Πυρκαϊάς, Κύριο δίκτυο πυρκαϊάς, Λήψεις και Εύναμπτοι Σωλήνες.

1. Κάθε πλοίο θα εφοδιάζεται με αντλίες πυρκαϊάς, κύριο δίκτυο πυρκαϊάς, λήψεις και εύναμπτους σωλήνες που πληρούν, όπου είναι εφαρμόσιμο, τις απαιτήσεις του Κανονισμού αυτού.
2. Παροχή αντλιών πυρκαϊάς.
 - 2.1 Οι απαιτούμενες αντλίες πυρκαϊάς θα είναι ικανές να παρέχουν για σκοπούς καταπολέμησης της πυρκαϊάς, την ακόλουθη ποσότητα νερού στην πίεση που καθορίζεται στην παράγραφο 4:
 - .1 οι αντλίες σε επιβατηγά πλοία, ποσότητα όχι μικρότερη από τα δύο-τρίτα της ποσότητας που απαιτείται να παρέχουν οι αντλίες κυτών όταν χρησιμοποιούνται για την απάντληση των κυτών, και
 - .2 οι αντλίες σε φορτηγά πλοία, εκτός από οποιαδήποτε αντλία ανάγκης, ποσότητα όχι μικρότερη από τα τέσσερα-τρίτα της ποσότητας που απαιτείται σύμφωνα με τον Κανονισμό II-1/21 να παρέχεται από κάθε ανεξάρτητη αντλία κυτών σε επιβατηγό πλοίο των ίδιων διαστάσεων όταν χρησιμοποιείται για την απάντληση κυτών, με την προϋπόθεση ότι σε κανένα φορτηγό πλοίο η συνολική απαιτούμενη παροχή των αντλιών πυρκαϊάς ^{είναι} χρειάζεται να υπερβαίνει τα 180 m³/ώρα.
 - 2.2 Κάθε μία από τις απαιτούμενες αντλίες πυρκαϊάς (εκτός από οποιαδήποτε αντλία ανάγκης που απαιτείται από την παράγραφο 3.3.2 για φορτηγά πλοία) θα έχει παροχή όχι μικρότερη από το 80% του ηλικίου της ολικής απαιτούμενης παροχής δια του ελάχιστου αριθμού των απαιτούμενων αντλιών πυρκαϊάς, αλλά σε καμιά περίπτωση μικρότερη από 25 m³/ώρα και κάθε τέτοια αντλία θα είναι ικανή σε

κάθε περίπτωση να παρέχει τουλάχιστον τις δύο απαιτούμενες προβολές νερού. Αυτές οι αντλίες πυρκαϊάς θα είναι ικανές να τροφοδοτούν το κύριο δίκτυο πυρκαϊάς στις απαιτούμενες συνθήκες. Όπου εγκαθίστανται περισσότερες αντλίες από τον ελάχιστο αριθμό των απαιτούμενων αντλιών, η παροχή αυτών των πρόσθετων αντλιών θα ικανοποιεί την Αρχή.

3. Διατάξεις των αντλιών πυρκαϊάς και του κύριου δικτύου πυρκαϊάς.

3.1 Τα πλοία θα εφοδιάζονται με αντλίες πυρκαϊάς ανεξάρτητης κίνησης ως εξής:

- .1 Επιβατηγά πλοία ολικής χωρητικότητας 4000 κόνων και άνω : τουλάχιστον τρεις
- .2 Επιβατηγά πλοία ολικής χωρητικότητας κάτω των 4000 κόνων και φορτηγά πλοία ολικής χωρητικότητας 1000 κόνων και άνω : τουλάχιστον δύο
- .3 Φορτηγά πλοία ολικής χωρητικότητας κάτω των 1000 κόνων : κατά την κρίση της Αρχής.

3.2 Οι αντλίες υγιεινής, έρματος, κυτών ή γενικής χρήσης μπορεί να γίνουν αποδεκτές ως αντλίες πυρκαϊάς, με την προϋπόθεση ότι δεν χρησιμοποιούνται κανονικά για άντληση πετρελαίου και ότι, σε περίπτωση που χρειάζονται περιστασιακά για μετάγγιση ή άντληση καυσίμου πετρελαίου, θα τοποθετούνται κατάλληλες διατάξεις μεταγωγής.

3.3 Η διάταξη των συνδέσμων θάλασσας, των αντλιών πυρκαϊάς και των πηγών ενέργειάς τους θα είναι τέτοια, ώστε να εξασφαλίζεται ότι:

- .1 Σε επιβατηγά πλοία ολικής χωρητικότητας 1000 κόνων και άνω, σε περίπτωση πυρκαϊάς σε ένα οποιοδήποτε διαμέρισμα δεν θα τεθούν εκτός λειτουργίας όλες οι αντλίες πυρκαϊάς.
- .2 Σε φορτηγά πλοία ολικής χωρητικότητας 2000 κόνων και άνω, αν πυρκαϊά σε ένα οποιοδήποτε διαμέρισμα μπορούσε να θέσει όλες τις αντλίες εκτός λειτουργίας, θα υπάρχει ^{πρόσθετα} ένα εναλλακτικό μέσο που θα αποτελείται από μία μόνιμη αντλία ανάγκης ανεξάρτητης κίνησης ικανή να παρέχει δύο προβολές νερού κατά τρόπο που να ικανοποιεί την Αρχή. Η αντλία και η θέση της θα πληρούν τις ακόλουθες απαιτήσεις:

- .2.1 Η παροχή της αντλίας δεν θα είναι μικρότερη από το 40 % της ολικής παροχής των αντλιών πυρκαϊάς που απαιτούνται από τον Κανονισμό αυτό και σε καμμία περίπτωση μικρότερη από 25 m³/ώρα.
- .2.2 Όταν η αντλία παρέχει την ποσότητα νερού που απαιτείται από την παράγραφο 3.3.2.1, η πίεση σε οποιαδήποτε λήψη δεν θα είναι μικρότερη από τις ελάχιστες πιέσεις που αναφέρονται στην παράγραφο 4.2.
- .2.3 Οποιαδήποτε νηζελοκίνητη πηγή ενέργειας της αντλίας θα είναι ικανή να εκκινεί άμεσα από την ψυχρή της κατάσταση μέχρι θερμοκρασίας 0°C με χειροστρόφαλο. Αν αυτό δεν είναι πρακτικά δυνατό ή αν είναι πιθανό να αντιμετωπισθούν χαμηλότερες θερμοκρασίες θα εξετάζεται η περίπτωση εγκατάστασης και συντήρησης διατάξεων θέρμανσης, αποδεκτών από την Αρχή, ώστε να εξασφαλίζεται άμεση εκκίνηση. Αν η χειροκίνητη εκκίνηση δεν είναι πρακτικά δυνατή, η Αρχή μπορεί να επιτρέψει άλλα μέσα εκκίνησης. Τα μέσα αυτά θα είναι τέτοια ώστε να επιτρέπουν την εκκίνηση της νηζελοκίνητης πηγής ενέργειας τουλάχιστον 6 φορές σε χρονική περίοδο 30 λεπτών και τουλάχιστον 2 φορές στα πρώτα 10 λεπτά.
- .2.4 Οποιαδήποτε δεξαμενή υπηρεσίας καυσίμων θα περιέχει επαρκή ποσότητα καυσίμου για την λειτουργία της αντλίας σε πλήρες φορτίο για τρεις τουλάχιστον ώρες και εκτός του κύριου χώρου μηχανών θα είναι διαθέσιμη επαρκής εφεδρική ποσότητα καυσίμου για την λειτουργία της αντλίας σε πλήρες φορτίο για 15 ώρες επιπλέον.
- .2.5 Το συνολικό ύψος αναρρόφησης της αντλίας δεν θα υπερβαίνει τα 4,5 μέτρα σε όλες τις συνθήκες κλίσης και διαγωγής που είναι πιθανό να αντιμετωπισθούν κατά την υπηρεσία και η σωλήνωση αναρρόφησης θα είναι σχεδιασμένη έτσι ώστε να ελαχιστοποιούνται οι απώλειες αναρρόφησης.
- .2.6 Τα οριακά χωρίσματα του χώρου που περιέχει την αντλία πυρκαϊάς θα είναι μονωμένα σε βαθμό κατασκευαστικής πυροπροστασίας ισοδύναμο προς εκείνο που απαιτείται για "εταθμό ελέγχου" στον Κανονισμό 44.
- 2.7 Δεν θα επιτρέπεται απ'ευθείας επικοινωνία μεταξύ του χώρου μηχανών και του χώρου που περιέχει την αντλία πυρκαϊάς ανάγκης και την πηγή ενέργειάς της. Όταν αυτό δεν είναι πρακτικά δυνατό, η Αρχή μπορεί να αποδεχθεί διάταξη όπου η πρόσβαση γί-

νεται μέσω αεροφράγματος, κάθε μία από τις δύο θύρες του οποίου είναι αυτοκλειστή, ή μέσω μίας στεγανής θύρας ικανής να χειρίζεται από χώρο απομακρυσμένο από τον χώρο μηχανών και από τον χώρο που περιέχει την αντλία πυρκαϊάς ανάγκης και είναι απίθανο να αποκοπεί σε περίπτωση πυρκαϊάς σε εκείνους τους χώρους. Σ' αυτές τις περιπτώσεις θα προβλέπεται δεύτερο μέσο πρόσβασης στο χώρο που περιέχει την αντλία πυρκαϊάς ανάγκης και την πηγή ενέργειάς της.

- .2.8 Οι διατάξεις αερισμού στο χώρο που περιέχει την ανεξάρτητη πηγή ενέργειας της αντλίας πυρκαϊάς ανάγκης θα είναι τέτοιες ώστε να αποκλείουν, όσο είναι πρακτικά δυνατό, την πιθανότητα αναρρόφησης ^{ή εισόδου} στο χώρο αυτό καπνού από πυρκαϊά σε χώρο μηχανών.
 - .3 Σε επιβατηγά πλοία ολικής χωρητικότητας κάτω των 1000 κόνων και σε φορτηγά πλοία ολικής χωρητικότητας κάτω των 2000 κόνων, αν πυρκαϊά σε ένα οποιοδήποτε διαμέρισμα μπορούσε να θέσει εκτός λειτουργίας όλες τις αντλίες, τα εναλλακτικά μέσα για παροχή νερού για σκοπούς καταπολέμησης της πυρκαϊάς θα ικανοποιούν την Αρχή.
 - .4 Επί πλέον, σε φορτηγά πλοία όπου στο χώρο μηχανών είναι εγκατεστημένες άλλες αντλίες όπως γενικής χρήσης, κυτών και έρματος κ.λ.π, θα προβλέπονται διατάξεις που θα εξασφαλίζουν ότι τουλάχιστον μία απ' αυτές τις αντλίες, που έχει την παροχή και πίεση που απαιτείται από τις παραγράφους 2.2 και 4.2, είναι ικανή να παρέχει νερό στο κύριο δίκτυο πυρκαϊάς.
- 3.4. Οι διατάξεις για την άμεση διαθεσιμότητα παροχής νερού θα είναι:
- .1 σε επιβατηγά πλοία ολικής χωρητικότητας 1000 κόνων και άνω, τέτοιες ώστε μία τουλάχιστον αποτελεσματική προβολή νερού να είναι αμέσως διαθέσιμη από οποιαδήποτε λήψη σε εσωτερική θέση και τέτοιες ώστε να εξασφαλίζουν την συνέχιση παροχής νερού με την αυτόματη εκκίνηση μίας απαιτούμενης αντλίας πυρκαϊάς,
 - .2 σε επιβατηγά πλοία ολικής χωρητικότητας κάτω των 1000 κόνων και σε φορτηγά πλοία, τέτοιες που να ικανοποιούν την Αρχή,
 - .3 σε φορτηγά πλοία με περιοδικά μη επανδρωμένο χώρο μηχανών ή όταν απαιτείται ένα μόνο άτομο για φύλαξη, θα υπάρχει άμεση παροχή νερού από το κύριο δίκτυο πυρκαϊάς σε κατάλληλη πίεση, είτε με εκκίνηση από απόσταση μίας από τις κύριες αντλίες πυρκαϊάς από τη γέφυρα ναυσιπλοΐας και από το σταθμό ελέγχου, αν υπάρχει, είτε με μόνιμη πίεση του κύριου δικτύου πυρκαϊάς από μία από τις κύριες αντλίες πυρκαϊάς, με την εξαίρεση ότι η Αρχή μπορεί να άρα αυτή

την απαίτηση για φορτηγά πλοία ολικής χωρητικότητας κάτω των 1600 κόνων αν η διάταξη της πρόσβασης του χώρου μηχανών δεν την καθιστά αναγκαία,

- 4 σε επιβατηγά πλοία, αν διαθέτουν περιοδικά μη επανδρωμένους χώρους μηχανών σύμφωνα με τον Κανονισμό II-I/54, η Αρχή θα καθορίζει απαιτήσεις για μόνιμο σύστημα κατάσβεσης πυρκαϊάς με νερό για τέτοιους χώρους, ισοδύναμες με εκείνες που απαιτούνται για κανονικά επανδρωμένους χώρους μηχανών.
- 3.5 Θα προβλέπονται ασφαλιστικές βαλβίδες για όλες τις αντλίες πυρκαϊάς αν οι αντλίες είναι ικανές να αναπτύξουν πίεση που υπερβαίνει την πίεση σχεδίασης των σωληνώσεων νερού, των λήψεων πυρκαϊάς και των ευκάμπτων σωλήνων. Οι βαλβίδες αυτές θα είναι τοποθετημένες και ρυθμισμένες έτσι ώστε να εμποδίζουν την υπερβολική πίεση σε οποιοδήποτε τμήμα του κυρίου δικτύου πυρκαϊάς.
- 3.6 Σε δεξαμενόπλοια θα τοποθετούνται απομονωτικά επιστόμια στο κύριο δίκτυο πυρκαϊάς στο πρωραίο μέρος του επιστέγου σε προστατευμένη θέση και στο κατάστρωμα των δεξαμενών κατά διαστήματα όχι μεγαλύτερα από 40 μέτρα ώστε να διατηρείται η ακεραιότητα του κυρίου δικτύου πυρκαϊάς σε περίπτωση πυρκαϊάς ή έκρηξης.
4. Διάμετρος και πίεση του κύριου δικτύου πυρκαϊάς.
- 4.1 Η διάμετρος του κύριου δικτύου πυρκαϊάς και των σωληνώσεων υπηρεσίας νερού θα είναι επαρκής για την αποτελεσματική διανομή της μέγιστης απαιτούμενης ποσότητας που καταθλίβεται από δύο αντλίες πυρκαϊάς που λειτουργούν ταυτόχρονα, με την εξαίρεση ότι στη περίπτωση φορτηγών πλοίων η διάμετρος χρειάζεται να επαρκεί μόνο για την κατάθλιψη $140 \text{ m}^3/\text{ώρα}$.
- 4.2 Όταν οι δύο αντλίες παρέχουν ταυτόχρονα με τα ακροσωλήνια, που καθορίζονται στην παράγραφο 8, την ποσότητα νερού που καθορίζεται στην παράγραφο 4.1, γέω ελαυνόμενα γειτονικών λήψεων πυρκαϊάς, οι ακλόουθες ελάχιστες πιέσεις θα διατηρούνται σε όλες τις λήψεις:

Επιβατηγά πλοία:

4000 κόνων ολικής χωρητικότητας και άνω : $0,31 \text{ N/mm}^2$

1000 κόνων ολικής χωρητικότητας και άνω
αλλά κάτω των 4000 κόνων ολικής χωρητικότητας : $0,27 \text{ N/mm}^2$

Κάτω των 1000 κόνων ολικής χωρητικότητας : κατά την κρίση της Αρχής.

Φορτηγά πλοία:

6000 κόνων ολικής χωρητικότητας και άνω : $0,27 \text{ N/mm}^2$

1000 κόνων ολικής χωρητικότητας και άνω
 αλλά κάτω των 6000 κόνων ολικής χωρητικότητας : 0,25 N/τημ²
 Κάτω των 1000 κόνων ολικής χωρητικότητας : Κατά την κρίση
 της Αρχής.

- 4.3 Η μέγιστη πίεση σε οποιαδήποτε λήψη δεν θα υπερβαίνει εκείνη στην οποία μπορεί να επιδειχθεί ότι επιτυγχάνεται αποτελεσματικός έλεγχος του εύκαμπτου σωλήνα.
5. Αριθμός και θέση των λήψεων πυρκαϊάς.
- 5.1 Ο αριθμός και η θέση των λήψεων πυρκαϊάς θα είναι τέτοια ώστε δύο τουλάχιστον προβολές νερού που δεν παρέχονται από την ίδια λήψη πυρκαϊάς, από τις οποίες η μία εκτοξεύεται από ένα ενιαίο τεμάχιο εύκαμπτου σωλήνα, να μπορούν να φθάσουν σε οποιοδήποτε μέρος του πλοίου που είναι κανονικά προσιτό στους επιβάτες ή το πλήρωμα ενώ το πλοίο ναυσιπλοεί, και σε οποιοδήποτε μέρος οποιουδήποτε χώρου φορτίου όταν είναι κενός, οποιουδήποτε χώρου φορτίου RO/RO ή οποιουδήποτε χώρου ειδικής κατηγορίας, οπότε στην τελευταία περίπτωση οι δύο προβολές θα φθάνουν σε οποιοδήποτε τμήμα του χώρου αυτού, εκτοξευόμενες κάθε μία από ενιαίο τεμάχιο εύκαμπτου σωλήνα. Επί πλέον οι λήψεις αυτές θα τοποθετούνται κοντά στις προσβάσεις στους προστατευμένους χώρους.
- 5.2 Στους χώρους ενδιαίτησης, υπηρεσίας και μηχανών επιβατηγών πλοίων ο αριθμός και η θέση των λήψεων πυρκαϊάς θα είναι τέτοια ώστε να πληρούνται οι απαιτήσεις της παραγράφου 5.1, όταν όλες οι στεγανές θύρες και όλες οι θύρες σε διαφράγματα των κύριων κατακόρυφων ζωνών είναι κλειστές.
- 5.3 Όπου, σε επιβατηγό πλοίο, παρέχεται πρόσβαση σε χώρο μηχανών κατηγορίας Α σε χαμηλό επίπεδο από γειτονική σήραγγα αξόνων θα προβλέπονται δύο λήψεις εξωτερικά, αλλά κοντά στην είσοδο αυτού του χώρου μηχανών. Όπου παρέχεται τέτοια πρόσβαση από άλλους χώρους, σ'ένα απ'αυτούς τους χώρους θα προβλέπονται δύο λήψεις πυρκαϊάς κοντά στην είσοδο του χώρου μηχανών κατηγορίας Α. Τέτοια πρόβλεψη δεν χρειάζεται να γίνει όπου η σήραγγα ή οι γειτονικοί χώροι δεν αποτελούν μέρος της οδού διαφυγής.
6. Σωληνώσεις και λήψεις πυρκαϊάς.
- 6.1 Για το δίκτυο πυρκαϊάς και τις λήψεις πυρκαϊάς δεν θα χρησιμοποιούνται υλικά που προσβάλλονται εύκολα από τη θερμότητα εκτός αν

προστατεύονται επαρκώς. Οι σωληνώσεις και οι λήψεις πυρκαϊάς θα τοποθετούνται έτσι ώστε οι εύκαμπτοι σωλήνες πυρκαϊάς να προσαρμίζονται εύκολα σ'αυτές. Η διάταξη των σωληνώσεων και των λήψεων πυρκαϊάς θα είναι τέτοια ώστε να αποφεύγεται η πιθανότητα πήξης του νερού. Σε πλοία όπου ενδέχεται να μεταφέρεται φορτίο στο κατάστρωμα, οι θέσεις των λήψεων πυρκαϊάς θα είναι τέτοιες ώστε να είναι πάντοτε άμεσως προσιτές και οι σωληνώσεις θα έχουν τέτοια διάταξη ώστε να αποφεύγεται όσο είναι πρακτικά δυνατό ο κίνδυνος να προκληθεί βλάβη από το φορτίο αυτό. Θα υπάρχει δυνατότητα πλήρους εναλλαγής των συνδέσμων των εύκαμπτων σωλήνων και ακροσωληνίων, εκτός αν προβλέπεται ^{από} άλλος εύκαμπτος σωλήνας και ακροσωληνίο για κάθε λήψη πυρκαϊάς στο πλοίο.

- 6.2 Θα τοποθετείται επιστόμιο που θα εξυπηρετεί κάθε εύκαμπτο σωλήνα πυρκαϊάς έτσι ώστε οποιοσδήποτε εύκαμπτος σωλήνας πυρκαϊάς να μπορεί να αφαιρεθεί ενώ οι αντλίες πυρκαϊάς ευρίσκονται σε λειτουργία.
- 6.3 Θα τοποθετούνται απομονωτικά επιστόμια σε εύκολα προσιτή και προφυλαγμένη θέση έξω από τους χώρους μηχανών για να διαχωρίζουν το τμήμα του κύριου δικτύου πυρκαϊάς μέσα στον χώρο μηχανών που περιέχει την κύρια αντλία ή αντλίες πυρκαϊάς από το υπόλοιπο τμήμα του κύριου δικτύου. Το δίκτυο πυρκαϊάς θα έχει τέτοια διάταξη ώστε, όταν τα απομονωτικά επιστόμια είναι κλειστά όλες οι λήψεις πυρκαϊάς του πλοίου εκτός απ'αυτές που ευρίσκονται στο χώρο μηχανών που αναφέρεται παραπάνω, να μπορούν να τροφοδοτούνται με νερό από μία αντλία πυρκαϊάς που δεν ευρίσκεται σ'αυτό το χώρο μηχανών με σωληνώσεις που δεν εισέρχονται στο χώρο αυτό. Κατ'εξαιρέση, η Αρχή μπορεί να επιτρέψει την διέλευση μέσα από το χώρο μηχανών μικρών τμημάτων των σωληνώσεων αναρρόφησης και κατάθλιψης της αντλίας πυρκαϊάς ανάγκης, αν είναι πρακτικά αδύνατο να διέλθουν εξωτερικά, υπό την προϋπόθεση ότι η ακεραιότητα του κύριου δικτύου πυρκαϊάς διατηρείται με την περίκλειση της σωληνώσεως σε ισχυρό χαλύβδινο περίβλημα.

7. Εύκαμπτοι σωλήνες πυρκαϊάς.

- 7.1 Οι εύκαμπτοι σωλήνες πυρκαϊάς θα είναι κατασκευασμένοι από υλικό εγκεκριμένο από την Αρχή και θα είναι επαρκούς μήκους για την εκτόξευση προβολής νερού σ'οποιοδήποτε από τους χώρους στους οποίους μπορεί να απαιτηθεί η χρησιμοποίησή τους. Το μέγιστο μήκος τους θα είναι τέτοιο που να ικανοποιεί την Αρχή. Κάθε εύκαμπτος σωλήνας θα

εφοδιάζεται με ακροσωλήνιο και τους αναγκαίους συνδέσμους. Οι εύκαμπτοι σωλήνες που χαρακτηρίζονται στο Κεφάλαιο αυτό ως "Εύκαμπτοι σωλήνες πυρκαϊάς" μαζί με οποιαδήποτε αναγκαία εξαρτήματα και εργαλεία θα είναι έτοιμοι για χρήση σε εμφανείς θέσεις κοντά στις λήψεις ή συνδέσεις υπηρεσίας νερού. Επί πλέον, σε εσωτερικές θέσεις επιβατηγών πλοίων που μεταφέρουν περισσότερους από 36 επιβάτες οι εύκαμπτοι σωλήνες πυρκαϊάς θα είναι πάντοτε συνδεδεμένοι στις λήψεις πυρκαϊάς.

- 7.2 Τα πλοία θα εφοδιάζονται με εύκαμπτους σωλήνες πυρκαϊάς, ο αριθμός και η διάμετρος των οποίων θα ικανοποιούν την Αρχή.
- 7.3 Σε επιβατηγά πλοία θα υπάρχει τουλάχιστον ένας εύκαμπτος σωλήνας πυρκαϊάς για κάθε λήψη πυρκαϊάς που απαιτείται από την παράγραφο 5. Αυτοί οι εύκαμπτοι σωλήνες θα χρησιμοποιούνται μόνο για σκοπούς κατάσβεσης πυρκαϊών ή για δοκιμή των πυροσβεστικών συσκευών κατά τα γυμνάσια πυρκαϊάς και τις επιθεωρήσεις.
- 7.4.1 Σε φορτηγά πλοία ολικής χωρητικότητας 1000 κβρων και άνω, ο αριθμός των εύκαμπτων σωλήνων πυρκαϊάς που θα υπάρχουν θα είναι ένας για κάθε 30 μέτρα μήκους του πλοίου και ένας εφεδρικός, αλλά σε καμιά περίπτωση ο συνολικός αριθμός θα είναι μικρότερος από πέντε. Ο αριθμός αυτός δεν περιλαμβάνει οποιουδήποτε εύκαμπτους σωλήνες που απαιτούνται σε οποιοδήποτε μηχανοστάσιο ή λεβητοστάσιο. Η Αρχή μπορεί να αυξήσει τον αριθμό των εύκαμπτων σωλήνων που απαιτούνται ώστε να εξασφαλίζεται ότι εύκαμπτοι σωλήνες σε επαρκή αριθμό είναι διαθέσιμοι και προσιτοί σε κάθε στιγμή, λαμβανομένων υπ' όψη του τύπου του πλοίου και της φύσης της εμπορικής μεταφοράς στην οποία απασχολείται το πλοίο.
- 7.4.2 Σε φορτηγά πλοία ολικής χωρητικότητας κάτω των 1000 κβρων ο αριθμός των εύκαμπτων σωλήνων πυρκαϊάς που θα υπάρχουν θα είναι τέτοιος που να ικανοποιεί την Αρχή.

8. Ακροσωλήνια.

- 8.1 Για τους σκοπούς του Κεφαλαίου αυτού, οι τυποποιημένες διαστάσεις των ακροσωληνίων θα είναι 12 χιλιοστάμετρα, 16 χιλιοστάμετρα και 19 χιλιοστάμετρα ή όσο το δυνατό πλησιέστερα στις τιμές αυτές. Ακροσωλήνια μεγαλύτερης διαμέτρου μπορεί να χρησιμοποιηθούν κατά την κρίση της Αρχής.
- 8.2 Για τους χώρους ενδιάθεσης και υπηρεσίας, δεν απαιτείται η χρησιμοποίηση ακροσωληνίων με διάμετρο μεγαλύτερη από 12 χιλιοστάμετρα.

- 8.3 Για τους χώρους μηχανών και τις εξωτερικές θέσεις, η διάμετρος του ακροσωληνίου θα είναι τέτοια ώστε να λαμβάνεται η μέγιστη δυνατή παροχή από δύο προβολές στην πίεση που αναφέρεται στην παράγραφο 4 από την μικρότερη αντλία, με την προϋπόθεση ότι δεν απαιτείται η χρησιμοποίηση ακροσωληνίου με διάμετρο μεγαλύτερη από 19 χιλιοστά.
- 8.4 Όλα τα ακροσωλήνια θα είναι εγκεκριμένου τύπου διπλής χρήσης (δηλ. ραντισμού/προβολής) και θα περιλαμβάνουν μέσο διακοπής.
9. Θέση και διάταξη των αντλιών νερού κ.λ.π, για άλλα συστήματα κατάσβεσης πυρκαϊάς.
- Οι απαιτούμενες αντλίες για την παροχή νερού σε άλλα συστήματα κατάσβεσης πυρκαϊάς, που απαιτούνται από το Κεφάλαιο αυτό, οι πηγές ενέργειάς τους και τα μέσα ελέγχου τους θα εγκαθίστανται έξω από το χώρο ή τους χώρους που προστατεύονται από τα συστήματα αυτά και θα έχουν τέτοια διάταξη ώστε πυρκαϊά στον χώρο ή στους χώρους που προστατεύονται δεν θα θέτει εκτός λειτουργίας οποιοδήποτε τέτοιο σύστημα.

Κανονισμός 5

Μόνιμα συστήματα κατάσβεσης πυρκαϊάς με αέριο.

1. Γενικά.

- 1.1 Δεν θα επιτρέπεται η χρήση μέσου κατάσβεσης πυρκαϊάς που κατά την κρίση της Αρχής, είτε μόνο του είτε στις αναμενόμενες συνθήκες χρήσης αναδίδει τοξικά αέρια σε ποσότητες τέτοιες ώστε να δημιουργούνται κίνδυνοι για άτομα.
- 1.2 Οι αναγκαίες σωληνώσεις για την μεταφορά του μέσου κατάσβεσης της πυρκαϊάς στους προστατευόμενους χώρους θα εφοδιάζονται με επιστόμια ελέγχου, που θα έχουν τέτοια σήμανση ώστε να δείχνουν καθαρά τους χώρους στους οποίους οδηγούνται οι σωληνώσεις αυτές. Θα λαμβάνεται κατάλληλη πρόνοια ώστε να εμποδίζεται η είσοδος του μέσου σε οποιοδήποτε χώρο από απροσεξία. Όπου χώρος φορτίου, στον οποίο είναι εγκατεστημένο σύστημα κατάσβεσης πυρκαϊάς με αέριο, χρησιμοποιείται ως χώρος επιβατών, η σύνδεση του αερίου θα απομονώνεται κατά τη διάρκεια τέτοιας χρήσης.
- 1.3 Οι σωληνώσεις για την διανομή του μέσου κατάσβεσης πυρκαϊάς θα έχουν τέτοια διάταξη και τα ακροφύσια εκροής θα τοποθετούνται κατά τέτοιο τρόπο ώστε να επιτυγχάνεται ομοιόμορφη κατανομή του μέσου.

- 1.4 Θα προβλέπονται μέσα κλεισίματος όλων των ανοιγμάτων, που μπορεί να επιτρέπουν την είσοδο αέρα ή τη διαφυγή αερίου από τον προστατευμένο χώρο.
- 1.5 Όπου ο δόμος του ελεύθερου αέρα, που περιέχεται μέσα σε αεροφιάλες σε οποιοδήποτε χώρο, είναι τέτοιος ώστε αν απελευθερωθεί μέσα σ' αυτό το χώρο σε περίπτωση πυρκαϊάς, η απελευθέρωση αυτή του αέρα μέσα σ' αυτό το χώρο θα μπορούσε να επηρεάσει σοβαρά την αποτελεσματικότητα του συστήματος κατάσβεσης πυρκαϊάς, η Αρχή θα απαιτεί την ύπαρξη πρόσθετης ποσότητας του μέσου κατάσβεσης της πυρκαϊάς.
- 1.6 Θα προβλέπονται μέσα για αυτόματη ηχητική προειδοποίηση απελευθέρωσης του μέσου κατάσβεσης πυρκαϊάς σε οποιονδήποτε χώρο στον οποίο εργάζεται κανονικά ή έχει πρόσβαση προσωπικό. Ο συναγερμός θα λειτουργεί για κατάλληλη χρονική περίοδο πριν απελευθερωθεί το μέσο.
- 1.7 Τα μέσα ελέγχου οποιουδήποτε μόνιμου συστήματος κατάσβεσης πυρκαϊάς με αέριο θα είναι αμέσως προσιτά και απλής χρήσης και θα είναι συγκεντρωμένα σε όσο το δυνατό λιγώτερες θέσεις, που δεν θα είναι πιθανό να αποκοπούν σε περίπτωση πυρκαϊάς στον προστατευμένο χώρο. Σε κάθε θέση θα υπάρχουν σαφείς οδηγίες σχετικά με την λειτουργία του συστήματος λαμβανομένης υπ' όψη της ασφάλειας του προσωπικού.
- 1.8 Δεν θα επιτρέπεται αυτόματη απελευθέρωση του μέσου κατάσβεσης πυρκαϊάς, εκτός από την περίπτωση της παραγράφου 3.3.5 και των τοπικών μονάδων αυτόματης λειτουργίας που αναφέρονται στις παραγράφους 3.4 και 3.5.
- 1.9 Όπου η ποσότητα του μέσου κατάσβεσης απαιτείται να προστατεύει περισσότερους από ένα χώρους, η διαθέσιμη ποσότητα του μέσου δεν απαιτείται να είναι περισσότερη από την μεγαλύτερη ποσότητα που απαιτείται για ένα οποιοδήποτε χώρο που προστατεύεται κατ' αυτό τον τρόπο.
- 1.10 Εκτός αν επιτρέπεται διαφορετικά από τις παραγράφους 3.3, 3.4 ή 3.5, τα δοχεία πίεσης που απαιτούνται για την αποθήκευση του μέσου κατάσβεσης πυρκαϊάς, εκτός από τον ατμό, θα τοποθετούνται έξω από τους προστατευμένους χώρους σύμφωνα με την παράγραφο I.13.
- 1.11 Θα προβλέπονται μέσα για τον ασφαλή έλεγχο από το πλήρωμα της ποσότητας του μέσου που περιλαμβάνεται στα δοχεία.

- 1.12 Τα δοχεία για την αποθήκευση του μέσου κατάσβεσης της πυρκαϊάς και τα σχετικά υπό πίεση εξαρτήματα θα σχεδιάζονται σύμφωνα με κανόνες πρακτικής που αναφέρονται στην πίεση κατά την κρίση της Αρχής, λαμβανομένων υπ' όψη των θέσεών τους και των μεγίστων θερμοκρασιών περιβάλλοντος που αναμένονται κατά την υπηρεσία.
- 1.13 Όταν το μέσο κατάσβεσης πυρκαϊάς αποθηκεύεται έξω από προστατευμένο χώρο, η αποθήκευσή του θα γίνεται σε χώρο που θα ευρισκεται σε ασφαλή και εύκολα ποσοιτή θέση και θα αερίζεται αποτελεσματικά κατά την κρίση της Αρχής. Οποιαδήποτε είσοδος σε τέτοιο χώρο αποθήκευσης θα γίνεται κατά προτίμηση από το ανοικτό κατάστρωμα και οπωσδήποτε θα είναι ανεξάρτητη από τον προστατευμένο χώρο. Οι θύρες εισόδου θα ανοίγουν προς τα έξω και τα διαφράγματα και τα καταστρώματα, περιλαμβανομένων θυρών και άλλων μέσων κλεισίματος οποιωνδήποτε ανοιγμάτων σ' αυτά, που αποτελούν τα οριακά χωρίσματα μεταξύ τέτοιων χώρων και γειτονικών κλειστών χώρων θα είναι αεροστεγή. Για το σκοπό εφαρμογής των πινάκων ακεραιότητας στους Κανονισμούς 26, 27, 44 και 53, τέτοιοι χώροι αποθήκευσης θα θεωρούνται ως σταθμοί ελέγχου.
- 1.14 Τα ανταλλακτικά του συστήματος θα αποθηκεύονται στο πλοίο και θα ικανοποιούν την Αρχή.
2. Συστήματα διοξειδίου του άνθρακα.
- 2.1 Για χώρους φορτίου η διαθέσιμη ποσότητα διοξειδίου του άνθρακα θα είναι επαρκής, εκτός αν προβλέπεται διαφορετικά, να δίνει ελάχιστο στο όγκο ελεύθερου αερίου ίσο προς το 30 % του ολικού όγκου του μεγαλύτερου χώρου φορτίου του πλοίου που προστατεύεται κατ' αυτόν τον τρόπο.
- 2.2 Για χώρους μηχανών η ποσότητα του διοξειδίου του άνθρακα που θα φέρεται θα είναι επαρκής να δίνει ελάχιστον όγκο ελεύθερου αερίου ίση προς την μεγαλύτερη από τους ακόλουθους όγκους, είτε:
- 1 40 % του ολικού όγκου του μεγαλύτερου χώρου μηχανών που προστατεύεται κατ' αυτόν τον τρόπο, χωρίς να περιλαμβάνεται στον όγκο αυτό το τμήμα του φωταγωγού πάνω από το επίπεδο στο οποίο η οριζόντια επιφάνεια του φωταγωγού είναι ίση προς το 40 % ή λιγότερο της οριζόντιας επιφάνειας του εξεταζόμενου χώρου, που θα μετράται στο μέσο της απόστασης μεταξύ της οροφής του διπυθμένου και του κατώτερου τμήματος του φωταγωγού, ή

- .2 35 % του ολικού όγκου του μεγαλύτερου προστατευμένου χώρου μηχανών, περιλαμβανομένου του φωταγωγού.
 νοείται ότι τα ποσοστά που αναφέρονται παραπάνω μπορούν να μειωθούν σε 35 % και 30 % αντίστοιχα για φορτηγά πλοία ολικής χωρητικότητας κάτω των 2000 κβρων* νοείται επίσης ότι αν δύο ή περισσότεροι χώροι μηχανών δεν είναι τελείως χωριστοί θα θεωρούνται ότι αποτελούν ένα χώρο.
- 2.3 Για το σκοπό της παραγράφου αυτής ο όγκος του ελεύθερου διοξειδίου του άνθρακα θα υπολογίζεται σε $0,56\text{m}^3/\text{Kg}$.
- 2.4 Για χώρους μηχανών το μόνιμο σύστημα σωληνώσεων θα είναι τέτοιο ώστε το 85 % του αερίου να μπορεί να εκκενωθεί μέσα στο χώρο σε 2 πρώτα λεπτά.
3. Συστήματα αλογονωμένων υδρογονανθράκων.
- 3.1 Η χρήση των αλογονωμένων υδρογονανθράκων ως μέσων κατάσβεσης πυρκαϊάς επιτρέπεται μόνο σε χώρους μηχανών, αντλιοστάσια και χώρους φορτίου, που προορίζονται αποκλειστικά για τη μεταφορά οχημάτων που δεν μεταφέρουν οποιοδήποτε φορτίο.
- 3.2 Όταν χρησιμοποιούνται αλογονωμένοι υδρογονάνθρακες ως μέσα κατάσβεσης πυρκαϊάς σε συστήματα ολικής κατάκλυσης:
- .1 Το σύστημα θα έχει διάταξη χειροκίνητης μόνον ενεργοποίησης της μηχανοκίνητης απελευθέρωσης του μέσου.
 - .2 Αν η ποσότητα του αλογονωμένου υδρογονάνθρακα απαιτείται να τροφοδοτεί περισσότερους από ένα χώρους, οι διατάξεις για την αποθήκευση και απελευθέρωση της θα είναι τέτοιες ώστε να επιτυγχάνεται συμμόρφωση με τις παραγράφους 3.2.9 ή 3.2.10 αντίστοιχα.
 - .3 θα προβλέπονται μέσα για την αυτόματη διακοπή λειτουργίας όλων των ανεμιστήρων αερισμού που εξυπηρετούν τον προστατευόμενο χώρο πριν από την απελευθέρωση του μέσου.
 - .4 θα προβλέπονται μέσα για το χειροκίνητο κλείσιμο όλων των πυροφρακτών (DAMPERS) στο σύστημα αερισμού που εξυπηρετεί ένα προστατευόμενο χώρο.
 - .5 Οι διατάξεις εκροής θα ^{πρέπει} να ~~χρησιμοποιούνται~~ έτσι ώστε η ελάχιστη ποσότητα του μέσου που απαιτείται για χώρους φορτίου ή χώρους μηχανών στις παραγράφους 3.2.9 ή 3.2.10 αντίστοιχα να μπορεί ουσιαστικά να εκχυθεί σε ονομαστικό χρόνο 20 δευτερολέπτων ή λιγότερο με βάση την εκροή της υγρής φάσης.

6. Το σύστημα θα ^{πρέπει να} είναι σχεδιασμένο για λειτουργία σε περιοχή θερμοκρασιών που ικανοποιεί την Αρχή.
7. Η εκροή δεν ^{πρέπει} να θέτει σε κίνδυνο το προσωπικό που ασχολείται με την συντήρηση του εξοπλισμού ή/χρησιμοποιεί τις κανονικές κλίμακες πρόσβασης και τις εξόδους διαφυγής που εξυπηρετούν τον χώρο.
8. Θα προβλέπονται μέσα για τον ασφαλή έλεγχο από το πλήρωμα της πίεσης μέσα στα δοχεία.
9. Η ποσότητα του μέσου κατάσβεσης για χώρους φορτίου που προορίζονται αποκλειστικά για την μεταφορά οχημάτων που δεν μεταφέρουν οποιοδήποτε φορτίο θα υπολογίζεται σύμφωνα με τον πίνακα 5.1. Η ποσότητα αυτή θα βασίζεται στον ολικό όγκο του προστατευόμενου χώρου. Στην περίπτωση HALON 130I και 12II, η ποσότητα θα υπολογίζεται με βάση την ογκομετρική αναλογία, και στην περίπτωση HALON 2402 με βάση την αναλογία μάζας ανά μονάδα όγκου.

Πίνακας 5.1

HALON	Ελάχιστο	Μέγιστο
130I	5 %	7 %
12II	5 %	5,5 %
2402	0,23 Kg/m ³	0,30 Kg/m ³

10. Η ποσότητα των μέσων κατάσβεσης για χώρους μηχανών θα υπολογίζεται σύμφωνα με τον πίνακα 5.2. Η ποσότητα αυτή θα βασίζεται στον ολικό όγκο του χώρου σε ότι αφορά την ελάχιστη συγκέντρωση και στον καθαρό όγκο του χώρου σε ότι αφορά την μέγιστη συγκέντρωση, περιλαμβανομένου του φωταγωγού. Στην περίπτωση HALON 130I και 12II, η ποσότητα θα υπολογίζεται με βάση την ογκομετρική αναλογία και στη περίπτωση HALON 2402 με βάση την αναλογία μάζας ανά μονάδα όγκου.

Πίνακας 5.2

HALON	Ελάχιστο	Μέγιστο
130I	4,25 %	7 %
12II	4,25 %	5,5 %
2402	0,20 Kg/m ³	0,30 Kg/m ³

11. Για το σκοπό των παραγράφων 3.2.9 και 3.2.10, ο όγκος του HALON 130I θα υπολογίζεται σε 0,16 m³/Kg και ο όγκος του HALON 12II θα υπολογίζεται σε 0,14 m³/Kg.

3.3 Μόνο ΗΛΙΟΝ Τ301 μπορεί να αποθηκεύεται μέσα σε προστατευόμενο χώρο μηχανών. Τα δοχεία θα είναι ατομικά κατανεμημένα μέσα στο χώρο αυτό και οι ακλόυθες απαιτήσεις θα πληρούνται:

- 1 Θα προβλέπεται διάταξη χειροκίνητης ενεργοποίησης της μηχανοκίνητης απελευθέρωσης του μέσου η οποία θα ευρίσκειται έξω από τον προστατευόμενο χώρο. Δύο πηγές ενέργειας θα προβλέπονται για την απελευθέρωση αυτή και θα ευρίσκονται έξω από τον προστατευόμενο χώρο και θα είναι αμέσως διαθέσιμες με την εξαίρεση ότι για χώρους μηχανών, μία από τις πηγές ενέργειας μπορεί να ευρίσκειται μέσα στον προστατευόμενο χώρο.
- 2 Τα ηλεκτρικά κυκλώματα ενέργειας που συνδέουν τα δοχεία θα ελέγχονται συνεχώς με όργανα για διαπίστωση καταστάσεων σφάλματος και απόλειας ενέργειας. Θα προβλέπονται οπτικά και ηχητικά μέσα προειδοποίησης για τις περιπτώσεις αυτές.
- 3 Τα κυκλώματα πεπιεσμένου αέρα ή υδραυλικής ενέργειας που συνδέουν τα δοχεία θα είναι διπλά. Οι πηγές του πεπιεσμένου αέρα ή της υδραυλικής πίεσης θα ελέγχονται συνεχώς με όργανα για την περίπτωση απόλειας της πίεσης. Θα προβλέπονται οπτικά και ηχητικά μέσα προειδοποίησης για τις περιπτώσεις αυτές.
- 4 Μέσα στον προστατευόμενο χώρο, τα απαραίτητα για την απελευθέρωση του συστήματος ηλεκτρικά κυκλώματα θα είναι ανθεκτικά στην θερμότητα π.χ καλώδια μονωμένα με ορυκτά υλικά ή ισοδύναμα. Συστήματα σωληνώσεων απαραίτητα για την απελευθέρωση συστημάτων που έχουν σχεδιασθεί για υδραυλική λειτουργία ή λειτουργία με πεπιεσμένο αέρα θα είναι από χάλυβα ή άλλο ισοδύναμο ανθεκτικό στη θερμότητα υλικό που να ικανοποιεί την Αρχή.
- 5 Κάθε δοχείο πίεσης θα εφοδιάζεται με αυτόματα ασφαλιστική διάταξη υπερπίεσης η οποία, στην περίπτωση έκθεσης του δοχείου στις επιδράσεις της πυρκαϊάς και μη λειτουργίας του συστήματος, θα διοχετεύει ασφαλώς το περιεχόμενο του δοχείου μέσα στον προστατευόμενο χώρο.
- 6 Η διάταξη των δοχείων και τα απαραίτητα ηλεκτρικά κυκλώματα και σωληνώσεις για την απελευθέρωση οποιουδήποτε συστήματος θα είναι τέτοιες ώστε σε περίπτωση βλάβης σε οποιαδήποτε ενεργειακή γραμμή απελευθέρωσης από πυρκαϊά ή εκρηξη μέσα σε προστατευόμενο χώρο, δηλ. με την παραδοχή μοναδικής βλάβης, τουλάχιστον τα δύο τρίτα της ποσότητας του μέσου κατάσβεσης που απαιτείται από τις παραγράφους 3.2.9 ή 3.2.10 για τον χώρο αυτό να μπορεί ακόμη να

διοχετευθεί λαμβανομένης υπ' όψη της απαίτησης για ομοιόμορφη κατανομή του μέσου σε ολόκληρο το χώρο. Οι διατάξεις που αφορούν σε συστήματα για χώρους που απαιτούν μόνο ένα ή δύο δοχεία θα ικανοποιούν την Αρχή.

- .7 Δεν θα τοποθετούνται περισσότερα από δύο ακροφύσια εκροής σε οποιοδήποτε δοχείο πίεσης και η μέγιστη ποσότητα του μέσου σε κάθε δοχείο θα ικανοποιεί την Αρχή λαμβανομένης υπ' όψη της απαίτησης για ομοιόμορφη κατανομή του μέσου σε ολόκληρο το χώρο.
 - .8 Τα δοχεία θα ελέγχονται συνεχώς με όργανα για περίπτωση ελάττωσης της πίεσης λόγω διαρροής και εκροής. Θα προβλέπονται οπτικά και ηχητικά μέσα ~~προειδοποίησης~~ στην προστατευόμενη περιοχή και στη γέφυρα ναυσιπλοΐας ή στο χώρο όπου ευρίσκεται συγκεντρωμένος ο εξοπλισμός ελέγχου πυρκαϊάς για την ένδειξη της κατάστασης αυτής, με την εξαίρεση ότι για χώρους φορτίου, μέσα ~~προειδοποίησης~~ απαιτούνται μόνο στη γέφυρα ναυσιπλοΐας ή στο χώρο όπου ευρίσκεται συγκεντρωμένος ο εξοπλισμός ελέγχου πυρκαϊάς.
- 3.4 Τοπικές μόνιμες πυροσβεστικές μονάδες αυτόματης λειτουργίας που περιέχουν HALON 1301 ή 1211, εγκατεστημένες σε κλειστές περιοχές μεγάλου κινδύνου πυρκαϊάς μέσα στους χώρους μηχανών ~~επιπέδου~~ και ανεξάρτητα από οποιοδήποτε απαιτούμενο μόνιμο σύστημα κατάσβεσης πυρκαϊάς μπορούν να γίνουν αποδεκτές εφ' όσον πληρούνται τα ακόλουθα:
- .1 Ο χώρος στον οποίο παρέχεται τέτοια πρόσθετη τοπική προστασία θα ευρίσκεται κατά προτίμηση σε ένα επίπεδο εργασίας και στο ίδιο επίπεδο με τη πρόσβαση. Κατά την κρίση της Αρχής μπορούν να επιτραπούν περισσότερα από ένα επίπεδα εργασίας εφ' όσον προβλέπεται μία πρόσβαση σε κάθε επίπεδο.
 - .2 Το μέγεθος του χώρου και οι διατάξεις πρόσβασης σ' αυτόν και τα μηχανήματα μέσα σ' αυτόν, θα είναι τέτοια ώστε η διαφυγή από οποιοδήποτε μέρος του χώρου να μπορεί να πραγματοποιηθεί το πολύ σε 10 δευτερόλεπτα.
 - .3 Η λειτουργία οποιασδήποτε μονάδας θα σημαίνεται και οπτικά και ακουστικά έξω από κάθε πρόσβαση στο χώρο μηχανών και στη γέφυρα ναυσιπλοΐας ή στο χώρο όπου ευρίσκεται συγκεντρωμένος ο εξοπλισμός ελέγχου πυρκαϊάς.
 - .4 Μία πινακίδα στην οποία θα αναγράφεται ότι ο χώρος περιέχει μία ή περισσότερες πυροσβεστικές μονάδες αυτόματης λειτουργίας κα-

θώς και τι μέσο χρησιμοποιείται, θα ευρίσκεται έξω από κάθε πρόσβαση στο χώρο.

Τα ακροφύσια εκροής θα τοποθετούνται έτσι ώστε η εκροή να μη φέτει σε κίνδυνο το προσωπικό που χρησιμοποιεί τις κανονικές κλίμακες πρόσβασης και τις εξόδους διαφυγής που εξυπηρετούν το διαμέρισμα. Θα λαμβάνεται επίσης μέριμνα για την προστασία του προσωπικού που ασχολείται με την συντήρηση των μηχανημάτων από τυχαία διαφυγή του μέσου.

- .6 Οι πυροσβεστικές μονάδες θα έχουν σχεδιασθεί για λειτουργία σε περιοχή θερμοκρασιών που ικανοποιεί την Αρχή.
 - .7 Θα προβλέπονται μέσα για τον ασφαλή έλεγχο από το πλήρωμα της πίεσης μέσα στα δοχεία.
 - .8 Η ολική ποσότητα του προβλεπόμενου πυροσβεστικού μέσου στις τοπικές μονάδες αυτόματης λειτουργίας θα είναι τέση ώστε η συγκέντρωση του μέσου στους 20°C με βάση τον καθαρό όγκο του κλειστού χώρου να μην υπερβαίνει το ποσοστό 7% στην περίπτωση του HALON 1301 και 5,5% στην περίπτωση του HALON 1211. Αυτή η απαίτηση εφαρμόζεται όταν έχει λειτουργήσει είτε μία τοπική μονάδα αυτόματης λειτουργίας είτε ένα μόνιμο σύστημα εγκατεστημένο σύμφωνα με την παράγραφο 3.2, όχι όμως όταν έχουν λειτουργήσει και τα δύο. Ο όγκος του HALON 1301 θα υπολογίζεται σε 0,16 m³/Kg και ο όγκος του HALON 1211 θα υπολογίζεται σε 0,14 m³/Kg.
 - .9 Ο χρόνος εκκένωσης μίας μονάδας, με βάση την εκροή της υγρής φάσης, δεν θα υπερβαίνει τα 10 δευτερόλεπτα.
 - .10 Η διάταξη των τοπικών πυροσβεστικών μονάδων αυτόματης λειτουργίας θα είναι τέτοια ώστε η απελευθέρωσή τους να μην προκαλεί απώλεια ηλεκτρικής ενέργειας ή ελάττωση της ικανότητας χειρισμών του πλοίου.
- 3.5 Οι πυροσβεστικές μονάδες αυτόματης λειτουργίας, όπως περιγράφονται στην παράγραφο 3.4, εγκατεστημένες σε χώρους μηχανών πάνω από συσκευές που παρουσιάζουν μεγάλο κίνδυνο πυρκαϊάς, επιηρότητα και ανεξάρτητα από οποιοδήποτε απαιτούμενο μόνιμο σύστημα κατάσβεσης πυρκαϊάς μπορούν να γίνουν αποδεκτές εφόσον πληρούνται οι απαιτήσεις των παραγράφων 3.4.3 μέχρι 3.4.6, 3.4.9 και 3.4.10 μαζί με τις ακόλουθες:
- .1 Η ποσότητα του προβλεπόμενου μέσου στις τοπικές μονάδες αυτόματης λειτουργίας θα είναι τέτοια ώστε η συγκέντρωση ατμών στον αέρα, που προκύπτει στη περίπτωση ταυτόχρονης λειτουργίας τους, να μην είναι μεγαλύτερη από 1,25% στους 20°C με βάση τον ολικό όγκο του χώρου μηχανών.

2. Ο όγκος του HALON 1301 θα υπολογίζεται σε $0,16m^3/Kg$ και ο όγκος του HALON 1211 θα υπολογίζεται σε $0,14m^3/Kg$.

4. Συστήματα ατμού.

Γενικά, η Αρχή δεν θα επιτρέπει την χρήση ατμού ως πυροσβεστικό μέσου σε μόνιμα συστήματα κατάσβεσης πυρκαϊάς. Όπου η Αρχή επιτρέπει την χρήση ατμού, αυτός θα χρησιμοποιείται μόνο σε περιορισμένες περιοχές επί πλέον του απαιτούμενου πυροσβεστικού μέσου και με την προϋπόθεση ότι ο λέβητας ή οι λέβητες που διατίθενται για την παροχή ατμού θα έχουν ατμοπαραγωγή τουλάχιστον $1,0Kg$ ατμού ανά ώρα και ανά $0,75m^3$ ολικού όγκου του μέγιστου χώρου που προστατεύεται κατ'αυτόν τον τρόπο. Επί πλέον προς τη συμμόρφωση με τις προηγούμενες απαιτήσεις τα συστήματα θα είναι από κάθε άποψη σύμφωνα με τα καθοριζόμενα από την Αρχή και θα ικανοποιούν την Αρχή.

5. Άλλα συστήματα αερίου.

5.1 Όπου παράγεται αέριο στο πλοίο και χρησιμοποιείται ως πυροσβεστικό μέσο, εκτός από διοξείδιο του άνθρακα ή αλογονωμένους υδρογονάνθρακες, ή ατμό όπως επιτρέπεται από την παράγραφο 4, ^{α)α} θα είναι ένα αερίωδες προϊόν καύσης καυσίμου στο οποίο το ποσοστό του οξυγόνου, το ποσοστό του μονοξειδίου του άνθρακα, τα διαβρωτικά στοιχεία και οποιαδήποτε στερεά καύσιμα στοιχεία έχουν ελαττωθεί σε μια ελάχιστη επιτρεπόμενη ποσοτήτα.

5.2 Όπου τέτοιο αέριο χρησιμοποιείται ως πυροσβεστικό μέσο σε μόνιμο σύστημα κατάσβεσης πυρκαϊάς για την προστασία των χώρων μηχανών ^{α)β} θα παρέχει ισοδύναμη προστασία με εκείνη που παρέχει ένα μόνιμο σύστημα που χρησιμοποιεί διοξείδιο του άνθρακα ως πυροσβεστικό μέσο.

5.3 Όπου τέτοιο αέριο χρησιμοποιείται ως πυροσβεστικό μέσο σε ένα μόνιμο σύστημα κατάσβεσης πυρκαϊάς για την προστασία των χώρων φορτίου, ^{α)γ} θα διατίθεται επαρκής ποσότητα τέτοιου αερίου για να παρέχει ωριαίως όγκο ελεύθερου αερίου τουλάχιστον ίσο με το 25% του ολικού όγκου του μεγαλύτερου χώρου που προστατεύεται κατ'αυτόν τον τρόπο για περίοδο 72 ωρών.

Κανονισμός 6

Πυροσβεστήρες

1. Όλοι οι πυροσβεστήρες θα είναι εγκεκριμένων τύπων και σχεδίων.

1.1 Η χωρητικότητα των απαιτούμενων φορητών πυροσβεστήρων υγρού δεν θα είναι μεγαλύτερη από 13,5 λίτρα ούτε μικρότερη από 9 λίτρα. Οι πυροσβεστήρες άλλου τύπου θα είναι τουλάχιστο τόσο φορητοί όσο ο πυροσβεστήρας υγρού 13,5 λίτρων καθ' όσον θα έχουν ικανότητα κατάσβεσης πυρκαϊάς τουλάχιστον ισοδύναμη με εκείνη του πυροσβεστήρα

υγρού 9 λίτρων.

- 1.2 Η Αρχή θα καθορίζει τα ισοδύναμα των πυροσβεστήρων.
2. Θα προβλέπονται ανταλλακτικές γομάσεις σύμφωνα με απαιτήσεις που καθορίζονται από την Αρχή.
3. Δεν θα επιτρέπονται πυροσβεστήρες που περιέχουν κατασβεστικό μέσο το οποίο κατά την κρίση της Αρχής, είτε μόνο του είτε στις αναμενόμενες συνθήκες χρήσης, αναδίδει τοξικά αέρια σε ποσότητες τέτοιες ώστε να δημιουργούνται κίνδυνοι για άτομα.
4. Η φορητή συσκευή παραγωγής αερίου θα αποτελείται από ένα ακροσωλήνιο αεραφρού επαγωγικού τύπου και ικανό να συνδέεται στο κύριο δίκτυο πυρκαϊάς με ένα εύκαμπτο σωλήνα πυρκαϊάς, μαζί με ένα φορητό δοχείο που περιέχει τουλάχιστον 20 λίτρα αεροπαραγωγού υγρού και ένα εφεδρικό δοχείο. Το ακροσωλήνιο θα είναι ικανό να παράγει αποτελεσματικό αερό κατάλληλο για κατάσβεση πυρκαϊάς πετρελαίου με απόδοση τουλάχιστον 1,5 κυβικά μέτρα ανά λεπτό.
5. Οι πυροσβεστήρες θα εξετάζονται περιοδικά και θα υποβάλλονται σε όποιες δοκιμές ή δελε απαιτήσει η Αρχή.
6. Ένας από τους φορητούς πυροσβεστήρες που προορίζεται για χρήση σε οποιοδήποτε χώρο θα τοποθετείται κοντά στην είσοδο του χώρου αυτού.
7. Χώροι ενδιαίτησης, χώροι υπηρεσίας και σταθμοί ελέγχου θα εφοδιάζονται με φορητούς πυροσβεστήρες καταλλήλων τύπων και σε επαρκή αριθμό κατά την κρίση της Αρχής. Πλοία ολικής χωρητικότητας 1000 κόνων και άνω θα φέρουν τουλάχιστον πέντε φορητούς πυροσβεστήρες.

Κανονισμός 7

Διατάξεις κατάσβεσης πυρκαϊάς στους χώρους μηχανών

1. Χώροι που περιέχουν πετρελαιολέμνες ή μονάδες καυσίμου πετρελαίου
 - 1.1 Χώροι μηχανών κατηγορίας A που περιέχουν πετρελαιολέμνες ή μονάδες καυσίμου πετρελαίου θα εφοδιάζονται μ'ένα από τα ακόλουθα μόνιμα συστήματα κατάσβεσης πυρκαϊάς :
 - .1 σύστημα αερίου που πληροί τις διατάξεις του Κανονισμού 5,
 - .2 σύστημα αερίου υψηλής εκτόνωσης που πληροί τις διατάξεις του Κανονισμού 9,
 - .3 σύστημα ραντισμού νερού με πίεση που πληροί τις διατάξεις του Κανονισμού 10.
 Σε κάθε περίπτωση, αν το μηχανοστάσιο και λεβητοστάσιο δεν είναι τελείως χωριστά ή αν καθίσταται δυνατό να διαρρεύσει από το λεβητοστάσιο στο μηχανοστάσιο, το σύνολο του μηχανοστασίου

και λεβητοστασίου θα θεωρείται ως ένα διαμέρισμα.

- 1.2 Σε κάθε λεβητοστάσιο θα υπάρχει μία τουλάχιστο φορητή συσκευή παραγωγής αφρού που θα πληροί τις διατάξεις του Κανονισμού 6.4.
- 1.3 Σε κάθε χώρο εστίας κάθε λεβητοστασίου και σε κάθε χώρο στον οποίο ευρίσκεται τμήμα της εγκατάστασης καυσίμου πετρελαίου θα υπάρχουν δύο τουλάχιστον φορητοί πυροσβεστήρες αφρού ή ισοδύναμοι.
Σε κάθε λεβητοστάσιο θα υπάρχει ένας τουλάχιστον πυροσβεστήρας αφρού εγκεκριμένου τύπου, χωρητικότητας τουλάχιστον 135 λίτρων, ή ισοδύναμος. Οι πυροσβεστήρες αυτοί θα εφοδιάζονται με ευκάμπτους σωλήνες τυλιγμένους σε εξέλκτρα και ικανούς να φθάσουν σε οποιοδήποτε τμήμα του λεβητοστασίου. Στη περίπτωση λεβήτων κάτω από 175 ΚW που εξυπηρετούν ανάγκες ενδιαίτησης σε φορητά πλοία η Αρχή μπορεί να εξετάσει την άρση των απαιτήσεων της παραγράφου αυτής.
- 1.4 Σε κάθε χώρο εστίας θα υπάρχει δοχείο που περιέχει άμμο, πριονίδια εμβαπτισμένα σε ανθρακικό νάτριο, ή άλλο εγκεκριμένο ξηρό υλικό σε τόση ποσότητα όση μπορεί να απαιτήσει η άρση. Εναλλακτικά αυτό μπορεί να αντικατασταθεί από ένα φορητό πυροσβεστήρα εγκεκριμένου τύπου.

2. Χώροι που περιέχουν μηχανήματα εσωτερικής καύσης

Οι χώροι μηχανών κατηγορίας Α που περιέχουν μηχανήματα εσωτερικής καύσης θα εφοδιάζονται με :

1. Ένα από τα συστήματα κατάσβεσης πυρκαϊάς που απαιτούνται από την παράγραφο 1.1.
2. Μία τουλάχιστο φορητή συσκευή παραγωγής αεραφρού που πληροί τις διατάξεις του Κανονισμού 6.4.
3. Πυροσβεστήρες αφρού εγκεκριμένου τύπου, σε κάθε τέτοιο χώρο, καθένας από τους οποίους θα έχει χωρητικότητα τουλάχιστο 45 λίτρα ή ισοδύναμους πυροσβεστήρες, επαρκείς σε αριθμό ώστε να μπορεί ο αφρός ή το ισοδύναμό του μέσο να κατευθύνεται σε οποιοδήποτε τμήμα των συστημάτων καυσίμου πετρελαίου και λιπαντικού ελαίου υπό πίεση, των μηχανισμών μετάδοσης κίνησης και σε άλλες θέσεις που παρουσιάζουν κίνδυνο πυρκαϊάς. Επι πλέον θα προβλέπεται επαρκής αριθμός φορητών πυροσβεστήρων αφρού ή ισοδυνάμου τύπου που θα είναι τοποθετημένοι έτσι ώστε κανένα σημείο του χώρου να ^{είναι} ευρίσκεται σε απόσταση βαδίσματος μεγαλύτερη από 10 μέτρα από ένα πυροσβεστήρα και να υπάρχουν τουλάχιστον δύο τέτοιοι πυροσβεστήρες σε κάθε τέτοιο χώρο. Για μικρότερους χώρους φορητών πλοίων η Αρχή μπορεί να εξετάσει την άρση της απαίτησης αυτής.

3. Χώροι που περιέχουν ατμοστρόβιλους ή ατμομηχανές κλειστού τύπου
 Σε χώρους που περιέχουν ατμοστρόβιλους ή ατμομηχανές κλειστού τύπου που χρησιμοποιούνται είτε για κύρια πρόωση είτε για άλλους σκοπούς, όταν τα μηχανήματα αυτά έχουν συνολικά ολική ισχύ εξόδου όχι μικρότερη από 375 ΣW θα προβλέπονται :
- .1 Πυροσβεστήρες αφρού εγκεκριμένου τύπου κατένας από τους οποίους θα έχει χωρητικότητα τουλάχιστον 45 λίτρα ή ισοδύναμοι πυροσβεστήρες επαρκείς σε αριθμό ώστε να μπορεί ο αφρός ή το ισοδύναμο του μέσο να κατευθύνεται σε οποιοδήποτε τμήμα του συστήματος λίπανσης υπό πίεση, σε οποιοδήποτε τμήμα των περιβλημάτων που περικλείουν λιπαίνόμενα υπό πίεση τμήματα των ατμοστρόβιλων, μηχανών ή συναφών μηχανισμών μετάδοσης κίνησης και σε οποιοδήποτε άλλες θέσεις που παρουσιάζουν κίνδυνο πυρκαϊάς. Πάντως, δεν θα απαιτούνται τέτοιοι πυροσβεστήρες αν στους χώρους αυτούς παρέχεται από ένα μόνιμο σύστημα κατάσβεσης πυρκαϊάς, εγκατεστημένο σύμφωνα με την παράγραφο 1.1, προστασία τουλάχιστον ισοδύναμη με εκείνη που απαιτεί η υποπαραγράφος αυτή.
 - .2 Επαρκής αριθμός φορητών πυροσβεστήρων αφρού ή ισοδύναμου τύπου που θα είναι τοποθετημένοι έτσι ώστε κανένα σημείο του χώρου να μην ευρίσκεται σε απόσταση βαδίσματος μεγαλύτερη από 10 μέτρα από ένα πυροσβεστήρα και θα υπάρχουν τουλάχιστον δύο τέτοιοι πυροσβεστήρες σε κάθε τέτοιο χώρο, με την εξαίρεση ότι αυτοί οι πυροσβεστήρες δεν θα απαιτούνται επί πλέον εκείνων που προβλέπονται σύμφωνα με την παράγραφο 1.3.
 - .3 Ένα από τα συστήματα κατάσβεσης πυρκαϊάς που απαιτείται από την παράγραφο 1.1, όπου τέτοιοι χώροι παραμένουν περιοδικά μη επανδρωμένοι.
4. Πυροσβεστικές συσκευές σε άλλους χώρους μηχανών.
 Όπου υπάρχει, κατά την κρίση της Αρχής, κίνδυνος πυρκαϊάς σε οποιοδήποτε χώρο μηχανών για τον οποίο δεν καθορίζονται στις παραγράφους 1, 2 και 3 ειδικές διατάξεις για πυροσβεστικές συσκευές, θα προβλέπονται μέσα στο χώρο αυτό ή σε γειτονικό χώρο φορητοί πυροσβεστήρες εγκεκριμένου τύπου ή άλλα μέσα κατάσβεσης πυρκαϊάς, σε αριθμό που η Αρχή μπορεί να θεωρήσει επαρκή.
5. Μόνιμα συστήματα κατάσβεσης πυρκαϊάς που δεν απαιτούνται από το Κεφάλαιο αυτό.
 Όπου εγκαθίσταται μόνιμο σύστημα κατάσβεσης πυρκαϊάς, που δεν απαιτείται απ' αυτό το κεφάλαιο, το σύστημα αυτό θα ικανοποιεί την Αρχή.

6. Χώροι Μηχανών κατηγορίας Α σε επιβατηγά πλοία

Σε επιβατηγά πλοία που μεταφέρουν περισσότερους από 36 επιβάτες, κάθε χώρος μηχανών κατηγορίας Α θα εφοδιάζεται με δύο τουλάχιστον κατάλληλες συσκευές παραγωγής ομίχλης νερού*.

Κανονισμός 8

Μόνιμα συστήματα κατάσβεσης πυρκαϊάς με αφρό χαμηλής εκτόνωσης σε χώρους μηχανών

1. Όπου σε οποιοδήποτε χώρο μηχανών εγκαθίσταται μόνιμο σύστημα κατάσβεσης πυρκαϊάς με αφρό χαμηλής εκτόνωσης επιβάλλεται ^{Τ13} προς ^{Τ13} απαιτήσε. του Κανονισμού 7, το σύστημα αυτό θα ^{πρέπει να} θεωρείται ικανό να παρέχει μέσω μονίμων στομίων εκροής, το πολύ σε πέντε πρώτα λεπτά, ποσότητα αφρού ικανή να καλύψει σε βάθος 150 χιλιοστομέτρων την μεγαλύτερη ενιαία επιφάνεια ^{πάνω στην} οποια μπορεί να διαχυθεί καύσιμο πετρέλαιο. Το σύστημα θα ^{πρέπει να} θεωρείται ικανό να παράγει αφρό κατάλληλο για κατάσβεση πυρκαϊών πετρελαίου.

θα προβλέπονται μέσα για την αποτελεσματική διανομή του αφρού μέσω ενός μονίμου συστήματος σωληνώσεων και επιστομίων ελέγχου ή κρουστών σε κατάλληλα στόμια εκροής, καθώς και μόνιμοι φεκαστήρες για την αποτελεσματική εκτόξευση του αφρού σε άλλες θέσεις που παρουσιάζουν μεγάλο κίνδυνο πυρκαϊάς μέσα στο προστατευόμενο χώρο. Ο λόγος εκτόνωσης του αφρού δεν θα υπερβαίνει την τιμή 12:1.

2. Τα μέσα ελέγχου οποιουδήποτε τέτοιου συστήματος θα είναι αμέσως προσιτά και απλής λειτουργίας και θα τοποθετούνται συγκεντρωμένα σε όσο το δυνατόν λιγότερες θέσεις και σε σημεία που δεν είναι πιθανό να αποκοπούν από πυρκαϊά στον προστατευόμενο χώρο.

Κανονισμός 9.

Μόνιμα συστήματα κατάσβεσης πυρκαϊάς με αφρό υψηλής εκτόνωσης σε χώρους μηχανών

- 1.1 Οποιοδήποτε απαιτούμενο μόνιμο σύστημα υψηλής εκτόνωσης αφρού σε χώρους μηχανών θα είναι ικανό να παρέχει γρήγορα μέσω μονίμων στομίων παροχής ποσότητα αφρού επαρκή για την πλήρωση του μεγαλύτερου χώρου που θα προστατευθεί με παροχή ενός τουλάχιστον μέτρου ύψους ανά λεπτό. Η διαθέσιμη ποσότητα του αφοπαραγωγού

* Η μία συσκευή παραγωγής ομίχλης νερού θα μπορούσε να αποτελείται από ένα μεταλλικό σωλήνα σχήματος I του οποίου το μεγάλο σκέλος θα έχει μήκος 2 μέτρα περίπου και θα μπορεί να προσαρμόζεται σε εύκαμπτο σωλήνα πυρκαϊάς και το μικρό σκέλος θα έχει μήκος 250 χιλιοστόμετρα περίπου και θα είναι εφοδιασμένο με μόνιμο ακροσωλήνιο ομίχλης νερού ή θα μπορεί να εφοδιασθεί με ακροσωλήνιο ραντισμού νερού.

υγρού θα είναι επαρκής για την παραγωγή όγκου αφρού ίσου με το πενταπλάσιο του όγκου του μεγαλύτερου χώρου που θα προστατευθεί. Ο λόγος εκτόνωσης του αφρού δεν θα υπερβαίνει την τιμή 1000:1.

- 1.2 Η Αρχή μπορεί να επιτρέψει εναλλακτικές διατάξεις και τιμές παροχής εφ'όσον κρίνει ότι επιτυγχάνεται ισοδύναμη προστασία.
2. Οι τροφοδοτικοί αγωγοί παροχής αφρού, οι εισαγωγές αέρα της αφρογεννήτριας και ο αριθμός των μονάδων παραγωγής αφρού θα είναι τέτοιοι ώστε να εξασφαλίζουν κατά την κρίση της Αρχής αποτελεσματική παραγωγή και διανομή αφρού.
3. Η διάταξη των αγωγών παροχής της αφρογεννήτριας θα είναι τέτοια ώστε πυρκαϊά στον προστατευόμενο χώρο να μην επηρεάζει τον εξοπλισμό παραγωγής αφρού.
4. Η αφρογεννήτρια, οι πηγές ενεργείας της, το αφροπαραγωγό υγρό και τα μέσα ελέγχου του συστήματος θα είναι αμέσως προσιτά και απλής λειτουργίας και θα τοποθετούνται συγκεντρωμένα σε όσο το δυνατό λιγώτερες θέσεις που δεν θα είναι πιθανό να αποκοπούν από πυρκαϊά στον προστατευόμενο χώρο.

Κανονισμός 10

Ύδνιμα συστήματα κατάσβεσης πυρκαϊάς με ραντισμό νερού υπό πίεση σε χώρους μηχανών

1. Οποιοδήποτε απαιτούμενο μόνιμο σύστημα κατάσβεσης πυρκαϊάς με ραντισμό νερού υπό πίεση σε χώρους μηχανών θα εφοδιάζεται με ακροφύσια ραντισμού εγκεκριμένου τύπου.
2. Ο αριθμός και η διάταξη των ακροφυσίων θα ικανοποιούν την Αρχή και θα είναι τέτοια ώστε να εξασφαλίζεται μία μέση αποτελεσματική κατανομή νερού τουλάχιστον ίση με 5 λίτρα ανά τετραγωνικό μέτρο και ανά πρώτο λεπτό στους χώρους που θα προστατευθούν. Όπου θεωρούνται αναγκαίες μεγαλύτερες παροχές, αυτές θα ικανοποιούν την Αρχή. Θα τοποθετούνται ακροφύσια πάνω από τους υδροσυλλέκτες, τις επιφάνειες των δεξαμενών διπυθμένων και άλλες περιοχές στις οποίες μπορεί να διαχυθεί καύσιμο πετρέλαιο καθώς και πάνω από άλλες ειδικές θέσεις που παρουσιάζουν κίνδυνο πυρκαϊάς στους χώρους μηχανών.
3. Το σύστημα μπορεί να υποδιαιρείται σε τμήματα των οποίων τα επιστόμια διανομής θα χειρίζονται από εύκολα προσιτές θέσεις έξω από τους χώρους που θα προστατευθούν και δεν θα αποκόπτονται εύκολα από πυρκαϊά στον προστατευόμενο χώρο.
4. Το σύστημα θα τηρείται φορτισμένο στην αναγκαία πίεση και η αντλία που παρέχει το νερό για το σύστημα θα τίθεται αυτόματα σε λειτουργία από πτώση της πίεσης στο σύστημα.

- 5.- Η αντλία θα είναι ικανή να τροφοδοτεί συγχρόνως στην αναγκαία πίεση όλα τα τμήματα του συστήματος σε οποιοδήποτε διαμέρισμα που θα προστατευθεί. Η αντλία και τα μέσα ελέγχου της θα εγκαθίστανται έξω από το χώρο ή τους χώρους που θα προστατευθούν. Δεν θα είναι δυνατό πυρκαϊά σε χώρο ή χώρους που προστατεύονται από το σύστημα ραντισμού νερού να θέσει το σύστημα εκτός λειτουργίας.
- 6.- Η αντλία μπορεί να κινείται από ανεξάρτητη μηχανή εσωτερικής καύσης, αλλά αν η λειτουργία της εξαρτάται από ενέργεια που παρέχεται από την γεννήτρια ανάγκης, που είναι τοποθετημένη σύμφωνα με τις διατάξεις του Κανονισμού II-1/44 ή του Κανονισμού II-1/45 ανάλογα με την περίπτωση, η γεννήτρια αυτή θα έχει τέτοια διάταξη ώστε να εκκινεί αυτόματα στη περίπτωση βλάβης της κύριας πηγής ενέργειας έτσι ώστε η ενέργεια για την αντλία που απαιτείται από την παράγραφο 5 να είναι αμέσως διαθέσιμη. Όταν η αντλία κινείται από ανεξάρτητη μηχανή εσωτερικής καύσης θα είναι τοποθετημένη έτσι ώστε πυρκαϊά στον προστατευόμενο χώρο να μην επηρεάζει την παροχή αέρα στην μηχανή.
- 7.- Θα λαμβάνονται προφυλάξεις για την αποφυγή έμφραξης των ακροφυσίων από ακαθαρσίες του νερού ή από διάβρωση των σωληνώσεων, ακροφυσίων, επιστομίων και αντλίας.

Κανονισμός 11

Ειδικές διατάξεις στους χώρους μηχανών

1. Οι διατάξεις του Κανονισμού αυτού θα εφαρμόζονται σε χώρους μηχανών κατηγορίας A και, όπου η Αρχή το θεωρεί επιθυμητό, σε άλλους χώρους μηχανών.
 - 2.1 Ο αριθμός των αναφωτίδων, θυρών, ανεμοδόχων, ανοιγμάτων σε καπνοδόχους που επιτρέπουν την εξαερισμό, και άλλων ανοιγμάτων στους χώρους μηχανών θα μειώνεται στο ελάχιστο που ανταποκρίνεται στις ανάγκες αερισμού και στην σωστή και ασφαλή λειτουργία του πλοίου.
 - 2.2 Οι αναφωτίδες θα είναι χαλύβδινες και δεν θα περιέχουν γυαλί. Θα υπάρχουν κατάλληλες διατάξεις που θα επιτρέπουν την διαφυγή του καπνού στη περίπτωση πυρκαϊάς από το χώρο που θα προστατευθεί.
 - 2.3 Σε επιβατηγά πλοία, οι θύρες, εκτός από τις μηχανοκίνητες στεγανές θύρες, θα έχουν τέτοια διάταξη ώστε σε περίπτωση πυρκαϊάς

μέσα στο χώρο, να εξασφαλίζεται αποτελεσματικό κλείσιμο με μηχανοκίνητες διατάξεις κλεισίματος ή με την ύπαρξη αυτοκλειόμενων θυρών που μπορούν να κλείνουν με κλίση του πλοίου $3,5^\circ$ αντίθετη προς την φορά κλεισίματος και έχουν μέσο συγκράτησης που παρέχει ασφάλεια σε περίπτωση βλάβης και είναι εφοδιασμένο με τηλεχειριζόμενη διάταξη απελευθέρωσης.

3. Δεν θα τοποθετούνται παράθυρα στα οριακά χωρίσματα των χώρων μηχανών, αυτό δεν αποκλείει την χρήση γυαλιού σε χώρους ελέγχου μέσα στους χώρους μηχανών.
4. Θα προβλέπονται μέσα ελέγχου που θα επιτρέπουν :
 - .1 το άνοιγμα και το κλείσιμο των αναφωτέρων, το κλείσιμο των ανοιγμάτων στις καπνοδόχους που παρέχουν κανονικά εξαερισμό, και το κλείσιμο των φρακτών (DAMPERS) των ανεμοδόχων,
 - .2 τη διαφυγή του καπνού,
 - .3 το κλείσιμο των μηχανοκίνητων θυρών ή την ενεργοποίηση του μηχανισμού απελευθέρωσης των θυρών εκτός από τις μηχανοκίνητες στεγανές θύρες,
 - .4 την κράτηση των ανεμιστήρων αερισμού και
 - .5 την κράτηση των ανεμιστήρων κατάθλιψης και ελκυσμού, των αντλιών μετάγγισης καυσίμου πετρελαίου, των αντλιών των μονάδων καυσίμου πετρελαίου και άλλων παρομοίων αντλιών καυσίμου.
5. Τα μέσα ελέγχου που απαιτούνται από την παράγραφο 4 και από τον Κανονισμό 15.2.5 θα ευρισκονται έξω από τον αντίστοιχο χώρο, σε θέση όπου δεν θα αποκοπούν στην περίπτωση πυρκαϊάς στον χώρο που εξυπηρετούν. Σε επιβατηγά πλοία αυτά τα μέσα ελέγχου καθώς και τα μέσα ελέγχου για οποιοδήποτε απαιτούμενο σύστημα κατάσβεσης πυρκαϊάς θα ευρισκονται σε μια θέση ελέγχου ή θα είναι συγκεντρωμένα σε όσο το δυνατόν λιγότερες θέσεις κατά την κλίση της Αρχής. Οι θέσεις αυτές θα έχουν ασφαλή πρόσβαση από το ανοικτό κατάστρωμα.
6. Όταν, σε οποιοδήποτε χώρο μηχανών κατηγορίας Α, προβλέπεται πρόσβαση σε χαμηλό επίπεδο από παρακείμενη σήραγγα αξόνων, θα υπάρχει στη σήραγγα αξόνων κοντά στη στεγανή θύρα μία ελαφρή χαλύβδινη θύρα πυρασφαλείας που θα μπορεί να χειρίζεται από κάθε πλευρά.
7. Για περιοδικά μη επανδρωμένους χώρους μηχανών σε φορτηγά πλοία, η Αρχή θα εξετάζει ειδικά τη διατήρηση της ακεραιότητας έναντι πυρκαϊάς των χώρων μηχανών, τη θέση και συγκέντρωση των μέσων ελέγχου του συστήματος κατάσβεσης πυρκαϊάς, τις απαιτούμενες διατάξεις διακοπής (π.χ. αερισμού, αντλιών καυσίμου κ.λ.π) και

μπορεί να απαιτήσει πρόσθετες πυροσβεστικές συσκευές και άλλο εξοπλισμό καταπολέμησης της πυρκαϊάς και αναπνευστικές συσκευές. Σε επιβατηγά πλοία οι απαιτήσεις αυτές θα είναι τουλάχιστον ισοδύναμες με εκείνες των κανονικά επανδρωμένων χώρων μηχανών.

8. Σε οποιοδήποτε χώρο μηχανών θα εγκαθίσταται ένα μόνιμο σύστημα ανίχνευσης και συναγερμού πυρκαϊάς που πληροί τις διατάξεις του Κανονισμού 14:
- .1 όπου έχει εγκριθεί η εγκατάσταση αυτόματων και τηλεχειριζόμενων συστημάτων ελέγχου και εξοπλισμού αντί της συνεχούς επάνδρωσης του χώρου, και
 - .2 όπου οι μηχανές κύριας πρόωσης και τα σχετικά μηχανήματα, περιλαμβανομένων των πηγών της κύριας ηλεκτρικής παροχής, είναι εφοδιασμένα με αυτοματισμούς ή τηλεχειρισμούς διαφόρων βαθμών και ευρίσκονται υπό συνεχή παρακολούθηση από επανδρωμένο χώρο ελέγχου.

Κανονισμός 12

Συστήματα αυτόματου ραντισμού (SPRINKLER), ανίχνευσης και συναγερμού πυρκαϊάς

- 1.1. Οποιοδήποτε απαιτούμενο σύστημα αυτόματου ραντισμού, ανίχνευσης και συναγερμού πυρκαϊάς θα είναι ικανό για άμεση λειτουργία σε κάθε στιγμή και δεν θα είναι αναγκαία οποιαδήποτε ενέργεια του πληρώματος για να τεθεί σε λειτουργία. Θα είναι τύπου "υγρού σωλήνα" αλλά μικρά εκτεθειμένα τμήματα μπορούν να είναι τύπου "ξηρού σωλήνα" όπου, κατά την κρήση της αρχής αυτό αποτελεί αναγκαία προφύλαξη. Οποιαδήποτε μέρη του συστήματος που μπορούν να εκτεθούν σε θερμοκρασίες πήξης κατά την υπηρεσία θα είναι κατάλληλα προστατευμένα από την πήξη. Το σύστημα θα τηρείται φορτισμένο στην αναγκαία πίεση και θα υπάρχει πρόβλεψη για συνεχή παροχή νερού όπως απαιτείται από τον Κανονισμό αυτό.
- 1.2 Κάθε τμήμα ραντιστήρων θα περιλαμβάνει μέσα που δίνουν αυτόματα οπτικό και ακουστικό σήμα συναγερμού σε μία ή περισσότερες ενδεικτικές μονάδες οποτεδήποτε λειτουργήσει οποιοδήποτε ραντιστήρας. Αυτά τα συστήματα συναγερμού θα είναι τέτοια ώστε να δίνουν ένδειξη οποιασδήποτε βλάβης στο σύστημα.
- 1.2.1 Σε επιβατηγά πλοία, οι μονάδες αυτές θα δίνουν ένδειξη οποιασδήποτε πυρκαϊάς και της θέσης της σε οποιοδήποτε χώρο που εξυπηρετείται από το σύστημα και θα ευρίσκονται συγκεντρωμένες στη γέφυρα ναυσιπλοΐας ή στον κύριο σταθμό ελέγχου πυρκαϊάς, που θα είναι επανδρωμένος ή εξοπλισμένος έτσι ώστε να

εξασφαλίζεται ότι οποιοδήποτε σήμα συναγερμού από το σύστημα λαμβάνεται αμέσως από υπεύθυνο μέλος του πληρώματος.

- 1.2.2 Σε φορητά πλοία, οι μονάδες αυτές θα δείχνουν σε ποιο τμήμα, που εξυπηρετείται από το σύστημα συνέβη πυρκαϊά και θα ευρισκονται συγκεντρωμένες στην γέφυρα ναυσιπλοίας και επί πλέον, ηχητικά και οπτικά σήματα συναγερμού από την μονάδα θα τοποθετούνται σε διαφορετική θέση από τη γέφυρα ναυσιπλοίας, έτσι ώστε να εξασφαλίζεται ότι η ένδειξη πυρκαϊάς γίνεται αμέσως αντιληπτή από το πλήρωμα.
- 2.1 Οι ραντιστήρες θα κατανέμονται σε χωριστά τμήματα, κάθε ένα από τα οποία δεν θα περιλαμβάνει περισσότερους από 200 ραντιστήρες. Σε επιβατηγά πλοία οποιοδήποτε τμήμα ραντιστήρων δεν θα εξυπηρετεί περισσότερα από δυο καταστρώματα και δεν θα ευρίσκεται σε περισσότερες από μία κύριες κατακόρυφες ζώνες. Πάντως, η Αρχή μπορεί να επιτρέψει ένα τέτοιο τμήμα ραντιστήρων να εξυπηρετεί περισσότερα από δύο καταστρώματα ή να ευρίσκεται σε περισσότερες από μία κύριες κατακόρυφες ζώνες, αν κρίνει ότι η προστασία του πλοίου από πυρκαϊά δεν θα ελαττωθεί με τον τρόπο αυτό.
- 2.2 Κάθε τμήμα ραντιστήρων θα είναι ικανό να απομονωθεί με ένα μόνο επιστόμιο διακοπής. Το επιστόμιο διακοπής σε κάθε τμήμα θα είναι αμέσως προσιτό και η θέση του θα σημαίνεται μόνιμα και σαφώς. Θα προβλέπονται μέσα για την αποφυγή χειρισμού των επιστομίων διακοπής από οποιοδήποτε μη εξουσιοδοτημένο πρόσωπο.
- 2.3 Θα προβλέπεται όργανο ένδειξης της πίεσης του συστήματος σε κάθε επιστόμιο διακοπής τμήματος και σ'ένα κεντρικό σταθμό.
- 2.4 Οι ραντιστήρες θα είναι ανθεκτικοί στη διάβρωση από την ατμόσφαιρα της θάλασσας. Σε χώρους ενδιαίτησης και υπηρεσίας, οι ραντιστήρες θα τίθενται σε λειτουργία στην περιοχή θερμοκρασιών 68° μέχρι 79°C, με την εξαίρεση ότι σε χώρους όπως στεγνώθρια, όπου μπορεί να αναμένονται υψηλές θερμοκρασίες περιβάλλοντος, η θερμοκρασία λειτουργίας μπορεί να αυξηθεί μέχρι 30°C το πολύ πάνω από τη μέγιστη θερμοκρασία της οροφής του χώρου.
- 2.5 Ένας πίνακας ή σχέδιο θα εκτίθεται σε κάθε ενδεικτική μονάδα που θα δείχνει τους καλυπτόμενους χώρους και τη θέση της ζώνης ως προς κάθε τμήμα. Θα είναι διαθέσιμες κατάλληλες οδηγίες για δοκιμή και συντήρηση.

3. Οι ραντιστήρες θα τοποθετούνται σε υψηλές θέσεις και θα έχουν κατάλληλη διάταξη ώστε να διατηρούν ένα μέσο ~~ρυθμό~~ παροχής τουλάχιστον 5 l/m^2 ανά λεπτό πάνω από την ονομαστική περιοχή που καλύπτεται από τους ραντιστήρες. Πάντως η Αρχή μπορεί να επιτρέψει την χρήση ραντιστήρων που παρέχουν τέτοια εναλλακτική ποσότητα νερού κατάλληλα κατανομημένη που έχει αποδειχθεί κατά την κρίση της Αρχής ότι είναι εξ ίσου αποτελεσματική.
- 4.1 Θα προβλέπεται μία δεξαμενή πύσης όγκου ίσου με το διπλάσιο τουλάχιστον του όγκου της ποσότητας νερού που καθορίζεται στην υποπαράγραφο αυτή. Η δεξαμενή θα περιέχει μόνιμη ποσότητα γλυκού νερού, αντιστοιχία με την ποσότητα νερού που παρέχεται σε ένα πρώτο λεπτό από την αντλία που αναφέρεται στην παράγραφο 5.2 και οι διατάξεις θα προβλέπουν την διατήρηση μέσα στη δεξαμενή τέτοιας πύσης αέρα ώστε να εξασφαλίζεται ότι, όταν χρησιμοποιηθεί η μόνιμη ποσότητα του γλυκού νερού της δεξαμενής, η πύση δεν θα είναι μικρότερη από το άθροισμα της πύσης λειτουργίας του ραντιστήρα και της πύσης που οφείλεται σε στήλη νερού που μετράται από τον πυθμένα της δεξαμενής μέχρι τον υψηλότερο ραντιστήρα στο σύστημα. Θα προβλέπονται κατάλληλα μέσα αναπλήρωσης του αέρα υπό πύση και αναπλήρωσης της ποσότητας του γλυκού νερού μέσα στη δεξαμενή. Θα προβλέπεται γυάλινος μετρητής για την ένδειξη της ορθής στάθμης του νερού μέσα στη δεξαμενή.
- 4.2 Θα προβλέπονται μέσα για την απορρύθμιση εισόδου θαλάσσιου νερού στη δεξαμενή.
- 5.1 Θα προβλέπεται μία ανεξάρτητη μηχανοκίνητη αντλία αποκλειστικά για το σκοπό της αυτόματης συνέχισης της παροχής νερού από τους ραντιστήρες. Η αντλία θα τρέφεται αυτόματα σε λειτουργία από την πτώση της πύσης στο σύστημα πριν εξαντληθεί πλήρως η μόνιμη ποσότητα γλυκού νερού μέσα στη δεξαμενή πύσης.
- 5.2 Η αντλία και το σύστημα σωληνώσεων θα είναι ικανά να διατηρούν την αναγκαία πύση στο επίπεδο του υψηλότερου ραντιστήρα για την εξασφάλιση συνεχούς διοχέτευσης νερού επαρκούς για την ταυτόχρονη κάλυψη ελάχιστης επιφάνειας 280 m^2 με το ~~ρυθμό~~^{παροχής} που καθορίζεται στην παράγραφο 3.
- 5.3 Η αντλία θα διαθέτει στην πλευρά κατάθλιψης ένα επιστόμιο δοκιμής με βραχύ σωλήνα εκροής ανοικτού άκρου. Η ωφέλιμη διατομή μέσω του επιστομίου και του σωλήνα θα είναι επαρκής ώστε να επιτρέπει την διοχέτευση της απαιτούμενης παροχής της αντλίας ενώ διατηρείται στο σύστημα η πύση που καθορίζεται στην παράγραφο 4.1.

- 5.4. Η αναρρόφηση θάλασσας της αντλίας θα ευρίσκεται, όπου αυτό είναι δυνατό, στο χώρο που περιέχει την αντλία και θα έχει τέτοια διάταξη ώστε όταν το πλοίο πλέει, να μην είναι αναγκαία η διακοπή της παροχής θαλασσίου νερού στην αντλία για οποιοδήποτε λόγο εκτός από επιθεώρηση ή επισκευή της αντλίας.
6. Η αντλία ραντισμού και η δεξαμενή θα ευρίσκονται σε θέση αρκετά μακριά από οποιοδήποτε χώρο μηχανών κατηγορίας Α και δεν θα ευρίσκονται σε οποιοδήποτε χώρο που απαιτείται να προστατευτεί από το σύστημα ραντισμού.
- 7.1. Σε επιβατηγά πλοία θα υπάρχουν τουλάχιστον δυο πηγές παροχής ενέργειας για την αντλία θαλάσσιου νερού και το αυτόματο σύστημα συναρμολόγησης και ανίχνευσης. Όπου οι πηγές ενέργειας για την αντλία είναι ηλεκτρικές, αυτές θα είναι μια κύρια γεννήτρια και μια πηγή ενέργειας ανάγκης. Μία παροχή της αντλίας θα λαμβάνεται από τον κύριο ηλεκτρικό πίνακα και μία από τον ηλεκτρικό πίνακα ανάγκης με χωριστούς τροφοδοτικούς αγωγούς, που διατίθενται αποκλειστικά για το σκοπό αυτό. Οι τροφοδοτικοί αγωγοί θα έχουν τέτοια διάταξη ώστε να αποφεύγεται η διέλευση τους από μαγειρεία, χώρους μηχανών και άλλους κλειστούς χώρους μεγάλου κινδύνου πυρκαϊάς εκτός από το τμήμα τους που είναι αναγκαίο να φθάσει στους κατάλληλους ηλεκτρικούς πίνακες και θα καταλήγουν σε ένα αυτόματο μεταγωγικό διακόπτη που θα ευρίσκεται κοντά στην αντλία ραντισμού. Ο διακόπτης αυτός θα επιτρέπει την παροχή ενέργειας από τον κύριο ηλεκτρικό πίνακα, εφόσον διατίθεται παροχή ενέργειας από τον πίνακα αυτόν και θα είναι σχεδιασμένος έτσι ώστε σε περίπτωση διακοπής της παροχής αυτής να μετάγεται αυτόματα στη παροχή από τον ηλεκτρικό πίνακα ανάγκης. Οι διακόπτες στον κύριο ηλεκτρικό πίνακα και στον ηλεκτρικό πίνακα ανάγκης θα έχουν ευκρινή σήμανση και κανονικά θα τηρούνται κλειστοί. Δεν θα επιτρέπεται άλλος διακόπτης στους τροφοδοτικούς αγωγούς αυτούς. Μία από τις πηγές ενέργειας για την τροφοδότηση του συστήματος συναρμολόγησης και ανίχνευσης θα είναι μία πηγή ανάγκης. Όπου μία από τις πηγές ενέργειας που τροφοδοτεί την αντλία είναι μία μηχανή εσωτερικής καύσης, επί πλέον της υποχρέωσης να πληροί τις διατάξεις της παραγράφου 6, θα έχει τέτοια θέση ώστε πυρκαϊά σε οποιοδήποτε προστατευόμενο χώρο να μην επηρεάζει την παροχή αέρα στη μηχανή.
- 7.2. Σε φορτηγά πλοία θα υπάρχουν δύο τουλάχιστο πηγές ενέργειας για την τροφοδότηση της αντλίας θαλάσσιου νερού και του αυτόματου

συστήματος **ευναγερμού** και ανίχνευσης. Αν η αντλία κινείται ηλεκτρικά θα συνδέεται στην κύρια πηγή ηλεκτρικής ενέργειας, που θα είναι ικανή να τροφοδοτείται από δύο τουλάχιστον γεννήτριες. Οι τροφοδοτικοί αγωγοί θα έχουν τέτοια διάταξη ώστε να αποφεύγεται η διέλευσή τους από μαγειρεία, χώρους μηχανών και άλλους κλειστούς χώρους μεγάλου κινδύνου πυρκαϊάς, εκτός από το τμήμα τους που είναι αναγκαίο να φθάσει στους κατάλληλους ηλεκτρικούς πίνακες. Μία από τις πηγές ενέργειας για την τροφοδότηση του συστήματος **ευναγερμού** και ανίχνευσης θα είναι μία πηγή ανάγκης. Όπου μία από τις πηγές ενέργειας που τροφοδοτεί την αντλία είναι μία μηχανή εσωτερικής καύσης, επί πλέον της υποχρέωσης να πληροί τις διατάξεις της παραγράφου 6, θα έχει τέτοια θέση ώστε πυρκαϊά σε οποιοδήποτε προστατευόμενο χώρο να μην επηρεάζει την παροχή αέρα στη μηχανή.

8. Το σύστημα ραντισμού θα συνδέεται με το κύριο δίκτυο πυρκαϊάς του πλοίου μέσω ενός κοχλιωτού ανεπίστροφου επιστόμιου που θα μπορεί να ασφαλίζεται και που θα εμποδίζει αντίστροφη ροή από το σύστημα ραντισμού στο κύριο δίκτυο πυρκαϊάς.
- 9.1 θα προβλέπεται επιστόμιο δοκιμής για τη δοκιμή του αυτόματου **ευναγερμού** για κάθε τμήμα ραντιστήρων με την εκκένωση ποσότητας νερού που ισοδυναμεί με τη λειτουργία ενός ραντιστήρος. Το επιστόμιο δοκιμής για κάθε τμήμα θα ευρίσκεται κοντά στο επιστόμιο διακοπής του τμήματος αυτού.
- 9.2. θα προβλέπονται μέσα για τη δοκιμή της αυτόματης λειτουργίας της αντλίας με την ελάττωση της πίεσης στο σύστημα.
- 9.3 θα προβλέπονται διακόπτες σε μία από τις αναφερόμενες στη παράγραφο 1.2 ενδεικτικές θέσεις που θα επιτρέπουν τη δοκιμή του σήματος **ευναγερμού** και των ενδεικτών για κάθε τμήμα των ραντιστήρων.
10. θα προβλέπονται αμοιβές κεφαλές ραντιστήρων για κάθε τμήμα ραντιστήρων κατά την κρίση της Αρχής.

Κανονισμός 13

Μόνιμα συστήματα ανίχνευσης και **ευναγερμού** πυρκαϊάς

1. Γενικές απαιτήσεις

- 1.1 Οποιοδήποτε απαιτούμενο μόνιμο σύστημα ανίχνευσης και **ευναγερμού** πυρκαϊάς με χειροκίνητους αναγγελτήρες θα είναι ικανό για άμεση λειτουργία σε κάθε στιγμή.

- 1.2 Οι παροχές ενέργειας και τα αναγκαία ηλεκτρικά κυκλώματα για την λειτουργία του συστήματος θα ελέγχονται συνεχώς με όργανα για διαπίστωση καταστάσεων απώλειας ενέργειας ή βλάβης ανάλογα με την περίπτωση. Η εμφάνιση κατάστασης βλάβης θα θέτει σε λειτουργία ένα οπτικό και ακουστικό σήμα βλάβης στον πίνακα ελέγχου που θα διακρίνεται από το σήμα πυρκαϊάς.
- 1.3 Θα υπάρχουν τουλάχιστον δύο πηγές παροχής ενέργειας για τον ηλεκτρικό εξοπλισμό, που χρησιμοποιείται για την λειτουργία του συστήματος ανίχνευσης και συναγερμού πυρκαϊάς, μία από τις οποίες θα είναι πηγή ανάγκης. Η ενέργεια θα παρέχεται με ξεχωριστούς τροφοδοτικούς αγωγούς που διατίθενται αποκλειστικά για τον σκοπό αυτό. Αυτοί οι τροφοδοτικοί αγωγοί θα καταλήγουν σε ένα αυτόματο μεταγωγικό διακόπτη, που θα ευρίσκεται κοντά ή πάνω στον πίνακα ελέγχου του συστήματος ανίχνευσης πυρκαϊάς.
- 1.4 Οι ανιχνευτές και οι χειροκίνητοι αναγγελτήρες θα κατανέμονται σε τμήματα. Η ενεργοποίηση οποιουδήποτε ανιχνευτή ή χειροκίνητου αναγγελτήρα θα προκαλεί οπτικό και ακουστικό σήμα πυρκαϊάς στον πίνακα ελέγχου και στις ενδεικτικές μονάδες. Αν τα σήματα δεν γίνουν αντιληπτά μέσα σε δύο πρώτα λεπτά, θα ηχεί αυτόματα ακουστικός συναγερμός στους χώρους ενδιαίτησης του πληρώματος και στους χώρους υπηρεσίας, στους σταθμούς ελέγχου και στους χώρους μηχανών κατηγορίας Α. Αυτό το σύστημα ακουστικού συναγερμού δεν χρειάζεται να αποτελεί συμπληρωματικό τμήμα του συστήματος ανίχνευσης.
- 1.5 Ο πίνακας ελέγχου θα ευρίσκεται στη γέφυρα ναυσιπλοίας ή στον κύριο σταθμό ελέγχου πυρκαϊάς.
- 1.6 Οι ενδεικτικές μονάδες θα δείχνουν το τμήμα στο οποίο έχει λειτουργήσει ανιχνευτής ή χειροκίνητος αναγγελτήρας. Μία τουλάχιστον μονάδα θα ευρίσκεται σε τέτοια θέση ώστε να είναι εύκολα προσιτή από υπεύθυνα μέλη του πληρώματος σε κάθε στιγμή, όταν το πλοίο ταξιδεύει ή ευρίσκεται σε λιμάνι με εξαίρεση τη περίπτωση που το πλοίο ευρίσκεται εκτός υπηρεσίας. Μία ενδεικτική μονάδα θα ευρίσκεται στη γέφυρα ναυσιπλοίας αν ο πίνακας ελέγχου ευρίσκεται στον κύριο σταθμό ελέγχου πυρκαϊάς.
- 1.7 Θα εκτίθενται σαφείς οδηγίες κοντά ή πάνω σε κάθε ενδεικτική μονάδα σχετικά με τους καλυπτόμενους χώρους και την θέση των τμημάτων.

- 1.8 Δεν θα επιτρέπεται κανονικά η κάλυψη από ένα τμήμα, χώρων ενδιαίτησης, υπηρεσίας και σταθμών ελέγχου σε περισσότερα από ένα καταστρώματα εκτός από τμήμα που καλύπτει περίκλειστο κλιμακοστάσιο. Για να αποφεύγεται καθυστέρηση στον προσδιορισμό της εστίας της πυρκαϊάς, θα περιορίζεται κατά την κρίση της Αρχής ο αριθμός των κλειστών χώρων που περιλαμβάνονται σε κάθε τμήμα. Δεν θα επιτρέπονται σε καμιά περίπτωση περισσότεροι από πενήντα κλειστοί χώροι σε οποιοδήποτε τμήμα.
- 1.9 Σε επιβατηγό πλοίο ένα τμήμα ανιχνευτών δεν θα εξυπηρετεί χώρους και στις δύο πλευρές του πλοίου ούτε σε περισσότερα από ένα καταστρώματα και δεν θα ευρίσκεται σε περισσότερες από μια κύριες κατακόρυφες ζώνες με την εξαίρεση ότι η Αρχή μπορεί να επιτρέψει ένα τμήμα ανιχνευτών να εξυπηρετεί και τις δύο πλευρές του πλοίου και περισσότερα από ένα καταστρώματα, αν κρίνει ότι η προστασία του πλοίου από πυρκαϊά δεν θα ελαττωθεί με τον τρόπο αυτό.
- 1.10 Ένα τμήμα ανιχνευτών πυρκαϊάς που καλύπτει σταθμό ελέγχου, χώρο υπηρεσίας ή χώρο ενδιαίτησης δεν θα περιλαμβάνει χώρο μηχανών κατηγορίας Α.
- 1.11 Οι ανιχνευτές θα τίθενται σε λειτουργία από την επίδραση θερμότητας, καπνού ή άλλων προϊόντων καύσης, φλόγας, ή οποιουδήποτε συνδυασμού των παραγόντων αυτών. Ανιχνευτές που λειτουργούν από την επίδραση άλλων παραγόντων ενδεικτικών πυρκαϊών σε αρχικό στάδιο, μπορούν να εξετασθούν από την Αρχή με την προϋπόθεση ότι δεν είναι λιγώτερο ευαίσθητοι από τους άλλους ανιχνευτές. Οι ανιχνευτές φλόγας θα χρησιμοποιούνται μόνο επιπλέον ^ή ανιχνευτές καπνού ή θερμότητας.
- 1.12 Θα προβλέπονται κατάλληλες οδηγίες και ανταλλακτικά εξαρτήματα για δοκιμή και συντήρηση.
- 1.13 Η λειτουργία του συστήματος ανίχνευσης θα δοκιμάζεται περιοδικά κατά την κρίση της Αρχής με την χρησιμοποίηση συσκευών που παράγουν θερμό αέρα στη κατάλληλη θερμοκρασία, ή καπνό, ή σωματίδια ψεκασμού που έχουν κατάλληλη πυκνότητα ή κατάλληλο μέγεθος ή άλλα φαινόμενα σχετικά με πυρκαϊές σε αρχικό στάδιο στα οποία ο ανιχνευτής έχει σχεδιασθεί να ανταποκρίνεται. Όλοι οι ανιχνευτές θα είναι τέτοιου τύπου ώστε να μπορούν να δοκιμάζονται για τον έλεγχο της σωστής λειτουργίας τους και να επανέρχονται στην κανονική κατάσταση επιτήρησης χωρίς την αντικατάσταση οποιουδήποτε εξαρτήματος.

- 1.14. Το σύστημα ανίχνευσης πυρκαϊάς δεν θα χρησιμοποιείται για οποιοδήποτε άλλο σκοπό, με την εξαίρεση ότι το κλείσιμο των θυρών πυρασφάλειας και παρόμοιες λειτουργίες μπορούν να επιτραπούν στον πίνακα ελέγχου.

2. Απαιτήσεις εγκατάστασης

- 2.1. Στους χώρους ενδίαλτσης, υπηρεσίας και σταθμούς ελέγχου θα εγκαθίστανται ^{διά χειρὸς λειτουργούντες αναγγελτήρες}. Σε κάθε έξοδο θα ευρίσκεται ένας ^{για χειρὸς λειτουργῶν} αναγγελτήρας. Στους διαδρόμους κάθε καταστρώματος οι ^{για χειρὸς λειτουργῶν} αναγγελτήρες θα είναι εύκολα προσίτοι έτσι ώστε να μην υπάρχει μέρος του διαδρόμου σε απόσταση μεγαλύτερη από 20 μέτρα από ^{για χειρὸς λειτουργῶν} αναγγελτήρα.
- 2.2. Οι ανιχνευτές καπνού θα εγκαθίστανται σε όλα τα κλιμακοστάσια διαδρόμους και οδούς διαφυγής στους χώρους ενδίαλτσης. θα εξετάζεται ιδιαίτερα η εγκατάσταση ανιχνευτῶν καπνού για ειδικούς σκοπούς μέσα σε αγωγούς αερισμού.
- 2.3. Όπου απαιτείται μόνιμο σύστημα ανίχνευσης και ~~ευναγερσῶν~~ πυρκαϊάς για την προστασία χώρων ^{διαφορετικῶν ἀπὸ εκείνους που καθορίζονται στην παράγραφο 2.2, ὅπου πρέπει να ἔχουν ἕνα ἑκάστοτε τῆλο χώρο} θα ^{εἶναι να ἔχουν ἕνα ἑκάστοτε τῆλο χώρο} εγκαθίσταται ἕνας τουλάχιστον ανιχνευτῆς που πληροῖ τις διατάξεις της παραγράφου 1.11.
- 2.4. Οι ανιχνευτές θα τοποθετοῦνται έτσι ώστε να επιτυγχάνεται ἡ καλύτερη ἀπόδοσή τους. θα αποφεύγονται θέσεις κοντά σε δοκούς και αγωγούς αερισμὸ ἢ ἄλλες θέσεις ὅπου ἡ φορά τῆς ροῆς του ἀέρα θα μπορούσε να ἐπηρεάσει δυσμενῶς τὴν ἀπόδοσή τους καθὼς και θέσεις ὅπου εἶναι πιθανὸ να συμβεῖ κτύπημα ἢ φυσικὴ βλάβη των ανιχνευτῶν. Γενικῶς οἱ ανιχνευτές που εὐρίσκονται σε οροφές θα ἔχουν ελάχιστη ἀπόσταση 0,5 μ από τα διαφράγματα.
- 2.5. Οι μῆγιστες ἀποστάσεις των ανιχνευτῶν θα εἶναι σύμφωνα με τον παρακάτω πίνακα :

Τύπος ανιχνευτοῦ	Μῆγιστη ἐπιφάνεια δαπέδου ἀνὰ ανιχνευτῆ	Μῆγιστη ἀπόσταση μεταξύ των κέντρων τους	Μῆγιστη ἀπόσταση ἀπὸ τα διαφράγματα
Θερμότητας	37 μ ²	9 μ	4,5 μ
Καπνὸ	74 μ ²	11 μ	5,5 μ

Ἡ Ἀρχὴ μπορεῖ να απαιτήσῃ ἢ να ἐπιτρέψῃ ἄλλες ἀποστάσεις βάσει στοιχείων δοκιμῶν που φανερώνουν τα χαρακτηριστικὰ των ανιχνευτῶν.

- 2.6 Οι ηλεκτρικές καλωδιώσεις που αποτελούν μέρος του συστήματος θα έχουν τέτοια διάταξη ώστε να αποφεύγεται η διέλευσή τους από μαγειρεία, χώρους μηχανών κατηγορίας A και άλλους κλειστούς χώρους μεγάλου κινδύνου πυρκαϊάς, εκτός από τα αναγκαία τμήματά τους για την εξασφάλιση ανίχνευσης και βυγαλιζέζων πυρκαϊάς σ' αυτούς τους χώρους ή την σύνδεση με την κατάλληλη παροχή ενέργειας.

3. Απαιτήσεις σχεδίασης

- 3.1 Το σύστημα και ο εξοπλισμός θα σχεδιάζονται κατάλληλα για να ανθίστανται στη μεταβολή της τάσης τροφοδοσίας και στα μεταβατικά φαινόμενα, στις αλλαγές της θερμοκρασίας περιβάλλοντος, κραδασμούς, υγρασία, κρούσεις, κτυπήματα και διάβρωση που κανονικά συναντώνται στα πλοία.
- 3.2 Οι ανιχνευτές καπνού, που απαιτούνται από την παράγραφο 2.2 θα πιστοποιείται ότι λειτουργούν πριν η πυκνότητα του καπνού υπερβεί το ποσοστό 12,5 % σκίασης ανά μέτρο, αλλά όχι πριν υπερβεί το ποσοστό 2% σκίασης ανά μέτρο. Ανιχνευτές καπνού που θα εγκαθίστανται σε άλλους χώρους θα λειτουργούν σε όρια ευαισθησίας που ικανοποιούν την αρχή, λαμβανομένου υπόψη ότι θα αποφεύγεται η έλλειψη ευαισθησίας ή η υπερευαισθησία του ανιχνευτή.
- 3.3 Οι ανιχνευτές θερμότητας θα πιστοποιείται ότι λειτουργούν πριν η θερμοκρασία υπερβεί τους 78°C αλλά όχι πριν υπερβεί τους 54°C, όταν η θερμοκρασία αυξάνεται σ' αυτά τα όρια με ρυθμό μικρότερο από 1°C ανά λεπτό. Σε μεγαλύτερους ρυθμούς αύξησης της θερμοκρασίας, ο ανιχνευτής θα λειτουργεί σε όρια θερμοκρασίας που ικανοποιούν την αρχή λαμβανομένου υπόψη ότι θα αποφεύγεται η έλλειψη ευαισθησίας ή η υπερευαισθησία του ανιχνευτή.
- 3.4 Κατά την κρίση της Αρχής, η επιτρεπόμενη θερμοκρασία λειτουργίας των ανιχνευτών θερμότητας μπορεί να αυξηθεί μέχρι 30°C πάνω από τη μέγιστη θερμοκρασία της οροφής του χώρου σε στεγνήτητα και παρόμοιους χώρους όπου κανονικά επικρατούν υψηλές θερμοκρασίες περιβάλλοντος.

Κανονισμός 14

Μόνιμα συστήματα ανίχνευσης και συναγερμού πυρκαϊάς για περιοδικά μη επανδρωμένους χώρους μηχανών

1. Σε περιοδικά μη επανδρωμένους χώρους μηχανών θα εγκαθίσταται μόνιμο σύστημα ανίχνευσης και συναγερμού πυρκαϊάς σύμφωνα με τις σχετικές διατάξεις του Κανονισμού 13.
2. Αυτό το σύστημα ανίχνευσης πυρκαϊάς θα είναι έτσι σχεδιασμένο και οι ανιχνευτές τοποθετημένοι κατά τέτοιο τρόπο ώστε να ανιχνεύεται γρήγορα η εκδήλωση πυρκαϊάς σε οποιοδήποτε μέρος των χώρων αυτών και σε οποιοδήποτε κανονικές συνθήκες λειτουργίας των μηχανημάτων και μεταβολές του αερισμού όπως απαιτείται από την πιθανή περιοχή των θερμοκρασιών περιβάλλοντος. Δεν θα επιτρέπονται συστήματα ανίχνευσης, που χρησιμοποιούν μόνο θερμικούς ανιχνευτές εκτός από τη περίπτωση χώρων περιορισμένου ύψους και όπου η χρήση τους είναι ειδικά κατάλληλη. Το σύστημα ανίχνευσης θα προκαλεί ακουστικά και οπτικά σήματα συναγερμού, διακεκριμένα και στις δύο περιπτώσεις από τα σήματα συναγερμού οποιουδήποτε άλλου συστήματος, που δεν παρέχει ένδειξη πυρκαϊάς σε επαρκείς θέσεις ώστε να εξασφαλίζεται ότι τα σήματα συναγερμού ακούγονται και παρατηρούνται στη γέφυρα ναυσιπλοίας και από υπεύθυνο αξιωματικό μηχανής. Όταν η γέφυρα ναυσιπλοίας δεν επανδρώνεται, το σήμα συναγερμού θα ηχεί σε θέση όπου υπεύθυνο μέλος του πληρώματος είναι σε υπηρεσία.
3. Το σύστημα, μετά την εγκατάστασή του, θα δοκιμάζεται σε διαφορετικές συνθήκες λειτουργίας μηχανών και αερισμού.

Κανονισμός 15

Διατάξεις για καύσιμο πετρέλαιο, λιπαντικό έλαιο, και άλλα εύφλεκτα πετρελαιοειδή

1. Περιορισμός στη χρήση πετρελαίου ως καυσίμου
Οι ακόλουθοι περιορισμοί θα εφαρμόζονται στη χρήση πετρελαίου ως καυσίμου:
 - .1 Δεν θα χρησιμοποιείται καύσιμο πετρέλαιο που έχει σημείο ανάφλεξης μικρότερο από 60°C, εκτός αν επιτρέπεται διαφορετικά από την παράγραφο αυτή.
 - .2 Σε γεννήτριες ανάγκης μπορεί να χρησιμοποιείται καύσιμο πετρέλαιο που έχει σημείο ανάφλεξης όχι μικρότερο από 43°C.

- 3 Με την προϋπόθεση τήρησης πρόσθετων προφυλάξεων που μπορεί να θεωρηθούν αναγκαίες και υπό τον όρο ότι η θερμοκρασία περιβάλλοντος του χώρου στον οποίο αποθηκεύεται ή χρησιμοποιείται τέτοιο καύσιμο πετρέλαιο δεν θα επιτραπεί να ανυψωθεί πάνω από την θερμοκρασία που προκύπτει αφαιρώντας 10°C από το σημείο ανάφλεξης που καυσίμου πετρελαίου, η Αρχή μπορεί να επιτρέψει την γενική χρήση καυσίμου πετρελαίου που έχει σημείο ανάφλεξης μικρότερο από 60°C αλλά όχι μικρότερο από 43°C .
- 4 Σε φορτηγά πλοία η χρήση καυσίμου, που έχει σημείο ανάφλεξης χαμηλότερο από το καθοριζόμενο σε άλλο σημείο της παραγράφου αυτής, για παράδειγμα αργό πετρέλαιο, μπορεί να επιτραπεί εφόσον το καύσιμο αυτό δεν αποθηκεύεται σε οποιονδήποτε χώρο μηχανών και με την προϋπόθεση ότι η Αρχή θα εγκρίνει την πλήρη εγκατάσταση.

Το σημείο ανάφλεξης των πετρελαιοειδών θα καθορίζεται με εγκεκριμένη μέθοδο κλειστού δοχείου.

2. Διατάξεις καυσίμου πετρελαίου

Σε πλοίο στο οποίο χρησιμοποιείται καύσιμο πετρέλαιο, οι διατάξεις για την αποθήκευση, διανομή και χρησιμοποίηση του καυσίμου πετρελαίου θα είναι τέτοιες ώστε να εξασφαλίζουν την ασφάλεια του πλοίου και των επιβαινόντων και θα πληρούν τουλάχιστον τις ακόλουθες απαιτήσεις:

- 1 Όσο είναι πρακτικά δυνατό δεν θα τοποθετούνται τμήματα του συστήματος καυσίμου πετρελαίου που περιέχουν θερμαινόμενο πετρέλαιο υπό πίεση μεγαλύτερη από $0,18\text{N/mm}^2$, σε κρυφές θέσεις τέτοιες ώστε να μη μπορούν να παρατηρηθούν αμέσως ελαττώματα και διαρροές. Οι χώροι μηχανών στις θέσεις τέτοιων τμημάτων του συστήματος καυσίμου πετρελαίου θα φωτίζονται επαρκώς.
- 2 Ο αερισμός των χώρων μηχανών θα είναι επαρκής σε όλες τις κανονικές συνθήκες ώστε να προλαμβάνεται συσσώρευση ατμών πετρελαίου.
- 3 Όσο είναι πρακτικά δυνατό οι δεξαμενές καυσίμου πετρελαίου θα αποτελούν τμήμα της κατασκευής του πλοίου και θα ευρίσκονται έξω από τους χώρους μηχανών κατηγορίας Α. Όπου δεξαμενές καυσίμου πετρελαίου, εκτός από δεξαμενές διπυθμένων, είναι κατ'ανάγκη τοποθετημένες πλησίον ή μέσα στους χώρους

μηχανών κατηγορίας Α, τουλάχιστον μια κατακόρυφη πλευρά τους θα ερπύεται στα οριακά χωρίσματα του χώρου μηχανών και θα έχουν κατά προτίμηση κοινό οριακό χώρισμα με τις δεξαμενές διπυθμένων και η επιφάνεια του κοινού οριακού χωρίσματος της δεξαμενής με τους χώρους μηχανών θα τηρείται στο ελάχιστο. Όπου τέτοιες δεξαμενές είναι έτσι τοποθετημένες ώστε να περικλείονται από τα οριακά χωρίσματα των χώρων μηχανών κατηγορίας Α, δεν θα περιέχουν καθύψιστο πετρέλαιο που έχει σημείο ανάφλεξης μικρότερο από 60°C. Γενικά η χρήση δεξαμενών καυσίμου πετρελαίου ελεύθερης στήριξης θα αποφεύγεται. Όταν χρησιμοποιούνται τέτοιες δεξαμενές, θα απαγορεύεται η χρήση τους σε χώρους μηχανών κατηγορίας Α επιβατηγών πλοίων. Όπου επιτρέπεται η χρήση τους θα τοποθετούνται μέσα σε ελαιοστεγανό δίσκο υπερχειλίσης ικανού μεγέθους με κατάλληλο σωλήνα αποστράγγισης που καταλήγει σε δεξαμενή πετρελαίου υπερχειλίσης κατάλληλου μεγέθους.

- 4 Δεν θα τοποθετείται καμιά δεξαμενή πετρελαίου εκεί όπου υπερχειλίση ή διαρροή από αυτή μπορεί να δημιουργήσει κίνδυνο από πτώση σε θερμές επιφάνειες. Θα λαμβάνονται προφυλάξεις ώστε να αποφεύγεται η επαφή του πετρελαίου που μπορεί να διαφύγει υπό πλεση από οποιαδήποτε αντλία, φίλτρο ή θερμαντήρα με θερμές επιφάνειες.
- 5 Κάθε σωλήνας καυσίμου πετρελαίου που σε περίπτωση καταστροφής του θα επέτρεπε την διαφυγή πετρελαίου από δεξαμενή αποθήκευσης, κατακόρυξης ή ημερήσιας κατανάλωσης, τοποθετημένη πάνω από τα διπύθμενα, θα εφοδιάζεται με κρουνό ή επιστόμιο απ'ευθείας στην δεξαμενή, ικανό να κλείνεται από ασφαλή θέση έξω από τον αντλίοστοιχο χώρο σε περίπτωση εκδήλωσης πυρκαϊάς στο χώρο στον οποίο ευρίσκονται τέτοιες δεξαμενές. Στην ειδική περίπτωση δεξαμενών κύτους (DEEP TANKS) που ευρίσκονται σε οποιαδήποτε σήραγγα αξόνων ή σωληνώσεων ή σε παρόμοιο χώρο, θα τοποθετούνται επιστόμια στη δεξαμενή, ο έλεγχος όμως στη περίπτωση πυρκαϊάς θα μπορεί να πραγματοποιείται με ένα πρόσθετο επιστόμιο στο σωλήνα ή σωλήνες έξω από τη σήραγγα ή τον παρόμοιο χώρο. Αν είναι τοποθετημένο τέτοιο πρόσθετο επιστόμιο στο χώρο μηχανών θαχειρίζεται από θέση έξω από τον χώρο αυτό.

- .6 θα προβλέπονται ασφαλή και αποτελεσματικά μέσα εξακρίβωσης της ποσότητας του καυσίμου πετρελαίου που περιέχεται σ' οποιαδήποτε δεξαμενή καυσίμου πετρελαίου. Μετρητικοί σωλήνες δεν θα τερματίζουν σ' οποιοδήποτε χώρο όπου μπορεί να δημιουργηθεί κίνδυνος ανάφλεξης από υπερχειλίση του μετρητικού σωλήνα. Ειδικότερα δεν θα τερματίζουν σε χώρους επιβατών ή πληρώματος.

Άλλα μέσα εξακρίβωσης της ποσότητας του καυσίμου πετρελαίου που περιέχεται σε οποιαδήποτε δεξαμενή καυσίμου πετρελαίου ~~μπορούν να επιτρέπονται~~.

- .6.1 Σε επιβατηγά πλοία, εφόσον τα μέσα αυτά δεν απαιτούν διατήρηση κάτω από την οροφή της δεξαμενής και με την προϋπόθεση ότι η βλάβη τους ή η υπερπλήρωση των δεξαμενών δεν θα επιτρέψει διαφυγή του καυσίμου,
- .6.2 Σε φορτηγά πλοία με την προϋπόθεση ότι η βλάβη των μέσων αυτών ή η υπερπλήρωση των δεξαμενών δεν θα επιτρέψει διαφυγή του καυσίμου. Η χρήση κυλινδρικών γυάλινων μετρητών απαγορεύεται. Η Αρχή μπορεί να επιτρέψει τη χρήση μετρητών στόμης πετρελαίου με επίπεδο γυαλί και αυτοκλειστά επιστόμια μεταξύ των μετρητών και των δεξαμενών πετρελαίου. Αυτά τα άλλα μέσα θα είναι αποδεκτά από την Αρχή και θα διατηρούνται σε κατάλληλη κατάσταση ώστε να εξασφαλίζεται η συνεχής ακριβής λειτουργία τους κατά την υπηρεσία.

- .7 Θα λαμβάνεται πρόνοια για την αποφυγή υπερπίεσης σε οποιαδήποτε δεξαμενή πετρελαίου ή σε οποιοδήποτε τμήμα του συστήματος καυσίμου πετρελαίου περιλαμβανομένων των σωλήνων πλήρωσης. Οποιοσδήποτε ανακουφιστικές βαλβίδες και σωλήνες εξερισμού ή υπερχειλίσης θα εκβάλλουν σε ασφαλή κατά την κρίση της Αρχής θέση.

- .8 Οι σωλήνες καυσίμου πετρελαίου και τα επιστόμια και εξαρτήματά τους θα είναι από χάλυβα ή από άλλο εγκεκριμένο υλικό, με την εξαίρεση ότι μπορεί να επιτραπεί περιορισμένη χρήση ευκαμπτων σωλήνων σε θέσεις όπου η Αρχή θεωρεί αυτό αναγκαίο. Τέτοιοι εύκαμπτοι σωλήνες και τελικές συνδέσεις θα είναι από εγκεκριμένα πυράντοχα υλικά επαρκούς αντοχής και θα είναι κατασκευασμένοι κατά τρόπο που να ικανοποιεί την Αρχή.

3.-Διατάξεις λιπαντικού ελαίου

Οι διατάξεις για την αποθήκευση, διανομή και χρήση του ελαίου που χρησιμοποιείται σε συστήματα λίπανσης υπό πίεση θα είναι τέτοιες ώστε να εξασφαλίζουν την ασφάλεια του πλοίου και των επιβατών και οι διατάξεις αυτές στους χώρους μηχανών κατηγορίας Α

και όπου είναι πρακτικά δυνατό σε άλλους χώρους μηχανών θα πληρούν τουλάχιστον τις απαιτήσεις των παραγράφων 2.1, 2.4, 2.5, 2.6, 2.7 και 2.8, χωρίς αυτό να αποκλείει την χρήση γυάλινων θυρίδων παρατήρησης ροής σε συστήματα λίπανσης με την προϋπόθεση ότι αποδείχθηκε από δοκιμές ότι έχουν κατάλληλο βαθμό αντοχής στην πυρκαϊά.

4. Διατάξεις για άλλα εύφλεκτα πετρελαιοειδή

Οι διατάξεις για την αποθήκευση, διανομή και χρήση άλλων ευφλεκτών πετρελαιοειδών που χρησιμοποιούνται υπό πίεση σε μηχανοκίνητα συστήματα μετάδοσης κίνησης, συστήματα ελέγχου και ενεργοποίησης και συστήματα θέρμανσης θα είναι τέτοιες ώστε να εξασφαλίζουν την ασφάλεια του πλοίου και των επιβαινόντων. Σε θέσεις όπου υπάρχουν μέσα ανάφλεξης, τέτοιες διατάξεις θα πληρούν τουλάχιστον τις απαιτήσεις των παραγράφων 2.4 και 2.6 και τις απαιτήσεις των παραγράφων 2.7 και 2.8 που αφορούν στην αντοχή και κατασκευή.

5. Περιοδικά μή επανδρωμένοι χώροι μηχανών

Επί πλέον των απαιτήσεων των παραγράφων 1 έως 4, τα συστήματα καυσίμου πετρελαίου και λιπαντικού ελαίου θα πληρούν τις ακόλουθες απαιτήσεις :

1. Όπου είναι αναγκαίο, οι σωληνώσεις καυσίμου πετρελαίου και ελαίου λίπανσης θα προστατεύονται με προφυλακτικές ή με άλλο κατάλληλο τρόπο για την αποφυγή όσο είναι πρακτικά δυνατό ραντισμού ή διαρροών πετρελαίου ή ελαίου πάνω σε θερμές επιφάνειες ή μέσα στις εισαγωγές αέρα των μηχανημάτων. Ο αριθμός των συνδέσμων σε τέτοια συστήματα σωληνώσεων θα περιορίζεται στο ελάχιστο και όπου είναι πρακτικά δυνατό, οι διαρροές από τους σωλήνες καυσίμου πετρελαίου υψηλής πίεσης θα συλλέγονται και θα προβλέπονται διατάξεις για την σήμανση συναγερμού.
2. Όπου δεξαμενές καυσίμου πετρελαίου ημερησίας κατανάλωσης πληρούνται αυτόματα ή με τηλεχειρισμό, θα προβλέπονται μέσα για την αποφυγή υπερχέλισης. Άλλες συσκευές που επεξεργάζονται αυτόματα εύφλεκτα υγρά π.χ. συσκευές διύλισης καυσίμου πετρελαίου οι οποίες, όταν είναι πρακτικά δυνατό, θα εγκαθίστανται σε ειδικό χώρο που θα διατίθεται για τις συσκευές διύλισης και τους θερμοαντήρες τους, θα έχουν διατάξεις για την αποφυγή υπερχέλισης.

3. Όπου δεξαμενές καυσίμου πετρελαίου ημερήσιας κατανάλωσης ή δεξαμενές κατακρήθισης είναι εφοδιασμένες με διατάξεις θέρμανσης, θα προβλέπεται σήμα συναγερμού υψηλής θερμοκρασίας, αν μπορεί να συμβεί υπέρβαση του σημείου ανάφλεξης του καυσίμου πετρελαίου.

Κανονισμός 16

Συστήματα αερισμού σε πλοία, εκτός από επιβατηγά πλοία που μεταφέρουν περισσότερους από 36 επιβάτες

1. Οι αγωγοί αερισμού θα είναι από άκαυστο υλικό. Πάντως, βραχείς αγωγοί που το μήκος τους γενικά δεν υπερβαίνει τα 2 m και η διατομή τους δεν υπερβαίνει τα 0,02 m² δεν απαιτείται να είναι άκαυστοι, υπό τις ακόλουθες προϋποθέσεις :
 - .1 Οι αγωγοί αυτοί θα είναι από υλικό το οποίο, κατά την κρίση της Αρχής, παρουσιάζει μικρό κίνδυνο πυρκαϊάς,
 - .2 μπορούν να χρησιμοποιούνται μόνο στα τελικά τμήματα του συστήματος αερισμού,
 - .3 δεν θα εντοκονται σε απόσταση μικρότερη από 600mm, που μετράται κατά μήκος του αγωγού, από άνοιγμα σε χώρισμα κλάσης "A" ή "B" περιλαμβανομένων των συνεχών οροφών κλάσης "B".
2. Όπου οι αγωγοί αερισμού με ελεύθερη επιφάνεια διατομής που υπερβαίνει τα 0,02m² διέρχονται από διαφράγματα ή καταστρώματα κλάσης "A", το άνοιγμα θα καλύπτεται με χαλύβδινοχιτώνιο, εκτός αν οι αγωγοί που διέρχονται από τα διαφράγματα ή καταστρώματα είναι από χάλυβα κοντά στη διέλευση από το κατάστρωμα ή το διάφραγμα και οι αγωγοί και τα χιτώνια θα πληρούν στο μέρος αυτό τις ακόλουθες απαιτήσεις :
 - .1 Τα χιτώνια θα έχουν πάχος τουλάχιστον 3 mm και μήκος τουλάχιστον 900mm. Όταν διέρχονται από διαφράγματα, το μήκος αυτό θα χωρίζεται κατά προτίμηση σε 450mm σε κάθε πλευρά του διαφράγματος. Οι αγωγοί αυτοί ή τα χιτώνια που καλύπτουν τέτοιους αγωγούς θα μονώνονται με μόνωση πυρασφαλούς. Η μόνωση θα παρέχει τουλάχιστον την ίδια ανεκραιότητα έναντι πυρκαϊάς με το διάφραγμα ή το κατάστρωμα από το οποίο διέρχεται ο αγωγός. Μπορεί να προβλέπεται ισοδύναμη προστασία της διέλευσης, εάν να ικανοποιεί την Αρχή.

.2 Αγωγοί με ελεύθερη επιφάνεια διατομής που υπερβαίνει τα $0,075\text{m}^2$, επιπλέον των απαιτήσεων της παραγράφου 2.1, θα εφοδιάζονται με πυροφράκτες. Ο πυροφράκτης θα λειτουργεί αυτόματα, αλλά θα έχει επίσης δυνατότητα χειροκίνητου κλεισίματος και από τις δυο πλευρές του διαφράγματος ή καταστρώματος. Ο πυροφράκτης θα εφοδιάζεται με ενδείκτη που θα δείχνει αν ο πυροφράκτης είναι ανοικτός ή κλειστός. Πάντως δεν απαιτούνται πυροφράκτες όπου οι αγωγοί διέρχονται από χώρους που περιβάλλονται από χωρίσματα κλάσης "Α" χωρίς να εξυπηρετούν τους χώρους αυτούς, εφόσον οι αγωγοί αυτοί έχουν την ίδια ακεραιότητα έναντι πυρκαϊάς με τα χωρίσματά που διαπερνούν.

3. Οι αγωγοί αερισμού χώρων μηχανών κατηγορίας Α, μαγειρείων, χώρων οχημάτων, χώρων φορτίου R0/R0 ή χώρων ειδικής κατηγορίας δεν θα διέρχονται από χώρους ενδιάμεσης, χώρους υπηρεσίας ή σταθμούς ελέγχου εκτός αν *πηρούν τους χώρους που καθορίζονται στις υποπαραγράφους 1.1 και 1.2 και 2.2 πιο κάτω:*
- .1.1 *οι αγωγοί είναι* /κατασκευασμένοι από χάλυβα πάχους τουλάχιστον 3 ~~mm~~ ή 5 ~~mm~~ για αγωγούς τα πλάτη ή οι διάμετροι των οπών είναι μέχρι και 300 ~~mm~~ και 760 ~~mm~~ και άνω αντίστοιχα και, στην περίπτωση τέτοιων αγωγών, τα πλάτη ή οι διάμετροι των οπών είναι μεταξύ 300 ~~mm~~ και 760 ~~mm~~, το πάχος του χάλυβα θα ειρρίσκειται με παρεμβολή,
 - .1.2 *οι αγωγοί είναι* /κατάλληλα στηριγμένοι και ενισχυμένοι,
 - .1.3 *οι αγωγοί είναι* /εφοδιασμένοι με αυτόματους πυροφράκτες κοντά στα οριακά χωρίσματα που διαπερνούν, και
 - .1.4 *οι αγωγοί είναι* /μονωμένοι σε βαθμό "Α-60" ως προς τους χώρους μηχανών, μαγειρεία, χώρους οχημάτων, χώρους φορτίου R0/R0 ή χώρους ειδικής κατηγορίας σε μήκος τουλάχιστον 5 μέτρων από κάθε πυροφράκτη,
- είτε
- .2.1 *οι αγωγοί είναι* /κατασκευασμένοι από χάλυβα σύμφωνα με τις παραγράφους 3.1.1 και 3.1.2, και
 - .2.2 *οι αγωγοί είναι* /μονωμένοι σε βαθμό "Α-60" μέσα στους χώρους ενδιάμεσης, χώρους υπηρεσίας και σταθμούς ελέγχου, με την εξαίρεση ότι οι διεισδύσεις από χωρίσματα κυρίων ζωνών θα πληρούν επίσης τις απαιτήσεις της παραγράφου 8.

4. Οι αγωγοί αερισμού χώρων ενδιαίτησης, χώρων υπηρεσίας ή σταθμών ελέγχου δεν θα διέρχονται από χώρους μηχανών Κατηγορίας Α, μαγειρεία, χώρους οχημάτων, χώρους φορτίου RO/RO ή χώρους ειδικής κατηγορίας εκτός αν πληρούν τους όρους που καθορίζονται στις υπο-παραγράφους 1.1 μέχρι 1.3 ή 2.1 και 2.2 πύ κάτω:
- .1.1 οι αγωγοί, όπου διέρχονται από χώρο μηχανών κατηγορίας Α, μαγειρείο, χώρο οχημάτων, χώρο φορτίου RO/RO ή χώρο ειδικής κατηγορίας, είναι κατασκευασμένοι από χάλυβα σύμφωνα με τις παραγράφους 3.1.1 και 3.1.2,
 - .1.2 αυτόματοι πυροφράκτες είναι τοποθετημένοι κοντά στα οριακά χωρίσματα που διαπερνώνται, και
 - .1.3 διατηρείται η ακεραιότητα των οριακών χωρισμάτων του χώρου μηχανών, μαγειρείου, χώρου οχημάτων, χώρου φορτίου RO/RO ή χώρου ειδικής κατηγορίας στα σημεία διέλευσης,
είτε
 - .2.1 οι αγωγοί όπου διέρχονται από χώρο μηχανών κατηγορίας Α, μαγειρείο, χώρο οχημάτων, χώρο φορτίου RO/RO ή χώρο ειδικής κατηγορίας είναι κατασκευασμένοι από χάλυβα, σύμφωνα με τις παραγράφους 3.1.1 και 3.1.2, και
 - .2.2 ^{οι αγωγοί είναι} είναι μονωμένοι σε βαθμό "Α-60" μέσα στο χώρο μηχανών, μαγειρείο, χώρο οχημάτων, χώρο φορτίου RO/RO ή χώρο ειδικής κατηγορίας,
με την εξαίρεση ότι οι διελεύσεις από χωρίσματα κυρτών ζωνών θα πληρούν επίσης τις απαιτήσεις της παράγραφου 8.
5. Αγωγοί αερισμού με ελεύθερη επιφάνεια διατομής, που υπερβαίνει τα $0,02\text{m}^2$ οι οποίοι διέρχονται από διαφράγματα κλάσης "B", θα καλύπτονται με χαλύβδινα χιτώνια μήκους 900 mm που χωρίζονται κατά προτίμηση σε 450mm σε κάθε πλευρά των διαφραγμάτων εκτός αν ο αγωγός είναι από χάλυβα στο μήκος αυτό.
6. Θα λαμβάνονται μέτρα, όσο είναι πρακτικά δυνατό, αναφορικά με τους σταθμούς ελέγχου έξω από τους χώρους μηχανών, που να εξασφαλίζουν την διατήρηση του αερισμού, της ορατότητας και της απουσίας καπνού ώστε σε περίπτωση πυρκαϊάς, τα μηχανήματα και ο εξοπλισμός που περιέχονται σ' αυτούς να μπορούν να ελέγχονται και να συνεχίζουν να λειτουργούν αποτελεσματικά. Θα προβλέπονται εναλλακτικά και χωριστά μέσα τροφοδότησης αέρα· οι εισαγωγές αέρα των δύο πηγών τροφοδότησης θα έχουν τέτοια θέση ώστε να ελαχιστοποιείται ο κίνδυνος αναρρόφησης καπνού

και από τις δύο εισαγωγές ταυτόχρονα.

Κατά την κρίση της Αρχής, τέτοιες απαιτήσεις δεν χρειάζεται να εφαρμόζονται σε σταθμούς ελέγχου που ευρίσκονται και έχουν έξοδο σε ανοικτό κατάστρωμα ή όπου διατάξεις τοπικού κλεισίματος θα ήταν εξ ίσου αποτελεσματικές.

7. Οι αγωγοί εξαγωγής από χώρους μαγειρείων, όπου διέρχονται από χώρους ενδιαίτησης ή χώρους που περιέχουν παύσιμα υλικά, θα είναι κατασκευασμένοι από χωρίσματα κλάσης A. Κάθε αγωγός εξαγωγής θα εφοδιάζεται με :
 - .1 λιποσυλλέκτη που θα μπορεί να αφαιρείται εύκολα για καθαρισμό,
 - .2 πυροφράκτη τοποθετημένο στο κατώτερο άκρο του αγωγού,
 - .3 διατάξεις που θα μπορούν να χειρίζονται μέσα από το μαγειρείο για την διακοπή των εξαεριστήρων, και
 - .4 μόνιμα μέσα για κατάσβεση πυρκαϊάς μέσα στον αγωγό.
8. Όπου σε επιβατηγό πλοίο είναι αναγκαία η διέλευση αγωγού αερισμού από χώρισμα κύριας κατακόρυφης ζώνης, θα τοποθετείται κοντά στο χώρισμα πυροφράκτης αυτομάτου κλεισίματος που θα παρέχει ασφάλεια σε περίπτωση βλάβης. Ο πυροφράκτης θα έχει επίσης δυνατότητα χειροκινήτου κλεισίματος από κάθε πλευρά του χωρίσματος. Η θέση χειρισμού θα είναι αμέσως προσιτή και θα σημαίνεται με κόκκινο ανακλαστικό χρώμα. Ο αγωγός μεταξύ του χωρίσματος και του πυροφράκτη θα είναι από χάλυβα ή άλλο ισοδύναμο υλικό και, αν είναι αναγκαίο, θα μονώνεται ώστε να πληροί τις απαιτήσεις του Πανοντισμού 18.1.1. Ο πυροφράκτης θα εφοδιάζεται τουλάχιστον στη μία πλευρά του χωρίσματος με ορατό ενδείκτη που θα δείχνει αν ο πυροφράκτης είναι στην ανοικτή θέση.
9. Οι κύριες εισαγωγές και εξαγωγές όλων των συστημάτων αερισμού θα μπορούν να κλείνονται έξω από τους αεριζόμενους χώρους.
10. Ο τεχνητός αερισμός των χώρων ενδιαίτησης, χώρων υπηρεσίας, χώρων φορτίου, σταθμών ελέγχου και χώρων μηχανών θα μπορεί να διακόπτεται από εύκολα προσιτή θέση έξω από τον χώρο που εξυπηρετείται. Η θέση αυτή δεν θα αποκόπτεται εύκολα στην περίπτωση πυρκαϊάς στους χώρους που εξυπηρετούνται. Τα μέσα που προβλέπονται για τη διακοπή του τεχνητού αερισμού των χώρων μηχανών θα είναι εντελώς χωριστά από τα μέσα που προβλέπονται για την διακοπή του αερισμού των άλλων χώρων.

Κανονισμός 17
Εξάρτηση Πυροσβέστη

1. εξάρτηση πυροσβέστη θα αποτελείται από :

1.1 Ατομικό εξοπλισμό που περιλαμβάνει :

- .1 Προστατευτική ενδυμασία από υλικό ικανό να προστατεύει το δέρμα από την θερμότητα που ακτινοβολείται από την πυρκαϊά και από εγκαύματα και ζεμάτισμα από ατμό. Η εξωτερική επιφάνεια θα είναι ανθεκτική στο νερό.
- .2 Επότες και γάντια από ελαστικό ή άλλο μη ηλεκτρικά αγώγιμο υλικό.
- .3 Άκαμπτο κράνος που παρέχει αποτελεσματική προστασία από κρούσεις,
- .4 Ηλεκτρική λυχνία ασφαλείας (χειροφανό) εγκεκριμένου τύπου, με ελάχιστο χρόνο λειτουργίας τριών ωρών.
- .5 Πέλεκυ που ικανοποιεί την Αρχή.

1.2 Αναπνευστική συσκευή εγκεκριμένου τύπου, που μπορεί να είναι είτε :

- .1 Κράνος καπνού ή προσωπίδα καπνού που θα συνοδεύεται από κατάλληλη αεραντλία και εύκαμπτο σωλήνα αέρα επαρκούς μήκους ώστε να φθάνει από αρκετά απομακρυσμένη, από άνοιγμα κήτους ή θύρα, θέση του ανοικτού καταστρώματος σε οποιοδήποτε μέρος των κωπών ή των χώρων μηχανών. Εφόσον, για συμμόρφωση με αυτή την υποπαράγραφο, θα ήταν αναγκαίος εύκαμπτος σωλήνας αέρα μήκους μεγαλύτερου από 36 M, θα προβλέπεται σε αντικατάσταση ή επιπρόσθετα μία αυτόνομη αναπνευστική συσκευή όπως θα καθορίζει η Αρχή, είτε
- .2 αυτόνομη αναπνευστική συσκευή πεπιεσμένου αέρα σε φιάλες που θα περιέχουν όγκο αέρα τουλάχιστον 1200 ℓ ή άλλη αυτόνομη αναπνευστική συσκευή που θα μπορεί να λειτουργεί για τουλάχιστον 30 πρώτα λεπτά. Θα υπάρχει στο πλοίο αριθμός αμοιβών γομώσεων, καταλλήλων για χρήση στις προβλεπόμενες συσκευές, που θα ικανοποιεί την Αρχή.

2. Για κάθε αναπνευστική συσκευή θα προβλέπεται ένα πυράντοχο σωσίβιο σχοινί επαρκούς μήκους και αντοχής ικανό να συνδέεται με άγκιστρο στους μάντες της συσκευής ή σε ιδιαίτερη ζώνη για να αποφεύγεται η αποσύνδεση της αναπνευστικής συσκευής όταν χρησιμοποιείται το σωσίβιο-σχοινί.

3. Όλα τα πλοία θα φέρουν τουλάχιστον δύο εξαρτήσεις πυροσβέστη που πληρούν τις απαιτήσεις της παραγράφου 1.

3.1 Επιπλέον θα προβλέπονται :

.1 σε επιβατηγά πλοία για κάθε 80^{μη}, ή μέρος αυτών, του αθροίσματος των μηκών όλων των χώρων επιβατών και υπηρεσίας στο κατάστρωμα που ευρίσκονται τέτοιοι χώροι ή, αν υπάρχουν περισσότερα από ένα τέτοια καταστρώματα, στο κατάστρωμα που έχει το μεγαλύτερο άθροισμα τέτοιων μηκών, δύο εξαρτήσεις πυροσβέστη και δύο σειρές ατομικού εξοπλισμού, που κάθε μία περιλαμβάνει τα αναφερόμενα στις παραγράφους 1.1.1, 1.1.2, και 1.1.3 είδη,

.2 σε δεξαμενόπλοια δύο εξαρτήσεις πυροσβέστη .

3.2 Σε επιβατηγά πλοία, που μεταφέρουν περισσότερους από 36 επιβάτες, για κάθε ζεύγος αναπνευστικών συσκευών θα προβλέπεται μία συσκευή παραγωγής ομίχλης νερού, που θα φυλάσσεται κοντά σ' αυτές τις αναπνευστικές συσκευές.

3.3 Η Αρχή μπορεί να απαιτήσει πρόσθετες σειρές ατομικού εξοπλισμού και αναπνευστικές συσκευές λαμβάνοντας υπ' όψη το μέγεθος και τον τύπο του πλοίου.

4. Οι εξαρτήσεις πυροσβέστη ή οι σειρές ατομικού εξοπλισμού θα φυλάσσονται έτσι ώστε να είναι εύκολα προσιτές και έτοιμες για χρήση και, όπου φέρονται περισσότερες από μία εξαρτήσεις πυροσβέστη ή περισσότερες από μία σειρές ατομικού εξοπλισμού, θα φυλάσσονται σε αρκετά απομακρυσμένες θέσεις. Σε επιβατηγά πλοία τουλάχιστο δύο εξαρτήσεις πυροσβέστη και μία σειρά ατομικού εξοπλισμού θα είναι διαθέσιμες σε οποιαδήποτε θέση.

Κανονισμός 18

Διάφορα θέματα

1.1 Όπου χωρίσματα κλάσης "Α" διαπερνώνται για τη διέλευση ηλεκτρικών καλωδίων, σωλήνων, οχετών, αγωγών κ.α ή για δοκούς, ζυγά ή άλλα κατασκευαστικά μέρη, θα υπάρχουν διατάξεις που θα εξασφαλίζουν ότι δεν επηρεάζεται δυσμενώς η αντίσταση στη πυρκαϊά, λαμβανομένων υπόψη των διατάξεων του Κανονισμού 30.5.

1.2 Όπου χωρίσματα κλάσης "Β" διαπερνώνται για τη διέλευση ηλεκτρικών καλωδίων, σωλήνων, οχετών, αγωγών κ.α ή για την τοποθέτηση τερματικών εξαρτημάτων αερισμού, φωτιστικών σωμάτων και παρόμοιων συσκευών, θα υπάρχουν διατάξεις που θα εξασφαλίζουν ότι δεν επηρεάζεται δυσμενώς η αντίσταση στην πυρκαϊά.

- 2.1. Σωλήνες που διαπερνούν χωρίσματα κλάσης "Α" ή "Β" θα είναι από υλικά εγκεκριμένα από την Αρχή λαμβανομένης υπ'όψη της θερμοκρασίας στην οποία απαιτείται να αντέχουν τα χωρίσματα αυτά.
- 2.2 Όπου η Αρχή μπορεί να επιτρέψει την διοχέτευση πετρελαίου και καυσίμων υγρών μέσα από χώρους ενδιαίτησης και υπηρεσίας, οι σωλήνες που διοχετεύουν το πετρέλαιο ή τα καύσιμα υγρά θα είναι από υλικό εγκεκριμένο από την Αρχή, λαμβανομένου υπόψη του κινδύνου πυρκαϊάς.
- 2.3 Ψιλιά που προσβάλλονται εύκολα από την θερμότητα δεν θα χρησιμοποιούνται για ευδιάλυτους αποχέτευσης, εξαγωγές υγιεινής και άλλες εξαγωγές που εύρισκονται κοντά στην ίσαλο γραμμή και όπου η ζημιά του υλικού σε περίπτωση πυρκαϊάς θα μπορούσε να δημιουργήσει κίνδυνο κατάκλυσης.
3. Ηλεκτρικά σώματα θέρμανσης, αν χρησιμοποιούνται, θα είναι στερεωμένα σε μόνιμες θέσεις και θα είναι έτσι κατασκευασμένα ώστε οι κίνδυνοι πυρκαϊάς να περιορίζονται στο ελάχιστο. Τα σώματα αυτά δεν θα έχουν το στοιχείο θέρμανσης ^{κατά τίποιο τρόπο} εκτεθειμένο ώστε ιματισμός, παραπέτασμα ή άλλα παρόμοια υλικά να είναι δυνατόν να καούν επιφανειακά ή να αναφλεγούν από την θερμότητα του στοιχείου.
4. Κινηματογραφικές ταινίες που έχουν βάση την νιτροκυτταρίνη δεν θα χρησιμοποιούνται στις κινηματογραφικές εγκαταστάσεις.
5. Όλα τα καλώδια αχρήστων θα κατασκευάζονται από άκαυστα υλικά, χωρίς ανοίγματα στις πλευρές ή τον πυθμένα.
6. Σε χώρους όπου είναι πιθανή διείσδυση πετρελαιοειδών, η επιφάνεια της μόνωσης θα είναι αδιαπέραστη από το πετρέλαιο ή τους ατμούς του.

Κανονισμός 19

Διεθνής σύνδεσμος Ξηράς[■]

1. Πλοία ολικής χωρητικότητας 500 κόνων και άνω θα εφοδιάζονται με ένα τουλάχιστο διεθνή σύνδεσμο Ξηράς που πληροί τις διατάξεις της παραγράφου 3.
2. Θα υπάρχει δυνατότητα χρησιμοποίησης του συνδέσμου αυτού σε οποιαδήποτε πλευρά του πλοίου.

[■] Γίνεται μνεία της σύστασης, που περιέχεται στην απόφαση Δ.470(XII) που υιοθετήθηκε από τον Οργανισμό με τον τίτλο "Διεθνής Σύνδεσμος Ξηράς (πλευρά Ξηράς)".

3. Οι τυποποιημένες διαστάσεις των περιαυχενίων για τον διεθνή σύνδεσμο ξηράς θα είναι σύμφωνες με τον ακόλουθο πίνακα :

Περιγραφή	Διάσταση
Εξωτερική διάμετρος	178 mm
Εσωτερική διάμετρος	64 mm
Διάμετρος κύκλου κοχλιών	132 mm
Εγκοπές στο περιαυχένιο	4 οπές διαμέτρου 19mm που ισαπέχουν σε περιφέρεια κοχλιών της παραπάνω διαμέτρου, συνεχιζόμενες με εγκοπή μέχρι την περιφέρεια
Πάχος περιαυχενίου	14,5 mm τουλάχιστον
Κοχλίες και περικόχλια	4, με διάμετρο 16mm ο καθένας και μήκος 50mm.

4. Ο σύνδεσμος θα είναι από χάλυβα ή άλλο κατάλληλο υλικό και θα είναι σχεδιασμένος για πίεση λειτουργίας $1,0\text{MPa}$. Το περιαυχένιο θα έχει επίπεδη επιφάνεια από τη μία πλευρά και από την άλλη πλευρά θα έχει μόνιμα προσαρμοσμένη σύνδεση που θα εφαρμόζει στην λήψη πυρκαϊάς και εύκαμπτο σωλήνα του πλοίου. Ο σύνδεσμος θα φυλάσσεται στο πλοίο μαζί με παρέμβυσμα από οποιοδήποτε υλικό κατάλληλο για πίεση λειτουργίας $1,0\text{MPa}$, μαζί με τέσσερις κοχλίες διαμέτρου 16mm και μήκους 50mm και οκτώ παρβουίλους.

Κανονισμός 20

Σχέδια ελέγχου πυρκαϊάς

1. Σχέδια τα πλοία θα υπάρχουν μόνιμα εκτεθειμένα σχέδια γενικής διάταξης για καθοδήγηση των αξιωματικών του πλοίου, που θα απεικονίζουν καθαρά για κάθε κατάστρωμα τους σταθμούς ελέγχου, τους διάφορους πυρασφαλείς χώρους που περικλείονται από χωρίσματα κλάσης "Α", τους χώρους που περικλείονται από χωρίσματα κλάσης "Β" μαζί με στοιχεία των συστημάτων ανίχνευσης και βγα-
γερού πυρκαϊάς, της εγκατάστασης αυτόματου ραντισμού (SPRINKLER),

των συσκευών κατάσβεσης πυρκαϊάς, των μέσων πρόσβασης στα διό-
φορα διαμερίσματα, καταστρώματα κ.λ.π. και του συστήματος αε-
ρισμού, περιλαμβανομένων στοιχείων για τις θέσεις ελέγχου των
ανεμιστήρων, την θέση των πυροφρακτών και τους χαρακτηριστι-
κούς αριθμούς των ανεμιστήρων αερισμού που εξυπηρετούν κάθε
χώρο. Εναλλακτικά κατά την κρίση της Αρχής οι λεπτομέρειες που
προαναφέρθηκαν μπορούν να καταχωρούνται σε εγχειρίδιο, αντίγρα-
φο του οποίου θα χορηγείται σε κάθε αξιωματικό και ένα αντίγρα-
φο θα είναι σε κάθε στιγμή διαθέσιμο στο πλοίο σε προσιτή θέση.
Τα σχέδια και εγχειρίδια θα τηρούνται ενημερωμένα και κάθε αλ-
λαγή θα καταχωρείται σ' αυτό το ταχύτερο δυνατόν. Η περιγραφή
στα σχέδια και εγχειρίδια αυτά θα είναι στην επίσημη γλώσσα του κράτους
της σημαίας. Αν η γλώσσα δεν είναι η Αγγλική ή η Γαλλική, θα περι-
λαμβάνεται μετάφραση σε μία από αυτές τις γλώσσες. Επιπλέον
οι οδηγίες που αφορούν στη συντήρηση και λειτουργία όλων των
εγκαταστάσεων και του εξοπλισμού του πλοίου για την καταπολέ-
μηση και περιορισμό της πυρκαϊάς θα τηρούνται συγκεντρωμένες
σε εγχειρίδιο εύκολα διαθέσιμο σε προσιτή θέση.

2. Σε όλα τα πλοία μια δεύτερη σειρά σχεδίων ελέγχου πυρκαϊάς ή
ένα εγχειρίδιο που περιέχει τέτοια σχέδια θα φυλάσσεται μόνιμα
μέσα σε καιροστεγές περίβλημα με εμφανή σήμανση έξω από το υπερ-
στέγασμα για υποβοήθηση του προσωπικού ξηράς που ασχολείται με
την καταπολέμηση της πυρκαϊάς.

Κανονισμός 21

Άμεση διαθεσιμότητα των συσκευών κατάσβεσης πυρκαϊάς

Σε όλα τα πλοία οι συσκευές κατάσβεσης πυρκαϊάς θα διατηρούνται σε
καλή κατάσταση και θα είναι διαθέσιμες για άμεση χρήση σε κάθε στι-
γή κατά τη διάρκεια του πλόυ.

Κανονισμός 22

Αποδοχή υποκαταστάτων

1. Ο Κανονισμός αυτός εφαρμόζεται σε όλα τα πλοία.
2. Όπου στο Κεφάλαιο αυτό καθορίζεται οποιοσδήποτε τύπος συσκευής,
οργάνου, πυροσβεστικού μέσου ή διάταξης για οποιοδήποτε πλοίο,
μπορεί να επιτραπεί οποιοσδήποτε άλλος τύπος συσκευής κ.λ.π.
εφ' όσον η Αρχή κρίνει ότι δεν είναι λιγότερο αποτελεσματικός.

ΜΕΡΟΣ Β' - ΜΕΤΡΑ ΠΥΡΑΣΦΑΛΕΙΑΣ ΓΙΑ ΕΠΙΒΑΤΗΓΑ ΠΛΟΙΑ

Κανονισμός 23

Κατασκευή

1. Το σκάφος η υπερκατασκευή, τα κατασκευαστικά διαφράγματα, τα καταστρώματα και τα υπερστεγάσματα θα κατασκευάζονται από χάλυβα ή άλλο ισοδύναμο υλικό. Για το σκοπό εφαρμογής του ορισμού του χάλυβα ή άλλου ισοδύναμου υλικού, όπως αυτός δίνεται στον Κανονισμό 3.7 ή "εφαρμοζόμενη έκθεση στη φωτιά" θα συμφωνεί με τους βαθμούς ανεκραιότητας και μόνωσης που δίνονται στους πίνακες των Κανονισμών 26 και 27. Για παράδειγμα, όπου χωρίσματα τέτοια, όπως καταστρώματα ή πλευρές και άκρα υπερστεγασμάτων, επιτρέπεται να έχουν ανεκραιότητα έναντι πυρκαϊάς "B-0" ή "εφαρμοζόμενη έκθεση στη φωτιά" θα είναι διαρκείας μισής ώρας.
2. Πάντως στις περιπτώσεις όπου οποιοδήποτε τμήμα της κατασκευής είναι από κράμα αλουμινίου, θα εφαρμόζονται τα ακόλουθα :
 - .1 Η μόνωση των στοιχείων από κράμα αλουμινίου των χωρισμάτων κλάσης "A" ή "B" εκτός από την κατασκευή, που κατά την γνώμη της Αρχής, δεν φέρει φορτίο, θα είναι τέτοια ώστε η θερμοκρασία του κατασκευαστικού στελέχους (πυρήνα) να μην υψώνεται περισσότερο από 200°C πάνω από τη θερμοκρασία του περιβάλλοντος ~~οποιοδήποτε~~ κατά τη διάρκεια της εφαρμοζόμενης έκθεσης στη φωτιά στη τυποποιημένη δοκιμή πυρκαϊάς.
 - .2 Ιδιαίτερη προσοχή θα δίνεται στη μόνωση των στοιχείων από κράμα αλουμινίου των στηλών, στυλιδίων και λοιπών κατασκευαστικών μερών που απαιτούνται για την στήριξη των θέσεων στοιβάδας σωσιβίων λέμβων και σωσιβίων σχεδίων, των περιοχών καθαίρεσης και επίβρασης και των χωρισμάτων "A" και "B" κλάσης ώστε να εξασφαλίζεται :
 - .2.1 ότι για τα μέρη που υποστηρίζουν περιοχές σωσιβίων λέμβων και σωσιβίων σχεδίων και χωρίσματα κλάσης "A", ο περιορισμός ανύψωσης της θερμοκρασίας που καθορίζεται στην παράγραφο 2.1 θα εφαρμόζεται στο τέλος της μιας ώρας, και
 - .2.2 ότι για τα μέρη που απαιτούνται να υποστηρίζουν χωρίσματα κλάσης "B", ο περιορισμός ανύψωσης της θερμοκρασίας που καθορίζεται στην παράγραφο 2.1 θα εφαρμόζεται στο τέλος της μισής ώρας.

3. Οροφές και περιφράγματα των χώρων μηχανών Κατηγορίας Α θα είναι από χαλβιδίνη κατασκευή επαρκώς μονωμένη και τα ανοίγματά τους, αν υπάρχουν, θα έχουν κατάλληλη διάταξη και προστασία ώστε να εμποδίζουν την εξάπλωση της φωτιάς.

Κανονισμός 24

Κύριες κατακόρυφες ζώνες και οριζόντιες ζώνες

- 1.1 Για πλοία που μεταφέρουν περισσότερους από 36 επιβάτες, το σκάφος, οι υπερκατασκευές και τα υπερστεγάσματα θα υποδιαιρούνται σε κύριες κατακόρυφες ζώνες με χωρίσματα κλάσης "Α". Οι βαθμίδες και οι εσοχές θα περιορίζονται στο ελάχιστο, άλλ' όπου είναι απαραίτητες θα είναι επίσης χωρίσματα κλάσης "Α". Τα χωρίσματα αυτά θα έχουν βαθμούς μόνωσης σύμφωνα με τους πίνακες του Κανονισμού 26.
- 1.2 Για πλοία που μεταφέρουν όχι περισσότερους από 36 επιβάτες, το σκάφος, η υπερκατασκευή και τα υπερστεγάσματα σε χώρους ενδιαίτησης και υπηρεσίας θα υποδιαιρούνται σε κύριες κατακόρυφες ζώνες με χωρίσματα κλάσης "Α". Τα χωρίσματα αυτά θα έχουν βαθμούς μόνωσης σύμφωνα με τους πίνακες του Κανονισμού 27.
2. Όσο είναι πρακτικά δυνατό, τα διαφράγματα που σχηματίζουν τα όρια των κυρίων κατακορύφων ζωνών πάνω από το κατάστρωμα στεγανών θα αποτελούν συνέχεια των στεγανών διαφραγμάτων υποδιαιρέσεως, που ευρίσκονται αμέσως κάτω από το κατάστρωμα στεγανών διαφραγμάτων.
3. Τα διαφράγματα αυτά θα εκτείνονται από κατάστρωμα σε κατάστρωμα και μέχρι το κέλυφος του πλοίου ή άλλα όρια.
4. Όπου μία κύρια κατακόρυφη ζώνη υποδιαιρείται από οριζόντια χωρίσματα κλάσης "Α" σε οριζόντιες ζώνες με σκοπό τον κατάλληλο διαχωρισμό ζωνών του πλοίου με σύστημα αυτομάτου ραντισμού (SPRINKLER) από ζώνες του πλοίου χωρίς τέτοιο σύστημα, τα χωρίσματα θα εκτείνονται μεταξύ γειτονικών διαφραγμάτων κυρίων κατακορύφων ζωνών και μέχρι το κέλυφος ή τα εξωτερικά όρια του πλοίου και θα μονώνονται σύμφωνα με τους βαθμούς μόνωσης και ακεραιότητας έναντι πυρκαϊάς που δίνονται στον πίνακα 26.3 ή στον πίνακα 27.2.
- 5.1. Σε πλοία σχεδιασμένα για ειδικούς σκοπούς, όπως οχηματαγωγά που μεταφέρουν αυτοκίνητα ή σιδηροδρομικά οχήματα, όπου η πρόβλεψη διαφραγμάτων κυρίας κατακόρυφης ζώνης θα αχρηστείτε το

σκοπό για τον οποίο το πλοίο προορίζεται, θα χρησιμοποιούνται σε αντικατάσταση ισοδύναμα μέσα για τον έλεγχο και τον περιορισμό της πυρκαϊάς ειδικά εγκριμένα από την Αρχή.

- 5.2. Παρομοίως με χώρους ειδικής κατηγορίας, κάθε τέτοιος χώρος θα πρέπει να πληροί τις εφαρμοστέες διατάξεις του Κανονισμού 37 και εφόσον τέτοια συμμόρφωση θα ήταν αυτεβίβαστη με τη συμμόρφωση προς άλλες απαιτήσεις του Πέρους αυτού, οι απαιτήσεις του Κανονισμού 37 θα υπερσχύουν.

Κανονισμός 25

Διαφράγματα μέσα σε κύβια κατακόρυφη ζώνη

- 1.1 Για κλάσα που μεταφέρουν περισσότερους από 36 επιβάτες, όλα τα διαφράγματα, που δεν απαιτείται να είναι χωρίσματα κλάσης "Α" θα είναι τουλάχιστον χωρίσματα κλάσης "Β" ή "C" όπως προσδιορίζονται στους πίνακες του Κανονισμού 26.
- 1.2 Για πλοία που μεταφέρουν όχι περισσότερους από 36 επιβάτες, όλα τα διαφράγματα μέσα στους χώρους ενδιάμεσης και υπηρεσίας που δεν απαιτείται να είναι χωρίσματα κλάσης "Α" θα είναι τουλάχιστον χωρίσματα κλάσης "Β" ή "C" όπως προσδιορίζονται στους πίνακες του Κανονισμού 27.
- 1.3 Όλα τα χωρίσματα αυτά μπορούν να επικαλύπτονται με καύσιμα υλικά σύμφωνα με τις διατάξεις του Κανονισμού 34.
2. Όλα τα διαφράγματα των διαδρόμων, όπου δεν απαιτείται να είναι κλάσης "Α", θα είναι χωρίσματα κλάσης "Β" που θα εκτείνονται από κατάστρωμα σε κατάστρωμα εκτός από τις ακόλουθες περιπτώσεις :
- 1 Όταν συνεχείς οροφές ή επενδύσεις κλάσης "Β" είναι τοποθετημένες και στις δύο πλευρές του διαφράγματος, το τμήμα του διαφράγματος πίσω από τη συνεχή οροφή ή επένδυση θα είναι από υλικό που στο πάχος και στη σύνθεση είναι αποδεκτό για την κατασκευή χωρισμάτων κλάσης "Β" αλλά που απαιτείται να έχει βαθμό ανεραιότητας κλάσης "Β" μόνο όσο είναι λογικό και πρακτικό κατά την κρίση της Αρχής,
 - 2 Στην περίπτωση πλοίου που προστατεύεται με σύστημα αυτομάτου ραντισμού (SPRINKLER) που πληροί τις διατάξεις του Κανονισμού 12, τα διαφράγματα των διαδρόμων από υλικά κλάσης "Β" μπορούν να καταλήγουν σε οροφή μέσα στο διάδρομο, με τη προϋπόθεση ότι μια τέτοια οροφή είναι από υλικό που στο πάχος και στη σύνθεση είναι αποδεκτό για την κατασκευή χωρισμάτων κλάσης "Β".

Ανεξάρτητα από τις απαιτήσεις των Κανονισμών 26 και 27, τέτοια διαφράγματα και οροφές θα απαιτείται να έχουν βαθμό ακεραιότητας κλάσης "B" μόνο όσο είναι λογικό και πρακτικό κατά την κρίση της Αρχής. Όλες οι θύρες και τα πλαίσια σε τέτοια διαφράγματα θα είναι από άκαυστα υλικά και θα είναι κατασκευασμένες και τοποθετημένες κατά τέτοιο τρόπο ώστε να εξασφαλίζεται σημαντική αντίσταση στη πυρκαϊά κατά την κρίση της Αρχής.

3. Όλα τα διαφράγματα που απαιτείται να είναι χωρίσματα κλάσης "B", εκτός από τα διαφράγματα των διαδρόμων, θα εκτελούνται από κατάστρωμα σε κατάστρωμα και μέχρι το κέλυφος του πλοίου ή άλλα όρια, εκτός αν συνεχείς οροφές ή επενδύσεις "κλάσης "B" είναι τοποθετημένες και στις δυο πλευρές του διαφράγματος οπότε το διάφραγμα μπορεί να καταλήγει στη συνεχή οροφή ή επένδυση.

Κανονισμός 26

Ακεραιότητα έναντι πυρκαϊάς διαφραγμάτων και καταστρωμάτων σε πλοία που μεταφέρουν περισσότερους από 3 βεπιβάτες.

1. Επιπλέον προς την συμμόρφωση με τις ειδικές διατάξεις για την ακεραιότητα έναντι πυρκαϊάς των διαφραγμάτων και καταστρωμάτων που αναφέρονται σε άλλα σημεία του Μέρους αυτού, η ελάχιστη ακεραιότητα έναντι πυρκαϊάς όλων των διαφραγμάτων και καταστρωμάτων θα είναι όπως καθορίζεται στους πίνακες 26.1 μέχρι 26.4. Όπου λόγω οποιωνδήποτε ειδικών κατασκευαστικών διατάξεων του πλοίου, αντιμετωπίζεται δυσκολία στον προσδιορισμό από τους πίνακες της ελάχιστης ακεραιότητας έναντι πυρκαϊάς οποιωνδήποτε χωρισμάτων, οι τιμές αυτές θα καθορίζονται κατά την κρίση της Αρχής.
2. Οι ακόλουθες απαιτήσεις θα ρυθμίζουν την εφαρμογή των πινάκων :
 - 1 Ο πίνακας 26.1 θα εφαρμόζεται σε διαφράγματα, που αποτελούν όρια κύριων κατακόρυφων ζωνών ή οριζόντιων ζωνών.
 - Ο πίνακας 26.2 θα εφαρμόζεται σε διαφράγματα, που δεν αποτελούν όρια κύριων κατακόρυφων ζωνών ούτε οριζόντιων ζωνών.
 - Ο πίνακας 26.3 θα εφαρμόζεται σε καταστρώματα, που σχηματίζουν βαθμίδες σε κύριες κατακόρυφες ζώνες ή αποτελούν όρια οριζόντιων ζωνών.
 - Ο πίνακας 26.4 θα εφαρμόζεται σε καταστρώματα, που δεν σχηματίζουν βαθμίδες σε κύριες κατακόρυφες ζώνες ούτε αποτελούν όρια οριζόντιων ζωνών.

2. Για καθορισμό των κατάλληλων βαθμών ακεραιότητας έναντι πυρκαϊάς που θα εφαρμόζονται σε χωρίσματα μεταξὺ γειτονικών χώρων, οι χώροι αυτοί έχουν ταξινομηθεί σύμφωνα με τον κίνδυνο πυρκαϊάς που παρουσιάζουν, όπως φαίνεται παρακάτω, στις κατηγορίες (1) μέχρι (14). Όπου τα περιεχόμενα και η χρήση ενός χώρου είναι τέτοια ώστε να δημιουργείται αμφιβολία ως προς την ταξινόμησή του για το σκοπό του κανονισμού αυτού, ^{από} θα θεωρείται ως χώρος της αντίστοιχης κατηγορίας που έχει τις αυστηρότερες απαιτήσεις ορισμένων χωρισμάτων. Ο τίτλος κάθε κατηγορίας είναι μάλλον τυπικός παρά περιοριστικός. Ο αριθμός μέσα στις παρενθέσεις, που προηγείται κάθε κατηγορίας, αναφέρεται ἐπὶ στήλη ή γραμμή των πινάκων που έχει εφαρμογή.

(1) Σταθμοί ελέγχου

Χώροι που περιέχουν πηγές ενέργειας και φωτισμού ανάγκης.

Οιακιστήριο και θάλαμος χαρτών.

Χώροι που περιέχουν τις συσκευές ραδιοτηλεγραφίας του πλοίου.

Χώροι κατόψεσης πυρκαϊάς, χώροι ελέγχου πυρκαϊάς και σταθμοί καταγραφής πυρκαϊάς.

Χώρος ελέγχου των προωστικών μηχανημάτων, όταν ευρισκεται έξω από το χώρο προωστικών μηχανημάτων.

Χώροι που περιέχουν τον κεντρικό εξοπλισμό συναγερμού πυρκαϊάς.

Χώροι που περιέχουν τους σταθμούς και τον εξοπλισμό του κεντρικού συστήματος ενδοσυνεννόησης ανάγκης.

(2) Κλίμακες

Εσωτερικές κλίμακες, ανελκυστήρες, και κυλιόμενες κλίμακες (εκτός από εκείνες που περιέχονται ἐξ ὁλοκλήρου στους χώρους μηχανών) για επιβάτες και πλήρωμα και οι χώροι που περιλαμβάνονται από τα περιφράγματά τους.

Σημειώνεται σχετικά ότι κλίμακα περικλειστή σε ένα μόνο επίπεδο θα θεωρείται ως τμήμα του χώρου από τον οποίο δεν διαχωρίζεται με θύρα πυρασφαλείας.

(3) Διάδρομοι

Διάδρομοι και προθάλαμοι επιβατών και πλήρωματος.

(4) Σταθμοί χειρισμού και επιβίβασης σωσιβίων λέμβων και σχεδίων.

Ανοικτοί χώροι καταστροφμάτων και κλειστοί χώροι περιπάτου που σχηματίζουν σταθμούς επιβίβασης και καθαίρεσης σσιβίων λέμβων και σσιβίων σχεδίων.

(5) Ανοικτοί χώροι καταστροφμάτων

Ανοικτοί χώροι καταστροφμάτων και κλειστοί χώροι περιπάτου μακριά από τους σταθμούς επιβίβασης και καθαίρεσης σσιβίων λέμβων και σσιβίων σχεδίων.

Υπαίθριος χώρος (ο εκτός των υπερκατασκευών και υπερστεγασιμάτων χώρος).

(6) Χώροι ενδιαίτησης μικρού κινδύνου πυρκαϊάς

Καμπίνες που περιέχουν επίπλωση και εξοπλισμό περιορισμένου κινδύνου πυρκαϊάς.

Γραφεία και ιατρεία που περιέχουν επίπλωση και εξοπλισμό περιορισμένου κινδύνου πυρκαϊάς.

Κοινόχρηστοι χώροι που περιέχουν επίπλωση και εξοπλισμό περιορισμένου κινδύνου πυρκαϊάς και καταλαμβάνουν επιφάνεια καταστρώματος μικρότερη από 50 τετραγωνικά μέτρα.

(7) Χώροι ενδιαίτησης μέσου κινδύνου πυρκαϊάς

Χώροι όπως της ~~καπάνω κατηγορίας (6)~~, αλλά που περιέχουν επίπλωση και εξοπλισμό όχι περιορισμένου κινδύνου πυρκαϊάς.

Κοινόχρηστοι χώροι που περιέχουν επίπλωση και εξοπλισμό περιορισμένου κινδύνου πυρκαϊάς και καταλαμβάνουν επιφάνεια καταστρώματος 50 τετραγωνικά μέτρα και άνω.

Απομονωμένα ερμάρια και μικρές αποθήκες σε χώρους ενδιαίτησης.

Καταστήματα πωλήσεων.

Χώροι προβολής και φύλαξης κινηματογραφικών ταινιών.

Χώροι παρασκευής φαγητών (που δεν περιέχουν γυμνές φλόγες).

Ερμάρια ειδών καθαρισμού (στα οποία δεν αποθηκεύονται ευφλεκτα υγρά).

Εργαστήρια (στα οποία δεν αποθηκεύονται ευφλεκτα υγρά).

Φαρμακεία.
Ειδικά στεγαστήρια (που καταλαμβάνουν επιφάνεια καταστρώματος 4 τετραγωνικά μέτρα ή μικρότερη).

Χώροι φύλαξης αξιών.

(8) Χώροι ενδιαίτησης μεγάλου κινδύνου πυρκαϊάς

Κοινόχρηστοι χώροι που περιέχουν επίπλωση και εξοπλισμό όχι περιορισμένου κινδύνου πυρκαϊάς και καταλαμβάνουν επιφάνεια καταστρώματος 50 τετραγωνικά μέτρα και άνω.

Κουρέα και αβουσες καλλωπισμού.

(9) Χώροι υγιεινής και παρόμοιοι χώροι

Κοινόχρηστοι χώροι υγιεινής, καταλιονιστήρες, λουτρά, αποχωρητήρια κ.λ.π.

Μικροί χώροι πλυντηρίων.

Χώροι εσωτερικών κολυμβητηρίων:

Χειρουργεία.

Απομονωμένα κυλινδρικά μέσα στους χώρους ενδιαίτησης, που δεν περιέχουν συσκευές μαγειρικής.

Ιδιαίτεροι χώροι υγιεινής θα θεωρούνται ως τμήμα του χώρου μέσα στον οποίο ευρίσκονται.

(10) Δεξαμενές, κενοί χώροι και χώροι βοηθητικών μηχανημάτων που έχουν μικρό ή καθόλου κίνδυνο πυρκαϊάς
 Δεξαμενές νερού που αποτελούν τμήμα της κατασκευής του πλοίου.

Κενοί χώροι και στεγανοί διαχωριστικοί χώροι (COFFERDAMS).

Χώροι βοηθητικών μηχανημάτων που δεν περιέχουν μηχανήματα που έχουν σύστημα λίπανσης με πίεση και όπου απαγορεύεται η αποθήκευση καυσίμων υλικών όπως :

Διαμερίσματα αερισμού και κλιματισμού, διαμέρισμα βαροβλκκου αγκύρας, χώρος μηχανισμού πηδαλίου, διαμέρισμα σταθερωτήρων, διαμέρισμα κινητήρων ηλεκτρικής πρόωσης, διαμερίσματα που περιέχουν τμηματικούς ηλεκτρικούς πίνακες και αποκλειστικά ηλεκτρικό εξοπλισμό εκτός από μετασχηματιστές ελαίου (πάνω από 10 KVA), σήραγγες αξόνων και οχετοί σωληνώσεων, χώροι αντλιών και ψυκτικών μηχανημάτων (που δεν χρησιμοποιούν εύφλεκτα υγρά).

Κλειστοί οχετοί, που εξυπηρετούν τους παραπάνω χώρους.

Άλλοι κλειστοί οχετοί όπως οχετοί σωλήνων και καλωδίων.

(11) Χώροι βοηθητικών μηχανημάτων, χώροι φορτίου, χώροι ειδικής κατηγορίας, δεξαμενές φορτίου πετρελαίου και άλλες πετρελαιοδεξαμενές και λοικοί παρόμοιοι χώροι μέσου κινδύνου πυρκαϊάς.

Δεξαμενές φορτίου πετρελαίου.

Κύτη φορτίου, οχετοί και στόμια κυτών.

Ψυκτικοί θάλαμοι.

Δεξαμενές καυσίμου πετρελαίου (όπου είναι εγκατεστημένες σε χωριστό διαμέρισμα χωρίς μηχανήματα).

Σήραγγες αξόνων και οχετοί σωληνώσεων, όπου επιτρέπεται η αποθήκευση ευφλέκτων υλικών.

Χώροι βοηθητικών μηχανημάτων, όπως της Κατηγορίας (10) που περιέχουν μηχανήματα που έχουν σύστημα λίπανσης με πίεση ή στους οποίους επιτρέπεται η αποθήκευση καυσίμων υλικών.

Σταθμοί πλήρωσης καυσίμου πετρελαίου.

Χώροι που περιέχουν ηλεκτρικούς μετασχηματιστές ελαίου πάνω από 10KVΔ).

Χώροι που περιέχουν ατμοστροβίλους και παλινδρομικές ατμομηχανές που κινούν βοηθητικές ηλεκτρογεννήτριες και μικρές μηχανές εσωτερικής καύσης με ισχύ εξόδου μέχρι 110KW που κινούν ηλεκτρογεννήτριες ανάγνιης, αντλίες αυτομάτου ραντισμού, καταλιονισμού ή πυρκαϊάς, αντλίες υδροσυλλεκτών κ.λ.π.

Χώροι ειδικής κατηγορίας (εφαρμόζονται μόνο οι πίνακες 26.1 και 26.3)

Κλειστοί οχετοί που εξυπηρετούν τους παραπάνω χώρους.

(12) Χώροι μηχανών και κύρια μαγειρεία

Χώροι κυρίων μηχανών πρόωσης (εκτός από χώρους κινητήρων ηλεκτρικής πρόωσης) και χώροι λεβήτων.

Χώροι βοηθητικών μηχανημάτων, εκτός από εκείνους των κατηγοριών (10) και (11) που περιέχουν μηχανήματα εσωτερικής καύσης ή άλλες μονάδες καύσης πετρελαίου, θέρμανσης ή άνπλησης.

Κύρια μαγειρεία και παραρτήματά τους.

Οχετοί και αγωγοί που οδηγούν στους παραπάνω χώρους.

(13) Αποθήκες, εργαστήρια, κυλικεία κλπ.

Κύρια κυλικεία που δεν αποτελούν παραρτήματα των μαγειρειών.
Κύριο πλυντήριο.

Μεγάλα στεγνωτήρια (που καταλαμβάνουν επιφάνεια καταστρώματος μεγαλύτερη από 4 τετραγωνικά μέτρα).

Διάφορες αποθήκες.

Χώροι ταχυθρομέλου και αποσκευών.

Χώροι απορριμάτων.

Συνεργεία (που δεν αποτελούν τμήμα των χώρων μηχανών, μαγειρειών κ.λ.π)

(14) Άλλοι χώροι στους οποίους αποθηκεύονται εύφλεκτα υγρά

Χώροι λυχνιών.

Χώροι χρωμάτων.

Αποθήκες που περιέχουν εύφλεκτα υγρά (περιλαμβανομένων βαφών, φαρμάκων κλπ).

Εργαστήρια (στα οποία αποθηκεύονται εφλεπτα υγρά).

- .3 Όπου εμφανίζεται μία και μόνη τιμή για την ακεραιότητα έναντι πυρκαϊάς ενός χώρισματος μεταξύ δύο χώρων, η τιμή αυτή θα εφαρμόζεται σε όλες τις περιπτώσεις.
- .4 Κατά τον καθορισμό του βαθμού ακεραιότητας έναντι πυρκαϊάς που θα εφαρμοσθεί σε χώρισμα μεταξύ δύο χώρων μέσα σε μία κύρια κατακόρυφη ζώνη ή οριζόντια ζώνη που δεν προστατεύεται από σύστημα αυτόματου ραντισμού που πληροί τις απαιτήσεις του Κανονισμού 12 ή μεταξύ τέτοιων ζωνών από τις οποίες καμιά δεν προστατεύεται κατ'αυτό τον τρόπο, θα εφαρμόζεται η υψηλότερη από τις δύο τιμές που δίνονται στους πίνακες.
- .5 Κατά τον καθορισμό του βαθμού ακεραιότητας έναντι πυρκαϊάς που θα εφαρμοσθεί σε χώρισμα μεταξύ δύο χώρων μέσα σε μία κύρια κατακόρυφη ζώνη ή οριζόντια ζώνη που προστατεύεται από σύστημα αυτόματου ραντισμού που πληροί τις απαιτήσεις του Κανονισμού 12, ή μεταξύ τέτοιων ζωνών από τις οποίες και οι δύο προστατεύονται κατ'αυτό τον τρόπο, θα εφαρμόζεται η χαμηλότερη από τις δύο τιμές που δίνονται στους πίνακες. Όπου μία ζώνη που προστατεύεται από σύστημα αυτομάτου ραντισμού και μία ζώνη που δεν προστατεύεται από σύστημα αυτομάτου ραντισμού συναντώνται μέσα σε χώρους ενδίαίτησης και υπηρεσίας, η υψηλότερη από τις δύο τιμές που δίνονται στους πίνακες θα εφαρμόζεται στο χώρισμα μεταξύ των ζωνών.
- .6 Ανεξάρτητα από τις διατάξεις του Κανονισμού 35, δεν υπάρχουν ειδικές απαιτήσεις για το υλικό ή την ακεραιότητα χωρισμάτων όπου εμφανίζεται μόνο μία καύλα στους πίνακες.
- .7 Η Αρχή θα καθορίζει αναφορικά με τους χώρους κατηγορίας (5) κατά πύλο οι τιμές μόνωσης
 στον πίνακα 26.1 ή 26.2 θα εφαρμόζονται στα άκρα υπερστεγασμάτων και υπερκατασιευών και ^{κατά πύλο} οι τιμές μόνωσης στον πίνακα 26.3 ή 26.4 θα εφαρμόζονται στα εκτεθειμένα στον καιρό καταστρώματα. Σε καμιά περίπτωση οι απαιτήσεις της κατηγορίας (5) των πινάκων 26.1 μέχρι 26.4 θα επιβάλλουν κλείσιμο των χώρων που κατά την κρίση της Αρχής δεν χρειάζεται να είναι κλειστοί.

3. Μπορεί να γίνει αποδεικτό ότι συνεχείς οροφές ή επενδύσεις κλάσης "B", σε συνδυασμό με τα αντίστοιχα καταστρώματα ή διαφράγματα, ευθύνονται ολοκλήρου ή εν μέρει στην απαιτούμενη μόνωση και ακεραιότητα ενός χώρου.
4. Κατά την έγκριση κατασκευαστικών λεπτομερειών πυροπροστασίας, η Αρχή θα λαμβάνει υπόψη τον κίνδυνο μετάδοσης θερμότητας στις τομές και στα τερματικά σημεία των απαιτούμενων θερμικών φραγμάτων.

ΠΙΝΑΚΑΣ 26.1 ΔΙΑΦΑΝΙΣΜΑ ΤΟΥ ΔΕΛΤΑΙΟΥ ΚΥΡΙΑΣ ΚΑΤΑΚΟΦΩΣ ΖΩΝΗΣ 'Η ΟΡΙΖΟΝΤΙΩΣ ΖΩΝΗΣ

Χώρα	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Στήθος αέλιου	A-60	A-30	A-30	A-0	A-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60
Μάχιμες		A-0	A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-60 A-15	A-0	A-0	A-30 A-0	A-60 A-15	A-15 A-0	A-60
Διόδωροι			A-0	A-0	A-0	A-0	A-30 A-0	A-30 A-0	A-0	A-0	A-30	A-60	A-15 A-0	A-60
Σταθιάς, χείριμασ και ε-τίβρασις σπαι- βίων χείριον και σπαιβίων				-	-	A-0	A-0	A-0	A-0	A-0	A-0	A-60	A-0	A-60
Ανοικτός-χώρα καταστροφικών					-	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Χώρα ενδοκλήσις μεγάλου κινδύνου κρηματις						A-15 A-0	A-30 A-0	A-30 A-0	A-0	A-0	A-15 A-0	A-30	A-15 A-0	A-30
Χώρα ενδοκλήσις μέσου κινδύνου κρηματις							A-30 A-0	A-60 A-15	A-0	A-0	A-30 A-0	A-60	A-30 A-0	A-60
Χώρα ενδοκλήσις μεγάλου κινδύνου κρηματις								A-60 A-15	A-0	A-0	A-60 A-15	A-60	A-30 A-0	A-60
Χώρα υγιεινής-καθ-κρημασις χώρα									A-0	A-0	A-0	A-0	A-0	A-0
Ακαμψιάς, φως χώρα και χώρα βοήθησις και μικροκλήσις που έχουν μικρή ή μεγάλη κίνδυνος κρηματις										A-0	A-0	A-0	A-0	A-0
Χώρα βοήθησις-μικροκλήσις, χώρα βοή- θησις ενδοκλήσις κρηματις, κρηματις πορτίον κρηματις και άλλα κρηματις- κρηματις και κρηματις κρηματις κρηματις κρηματις											A-0	A-60	A-0	A-60
Χώρα μικροκλήσις και κρηματις κρηματις												A-60	A-30/ A-15	A-60
Αποθήκες, εργαστήρια, κληματις κρηματις													A-0	A-30
Άλλοι χαρακ-κατασκευαστικούς αποθηκεύονται εφαλατις υγρή														A-60

Επέλεξη σημειώσεως μετά τον πίνακα 26.4

ΠΙΝΑΚΑΣ 26.2 ΔΙΑΣΤΑΤΑ ΗΩΥ ΔΕΗ ΔΙΑΧΡΗΜΙΣΤΩΝ ΚΥΠΡΟΥ ΚΑΤΑΚΟΜΜΕΝΩΝ ΖΩΝΕΣ ΟΥΤΕ ΟΡΙΣΤΙΤΕΣ ΖΩΝΕΣ

Χώροι	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Εσώτοι εδάφους	B-0B/	A-0	A-0	A-0	A-0 B-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60
Καθίσματα		A-0B/	A-0	A-0	A-0	A-0	A-15 A-0	A-30 A-0	A-0	A-0	A-15	A-30	A-15 A-0	A-30
Διάδρομοι			C	A-0	A-0 B-0	B-0	B-15 B-0	B-15 B-0	B-0	A-0	A-15	A-30	A-0	A-30 A-0
Σταθμοί, εξυατισμός και αποθήκευση υδρού- βιων λέβητων και σκαφών			-	-	-	A-0	A-0	A-0	A-0	A-0	A-0	A-15	A-0	A-15 A-0
Ανοικτοί χώροι κατασκευασμένων					-	A-0 B-0	A-0 B-0	A-0 B-0	A-0 B-0	A-0	A-0	A-0	A-0 B-0	A-0 B-0
Χώροι ενυατισμού μικρού κινώδους πυρκαϊάς						B-0 C	B-15 C	B-15 C	B-0 C	A-0	A-15 A-0	A-30	A-0	A-30 A-0
Χώροι ενυατισμού μέσου κινώδους πυρκαϊάς							B-15 C	B-15 C	B-0 C	A-0	A-15 A-0	A-60	A-15 A-0	A-60 A-15
Χώροι κλιματισμού, κλιματιστικοί χώροι									C	A-0	A-0	A-0	A-0	A-0
Αεζομημένες, κλειστές χώροι και χώροι βαρσο- τήτων, μηχανημάτων που έχουν μικρό ή με- σαίο κίνδυνος πυρκαϊάς										A-0B/	A-0	A-0	A-0	A-0
Χώροι βαρσοτήτων μηχανημάτων, χώροι πο- τήτων, δεξαμενές ζεστού νερού, κερκελάου και άλλες κερκελάου δεξαμενές και λοιποί παρό- μοιοι χώροι μέσου κινώδους πυρκαϊάς											A-0B/	A-0	A-0	A-30B/ A-15
Χώροι μηχανών και κλιματιστικών μηχανημάτων												A-0B/	A-0	A-60
Ανοικτές, ερμηκισμένες, κλιματισμένες ή άλλ.													A-0B/	A-0
Άλλοι χώροι στους οποίους αποθηκεύονται (14) εφόσον τα κέρδη														A-30B/ A-15

ΠΡΟΣΕΙΤΕ ΣΗΜΕΙΩΣΕΙΣ ΜΕΤΑ ΤΟΝ ΠΙΝΑΚΑ 26.4

Σημειώσεις : Θα εφαρμόζονται στους πίνακες 26.1 μέχρι 26.4 ανάλογα με την περίπτωση.

a/ Όπου μεμονωμένοι χώροι ευρισκονται στην ίδια οριζόντια κατηγορία και ο δείκτης **a/** εμφανίζεται, δεν απαιτείται τοποθέτηση διαφράγματος ή καταστρώματος μεταξύ τέτοιων χώρων αν η αρχή δεν το θεωρεί απαραίτητο. Για παράδειγμα στην κατηγορία (12) δεν χρειάζεται να απαιτηθεί διάφραγμα μεταξύ μαγειρείου και κυλικίων που αποτελούν παραρτήματα του μαγειρείου, εφόσον τα διαφράγματα και καταστρώματα του κυλικείου διατηρούν την ακεραιότητα των οριζών χωρισμάτων του μαγειρείου. Απαιτείται όμως διάφραγμα μεταξύ μαγειρείου και χώρου μηχανών παρόλο που και οι δύο αυτοί χώροι ανήκουν στην κατηγορία (12).

b/ Όπου εμφανίζεται ο δείκτης **b/** η μικρότερη τμή μόνωσης μπορεί να επιτραπεί μόνον αν τουλάχιστον ένας από τους χώρους που συνορεύουν προστατεύεται από αυτόματο σύστημα ρεντισμού που πληροί τις διατάξεις του Κανονισμού 12.

Κανονισμός 27

Ακεραιότητα έναντι πυρκαϊάς διαφραγμάτων και καταστροφμάτων σε πλοία που δεν μεταφέρουν περισσότερους από 36 επιβάτες

1. Επί πλέον προς την συμμόρφωση με τις ειδικές διατάξεις για την ακεραιότητα έναντι πυρκαϊάς διαφραγμάτων και καταστροφμάτων, που αναφέρονται σε άλλα σημεία του κέρους αυτού, η ελάχιστη ακεραιότητα έναντι πυρκαϊάς των διαφραγμάτων και καταστροφμάτων θα είναι όπως καθορίζεται στον πίνακα 27.1 και στον πίνακα 27.2.
2. Οι ακόλουθες απαιτήσεις θα ρυθμίζουν την εφαρμογή των πινάκων :
 - .1 Οι πίνακες 27.1 και 27.2 θα εφαρμόζονται αντίστοιχα στα διαφράγματα και καταστώματα που χωρίζουν γειτονικούς χώρους.
 - .2 Για τον καθορισμό των καταλλήλων βαθμών ακεραιότητας έναντι πυρκαϊάς που θα εφαρμόζονται σε χωρίσματα μεταξύ γειτονικών χώρων, οι χώροι αυτοί έχουν ταξινομηθεί σύμφωνα με τον κίνδυνο πυρκαϊάς που παρουσιάζουν όπως φαίνεται παρακάτω στις κατηγορίες (1) μέχρι (11). Ο τίτλος κάθε κατηγορίας είναι μάλλον τυπικός παρά περιοριστικός. Ο αριθμός μέσα στις παρενθέσεις, που προηγείται κάθε κατηγορίας αναφέρεται στον αριθμό της στήλης ή γραμμής των πινάκων που έχει εφαρμογή.

(1) Σταθμοί ελέγχου

Χώροι που περιέχουν πηγές ενέργειας και φωτισμού ανάγκης, υακιστήριο και θάλαμος χαρτών.

Χώροι που περιέχουν τις συσκευές ραδιοτηλεγραφίας του πλοίου.

Χώροι κατέβρασης πυρκαϊάς, χώροι ελέγχου και καταγραφής πυρκαϊάς.

Χώρος ελέγχου των προμηθηρών μηχανημάτων όταν ευρίσκεται έξω από το χώρο μηχανών.

Χώροι που περιέχουν τον κεντρικό εξοπλισμό συναγερευού πυρκαϊάς.

(2) Διάδρομοι

Διάδρομοι και προθάλαμοι επιβατών και πληρώματος.

(3) Χώροι ενόιακτησης

Χώροι όπως ορίζονται στον Κανονισμό 3.10 εκτός από διαδρόμους.

(4) Κλίμακες

Εσωτερικές κλίμακες, ανεγκυστήρες και κυλιόμενες κλίμακες (εκτός από εκείνες που περιέχονται εξ ολοκλήρου στους χώρους μηχανών) και οι χώροι που περικλείονται από τα περιφράγματα τους.

Σημειώνεται σχετικά ότι κλίμακα περικλειστή σε ένα μόνο επίπεδο θα θεωρείται ως τμήμα του χώρου από τον οποίο δεν δια-

χωρίζεται με θύρα πυρασφαλείας.

- (5) Χώροι υπηρεσίας (μικρού κινδύνου πυρκαϊάς)
Ερμάρια και αποθήκες που έχουν επιφάνειες κάτω από 2M^2 στεγνωτήρια και πλυντήρια.
- (6) Χώροι μηχανών κατηγορίας Α
Χώροι όπως ορίζονται στον Κανονισμό 3.19.
- (7) Άλλοι χώροι μηχανών
Χώροι όπως ορίζονται στον Κανονισμό 3.20 εκτός από χώρους μηχανών κατηγορίας Α.
- (8) Χώροι φορτίου
Όλοι οι χώροι που χρησιμοποιούνται για φορτίο (περιλαμβανομένων των δεξαμενών φορτίου πετρελαίου) και σκετοί και στόμια κυμάτων των χώρων αυτών, εκτός από τους χώρους ειδικής κατηγορίας.
- (9) Χώροι υπηρεσίας (μεγάλου κινδύνου πυρκαϊάς)
Λαγειρέα, κυλικεία που περιέχουν συσκευές μαγειρικής, αποθήκες χρωμάτων και λυχνιών, ερμάρια και αποθήκες που έχουν επιφάνεια 2M^2 ή μεγαλύτερη και συνεργεία εκτός από εκείνα που αποτελούν τμήμα των χώρων μηχανών.
- (10) Άνοικτά καταστρώματα
Χώροι ανοικτών καταστρωμάτων και κλειστοί χώροι περιπάτου που δεν παρουσιάζουν κίνδυνο πυρκαϊάς. Υπαίθριοι χώροι (οι εκτός των υπερκατασκευών και υπερστεγασμάτων χώροι).
- (11) Χώροι ειδικής κατηγορίας
Χώροι όπως ορίζονται στον Κανονισμό 3.13.
3. Κατά τον καθορισμό του βαθμού ανεπαιδότητος έναντι πυρκαϊάς που θα εφαρμοσθεί σε χώρισμα μεταξύ δύο χώρων μέσα σε μία κύρια κατακόρυφη ζώνη ή οριζόντια ζώνη που δεν προστατεύεται από σύστημα αυτομάτου φαντισμού που πληροί τις απαιτήσεις του Κανονισμού 12, ή μεταξύ τέτοιων ζωνών από τις οποίες καμιά δεν προστατεύεται κατ'αυτό τον τρόπο, θα εφαρμόζεται η υψηλότερη από τις δύο τιμές που δίνονται στους πίνακες.
4. Κατά τον καθορισμό του βαθμού ανεπαιδότητος έναντι πυρκαϊάς που θα εφαρμοσθεί σε χώρισμα μεταξύ δύο χώρων μέσα σε μία

κύρια κατακόρυφη ζώνη ή οριζόντια ζώνη που προστατεύεται από σύστημα αυτόματου ραντισμού που πληροί τις απαιτήσεις του Κανονισμού 12, ή μεταξύ τέτοιων ζωνών από τις οποίες και οι δύο προστατεύονται κατ'αυτό τον τρόπο, θα εφαρμόζεται η χαμηλότερη από τις δύο τιμές που δίνονται στους πίνακες. Όπου μία ζώνη που προστατεύεται από σύστημα αυτόματου ραντισμού και μία ζώνη που δεν προστατεύεται από σύστημα αυτόματου ραντισμού συναντώνται μέσα σε χώρους ενδιαίτησης και υπηρεσίας, η υψηλότερη από τις δύο τιμές που δίνονται στους πίνακες θα εφαρμόζεται στο χώρισμα μεταξύ των ζωνών.

3.- Μπορεί να γίνει αποδεκτό ότι συνεχείς οροφές ή επενούσεις κλάσης "B", σε συνδυασμό με τα αντίστοιχα καταστρώματα ή διαφράγματα, συμβάλλουν εξ ολοκλήρου ή εν μέρει στην απαιτούμενη μόνωση και ακεραιότητα ενός χώρισματος.

4.- Σε εξωτερικά οριακά χωρίσματα που από τον Κανονισμό 23.1 απαιτείται να είναι από χάλυβα ή άλλο ισοδύναμο υλικό, μπορεί να γίνονται σπές για την τοποθέτηση παραθύρων και παραφωτίσεων εφόσον δεν απαιτείται από άλλη διάταξη του Μέρους αυτού να έχουν τα χωρίσματα αυτά ακεραιότητα έναντι πυρκαϊάς κλάσης "A".

Σε όμοιο τρόπο, οι σύρες σε τέτοια διαφράγματα που δεν απαιτείται να έχουν ακεραιότητα έναντι πυρκαϊάς κλάσης "A" μπορούν να είναι από υλικά που ικανοποιούν την αρχή.

ΠΙΝΑΚΑΣ 27.1 ΑΚΕΡΑΙΟΤΗΤΑ ΕΝΑΝΤΙ ΠΥΡΚΑΙΑΣ ΔΙΑΦΡΑΓΜΑΤΩΝ ΠΟΥ ΔΙΑΧΩ-
ΡΙΖΟΥΝ ΓΕΙΤΟΝΙΚΟΥΣ ΧΩΡΟΥΣ

Χώροι	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Σταθμοί ελέγχου (1)	A-0 ^{a/}	A-0	A-60	A-0	A-15	A-60	A-15	A-60	A-60	*	A-60
Διαδρόμοι (2)		C ^{a/}	B-0 ^{a/}	A-0 ^{a/} B-0 ^{a/}	B-0 ^{a/}	A-60	A-0	A-0	A-15 A-0 ^{a/}	*	A-15
Χώροι ενόλη- σης (3)			C ^{a/}	A-0 ^{a/} B-0 ^{a/}	B-0 ^{a/}	A-60	A-0	A-0	A-15 A-0 ^{a/}	*	A-30 A-0 ^{a/}
Κλιμακες (4)				A-0 ^{a/} B-0 ^{a/}	A-0 ^{a/} B-0 ^{a/}	A-60	A-0	A-0	A-15 A-0 ^{a/}	*	A-15
Χώροι υπηρε- σιών (μικρού κιν- δύνου) (5)					C ^{a/}	A-60	A-0	A-0	A-0	*	A-0
Χώροι μηχανών (6) κατηγορίας A						*	A-0	A-0	A-60	*	A-60
Άλλοι χώροι (7) μηχανών							A-0 ^{a/}	A-0	A-0	*	A-0
Χώροι φορτίου (8)								*	A-0	*	A-0
Χώροι υπηρε- σίας (μεγάλου κινδύνου) (9)									A-0 ^{a/}	*	A-30
Ανοικτά καταστρώματα (10)										-	A-0
Χώροι ειδή- λης κατηγορίας (11)											A-0

Σημειώσεις : Εφαρμόζονται στους πίνακες 27,1 και 27.2 ανάλογα με την περίπτωση.

- a/ Για να διευκρινιστεί ποιά τιμή εφαρμόζεται βλέπε κανονισμούς 25 και 29.
- b/ Όπου οι χώροι ενόλησης βρίσκονται στην ίδια αριθμητική κατηγορία και εμφανίζεται ο δείκτης b, τότε απαιτείται διάφραγμα ή καταστρώμα της ακεραιότητας που δίνουν οι πίνακες μόνον όταν οι γειτονικοί χώροι προορίζονται για διαφορετικούς σκοπούς. Για παράδειγμα, στην κατηγορία (9), ένα μαγειρείο που συνορεύει με άλλο μαγειρείο δεν απαιτεί διάφραγμα, αλλά μαγειρείο που συνορεύει με αποθήκη χρωμάτων απαιτεί διάφραγμα "A-0".
- c/ Διαφράγματα, που χωρίζουν το οικιστήριο από το δώματιο χαρτών μπορούν να είναι κλάσης "B-0".
- d/ Βλέπε παραγράφους 2.5 και 2.4 του Κανονισμού αυτού.

ΠΙΝΑΚΑΣ 27.2 ΑΚΕΡΑΙΟΤΗΤΑ ΕΜΑΝΤΙ ΠΥΡΚΑΙΑΣ ΚΑΤΑΣΤΡΟΦΩΝ ΠΟΥ ΔΙΑΧΩ-
ΡΙΖΟΥΝ ΓΕΙΤΟΝΙΚΟΥΣ ΧΩΡΟΥΣ

Χώρος κάτω	Χώρος άνω →	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Σταθμός ελέγχου	(1)	A-0	A-0	A-0	A-0	A-0	A-60	A-0	A-0	A-0	*	A-30
Διάδρομοι	(2)	A-0	*	*	A-0	*	A-60	A-0	A-0	A-0	*	A-0
Χώροι ενδιά- μεσης	(3)	A-60	A-0	*	A-0	*	A-60	A-0	A-0	A-0	*	A-30 A-0 ^f
Ελέγχατες	(4)	A-0	A-0	A-0	*	A-0	A-60	A-0	A-0	A-0	*	A-0
Χώροι υπηρεσίας (μικρού κινύδου)	(5)	A-15	A-0	A-0	A-0	*	A-60	A-0	A-0	A-0	*	A-0
Χώροι μηχανών κατηγορίας Α	(6)	A-60	A-60	A-60	A-60	A-60	*	A-60 ^f	A-30	A-60	*	A-60
Άλλοι χώροι μηχανών	(7)	A-15	A-0	A-0	A-0	A-0	A-0	*	A-0	A-0	*	A-0
Χώροι φορτίου	(8)	A-60	A-0	A-0	A-0	A-0	A-0	A-0	*	A-0	*	A-0
Χώροι υπηρε- σίας (μεγάλου κινύδου)	(9)	A-60	A-30 A-0 ^f	A-30 A-0 ^f	A-30 A-0 ^f	A-0	A-60	A-0	A-0	A-0	*	A-30
Ανοικτά κα- ταστρώματα	(10)	*	*	*	*	*	*	*	*	*	-	A-0
Χώροι ειδικής κατηγορίας	(11)	A-60	A-15	A-30 A-0 ^f	A-15	A-0	A-30	A-0	A-0	A-30	A-0	A-0

✓ Για την εφαρμογή του κανονισμού 24.1.2, όπου εμφανίζονται οι τιμές "B-0" και "C" στον πίνακα 27.1 θα λαμβάνονται ως "A-0".

f/ Δεν χρειάζεται να τοποθετείται μόνωση πυρασφαλείας αν ο χώρος μηχανών κατηγορίας (7) κατά την γνώμη της Αρχής παρουσιάζει μικρό ή καθόλου κίνδυνο πυρκαϊάς.

* Όπου εμφανίζεται αστερίσκος στους πίνακες, το χάρισμα απαιτείται να είναι από χάλυβα ή άλλο ισοδύναμο υλικό αλλά δεν απαιτείται να είναι κλάσης "A".

Για την εφαρμογή του κανονισμού 24.1.2, όπου υπάρχει αστερίσκος στον πίνακα 27.2 θα λαμβάνεται ως "A-0", εκτός από τις κατηγορίες (8) και (10).

Κανονισμός 28
Μέσα διαφυγής.

1. Τα κλιμακοστάσια και οι κλίμακες θα έχουν τέτοια διάταξη ώστε να παρέχουν μέσα άμεσης διαφυγής προς το κατάστρωμα επιβίβασης στις σωσίβιες λέμβους και σχεδίες, από δλους τους χώρους επιβατών και πληρώματος και από τους χώρους στους οποίους απασχολείται συνήθως το πλήρωμα, εκτός από τους χώρους μηχανών. Ειδικότερα θα πληρούνται οι ακόλουθες διατάξεις:
- .1 Κάτω από το κατάστρωμα στεγανών διαφραγμάτων θα προβλέπονται δύο μέσα διαφυγής, από τα οποία τουλάχιστον ένα θα είναι ανεξάρτητο στεγανών θυρών, από κάθε στεγανό διαμέρισμα ή καρδμωία περιορισμένο χώρο ή συγκρότημα χώρων. Κατ'εξαιρεση η Αρχή μπορεί να επιτρέψει ένα μόνο μέσο διαφυγής, αφού λάβει κατάλληλα υπόψη της τη φύση και θέση των χώρων και τον αριθμό των ατόμων που θα μπορούσαν κανονικά να ενδιαιτηθούν ή να απασχοληθούν εκεί.
 - .2 Πάνω από το κατάστρωμα στεγανών διαφραγμάτων θα προβλέπονται δύο τουλάχιστον μέσα διαφυγής από κάθε κύρια κατακόρυφη ζώνη ή καρδμωία περιορισμένο χώρο ή συγκρότημα χώρων από τα οποία ένα τουλάχιστον θα παρέχει διέξοδο σε κλιμακοστάσιο που αποτελεί κατακόρυφη διαφυγή.
 - .3 Αν ο σταθμός ραδιοτηλεγραφίας δεν έχει απ'ευθείας διέξοδο στο ανοικτό κατάστρωμα θα προβλέπονται δύο μέσα διαφυγής ή πρόσβασης στο σταθμό αυτό, ένα από τα οποία μπορεί να είναι παραπλώτα ή παράθυρο επαρκούς μεγέθους ή άλλο μέσο που να ικανοποιεί την Αρχή.
 - .4 Διάδρομος ή τμήμα διαδρόμου από τον οποίο υπάρχει μία μόνο οδός διαφυγής δεν θα υπερβαίνει σε μήκος:
 - τα 15 μέτρα για πλοία που μεταφέρουν περισσότερους από 36 επιβάτες, και
 - τα 7 μέτρα για πλοία που δεν μεταφέρουν περισσότερους από 36 επιβάτες.
 - .5 Ένα τουλάχιστον από τα μέσα διαφυγής που απαιτούνται από τις παραγράφους 1.1 και 1.2 θα αποτελείται από ένα εύκολα προσιτό περίκλειστο κλιμακοστάσιο που θα παρέχει συνεχή προστασία από την πυρκαϊά από το επίπεδο εκδήλωσης της μέχρι τα αντίστοιχα καταστρώματα επιβίβασης στις σωσίβιες λέμβους και σχεδίες ή μέχρι το υψηλότερο επίπεδο που εξυπηρετείται από το κλιμακοστάσιο, οποιoδήποτε είναι υψηλότερο. Όπου όμως η Αρχή έχει χορη-

- γίνει εξαίρεση σύμφωνα με τις διατάξεις της παραγράφου 1.1, το μονοκλιματικό κλίμα διαφυγής θα είναι το κλίμα που προκύπτει από τον υπολογισμό που να ικανοποιεί την Αρχή. Το κλίμα, ο υπολογισμός και η ανέλιξη των κλιμάκων θα ικανοποιούν την Αρχή.
- .6 Η προστασία της πρόσβασης από τα περιβάλλοντα των κλιμακωστών προς τις περιοχές επιβίβασης στις σωβίτες λέμβους και σχεδίες θα ικανοποιεί την Αρχή.
- .7 Κλίμακες που εξυπηρετούν μόνο ένα χώρο και ένα εξόστη στο χώρο αυτό δεν θα θεωρούνται ότι αποτελούν ένα από τα απαιτούμενα μέσα διαφυγής.
- 2.1 Στους χώρους ειδικής κατηγορίας ο αριθμός και η διάταξη των μέσων διαφυγής τόσο κάτω όσο και πάνω από το κατάστρωμα στεγανών διαφραγμάτων θα ικανοποιεί την Αρχή και γενικά η ασφάλεια πρόσβασης στο κατάστρωμα επιβίβασης θα είναι τουλάχιστον ισοδύναμη με εκείνη που προβλέπεται από τις παραγράφους 1.1, 1.2, 1.5 και 1.6.
- 2.2 Μία από τις οδοί διαφυγής από τους χώρους κλιμακωστών απαιτείται να αποτελείται από κλίμακα, θα αποτελείται από κλίμακα, θα αποτελείται από κλίμακα σε οποιοδήποτε χώρο ειδικής κατηγορίας.
- 3.1 Θα προβλέπονται δύο μέσα διαφυγής από κάθε χώρο κλιμακωστών. Ειδικότερα θα προβλεφθούν οι ακόλουθες διατάξεις:
- .1 Όπου ο χώρος ευρισκόμενος πάνω από το κατάστρωμα στεγανών διαφραγμάτων της δύο μέσων διαφυγής θα αποτελείται είτε:
- .1.1 από δύο συστήματα χαλύβδινα κλιμάκια, σε ένα το δυνατόν μεγαλύτερη απόσταση μεταξύ τους, που οδηγούν σε θύρες στο ανώτερο τμήμα του χώρου κατά πρόμοια τρόπο διακλιμακωστών και από τις οποίες παρέχεται διέξοδος προς αποκατασκευασμένα καταστρώματα επιβίβασης στις σωβίτες λέμβους και σχεδίες. Μία από τις κλιμακωστές αυτές θα παρέχει συνεχόμενη πρόσβαση από την κατωκλιμακωστέα από το κατώτερο τμήμα του χώρου και χύμα από την κατωκλιμακωστέα έξω από τον χώρο, είτε,
- .1.2 από μία χαλύβδινη κλιμακωστέα που οδηγείται από το ανώτερο τμήμα του χώρου από την οποία παρέχεται διέξοδος προς το κατάστρωμα επιβίβασης και εκτελείται, στα κατώτερα τμήματα του χώρου και σε θέση αρκετά απομακρυσμένη από την κλιμακωστέα αναφέρθηκε, από μία χαλύβδινη θύρα ικανή να χειρίζεται από κάθε πλευρά που θα παρέχει πρόσβαση προς ασφαλή οδό διαφυγής από το κατώτερο τμήμα του χώρου προς το κατάστρωμα επιβίβασης.

- .2 Όπου ο χώρος ευρίσκεται πάνω από το κατ'αστομα στεγανών διαφραγμάτων, τα δύο μέσα διαφυγής θα ευρίσκονται σε όσο το δυνατό μεγαλύτερη απόσταση μεταξύ τους και οι θύρες στις οποίες καταλήγουν αυτά τα μέσα διαφυγής θα ευρίσκονται σε θέση από την οποία παρέχεται διέξοδος προς τα αντίστοιχα καταστροφώματα επιβίβασης στις σωσίβιες λέμβους και σχέδιες. Όπου τέτοια μέσα διαφυγής απαιτούν την χρήση κλιμάκων, οι κλιμακες αυτές θα είναι χαλύβδινες.
- 3.2 Σε πλοίο ολικής χωρητικότητας κάτω από 1000 κέρους, η Αρχή μπορεί να επιτρέψει ένα μόνο μέσο διαφυγής, αφού λάβει κατάλληλα υπόψη της το πλάτος και τη διάταξη του ανώτερου τμήματος του χώρου και σε πλοίο ολικής χωρητικότητας 1000 κέρων και άνω μπορεί να επιτρέψει ένα μόνο μέσο διαφυγής από οποιοδήποτε τέτοιο χώρο, εφ' όσον είτε μία θύρα είτε μία χαλύβδινη κλιμακα παρέχει ασφαλή οδό διαφυγής προς το κατ'αστομα επιβίβασης, αφού λάβει κατάλληλα υπόψη της τη φύση και θέση του χώρου, και αν κανονικά απασχολούνται άτομα στο χώρο αυτό.
4. Οι ανεγκυστήρες δεν θα θεωρούνται σε καμιά περίπτωση ότι αποτελούν ένα από τα απαιτούμενα μέσα διαφυγής.

Κανονισμός 29

Προστασία κλιμάκων και ανεγκυστήρων σε χώρους ενοιαίτησης και υπηρεσίας.

1. Όλες οι κλιμακες θα έχουν σκελετό κατασκευασμένο από χάλυβα εκτός αν η Αρχή εγκρίνει την χρήση άλλου ισοδύναμου υλικού, και θα περιχλειούνται από περιφράγματα που αποτελούνται από χωρίσματα κλάσης "A" με αποτελεσματικά μέσα κλεισίματος όλων των ανοιγμάτων, με τις ακόλουθες εξαιρέσεις:
- .1 Κλιμακα που συνδέει μόνο δύο καταστροφώματα δεν χρειάζεται να είναι περιχλειστή εφ' όσον η ακεραιότητα του καταστροφώματος διατηρείται με κατάλληλα διαφράγματα ή θύρες σε ένα χώρο μεταξύ καταστροφωμάτων. Όταν μία κλιμακα είναι περιχλειστή σε ένα χώρο μεταξύ καταστροφωμάτων, το περιφράγμα της κλιμακας θα προστατεύεται σύμφωνα με τους πίνακες για καταστροφώματα στους Κανονισμούς 26 και 27,
- .2 Κλιμακες μπορούν να τοποθετούνται χωρίς περιφράγματα σε κοινόχρηστο χώρο, με την προϋπόθεση ότι ευρίσκονται εξ' ολοκλήρου μέσα στον κοινόχρηστο αυτό χώρο.

2. Τα περιφράγματα των κλιμάκων θα έχουν απ' ευθείας επικαταστάσεις με τους διαδρόμους και επαρκή επιφάνεια για την αποφυγή συνσυστοιχισμού, λαμβανομένου υπ' όψη του αριθμού των ατόμων που θα μπορούσαν να χρησιμοποιήσουν τις κλίμακες σε περίπτωση ανάγκης. Όσο είναι πρακτικά δυνατό, τα περιφράγματα των κλιμάκων δεν θα παρέχουν απ' ευθείας πρόσβαση σε καμπίνες, ερμάρια υπηρεσίας ή άλλους περικλειστούς χώρους που περιέχουν καύσιμα στους οποίους είναι πιθανό να εκδηλωθεί πυρκαϊά.
3. Τα φρεάτια των ανεγκυστήρων θα είναι έτσι κατασκευασμένα ώστε να εμποδίζουν την διέλευση καπνού και φλογών από ένα χώρο μεταξύ καταστρωμάτων σε άλλο τέτοιο χώρο και θα εφοδιάζονται με μέσα κλεισίματος τέτοια που να επιτρέπουν τον έλεγχο ρευμάτων αέρα και καπνού.

Κανονισμός 30

Ανοίγματα σε χωρίσματα κλάσης "Α"

1. Εκτός από τα ανοίγματα φόρτωσης μεταξύ χώρων φορτίου, χώρων ειδικής κατηγορίας, αποθηκών και χώρων αποσκευών και μεταξύ τέτοιων χώρων και των εκτεθειμένων στον καιρό καταστρωμάτων, όλα τα ανοίγματα θα εφοδιάζονται με μόνιμα προσαρμοσμένα μέσα κλεισίματος τα οποία θα είναι τουλάχιστον τόσο ανθεκτικά στην πυρκαϊά όσο τα χωρίσματα στα οποία τοποθετούνται.
2. Η κατασκευή όλων των θυρών και των πλαισίων τους στα χωρίσματα κλάσης "Α", μαζί με τα μέσα ασφάλισής τους στην κλειστή θέση, θα εξασφαλίζουν αντοχή στην πυρκαϊά καθώς και στη διέλευση καπνού και φλογών, όσο είναι πρακτικά δυνατό, ισοδύναμη με εκείνη των διαφραγμάτων στα οποία ευρίσκονται οι θύρες. Τέτοιες θύρες και πλαίσια θυρών θα κατασκευάζονται από χάλυβα ή άλλο ισοδύναμο υλικό. Οι στεγανές θύρες δεν χρειάζεται να μονώνονται.
3. Κάθε θύρα θα μπορεί να ανοίγει και να κλείνει από κάθε πλευρά του διαφράγματος από ένα μόνο άτομο.
4. Οι θύρες ασφαλείας στα διαφράγματα των κήριων κατακόρυφών ζωνών και των περιφραγμάτων των κλιμάκων εκτός από τις μηχανοκίνητες στεγανές θύρες και εκείνες που είναι κανονικά κλειστές θα είναι αυτοκλειόμενου τύπου ικανές να κλείνουν με κλίση του κλειδίου 3,5° προς την αντίθετη πλευρά του κλεισίματος. Η ταχύτητα κλεισίματος των θυρών θα ελέγχεται, αν απαιτείται, έτσι ώστε να αποφεύγεται ο κίνδυνος για άτομα. Όλες οι θύρες αυτές

εκτός από εκείνες που κανονικά είναι κλειστές, θα είναι ικανές να απελευθερώνονται από ένα σταθμό ελέγχου είτε ταυτόχρονα είτε κατά ομάδες, και επίσης ατομικά από θέση κοντά στη θύρα. Ο μηχανισμός απελευθέρωσης θα είναι κατά τέτοιο τρόπο σχεδιασμένος ώστε η θύρα να κλείνει αυτόματα στη περίπτωση βλάβης του συστήματος ελέγχου. Πάντως, εγκεκριμένες μηχανοκίνητες στεγανές θύρες θα θεωρούνται αποδεκτές για το σκοπό αυτό. Δεν θα επιτρέπονται άγκιστρα συγκράτησης που δεν απελευθερώνονται από σταθμό ελέγχου. Όταν επιτρέπονται διπλές περιστρεφόμενες θύρες, αυτές θα έχουν διάταξη μανδάλωσης η οποία θα λειτουργεί αυτόματα με την λειτουργία του συστήματος απελευθέρωσης της θύρας.

5. Όπου ένας χώρος προστατεύεται από σύστημα αυτόματου ραντισμού που πληροί τις απαιτήσεις του Κανονισμού IZ ή έχει συνεχή οροφή κλάσης "B", τα ανοίγματα σε κατασκευές που δεν σχηματίζουν βαθμίδες σε κρύβες κατακόρυφες ζώνες ούτε διαχωρίζουν οριζόντιες ζώνες θα κλείνουν κατά τρόπο εύλογα στεγανό και τα καταστρώματα αυτά θα πληρούν τις απαιτήσεις ακεραιότητας κλάσης "A" όσο είναι λογικό και πρακτικό κατά την κρίση της Αρχής.
6. Οι απαιτήσεις για ακεραιότητα κλάσης "A" των εξωτερικών οριακών χωρισμάτων του πλοίου δεν θα εφαρμόζονται στα γυάλινα τμήματα, στα παράθυρα και στις παραφωτίδες. Κατά παρόμοιο τρόπο οι απαιτήσεις για ακεραιότητα κλάσης "A" δεν θα εφαρμόζονται σε εξωτερικές θύρες υπερκατασκευών και υπερστεγασιμάτων.

Κανονισμός 5f

Ανοίγματα σε χωρίσματα κλάσης "B"

1. Οι θύρες και τα πλαίσιά τους σε χωρίσματα κλάσης "B" και τα μέσα ασφάλισής τους θα διατάσσονται με τρόπο κλεισίματος, που θα έχει αντίσταση στη πυρκαϊά, όσο είναι πρακτικά δυνατό, ισοδύναμη με εκείνη των χωρισμάτων, με την εξαίρεση ότι μπορεί να επιτρέπονται ανοίγματα αερισμού στο κατώτερο τμήμα τέτοιων θυρών. Όπου υπάρχει τέτοιο άνοιγμα στη θύρα ή κάτω από αυτήν, η ολική καθαρή επιφάνεια οποιουδήποτε τέτοιου ανοιγματος ή ανοιγμάτων δεν θα υπερβαίνει τα 0,05m². Όπου τέτοιο άνοιγμα έχει ανοιχθεί σε θύρα θα εφοδιάζεται με πλέγμα κατασκευασμένο από άκαυστο υλικό. Οι θύρες θα είναι άκαυστες.
2. Οι απαιτήσεις για ακεραιότητα κλάσης "B" των εξωτερικών οριακών χωρισμάτων του πλοίου δεν θα εφαρμόζονται στα γυάλινα διαχωρίσματα,

- στα παράθυρα και στις παραφωτίδες. Κατά παρόμοιο τρόπο οι απαιτήσεις για ακεραιότητα κλάσης "B" δεν θα εφαρμόζονται σε εξωτερικές θύρες υπερκατασκευών και υπερστεγασμάτων. Για πλοία που δεν μεταφέρουν περισσότερους από 36 επιβάτες, η Αρχή μπορεί να επιτρέψει την χρήση καυσίμων υλικών σε θύρες που διαχωρίζουν καμπίνες από ατομικούς εσωτερικούς χώρους υγιεινής όπως λουτρό.
3. Όπου είναι εγκατεστημένο σύστημα αυτόματου φωτισμού που πληροί τις απαιτήσεις του Κανονισμού 12:
1. Τα ανοίγματα σε καταστρώματα, που δεν σχηματίζουν βαθμίδες σε κύριες κατακόρυφες ζώνες ούτε διαχωρίζουν οριζόντιες ζώνες, θα κλείνουν κατά τρόπο εύλογα στεγανό και τα καταστρώματα αυτά θα πληρούν τις απαιτήσεις ακεραιότητας κλάσης "B" όσο είναι λογικό και πρακτικό κατά την κρίση της Αρχής, και
 2. Τα ανοίγματα σε διαφράγματα διαδρόμων από υλικά κλάσης "B" θα προστατεύονται σύμφωνα με τις διατάξεις του Κανονισμού 25.

Κανονισμός 32

Συστήματα αερισμού

1. Επιβατηγά πλοία που μεταφέρουν περισσότερους από 36 επιβάτες.
 - 1.1 Το σύστημα αερισμού επιβατηγού πλοίου που μεταφέρει περισσότερους από 36 επιβάτες, επιπλέον προς τις απαιτήσεις του μέρους αυτού του Κανονισμού αυτού, θα πληροί επίσης τις απαιτήσεις του Κανονισμού 16.2 μέχρι 16.9.
 - 1.2 Γενικά, οι ανεμιστήρες αερισμού θα έχουν τέτοια διάταξη ώστε οι αγωγοί που καταλήγουν σε διάφορους χώρους να παραμένουν μέσα στην κύρια κατακόρυφη ζώνη.
 - 1.3 Όπου τα συστήματα αερισμού διαπερνούν καταστρώματα, θα λαμβάνονται προφυλάξεις, επί πλέον εκείνων που αναφέρονται στην ακεραιότητα έναντι πυρκαϊάς του καταστρώματος που απαιτείται από τους Κανονισμούς 18.1.1 και 30.5, για την μείωση της πιθανότητας διέλευσης καπνού και θερμών αερίων από ένα χώρο μεταξύ καταστρωμάτων σε άλλο τέτοιο χώρο μέσω του συστήματος. Επί πλέον προς τις απαιτήσεις μόνωσης που περιλαμβάνονται στον Κανονισμό αυτό, οι κατακόρυφοι αγωγοί θα μονώνονται, αν είναι αναγκαίο, όπως απαιτείται από τους αντίστοιχους πίνακες του Κανονισμού 26.
 - 1.4 Εκτός από τους χώρους φορτίου, οι αγωγοί αερισμού θα κατασκευάζονται από τα παρακάτω υλικά:
 1. αγωγοί με επιφάνεια διατομής όχι μικρότερη από 0,075 m² και όλοι οι κατακόρυφοι αγωγοί που εξυπηρετούν περισσότερους από

- ένα χώρο μεταξύ καταστρωμάτων θα κατασκευάζονται από χάλυβα ή άλλο ισοδύναμο υλικό,
- .2 αγωγοί με επιφάνεια διατομής μικρότερη από $0,075 \text{ m}^2$ εκτός από τους κατακόρυφους αγωγούς που αναφέρονται στην παράγραφο 1.4.1 θα κατασκευάζονται από άκαυστα υλικά. Όπου τέτοιοι αγωγοί διαπερνούν χωρίσματα κλάσης "Α" ή "Β" θα δίνεται ιδιαίτερη προσοχή στην εξασφάλιση της ακεραιότητας έναντι πυρκαϊάς του διαφράγματος,
 - .3 τμήματα αγωγού μικρού μήκους που δεν υπερβαίνουν γενικά τα $0,02 \text{ m}^2$ σε επιφάνεια διατομής ούτε τα 2 m σε μήκος, δεν χρειάζονται να είναι άκαυστα, εφ' όσον πληρούνται οι ακόλουθοι όροι:
 - .3.1 ο αγωγός είναι κατασκευασμένος από υλικό περιορισμένου κινδύνου πυρκαϊάς που να ικανοποιεί την Αρχή,
 - .3.2 ο αγωγός χρησιμοποιείται μόνο στο ακραίο τελικό σημείο του συστήματος αερισμού, και
 - .3.3 ο αγωγός δεν ευρίσκεται πλησιέστερα από 500 mm , μετρούμενα κατά το μήκος του, από διέλευση μέσω χωρίσματος κλάσης "Α" ή "Β", περιλαμβανομένων συνεχών οροφών κλάσης "Β".
 - 1.5 Όπου περικλειστος χώρος κλιμακοστασίου αερίζεται, ο αγωγός ή οι αγωγοί θα λαμβάνονται από το διαμέρισμα ανεμιστήρων ανεξάρτητα από άλλους αγωγούς του συστήματος αερισμού και δεν θα εξυπηρετούν οποιοδήποτε άλλο χώρο.
 - 1.6 Όλος ο τεχνητός αερισμός, εκτός από τον αερισμό του χώρου μηχανών και φορτίου και οποιοδήποτε εναλλακτικό σύστημα που μπορεί να απαιτείται από τον Κανονισμό 15.6, θα εφοδιάζεται με μέσα ελέγχου συγκεντρωμένα έτσι ώστε να μπορούν όλοι οι ανεμιστήρες να σταματούν από οποιαδήποτε από δύο χωριστές θέσεις που θα ευρίσκονται σε όσο το δυνατό μεγαλύτερη απόσταση μεταξύ τους. Τα μέσα ελέγχου που προβλέπονται για τον τεχνητό αερισμό που εξυπηρετεί τους χώρους μηχανών θα συγκεντρώνονται έτσι ώστε να μπορούν να χειρίζονται από δύο θέσεις, μία από τις οποίες θα ευρίσκεται έξω από τους χώρους αυτούς. Οι ανεμιστήρες που εξυπηρετούν τα συστήματα τεχνητού αερισμού των χώρων φορτίου θα μπορούν να σταματούν από μία ασφαλή θέση έξω από τους χώρους αυτούς.
2. Επιβατηγά πλοία, που δεν μεταφέρουν περισσότερους από 36 επιβάτες.
- 2.1 Το σύστημα αερισμού των επιβατηγών πλοίων, που δεν μεταφέρουν περισσότερους από 36 επιβάτες θα πληροί τον Κανονισμό 15.

Κανονισμός 33
Παράθυρα και παραφωτίδες.

1. Όλα τα παράθυρα και οι παραφωτίδες σε διαφράγματα που ευρίσκονται μέσα στους χώρους ενδιαίτησης και υπηρεσίας και σταθμούς ελέγχου, εκτός από εκείνα στα οποία έχουν εφαρμογή οι διατάξεις του Κανονισμού 30.6 και του Κανονισμού 31.2, θα κατασκευάζονται έτσι ώστε να διατηρούν τις απαιτήσεις ακεραιότητας του τύπου των διαφραγμάτων στα οποία είναι τοποθετημένα.
2. **Ανεξαρτηता από τις απαιτήσεις των πινάκων των Κανονισμών 26 και 27:**
 - .1 όλα τα παράθυρα και οι παραφωτίδες σε διαφράγματα που χωρίζουν τους χώρους ενδιαίτησης και υπηρεσίας και σταθμούς ελέγχου από το ύπαιθρο θα κατασκευάζονται με πλαίσια από χάλυβα ή άλλο κατάλληλο υλικό. Το γυαλί θα συγκρατείται με στιλπνή αρμοκαλύπτρα ή γωνία.
 - .2 θα δίνεται ιδιαίτερη προσοχή στην ακεραιότητα έναντι πυρκαϊάς των παραθύρων, που αντικρύζουν ανοικτούς ή κλειστούς χώρους επιβίβασης στις σωσίβιες λέμβους και σχεδίες, και στην ακεραιότητα έναντι πυρκαϊάς των παραθύρων που ευρίσκονται κάτω από τέτοιους χώρους σε τέτοια θέση ώστε η καταστροφή τους κατά τη διάρκεια πυρκαϊάς θα μπορούσε να εμποδίσει την καθαίρεση ή την επιβίβαση στις σωσίβιες λέμβους ή σχεδίες.

Κανονισμός 34
Περιορισμένη χρήση καυσίμων υλικών.

1. Με εξαίρεση τους χώρους φορτίου, ταχυδρομείου, αποσκευών ή τους φυκτικούς θαλάμους των χώρων υπηρεσίας, όλες οι επενδύσεις, τα στηρίγματα, οι οροφές και οι μονώσεις θα είναι από άκαυστα υλικά. Τμήματα διαφραγμάτων ή καταστρωμάτων που χρησιμοποιούνται για την υποδιαίρεση ενός χώρου για σκοπούς χρήσης ή διακόσμησης θα είναι επίσης από άκαυστο υλικό.
2. **Ατμοφραγκές και συγκολλητικές ουσίες που χρησιμοποιούνται σε συνδυασμό με μόνωση, καθώς επίσης και η μόνωση των εξαρτημάτων σωληνώσεων για συστήματα φύξης δεν χρειάζεται να είναι άκαυστα, αλλά θα περιορίζονται στην ελάχιστη πρακτικά δυνατή ποσότητα και οι εκτεθειμένες επιφάνειές τους θα έχουν ιδιότητες αντίστασης στην εξάπλωση της φλόγας που θα ικανοποιούν την Αρχή.**

3. Οι ακλόουθες επιφάνειες θα έχουν χαρακτηριστικά χαμηλής εξαπλώσης φλόγας: [■]
- .1 Εκτεθειμένες επιφάνειες σε διαδρόμους και περιφράγματα κλιμακοστασίων και εκτεθειμένες επιφάνειες διαφραγμάτων και επενδύσεις τοιχωμάτων και οροφών σε όλους τους χώρους ενδιαίτησης και υπηρεσίας και σταθμούς ελέγχου,
 - .2 Επιφάνειες κρυφών ή απρόσιτων χώρων σε χώρους ενδιαίτησης, υπηρεσίας και σταθμούς ελέγχου.
4. Ο συνολικός όγκος των καυσίμων επικαλύψεων, σκαλισμάτων διακοσμήσεων και επιστρώσεων σε οποιοδήποτε χώρο ενδιαίτησης και υπηρεσίας, δεν θα υπερβαίνει όγκο ισοδύναμο προς επίστρωση πάχους 2,5mm στην συνδυασμένη επιφάνεια των τοιχωμάτων και των οροφών. Στην περίπτωση πλοίων εφοδιασμένων με σύστημα αυτόματου ραντισμού που πληροί τις διατάξεις του Κανονισμού 12, ο παραπάνω όγκος μπορεί να περιλαμβάνει μερικά καύσιμα υλικά που χρησιμοποιούνται για την κατασκευή χωρισμάτων κλάσης "C".
5. Οι επιστρώσεις που χρησιμοποιούνται σε επιφάνειες και επενδύσεις που καλύπτονται από τις απαιτήσεις της παραγράφου 3 θα έχουν θερμαντική ικανότητα που δεν υπερβαίνει την τιμή 45 MJ/m² της επιφάνειας για το χρησιμοποιούμενο πάχος.
6. Η επίπλωση στους διαδρόμους και στους περικλειστούς χώρους κλιμακοστασίων θα περιορίζεται στο ελάχιστο.
7. Χρώματα, βερνίκια και άλλα τελικά επιχρίσματα που χρησιμοποιούνται σε εκτεθειμένες εσωτερικές επιφάνειες δεν θα είναι ικανά να παράγουν υπερβολική ποσότητα καπνού και τοξικών προϊόντων.
8. Οι πρωτεύουσες επιστρώσεις κατασκευών, αν τοποθετούνται στους χώρους ενδιαίτησης και υπηρεσίας και στους σταθμούς ελέγχου, θα είναι [■]εγκεκριμένο υλικό που δεν θα αναφλέγεται εύκολα, ή δεν θα προκαλεί κινδύνους τοξικότητας ή έκρηξης σε υψηλές θερμοκρασίες. [■]

[■] Γίνεται μνεία των Οδηγιών για την Αξιολόγηση των σχετικών με τον κίνδυνο Πυρκαϊάς Ιδιοτήτων των Υλικών, που υιοθετήθηκαν από τον Οργανισμό με την απόφαση A(166)(ES.IV).

[■] Γίνεται μνεία των Βελτιωμένων Προσωρινών Οδηγιών για τις Μεθόδους Δοκιμής Πρωτεύουσών Επιστρώσεων Κατασκευών, που υιοθετήθηκαν από τον Οργανισμό με την Απόφαση A.214(VII).

Κανονισμός 35
Λεπτομέρειες Κατασκευής.

1. Σε χώρους ενδιαίτησης και υπηρεσίας, σταθμούς ελέγχου, διαδρόμους και κλιμακίες:
 - .1 Κλειστοί κενοί χώροι πίσω από οσοφές, χωρίσματα ή επενδύσεις θα υποδιαιρούνται κατάλληλα με φράγματα αέρα που εμποδίζουν καλά, σε απόσταση μεταξύ τους όχι μεγαλύτερη από 14η,
 - .2 Κατά την κατακόρυφη διεύθυνση, τέτοιοι κλειστοί κενοί χώροι περιλαμβανομένων των χώρων πίσω από τις επενδύσεις κλιμάκων, οχετών κ.λ.π θα κλείνονται σε κάθε κατάσταση.
2. Η κατασκευή των οσοφών και διαφραγμάτων θα είναι τέτοια ώστε, χωρίς να παραβλέπεται η αποτελεσματικότητα της πυροπροστασίας να είναι δυνατόν στις περιπτώσεις πυρκαϊάς να συναλύπτονται καπνό που προέρχεται από κρυφές και αποδύτες θέσεις, εκτός αν κατά την γνώμη της Αρχής δεν υπάρχει κίνδυνος εκδήλωσης πυρκαϊάς στις θέσεις αυτές.

Κανονισμός 36

Αυτόματα σύστημα ραντισμού, ανίχνευσης και εναγερμού πυρκαϊάς ή μόνιμα συστήματα ανίχνευσης και εναγερμού πυρκαϊάς.

1. Σε **κάθε** κτίριο στο οποίο εγκαθίσταται αυτό το μέρος θα εγκαθίσταται σε όλη την έκταση κάθε κτιστής ζώνης, είτε κατακόρυφης είτε οριζόντιας, σε όλους τους χώρους ενδιαίτησης και υπηρεσίας και, όπου θεωρείται αναγκαίο από την Αρχή, στους σταθμούς ελέγχου, εκτός από τους χώρους που δεν παρουσιάζουν σημαντικό κίνδυνο πυρκαϊάς (όπως κενοί χώροι, χώροι υγιεινής κ.λ.π) είτε:
 - .1 Σύστημα αυτόματου ραντισμού, ανίχνευσης και εναγερμού πυρκαϊάς εγκεκριμένου τύπου, που πληροί τις διατάξεις του Κανονισμού 12 και έχει εγκατασταθεί και διαταχθεί έτσι ώστε να προστατεύει τους χώρους αυτούς, είτε
 - .2 Δύοιμο σύστημα ανίχνευσης και εναγερμού πυρκαϊάς εγκεκριμένου τύπου, που πληροί τις διατάξεις του Κανονισμού 13 και έχει εγκατασταθεί και διαταχθεί έτσι ώστε να ανιχνεύει την παρουσία πυρκαϊάς στους χώρους αυτούς, με την εξαίρεση ότι οι ανιχνευτές καπνού που απαιτούνται από τον Κανονισμό 13.2.2 δεν χρειάζεται να εγκατασταθούν.

Κανονισμός 37

Προστασία χώρων ειδικής κατηγορίας.

1. Διατάξεις που έχουν εφαρμογή σε χώρους ειδικής κατηγορίας είτε ευρίσκονται πάνω είτε κάτω από το κατάστρωμα στεγανών διαφραγμάτων.

1.1. Γενικά.

1.1.1 Η βασική αρχή, που διέπει τις διατάξεις του Κανονισμού αυτού είναι ότι, επειδή η συνηθισμένη υποδιαίρεση σε κύριες κατακόρυφες ζώνες μπορεί να μην είναι πρακτικά δυνατή σε χώρους ειδικής κατηγορίας, πρέπει να επιτυγχάνεται ισοδύναμη προστασία σε τέτοιους χώρους με βάση τον διαχωρισμό τους σε οριζόντιες ζώνες και την εγκατάσταση αποτελεσματικού μόνιμου συστήματος κατάσβεσης πυρκαϊάς. Με την έννοια αυτή, μία οριζόντια ζώνη για τους σκοπούς του Κανονισμού αυτού μπορεί να περιλαμβάνει χώρους ειδικής κατηγορίας σε περισσότερα από ένα καταστρώματα εφ' όσον το συνολικό καθαρό ύψος για τα οχήματα δεν υπερβαίνει τα 10m.

1.1.2 Οι απαιτήσεις των Κανονισμών 16, 18, 30 και 32 για την διατήρηση της ακεραιότητας των κατακορύφων ζωνών θα εφαρμόζονται εξ' ίσου σε καταστρώματα και διαφράγματα που αποτελούν τα οριακά χωρίσματα των οριζόντιων ζωνών μεταξύ τους και από το υπόλοιπο πλοίο.

1.2 Κατασκευαστική προστασία.

1.2.1 Τα οριακά διαφράγματα των χώρων ειδικής κατηγορίας θα μονώνονται όπως απαιτείται για χώρους κατηγορίας (II) του πίνακα 26.1 ή του πίνακα 27.1 και τα οριζόντια οριακά χωρίσματα όπως απαιτείται για χώρους κατηγορίας (II) του πίνακα 26.3 ή του πίνακα 27.2.

1.2.2 Θα προβλέπονται ενδείκτες στη γέφυρα νουσιπλόϊας, που θα δείχνουν είτε οποιαδήποτε θύρα πυρασφαλείας που οδηγεί προς ή από χώρους ειδικής κατηγορίας είναι κλειστή.

1.3 Μόνιμο σύστημα κατάσβεσης πυρκαϊάς[■]

Σε κάθε χώρο ειδικής κατηγορίας θα εγκαθίσταται εγκεκριμένο μόνιμο σύστημα κατατονισμού νερού υπό πίεση, χειροκίνητης λειτουργίας, που θα προστατεύει όλα τα τμήματα οποιουδήποτε κα-

[■] Γίνεται μνεία της Στάσης για Μόνιμα Συστήματα Κατάσβεσης Πυρκαϊάς για Χώρους Ειδικής Κατηγορίας, που υιοθετήθηκε από τον Οργανισμό με την απόφαση Α.123(V).

ταστρώματος και διαπέδου οχημάτων σε τέτοιο χώρο, με την επιφύλαξη ότι η Αρχή μπορεί να επιτρέψει την χρήση οποιουδήποτε άλλου μόνιμου συστήματος κατάσβεσης πυρκαϊάς, που έχει αποδειχθεί με πραγματική δοκιμή σε συνθήκες που αναπαριστούν πυρκαϊά από βενζίνη που χύνεται σε χώρο ειδικής κατηγορίας, ότι δεν είναι λιγότερο αποτελεσματικό στον έλεγχο πυρκαϊών που είναι πιθανόν να συμβούν σε τέτοιο χώρο.

1.4 Περιπολίες και ανίχνευση.

1.4.1 Σε χώρους ειδικής κατηγορίας θα τηρείται αποτελεσματικό σύστημα περιπολίας. Σε οποιοδήποτε τέτοιο χώρο στον οποίο δεν εκτελείται περιπολία με συνεχή φυλακή πυρκαϊάς, μια ολοκληρωμένη διάρκεια του πλοίου, θα προβλέπεται αυτόματο σύστημα ανίχνευσης πυρκαϊάς εγκεκριμένου τύπου.

1.4.2 Θα προβλέπονται χειροκίνητοι αναγγελτήρες, όπως είναι αναγκαίο, σε όλη την έκταση των χώρων ειδικής κατηγορίας και ένας θα τοποθετείται κοντά σε κάθε έξοδο από τους χώρους αυτούς.

1.5 Πυροσβεστικός εξοπλισμός.

Σε κάθε χώρο ειδικής κατηγορίας θα προβλέπονται:

1. τρεις τουλάχιστον συσκευές παραγωγής ομίχλης νερού,
2. μία φορητή συσκευή παραγωγής αφρού που πληροί τις διατάξεις του Κανονισμού 6.4, με την προϋπόθεση ότι δύο τουλάχιστον τέτοιες συσκευές είναι διαθέσιμες στο πλοίο για χρήση σε τέτοιους χώρους, και
3. φορητοί πυροσβεστήρες σε αριθμό που η Αρχή θεωρεί επαρκή, με την προϋπόθεση ότι ένας τουλάχιστον φορητός πυροσβεστήρας ευοίσκείται σε κάθε πρόσβαση στους χώρους αυτούς.

1.6 Σύστημα αερισμού.

1.6.1 Θα προβλέπεται αποτελεσματικό σύστημα τεχνητού αερισμού για τους χώρους ειδικής κατηγορίας ικανό να παρέχει τουλάχιστον 10 εναλλαγές αέρα την ώρα. Το σύστημα για τους χώρους αυτούς θα είναι εντελώς χωριστό από άλλα συστήματα αερισμού και θα λειτουργεί κάθε στιγμή όταν εντοκονται οχήματα σε τέτοιους χώρους. Η Αρχή μπορεί να απαιτήσει αυξημένο αριθμό εναλλαγών αέρα κατά την φορτοεκφόρτωση των οχημάτων. Οι σχετοί αερισμοί που εξυπηρετούν χώρους ειδικής κατηγορίας, που μπορούν να κλείνονται αποτελεσματικά θα είναι χωριστοί για κάθε τέτοιο χώρο. Το σύστημα θα μπορεί να ελέγχεται από θέση έξω από τους χώρους αυτούς.

- 1.6.2 Ο αερισμός θα είναι τέτοιος ώστε να εμποδίζει την διάταξη του αέρα κατά στρώματα και τον σχηματισμό αεροθυλάκων.
- 1.6.3 θα προβλέπονται μέσα που θα δείχνουν στη γέφυρα ναυσιπλοΐας οποιαδήποτε απώλεια ή μείωση της ικανότητας αερισμού που απαιτείται.
- 1.6.4 θα προβλέπονται διατάξεις που θα επιτρέπουν γρήγορη διακοπή και αποτελεσματικό κλείσιμο του συστήματος αερισμού σε περίπτωση πυρκαϊάς, λαμβανομένων υπ' όψη των καιρικών συνθηκών και της κατάστασης της θάλασσας.
- 1.6.5 Οι αγωγοί αερισμού, περιλαμβανομένων των πυροσφραγτών, θα είναι κατασκευασμένοι από χάλυβα και η διάταξή τους θα ικανοποιεί την Αρχή.
2. Ποσθητες διατάξεις που έχουν εφαρμογή μόνο σε χώρους ειδικής κατηγορίας πάνω από το κατάστρωμα στεγανών διαφραγμάτων.
- 2.1 Ευδιαίοι (μπούνια).
- Έχοντας υπ' όψη τη σοβαρή απώλεια ευστάθειας που θα μπορούσε να προκύψει λόγω συσσώρευσης μεγάλων ποσοτήτων νερού στο κατάστρωμα ή καταστρώματα σαν συνέπεια της λειτουργίας του μόνιμου συστήματος καταιονισμού νερού υπό πίεση, θα τοποθετούνται ευδιαίοι έτσι ώστε να εξασφαλίζεται ότι το νερό αυτό αποχετεύεται γρήγορα απ' ευθείας εκτός πλοίου.
- 2.2 Προφυλάξεις κατά της ανάφλεξης εύφλεκτων ατμών
- 2.2.1 Σε οποιοδήποτε κατάστρωμα στο οποίο μεταφέρονται οχήματα και στο οποίο θα μπορούσε να αναμνηστεί η συνθήκη έκρηξης εκρηκτικών ατμών, ο εξοπλισμός που μπορεί να αποτελέσει πηγή ανάφλεξης εύφλεκτων ατμών και ειδικότερα ηλεκτρικός εξοπλισμός και καλωδιώσεις θα εγκαθίστανται τουλάχιστον 450 mm πάνω από το κατάστρωμα. Ο ηλεκτρικός εξοπλισμός που εγκαθίσταται σε ύψος μεγαλύτερο από 450 mm από το κατάστρωμα θα είναι τύπου κλειστού και προστατευμένου κατά τρόπο ώστε να εμποδίζεται η διαφυγή σπινθήρων. Πάντως, αν η αρχή κρίνει ότι η εγκατάσταση του ηλεκτρικού εξοπλισμού και καλωδιώσεων σε ύψος μικρότερο από 450 mm πάνω από το κατάστρωμα είναι αναγκαία για την ασφαλή λειτουργία του πλοίου, αυτές ο ηλεκτρικός εξοπλισμός και οι καλωδιώσεις μπορούν να εγκατασταθούν με την προϋπόθεση ότι είναι εγκεκριμένου τύπου για χρήση σε εκρηκτικά μίγματα βενζίνης και αέρα.
- 2.2.2 Αν μέσα σε αγωγό εξαερισμού ^{πρίν να} εγκαθίστανται ^{ηλεκτρικός} εξοπλισμός και καλωδιώσεις, θα είναι εγκεκριμένου τύπου για χρήση σε εκρηκτικά

μίγματα βενζίνης και αέρα και η εξαγωγή οποιουδήποτε αγωγού εξαερισμού θα ευρίσκεται σε ασφαλή θέση, λαμβανομένων υπ' όψη άλλων πιθανών πηγών ανάφλεξης.

3. Προσθετες διατάξεις που έχουν εφαρμογή μόνο σε χώρους ειδικής κατηγορίας κάτω από το κάταστρωμα στεγανών διαφραγμάτων

3.1 Απάντληση κυτών και αποστράγγιση

Έχοντας υπ' όψη την σοβαρή απώλεια ευστάθειας που θα μπορούσε να προκύψει λόγω συσσώρευσης μεγάλων ποσοτήτων νερού στο κάταστρωμα ή στον πυθμένα του κύτους σαν συνέπεια της λειτουργίας του μόνιμου συστήματος καταιονισμού νερού υπό πίεση, η Αρχή μπορεί να απαιτήσει διατάξεις απάντλησης και αποστράγγισης επιπλέον των απαιτήσεων του Κανονισμού II-1/21.

3.2 Προυλότητες κατά της ανάφλεξης ευφλεκτων ατμών.

3.2.1 Ο ηλεκτρικός εξοπλισμός και οι καλωδιώσεις, εφ' όσον εγκαθίστανται, θα είναι τύπου κατάλληλου για χρήση σε εκρηπτικά μίγματα βενζίνης και αέρα. Δεν θα επιτρέπεται άλλος εξοπλισμός που μπορεί να αποτελέσει πηγή ανάφλεξης ευφλεκτων ατμών.

3.2.2 Αν σε αγωγό εξαερισμού εγκαθίστανται ηλεκτρικός εξοπλισμός και καλωδιώσεις, θα είναι ^{οι τύποι} εγκεκριμένου τύπου για χρήση σε κρηπτικά μίγματα βενζίνης και αέρα και η εξαγωγή οποιουδήποτε αγωγού εξαερισμού θα ευρίσκεται σε ασφαλή θέση, λαμβανομένων υπ' όψη άλλων πιθανών πηγών ανάφλεξης.

Κανονισμός 38

Προστασία χώρων φορτίου, εκτός χώρων ειδικής κατηγορίας, που προορίζονται για μεταφορά μηχανοκίνητων οχημάτων με καύσιμα στις δεξαμενές τους για την κίνησή τους

Σε οποιοδήποτε χώρο φορτίου (εκτός χώρων ειδικής κατηγορίας) που περιέχει μηχανοκίνητα οχήματα με καύσιμα στις δεξαμενές τους για την κίνησή τους θα πληροφονται οι ακόλουθες διατάξεις.

1. Ανίχνευση πυρκαϊάς

θα προβλέπεται εγκεκριμένο σύστημα αυτόματης ανίχνευσης και ενεργητική πυρκαϊάς. Η σχεδίαση και οι διατάξεις του συστήματος αυτού θα εξετάζονται σε συνδυασμό με τις απαιτήσεις αερισμού, που αναφέρονται στην παράγραφο 3.

2. Διατάξεις κατάσβεσης πυρκαϊάς

2.1 θα εγκαθίσταται μόνιμο σύστημα κατάσβεσης πυρκαϊάς, που θα πληροί τις διατάξεις του Κανονισμού 5, με την εξαίρεση ότι αν εγκαθίσταται σύστημα διοξειδίου του άνθρακα, η διοθέσιμη ποσό-

τητα του αερίου θα είναι τουλάχιστον ικανή να δώσει ελάχιστο όγκο ελεύθερου αερίου ίσο με το 45% του ολικού όγκου του μεγαλύτερου τέτοιου χώρου φορτίου που μπορεί να κλεισθεί ερμητικά, και οι διατάξεις θα είναι τέτοιες ώστε να εξασφαλίζουν ότι τα 2/3 τουλάχιστο της ποσότητας του αερίου που απαιτείται για τον αντίστοιχο χώρο θα διοχετευθούν σε 10 πρώτα λεπτά. Οποιοδήποτε άλλο μόνιμο σύστημα κατάσβεσης πυρκαϊάς με αέριο ή μόνιμο σύστημα κατάσβεσης πυρκαϊάς με αφορ υψηλής εκτόνωσης μπορεί να εγκατασταθεί με την προϋπόθεση ότι παρέχει ισοδύναμη προστασία. Επίσης οποιοδήποτε χώρος φορτίου που προορίζεται μόνο για οχήματα, που δεν μεταφέρουν οποιοδήποτε φορτίο, μπορεί να εφοδιασθεί με μόνιμα συστήματα κατάσβεσης πυρκαϊάς με αλογονωμένους υδρογονάνθρακες που θα πληρούν τις διατάξεις του Κανονισμού 5.

- 2.2 Εναλλακτικά, μπορεί να εγκατασταθεί σύστημα που πληροί τις απαιτήσεις του Κανονισμού 37.1.3, με την προϋπόθεση ότι πληρούνται επίσης ο Κανονισμός 37.2.1 ή 37.3.1, ανάλογα με την περίπτωση.
- 2.3 Θα προβλέπονται για χρήση σε οποιοδήποτε τέτοιο χώρο, φορητοί πυροσβεστήρες σε αριθμό που η Αρχή θεωρεί επαρκή. Ένας τουλάχιστον φορητός πυροσβεστήρας θα ευρίσκεται σε κάθε πρόσβαση στους χώρους αυτούς.

3. Σύστημα αερισμού

- 3.1 Θα προβλέπεται αποτελεσματικό σύστημα τεχνητού αερισμού ικανό να παρέχει τουλάχιστον 10 εναλλαγές αέρα την ώρα για πλοία που μεταφέρουν περισσότερους από 36 επιβάτες και 6 εναλλαγές αέρα την ώρα για πλοία, που δεν μεταφέρουν περισσότερους από 36 επιβάτες. Το σύστημα για τέτοιους χώρους φορτίου θα είναι εντελώς χωριστό από άλλα συστήματα αερισμού και θα λειτουργεί κάθε στιγμή όταν ευρίσκονται οχήματα στους χώρους αυτούς. Οι αγωγοί αερισμού, που εξυπηρετούν τέτοιους χώρους φορτίου που μπορούν να κλείνονται αποτελεσματικά θα είναι χωριστοί για κάθε τέτοιο χώρο. Το σύστημα θα μπορεί να ελεγχεται από θέση έξω από τους χώρους αυτούς.
- 3.2 Ο αερισμός θα είναι τέτοιος ώστε να εμποδίζει την διάταξη του αέρα κατά στρώματα και τον σχηματισμό αεροθυλάκων.
- 3.3 Θα προβλέπονται μέσα που θα δείχνουν στη γέφυρα ναυσιπλοΐας οποιαδήποτε απώλεια ή μείωση της ικανότητας αερισμού που απαιτείται.
- 3.4 Θα προβλέπονται διατάξεις που θα επιτρέπουν γρήγορη διακοπή και αποτελεσματικό κλείσιμο του συστήματος αερισμού σε περίπτωση πυρκαϊάς, λαμβανομένων υπ' όψη των καιρικών συνθηκών και της κατάστασης της θάλασσας.

- 3.5 Οι αγωγοί αερισμού, περιλαμβανομένων των πυροσφρακτών, θα είναι κατασκευασμένοι από χάλυβα και η διαταξή τους θα ικανοποιεί την Αρχή.
4. Προφυλάξεις κατά της ανάφλεξης εύφλεκτων ατμών
- 4.1 Ο ηλεκτρικός εξοπλισμός και οι καλωδιώσεις, εφόσον εγκαθίστανται, θα είναι τύπου κατάλληλου για χρήση σε εκρηκτικά μίγματα βενζίνης και αέρα. Δεν θα επιτρέπεται άλλος εξοπλισμός, που μπορεί να αποτελέσει πηγή ανάφλεξης εύφλεκτων ατμών.
- 4.2 Αν σε αγωγό εξαερισμού, εγκαθίστανται ηλεκτρικός εξοπλισμός και καλωδιώσεις, θα είναι εγκεκριμένου τύπου για χρήση σε εκρηκτικό μίγμα βενζίνης και αέρα και η εξαγωγή οποιουδήποτε αγωγού εξαερισμού θα ευρίσκεται σε ασφαλή θέση, λαμβανομένων υπόψη άλλων πιθανών πηγών ανάφλεξης.
- 4.3. Οι ευδισίοι (μπούνια) δεν θα καταλήγουν σε χώρους μηχανών ή άλλους χώρους όπου μπορεί να υπάρχουν πηγές ανάφλεξης.

Κανονισμός 39

Μόνιμες διατάξεις κατάσβεσης πυρκαϊάς σε χώρους φορτίου

1. Με εξαίρεση την περίπτωση της παραγράφου 3, οι χώροι φορτίου πλοίων ολικής χωρητικότητας 1000 κόνων και άνω θα προστατεύονται με μόνιμο σύστημα κατάσβεσης πυρκαϊάς με αέριο που πληροί τις διατάξεις του Κανονισμού 5, ή με μόνιμο σύστημα κατάσβεσης πυρκαϊάς με ατμό υψηλής εκτόνωσης που παρέχει ισοδύναμη προστασία.
2. Όπου είναι φανερό, κατά την κρίση της Αρχής, ότι ένα πλοίο απασχολείται σε ταξίδια τόσο μικρής διάρκειας ώστε θα ήταν παράλογο να εφαρμόσει τις απαιτήσεις της παραγράφου 1 και επίσης σε πλοία ολικής χωρητικότητας κάτω από 1000 κόνους, οι διατάξεις στους χώρους φορτίου θα ικανοποιούν την Αρχή.
3. Πλοίο που ασχολείται με την μεταφορά επικινδύνων φορτίων θα εφοδιάζεται, σε οποιοδήποτε από τους χώρους φορτίου, με μόνιμο σύστημα κατάσβεσης πυρκαϊάς με αέριο που πληροί τις διατάξεις του Κανονισμού 5 ή με σύστημα κατάσβεσης πυρκαϊάς που κατά τη γνώμη της Αρχής παρέχει ισοδύναμη προστασία για τα φορτία που μεταφέρονται.

Κανονισμός 40

Περιπολίες πυρκαϊάς, και συστήματα ανίχνευσης, αναγγελίας, συναγερομού και ενδοσυνεννόησης

1. Σε όλους τους χώρους ενδιαίτησης και υπηρεσίας θα τοποθετούνται δια χερσών αινούμενοι αναγγελήρες για την άμεση μετάδοση του σήματος συναγερομού στη γέφυρα ναυσιπλοΐας ή στον κύριο σταθμό ελέγχου πυρκαϊάς.
2. Θα προβλέπεται εγκεκριμένο σύστημα ανίχνευσης ^{και} συναγερομού, πυρκαϊάς που θα δείχνει αυτόματα σε ένα ή περισσότερα κατάλληλα σημεία ή σταθμούς την παρουσία ή εμφάνιση πυρκαϊάς και την θέση της σε οποιοδήποτε χώρο φορτίου που, κατά την γνώμη της Αρχής, δεν είναι προσιτός, εκτός αν είναι παντός, κατά την κρίση της Αρχής, ότι το πλοίο απασχολείται σε ταξίδια τόσο μικτής διάρκειας ώστε θα ήταν παράλογο να εφαρμόσει την απαίτηση αυτή.
3. Όλα τα πλοία, σε κάθε στιγμή κατά την διάρκεια του πλοΐ ή στο λιμάνι (εκτός αν το πλοίο είναι εκτός υπηρεσίας), θα είναι επανδρωμένα ή εξοπλισμένα κατά τέτοιο τρόπο ώστε να εξασφαλίζεται ότι οποιαδήποτε αρχική αναγγελία πυρκαϊάς γίνεται άμεσα αντιληπτή από υπεύθυνο μέλος του πληρώματος.
4. Θα εγκαθίσταται ειδικό σύστημα συναγερομού που θα χειρίζεται από τη γέφυρα ναυσιπλοΐας ή τον σταθμό ελέγχου πυρκαϊάς για την κλήση του πληρώματος. Αυτό το σύστημα συναγερομού μπορεί να αποτελεί μέρος του γενικού συστήματος συναγερομού του πλοίου αλλά θα μπορεί να σημαίνεται ανεξάρτητα από το σύστημα συναγερομού του χώρου επιβατών.
5. Θα υπάρχει σύστημα ενδοσυνεννόησης ή άλλα αποτελεσματικά μέσα επικοινωνίας σε όλους τους χώρους ενδιαίτησης και υπηρεσίας και σταθμούς ελέγχου.
6. Σε πλοία, που μεταφέρουν περισσότερους από 55 επιβάτες θα τηρείται αποτελεσματικό σύστημα περιπόλίας ώστε να μπορεί να ανιχνευθεί γρήγορα η εκδήλωση πυρκαϊάς. Κάθε μέλος της περιπόλίας πυρκαϊάς θα εκπαιδεύεται ώστε να εξοικειώνεται με τις διατάξεις του πλοίου καθώς επίσης και με τη θέση και λειτουργία οποιασδήποτε συσκευής που μπορεί να κληθεί να χρησιμοποιήσει.

Κανονισμός 41

Ειδικές απαιτήσεις για πλοία που μεταφέρουν επικίνδυνα φορτία. Οι απαιτήσεις του Κανονισμού 54 θα εφαρμόζονται, ανάλογα με την περίπτωση, σε επιβατηγά πλοία που μεταφέρουν επικίνδυνα φορτία.

ΜΕΡΟΣ Γ - ΜΕΤΡΑ ΠΥΡΑΣΦΑΛΕΙΑΣ ΓΙΑ ΦΟΡΗΓΑ ΗΛΟΙΑ

(Ο Κανονισμός 54 του Μέρους αυτού εφαρμόζεται επίσης σε επιβατηγά κλοία ανάλογα με την περίπτωση).

Κανονισμός 42**Κατασκευή.**

1. Με την προϋπόθεση ότι πληρούνται οι διατάξεις της παραγράφου 4, το σκάφος, η υπερκατασκευή, τα κατασκευαστικά διαφράγματα, καταστρώματα και υπερστεγνώματα θα κατασκευάζονται από χάλυβα ή άλλο ισοδύναμο υλικό.
2. Η μόνωση των στοιχείων από κράμα αλουμινίου των χωρισμάτων κλάσης "Α" ή "Β", εκτός από την κατασκευή, που κατά την γνώμη της Αρχής δεν φέρει φορτίο, θα είναι τέτοια ώστε η θερμοκρασία του κατασκευαστικού στελέχους (πυρήνα) να μην υψώνεται περισσότερο από 200°C πάνω από τη θερμοκρασία του περιβάλλοντος σε κάθε στιγμή κατά τη διάρκεια της εφαρμοζόμενης έκθεσης στη τυποποιημένη δοκιμή πυρκαϊάς.
3. Ιδιαίτερη προσοχή θα δίνεται στη μόνωση των στοιχείων από κράμα αλουμινίου των στηλών, στυλιδίων και λοιπών κατασκευαστικών μερών που απαιτούνται για την στήριξη των θέσεων στοιβασίας σωσιβίων ^ή σχεδίων, των περιοχών καθαίρεσης και επιβίβασης και των χωρισμάτων "Α" και "Β" κλάσης ώστε να εξασφαλίζεται:
 1. ότι για τα μέρη που υποστηρίζουν περιοχές σωσιβίων λέμβων και σωσιβίων σχεδίων και χωρίσματα κλάσης "Α", ο περιορισμός ανύψωσης της θερμοκρασίας που καθορίζεται στην παράγραφο 2 θα εφαρμόζεται στο τέλος της μιας ώρας, και
 2. ότι για τα μέρη που απαιτούνται να υποστηρίζουν χωρίσματα κλάσης "Β", ο περιορισμός ανύψωσης της θερμοκρασίας που καθορίζεται στην παράγραφο 2 θα εφαρμόζεται στο τέλος της μισής ώρας.
4. Οσοφές και περιφράγματα των χώρων μηχανών Κατηγορίας Α θα είναι από χαλύβδινη κατασκευή, επαρκώς μονωμένη και τα ανοίγματά τους, αν υπάρχουν, θα έχουν κατάλληλη διάταξη και προστασία ώστε να εμποδίζουν την εξάπλωση της φωτιάς.
5. Στους χώρους ενδιαιτήσης και υπηρεσίας θα υιοθετείται μία από τις ακόλουθες μεθόδους προστασίας:
 1. Μέθοδος IC. Η κατασκευή όλων των εσωτερικών διαχωριστικών διαφραγμάτων από άκαυστα χωρίσματα κλάσης "B" ή "C" γενικά χωρίς την εγκατάσταση συστήματος αυτόματου ραντισμού, ανί-

- χηνευσή και εξαγωγή πυρκαϊδών στους χώρους ενδιαίτησης και υπηρεσίας, εκτός από την απαίτηση του Κανονισμού 52.1, ή
2. Μέθοδος IIC. Η εγκατάσταση συστήματος αυτόματου ραδιοακούσιου ανίχνευσης και συναγερμού πυρκαϊδών όπως απαιτείται από τον Κανονισμό 52.2 για την ανίχνευση και κατάσβεση πυρκαϊδών σε όλους τους χώρους στους οποίους είναι πιθανό να αναμένεται η εκδήλωση πυρκαϊδών, γενικά χωρίς περιορισμό στον τύπο των εσωτερικών διαχωριστικών διαφραγμάτων, ή
 3. Μέθοδος IIIC- Η εγκατάσταση μόνιμου συστήματος ανίχνευσης και εξαγερμού πυρκαϊδών όπως απαιτείται από τον Κανονισμό 52.3 σε όλους τους χώρους στους οποίους είναι πιθανό να αναμένεται η εκδήλωση πυρκαϊδών, γενικά χωρίς περιορισμό στον τύπο των εσωτερικών διαχωριστικών διαφραγμάτων, με την εξοίωση ότι η επιλογή να στοιχειωθούν οι χώροι ενδιαίτησης ή χώρων που περιλαμβάνονται από κωδίκια κλάσης "Α" ή "Β" δεν ποθεί σε καμία περίπτωση να υπερβαίνει τα 50%. Η Αρχή μπορεί να εξετάσει την περίπτωση αύξησης της επιφάνειας αυτής για κατασκευασμένο χώρο.
6. Οι απαιτήσεις για την χρήση διαφραγμάτων κλάσης "Α" και "Β" και μόνωση των οριζών διαφραγμάτων των χώρων μηχανών, σταθμών ελίσσων, χώρων υπηρεσίας κ.λ.π και η προστασία των περιβαλλόντων των κλάσεων "Α" και "Β" θα είναι ίδιες και για τις τρεις μεθόδους που περιγράφονται στην παράγραφο 5.

Κανονισμός 43

Διαφράγματα μέσα στους χώρους ενδιαίτησης και υπηρεσίας

1. Όλα τα διαφράγματα που απαιτείται να είναι χωριστά κλάσης "Β" θα εκτείνονται από κατώτατο σημείο κατώφλιου και μέχρι το κέλυφος του πλοίου ή άλλα δώρα, εκτός αν συνεχώς ορατός ή επιρρέσις κλάσης "Β" είναι τοποθετημένος και στις δύο πλευρές του διαφραγματος, οπότε το διαφράγμα μπορεί να καταλήξει στη συσκευή ασφαφής ή επέκτασης.
2. Μέθοδος IC. Όλα τα διαφράγματα που δεν απαιτείται από αυτόν ή άλλους Κανονισμούς του Μέρους αυτού να είναι χωριστά κλάσης "Α" ή "Β" θα είναι τουλάχιστον κλάσης "C".
3. Μέθοδος IIC. Δεν θα υπάρξει περιορισμός στη κατασκευή των διαφραγμάτων που δεν απαιτείται από αυτόν ή άλλους Κανονισμούς του Μέρους αυτού να είναι χωριστά κλάσης "Α" ή "Β", εκτός από συγκεκριμένες περιπτώσεις όπου απαιτούνται διαφράγματα κλάσης "C" σύμφωνα με τον πίνακα 44.1.

4. Μέθοδος III C. Δεν θα υπάρξει περιορισμός στην κατασκευή των διαφραγμάτων που δεν απαιτείται από το Μέρος αυτό να είναι χώρισμα κλάσης "Α" ή "Β", με την εξαίρεση ότι η επιφάνεια οποιουδήποτε χώρου ενδιαίτησης ή χώρων που περικλείονται από συνεχές χώρισμα κλάσης "Α" ή "Β" δεν πρέπει σε καμμία περίπτωση να υπερβαίνει τα 50m², εκτός από συγκεκριμένες περιπτώσεις όπου απαιτούνται διαφράγματα κλάσης "C" σύμφωνα με τον πίνακα 44.1. Η Αρχή μπορεί να εξετάσει την περίπτωση αύξησης της επιφάνειας αυτής για κοινόχρηστους χώρους.

Κανονισμός 44

Ακεραιότητα έναντι πυρκαϊάς διαφραγμάτων και καταστρωμάτων

1. Επι πλέον προς τη συμμόρφωση με τις ειδικές διατάξεις για την ακεραιότητα έναντι πυρκαϊάς των διαφραγμάτων και καταστρωμάτων, που αναφέρονται σε άλλα σημεία του Μέρους αυτού, η ελάχιστη ακεραιότητα έναντι πυρκαϊάς των διαφραγμάτων και καταστρωμάτων θα είναι όπως καθορίζεται στους πίνακες 44.1 και 44.2 .
2. Οι ακόλουθες απαιτήσεις θα ρυθμίζουν την εφαρμογή των πινάκων:
 1. Οι πίνακες 44.1 και 44.2 θα εφαρμόζονται αντίστοιχα στα διαφράγματα και καταστρώματα που χωρίζουν γειτονικούς χώρους.
 2. Για τον καθορισμό των καταλλήλων βαθμών ακεραιότητας έναντι πυρκαϊάς που θα εφαρμόζονται σε χωρίσματα μεταξύ γειτονικών χώρων, οι χώροι αυτοί έχουν ταξινομηθεί σύμφωνα με τον κίνδυνο πυρκαϊάς που παρουσιάζουν όπως φαίνεται παρακάτω στις κατηγορίες (1) μέχρι (4). Ο τίτλος κάθε κατηγορίας είναι μάλλον τυπικός παρά περιοριστικός, Ο αριθμός μέσα στις παρενθέσεις που προηγείται κάθε κατηγορίας αναφέρεται στον αριθμό της στήλης ή γραμμής των πινάκων που έχει εφαρμογή.

(1) Σταθμοί ελέγχου

Χώροι που περιέχουν πηγές ενέργειας και φωτισμού ανάγκης.

Οιακιστήριο και θάλαμος χαρτών.

Χώροι που περιέχουν τις συσκευές ραδιοτηλεγραφίας του πλοίου.

Χώροι κατάσβεσης πυρκαϊάς, χώροι ελέγχου και σταθμοί καταγραφής πυρκαϊάς.

Χώρος ελέγχου των προωστικών μηχανημάτων όταν ευρίσκεται έξω από το χώρο μηχανών.

Χώροι που περιέχουν τον κεντρικό εξοπλισμό συναγερμού πυρκαϊάς.

- (2) Διάδρομοι
Διάδρομοι και προβάλαμοι.
- (3) Χώροι ενδιαίτησης
Χώροι όπως ορίζονται στον Κανονισμό 3.10 εκτός από διαδρόμους.
- (4) Κλίμακες
Εσωτερικές κλίμακες, ανελκυστήρες και κυλιόμενες κλίμακες (εκτός από εκείνες, που περιέχονται εξ ολοκλήρου στους χώρους μηχανών) και οι χώροι που περικλείονται από τα περιφράγματα τους.
Σημειώνεται σχετικά ότι κλίμακα περικλειστή σε ένα μόνο επίπεδο θα θεωρείται ως τμήμα του χώρου από τον οποίο δεν διαχωρίζεται με θύρα πυρασφαλείας.
- (5) Χώροι υπηρεσίας (μικρού κινδύνου πυρκαϊάς)
Ερμάρια και αποθήκες που έχουν επιφάνειες κάτω από 2m^2 , στεγνωτήρια και πλυντήρια.
- (6) Χώροι μηχανών κατηγορίας Α
Χώροι όπως ορίζονται στον Κανονισμό 3.19.
- (7) Άλλοι χώροι μηχανών
Χώροι όπως ορίζονται στον Κανονισμό 3.20 εκτός από χώρους μηχανών κατηγορίας Α.
- (8) Χώροι φορτίου
Όλοι οι χώροι που χρησιμοποιούνται για φορτίο (περιλαμβανομένων των δεξαμενών φορτίου πετρελαίου) και οχετοί και στόμια κυτών των χώρων αυτών.
- (9) Χώροι υπηρεσίας (μεγάλου κινδύνου πυρκαϊάς)
Μαγειρεία, κυλικεία που περιέχουν συσκευές μαγειρικής, αποθήκες χρωμάτων και λυχνιών, ερμάρια και αποθήκες που έχουν επιφάνεια 2m^2 ή μεγαλύτερη, συνεργεία εκτός από εκείνα που αποτελούν τμήμα χώρων μηχανών.
- (10) Ανοικτά καταστρώματα
Χώροι ανοικτών καταστρωμάτων και κλειστοί χώροι περιπάτου που δεν παρουσιάζουν κίνδυνο πυρκαϊάς. Υπαίθριοι χώροι (οι εκτός των υπερκατασκευών και υπερστεγασμάτων χώροι).
- (11) Χώροι φορτίου RO/RO
Χώροι όπως ορίζονται στον Κανονισμό 3.14. Χώροι φορτίου που προορίζονται για την μεταφορά μηχανοκινήτων οχημάτων με καύσιμα στις δεξαμενές τους για την κίνησή τους.

3. Μπορεί να γίνει αποδεκτό ότι συνεχείς οροφές ή επενδύσεις κλάσης "B", σε συνδυασμό με τα αντίστοιχα καταστρώματα ή διαφράγματα, ~~επιβάλλουν~~ ολοκλήρου ή εν μέρει στην απαιτούμενη μόνωση και ακεραιότητα ενός χωρίσματος.
4. Σε εξωτερικά οριακά χωρίσματα που από τον Κανονισμό 42.1 απαιτείται να είναι από χάλυβα ή άλλο ισοδύναμο υλικό, μπορούν να γίνονται σπές για την τοποθέτηση παραθύρων και παραφωτίδων εφ' όσον δεν απαιτείται από άλλη διάταξη του Μέρους αυτού να έχουν τα χωρίσματα αυτά ακεραιότητα έναντι πυρκαϊάς κλάσης "A". Με όμοιο τρόπο, οι θύρες σε τέτοια διαφράγματα που δεν απαιτείται να έχουν ακεραιότητα έναντι πυρκαϊάς κλάσης "A" μπορούν να είναι από υλικά που ικανοποιούν την Αρχή.

ΠΙΝΑΚΑΣ 44.1 ΑΚΕΡΑΙΟΤΗΤΑ ΕΜΑΝΤΙ ΥΠΕΡΚΑΙΣΕ ΔΙΑΦΡΑΓΜΑΤΩΝ ΠΟΥ ΔΙΑΧΩΡΙΖΟΥΝ ΓΕΙΤΟΝΙΚΟΥΣ ΧΩΡΟΥΣ

Χώροι	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Σταθμοί ελέγχου (1)	A-0 ^{a/}	A-0	A-60	A-0	A-15	A-60	A-15	A-60	A-60	*	A-60
Διάδρομοι (2)		C	B-0	B-0 A-0 ^{g/}	B-0	A-60	A-0	A-0	A-0	*	A-30
Χώροι ενδοεπι- τήσης (3)			C ^{a,b/}	B-0 A-0 ^{g/}	B-0	A-60	A-0	A-0	A-0	*	A-30
Κλίμακες (4)				B-0 A-0 ^{g/}	B-0 A-0 ^{g/}	A-60	A-0	A-0	A-0	*	A-30
Χώροι υπηρε- σίας (μικρού κινδύνου) (5)					C	A-60	A-0	A-0	A-0	*	A-0
Χώροι μηχανών κατηγορίας Α (6)						*	A-0	A-0 ^{g/}	A-60	*	A-60 f/
Άλλοι χώροι μηχανών (7)							A-0 ^{d/}	A-0	A-0	*	A-0
Χώροι φορτίου (8)								*	A-0	*	A-0
Χώροι υπηρε- σίας (μεγάλου κινδύνου) (9)									A-0 ^{d/}	*	A-30
Ανοικτά κα- ταστρώματα (10)										-	A-0
Χώροι φορτίου R0/R0 (11)											e ^{h/}

Σημειώσεις : Εφαρμόζονται στους πίνακες 44.1 και 44.2 ανάλογα με την περίπτωση

- a/** Δεν επιβάλλονται ειδικές απαιτήσεις στα διαφράγματα σύμφωνα με τις μεθόδους πυροπροστασίας IIC και IIIC
- b/** Στην περίπτωση της μεθόδου IIIC, θα προβλέπονται διαφράγματα κλάσης "B" βαθμού B-0 μεταξύ χώρων ή ομάδων χώρων επιφάνειας 50M² και άνω.
- g/** Για να διευκρινισθεί ποιά τιμή εφαρμόζεται, βλέπε Κανονισμούς 43 και 46.
- d/** Όπου οι χώροι ευρίσκονται στη ίδια αριθμητική κατηγορία και εμφανίζεται ο δείκτης *d* τότε απαιτείται διάφραγμα ή κατάστρωμα της ακεραιότητας που δίνουν οι πίνακες μόνον όταν οι γειτονικοί χώροι προορίζονται για διαφορετικούς σκοπούς. Για παράδειγμα, στην κατηγορία (9) ένα μαγειρείο που συνορεύει με άλλο μαγειρείο δεν απαιτεί διάφραγμα, αλλά μαγειρείο που συνοδεύει με αποθήκη χρωμάτων απαιτεί διάφραγμα "A-0"
- e/** Διαφράγματα που χωρίζουν μεταξύ τους το διακιστήριο, δωμάτιο χαρτών και χώρο ραδιοτηλεγραφίας μπορεί να είναι κλάσης "B-0"

ΠΙΝΑΚΑΣ 44.2 ΑΚΕΡΑΙΟΤΗΤΑ ΕΝΑΝΤΙ ΠΥΡΚΑΓΙΑΣ ΚΑΤΑΣΤΡΩΜΑΤΩΝ
 ΗΟΥ ΔΙΑΧΩΡΙΖΟΥΜΕ ΓΕΙΤΟΝΙΚΟΥΣ ΧΩΡΟΥΣ

Χώρος κάτω	Χώρος άνω →	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Σταθμοί ελέγ. (1)		A-0	A-0	A-0	A-0	A-0	A-60	A-0	A-0	A-0	*	A-60
Διαδρόμοι (2)		A-0	*	*	A-0	*	A-60	A-0	A-0	A-0	*	A-30
Χώροι ενδιά- τησης (3)		A-60	A-0	*	A-0	*	A-60	A-0	A-0	A-0	*	A-30
Κλίμακες (4)		A-0	A-0	A-0	*	A-0	A-60	A-0	A-0	A-0	*	A-30
Χώροι υπηρε- σίας (μικρού κίνδυνου) (5)		A-15	A-0	A-0	A-0	*	A-60	A-0	A-0	A-0	*	A-0
Χώροι μηχανών κατηγορίας A (6)		A-60	A-60	A-60	A-60	A-60	*	A-60 i/	A-30	A-60	*	A-60
Άλλοι χώροι μηχανών (7)		A-15	A-0	A-0	A-0	A-0	A-0	*	A-0	A-0	*	A-0
Χώροι φορτίου (8)		A-60	A-0	A-0	A-0	A-0	A-0	A-0	*	A-0	*	A-0
Χώροι υπηρε- σίας (μεγάλου κίνδυνου) (9)		A-60	A-0	A-0	A-0	A-0	A-60	A-0	A-0	A-0	*	A-30
Ανοικτά κατα- στώματα (10)		*	*	*	*	*	*	*	*	*	-	*
Χώροι φορτίου RO/RO (11)		A-60	A-30	A-30	A-30	A-0	A-60	A-0	A-0	A-30	*	*i/

f/ Μπορεί να χρησιμοποιηθεί κλάση A-0 αν δεν πρόκειται να μεταφερθούν επικίνδυνα φορτία ή αν τα φορτία αυτά στοιβάζονται σε οριζόντια απόσταση όχι μικρότερη από 3 m από τα διαφράγματα αυτά.

g/ Για χώρους φορτίου που προορίζονται για μεταφορά επικινδύνων φορτίων, εφαρμόζεται ο κανονισμός 54:2.8.

h/ Διαφράγματα και καταστώματα που χωρίζουν χώρους φορτίου RO/RO θα πρέπει να μπορούν να κλείνουν κατά τρόπο επαρκώς αεριοστεγανό και τα χωρίσματα αυτά θα έχουν ακεραιότητα κλάσης "A" όσο είναι λογικά και πρακτικά δυνατό κατά την κρίση της Αρχής.

i/ Δεν χρειάζεται να τοποθετείται μόνωση πυρασφαλείας αν ο χώρος μηχανών κατηγορίας (7), κατά την γνώμη της Αρχής, παρουσιάζει μικρό ή καθόλου κίνδυνο πυρκαϊάς.

* Όπου εμφανίζεται αστερίσκος στους πίνακες, το χώρισμα απαιτείται να είναι από χάλυβα ή άλλο ισοδύναμο υλικό αλλά δεν απαιτείται να είναι κλάσης "A".

Κανονισμός 45
Μέσα διαφυγής.

1. Τα κλιμακοστάσια και οι κλίμακες θα έχουν τέτοια διάταξη ώστε να παρέχουν, από όλους τους χώρους ενδιαίτησης και από τους χώρους στους οποίους απασχολείται συνήθως το πλήρωμα, εκτός από τους χώρους μηχανών, μέσα άμεσης διαφυγής προς το ανοικτό κατάστρωμα και από εκεί προς τις σωσίβιες λέμβους και σχεδίες. Ειδικότερα θα πληρούνται οι ακόλουθες γενικές διατάξεις:
 - .1 Σε όλα τα επίπεδα ενδιαίτησης θα προβλέπονται δύο τουλάχιστο μέσα διαφυγής από κάθε περιορισμένο χώρο ή συγκρότημα χώρων, σε αρκετή απόσταση μεταξύ τους.
 - .2.1 Κάτω από το κατώτατο ανοικτό κατάστρωμα το κύριο μέσο διαφυγής θα είναι μία κλίμακα και η δεύτερη διαφυγή μπορεί να είναι ένας οχετός ή κλίμακα.
 - .2.2 Πάνω από το κατώτατο ανοικτό κατάστρωμα τα μέσα διαφυγής θα είναι κλίμακες ή θύρες που οδηγούν σε ανοικτό κατάστρωμα ή συνδυασμός αυτών.
 - .3 Κατ'εξαίρεση η Αρχή μπορεί να επιτρέψει ένα μόνο μέσο διαφυγής αφού λάβει κατάλληλα υπόψη της τη φύση και θέση των χώρων και τον αριθμό των ατόμων που θα μπορούσαν κανονικά να ενδιαιτηθούν ή να απασχοληθούν εκεί.
 - .4 Δεν θα γίνονται αποδεκτοί τυφλοί διάδρομοι που έχουν μήκος μεγαλύτερο από 7m. Τυφλός διάδρομος είναι διάδρομος ή τμήμα διαδρόμου απ'όπου υπάρχει μία μόνο οδός διαφυγής.
 - .5 Το πλάτος και η συνέχιση των μέσων διαφυγής θα ικανοποιεί την Αρχή.
 - .6 Αν ο σταθμός ραδιοτηλεγραφίας δεν έχει απ'ευθείας διέξοδο στο ανοικτό κατάστρωμα, θα προβλέπονται δύο μέσα πρόσβασης ή εξόδου από τον σταθμό αυτό, ένα από τα οποία μπορεί να είναι παραφωτίδα ή παρόμοιο επαρκούς μεγέθους ή άλλο μέσο που να ικανοποιεί την Αρχή ώστε να παρέχει διαφυγή ανάγκης.
2. Σε όλους τους χώρους φορτίου RO/RO στους οποίους κανονικά απασχολείται το πλήρωμα, ο αριθμός και οι θέσεις των οδών διαφυγής προς το ανοικτό κατάστρωμα θα ικανοποιεί την Αρχή, αλλά δεν θα είναι σε καμιά περίπτωση κάτω από δύο και θα ευρίσκονται σε αρκετή απόσταση μεταξύ τους.

3. Εκτός από την περίπτωση της παραγράφου 4, θα προβλεφθούν δύο μέσα διαφυγής από κάθε χώρο μηχανών κατηγορίας Α. Ειδικότερα θα πληροίται μία από τις ακόλουθες διατάξεις:
1. δύο συστήματα χαλύβδινων κλιμάκων, σε όσο το δυνατόν μεγαλύτερη απόσταση μεταξύ τους, και οδηγούν σε θύρες στο ανώτερο τμήμα του χώρου κατά παρόμοιο τρόπο διαχωρισμένες και από τις οποίες παρέχεται διέξοδος προς το ανοικτό κατάστρωμα. Γενικά μία απ' αυτές τις κλίμακες θα παρέχει συνεχή προστασία από την πυρκαϊά από το κατώτερο τμήμα του χώρου μέχρι μία ασφαλή θέση έξω από τον χώρο. Πάντως η Αρχή μπορεί να μην απαιτήσει την προστασία αυτή αν λόγω ειδικής διάταξης ή διαστάσεων του χώρου μηχανών, παρέχεται ασφαλής οδός διαφυγής από το κατώτερο τμήμα του χώρου αυτού. Η προστασία αυτή θα είναι από χάλυβα με μόνωση, όπου είναι αναγκαίο, κατά την χρήση της Αρχής και θα εφοδιάζεται με μία αυτοκλειόμενη χαλύβδινη θύρα στο κατώτερο σημείο, ή
 2. μία χαλύβδινη κλίμακα, που οδηγεί σε θύρα στο ανώτερο τμήμα του χώρου, από την οποία παρέχεται διέξοδος προς το ανοικτό κατάστρωμα επί πλέου, στο κατώτερο τμήμα του χώρου και σε θέση ασφαλή απομακρυσμένη από την κλίμακα και ανασφάλισης, μία χαλύβδινη θύρα ικανή να χειρίζεται από κάθε πλευρά που θα παρέχει πρόσβαση προς ασφαλή οδό διαφυγής από το κατώτερο τμήμα του χώρου προς το ανοικτό κατάστρωμα.
4. Σε πλοίο ολικής χωρητικότητας κάτω από 1000 κέρους, η Αρχή μπορεί να απαιτήσει ένα μόνο από τα μέσα διαφυγής που απαιτούνται από την παράγραφο 3, αφού λάβει κατάλληλα υπόψη της τις διαστάσεις και τη διάταξη του ανώτερου τμήματος του χώρου.
5. Απομονωμένοι χώροι μηχανών εκτός από εκείνους της κατηγορίας Α, θα προβλεφθούν οδοί διαφυγής που να ικανοποιούν την Αοχή, αφού ληφθεί υπόψη η θέση και θέση του χώρου καθώς και αν απασχολούνται από άλλους σκοπούς.
6. Σε ανελευστήριους θα θεωρείται ότι αποτελούν ένα από τα απαιτούμενα μέσα διαφυγής, όπως απαιτείται από τον Κανονισμό αυτό.

Κανονισμός 46

Προστασία κλιμάκων και φρεατίων ανελευστήρων σε χώρους ενδιάμεσης, υπηρεσίας και σταθμούς ελέγχου.

1. Κλίμακες που διαπερνούν ένα μόνο κατάστρωμα θα προστατεύονται τουλάχιστον σε ένα επίπεδο με χρωσίματα κλάσης τουλάχιστον "B-0"

και αυτοκλειόμενες θύρες. Ανελκυστήρες που διαπερνούν ένα μόνο κατάστρωμα θα περιβάλλονται από χωρίσματα κλάσης "Α-0" με χαλύβδινες θύρες και στα δύο επίπεδα. Κλιμακες και φρεάτια ανελκυστήρων που διαπερνούν περισσότερα από ένα καταστρώματα θα περιβάλλονται από χωρίσματα κλάσης τουλάχιστον "Α-0" και θα προστατεύονται από αυτοκλειόμενες θύρες σε όλα τα επίπεδα.

2. Σε πλοία που διαθέτουν ενδιαίτηση για 12 ή ολιγώτερα άτομα, όπου οι κλιμακες διαπερνούν περισσότερα από ένα καταστρώματα και όπου υπάρχουν δύο τουλάχιστον οδοί διαφυγής απ'ευθείας προς το ανοικτό κατάστρωμα σε κάθε επίπεδο ενδιαίτησης, η Αρχή μπορεί να εξετάσει την περίπτωση μείωσης των απαιτήσεων "Α-0" της παραγράφου 1 σε "Β-0".
3. Όλες οι κλιμακες θα έχουν σκελετό κατάσκευασμένο από χάλυβα εκτός αν η Αρχή εγκρίνει την χρήση άλλου ισοδύναμου υλικού.

Κανονισμός 47

Θύρες σε πυρίμαχα χωρίσματα.

1. Η αντίσταση των θυρών στην πυρκαϊά θα είναι, όσο είναι πρακτικά δυνατό, ισοδύναμη με εκείνη του χωρίσματος στο οποίο είναι τοποθετημένες. Θύρες και πλαίσια θυρών σε χωρίσματα κλάσης "Α" θα κατασκευάζονται από χάλυβα. Οι θύρες στα χωρίσματα κλάσης "Β" θα είναι άκαυστες. Θύρες τοποθετημένες σε οριζόντια διαφράγματα χώρων μηχανών κατηγορίας Α θα είναι επαρκώς αεροστεγανές και αυτοκλειόμενες. Σε πλοία κατασκευασμένα σύμφωνα με τη μέθοδο ΙΟ, η Αρχή μπορεί να επιτρέψει την χρήση καυσίμων υλικών σε θύρες που χωρίζουν καμπίνες από ατομικούς εσωτερικούς χώρους υγιεινής, όπως οι καταιονιστήρες.
2. Θύρες που απαιτείται να είναι αυτοκλειόμενες δεν θα εφοδιάζονται με άγκιστρα συγκράτησης. Όμως μπορεί να χρησιμοποιηθούν διατάξεις συγκράτησης εφοδιασμένες με τηλεχειριζόμενους μηχανισμούς απελευθέρωσης, τύπου που παρέχει ασφάλεια σε περίπτωση βλάβης.
3. Στα διαφράγματα των διαδρόμων μπορούν να επιτραπούν ανοίγματα αερισμού μόνο στις θύρες και κάτω από τις θύρες των καμπινών και κοινόχρηστων χώρων. Τα ανοίγματα θα υπάρχουν μόνον στο τμήμα της θύρας από την μέση και κάτω. Όπου υπάρχει τέτοιο άνοιγμα στη θύρα ή κάτω από αυτή η ολική καθαρή επιφάνεια οποιουδήποτε τέτοιου ανοίγματος ή ανοιγμάτων δεν θα υπερβαίνει τα 0.05 m². Όπου

τέτοιο άνοιγμα έχει ανοιχθεί σε θήρα θα εφοδιάζεται με πλέγμα κατασκευασμένο από άκαυστο υλικό.

4. Οι στεγανές θύρες δεν χρειάζεται να μονώνονται.

Κανονισμός 48
Συστήματα αερισμού.

Τα συστήματα αερισμού των φορτηγών πλοίων θα πληρούν τις διατάξεις του Κανονισμού 16, εκτός από την παράγραφο 8.

Κανονισμός 49
Περιορισμένη χρήση καυσίμων υλικών.

1. Όλες οι εκτεθειμένες επιφάνειες στους διαδρόμους και τα περιφράγματα των κλιμάκων και οι επιφάνειες, περιλαμβανομένων των στηριγμάτων, σε κρυφούς ή απρόσιτους χώρους σε χώρους ενδιαίτησης και υπηρεσίας και σταθμούς ελέγχου, θα έχουν χαρακτηριστικά χαμηλής εξάπλωσης φλόγας*. Οι εκτεθειμένες επιφάνειες οροφών σε χώρους ενδιαίτησης και υπηρεσίας και σταθμούς ελέγχου θα έχουν χαρακτηριστικά χαμηλής εξάπλωσης φλόγας.
2. Χρώματα, βερνίκια και άλλα τελικά επιχρίσματα που χρησιμοποιούνται σε εκτεθειμένες εσωτερικές επιφάνειες δεν θα δημιουργούν σημαντικό κίνδυνο πυρκαϊάς κατά την κρίση της Αρχής και δεν θα είναι ικανά να παράγουν υπερβολική ποσότητα καπνού.
3. Οι πρωτεύουσες επιστρώσεις καταστροφμάτων, αν τοποθετούνται στους χώρους ενδιαίτησης και υπηρεσίας και στους σταθμούς ελέγχου θα είναι από εγκεκριμένο υλικό που δεν θα αναφλέγεται εύκολα**.

Κανονισμός 50
Λεπτομέρειες κατασκευής.

1. Μέθοδος IC. Σε χώρους ενδιαίτησης και υπηρεσίας και σταθμούς ελέγχου, όλες οι επενδύσεις, φράγματα αέρα, οροφές και τα σχετικά στηρίγματά τους θα είναι από άκαυστα υλικά.

* Γίνεται μνεία των Οδηγιών για την Αξιολόγηση των σχετικών με τον Κίνδυνο Πυρκαϊάς Ιδιοτήτων των Υλικών, που υιοθετήθηκαν από τον Οργανισμό με την απόφαση A166(ESI7)

** Γίνεται μνεία των Βελτιωμένων Προσωρινών Οδηγιών για τις Μεθόδους Δοκιμής Πρωτευουσών Επιστρώσεων Καταστροφμάτων, που υιοθετήθηκαν από τον Οργανισμό με την απόφαση A.214(VII).

2. Μέθοδοι IIC και IIIC. Σε διαδρόμους και περίκλειστους χώρους κλιμακοστασίων που εξυπηρετούν χώρους ενδιαίτησης και υπηρεσίας και σταθμούς ελέγχου, οι οροφές, οι επενδύσεις, τα φράγματα αέρα και τα σχετικά στηρίγματα τους θα είναι από άκαυστα υλικά.
3. Μέθοδοι IC, IIC και IIIC.
- 3.1 Με εξαίρεση τους χώρους φορτίου ή τους φυκτικούς θαλάμους των χώρων υπηρεσίας, τα μονωτικά υλικά θα είναι άκαυστα. Ατμοεξαρδ-
 ρετες και συγκολλητικές ασπίες που χρησιμοποιούνται σε συνδυασμό με μόνωση, καθώς επίσης και η μόνωση των σωληνώσεων για συστήματα φύξης δεν χρειάζεται να είναι από άκαυστα υλικά, αλλά θα περιορίζονται στην ελάχιστη πρακτικά δυνατή ποσότητα και οι εκτεθειμένες επιφάνειές τους θα έχουν ιδιότητες αντίστασης στην εξάπλωση της φλόγας που θα ικανοποιούν την Αρχή.
- 3.2 Όπου τοποθετούνται στους χώρους ενδιαίτησης και υπηρεσίας άκαυστα διαφράγματα, επενδύσεις και οροφές, μπορούν να έχουν καύσιμη επίστρωση που δεν θα υπερβαίνει τα 2.0mm σε πάχος σε οποιοδήποτε από τους χώρους αυτούς, εκτός από τους διαδρόμους, τα περιφράγματα των κλιμάκων και τους σταθμούς ελέγχου όπου η επίστρωση δεν ^{πρέπει} να υπερβαίνει τα 1.5mm σε πάχος.
- 3.3 Κλειστοί κενοί χώροι πίσω από οροφές, χωρίσματα ή επενδύσεις θα υποδιαίρονται με φράγματα αέρα που εφαρμόζουν καλά, σε απόσταση μεταξύ τους όχι μεγαλύτερη από 14m. Κατά την κατακόρυφη διεύθυνση, τέτοιοι κενοί χώροι περιλαμβανομένων των χώρων πίσω από τις επενδύσεις κλιμάκων, ορετών κ.λ.π θα κλείνονται σε κάθε κατάστρωμα.

Κανονισμός 51

Διατάξεις για αέρια καύσιμα που χρησιμοποιούνται για ανάγκες ενδιαίτησης

Όπου χρησιμοποιείται αέριο καύσιμο για ανάγκες ενδιαίτησης, οι διατάξεις ^{για την} αποθήκευση, διανομή και χρησιμοποίηση του καύσιμου θα είναι τέτοιες ώστε να διατηρείται η ασφάλεια του πλοίου και των επιβαινόντων, λαμβανομένων υπ' όψη των κινδύνων πυρκαϊάς και έκρηξης που μπορεί να συνεπάγεται η χρήση τέτοιου καύσιμου.

Κανονισμός 52

Μόνιμα συστήματα ανίχνευσης και συναγερμού πυρκαϊάς.
Συστήματα αυτόματου ραντισμού, ανίχνευσης και συναγερμού πυρκαϊάς.

1. Σε πλοία στα οποία υιοθετείται η μέθοδος IC, θα εγκαθίσταται σύστημα ανίχνευσης καπνού σύμφωνα με τις σχετικές απαιτήσεις του Κανονισμού 13 που θα έχει τέτοια διάταξη ώστε να προστατεύει όλους τους διαδρόμους, τις κλίμακες και τις οδούς διαφυγής μέσα στους χώρους ενδιαίτησης.
2. Σε πλοία στα οποία υιοθετείται η μέθοδος IIC, θα εγκαθίσταται σύστημα αυτόματου ραντισμού, ανίχνευσης και συναγερμού πυρκαϊάς εγκεκριμένου τύπου και σύμφωνα με τις απαιτήσεις του Κανονισμού I2 που θα έχει τέτοια διάταξη ώστε να προστατεύει τους χώρους ενδιαίτησης, μαγειρεία και άλλους χώρους υπηρεσίας εκτός από τους χώρους που δεν παρουσιάζουν σημαντικό κίνδυνο πυρκαϊάς, όπως κενοί χώροι, χώροι υγιεινής κ.λ.π. Επί πλέον θα εγκαθίσταται σύστημα ανίχνευσης καπνού σύμφωνα με τις σχετικές απαιτήσεις του Κανονισμού 13 που θα έχει τέτοια διάταξη ώστε να προστατεύει τους διαδρόμους, τις κλίμακες και τις οδούς διαφυγής μέσα στους χώρους ενδιαίτησης.
3. Σε πλοία, στα οποία υιοθετείται η μέθοδος IIIC, θα εγκαθίσταται μόνιμο σύστημα ανίχνευσης και συναγερμού πυρκαϊάς εγκεκριμένου τύπου και σύμφωνα με τις σχετικές απαιτήσεις του Κανονισμού 13 που θα έχει τέτοια διάταξη ώστε να ανιχνεύει την παρουσία πυρκαϊάς σε όλους τους χώρους ενδιαίτησης και υπηρεσίας εκτός από τους χώρους που δεν παρουσιάζουν σημαντικό κίνδυνο πυρκαϊάς, όπως κενοί χώροι, χώροι υγιεινής κ.λ.π.
4. Ανεξάρτητα από τις παραπάνω διατάξεις, η Αρχή δεν χρειάζεται να απαιτήσει την εγκατάσταση των ανιχνευτών που απαιτούνται σύμφωνα με τις διατάξεις του Κανονισμού 13.2.2 μέχρι την 1η Σεπτεμβρίου 1985.

Κανονισμός 53

Διατάξεις πυροπροστασίας στους χώρους φορτίου

1. Γενικά.

- 1.1 Εκτός από τους χώρους φορτίου που καλύπτονται από τις παραγράφους 2 και 3, χώροι φορτίου πλοίων ολικής χωρητικότητας 2000 κβρων και άνω θα προστατεύονται με μόνιμο σύστημα κατάσβεσης πυρκαϊάς με αέριο, που πληροί τις διατάξεις του Κανονισμού 5 ή

με σύστημα κατάσβεσης πυρκαϊάς που παρέχει ισοδύναμη προστασία.

- 1.2 Η Αρχή μπορεί να εξαιρέσει από τις απαιτήσεις της παραγράφου 1.1 χώρους φορτίου οποιουδήποτε πλοίου, αν έχει κατασκευασθεί και προορίζεται αποκλειστικά για τη μεταφορά μεταλλεύματος, άνθρακα, σιτηρών, μη αποξηραμένης ξυλείας και ακαθίστων φορτίων ή φορτίων πού, κατά την γνώμη της Αρχής, παρουσιάζουν μικρό κίνδυνο πυρκαϊάς. Τέτοιες εξαιρέσεις μπορεί να χορηγούνται μόνο αν το πλοίο είναι εφοδιασμένο με χαλύβδινα καλθμματα κυτών και αποτελεσματικά μέσα κλεισίματος όλων των ανεμοδόχων και των άλλων ανοιγμάτων που οδηγούν στους χώρους φορτίου.
- 1.3 Ανεξάρτητα από τις διατάξεις της παραγράφου 1.1, οποιοδήποτε πλοίο που ασχολείται με τη μεταφορά επικινδύνων φορτίων θα εφοδιάζεται σε οποιουδήποτε χώρους φορτίου με μόνιμο σύστημα κατάσβεσης πυρκαϊάς με αέριο, που πληροί τις διατάξεις του Κανονισμού 5 ή με σύστημα κατάσβεσης πυρκαϊάς που κατά την γνώμη της Αρχής παρέχει ισοδύναμη προστασία για τα μεταφερόμενα φορτία.

2. Χώροι φορτίου RO/RO

2.1 Ανίχνευση πυρκαϊάς

θα προβλέπεται μόνιμο σύστημα ανίχνευσης και συγγραφέου πυρκαϊάς. Η σχεδίαση και οι διατάξεις του συστήματος αυτού θα εξετάζονται σε συνδυασμό με τις απαιτήσεις αερισμού που αναφέρονται στην παράγραφο 2.3.

2.2 Διατάξεις κατάσβεσης πυρκαϊάς

2.2.1 Χώροι φορτίου RO/RO ικανοί να κλείνουν ερμητικά θα εφοδιάζονται με μόνιμο σύστημα κατάσβεσης πυρκαϊάς με αέριο, που θα πληροί τις διατάξεις του Κανονισμού 5, με τις ακόλουθες εξαιρέσεις:

- 1 αν εγκαθίσταται σύστημα διοξειδίου του άνθρακα, η διαθέσιμη ποσότητα του αερίου θα είναι τουλάχιστον ικανή να δώσει ελάχιστο όγκο ελεύθερου αερίου ίσο με το 45% του ολικού όγκου του μεγαλύτερου τέτοιου χώρου φορτίου που μπορεί να κλεισθεί ερμητικά και οι διατάξεις θα είναι τέτοιες ώστε να εξασφαλίζουν ότι τα δύο τρίτα τουλάχιστον της ποσότητας του αερίου που απαιτείται για τον αντίστοιχο χώρο θα διοχετευθούν σε 10 πρώτα λεπτά,

- .2 σύστημα αλογονωμένων υδρογονανθράκων μπορεί να χρησιμοποιηθεί μόνο για χώρους που προορίζονται μόνο για οχήματα που δεν μεταφέρουν οποιοδήποτε φορτίο,
 - .3 οποιοδήποτε άλλο μόνιμο σύστημα κατάσβεσης πυρκαϊάς με αέριο ή μόνιμο σύστημα κατάσβεσης πυρκαϊάς με αφρό υψηλής εκτόνωσης μπορεί να εγκατασταθεί, εφ'όσον επιτυγχάνεται ισοδύναμη προστασία κατά την κρίση της Αρχής,
 - .4 εναλλακτικά, μπορεί να εγκατασταθεί σύστημα που πληροί τις απαιτήσεις του Κανονισμού 37.1.3. Πάντως, οι διατάξεις αποστράγγισης και άντλησης θα είναι τέτοιες ώστε να εμποδίζουν τον σχηματισμό ελεύθερων επιφανειών. Αν αυτό δεν είναι δυνατό, η δυσμενής επίδραση στην ευστάθεια του βάρους που προστίθεται και της ελεύθερης επιφάνειας του νερού, θα λαμβάνονται υπ'όψη, στην έκταση που η Αρχή θεωρεί αναγκαία, κατά την έγκριση των πληροφοριακών στοιχείων ευστάθειας*. Οι πληροφορίες αυτές θα περιλαμβάνονται στα στοιχεία ευστάθειας που δίνονται στον πλοίαρχο όπως απαιτείται από τον Κανονισμό II-1/22.
- 2.2.2 Χώροι φορτίου RO/RO που δεν μπορούν να κλειστούν ερμητικά θα εφοδιάζονται με σύστημα που πληροί τις απαιτήσεις του Κανονισμού 37.1.3. Πάντως οι διατάξεις αποστράγγισης και ανάντλησης θα είναι τέτοιες ώστε να εμποδίζουν τον σχηματισμό ελεύθερων επιφανειών. Αν αυτό δεν είναι δυνατό η δυσμενής επίδραση στην ευστάθεια του βάρους που προστίθεται και της ελεύθερης επιφάνειας του νερού θα λαμβάνονται υπ'όψη, στην έκταση που η Αρχή θεωρεί αναγκαία, κατά την έγκριση των πληροφοριακών στοιχείων ευστάθειας*. Οι πληροφορίες αυτές θα περιλαμβάνονται στα στοιχεία ευστάθειας, που δίνονται στον πλοίαρχο όπως απαιτείται από τον Κανονισμό II-1/22.
- 2.2.3 Θα προβλέπονται για χρήση σε οποιοδήποτε χώρο φορτίου RO/RO φορητοί πυροσβεστήρες σε αριθμό που η Αρχή θεωρεί επαρκή. Ένας τουλάχιστον φορητός πυροσβεστήρας θα ευρίσκεται σε κάθε πρόσβαση σε τέτοιους χώρους φορτίου.

* Γίνεται μνεία της Σύστασης για Μόνιμα Συστήματα Κατάσβεσης Πυρκαϊάς για Χώρους Ειδικής Κατηγορίας, που υιοθετήθηκε από τον Οργανισμό με την απόφαση A.123(V).

2.2.4 Κάθε χώρος φορτίου RO/RO που προρίζεται για την μεταφορά μηχανοκινήτων οχημάτων με καύσιμα στις δεξαμενές τους για την κίνησή τους θα εφοδιάζεται με:

1. τρεις τουλάχιστον συσκευές παραγωγής ομίχλης νερού,
2. μία φορητή συσκευή παραγωγής αφρού που πληροί τις διατάξεις του Κανονισμού 6.4 με την προϋπόθεση ότι δύο τουλάχιστο τέτοιες συσκευές είναι διαθέσιμες στο πλοίο για χρήση σε τέτοιους χώρους φορτίου RO/RO.

2.3 Σύστημα αερισμού

2.3.1 Οι κλειστοί χώροι φορτίου RO/RO θα εφοδιάζονται με αποτελεσματικό σύστημα τεχνητού αερισμού ικανό να παρέχει τουλάχιστον έξι εναλλαγές αέρα την ώρα με βάση ένα κενό κύτος. Οι ανεμιστήρες αερισμού κανονικά θα λειτουργούν συνεχώς οποτεδήποτε ευρίσκονται οχήματα στο πλοίο. Όπου αυτό δεν είναι πρακτικά δυνατό, θα λειτουργούν για περιορισμένη χρονική περίοδο καθημερινά όπως επιτρέπει ο καιρός και σε οποιαδήποτε περίπτωση για επαρκή χρονική περίοδο πριν από την εκφόρτωση, μετά την οποία περίοδο θα διαπιστώνεται ότι ο χώρος φορτίου RO/RO είναι ελεύθερος από αέρια. Για τον σκοπό αυτό θα φέρονται στο πλοίο ένα ή περισσότερα φορητά όργανα ανίχνευσης καυσίμων αερίων. Το σύστημα θα είναι εντελώς χωριστό από άλλα συστήματα αερισμού. Οι αγωγοί αερισμού που εξυπηρετούν χώρους φορτίου RO/RO που μπορούν να κλείνονται αποτελεσματικά θα είναι χωριστοί για κάθε χώρο φορτίου. Η Αρχή μπορεί να απαιτήσει αυξημένο αριθμό εναλλαγών αέρα κατά την φορτοεκφόρτωση των οχημάτων. Το σύστημα θα μπορεί να ελέγχεται από θέση έξω από τους χώρους αυτούς.

2.3.2 Η διάταξη του αερισμού θα είναι τέτοια ώστε να εμποδίζεται η στρωματοποίηση του αέρα και ο σχηματισμός αεροθυλάκων.

2.3.3 Θα προβλέπονται μέσα που θα δείχνουν στη γέφυρα ναυσιπλοΐας, οποιαδήποτε απώλεια της ικανότητας αερισμού που απαιτείται.

2.3.4 Θα προβλέπονται διατάξεις που θα επιτρέπουν γρήγορη διακοπή και αποτελεσματικό κλείσιμο του συστήματος αερισμού σε περίπτωση πυρκαϊάς, λαμβανομένων υπ' όψη των καιρικών συνθηκών και της κατάστασης της θάλασσας.

2.3.5 Οι αγωγοί αερισμού, περιλαμβανομένων των πυροφρακτών, θα είναι κατασκευασμένοι από χάλυβα και η διάτάξη τους θα ικανοποιεί την Αρχή.

2.4 Προφυλάξεις κατά της ανάφλεξης εύφλεκτων ατμών

Κλειστοί χώροι φορτίου RO/RO που μεταφέρουν μηχανοκίνητα οχήματα με καύσιμα στις δεξαμενές τους για την κίνησή τους θα πληρούν τις ακόλουθες πρόσθετες διατάξεις:

1. Με εξαίρεση την περίπτωση της παραγράφου 2.4.2, ο ηλεκτρικός εξοπλισμός και οι καλωδιώσεις θα είναι τύπου κατάλληλου για χρήση σε εκρηκτικά μίγματα βενζίνης και αέρα.
 2. Σε ύψος μεγαλύτερο από 450 mm από το κατάστρωμα, θα επιτρέπεται εναλλακτικά ηλεκτρικός εξοπλισμός τύπου κλειστού και προστατευμένου κατά τρόπο ώστε να εμποδίζεται η διαφυγή σπινθήρων υπό τον όρο ότι το σύστημα αερισμού είναι σχεδιασμένο και λειτουργεί έτσι ώστε να παρέχει συνεχή αερισμό των χώρων φορτίου με ρυθμό δέκα τουλάχιστον εναλλαγών αέρα την ώρα, οποτεδήποτε ευρισκονται οχήματα στο πλοίο.
 3. Δεν θα επιτρέπεται άλλος εξοπλισμός που μπορεί να αποτελέσει πηγή ανάφλεξης εύφλεκτων ατμών.
 4. Ο ηλεκτρικός εξοπλισμός και οι καλωδιώσεις μέσα σε αγωγό εξαερισμού θα είναι εγκεκριμένου τύπου για χρήση σε εκρηκτικά μίγματα βενζίνης και αέρα και η εξαγωγή οποιουδήποτε αγωγού εξαερισμού θα ευρισκείται σε ασφαλή θέση, λαμβανομένων υπ' όψη άλλων πιθανών πηγών ανάφλεξης.
 5. Οι ευδιαίοι (μπούνια) δεν θα καταλήγουν σε χώρους μηχανών ή άλλους χώρους όπου μπορεί να υπάρχουν πηγές ανάφλεξης.
3. Χώροι φορτίου, εκτός από χώρους φορτίου RO/RO, που προορίζονται για τη μεταφορά μηχανοκινήτων οχημάτων με καύσιμα στις δεξαμενές τους για την κίνησή τους

Χώροι που προορίζονται για την μεταφορά μηχανοκινήτων οχημάτων με καύσιμα στις δεξαμενές τους για την κίνησή τους θα πληρούν τις απαιτήσεις της παραγράφου 2, με την εξαίρεση ότι δεν χρειάζεται να πληρούν την παράγραφο 2.2.4.

Κανονισμός 54

Ειδικές απαιτήσεις για πλοία που μεταφέρουν επικίνδυνα φορτία

1. Γενικά.

- 1.1 Επί πλέον προς τη συμμόρφωση των φορητών πλοίων με τις απαιτήσεις του Κανονισμού 53 και των επιβατηγών πλοίων με τις απαιτήσεις των Κανονισμών 38 και 39 ανάλογα με τη περίπτωση, τύποι

πλοίων και χώροι φορτίου που αναφέρονται στην παράγραφο 1.2 και προορίζονται για τη μεταφορά επικινδύνων φορτίων θα πληρούν τις απαιτήσεις του κανονισμού αυτού, ανάλογα με την περίπτωση, με εξαίρεση τις περιπτώσεις μεταφοράς επικινδύνων φορτίων σε περιορισμένες ποσότητες*, εκτός αν τέτοιες απαιτήσεις ήδη πληροούνται κατόπιν συμμόρφωσης με τις απαιτήσεις που αναφέρονται σε άλλα σημεία του Κεφαλαίου αυτού. Οι τύποι των πλοίων και οι τρόποι μεταφοράς των επικινδύνων φορτίων αναφέρονται στην παράγραφο 1.2 και στον πίνακα 54.1, όπου οι αριθμοί που αναφέρονται στην παράγραφο 1.2 σημειώνονται στην πρώτη γραμμή.

- 1.2 Οι ακόλουθοι τύποι πλοίων και χώροι φορτίου θα ρυθμίζουν την εφαρμογή των πινάκων 54.1 και 54.2:
1. Πλοία και χώροι φορτίου που δεν έχουν σχεδιασθεί ειδικά για τη μεταφορά εμπορευματοκιβωτίων, αλλά προορίζονται για τη μεταφορά επικινδύνων φορτίων σε συσκευασμένη μορφή, περιλαμβανομένων φορτίων σε εμπορευματοκιβώτια και φορητές δεξαμενές.
 2. Πλοία ειδικά κατασκευασμένα για τη μεταφορά εμπορευματοκιβωτίων και χώροι φορτίου που προορίζονται για τη μεταφορά επικινδύνων φορτίων σε εμπορευματοκιβώτια και φορητές δεξαμενές.
 3. Πλοία RO/RO και χώροι φορτίου RO/RO που προορίζονται για την μεταφορά επικινδύνων φορτίων.
 4. Πλοία και χώροι φορτίου που προορίζονται για τη μεταφορά στερεών επικινδύνων φορτίων χύμα.
 5. Πλοία και χώροι φορτίου που προορίζονται για την μεταφορά επικινδύνων φορτίων, εκτός από υγρά και αέρια χύμα σε φορηγίδες που φέρονται στο πλοίο.
2. Ειδικές απαιτήσεις.
- Εκτός αν καθορίζεται διαφορετικά, οι ακόλουθες απαιτήσεις θα ρυθμίζουν την εφαρμογή των πινάκων 54.1, 54.2 και 54.3 για την στοιβάδα των επικινδύνων φορτίων τόσο "πάνω στο κατάστρωμα" όσο και "κάτω από το κατάστρωμα", όπου οι αριθμοί των ακόλουθων παραγράφων σημειώνονται στην πρώτη στήλη.
- 2.1 Παροχές νερού.
- 2.1.1 Θα λαμβάνονται μέτρα για την εξασφάλιση της άμεσης διαθεσιμότητας νερού από το κύριο δίκτυο πυρκαϊάς στην απαιτούμενη πίεση είτε με μόνιμη διατήρηση της πίεσης είτε με κατάλληλα

* Γίνεται μνεία του ^{Επιμετρώων} ~~Κεφαλαίου~~ 18 της Γενικής Εισαγωγής στο Διεθνή Ναυτιλιακό Κώδικα Φορτίων για τον ορισμό του όρου "περιορισμένες ποσότητες".

τοποθετημένες τηλεχειριζόμενες διατάξεις εκκίνησης των αντλιών πυρκαϊάς.

- 2.1.2 Η παρεχόμενη ποσότητα νερού θα μπορεί να τροφοδοτεί τέσσερα ακροσωλήνια τέτοιου μεγέθους και σε τέτοιες πιέσεις όπως καθορίζονται στον Κανονισμό 4, ικανά να κατευθύνονται προς οποιοδήποτε σημείο του χώρου φορτίου όταν είναι κενός. Αυτή η ποσότητα του νερού μπορεί να παρέχεται με ισοδύναμα μέσα κατά την κρίση της Αρχής.
- 2.1.3 Θα προβλέπονται μέσα για την αποτελεσματική φύξη του καθορισμένου χώρου φορτίου κάτω από το κατάστρωμα με άφθονες ποσότητες νερού, είτε με μόνιμη διάταξη ακροφυσίων ραντισμού, είτε με κατάκλυση του χώρου φορτίου με νερό. Γι' αυτό το σκοπό μπορούν να χρησιμοποιούνται εύκαμπτοι σωλήνες σε μικρούς χώρους φορτίου και σε μικρές περιοχές μεγαλύτερων χώρων φορτίου κατά την κρίση της Αρχής. Σ' οποιαδήποτε περίπτωση οι διατάξεις αποστράγγισης και απάντλησης θα είναι τέτοιες ώστε να εμποδίζουν τον σχηματισμό ελεύθερων επιφανειών. Αν αυτό δεν είναι δυνατό, η δυσμενής επίδραση στην ευστάθεια του βάρους που προστίθεται και της ελεύθερης επιφάνειας του νερού θα λαμβάνονται υπόψη στην έκταση που η Αρχή θεωρεί αναγκαία κατά την έγκριση των πληροφοριακών στοιχείων ευστάθειας*.
- 2.1.4 Η πρόβλεψη κατάκλυσης καθορισμένου χώρου φορτίου κάτω από το κατάστρωμα με ορισμένα κατάλληλα μέσα, μπορεί να αντικαταστήσει τις απαιτήσεις της παραγράφου 2.1.3.
- 2.2 Πηγές ανάφλεξης.
- Δεν θα τοποθετούνται ηλεκτρικός εξοπλισμός και καλωδιώσεις σε κλειστούς χώρους φορτίου, κλειστούς χώρους καταστρωμάτων οχημάτων, ή ανοικτούς χώρους καταστρωμάτων οχημάτων εκτός αν είναι απαραίτητο για λειτουργικούς σκοπούς κατά την κρίση της Αρχής. Πάντως, αν τοποθετείται ηλεκτρικός εξοπλισμός σε τέτοιους χώρους θα είναι πιστοποιημένου ασφαλούς τύπου** για χρήση σε επικίνδυνο περιβάλλον στο οποίο μπορεί να εκτεθεί εκτός αν είναι δυνατή η πλήρης απομόνωση του ηλεκτρικού συστήματος (με την αφαίρεση συν-

* Γίνεται μνεία της Σύστασης, για Μόνιμα Συστήματα Κατάσβεσης Πυρκαϊάς για Χώρους Ειδικής Κατηγορίας, που υιοθετήθηκε από τον Οργανισμό με την απόφαση Α.Ι23(V).

** Γίνεται μνεία των Συστάσεων που εκδόθηκαν από τη Διεθνή Ηλεκτροτεχνική Επιτροπή και ιδιαίτερα της Έκδοσης 92-Ηλεκτρικές Εγκαταστάσεις σε Πλοία.

δέσμων στο σύστημα, εκτός από ασφάλειες). Τα ανοίγματα καταστροφμάτων και διαφραγμάτων για την διέλευση καλωδίων θα σφραγίζονται για να εμποδίζουν την διέοδο αερίων ή ατμών. Διερχόμενα καλώδια και καλώδια μέσα στους χώρους φορτίου θα προστατεύονται έναντι βλάβης από κρούση. Οποιοσδήποτε άλλος εξοπλισμός που μπορεί να αποτελέσει πηγή ανάφλεξης εύφλεκτων ατμών δεν θα επιτρέπεται.

2.3 Σύστημα Ανίχνευσης

θα εγκαθίσταται εγκεκριμένο σύστημα ανίχνευσης και πυρκαϊάς σε όλους τους κλειστούς χώρους φορτίου περιλαμβανομένων των κλειστών χώρων καταστροφμάτων οχημάτων. Όπου το σύστημα ανίχνευσης χρησιμοποιεί δείγματα ατμόσφαιρας που αναρροφούνται από τέτοιους χώρους φορτίου θα λαμβάνεται μέριμνα για την αποφυγή, σε περίπτωση διαρροής φορτίου, διοχέτευσης της μολυσμένης ατμόσφαιρας μέσω του συστήματος δειγματοληψίας στο χώρο που ευρίσκονται οι συσκευές ανίχνευσης. Θα τοποθετείται μόνιμα κοντά στις συσκευές επιγραφή που θα αναφέρει ότι τα δείγματα θα διοχετεύονται στον ανοικτό χώρο όταν μεταφέρονται φορτία που αναδίδουν τοξικές αναθυμιάσεις.

2.4 Αερισμός

2.4.1 Σε κλειστούς χώρους φορτίου θα προβλέπεται επαρκής τεχνητός αερισμός. Η διάταξη θα είναι τέτοια ώστε να παρέχει τουλάχιστον έξι εναλλαγές αέρα την ώρα στον χώρο φορτίου με βάση ένα κενό χώρο φορτίου και να εξασφαλίζει την αφαίρεση των ατμών από τα ανώτερα ή κατώτερα μέρη του χώρου φορτίου, ανάλογα με την περίπτωση.

2.4.2 Οι ανεμιστήρες θα είναι τέτοιοι ώστε να αποφεύγεται η πιθανότητα ανάφλεξης εύφλεκτων μιγμάτων αερίων και αέρα. Κατάλληλα προφυλακτικά συρμάτινα πλέγματα θα τοποθετούνται στα ανοίγματα εισαγωγής και εξαγωγής του αερισμού.

2.5 Απάντληση κυτών

Όπου αντιμετωπίζεται η μεταφορά εύφλεκτων ή τοξικών υγρών σε κλειστούς χώρους φορτίου, το σύστημα απάντλησης των κυτών θα είναι έτσι σχεδιασμένο ώστε να εξασφαλίζεται η αποφυγή άντλησης τέτοιων υγρών από απροσεξία μέσω των σωληνώσεων ή αντλιών των χώρων μηχανών. Στη περίπτωση μεταφοράς μεγάλων ποσοτήτων τέτοιων υγρών, θα εξετάζεται η εγκατάσταση πρόσθετων μέσων άντλησης κυ-

τών των χώρων φορτίου. Τα μέσα αυτά θα ικανοποιούν την Αρχή.

2.6 Προστασία προσωπικού

2.6.1 Θα προβλέπονται τέσσαρες σειρές πλήρους προστατευτικής ενδυμασίας κατά των χημικών προσβολών επι πλέον των εξαρτήσεων πυροσβέστου που απαιτούνται από τον Κανονισμό 17. Η προστατευτική ενδυμασία θα καλύπτει όλο το δέρμα ώστε να μη μένει απροστάτευτο κανένα μέρος του σώματος.

2.6.2 Θα προβλέπονται τουλάχιστον δύο αυτόνομες αναπνευστικές συσκευές επι πλέον εκείνων που απαιτούνται από τον Κανονισμό 17.

2.7 Φορητοί πυροσβεστήρες

Για τους χώρους φορτίου θα προβλέπονται φορητοί πυροσβεστήρες ολικής χωρητικότητας τουλάχιστον 12 Kg ξηρής σκόνης ή ισοδύναμοι. Οι πυροσβεστήρες αυτοί θα υπάρχουν επι πλέον οποιωνδήποτε φορητών πυροσβεστήρων που απαιτούνται σε άλλα σημεία του Κεφαλαίου αυτού.

2.8 Μόνωση των οριακών χωρισμάτων του χώρου μηχανών

Διαφράγματα που αποτελούν οριακά χωρίσματα μεταξύ φορτίου και χώρων μηχανών κατηγορίας A θα μονώνονται σε βαθμό "A-60", εκτός αν τα επικίνδυνα φορτία στοιβάζονται σε οριζόντια απόσταση τουλάχιστον 3 m από τέτοια διαφράγματα, Άλλα οριακά χωρίσματα μεταξύ τέτοιων χώρων θα μονώνονται σε βαθμό "A-60".

2.9 Σύστημα καταιονισμού νερού

Σε κάθε ανοικτό χώρο φορτίου RO/RO πάνω από τον οποίο υπάρχει κατάστρωμα και σε κάθε χώρο που θεωρείται ότι είναι κλειστός χώρος φορτίου RO/RO και δεν μπορεί να κλεισθεί ερμητικά θα εγκαθίσταται εγκεκριμένο μόνιμο σύστημα καταιονισμού νερού υπό πίεση, χειροκίνητης λειτουργίας, που θα προστατεύει όλα τα τμήματα οποιουδήποτε καταστρώματος και δαπέδου οχημάτων σε τέτοιο χώρο, με την εξαίρεση ότι η Αρχή μπορεί να επιτρέψει την χρήση οποιουδήποτε άλλου μόνιμου συστήματος κατάσβεσης πυρκαϊάς που έχει αποδειχθεί με πραγματική δοκιμή ότι δεν είναι λιγότερο αποτελεσματικό. Σε οποιαδήποτε περίπτωση οι διατάξεις αποστράγγισης και απάντησης θα είναι τέτοιες ώστε να εμποδίζουν τον σχηματισμό ελεύθερων επιφανειών. Αν αυτό δεν είναι δυνατό, η δυσμενής επίδραση στην ευστάθεια του βάρους που προστίθεται και της ελεύθερης επιφάνειας του νερού θα λαμβάνονται υπ' όψη στην έκταση που η Αρχή θεωρεί αναγκαία κατά την έγκριση των πληροφοριακών στοι-

χείων ευστάθειας*.

3. *Έγγραφο συμμόρφωσης

Η Αρχή θα εφοδιάζει το πλοίο με κατάλληλο έγγραφο, ως απόδειξη της συμμόρφωσης της κατασκευής και του εξοπλισμού με τις απαιτήσεις του Κανονισμού αυτού.

* Γίνεται μνελα της Σύστασης για τα Μόνιμα Συστήματα Κατάσβεσης Πυρκαϊάς για Χώρους Ειδικής Κατηγορίας, που υιοθετήθηκε από τον Οργανισμό με την απόφαση Α.Ι23(Υ).

ΠΙΝΑΚΑΣ 54.1 ΕΦΑΡΜΟΓΗ ΤΗΣ ΑΠΑΙΤΗΣΗΣ ΣΕ ΔΙΑΦΕΡΟΥΣ ΤΡΟΠΟΥΣ ΜΕΤΑΦΟΡΑΣ ΕΠΙΚΙΝΔΥΝΩΝ ΦΟΡΤΙΩΝ ΣΕ ΠΛΟΙΑ ΚΑΙ ΧΩΡΟΥΣ ΦΟΡΤΙΟΥ

Όπου εμφανίζεται το σύμβολο "x" στον πίνακα 54.1, σημαίνει ότι η απαίτηση αυτή έχει εφαρμογή σε όλες τις κλάσεις επικινδύνων φορτίων όπως δίνονται στην αντίστοιχη γραμμή του πίνακα 54.3, εκτός από τις περιπτώσεις των σημειώσεων.

Κανονισμός 54.1.2 Κανονισμός 54.2	1 Χώρος ειδικής σχεδίασης	2 Χώροι φορτίου εμπόρευμα-τοιμαχών	3			4 Στερεά επικινδύνα φορτία χύμα	5 Φορτία δεξιά που φέρονται στο πλοίο
			Κλειστός χώρος φορτίου NO/NO	Ανοιχτός χώρος φορτίου NO/NO	Καταστράφημα-τα επιτεθειμένα στο καρόφο		
.1.1	x	x	x	x	x	Για την εφαρμογή των απαιτήσεων του Κανονισμού 54 σε διάφορες κλάσεις επικινδύνων φορτίων, βλέπε πίνακα 54.2	x
.1.2	x	x	x	x	x		-
.1.3	x	x	x	x	-		x
.1.4	x	x	x	x	-		x
.2	x	x	x	x	-		x ^{d/}
.3	x	x	x	-	-		x ^{d/}
.4.1	x	x ^{a/}	x	-	-		x ^{d/}
.4.2	x	x ^{a/}	x	-	-		x ^{d/}
.5	x	x	x	-	-		-
.6.1	x	x	x	x	x		-
.6.2	x	x	x	x	x		-
.7	x	-	-	x	x		-
.8	x	x ^{b/}	x	x	x		-
.9	-	-	x ^{c/}	x	-		-

Σημειώσεις στον πίνακα 54.1

- a/ Για τις κλάσεις 4 και 5.1 δεν εφαρμόζεται σε κλειστά εμπορευματοκιβώτια.
- Για τις κλάσεις 2, 3, 6.1 και 8 όταν μεταφέρονται σε κλειστά εμπορευματοκιβώτια η παροχή αερισμού μπορεί να ελαττωθεί όχι κάτω από δυο εναλλαγές αέρα. Για τους σκοπούς της απαίτησης αυτής μια φορητή δεξαμενή είναι κλειστό εμπορευματοκιβώτιο.
- b/ Εφαρμόζεται μόνο σε καταστρώματα.
- c/ Εφαρμόζεται μόνο σε κλειστούς χώρους φορτίου RO/RO, που δεν μπορούν να κλεισθούν ερμητικά.
- d/ Στην ειδική περίπτωση όπου οι φορτηγίδες μπορούν να περιέχουν εύφλεκτους ατμούς ή εναλλακτικά μπορούν να διοχετεύουν εύφλεκτους ατμούς σε ασφαλή χώρο έξω από το διαμέρισμα μεταφοράς των φορτηγίδων μέσω αγωγών αερισμού που συνδέονται με τις φορτηγίδες, οι απαιτήσεις αυτές μπορούν να ελαττωθούν ή να αρθούν κατά την κρίση της Αρχής.

ΠΙΝΑΚΑΣ 54.2 ΕΦΑΡΜΟΓΗ ΤΩΝ ΑΠΑΙΤΗΣΕΩΝ ΣΕ ΔΙΑΦΕΡΕΣ ΚΛΑΣΕΙΣ ΕΠΙΚΙΝΔΥΝΩΝ ΦΟΡΤΙΩΝ ΓΙΑ ΠΛΑΤΙΑ ΚΑΙ ΧΩΡΟΥΣ ΦΟΡΤΙΟΥ ΠΟΥ ΜΕΤΑΦΕΡΟΥΝ ΣΤΕΡΕΑ ΕΠΙΚΙΝΔΥΝΑ ΦΟΡΤΙΑ ΧΥΜΑ

Κλάση + Κεφάλαιο VII Κανονισμός 54.2	4.1	4.2	4.3 ^{f/}	5.1	6.1	8	9
.1.1	x	x	-	x	x ^{g/}	x ^{g/}	x
.1.2 ^{f/}	x	x	-	x	-	-	x
.2	x	x ^{g/}	x	x ^{g/}	-	-	x ^{g/}
.4.1 ^{h/}	x ^{g/}	x ^{g/}	x	x ^{g/}	-	-	x ^{g/}
.4.2 ^{h/}	x	x ^{g/}	x	x ^{g/}	-	-	x ^{g/}
.6	x	x	x	x	x	x	x
.8	x	x	x	x ^{g/}	x ^{g/}	x ^{g/}	x

Σημειώσεις :

- e/ Η απαίτηση αυτή έχει εφαρμογή όταν τα χαρακτηριστικά της ουσίας απαιτούν μεγάλες ποσότητες νερού για την καταπολέμηση της πυρκαϊάς.
- f/ Οι κίνδυνοι των ουσιών στην κλάση αυτή που μπορεί να μεταφέρονται χύμα είναι τέτοιοι ώστε η Αρχή πρέπει να εξετάζει ειδικά την κατάσταση και τον εξοπλισμό των πλοίων που τις μεταφέρουν, επιπρόσθετα από την ηήρωση των προϋποθέσεων που απαριθμούνται στον πίνακα αυτό.
- g/ Γίνονται μνεία του διεθνούς Ναυτιλιακού Κώδικα Επικινδύνων Φορτίων (απόφαση ΔΕ1(IV) όπως τροποποιήθηκε) ή του Κώδικα Ασφαλούς Πρακτικής για Στερεά Φορτία Χύμα (απόφαση Α.434(XI) όπως τροποποιήθηκε), ανάλογα με την περίπτωση.
- h/ Απαιτείται τουλάχιστον φυσικός αερισμός σε κλειστούς χώρους φορτίου που προορίζονται για τη μεταφορά στερεών επικινδύνων φορτίων χύμα. Σε περιπτώσεις όπου απαιτείται τεχνητός αερισμός από τον Κώδικα Ασφαλούς Πρακτικής για Στερεά Επικινδύνα Φορτία (απόφαση Α434 (XI) όπως τροποποιήθηκε), η χρήση φορητών μονάδων αερισμού (εξοπλισμού) που ικανοποιούν την Αρχή, μπορεί να θεωρηθεί επαρκής.

ΠΙΝΑΚΑΣ 54.3 ΕΦΑΡΜΟΓΗ ΤΩΝ ΑΠΑΙΤΗΣΕΩΝ ΣΕ ΔΙΑΦΕΡΕΣ ΚΛΑΣΕΙΣ ΕΠΙΚΙΝΔΥΝΗΝ ΦΟΡΤΙΩΝ ΕΚΤΟΣ ΑΠΟ ΣΤΕΡΕΑ ΕΠΙΚΙΝΔΥΝΑ ΦΟΡΤΙΑ ΚΥΛΙΑ.

Κλάση - Κεφάλαιο VII Κανονισμός 54.2	1	2	3	4	5.1	5.2	6.1	8
.1.1	x	x	x	x ^{p/}	x	x ^{p/}	x	x
.1.2 ^{i/}	x	x	x	x ^{p/}	x	x ^{p/}	-	-
.1.3	x ^{k/}	-	-	-	-	-	-	-
.1.4	x ^{k/}	-	-	-	-	-	-	-
.2	x ^{k/}	x ^{l/}	x ^{m/}	-	-	-	x ^{m/} / x ^{p/}	x ^{m/} / x ^{p/}
.3	x	x	x	x	x	-	x	x
.4.1	-	x ^{j/}	x ^{m/}	x ^{p/}	x ^{p/}	-	x ^{m/} / x ^{p/}	x ^{m/} / x ^{p/}
.4.2	-	x ^{j/}	x ^{m/}	-	-	-	x ^{m/} / x ^{p/}	x ^{m/} / x ^{p/}
.5	-	-	x ^{m/}	-	-	-	x ^{n/}	x ^{m/}
.6	-	x	x	x	x	x ^{p/}	x	x
.7	-	-	x	x	x	x ^{p/}	x ^{p/}	x ^{p/}
.8	x ^{k/} / x ^{o/}	x	x	x	x ^{p/}	-	x ^{p/}	x ^{p/}
.9	x	x	x ^{m/}	x ^{p/}	x	-	x ^{m/}	x ^{m/}

Σημειώσεις στον πίνακα 54.3

- i/ Η απαίτηση αυτή έχει εφαρμογή όταν τα χαρακτηριστικά της ουσίας απαιτούν μεγάλες ποσότητες νερού για την καταπολέμηση της πυρκαϊάς.
- j/ Έχει εφαρμογή σε εύφλεκτα ή δηλητηριώδη αέρια.
- k/ Εντός από φορτία κλάσης 1, υποδιαίρεσης 1.4, ομάδας συμβατότητας S.
- l/ Όλα τα εύφλεκτα αέρια.
- m/ Όλα τα υγρά, που έχουν σημείο ανάφλεξης κάτω από 23°C (δοκιμή κλειστού δοχείου).
- n/ Μόνο υγρά.
- o/ Φορτία κλάσης 1 θα στοιβάζονται σε οριζόντια απόσταση 3m από τα οριακά χωρίσματα του χώρου μηχανών σε όλες τις περιπτώσεις.
- p/ Γίνεται μνεία του Διεθνούς Ναυτιλιακού Κώδικα Επικινδύνων Φορτίων (απόφαση Α.01(IV) όπως τροποποιήθηκε) ή του Κώδικα Ασφαλούς Πρακτικής για στερεά φορτία χύμα (απόφαση Α.434(XI) όπως τροποποιήθηκε) ανάλογα με την περίπτωση.

ΜΕΡΟΣ Δ - ΜΕΤΡΑ ΠΥΡΑΣΦΑΛΕΙΑΣ ΓΙΑ ΔΕΞΑΜΕΝΟΠΛΟΙΑ

(Οι απαιτήσεις του Μέρους αυτού είναι πρόσθετες εκείνων του Μέρους Γ, εκτός αν προβλέπεται διαφορετικά στους Κανονισμούς 57 και 58 και με την εξαίρεση ότι οι Κανονισμοί 53 και 54 δεν εφαρμόζονται σε δεξαμενόπλοια.)

Κανονισμός 55

Εφαρμογή

1. Εκτός αν ρητά προβλέπεται διαφορετικά, το Μέρος αυτό θα εφαρμόζεται σε δεξαμενόπλοια που μεταφέρουν αργό πετρέλαιο και προϊόντα πετρελαίου με σημείο ανάφλεξης που δεν υπερβαίνει τους 60°C (δοκιμή κλειστού δοχείου), όπως καθορίζεται με εγκεκριμένη συσκευή προσδιορισμού του σημείου ανάφλεξης, και με πίεση ατμών Reid μικρότερη της ατμοσφαιρικής καθώς και άλλα υγρά προϊόντα που παρουσιάζουν παρόμοιο κίνδυνο πυρκαϊάς.
2. Όπου πρόκειται να μεταφερθούν υγρά φορτία, εκτός από εκείνα που αναφέρονται στην παράγραφο 1 ή υδροποιημένα αέρια που δημιουργούν πρόσθετους κινδύνους πυρκαϊάς, θα απαιτούνται πρόσθετα μέτρα ασφάλειας κατά την κρίση της Αρχής, λαμβανομένων υπ' όψη των διατάξεων του Κώδικα Χημικών Χύμα και του Κώδικα Υγραεριοφόρων.
3. Η παράγραφος αυτή εφαρμόζεται σε όλα τα πλοία συνδυασμένων μεταφορών. Τέτοια πλοία δεν θα μεταφέρουν στερεά φορτία, εκτός αν όλες οι δεξαμενές φορτίου είναι κενές από πετρέλαιο και ελεύθερες από αέρια ή εκτός αν οι διατάξεις που προβλέπονται σε κάθε περίπτωση ικανοποιούν την Αρχή και συμφωνούν με τις σχετικές λειτουργικές απαιτήσεις που περιέχονται στις Οδηγίες για Συστήματα Αδρανούς Αερίου*.
4. Τα δεξαμενόπλοια που μεταφέρουν προϊόντα πετρελαίου με σημείο ανάφλεξης που υπερβαίνει τους 60°C (δοκιμή κλειστού δοχείου) όπως καθορίζεται με εγκεκριμένη συσκευή προσδιορισμού του σημείου ανάφλεξης θα πληρούν τις διατάξεις του Μέρους Γ, με την εξαίρεση ότι αντί του μόνιμου συστήματος κατάσβεσης πυρκαϊάς, που απαιτείται από τον Κανονισμό 53 θα εφοδιάζονται με μόνιμο σύστημα αφρού καταστρώματος που θα πληροί τις διατάξεις του Κανονισμού 61.

* Γίνεται μνεία των Οδηγιών για Συστήματα Αδρανούς Αερίου, που υιοθετήθηκαν από την Επιτροπή Ναυτικής Ασφάλειας στην τεσσαρακοστή δεύτερη σύνοδό της τον Μάιο 1980 (MSC/CIRC282).

5. Οι απαιτήσεις του Κανονισμού 60 για συστήματα αδρανούς αερίου δεν χρειάζεται να εφαρμόζονται σε όλα τα χημικά δεξαμενόπλοια ή υγραεριοφόρα όταν μεταφέρουν τα φορτία που περιγράφονται στην παράγραφο 1, με την προϋπόθεση ότι τοποθετούνται εναλλακτικές διατάξεις που θα αναπτυχθούν από τον Οργανισμό*.
6. Χημικά δεξαμενόπλοια και υγραεριοφόρα θα πληρούν τις διατάξεις του Μέρους αυτού εκτός αν προβλέπονται εναλλακτικές και συμπληρωματικές διατάξεις που ικανοποιούν την Αρχή, λαμβανομένων υπ' όψη των διατάξεων του Κώδικα Χημικών Χύμα και του Κώδικα Υγραεριοφόρων.

Κανονισμός 56

θέση και διαχωρισμός των χώρων.

1. Χώροι μηχανών κατηγορίας Α, εκτός από τέτοιους χώρους για προωραίες έλικες και τον σχετικό τους εξοπλισμό, θα τοποθετούνται πρυμναίως των δεξαμενών φορτίου και δεξαμενών καταλοίπων. Θα ευρίσκονται επίσης πρυμναίως των αντλιοστασίων φορτίου και των διαχωριστικών φρεατίων (COFFERDAMS) αλλά όχι κατ' ανάγκη πρυμναίως των δεξαμενών αποθήκευσης καυσίμου πετρελαίου. Οποιοσδήποτε χώρος μηχανών κατηγορίας Α θα απομονώνεται από τις δεξαμενές φορτίου και δεξαμενές καταλοίπων με διαχωριστικό φρεάτιο, αντλιοστάσιο φορτίου ή δεξαμενή αποθήκευσης καυσίμου πετρελαίου. Πάντως το κατώτερο τμήμα του αντλιοστασίου μπορεί να δημιουργεί εσοχή σε χώρους μηχανών κατηγορίας Α για τοποθέτηση αντλιών με την προϋπόθεση ότι η οροφή της εσοχής γενικά δεν ευρίσκεται σε ύψος μεγαλύτερο από το ένα τρίτο του πλευρικού ύψους του πλοίου πάνω από την τρύπια, με την εξαίρεση ότι στην περίπτωση των πλοίων νεκρού βάρους μικρότερου από 25000 τόννους, για τα οποία μπορεί ναδειχθεί ότι για λόγους πρόσβασης και ικανοποιητικής διάταξης των σωληνώσεων αυτό δεν είναι πρακτικά δυνατό, η Αρχή μπορεί να επιτρέψει εσοχή που υπερβαίνει αυτό το ύψος, αλλά να μην υπερβαίνει το μισό του πλευρικού ύψους του πλοίου πάνω από την τρύπια.

* Γίνεται μνεία του Προσωρινού Κανονισμού για Συστήματα Αδρανούς Αερίου σε Χημικά Δεξαμενόπλοια που Μεταφέρουν Προϊόντα Πετρελαίου, που υιοθετήθηκε από τον Οργανισμό με την απόφαση Α.473(XII).

2. Οι χώροι ενδίαιτησης, οι κύριοι σταθμοί ελέγχου του φορτίου, οι σταθμοί ελέγχου και οι χώροι υπηρεσίας (εκτός από απομονωμένα ερμάρια που περιέχουν εξοπλισμό για τον χειρισμό του φορτίου), θα τοποθετούνται πρυμναίως όλων των δεξαμενών φορτίου, δεξαμενών καταλοίπων, αντλιοστασίων φορτίου και διαχωριστικών φρεατίων, που απομονώνουν τις δεξαμενές φορτίου ή καταλοίπων από τους χώρους μηχανών κατηγορίας Α. Οποιαδήποτε κοινά διαφράγματα που διαχωρίζουν το αντλιοστάσιο φορτίου περιλαμβανομένης και της εισόδου του αντλιοστασίου φορτίου από τους χώρους ενδίαιτησης και υπηρεσίας και τους σταθμούς ελέγχου θα έχουν κατασκευή-κλάσης "Α-60". Όπου θεωρείται αναγκαίο, οι χώροι ενδίαιτησης, οι σταθμοί ελέγχου, οι χώροι μηχανών, εκτός από εκείνους Κατηγορίας Α, και οι χώροι υπηρεσίας, μπορεί να επιτραπεί να ευρισκονται πωρραίως όλων των δεξαμενών φορτίου, δεξαμενών καταλοίπων, αντλιοστασίων φορτίου και διαχωριστικών φρεατίων με την προϋπόθεση ότι προβλέπονται ισοδύναμα επίπεδα ασφαλείας και ανάλογη διαθεσιμότητα διατάξεων κατάσβεσης πυρκαϊάς, που ικανοποιούν την Αρχή.
3. Όπου αποδειχεται αναγκαία η εγκατάσταση χώρου ναυσιπλοΐας πάνω από την περιοχή δεξαμενών φορτίου, ο χώρος αυτός θα προορίζεται μόνο για σκοπούς ναυσιπλοΐας και θα διαχωρίζεται από το κατάστρωμα δεξαμενών φορτίου με ένα ανοιχτό χώρο ύψους τουλάχιστον 2μ. Επί πλέον η πυροπροστασία αυτού του χώρου ναυσιπλοΐας θα είναι αυτή που απαιτείται για χώρους ελέγχου όπως καθορίζεται στους Κανονισμούς 58.1 και 58.2 και σε άλλες διατάξεις του Μέρους αυτού που έχουν εφαρμογή.
4. Θα προβλέπονται μέσα για την διατήρηση των υπερχειλίσεων καταστρώματος μακριά από τους χώρους ενδίαιτησης και υπηρεσίας. Αυτό μπορεί να επιτευχθεί με την εγκατάσταση μονίμου συνεχούς τοιχώματος κατάλληλου ύψους, που θα εκτείνεται από την μία μέχρι την άλλη πλευρά. Θα εξετάζονται ειδικά οι διατάξεις, που αφορούν σε πρυμναία φόρτωση.
5. Τα εξωτερικά οριακά χωρίσματα των υπερκατασκευών και υπερστεγασμάτων, που περικλείουν χώρους ενδίαιτησης και υπηρεσίας, περιλαμβανομένων καταστρωμάτων που προεξέχουν και υποστηρίζουν τέτοιους χώρους ενδίαιτησης, θα μονώνονται σε βαθμό "Α-60" σε ολόκληρη την επιφάνεια των τμημάτων τους που αντικρύζουν τις δεξαμενές φορτίου πετρελαίου και μέχρι 3μ πρυμναίως του εμπρό-

σθίου οριακού χωρίσματος. Στις πλευρές αυτών των υπερκατασκευών και υπερστεγασμάτων, η μόνωση αυτή θα φθάνει σε ύψος που η Αρχή θα θεωρεί αναγκαίο.

- 6.1 Είσοδοι, εισαγωγές αέρα και ανοίγματα στους χώρους ενδιαίτησης, υπηρεσίας και σταθμούς ελέγχου δεν θα αντικρύβουν την περιοχή φορτίου. Θα ευρίσκονται στο ακραίο διάφραγμα, που δεν αντικρύβει την περιοχή φορτίου και/ή στην εξωτερική πλευρά της υπερκατασκευής ή υπερστεγάσματος σε απόσταση τουλάχιστον ίση με το $4 \frac{0}{0}$ του μήκους του πλοίου αλλά όχι μικρότερη από 3 μέτρα από το άκρο της υπερκατασκευής ή υπερστεγάσματος που αντικρύβει την περιοχή φορτίου. Πάντως, η απόσταση αυτή δεν χρειάζεται να υπερβαίνει τα 5m.
- 6.2 Δεν θα επιτρέπεται η τοποθέτηση θυρών μέσα στα δρία που αναφέρονται στην παράγραφο 6.1, με την εξαίρεση ότι η Αρχή μπορεί να επιτρέψει την τοποθέτηση θυρών σε χώρους που δεν έχουν πρόσβαση στους χώρους ενδιαίτησης, υπηρεσίας και σταθμούς ελέγχου, όπως είναι οι σταθμοί ελέγχου φορτίου, οι τροφαποθήκες και οι αποθήκες. Όπου τοποθετούνται τέτοιες θύρες, τα οριακά χωρίσματα του χώρου θα μονώνονται σε βαθμό "A-60". Μέσα στα δρία που καθορίζονται στην παράγραφο 6.1 μπορούν να τοποθετούνται καλιωτά ελάσματα για την αφαίρεση μηχανημάτων. Οι θύρες του οιακιστηρίου και τα παράθυρα του οιακιστηρίου μπορούν να ευρισκονται μέσα στα δρία που καθορίζονται στην παράγραφο 6.1 εφ' όσον έχουν τέτοια σχεδίαση ώστε να μπορεί να εξασφαλίζεται γρήγορη και αποτελεσματική στεγανοποίηση του οιακιστηρίου από αέρια και ατμούς.
- 6.3 Οι παραφωτίδες που αντικρύβουν την περιοχή φορτίου και αυτές που ευρίσκονται στις πλευρές των υπερκατασκευών και υπερστεγασμάτων μέσα στα δρία που καθορίζονται στη παράγραφο 6.1 θα είναι σταθερού (μη ανοιγόμενου) τύπου. Τέτοιες παραφωτίδες στην πρώτη σειρά του κύριου καταστρώματος θα εφοδιάζονται με εσωτερικά καλύμματα από χάλυβα ή άλλο ισοδύναμο υλικό.

Κανονισμός 57

Κατασκευή, διαφράγματα σε χώρους ενδιαίτησης και υπηρεσίας και λεπτομέρειες κατασκευής

1. Για την εφαρμογή των απαιτήσεων των Κανονισμών 42, 43 και 50 σε δεξαμενόπλοια, θα χρησιμοποιείται μόνο η μέθοδος IC όπως ορίζεται στον Κανονισμό 42.5.1 .
2. Οι αναφωτίδες των αντλιοστασίων φορτίου θα είναι από χάλυβα, δεν θα περιέχουν γυαλί και θα μπορούν να κλείνονται εξωτερικά από το αντλιοστάσιο.

Κανονισμός 58

Ακεραιότητα έναντι πυρκαϊάς διαφραγμάτων και καταστρωμάτων

1. Αντί της εφαρμογής του Κανονισμού 44 και επί πλέον προς τη συμμόρφωση με τις ειδικές διατάξεις για την ακεραιότητα έναντι πυρκαϊάς των διαφραγμάτων και καταστρωμάτων που αναφέρονται σε άλλα σημεία του Μέρους αυτού, η ελάχιστη ακεραιότητα έναντι πυρκαϊάς των διαφραγμάτων και καταστρωμάτων θα είναι όπως καθορίζεται στους πίνακες 58.1 και 58.2 .
2. Οι ακόλουθες απαιτήσεις θα ρυθμίζουν την εφαρμογή των πινάκων:
 1. Οι πίνακες 58.1 και 58.2 θα εφαρμόζονται αντίστοιχα στα διαφράγματα και καταστρώματα που χωρίζουν γειτονικούς χώρους.
 2. Για τον καθορισμό των καταλλήλων βαθμών ακεραιότητας έναντι πυρκαϊάς που θα εφαρμόζονται σε χωρίσματα μεταξύ γειτονικών χώρων, οι χώροι αυτοί έχουν ταξινομηθεί σύμφωνα με τον κίνδυνο πυρκαϊάς που παρουσιάζουν όπως φαίνεται παρακάτω στις κατηγορίες (1) μέχρι (10). Ο τίτλος κάθε κατηγορίας είναι μάλλον τυπικός παρά περιοριστικός. Ο αριθμός μέσα στις παρενθέσεις, που προηγείται κάθε κατηγορίας αναφέρεται στον αριθμό της στήλης ή γραμμής των πινάκων που έχει εφαρμογή.

(1) Σταθμοί ελέγχου

Χώροι που περιέχουν πηγές ενέργειας και φωτισμού ανάγκης, Οιακιστήριο και θάλαμος χαρτών.

Χώροι που περιέχουν τις συσκευές ραδιοτηλεγραφίας του πλοίου.

Χώροι κατάσβεσης πυρκαϊάς, χώροι ελέγχου και σταθμοί καταγραφής πυρκαϊάς.

Χώρος ελέγχου των προωστήριων μηχανημάτων όταν ευρίσκεται έξω από το χώρο μηχανών.

Χώροι που περιέχουν τον κεντρικό εξοπλισμό συναγερμού πυρκαϊάς.

ΠΙΝΑΚΑΣ 58.1 ΑΚΕΡΑΙΟΤΗΤΑ ΕΞΑΝΤΙ ΗΥΡΧΑΙΣ ΔΙΑΦΡΑΓΜΑΤΩΝ ΚΟΥ ΔΙΑΧΩΡΙΣΤΩΝ ΓΒΙΤΩΝΙΚΟΥΣ ΧΩΡΟΥΣ

Χώροι	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Σταθμός ελέγχου (1)	A-0 ^{a/}	A-0	A-60	A-0	A-15	A-60	A-15	A-60	A-60	*
Διάδρομοι (2)		C	B-0	B-0 A-0 ^{a/}	B-0	A-60	A-0	A-60	A-0	*
Χώροι ενδιαίτησης (3)			C	B-0 A-0 ^{a/}	B-0	A-60	A-0	A-60	A-0	*
Κλίμακες (4)				B-0 A-0 ^{a/}	B-0 A-0 ^{a/}	A-60	A-0	A-60	A-0	*
Χώροι υπηρεσίας (5) (μικρού κινδύνου)					C	A-60	A-0	A-60	A-0	*
Χώροι μηχανών (6) κατηγορίας A						*	A-0	A-0 ^{a/}	A-60	*
Άλλοι χώροι (7) μηχανών							A-0 ^{b/}	A-0	A-0	*
Αντλιοστάσια (8) φορτίου								*	A-60	*
Χώροι υπηρεσίας (9) (μεγάλου κινδύνου)									A-0 ^{b/}	*
Ανοικτά (10) κάταστρώματα										-

Σημειώσεις : Εφαρμόζονται στους πίνακες 58.1 και 58.2 ανάλογα με την περίπτωση.

a/ Για να διευκρινισθεί ποια τιμή εφαρμόζεται, βλέπε Κανονισμούς 43 και 46 του Κεφαλαίου αυτού.

b/ Όπου οι χώροι ευρίσκονται στην 6^η αριθμητική κατηγορία και εμφανίζεται ο δείκτης b/ τότε απαιτείται διάφραγμα ή κατάστρωμα της ακεραιότητας που δίνουν οι πίνακες μόνον όταν οι γειτονικοί χώροι προορίζονται για διαφορετικούς σκοπούς. Για παράδειγμα, στην κατηγορία (9), ένα μαγειρείο που συνορεύει με άλλο μαγειρείο δεν απαιτεί διάφραγμα, αλλά μαγειρείο που συνορεύει με αποθήκη χρωμάτων απαιτεί διάφραγμα "A-0".

c/ Διάφραγματα που χωρίζουν μεταξύ τους το διακιστήριο, δωμάτιο χαρτών και χώρο ραδιοτηλεγραφίας μπορεί να είναι κλάσης "B-0".

ΠΙΝΑΚΑΣ 58.2 ΑΚΕΡΑΙΟΤΗΤΑ ΕΜΑΝΤΙ ΠΥΡΚΑΙΑΣ ΚΑΤΑΣΤΡΩΜΑΤΩΝ ΠΟΥ ΔΙΑΧΩΡΙΖΟΥΝ ΓΕΙΤΟΝΙΚΟΥΣ ΧΩΡΟΥΣ

Χώρος ↓ κάτω →	Χώρος άνω →	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Σταθμοί ελέγχου	(1)	A-0	A-0	A-0	A-0	A-0	A-60	A-0	-	A-0	*
Δρόμοι	(2)	A-0	*	*	A-0	*	A-60	A-0	-	A-0	*
Χώροι ενδιαίτησης	(3)	A-60	A-0	*	A-0	*	A-60	A-0	-	A-0	*
Κλίμακες	(4)	A-0	A-0	A-0	*	A-0	A-60	A-0	-	A-0	*
Χώροι υπηρεσίας (μικρού κινδύνου)	(5)	A-15	A-0	A-0	A-0	*	A-60	A-0	-	A-0	*
Χώροι μηχανών κατηγορίας Α	(6)	A-60	A-60	A-60	A-60	A-60	*	A-60 ^{d/}	A-0	A-60	*
Άλλοι χώροι μηχανών	(7)	A-15	A-0	A-0	A-0	A-0	A-0	*	A-0	A-0	*
Αντλιοστάσια φορτίου	(8)	-	-	-	-	-	A-0 ^{d/}	A-0	*	-	*
Χώροι υπηρεσίας (μεγάλου κινδύνου)	(9)	A-60	A-0	A-0	A-0	A-0	A-60	A-0	-	A-0 ^{b/}	*
Ανοικτά καταστρώματα	(10)	*	*	*	*	*	*	*	*	*	-

d/ Διαφράγματα και καταστρώματα μεταξύ αντλιοστασίων φορτίου και χώρων μηχανών κατηγορίας Α μπορεί να διαπερνώνται από άξονες αντλιών φορτίου εφοδιασμένους με στυπιοθλίπτες ή από παρόμοιες διελεύσεις που διασέτουν στυπιοθλίπτες, με την προϋπόθεση ότι στη θέση του διαφράγματος ή καταστρώματος, τοποθετούνται αεριοστεγανά παρεμβύσματα με αποτελεσματική λίπανση ή άλλα μέσα που εξασφαλίζουν την μόνιμη διατήρηση της αεριοστεγανότητας.

e/ Δεν χρειάζεται να τοποθετείται μόνωση πυρασφαλείας αν ο χώρος μηχανών κατηγορίας (7), κατά την γνώμη της Αρχής, παρουσιάζει μικρό ή καθόλου κίνδυνο πυρκαϊάς.

* Όπου εμφανίζεται αστερίσκος στους πίνακες, το χρώμα απαιτείται να είναι από χάλυβα ή άλλο ισόδυναμο υλικό, αλλά δεν απαιτείται να είναι κλάσης "Α".

- (2) Διάδρομοι
Διάδρομοι και προθάλαμοι.
- (3) Χώροι ευδαιψτήσης
Χώροι όπως ορίζονται στον Κανονισμό 3.10 εκτός από διαδρόμους.
- (4) Κλίμακες
Εσωτερικές κλίμακες, ανελκυστήρες και κυλιόμενες κλίμακες (εκτός από εκείνες, που περιέχονται εξ ολοκλήρου στους χώρους μηχανών) και οι χώροι που περικλείονται από τα περιφράγματα τους.
Σημειώνεται σχετικά ότι κλίμακα περικλεισθη σε ένα μόνο επίπεδο θα θεωρείται ως τμήμα του χώρου από τον οποίο δεν διαχωρίζεται με θύρα πυρασφαλείας.
- (5) Χώροι υπηρεσίας (μικρού κινδύνου πυρκαϊάς)
Ερμάρια και αποθήκες που έχουν επιφάνεια κάτω από 2m², στεγνωτήρια και πλυντήρια.
- (6) Χώροι μηχανών κατηγορίας Α
Χώροι όπως ορίζονται στον Κανονισμό 3.19.
- (7) Άλλοι χώροι μηχανών
Χώροι όπως ορίζονται στον Κανονισμό 3.20 εκτός από χώρους μηχανών κατηγορίας Α.
- (8) Αντλιοστάσια φορτίου
Χώροι που περιέχουν αντλίες φορτίου και εισόδους και σχετούς προς τους χώρους αυτούς.
- (9) Χώροι υπηρεσίας (μεγάλου κινδύνου πυρκαϊάς)
Μαγειρεία, κυλικεία που περιέχουν συσκευές μαγειρικής, αποθήκες χρωμάτων και λυχνιών, ερμάρια και αποθήκες που έχουν επιφάνεια 2m² ή μεγαλύτερη, συνεργεία εκτός από εκείνα που αποτελούν τμήμα των χώρων μηχανών.
- (10) Ανοικτά καταστρώματα
Χώροι ανοικτών καταστρωμάτων και κλειστοί χώροι περιπάτου που δεν παρουσιάζουν κίνδυνο πυρκαϊάς. Υπαίθριοι χώροι (οι εκτός των υπερκατασκευών και υπερστεγασμάτων χώροι).

3. Μπορεί να γίνει αποδεκτό ότι συνεχείς οροφές ή επενδύσεις κλάσης "B", σε συνδυασμό με τα αντίστοιχα καταστρώματα ή διαφράγματα, εμβάλλουν εξ ολοκλήρου ή εν μέρει στην απαιτούμενη μόνωση και ακεραϊδτητα ενός χωρίσματος.

4. Σε εξωτερικά οριακά χωρίσματα που από τον Κανονισμό 57.1 απαιτείται να είναι από χάλυβα ή άλλο ισόδυναμο υλικό μπορούν να γίνουντα οπές για την τοποθέτηση παραθύρων και παραφωτίδων εφ' όσον σε κανένα άλλο σημείο του παρόντος Μέρους δεν προβλέπεται να έχουν τα χωρίσματα αυτά ακεραιότητα έναντι πυρκαϊάς κλάσης "Α".
- Με όμοιο τρόπο, οι θύρες σε τέτοια διαφράγματα που δεν απαιτείται να έχουν ακεραιότητα έναντι πυρκαϊάς κλάσης "Α" μπορούν να είναι από υλικά που ικανοποιούν την Αρχή.
5. Μπορεί να επιτραπούν εγκεκριμένα αεριοστεγανά μόνιμα φωτιστικά σώματα για τον φωτισμό των αντλιοστασίων φορτίου στα διαφράγματα και καταστρώματα που διαχωρίζουν τα αντλιοστάσια φορτίου και άλλους χώρους, με την προϋπόθεση ότι είναι επαρκώς αντοχής και ότι διατηρείται η ακεραιότητα και η αεριοστεγανότητα του διαφράγματος ή καταστρώματος.

Κανονισμός 59

Εξαερισμός, καθαρισμός, ελευθέρωση από αέρια και αερισμός

- 1.1** Τα συστήματα εξαερισμού των δεξαμενών φορτίου θα είναι εντελώς χωριστά από τους αεραγωγούς των άλλων διαμερισμάτων του πλοίου. Οι διατάξεις και η θέση των ανοιγμάτων στο κατάστρωμα δεξαμενών φορτίου από τα οποία μπορεί να συμβεί διαφυγή εύφλεκτων ατμών θα είναι τέτοιες ώστε να ελαχιστοποιείται η πιθανότητα εισόδου εύφλεκτων ατμών σε κλειστούς χώρους που περιέχουν πηγή ανάφλεξης, ή συγκέντρωσης αυτών κοντά σε μηχανήματα καταστρώματος και συσκευές που μπορεί να δημιουργήσουν κίνδυνο ανάφλεξης. Σύμφωνα με αυτή την γενική αρχή θα εφαρμόζονται τα κριτήρια των παραγράφων 1.2 μέχρι 1.10.
- 1.2** Οι διατάξεις εξαερισμού θα είναι σχεδιασμένες και θα λειτουργούν έτσι ώστε ούτε η υπερπίεση ούτε η υποπίεση στις δεξαμενές φορτίου να υπερβαίνει τις παραμέτρους σχεδίασης, και θα είναι τέτοιες ώστε να εξασφαλίζουν:
- 1** τη ροή μικρών όγκων μιγμάτων ατμού, αέρα ή αδρανούς αερίου που προέρχονται από θερμικές μεταβολές σε δεξαμενή φορτίου σε όλες τις περιπτώσεις μέσω βαλβίδων υπερπίεσης/υποπίεσης, και

- .2 τη διέλευση μεγάλων δγκων μιγμάτων ατμού, αέρα ή αδρανούς αερίου κατά την φόρτωση και τον ερματισμό, ή κατά την εκφόρτωση.
- 1.3.1 Οι διατάξεις εξαερισμού σε κάθε δεξαμενή φορτίου μπορεί να είναι ανεξάρτητες ή συνδυασμένες με τις διατάξεις άλλων δεξαμενών φορτίων και μπορούν να ενσωματώνονται στις σωληνώσεις αδρανούς αερίου.
- 1.3.2 Όπου οι διατάξεις συνδυάζονται με τις διατάξεις άλλων δεξαμενών φορτίου, θα προβλέπονται είτε επιστόμια διακοπής είτε άλλα αποδεκτά μέσα για την απομόνωση κάθε δεξαμενής φορτίου. Όπου τοποθετούνται επιστόμια διακοπής, θα εφοδιάζονται με διατάξεις κλεισίματος που θα ελέγχονται από τον υπεύθυνο αξιωματικό του πλοίου. Κάθε μέσο απομόνωσης πρέπει να συνεχίζει να επιτοέπει την ροή που προκαλείται από τις θερμικές μεταβολές σε μία δεξαμενή φορτίου σύμφωνα με την παράγραφο 1.2.1.
- 1.4 Οι διατάξεις εξαερισμού θα συνδέονται στην οροφή κάθε δεξαμενής φορτίου και θα αυτοαποστραγγίζονται στις δεξαμενές φορτίου σε όλες τις κανονικές συνθήκες διαγωγής και πλευρικής κλίσης του πλοίου. Όπου μπορεί να μην είναι δυνατή η πρόβλεψη γραμμών αυτοαποστράγγισης, θα προβλέπονται μόνιμες διατάξεις για την αποστράγγιση των γραμμών εξαερισμού σε μία δεξαμενή φορτίου.
- 1.5 Το σύστημα εξαερισμού θα εφοδιάζεται με συσκευές που θα εμποδίζουν την διέλευση φλόγας μέσα στις δεξαμενές φορτίου. Η σχεδίαση, δοκιμή και θέση των συσκευών αυτών θα πληροί τις απαιτήσεις που καθορίζει η Αρχή οι οποίες θα περιέχουν τουλάχιστον τα πρότυπα που υιοθετούνται από τον Οργανισμό.
- 1.6 Θα υπάρχει πρόβλεψη για την αποφυγή ανύψωσης της στάθμης υγρού στο σύστημα εξαερισμού σε ύψος που θα υπερέβαινε το μανομετρικό ύψος σχεδίασης των δεξαμενών φορτίου. Αυτό θα επιτυγχάνεται με συναγερμούς υψηλής στάθμης ή συστήματα ελέγχου υπερπλήρωσης ή άλλα ισοδύναμα μέσα, μαζί με τις μετρητικές συσκευές και τις μεθόδους πλήρωσης των δεξαμενών φορτίου.
- 1.7 Τα ανοίγματα που απαιτούνται από την παράγραφο 1.2.1 για την ανακούφιση της υπερπίεσης:
- .1 θα έχουν όσο είναι πρακτικά δυνατό μεγαλύτερο ύψος πάνω από το κατώστρωμα δεξαμενών φορτίου για την επίτευξη μέγιστης διασποράς των ευφλέκτων ατμών, αλλά σε καμία περίπτωση

- μικρότερο από 2m πάνω από το κατάστρωμα δεξαμενών φορτίου,
- .2 θα έχουν τέτοια διάταξη ώστε να απέχουν όσο είναι πρακτικά δυνατό περισσότερο, αλλά όχι λιγώτερο από 5m, από τις πλησιέστερες εισαγωγές αέρα και ανοίγματα κλειστών χώρων που περιέχουν πηγή ανάφλεξης και από μηχανήματα καταστρώματος και συσκευές που μπορεί να δημιουργήσουν κίνδυνο ανάφλεξης.
- 1.8 Τα επιστόμια υπερπίεσης/υποπίεσης που απαιτούνται από την παράγραφο 1.2.1 μπορεί να εφοδιάζονται με διάταξη παράκαμψης (BY-PASS) όταν ευρίσκονται στην κύρια γραμμή εξαερισμού ή στον εξαεριστικό σωλήνα ιστού. Όπου προβλέπεται τέτοια διάταξη, θα υπάρχουν κατάλληλοι ενδείκτες για να δείχνουν αν η παράκαμψη είναι κλειστή ή ανοικτή.
- 1.9 Οι εξαγωγές αερισμού για την φόρτωση, εκφόρτωση και ερματισμό που απαιτούνται από την παράγραφο 1.2.2:
- 1.1 θα επιτρέπουν την ελεύθερη ροή των μιγμάτων των ατμών, ή
- 1.2 θα επιτρέπουν τον στραγγαλισμό της εκροής των μιγμάτων ατμών ώστε να επιτυγχάνεται ταχύτητα όχι μικρότερη από 30m/sec,
- .2 θα έχουν τέτοια διάταξη ώστε το μίγμα ατμών να απορρίπτεται κατακόρυφα προς τα άνω,
- .3 θα είναι τέτοιες ώστε, όπου εφαρμόζεται η μέθοδος της ελεύθερης ροής των μιγμάτων ατμών, να ευρίσκονται σε ύψος όχι μικρότερο από 6m πάνω από το κατάστρωμα δεξαμενών φορτίου ή από τον πωρωαίο και πρυμναίο υπερυψωμένο διάδρομο εφ' όσον ευρίσκονται σε απόσταση μέχρι 4m από τον διάδρομο, και να απέχουν όχι λιγώτερο από 10m κατά την οριζόντια διεύθυνση από τις πλησιέστερες εισαγωγές αέρα και ανοίγματα κλειστών χώρων που περιέχουν πηγή ανάφλεξης και από μηχανήματα και εξοπλισμό καταστρώματος που μπορεί να δημιουργήσει κίνδυνο ανάφλεξης,
- .4 όπου εφαρμόζεται η μέθοδος της απόρριψης με μεγάλη ταχύτητα, θα ευρίσκονται σε ύψος όχι μικρότερο από 2m πάνω από το κατάστρωμα δεξαμενών φορτίου και θα απέχουν όχι λιγώτερο από 10m κατά την οριζόντια διεύθυνση από τις πλησιέστερες εισαγωγές αέρα και ανοίγματα κλειστών χώρων που περιέχουν πηγή ανάφλεξης και από μηχανήματα και εξοπλισμό καταστρώματος που μπορεί να δημιουργήσει κίνδυνο ανάφλεξης. Οι εξαγωγές αυτές θα εφοδιάζονται με συσκευές υψηλής ταχύτητας εγκεκριμένου τύπου,

- .5 θα είναι σχεδιασμένες βάσει του μέγιστου ρυθμού φόρτωσης που έχει υπολογισθεί, πολλαπλασιασμένου με συντελεστή τουλάχιστον 1,25 για να ληφθεί υπόψη η ανάπτυξη αερίων, με σκοπό την αποφυγή δημιουργίας πίεσης σε οποιαδήποτε δεξαμενή φορτίου που να υπερβαίνει την πίεση σχεδίασης.

Ο πλοίαρχος θα εφοδιάζεται με πληροφοριακά στοιχεία σχετικά με το μέγιστο επιτρεπόμενο ρυθμό φόρτωσης για κάθε δεξαμενή φορτίου και στην περίπτωση συνδυασμένων συστημάτων αερισμού, για κάθε ομάδα δεξαμενών φορτίου.

- 1.10** Σε πλοία συνδυασμένων μεταφορών, η διάταξη απομόνωσης των δεξαμενών καταλοίπων που περιέχουν πετρέλαιο ή κατάλοιπα πετρελαίου από τις άλλες δεξαμενές φορτίου θα αποτελείται από τυφλές φλάντζες που θα παραμένουν διαρκώς στις θέσεις τους όταν μεταφέρονται φορτία εκτός από τα υγρά φορτία που αναφέρονται στον Κανονισμό 55.1.
2. Καθαρισμός δεξαμενών φορτίου και/ή απελευθέρωση από αέρια
Οι διατάξεις για τον καθαρισμό και/ή την απελευθέρωση από αέρια θα είναι τέτοιες ώστε να ελαχιστοποιούν τους κινδύνους που οφείλονται στη διασπορά των εύφλεκτων ατμών στην ατμόσφαιρα και στα εύφλεκτα μίγματα σε μία δεξαμενή φορτίου. Συνεπώς:
- .1 Όταν το πλοίο είναι εφοδιασμένο με σύστημα αδρανούς αερίου οι δεξαμενές φορτίου θα καθαρίζονται πρώτα σύμφωνα με τις διατάξεις του Κανονισμού 62.13 μέχρις ότου η συγκέντρωση των ατμών υδρογονανθράκων στις δεξαμενές φορτίου ελαττωθεί σε ποσοστό μικρότερο από 2 % κατ'όγκο. Στη συνέχεια ο αερισμός μπορεί να γίνει στο επίπεδο του καταστρώματος των δεξαμενών φορτίου.
- .2 Όταν το πλοίο δεν είναι εφοδιασμένο με σύστημα αδρανούς αερίου, η λειτουργία θα είναι τέτοια ώστε οι εύφλεκτοι ατμοί να απορρίπτονται αρχικά:
- .2.1 μέσω των εξαγωγών εξερισμού όπως καθορίζεται στην παράγραφο 1.9, ή
- .2.2 με ταχύτητα καταδρυφής εξόδου τουλάχιστον 20 m/sec μέσω εξαγωγών που ευρίσκονται σε ύψος τουλάχιστον 2 μέτρων πάνω από το επίπεδο του καταστρώματος των δεξαμενών φορτίων και προστατεύονται με κατάλληλες συσκευές που εμποδίζουν την διέλευση φλόγας.

Όταν η συγκέντρωση του εύφλεκτου ατμού στην εξαγωγή έχει ελαττωθεί στο 30 % του κατώτερου ορίου ανάφλεξης, η απόρριψη των μίγματος ατμού μπορεί να γίνει στο επίπεδο του καταστρώματος των δεξαμενών φορτίου.

3. Αερισμός.

3.1 Τα αντλιοστάσια φορτίου θα αερίζονται με μηχανικό αερισμό και οι εξαγωγές των ανεμιστήρων εξαερισμού θα καταλήγουν σε ασφαλή θέση στο ανοικτό κατάστρωμα. Ο αερισμός των χώρων αυτών θα έχει επαρκή ικανότητα ώστε να ελαχιστοποιείται η πιθανότητα συσσώρευσης ευφλέκτων ατμών. Ο αριθμός των εναλλαγών αέρα θα είναι τουλάχιστον 20 την ώρα με βάση τον ολικό όγκο του χώρου. Οι αεραγωγοί θα έχουν τέτοια διάταξη ώστε να αερίζεται αποτελεσματικά όλος ο χώρος. Ο αερισμός θα είναι αναροφητικού τύπου και θα χρησιμοποιεί ανεμιστήρες που δεν δημιουργούν σπινθήρες.

3.2 Η διάταξη των εισαγωγών και εξαγωγών αερισμού και άλλων ανοιγμάτων σε οριακά χωρίσματα χώρων υπερστεγασμάτων και υπερκατασκευών θα είναι τέτοια ώστε να ανταποκρίνεται στις διατάξεις της παραγράφου 1. Τέτοια ανοίγματα εξαερισμού, ειδικά για τους χώρους μηχανών θα ευρίσκονται όσο είναι πρακτικά δυνατό περισσότερο προς πρύμνη. Σχετικά, θα εξετάζεται με ιδιαίτερη προσοχή η περίπτωση πλοίου εξοπλισμένου για πρυμναία φόρτωση ή εκφόρτωση. Πηγές ανάφλεξης, όπως ηλεκτρικός εξοπλισμός, θα τοποθετούνται έτσι ώστε να αποφεύγεται κίνδυνος έκρηξης.

3.3 Σε πλοία συνδυασμένων μεταφορών όλοι οι χώροι φορτίου και οποιοδήποτε κλειστοί χώροι γειτονικοί με τους χώρους φορτίου θα μπορούν να αερίζονται με μηχανικό αερισμό. Ο μηχανικός αερισμός μπορεί να παρέχεται με φορητούς ανεμιστήρες. Ένα εγκεκριμένο μόνιμο αεροδυναμικό ανεμιστήρας αερίου ικανό να ελέγχει εύφλεκτους ατμούς, θα προβλέπεται στα αντλιοστάσια φορτίου και στους αγωγούς σωληνώσεων και στα διαχωριστικά φρεάτια που ανυψούνται στο Κανονισμό 56.1 που συνορεύουν με δεξαμενές καταλοίπων. Θα υπάρχουν κατάλληλες διατάξεις για την διευκόλυνση της μέτρησης των ευφλέκτων ατμών σε όλους τους άλλους χώρους στην περιοχή του φορτίου. Τέτοιες μετρήσεις θα είναι δυνατόν να γίνουν από το ανοικτό κατάστρωμα ή από εύκολα προσιτές θέσεις.

Κανονισμός 60

Προστασία των δεξαμενών φορτίου.

1. Για δεξαμενόπλοια νεκρού βάρους 20000 τόννων και άνω η προστασία της περιοχής καταστρώματος των δεξαμενών φορτίου και των δεξαμενών φορτίου θα επιτυγχάνεται με ένα μόνιμο σύστημα αφρού καταστρώματος και ένα μόνιμο σύστημα αδρανούς αερίου σύμφωνα με τις απαιτήσεις των Κανονισμών 61 και 62, με την εξαίρεση ότι, αντί των παραπάνω εγκαταστάσεων, η Αρχή, αφού εξετάσει τις διατάξεις και τον εξοπλισμό του πλοίου, μπορεί να αποδεχθεί άλλους συνδυασμούς μόνιμων εγκαταστάσεων αν παρέχουν ισοδύναμη προστασία με την παραπάνω, σύμφωνα με τον Κανονισμό I/5.
2. Το σύστημα που προτείνεται, για να θεωρηθεί ισοδύναμο με το σύστημα αφρού καταστρώματος, θα πρέπει:
 - .1 να είναι ικανό να σβύνει πυρκαϊές από υπερχειλίση και επίσης να εμποδίζει την ανάφλεξη χυμένου πετρελαίου, που δεν έχει ακόμη αναφλεγεί, και
 - .2 να είναι ικανό να καταπολεμά πυρκαϊές σε δεξαμενές που έχουν ρωγμές.
3. Το σύστημα που προτείνεται, για να θεωρηθεί ισοδύναμο με το σύστημα αδρανούς αερίου θα πρέπει:
 - .1 να είναι ικανό να εμποδίζει επικίνδυνες συσσωρεύσεις εκρηκτικών μιγμάτων σε άθικτες δεξαμενές φορτίου κατά την διάρκεια της κανονικής υπηρεσίας, σε όλο το ταξίδι με έρμα και κατά τις αναγκαίες εργασίες στις δεξαμενές, και
 - .2 να είναι σχεδιασμένο έτσι ώστε να ελαχιστοποιείται ο κίνδυνος ανάφλεξης από την δημιουργία στατικού ηλεκτρισμού από το ίδιο το σύστημα.
4. Δεξαμενόπλοια νεκρού βάρους 20000 τόννων και άνω, που έχουν κατασκευασθεί πριν από την 1η Σεπτεμβρίου 1984 και ασχολούνται με την μεταφορά αργού πετρελαίου, θα εφοδιάζονται με σύστημα αδρανούς αερίου που πληροί τις απαιτήσεις της παραγράφου 1, όχι αργότερα από:
 - .1 την 1η Σεπτεμβρίου 1984 ή την ημερομηνία παράδοσης του πλοίου, οποιαδήποτε συμβεί αργότερα, για δεξαμενόπλοια νεκρού βάρους 70000 τόννων και άνω, και
 - .2 την 1η Μαΐου 1985 ή την ημερομηνία παράδοσης του πλοίου, οποιαδήποτε συμβεί αργότερα, για δεξαμενόπλοια νεκρού βάρους κάτω από 70000 μετρικούς τόννους, με την εξαίρεση ότι η Αρχή

μπορεί να εξαιρέσει δεξαμενόπλοια νεκρού βάρους κάτω από 40000 τόννους, που δεν είναι εφοδιασμένα με μηχανές πλύσης των δεξαμενών με ατομική παροχή μεγαλύτερη από 60m³/ώρα, από τις απαιτήσεις της παραγράφου αυτής αν η εφαρμογή των απαιτήσεων αυτών θα ήταν παράλογη και μη πρακτική λαμβανομένων υπόψη των χαρακτηριστικών σχεδίασης του πλοίου.

5. Δεξαμενόπλοια νεκρού βάρους 40000 τόννων και άνω, που έχουν κατασκευασθεί πριν από την 1η Σεπτεμβρίου 1984 και ασχολούνται με την μεταφορά πετρελαίου εκτός από αργό πετρέλαιο, και τέτοια δεξαμενόπλοια νεκρού βάρους 20000 τόννων και άνω που ασχολούνται με την μεταφορά πετρελαίου εκτός από αργό πετρέλαιο, εφοδιασμένα με μηχανές πλύσης των δεξαμενών με ατομική παροχή μεγαλύτερη από 60m³/ώρα, θα εφοδιάζονται με σύστημα αδρανούς αερίου που πληροί τις απαιτήσεις της παραγράφου 1, όχι αργότερα από:
 - 1 την 1η Σεπτεμβρίου 1984 ή την ημερομηνία παράδοσης του πλοίου, οποιαδήποτε συμβεί αργότερα, για δεξαμενόπλοια νεκρού βάρους 70000 τόννων και άνω, και
 - 2 την 1 Μαΐου 1985 ή την ημερομηνία παράδοσης του πλοίου, οποιαδήποτε συμβεί αργότερα, για δεξαμενόπλοια νεκρού βάρους κάτω από 70000 τόννους.
6. Όλα τα δεξαμενόπλοια που χρησιμοποιούν ως μέθοδο καθαρισμού των δεξαμενών φορτίου την πλύση με αργό πετρέλαιο, θα εφοδιάζονται με σύστημα αδρανούς αερίου, που πληροί τις απαιτήσεις του Κανονισμού 62, και με μόνιμες μηχανές πλύσης των δεξαμενών.
7. Όλα τα δεξαμενόπλοια που είναι εφοδιασμένα με σύστημα αδρανούς αερίου θα εφοδιάζονται με κλειστό σύστημα καταμέτρησης στάθμης.
8. Δεξαμενόπλοια νεκρού βάρους κάτω από 20000 τόννους θα εφοδιάζονται με σύστημα αφρού καταστρώματος που πληροί τις απαιτήσεις του Κανονισμού 61.

Κανονισμός 61

Μόνιμα συστήματα αφρού καταστρώματος.

1. Οι διατάξεις για την παροχή αφρού θα είναι ικανές να παρέχουν αφρό σε ολόκληρη τη περιοχή ^{κατάστρωμα} δεξαμενών φορτίου καθώς επίσης μέσα σε οποιαδήποτε δεξαμενή φορτίου της οποίας το κατάστρωμα έχει υποστεί ρωγμή.

2. Το σύστημα αφρού καταστρώματος θα μπορεί να λειτουργεί απλά και γρήγορα. Ο κύριος σταθμός ελέγχου του συστήματος θα ευρίσκεται σε κατάλληλη θέση έξω από τη περιοχή του φορτίου, γειτονικά στους χώρους ενδιαίτησης, θα είναι εύκολα προσιτός και θα μπορεί να λειτουργεί αμέσως στη περίπτωση πυρκαϊάς στις περιοχές που προστατεύονται από το σύστημα.
3. Η παροχή τροφοδότησης του διαλύματος αφρού δεν θα είναι μικρότερη από την μεγαλύτερη από τις ακόλουθες τιμές:
1. 0,5 ℓ /ανά πρώτο λεπτό και ανά τετραγωνικό μέτρο της επιφάνειας καταστρώματος ^{των δεξαμενών} φορτίου, όπου επιφάνεια καταστρώματος ^{των δεξαμενών} φορτίου σημαίνει το μέγιστο πλάτος του πλοίου πολλαπλασιασμένο με το συνολικό διάμηκες μήκος των χώρων των δεξαμενών φορτίου,
 2. 6 ℓ /ανά πρώτο λεπτό και ανά τετραγωνικό μέτρο της οριζόντιας επιφάνειας διατομής του εμβαδού της δεξαμενής που έχει την μεγαλύτερη τέτοια επιφάνεια διατομής, ή
 3. 3 ℓ /ανά πρώτο λεπτό και ανά τετραγωνικό μέτρο της επιφάνειας που προστατεύεται από τον μεγαλύτερο εκτοξευτήρα και ευρίσκεται ολόκληρη προωριώς του εκτοξευτήρα αλλ'όχι κάτω από 1.250 ℓ /πρώτο λεπτό.
4. Θα παρέχεται επαρκής ποσότητα συμπυκνώματος αφρού ώστε να εξασφαλίζεται παραγωγή αφρού για τουλάχιστον 20 πρώτα λεπτά σε δεξαμενόπλοια εφοδιασμένα με εγκατάσταση αδρανούς αερίου ή για 30 πρώτα λεπτά σε δεξαμενόπλοια που δεν είναι εφοδιασμένα με εγκατάσταση αδρανούς αερίου, όταν χρησιμοποιούνται οι παροχές διαλύματος αφρού που καθορίζονται στις παραγράφους 3.1, 3.2 ή 3.3, οποιαδήποτε είναι μεγαλύτερη. Ο λόγος εκτόνωσης του αφρού (δηλ. ο λόγος του όγκου του παραγόμενου αφρού προς τον όγκο του μίγματος νερού και παρεχόμενου αεροπαραγωγού συμπυκνώματος) δεν θα υπερβαίνει γενικά την τιμή I2:I. Όπου συστήματα παράγουν βασικά αφρό χαμηλής εκτόνωσης αλλά με λόγο εκτόνωσης λίγο μεγαλύτερο από I2:I, η ποσότητα του διαθέσιμου διαλύματος αφρού θα υπολογίζεται όπως για τα συστήματα με λόγο εκτόνωσης I2 προς I. Όπου χρησιμοποιείται αφρός μέσης εκτόνωσης (λόγος εκτόνωσης μεταξύ 50 προς I και I50 προς I) τότε η παροχή του αφρού και η ικανότητα της εγκατάστασης εκτοξευτήρων θα ικανοποιούν την Αρχή.

5. Ο αφρός από το μόνιμο σύστημα αφρού θα παρέχεται από εκτοξευτήρες και ακροσωλήνια αφρού. Τουλάχιστο το 50 % της παροχής του διαλύματος αφρού, που απαιτείται από τις παραγράφους 3.1 και 3.2 θα παρέχεται από κάθε εκτοξευτήρα. Σε δεξαμενόπλοια νεκρού βάρους κάτω από 4000 τόννους η Αρχή μπορεί να μην απαιτήσει εγκατάσταση εκτοξευτήρων αλλά μόνο ακροσωληνίων. Όμως, σε μία τέτοια περίπτωση η παροχή κάθε ακροσωληνίου θα είναι τουλάχιστον ίση με το 25 % της παροχής του διαλύματος αφρού που απαιτείται από τις παραγράφους 3.1 ή 3.2 .
- 6.1 Ο αριθμός και η θέση των εκτοξευτήρων θα είναι τέτοιοι ώστε να υπάρχει συμμόρφωση με την παράγραφο 1. Η παροχή οποιουδήποτε εκτοξευτήρα θα είναι τουλάχιστον 3ℓ/πρώτο λεπτό διαλύματος αφρού ανά τετραγωνικό μέτρο της επιφάνειας καταστρώματος που προστατεύεται από τον εκτοξευτήρα αυτόν και ευρίσκεται ολόκληρη προωραίως του εκτοξευτήρα. Η παροχή αυτή δεν θα είναι μικρότερη από 1.250ℓ/πρώτο λεπτό.
- 6.2 Η απόσταση από τον εκτοξευτήρα μέχρι το πιό μακρινό άκρο της επιφάνειας που προστατεύεται προωραίως του εκτοξευτήρα δεν θα είναι μεγαλύτερη από το 75 % της προβολής (βεληνεκούς) του εκτοξευτήρα σε συνθήκες άπνοιας.
7. Ένας εκτοξευτήρας και μία σύνδεση εύκαμπτου σωλήνα για ακροσωλήνιο αφρού θα ευρίσκονται και αριστερά και δεξιά στο προωραίο μέρος του επιστέγου ή των χώρων ενδιαίτησης που αντικρύζουν το κατάστρωμα φορτίου. Σε δεξαμενόπλοια νεκρού βάρους κάτω από 4000 τόννους θα υπάρχει μία σύνδεση εύκαμπτου σωλήνα για ακροσωλήνιο αφρού και αριστερά και δεξιά στο προωραίο μέρος του επιστέγου ή των χώρων ενδιαίτησης που αντικρύζουν το κατάστρωμα φορτίου.
8. Θα προβλέπονται ακροσωλήνια αφρού για την εξασφάλιση ευελιξίας δράσης κατά τις επιχειρήσεις καταπολέμησης της πυρκαϊάς και για την κάλυψη περιοχών που αποκρύπτονται από τους εκτοξευτήρες. Η ικανότητα οποιουδήποτε ακροσωληνίου αφρού δεν θα είναι μικρότερη από $\frac{400\ell}{\text{minute}}$ και η προβολή (βεληνεκές) του ακροσωληνίου σε συνθήκες άπνοιας δεν θα είναι μικρότερη από 15m . Ο προβλεπόμενος αριθμός ακροσωληνίων αφρού δεν θα είναι μικρότερος από τέσσερα. Ο αριθμός και η διάταξη των λήψεων του κύριου δικτύου αφρού θα είναι τέτοιοι ώστε αφρός από δύο τουλάχιστον

ακροσωλήνια να μπορεί να κατευθυνθεί σε οποιαδήποτε περιοχή του καταστρώματος των δεξαμενών φορτίου.

9. Θα προβλέπονται επιστόμια στο κύριο δίκτυο αφρού και στο κύριο δίκτυο πυρκαϊάς, όταν αυτό αποτελεί μέρος του συστήματος αφρού καταστρώματος, αμέσως προβαίως οποιασδήποτε θέσης εκτοξευτήρα για την απομόνωση τμημάτων των δικτύων αυτών που έπαθαν βλάβη.
10. Η λειτουργία του συστήματος αφρού καταστρώματος στην απαιτούμενη παροχή του θα επιτρέπει την ταυτόχρονη χρήση του ελάχιστου απαιτούμενου αριθμού προβολών νερού στην απαιτούμενη πίεση από το κύριο δίκτυο πυρκαϊάς.

Κανονισμός 62

Συστήματα αδρανούς αερίου.

1. Το σύστημα αδρανούς αερίου, που αναφέρεται στον Κανονισμό 60 θα έχει σχεδιασθεί, κατασκευασθεί και δοκιμασθεί κατά τρόπο που ικανοποιεί την Αρχή. Θα έχει σχεδιασθεί και θα χειρίζεται έτσι ώστε να καθιστά και να διατηρεί την ατμόσφαιρα των δεξαμενών φορτίου ^{πλέον} πάντοτε μη αναφλέξιμη εκτός από την περίπτωση που οι δεξαμενές αυτές πρέπει να είναι ελεύθερες από αέρια. Στην περίπτωση που το σύστημα αδρανούς αερίου δεν είναι ικανό να ανταποκριθεί στις παραπάνω λειτουργικές απαιτήσεις και εκτιμάται ότι δεν είναι πρακτικά δυνατή η πραγματοποίηση επισκευής, τότε η εκφόρτωση, ο αερισμός και ο αναγκαστικός καθαρισμός των δεξαμενών θα ξαναρχίζονται μόνο όταν ακολουθηθούν οι οδηγίες για "καταστάσεις ανάγκης" που αναφέρονται στις Οδηγίες για Συστήματα Αδρανούς αερίου²².
2. Το σύστημα θα είναι ικανό:
 1. να αδρανοποιεί τις κενές δεξαμενές φορτίου ελαττώνοντας την περιεκτικότητά σε οξυγόνο της ατμόσφαιρας κάθε δεξαμενής σε επίπεδο στο οποίο δεν μπορεί να διατηρηθεί η καύση,

²¹ Στον Κανονισμό αυτό ο όρος "δεξαμενή φορτίου" περιλαμβάνει επίσης τις "δεξαμενές καταλοίπων".

²² Γίνεται μνεία των Οδηγιών για Συστήματα Αδρανούς Αερίου, που υιοθετήθηκαν από την Επιτροπή Ναυτικής Ασφάλειας στην τεσσαρακοστή δεύτερη σύνοδό της, τον Μάιο 1980 (MSC/CIRC.282).

- .2 να διατηρεί στην ατμόσφαιρα οποιουδήποτε μέρους οποιασδήποτε δεξαμενής φορτίου ποσοστό οξυγόνου που δεν υπερβαίνει το 8% κατ'όγκο και σχετική πίεση πάντοτε στο λιμάνι και στο ταξίδι, εκτός από την περίπτωση που είναι αναγκαίο μία τέτοια δεξαμενή να είναι ελεύθερη από αέρια.
 - .3 να αποκλείει την ανάγκη εισόδου αέρα σε μία δεξαμενή κατά την διάρκεια των συντησιμικών χειρισμών εκτός από την περίπτωση που είναι αναγκαίο μια τέτοια δεξαμενή να είναι ελεύθερη από αέρια.
 - .4 να καθαρίζει τις κενές δεξαμενές φορτίου από αέρια υδρογονανθράκων έτσι ώστε οι επόμενοι χειρισμοί ελευθέρωσης από αέρια να μη δημιουργούν σε καμμιά περίπτωση αναφλέξιμη ατμόσφαιρα μέσα στη δεξαμενή.
- 3.1 Το σύστημα θα είναι ικανό να παρέχει αδρανές αέριο στις δεξαμενές φορτίου με παροχή ίση προς το 125% τουλάχιστον της μεγίστης παροχής εκφόρτωσης του πλοίου εκφρασμένη σε όγκο.
- 3.2 Το σύστημα θα είναι ικανό να παρέχει αδρανές αέριο με περιεκτικότητα σε οξυγόνο όχι μεγαλύτερη από 5% κατ'όγκο στον κύριο αγωγό τροφοδότησης των δεξαμενών φορτίου με αδρανές αέριο σε οποιαδήποτε απαιτούμενη παροχή.
4. Το παρεχόμενο αδρανές αέριο μπορεί να είναι επεξεργασμένο καυσαέριο από τους κύριους ή βοηθητικούς λέβητες. Η Αρχή μπορεί να αποδεχθεί συστήματα που χρησιμοποιούν επεξεργασμένα καυσαέρια από μία ή περισσότερες χωριστές γεννήτριες καυσαερίου ή άλλες πηγές ή από οποιοδήποτε συνδυασμό αυτών, με την προϋπόθεση ότι επιτυγχάνεται ισοδύναμο επίπεδο ασφάλειας. Τέτοια συστήματα θα πληρούν, όσο είναι πρακτικά δυνατό, τις απαιτήσεις του κανονισμού αυτού. Δεν θα επιτρέπονται συστήματα που χρησιμοποιούν αποθηκευμένο διοξείδιο του άνθρακα εκτός αν η Αρχή κρίνει ότι ο κίνδυνος ανάφλεξης από την δημιουργία στατικού ηλεκτρισμού από το ίδιο το σύστημα έχει ελαχιστοποιηθεί.
5. Στον κύριο αγωγό παροχής αδρανούς αερίου, μεταξύ των εξαγωγών των λεβήτων και του καθαριστήρα (SCRUBBER) των καυσαερίων θα τοποθετούνται απομονωτικά επιστόμια των καυσαερίων. Τα επιστόμια αυτά θα εφοδιάζονται με ενδείκτες που θα δείχνουν αν είναι ανοικτά ή κλειστά και θα λαμβάνονται μέτρα για την διατήρηση της αεροστεγανότητάς τους και την τήρηση των εδρών τους απαλ-

λαγμένων από αιθάλη. Θα λαμβάνονται μέτρα που θα εξασφαλίζουν ότι οι ανεμιστήρες εκκαπνωσμού των λεβήτων δεν μπορούν να λειτουργήσουν όταν είναι ανοικτό το αντιστοιχο επιστόμιο των καυσαερίων.

- 6.1 Θα τοποθετείται ένας καθαριστήρας των καυσαερίων που θα φύχει αποτελεσματικά τον όγκο των καυσαερίων που καθορίζεται στην παράγραφο 3 και θα απομακρύνει τα στερεά και τα θειούχα προϊόντα της καύσης. Οι διατάξεις του νερού φύξης θα είναι τέτοιες ώστε να υπάρχει πάντοτε διαθέσιμη επαρκής παροχή νερού χωρίς να παρεμποδίζεται οποιαδήποτε ουσιαστική λειτουργία του πλοίου. Επίσης θα λαμβάνεται πρόνοια για εναλλακτική παροχή νερού φύξης.
- 6.2 Θα τοποθετούνται φίλτρα ή ισοδύναμες συσκευές για την ελαχιστοποίηση της ποσότητας του νερού που μεταφέρεται στους ανεμιστήρες αδρανούς αερίου.
- 6.3 Ο καθαριστήρας (SCRUBBER) θα ευρίσκεται πρυμναίως όλων των δεξαμενών φορτίου, αντλιοστασίων φορτίου και διαχωριστικών φρεατίων (COFFERDAMS) που διαχωρίζουν τους χώρους αυτούς από χώρους μηχανών κατηγορίας Α.
- 7.1 Θα εγκαθίστανται δύο τουλάχιστον ανεμιστήρες που θα είναι ικανοί να παρέχουν και οι δύο μαζί στις δεξαμενές φορτίου τουλάχιστον τον όγκο του αερίου που απαιτείται από την παράγραφο 3. Στο σύστημα με γεννήτρια αδρανούς αερίου, η Αρχή μπορεί να επιτρέψει μόνο ένα ανεμιστήρα αν το σύστημα αυτό είναι ικανό να παρέχει τον ολικό όγκο του αερίου που απαιτείται από την παράγραφο 3 στις προστατευόμενες δεξαμενές φορτίου, με την προϋπόθεση ότι υπάρχουν στο πλοίο επαρκή ανταλλακτικά για τον ανεμιστήρα και τον κινητήρα του ώστε να είναι δυνατή η αποκατάσταση από το πλήρωμα του πλοίου οποιασδήποτε βλάβης του ανεμιστήρα και του κινητήρα του.
- 7.2 Θα εγκαθίστανται δύο αντλίες καυσίμου πετρελαίου στη γεννήτρια αδρανούς αερίου. Η Αρχή μπορεί να επιτρέψει μία μόνο αντλία καυσίμου πετρελαίου υπό τον όρο ότι υπάρχουν στο πλοίο επαρκή ανταλλακτικά για την αντλία καυσίμου πετρελαίου και τον κινητήρα της ώστε να είναι δυνατή η αποκατάσταση από το πλήρωμα του πλοίου οποιασδήποτε βλάβης της αντλίας καυσίμου πετρελαίου και του κινητήρα της.
- 7.3 Το σύστημα αδρανούς αερίου θα έχει σχεδιασθεί έτσι ώστε η μέγιστη πίεση που μπορεί να ασκήσει σε οποιαδήποτε δεξαμενή φορτίου

να μην υπερβαίνει την πίεση δοκιμής οποιασδήποτε δεξαμενής φορτίου. Στις συνδέσεις αναρρόφησης και κατάθλιψης κάθε ανεμιστήρα θα προβλέπονται κατάλληλες διατάξεις διακοπής. Θα προβλέπονται διατάξεις που θα επιτρέπουν την σταθεροποίηση της λειτουργίας της εγκατάστασης αδρανούς αερίου πριν από την έναρξη της εκφόρτωσης. Αν οι ανεμιστήρες πρόκειται να χρησιμοποιηθούν για ελευθέρωση των δεξαμενών από αέρια, οι εισαγωγές αέρα αυτών θα εφοδιάζονται με απομονωτικές διατάξεις.

- 7.4 Οι ανεμιστήρες θα ευρίσκονται πρυμναίως όλων των δεξαμενών φορτίου, αντλιοστασίων φορτίου και διαχωριστικών φρεατίων (COFFERDAMS) που διαχωρίζουν τους χώρους αυτούς από χώρους μηχανών κατηγορίας A.
- 8.1 Θα δίνεται ιδιαίτερη προσοχή στην σχεδίαση και θέση του καθαριστήρα (SCRUBBER) και των ανεμιστήρων με τις σχετικές σωληνώσεις και εξαρτήματα, για την πρόληψη διαρροών καυσαερίων μέσα σε κλειστούς χώρους.
- 8.2 Για να επιτευχθεί ασφαλής συντήρηση, ένα πρόσθετο υδατόπωμα (WATER SEAL) ή άλλα αποτελεσματικά μέσα πρόληψης διαρροής καυσαερίου θα τοποθετούνται μεταξύ των απομονωτικών επιστομών του καυσαερίου και του καθαριστήρα ή θα ενσωματώνονται στην εισαγωγή αερίων του καθαριστήρα.
- 9.1 Ένα ρυθμιστικό επιστόμιο καυσαερίων θα τοποθετείται στον κύριο αγωγό παροχής αδρανούς αερίου. Το επιστόμιο αυτό θα ελέγχεται αυτόματα ώστε να κλείνει όπως απαιτείται στις παραγράφους 19.3 και 19.4. Θα μπορεί επίσης να ρυθμίζει αυτόματα τη ροή του αδρανούς αερίου στις δεξαμενές φορτίου εκτός αν προβλέπονται μέσα για τον αυτόματο έλεγχο της ταχύτητας των ανεμιστήρων του αδρανούς αερίου που απαιτούνται στην παράγραφο 7.
- 9.2 Το επιστόμιο που αναφέρεται στην παράγραφο 9.1 θα ευρίσκεται στο πρωαίο διάφραγμα του πιδ πρωαίου ασφαλούς από αέρια χώρου από τον οποίο διέρχεται ο κύριος αγωγός παροχής του αδρανούς αερίου.
- 10.1 Τουλάχιστον δύο ανεπίστροφες συσκευές, από τις οποίες η μία θα είναι ένα υδατόπωμα (WATER SEAL), θα τοποθετούνται στον κύριο αγωγό παροχής αδρανούς αερίου για να εμποδίζουν την επιστροφή των ατμών υδρογονανθράκων στους καπναγωγούς του χώρου μηχανών ή σε οποιοδήποτε ασφαλή από αέρια χώρο, σε όλες τις κανονικές κατα-

* Χώρος ασφαλής από αέρια είναι χώρος στον οποίο η είσοδος αερίων υδρογονανθράκων θα δημιουργούσε κινδύνους αναφλεξιμότητας ή τοξικότητας

- στάσεις διαγωγής, πλευρικής κλίσης και κίνησης του πλοίου. Οι συσκευές αυτές θα ευρισκονται μεταξύ του αυτώματου επιστομίου που απαιτείται από την παράγραφο 9.1 και της πிட πρυμναίας σύνδεσης σε οποιαδήποτε δεξαμενή φορτίου ή σωλήνωση φορτίου.
- 10.2 Οι συσκευές που αναφέρονται στην παράγραφο 10.1 θα ευρισκονται στη περιοχή του φορτίου στο κατάστρωμα.
- 10.3 Το υδατόπωμα που αναφέρεται στην παράγραφο 10.1 θα μπορεί να τροφοδοτείται από δύο χωριστές αντλίες, κάθε μία από τις οποίες θα μπορεί να διατηρεί επαρκή παροχή σε κάθε στιγμή.
- 10.4 Η διάταξη του υδατοπώματος και των σχετικών εξαρτημάτων του θα είναι τέτοια, ώστε να εμποδίζει την αντίστροφη ροή ατμών υδρογονανθράκων και να εξασφαλίζει την σωστή λειτουργία του υδατοπώματος σε συνθήκες λειτουργίας.
- 10.5 Θα λαμβάνεται μέριμνα ώστε να εξασφαλίζεται ότι το υδατόπωμα προστατεύεται από ψύξη κατά τέτοιο τρόπο ώστε η ακεραιότητά του να μην κινδυνεύει από υπερθέρμανση.
- 10.6 Ένας βρόχος νερού ή άλλες εγκεκριμένες διατάξεις θα τοποθετούνται επίσης σε κάθε σχετική παροχή νερού και σωλήνα αποστράγγισης και σε κάθε σωλήνα αερισμού ή ελέγχου πίεσης που οδηγεί σε χώρους ασφαλείς από αέρια. Θα προβλέπονται μέσα που θα εμποδίζουν την εκκένωση των βρόχων αυτών από υποπίεση.
- 10.7 Το υδατόπωμα καταστρώματος και όλες οι διατάξεις βρόχων θα είναι ικανές να εμποδίζουν την επιστροφή των ατμών υδρογονανθράκων σε πίεση ίση με την πίεση δοκιμής των δεξαμενών φορτίου.
- 10.8 Η δεύτερη συσκευή θα είναι ένα ανεπίστροφο επιστόμιο ή ισοδύναμο εξάρτημα ικανό να εμποδίζει την επιστροφή ατμών ή υγρών, τοποθετημένο πρωραίως του υδατοπώματος που απαιτείται από την παράγραφο 10.1. Θα εφοδιάζεται με αποτελεσματικά μέσα κλεισίματος. Αντί των αποτελεσματικών μέσων κλεισίματος μπορεί να προβλέπεται πρόσθετο επιστόμιο που έχει τέτοια μέσα κλεισίματος πρωραίως του ανεπίστροφου επιστομίου για να απομονώνει το υδατόπωμα καταστρώματος από τον κύριο αγωγό αδρανούς αερίου προς τις δεξαμενές φορτίου.
- 10.9 Για πρόσθετη ασφάλεια έναντι πιθανής διαρροής ατμών ή υγρών υδρογονανθράκων από τον κύριο αγωγό καταστρώματος, θα προβλέπονται μέσα που θα επιτρέπουν τον ασφαλή εξαερισμό του τμήματος του αγωγού μεταξύ του επιστομίου με τα αποτελεσματικά μέσα κλεισίματος που αναφέρεται στην παράγραφο 10.8 και του επιστομίου που αναφέρεται στην παράγραφο 9 όταν το πρώτο από τα επιστόμια αυτά είναι κλειστό.

- 11.1** Ο κύριος αγωγός αδρανούς αερίου μπορεί να χωρίζεται σε δύο ή περισσότερους κλάδους προαίως των ανεπιστρεφτων συσκευών που απαιτούνται από την παράγραφο 10.
- 11.2.1** Οι κύριοι αγωγοί παροχής αδρανούς αερίου θα έχουν διακλαδώσεις που θα οδηγούν σε κάθε δεξαμενή φορτίου. Οι διακλαδώσεις του αδρανούς αερίου θα εφοδιάζονται είτε με επιστόμια διακοπής είτε με ισοδύναμα μέσα ελέγχου για την απομόνωση κάθε δεξαμενής. Όπου τοποθετούνται επιστόμια διακοπής θα εφοδιάζονται με διατάξεις ασφάλισης που θα ευρισκονται υπό τον έλεγχο υπεύθυνου αξιωματικού του πλοίου.
- 11.2.2** Σε πλοία συνδυασμένων μεταφορών, οι διατάξεις για την απομόνωση των δεξαμενών καταλοίπων που περιέχουν πετρέλαιο ή κατάλοιπα πετρελαίου από τις άλλες δεξαμενές θα αποτελούνται από τυφλές φλάντζες που θα παραμένουν στις θέσεις τους ~~πιαστές~~ όταν μεταφέρονται άλλα, εκτός από πετρέλαιο φορτία, εκτός αν προβλέπεται διαφορετικά στο σχετικό τμήμα των Οδηγιών για τα Συστήματα Αδρανούς Αερίου.
- 11.3** Θα προβλέπονται μέσα για την προστασία των δεξαμενών φορτίου από την επίδραση υπερπίεσης ή υποπίεσης που προκαλούνται από θερμικές μεταβολές όταν οι δεξαμενές φορτίου είναι απομονωμένες από τον κύριο αγωγό αδρανούς αερίου.
- 11.4** Τα συστήματα σωληνώσεων θα είναι σχεδιασμένα έτσι ώστε να εμποδίζουν την συσσώρευση φορτίου ή νερού στις σωληνώσεις σε όλες τις κανονικές συνθήκες.
- 11.5** Θα προβλέπονται κατάλληλες διατάξεις που θα επιτρέπουν την σύνδεση του κύριου αγωγού αδρανούς αερίου σε εξωτερική παροχή αδρανούς αερίου.
- 12.** Οι διατάξεις για τον εξαερισμό όλων των ατμών που εκτοπίζονται από τις δεξαμενές φορτίου κατά την φόρτωση και τον ερματισμό θα πληρούν τον Κανονισμό 59.1 και θα αποτελούνται είτε από ένα ή περισσότερους εξαεριστικούς σωλήνες ιστού είτε από αριθμό εξαεριστικών υψηλής ταχύτητας. Ο κύριος αγωγός αδρανούς αερίου μπορεί να χρησιμοποιηθεί για τον εξαερισμό αυτό.
- 13.** Οι διατάξεις για την αδρανοποίηση, τον καθαρισμό και την ελευθέρωση από αέρια των κενών δεξαμενών, που απαιτούνται από την παράγραφο 2 θα ικανοποιούν την Αρχή και θα είναι τέτοιες ώστε να ελαχιστοποιείται η συσσώρευση ατμών υδρογονανθράκων σε θύλακες που σχηματίζονται από τα εσωτερικά κατασκευαστικά στοιχεία μιάς δεξαμενής, και επίσης ότι:

- .1 Σε κάθε μία δεξαμενή φορτίου ο σωλήνας εξαγωγής των αερίων, αν υπάρχει, θα τοποθετείται, όσο είναι πρακτικά δυνατό, μακρύτερα από την εισαγωγή του αδρανούς αερίου/αέρα και σύμφωνα με τον κανονισμό 59.1. Η εισαγωγή τέτοιων σωλήνων εξαγωγής μπορεί να ευρίσκεται είτε στο επίπεδο του καταστρώματος είτε σε απόσταση όχι μεγαλύτερη από 1m πάνω από τον πυθμένα της δεξαμενής,
 - .2 Η επιφάνεια διατομής των σωλήνων εξαγωγής αερίων που αναφέρονται στην παράγραφο 13.1 θα είναι τέτοια ώστε να μπορεί να διατηρείται ταχύτητα εξόδου των αερίων τουλάχιστον 20 m/sec όταν τρεις οποιεσδήποτε δεξαμενές τροφοδοτούνται ταυτόχρονα με αδρανές αέριο. Οι εξαγωγές τους θα ευρίσκονται σε ύψος όχι μικρότερο από 2m πάνω από το επίπεδο του καταστρώματος,
 - .3 Κάθε εξαγωγή αερίων που αναφέρεται στην παράγραφο 13.2 θα εφοδιάζεται με κατάλληλες διατάξεις πωμάτισης,
 - .4.1 Αν έχει τοποθετηθεί σύνδεση μεταξύ του κύριου αγωγού παροχής αδρανούς αερίου και του συστήματος σωληνώσεων φορτίου, θα υπάρχουν διατάξεις που θα εξασφαλίζουν μία αποτελεσματική απομόνωση, λαμβανομένης υπόψη της μεγάλης διαφοράς πίεσης που μπορεί να υπάρχει μεταξύ των συστημάτων. Αυτό θα επιτυγχάνεται είτε με δύο απομονωτικά επιστόμια με διάταξη εξαερισμού του χώρου μεταξύ των επιστομίων κατά ασφαλή τρόπο, είτε με διάταξη που θα αποτελείται από τμήμα σωλήνα μαζί με τα σχετικά πώματα,
 - .4.2 Το επιστόμιο που χωρίζει τον κύριο αγωγό του αδρανούς αερίου από το κύριο δίκτυο φορτίου και ευρίσκεται στην πλευρά του δικτύου φορτίου θα είναι ανεπίστροφο με αποτελεσματικά μέσα κλεισίματος.
- 14.1 Στον κύριο αγωγό παροχής αδρανούς αερίου θα τοποθετούνται μία ή περισσότερες συσκευές προστασίας από υπερπίεση ή υποπίεση για να εμποδίζουν την δημιουργία στις δεξαμενές φορτίου:
- .1 υπερπίεσης μεγαλύτερης από την πίεση δοκιμής της δεξαμενής φορτίου, υποθέτοντας ότι η φόρτωση γίνεται με την μέγιστη καθορισμένη παροχή και όλες οι άλλες εξαγωγές παροσμένου κλειστές, ή
 - .2 υποπίεσης μεγαλύτερης από 700 mm στήλης νερού, υποθέτοντας ότι η εκφόρτωση γίνεται με την μέγιστη ονομαστική παροχή των αντλιών φορτίου και οι ανεμιστήρες αδρανούς αερίου έχουν υποστεί βλάβη.

- 14.2 Η θέση και η σχεδίαση των συσκευών που αναφέρονται στην παράγραφο 14.1 θα είναι σύμφωνες με τον Κανονισμό 59.1.
15. Θα προβλέπονται μέσα για την συνεχή ένδειξη της θερμοκρασίας και της πίεσης του αδρανούς αερίου στην πλευρά της κατάθλιψης των ανεμιστήρων του αερίου, οποτεδήποτε οι ανεμιστήρες λειτουργούν.
- 16.1 Θα υπάρχουν όργανα για την συνεχή ένδειξη και την μόνιμη καταγραφή, όταν διαχειρίζεται αδρανές αέριο:
- .1 της πίεσης του κύριου αγωγού παροχής αδρανούς αερίου προβαίως των ανεπιστρεφτων συσκευών που απαιτούνται από την παράγραφο 10.1, και
 - .2 της περιεκτικότητας σε οξυγόνο του αδρανούς αερίου στον κύριο αγωγό αδρανούς αερίου στην πλευρά της κατάθλιψης των ανεμιστήρων του αερίου.
- 16.2 Οι συσκευές που αναφέρονται στην παράγραφο 16.1 θα τοποθετούνται στον χώρο ελέγχου του φορτίου, όπου υπάρχει. Όπου όμως δεν υπάρχει χώρος ελέγχου του φορτίου, οι συσκευές αυτές θα τοποθετούνται σε θέση εύκολα προσιτή από τον υπεύθυνο για τους χειρισμούς του φορτίου αξιωματικό.
- 16.3 Επί πλέον θα τοποθετούνται μετρητές:
- .1 στη γέφυρα ναυσιπλοίας για την ένδειξη σε κάθε στιγμή της πίεσης που αναφέρεται στην παράγραφο 16.1.1 και της πίεσης στις δεξαμενές καταλοίπων των πλοίων συνδυασμένων μεταφορών, οποτεδήποτε οι δεξαμενές αυτές είναι απομονωμένες από τον κύριο αγωγό παροχής του αδρανούς αερίου, και
 - .2 στον χώρο ελέγχου μηχανημάτων ή στον χώρο μηχανών για την ένδειξη της περιεκτικότητας σε οξυγόνο που αναφέρεται στην παράγραφο 16.1.2.
17. Θα προβλέπονται φορητά όργανα για τη μέτρηση συγκέντρωσης οξυγόνου και εύφλεκτων ατμών. Επιπλέον θα υπάρχουν κατάλληλες διατάξεις σε κάθε δεξαμενή φορτίου, ώστε να είναι δυνατός ο καθορισμός της κατάστασης της ατμόσφαιρας της δεξαμενής με την χρήση των φορητών αυτών οργάνων.
18. Θα προβλέπονται κατάλληλα μέσα για τη μηδενική ρύθμιση και βαθμονόμηση τόσο των μόνιμων όσο και των φορητών οργάνων μέτρησης που αναφέρονται στις παραγράφους 16 και 17.
- 19.1 Θα προβλέπονται ακουστικά και οπτικά μέσα ~~συναρμολογούμενα~~ για ένδειξη:
- .1 χαμηλής πίεσης ή χαμηλής ροής νερού στον καθαριστήρα (SCRUBBER) των καυσαερίων όπως αναφέρεται στην παράγραφο 6.1,

- .2 υψηλής στάθμης νερού στον καθαριστήρα (SCRUBBER) των καυσαερίων. όπως αναφέρεται στην παράγραφο 6.1,
 - .3 υψηλής θερμοκρασίας αερίου όπως αναφέρεται στην παράγραφο 15,
 - .4 βλάβης των ανεμιστήρων του αδρανούς αερίου που αναφέρονται στην παράγραφο 7,
 - .5 ποσοστού οξυγόνου μεγαλύτερου από 8 % κατ'όγκο όπως αναφέρεται στην παράγραφο 16.1.2,
 - .6 βλάβης στην παροχή ενέργειας στο σύστημα αυτομάτου ελέγχου για το ρυθμιστικό επιστόμιο του αερίου και στις συσκευές ένδειξης που αναφέρονται στις παραγράφους 9 και 16.1,
 - .7 χαμηλής στάθμης νερού στο υδατόπωμα (WATER SEAL) όπως αναφέρεται στην παράγραφο 10.1,
 - .8 πίεσης αερίου μικρότερης από 100mm στήλης νερού όπως αναφέρεται στη παράγραφο 16.1.1. Η διάταξη ευναγωγού θα είναι τέτοια ώστε να εξασφαλίζεται ότι η πίεση στις δεξαμενές καταλοίπων των πλοίων συνδυασμένων μεταφορών μπορεί να ελέγχεται με όργανα σε κάθε στιγμή, και
 - .9 υψηλής πίεσης αερίου όπως αναφέρεται στην παράγραφο 16.1.1.
- 19.2 Στο σύστημα με γεννήτριες παραγωγής αερίου θα προβλέπονται ακουστικά και οπτικά μέσα ευναγωγού σύμφωνα με τις παραγράφους 19.1.1, 19.1.3, 19.1.5 μέχρι 19.1.9 και επιπλέον μέσα αναγγελίας για ένδειξη:
- .1 ανεπαρκούς παροχής καυσίμου πετρελαίου,
 - .2 βλάβης στην παροχή ενέργειας στην γεννήτρια,
 - .3 βλάβης στην παροχή ενέργειας στο σύστημα αυτομάτου ελέγχου για την γεννήτρια.
- 19.3 Θα υπάρχει διάταξη αυτόματης διακοπής των ανεμιστήρων του αδρανούς αερίου και αυτόματου κλεισίματος του ρυθμιστικού επιστομίου όταν οι τιμές των μεγεθών που αναφέρονται στις παραγράφους 19.1.1, 19.1.2 και 19.1.3 φθάσουν προκαθορισμένα όρια.
- 19.4 Θα υπάρχει διάταξη αυτομάτου κλεισίματος του ρυθμιστικού επιστομίου του αερίου στην περίπτωση της παραγράφου 19.1.4.
- 19.5 Στην περίπτωση της παραγράφου 19.1.5. όταν η περιεκτικότητα του οξυγόνου στο αδρανές αέριο υπερβεί το 8 % κατ'όγκο, θα γίνεται άμεση ενέργεια για την βελτίωση της ποιότητας του αερίου. Εκτός αν βελτιωθεί η ποιότητα του αερίου, θα διακόπτονται όλες οι λειτουργίες των δεξαμενών φορτίου για την αποφυγή εισόδου

ατμοσφαιρικού αέρα στις δεξαμενές και θα κλείνεται το απομονωτικό επιστόμιο που αναφέρεται στην παράγραφο 19.8.

- 19.6 Τα μέσα συναγερμού που απαιτούνται από τις παραγράφους 19.1.5, 19.1.6 και 19.1.8 θα τοποθετούνται στο χώρο μηχανών και στο χώρο ελέγχου του φορτίου, όπου υπάρχει, αλλά σε κάθε περίπτωση σε τέτοια θέση ώστε να γίνονται αμέσως αντιληπτά από υπεύθυνα μέλη του πληρώματος.
- 19.7 Στην περίπτωση της παραγράφου 19.1.7, η διατήρηση σε κάθε στιγμή επαρκούς αποθέματος νερού και η ακεραιότητα των διατάξεων που επιτρέπουν την αυτόματη δημιουργία του υδατοπύλωματος όταν διακοπεί η ροή του αερίου θα ικανοποιούν την Αρχή. Η ακουστική και οπτική αναγγελία της χαμηλής στάθμης νερού στο υδατόπωμα θα λειτουργεί όταν δεν παρέχεται αδρανές αέριο.
- 19.8 Θα προβλέπεται ακουστικό σύστημα συναγερμού ανεξάρτητο από εκείνο που απαιτείται από την παράγραφο 19.1.8 ή αυτόματη διακοπή των αντλιών φορτίου που θα λειτουργεί όταν η πίεση στον κύριο αγωγό παροχής αδρανούς αερίου φθάσει στα χαμηλότερα προκαθορισμένα όρια.
20. Δεξαμενόπλοια που έχουν κατασκευασθεί πριν από τη 1 Σεπτεμβρίου 1984 και απαιτείται να έχουν σύστημα αδρανούς αερίου θα πληρούν τουλάχιστον τις απαιτήσεις του Κανονισμού 62 του Κεφαλαίου II-2 της Διεθνούς Σύμβασης για την Ασφάλεια της Ανθρώπινης Ζωής στην Θάλασσα, 1974*. Επί πλέον τα δεξαμενόπλοια αυτά θα πληρούν τις απαιτήσεις του Κανονισμού αυτού με την εξαίρεση ότι:
- 1 συστήματα αδρανούς αερίου, που έχουν εγκατασταθεί σε τέτοια δεξαμενόπλοια πριν από την 1 Ιουνίου 1981, δεν χρειάζεται να πληρούν τις απαιτήσεις των εξής παραγράφων: 3.2, 6.3, 7.4, 8, 9.2, 10.2, 10.7, 10.9, 11.3, 11.4, 13.2, 13.4.2 και 19.8, ^{12, 13.1, 14.2}
 - 2 συστήματα αδρανούς αερίου, που έχουν εγκατασταθεί σε τέτοια δεξαμενόπλοια την ή μετά την 1 Ιουνίου 1981, δεν χρειάζεται να πληρούν τις απαιτήσεις των εξής παραγράφων: 3.2, 6.3, 7.4 ^{12, 13.1, 13.2 και 14.2.}
21. Στο πλοίο θα υπάρχουν λεπτομερή εγχειρίδια οδηγιών που θα καλύπτουν τις απαιτήσεις λειτουργίας, ασφάλειας και συντήρησης και

* Το κείμενο όπως υιοθετήθηκε από την Διεθνή Διάσκεψη για την Ασφάλεια της Ανθρώπινης Ζωής στη Θάλασσα, 1974.

τους κινδύνους στην υγεία από την εργασία που έχει σχέση με το σύστημα αδρανούς αερίου και την εφαρμογή του στο σύστημα δεξαμενών φορτίου[■]. Τα εγχειρίδια θα περιλαμβάνουν οδηγίες για τις διαδικασίες που πρέπει να ακολουθηθούν σε περίπτωση σφάλματος ή βλάβης του συστήματος αδρανούς αερίου.

Κανονισμός 63

Αντλιοστάσια φορτίου

1. Κάθε αντλιοστάσιο φορτίου θα εφοδιάζεται με ένα από τα ακόλουθα μόνιμα συστήματα κατάσβεσης πυρκαϊάς που θα χειρίζεται από εύκολα προσιτή θέση έξω από το αντλιοστάσιο. Τα αντλιοστάσια φορτίου θα εφοδιάζονται με σύστημα κατάλληλο για χώρους μηχανών κατηγορίας Α.
 - 1.1 Είτε σύστημα διοξειδίου του άνθρακα είτε σύστημα αλογονωμένων υδρογονανθράκων που πληροί τις διατάξεις του Κανονισμού 5 και τις ακόλουθες:
 - 1 τα μέσα ~~επιχειρήσεως~~ που αναφέρονται στον Κανονισμό 5.1.6 θα είναι ασφαλή για χρήση σε εύφλεκτο μίγμα ατμών φορτίου/αέρα.
 - 2 Θα υπάρχει εκτεθειμένη πινακίδα στα χειριστήρια ελέγχου που θα αναφέρει ότι λόγω κινδύνου ηλεκτροστατικής ανάφλεξης το σύστημα πρέπει να χρησιμοποιείται μόνο για σκοπούς κατάσβεσης πυρκαϊάς και όχι για σκοπούς αδρανοποίησης.
 - 1.2 Σύστημα αφρού υψηλής εκτόνωσης που πληροί τις διατάξεις του Κανονισμού 9, με την προϋπόθεση ότι ο παρέχόμενος συμπυκνωμένος αφρός είναι κατάλληλος για κατάσβεση πυρκαϊών στις οποίες ενέχονται τα μεταφερόμενα φορτία.
 - 1.3 Μόνιμο σύστημα ραντισμού νερού υπό πίεση που πληροί τις διατάξεις του Κανονισμού 10.
2. Όπου το κατασβεστικό μέσο που χρησιμοποιείται στο σύστημα του αντλιοστασίου χρησιμοποιείται επίσης σε συστήματα που εξυπηρετούν άλλους χώρους, τότε η προβλεπόμενη ποσότητα του μέσου ή η παροχή του δεν χρειάζεται να είναι μεγαλύτερη από την μέγιστη απαιτούμενη για το μεγαλύτερο διαμέρισμα.

[■] Γίνεται μνεία των Οδηγιών για Συστήματα Αδρανούς Αερίου, που υιοθετήθηκαν από την Επιτροπή Ναυτικής Ασφάλειας στην τεσσαρακοστή δέυτερη σύνοδό της, τον Μάιο 1980 (MSC/CIRC. 282).

ΚΕΦΑΛΑΙΟ ΙΙΙ
ΣΩΣΤΙΚΑ ΜΕΣΑ Κ.Α.Π.

Κανονισμός 1
Εφαρμογή

Το υπάρχον κείμενο της υποπαράγραφου (γ) (ιιι) (2) αντικαθίσταται από το ακόλουθο :

(2) Κανονισμών ΙΙ-2/28.1.5 και ΙΙ-2/28.1.6, και

Κανονισμός 27

Σωστικές λέμβοι, σωστικές σχεδίες και πλευστικές συσκευές

Στην υποπαράγραφο (γ)(ιιι) η αναφορά στην "παράγραφο (δ) του Κανονισμού 1 του Κεφαλαίου ΙΙ-1" τροποποιείται ως εξής :

Κανονισμό ΙΙ-1/1.5

Στην υποπαράγραφο (γ) (νιι), η αναφορά στην "παράγραφο (δ) του Κανονισμού 1 του Κεφαλαίου ΙΙ-1" τροποποιείται ως εξής :

Κανονισμό ΙΙ-1/1.5

Κανονισμός 30

Φωτισμός καταστρώματος, σωσιβίων λέμβων, σωσιβίων σχεδίων κ.λ.π.

Στην παράγραφο (α), η αναφορά στον "Κανονισμό 25 του Κεφαλαίου ΙΙ-1" τροποποιείται ως εξής :

Κανονισμό ΙΙ-1/42

Κανονισμός 38

Φωτισμός ανάγκης

Η αναφορά στον "Κανονισμό 26 του Κεφαλαίου ΙΙ-1" τροποποιείται ως εξής :

Κανονισμό ΙΙ-1/43

Κ Ε Φ Α Λ Α Ι Ο Ι V

ΡΑΔΙΟΤΗΛΕΓΡΑΦΙΑ ΚΑΙ ΡΑΔΙΟΤΗΛΕΦΩΝΙΑ

Ο επόμενος νέος Κανονισμός προστίθεται :

Κανονισμός 4-1

Ραδιοτηλεφωνική εγκατάσταση πολύ υψηλής συχνότητας (VHF)

- (α) Επιβατηγά πλοία ανεξάρτητα από το μέγεθος τους και φορηγά πλοία 300 κόνων ολικής χωρητικότητας και άνω θα είναι εφοδιασμένα με ραδιοτηλεφωνική εγκατάσταση VHF που θα πληροί τις διατάξεις του κανονισμού 17.
- (β) Οι διατάξεις του Κανονισμού 17 θα εφαρμόζονται επίσης στις ραδιοτηλεφωνικές εγκαταστάσεις VHF που απαιτούνται από Συμβαλλόμενη Κυβέρνηση για όλα τα πλοία στα οποία εφαρμόζεται το Κεφάλαιο V που εκτελούν πλίδες σε περιοχή δικαιοδοσίας της και για τα οποία η ραδιοτηλεφωνική εγκατάσταση VHF δεν είναι υποχρεωτική από την παράγραφο (α).

Το υπάρχον κείμενο του Κανονισμού 7 αντικαθίσταται από το ακόλουθο:

Κανονισμός 7

Φυλακές Ραδιοτηλεφώνου

- (α) Κάθε πλοίο που είναι εφοδιασμένο με σταθμό ραδιοτηλεφώνου σύμφωνα με τον Κανονισμό 4 θα τηρεί, για λόγους ασφάλειας κατά την διάρκεια του πλοΐ, συνεχή φυλακή ακρόασης στη ραδιοτηλεφωνική συχνότητα κινδύνου σε θέση του πλοΐου από την οποία αυτό συνήθως κυβερνάται με τη χρήση δέκτη φυλακής ραδιοτηλεφωνικής συχνότητας κινδύνου που διαθέτει μεγάφωνο, μεγάφωνο με φίλτρο ή ραδιοτηλεφωνική συσκευή αυτόματου σήματος κινδύνου.
- (β) Κάθε πλοίο που αναφέρεται στη παράγραφο (α) θα έχει ειδικευμένους χειριστές ραδιοτηλεφώνου (που μπορεί να είναι ο πλοίαρχος, ένας αξιωματικός ή ένα μέλος του πληρώματος) ως εξής:
- (i) 'αν είναι 300 κόνων ολικής χωρητικότητας και άνω αλλά μικρότερο από 500 κόνους ολικής χωρητικότητας, τουλάχιστο ένα χειριστή,
- (ii) 'αν είναι 500 κόνων ολικής χωρητικότητας και άνω αλλά μικρότερο από 1600 κόνους ολικής χωρητικότητας, τουλάχιστο δύο χειριστές. 'Αν ένα τέτοιο πλοίο έχει

ένα χειριστή ραδιοτηλεφώνου που ασχολείται αποκλειστικά με καθήκοντα σχετικά με την ραδιοτηλεφωνία, δεν είναι υποχρεωτικός δεύτερος χειριστής.

- (γ) Κάθε πλοίο που σύμφωνα με τον Κανονισμό 3 ή τον Κανονισμό 4 είναι εφοδιασμένο με ραδιοτηλεγραφικό σταθμό θα τηρεί κατά τη διάρκεια του πλού συνεχή φυλακή ακρόασης στη ραδιοτηλεφωνική συχνότητα κινδύνου σε θέση που θα καθορίζεται από την Αρχή, με τη χρήση δέκτη φυλακής ραδιοτηλεφωνικής συχνότητας κινδύνου που διαθέτει μεγάφωνο, μεγάφωνο με φίλτρο ή ραδιοτηλεφωνική συσκευή αυτώματου σήματος κινδύνου.

Το υπάρχον κείμενο τού Κανονισμού 8 αντικαθίσταται από το ακόλουθο:

Κανονισμός 8

Φυλακές ραδιοτηλεφώνου VHF

Κάθε πλοίο που είναι εφοδιασμένο με ραδιοτηλεφωνική εγκατάσταση πολύ υψηλής συχνότητας (VHF) σύμφωνα με τον Κανονισμό 4.1, θα τηρεί κατά τη διάρκεια του πλού συνεχή φυλακή ακρόαση στη γέφυρα ναυσιπλοΐας :

- (i) σε συχνότητα 156,8 MHz (κανάλι 16) όταν είναι πρακτικά δυνατό, και /ή
- (ii) για τέτοιες χρονικές περιόδους και σε τέτοια κανάλια που είναι δυνατό να απαιτηθούν από την Συμβαλλόμενη Κυβέρνηση που αναφέρεται στον Κανονισμό 4-1 (β).

Κανονισμός 10

Ραδιοτηλεγραφικές εγκαταστάσεις

Το υπάρχον κείμενο της παραγράφου (ζ) αντικαθίσταται από το ακόλουθο:

- (ζ-1) Οι κύριοι και εφεδρικοί πομποί όταν συνδέονται στην κύρια κεραία θα έχουν ελάχιστη κανονική εμβέλεια, όπως καθορίζεται παρακάτω, δηλαδή θα είναι ικανοί να εκπέμπουν σήματα αντιληπτά με ευκρίνεια από πλοίο σε πλοίο κατά τη διάρκεια της ημέρας και υπό κανονικές συνθήκες

Ελάχιστη κανονική εμβέλεια σε μίλια

Όλα τα επιβατηγά πλοία και τα φορτηγά ολικής χωρητικότητας 1600 κόντων και άνω

Φορτηγά πλοία ολικής χωρητικότητας κάτω από 1600 κόντους

Κύριος πομπός Εφεδρικός πομπός

150

100

100

75

και περιστάσεις στις καθοριζόμενες αποστάσεις * (Σήματα αντιληπτά με ευκρίνεια θα λαμβάνονται κανονικά αν η ενεργός τιμή (RMS) της έντασης του πεδίου στον δέκτη είναι τουλάχιστο 50 μικροβόλτ ανά μέτρο).

* Αν δεν υπάρχει άμεση μέτρηση της έντασης του πεδίου τα ακόλουθα στοιχεία μπορούν να χρησιμοποιηθούν σαν οδηγός για τον κατά προσέγγιση προσδιορισμό της κανονικής εμβέλειας:

A. Στην περίπτωση κεραίων μη αυτοφερόμενου τύπου

Κανονική εμβέλεια σε μίλια	Μέτρα- αμπέρ 1/
200	128
175	102
150	76
125	58
100	45
75	34

1/ Το γινόμενο της απόστασης (σε μέτρα) από το υψηλότερο μέρος της κεραίας μέχρι την ανώτατη έμφορτη ίσαλο γραμμή και του ρεύματος της κεραίας (σε αμπέρ).

Οι τιμές που δίνονται στη δεύτερη στήλη του πίνακα αντιστοιχούν στην μέση τιμή του λόγου:

$$\frac{\text{ενεργό ύψος κεραίας}}{\text{μέγιστο ύψος κεραίας}} = 0,47$$

Ο λόγος αυτός μεταβάλλεται με τις τοπικές συνθήκες της κεραίας και μπορεί να κυμαίνεται μεταξύ 0,3 και 0,7 περίπου.

B. Στην περίπτωση κεραίας αυτοφερόμενου τύπου

Κανονική εμβέλεια σε μίλια	Μέτρα - αμπέρ 2/
200	305
175	215
150	150
125	110
100	85
75	55

2/ Το γινόμενο της απόστασης (σε μέτρα) από το υψηλότερο μέρος της κεραίας μέχρι την ανώτατη έμφορτη ίσαλο γραμμή και του ρεύματος (σε αμπέρ) που μετράται στη βάση του τμήματος της κεραίας που εμπέμπει. Οι τιμές της δεύτερης στήλης βασίζονται στις καμπύλες διάδοσης που δίνονται στη Σύσταση CCIR 368-2 και επίσης η μέθοδος, τα πειραματικά αποτελέσματα και οι υπολογισμοί, στην Αναφορά CCIR502 -1 και Γνώμη 43-1. Η αναγκαία τιμή μέτρα αμπέρ μεταβάλλεται σημαντικά με τις τοπικές συνθήκες της κεραίας

(ζ-2) Η ραδιοτηλεγραφική εγκατάσταση θα περιλαμβάνει δυνατότητες για ραδιοτηλεφωνική εκπομπή και λήψη στην ραδιοτηλεφωνική συχνότητα κινδύνου.

Η απαίτηση αυτή μπορεί να ικανοποιηθεί αν η κύρια ή εφεδρική εγκατάσταση ή άλλη εγκατεστημένη συσκευή περιλαμβάνει τέτοιες δυνατότητες. Η ισχύς του πομπού και η ευαισθησία του δέκτη του ραδιοτηλεφωνικού τμήματος της εγκατάστασης θα πληρούν τον Κανονισμό Ι6(γ)(ι) και (στ) αντίστοιχα αν το τμήμα αυτό εγκατασταθεί μετά την 1 Σεπτεμβρίου 1986. Για εγκαταστάσεις τοποθετημένες πριν από την ημερομηνία αυτή η ισχύς του πομπού και η ευαισθησία του δέκτη θα καθορίζονται από την Αρχή. Η θέση και οι άλλες συνθήκες των ραδιοτηλεφωνικών ευκολιών που απαιτούνται από τον Κανονισμό αυτό θα καθορίζονται από την Αρχή, εκτός αν αυτές αποτελούν τμήμα της κύριας ή εφεδρικής ραδιοτηλεγραφικής εγκατάστασης.

Το υπάρχον κείμενο της υποπαραγράφου (η) (iv) αντικαθίσταται από το ακόλουθο:

(η) (iv) (1) Η ραδιοτηλεφωνική ευκολία εκπομπής που απαιτείται από την παράγραφο (ζ-2) θα εφοδιάζεται με μία αυτόματη συσκευή παραγωγής του ραδιοτηλεφωνικού σήματος συναγερμού που θα είναι έτσι σχεδιασμένη ώστε να αποφεύγεται η ενεργοποίηση από λάθος και θα πληροί τις απαιτήσεις του Κανονισμού Ι6 (ε). Η συσκευή θα είναι ικανή να τεθεί εκτός λειτουργίας οποτεδήποτε για να επιτρέψει την άμεση μετάδοση του μηνύματος κινδύνου. Για εγκαταστάσεις τοποθετημένες πριν από την 1 Σεπτεμβρίου 1986, η εγκατάσταση των αυτομάτων συσκευών για την παραγωγή του ραδιοτηλεφωνικού σήματος συναγερμού θα καθορίζεται από την Αρχή.

(2) θα προβλέπονται διατάξεις για τον περιοδικό έλεγχο της κανονικής λειτουργίας της αυτόματης συσκευής παραγωγής του ραδιοτηλεφωνικού σήματος συναγερμού σε συχνότητες διαφορετικές από τη ραδιοτηλεφωνική συχνότητα κινδύνου με την

χρήση κατάλληλης τεχνητής κεραίας. Εξαίρεση θα γίνεται για ραδιοτηλεφωνικό εξοπλισμό ανάγκης που έχει μόνο τη ραδιοτηλεφωνική συχνότητα κινδύνου οπότε θα χρησιμοποιείται μία κατάλληλη τεχνητή κεραία.

Σημείωση: Εφ' όσον λαμβάνονται όλα τα λογικά μέτρα για την διατήρηση των συσκευών σε αποδοτική κατάσταση, η κακή λειτουργία των ραδιοτηλεφωνικών ευκολιών εκπομπής που απαιτούνται από τον Κανονισμό αυτό δεν θα θεωρείται ότι καθιστά το πλοίο αναξιόπλοο ή ως λόγος για καθυστέρηση του πλοίου σε λιμάνια όπου ευκολίες επικοινωνίας δεν είναι αμέσως διαθέσιμες.

Το υπάρχον κείμενο της υποπαραγράφου (ιβ)(ii) διαγράφεται-

Το υπάρχον κείμενο της υποπαραγράφου (ιγ)(iv) αντικαθίσταται από το ακόλουθο:

(ιγ) (iv) Την εγκατάσταση VHF σύμφωνα με τις διατάξεις του Κανονισμού 17(γ).

Κανονισμός I6

Ραδιοτηλεφωνικές εγκαταστάσεις

Το υπάρχον κείμενο της παραγράφου (β) τροποποιείται με την διαγραφή των A3H, A3A και A3J.

Το υπάρχον κείμενο της παραγράφου (γ) αντικαθίσταται από το ακόλουθο:

(γ) (i) Στην περίπτωση φορτηγών πλοίων 300 κόντων ολικής χωρητικότητας και άνω αλλά κάτω των 1600 κόντων ολικής χωρητικότητας, ο πομπός θα έχει ελάχιστη κανονική εμβέλεια 150 μιλίων, δηλαδή θα είναι ικανός να εκπέμπει σήματα αντιληπτά με ευκρίνεια από πλοίο σε πλοίο κατά την διάρκεια της ημέρας και υπό κανονικές συνθήκες και περιστάσεις σ' αυτή την εμβέλεια* (Σήματα αντιληπτά με ευκρίνεια θα λαμβάνονται κανονικά αν η ενεργός τιμή (RMS) της έντασης πεδίου που

* Αν δεν υπάρχουν μετρήσεις της έντασης του πεδίου μπορεί να υποθεθεί ότι αυτή η εμβέλεια θα ληφθεί με ισχύ στην κεραία 15 WATTS (αδιαμόρφωτο φέρον κύμα) με απόδοση κεραίας 27% για εκπομπές διπλής πλευρικής ζώνης ή 60 WATTS μέγιστη ισχύ περιβάλλουσας για εκπομπές απλής πλευρικής ζώνης με πλήρες φέρον κύμα όταν είναι 100% διαμορφωμένο από απλή ημιτονοειδή ταλάντωση.

παράγεται στο δέκτη από ένα αδιάμορφωτο φέρον κύμα είναι τουλάχιστο 25 μικροβόλτ ανά μέτρο για εκπομπές διπλής πλευρικής ζώνης και απλής πλευρικής ζώνης πλήρους φέροντος κύματος).

- (ii) Στην περίπτωση υπάρχουσών εγκαταστάσεων που χρησιμοποιούν εκπομπές διπλής πλευρικής ζώνης σε φορτηγά πλοία 300 κόνων ολικής χωρητικότητας και άνω αλλά μικρότερα από 500 κόνους ολικής χωρητικότητας, ο πομπός θα έχει ελάχιστη κανονική εμβέλεια τουλάχιστον 75 μιλίων.

Το υπάρχον κείμενο της υποπαραγράφου ι(iv) αντικαθίσταται από το ακόλουθο:

- (iv) την εγκατάσταση VHF σύμφωνα με τις διατάξεις του Κανονισμού 17 (γ).

Το υπάρχον κείμενο του Κανονισμού 17 αντικαθίσταται από το ακόλουθο:

Κανονισμός 17

Ραδιοτηλεφωνική εγκατάσταση VHF

- (α) Η ραδιοτηλεφωνική εγκατάσταση VHF θα ευρίσκεται στο άνω τμήμα του πλοίου, θα πληροί τις διατάξεις του Κανονισμού αυτού και θα περιλαμβάνει ένα πομπό και ένα δέκτη, μία πηγή ενέργειας ικανή να τους ενεργοποιεί στα επίπεδα της ονομαστικής τους ισχύος και μία κεραία κατάλληλη για ικανοποιητική εκπομπή και λήψη σημάτων στις συχνότητες λειτουργίας.
- (β) Σε επιβατηγά πλοία ανεξάρτητα από το μέγεθος τους και σε φορτηγά πλοία 500 κόνων ολικής χωρητικότητας και άνω θα πρέπει να είναι δυνατή η λειτουργία της ραδιοτηλεφωνικής εγκατάστασης VHF από μία πηγή ενέργειας που θα ευρίσκεται στο άνω τμήμα του πλοίου και θα έχει επαρκή χωρητικότητα για τουλάχιστον 6 ώρες λειτουργίας.
- (γ) Η Αρχή μπορεί να εγκρίνει την χρήση της εφεδρικής πηγής ενέργειας της ραδιοτηλεγραφικής εγκατάστασης ή της ραδιοτηλεφωνικής εγκατάστασης που αναφέρονται αντίστοιχα στον Κανονισμό 10(ιγ) και στον Κανονισμό 16 (ι) για την τροφοδότηση της ραδιοτηλεφωνικής εγκατάστασης VHF.

Σ' αυτή την περίπτωση η εφεδρική πηγή ενέργειας απαιτείται να έχει χωρητικότητα επαρκή για την ταυτόχρονη λειτουργία της ραδιοτηλεφωνικής εγκατάστασης VHF και :

- (i) του εφεδρικού ραδιοτηλεγραφικού πομπού και δέκτη για τουλάχιστον 6 ώρες εκτός αν υπάρχει κατάλληλη συσκευή διακοπής που να εξασφαλίζει μόνο εναλλακτική λειτουργία, ή
 - (ii) του ραδιοτηλεφωνικού πομπού και δέκτη για τουλάχιστον 6 ώρες εκτός αν υπάρχει κατάλληλη συσκευή διακοπής που να εξασφαλίζει μόνο εναλλακτική λειτουργία.
- (δ) Η ραδιοτηλεφωνική εγκατάσταση VHF θα πληροί τις απαιτήσεις που καθορίζονται στους Κανονισμούς Ραδιοεπικοινωνίας για τον εξοπλισμό που χρησιμοποιείται στην κινητή ναυτική ραδιοτηλεφωνική υπηρεσία VHF και θα είναι ικανή να λειτουργεί στα κανάλια που καθορίζονται στους Κανονισμούς Ραδιοεπικοινωνίας και όπως μπορεί να απαιτηθεί από την Συμβαλλόμενη Κυβέρνηση που αναφέρεται στον Κανονισμό 4-1 (β).
- (ε) Η Συμβαλλόμενη Κυβέρνηση που αναφέρεται στον Κανονισμό 4-1 (β) δεν θα απαιτεί ισχύ εξόδου ραδιοσυχνότητας φέροντος κύματος του πομπού μεγαλύτερη από 10 WATTS. Η κεραία θα έχει, όσο είναι πρακτικά δυνατό, ανεμπόδιστη θέα προς όλες τις κατευθύνσεις*.
- (στ) Τα μέσα ελέγχου των καναλιών που απαιτούνται για την ασφάλεια ναυσιπλοΐας θα είναι αμέσως διαθέσιμα στη γέφυρα ναυσιπλοΐας σε βολική θέση ως προς την θέση διακυβέρνησης και, όπου είναι αναγκαίο, θα υπάρχουν διαθέσιμες ευκολίες που θα επιτρέπουν τις ραδιοεπικοινωνίες από τὰ πλευρικά άκρα της γέφυρας ναυσιπλοΐας.

* Με σκοπό την παροχή κατευθυντηρίων οδηγιών, γίνεται η παραδοχή ότι κάθε πλοίο είναι εφοδιασμένο με μία κατακόρυφα πολωμένη κεραία μοναδιαίου κέρδους σε ονομαστικό ύψος 9,15 μέτρα πάνω από το νερό, με ένα πομπό ισχύος εξόδου ραδιοσυχνότητας 10 WATTS και με ένα δέκτη ευαισθησίας 2 μικροβόλτ στους ακροδέκτες εισόδου για 20 dB λόγω σήματος προς θόρυβο.

Κανονισμός Ι9

Ημερολόγια ασυρμάτου

Η ακδλουθη παράγραφος προστίθεται στο υπάρχον κείμενο και η υπάρχουσα παράγραφος (γ) μετονομάζεται παράγραφος (δ).

(γ) Σεκάθε πλοίο εφοδιασμένο με ραδιοτηλεφωνική εγκατάσταση VHF σύμφωνα με τον Κανονισμό 4-1:

(i) Θα καταχωρούνται στο ημερολόγιο ασυρμάτου οι εγγραφές που απαιτούνται από τους Κανονισμούς Ραδιοεπικοινωνίας σύμφωνα με τις απαιτήσεις της Αρχής.

(ii) Θα καταχωρείται στο ημερολόγιο του πλοίου περίληψη όλων των επικοινωνιών που αφορούν σε καταστάσεις κινδύνου, επείγοντα περιστατικά και ασφαλή κυκλοφορία.

ΚΕΦΑΛΑΙΟ V

ΑΣΦΑΛΕΙΑ ΝΑΥΣΤΗΛΟΪΑΣ

Το υπάρχον κείμενο του Κανονισμού 12 αντικαθίσταται από το ακόλουθο:

Κανονισμός 12

Ναυτιλιακός εξοπλισμός του πλοίου

- (α) Για το σκοπό του Κανονισμού αυτού ο όρος "πλοίο που έχει κατασκευασθεί" αναφέρεται στο στάδιο κατασκευής κατά το οποίο:
- (i) τοποθετείται η τροπίδα, ή
 - (ii) αρχίζει η κατασκευή που χαρακτηρίζει συγκεκριμένο πλοίο, ή
 - (iii) η συναρμολόγηση του πλοίου αυτού έχει αρχίσει περιλαμβάνοντας τουλάχιστον 50 τόννους ή 1 % της προβλεπόμενης μάζας όλων των κατασκευαστικών υλικών, οποιοδήποτε είναι μικρότερο.
- (β) (i) Πλοία ολικής χωρητικότητας 150 κβων και άνω θα είναι εφοδιασμένα με:
- (1) μία διοπτρική μαγνητική πυξίδα, εκτός από την περίπτωση της υποπαραγράφου (iv),
 - (2) μία ιθυντηρία μαγνητική πυξίδα, εκτός αν οι πληροφορίες πορείας που παρέχονται από την διοπτρική πυξίδα που απαιτείται από το εδάφιο (1) είναι διαθέσιμες και ευκρινώς αναγνώσιμες από τον πηδαλιούχο στην κύρια θέση πηδαλιουχίας,
 - (3) επαρκή μέσα επικοινωνίας μεταξύ της θέσης της διοπτρικής πυξίδας και της κανονικής θέσης ελέγχου ναυσιπλοΐας κατά την κρίση της Αρχής, και
 - (4) μέσα για λήψη διοπτύσεων σε τόξο του οριζοντα που να πλησιάζει, όσο είναι πρακτικά δυνατό περισσότερο, τις 350°.
- (ii) Κάθε μαγνητική πυξίδα που αναφέρεται στην υποπαραγράφο (i) θα είναι σωστά ρυθμισμένη και ο πίνακας ή η καμπύλη των αποκλίσεων που απομένουν θα είναι διαθέσιμοι σε κάθε στιγμή.
- (iii) Μία αμοιβή μαγνητική πυξίδα που θα μπορεί να εναλλάσσεται με τη διοπτρική πυξίδα θα φέρεται στο πλοίο, εκτός αν υπάρχουν η ιθυντηρία πυξίδα που αναφέρεται στην υποπαραγράφο (i)(2) ή μία γυροσκοπική πυξίδα.
- (iv) Η Αρχή, αν θεωρήσει ότι δεν είναι λογικό ή αναγκαίο να απαιτηθεί διοπτρική μαγνητική πυξίδα, μπορεί να απαλλάξει συγκεκριμένα πλοία ή κατηγορίες πλοίων από τις απαιτήσεις αυτές, αν η φύση του ταξιδιού, η απόσταση του πλοίου από την ξηρά ή ο τύπος

του πλοίου δεν δικαιολογούν διοπτηρία πυξίδα, με την προϋπόθεση ότι μία κατάλληλη ιθυστηρία πυξίδα φέρεται στο πλοίο σε όλες τις περιπτώσεις.

- (γ) Πλοία ολικής χωρητικότητας κάτω των 150 κόνων θα είναι εφοδιασμένα, εφ' όσον η Αρχή το θεωρεί λογικό και πρακτικό, με ιθυστηρία πυξίδα και θα έχουν μέσα για την λήψη διοπτεύσεων.
- (δ) Πλοία ολικής χωρητικότητας 500 κόνων και άνω που έχουν κατασκευασθεί την ή μετά την 1 Σεπτεμβρίου 1984 θα είναι εφοδιασμένα με γυροσκοπική πυξίδα που πληροί τις ακόλουθες απαιτήσεις:
- (ι) η κύρια γυροσκοπική πυξίδα ή ο γυροσκοπικός επαναλήπτης θα είναι ευκρινώς αναγνώσιμοι από τον πηδαλιούχο στην κύρια θέση πηδαλιουχίας,
- (ιι) Σε πλοία ολικής χωρητικότητας 1600 κόνων και άνω θα προβλέπονται γυροσκοπικός επαναλήπτης ή επαναλήπτες και θα είναι κατάλληλα τοποθετημένοι για την λήψη διοπτεύσεων σε τόξο του ορίζοντα που να πλησιάζει, όσο είναι πρακτικά δυνατό περισσότερο, τις 360°.
- (ε) Πλοία ολικής χωρητικότητας 1600 κόνων και άνω, που έχουν κατασκευασθεί πριν από την 1 Σεπτεμβρίου 1984, όταν εκτελούν διεθνείς πλόες θα είναι εφοδιασμένα με γυροσκοπική πυξίδα που θα πληροί τις απαιτήσεις της παραγράφου (δ).
- (στ) Σε πλοία στα οποία προβλέπονται θέσεις πηδαλιουχίας ανάγκης θα υπάρχουν διατάξεις για τη παροχή πληροφοριών πορείας στις θέσεις αυτές.
- (ζ) Πλοία ολικής χωρητικότητας 500 κόνων και άνω που έχουν κατασκευασθεί την ή μετά την 1 Σεπτεμβρίου 1984 και πλοία ολικής χωρητικότητας 1600 κόνων και άνω που έχουν κατασκευασθεί πριν από την 1 Σεπτεμβρίου 1984 θα είναι εφοδιασμένα με εγκατάσταση ραντάρ.
- (η) Πλοία ολικής χωρητικότητας 10000 κόνων και άνω θα είναι εφοδιασμένα με δύο εγκαταστάσεις ραντάρ, που κάθε μία θα είναι ικανή να λειτουργεί ανεξάρτητα* από την άλλη.
- (θ) Ευκολίες για την υποτύπωση των ενδείξεων του ραντάρ θα προβλέπονται στη γέφυρα ναυσιπλοίας των πλοίων που υποχρεώνονται από την παράγραφο (ζ) ή (η) να είναι εφοδιασμένα με εγκατάσταση ραντάρ. Σε πλοία ολικής χωρητικότητας 1600 κόνων και άνω που έχουν κατασκευασθεί την ή μετά την 1 Σεπτεμβρίου 1984, οι ευκολίες υποτύπωσης θα είναι τουλάχιστον τόσο αποτελεσματικές όσο είναι ένας υποτυπωτής ανάκλασης.

* Γίνεται μνεία της παραγράφου 4 της Σύστασης για Πρότυπα Απόδοσης των Συσκευών Ραντάρ, που υιοθετήθηκε από τον Οργανισμό με την απόφαση Α.477 (XII).

- (1) (i) Ένα βοήθημα αυτόματης υποτύπωσης ραντάρ θα εγκαθίσταται:
- (1) σε πλοία ολικής χωρητικότητας 10000 κόνων και άνω που έχουν κατασκευασθεί την ή μετά την 1 Σεπτεμβρίου 1984,
 - (2) σε δεξαμενόπλοια που έχουν κατασκευασθεί πριν από την 1 Σεπτεμβρίου 1984 ως εξής:
 - (αα) αν έχουν ολική χωρητικότητα 40000 κόνων, και άνω μέχρι την 1 Ιανουαρίου 1985,
 - (ββ) αν έχουν ολική χωρητικότητα 10000 κόνων, και άνω αλλά κάτω των 40000 κόνων, μέχρι την 1 Ιανουαρίου 1985,
 - (3) σε πλοία που έχουν κατασκευασθεί πριν από την 1 Σεπτεμβρίου 1984, και δεν είναι δεξαμενόπλοια, ως εξής:
 - (αα) αν έχουν ολική χωρητικότητα 40000 κόνων και άνω μέχρι την 1 Σεπτεμβρίου 1986,
 - (ββ) αν έχουν ολική χωρητικότητα 20000 κόνων και άνω, αλλά κάτω των 40000 κόνων, μέχρι την 1 Σεπτεμβρίου 1987,
 - (γγ) αν έχουν ολική χωρητικότητα 15000 κόνων, και άνω αλλά κάτω των 20000 κόνων, μέχρι την 1 Σεπτεμβρίου 1988.
- (ii) Βοηθήματα αυτόματης υποτύπωσης ραντάρ εγκατεστημένα πριν από την 1 Σεπτεμβρίου 1984 που δεν ανταποκρίνονται πλήρως στα πρότυπα απόδοσης που υιοθετήθηκαν από τον Οργανισμό μπορούν κατά την κρίση της Αρχής να διατηρηθούν μέχρι την 1 Ιανουαρίου 1991.
- (iii) Η Αρχή μπορεί να απαλλάξει πλοία από τις απαιτήσεις της παραγράφου αυτής σε περιπτώσεις που θεωρεί μη λογικό ή μη αναγκαίο να φέρεται στα πλοία τέτοιος εξοπλισμός, ή όταν τα πλοία πρόκειται να τεθούν μόνιμα εκτός υπηρεσίας μέσα σε δύο χρόνια από την ανάλογη ημερομηνία εφαρμογής.
- (ia) Πλοία ολικής χωρητικότητας 1600 κόνων και άνω που έχουν κατασκευασθεί πριν από τις 25 Μαΐου 1980 και πλοία ολικής χωρητικότητας 500 κόνων και άνω που έχουν κατασκευασθεί την ή μετά των 25 Μαΐου 1980, όταν εκτελούν διεθνείς πλές, θα είναι εφοδιασμένα με ηχοβολιστική συσκευή.
- (ib) Πλοία ολικής χωρητικότητας 500 κόνων και άνω που έχουν κατασκευασθεί την ή μετά την 1 Σεπτεμβρίου 1984, όταν εκτελούν διεθνείς πλές, θα είναι εφοδιασμένα με συσκευή ένδειξης ταχύτητας και απόστασης. Πλοία που υποχρεώνονται από την παράγραφο (i) να είναι εφοδιασμένα με βοήθημα αυτόματης υποτύπωσης ραντάρ θα είναι εφοδιασμένα με συσκευή ένδειξης ταχύτητας και απόστασης μέσα στο νερό.

- (1γ) Πλοία ολικής χωρητικότητας 1500 κβρων και άνω που έχουν κατασκευασθεί πριν από την 1 Σεπτεμβρίου 1984 και πλοία ολικής χωρητικότητας 500 κβρων και άνω που έχουν κατασκευασθεί την ή μετά την 1 Σεπτεμβρίου 1984 θα είναι εφοδιασμένα με ενδείκτες που δείχνουν την γωνία πηδαλίου, τον ρυθμό περιστροφής κάθε έλικας και επί πλέον, αν είναι εφοδιασμένα με έλικες μεταβλητού βήματος ή έλικες πλευρικής ώσης, το βήμα και την κατάσταση λειτουργίας τους. Όλοι αυτοί οι ενδείκτες θα είναι αναγνώσιμοι από τη θέση διακυβέρνησης.
- (1δ) Πλοία ολικής χωρητικότητας 100000 κβρων και άνω που έχουν κατασκευασθεί την ή μετά την 1 Σεπτεμβρίου 1984 θα είναι εφοδιασμένα με ενδεικτική ρυθμού στροφής.
- (1ε) Εκτός από τις περιπτώσεις που προβλέπονται στους Κανονισμούς I/7(β)(ii), I/8 και I/9, εφ' όσον λαμβάνονται όλα τα λογικά μέτρα για την διατήρηση των συσκευών που αναφέρονται στις παραγράφους (δ) μέχρι (1δ) σε κατάσταση αποτελεσματικής λειτουργίας, οι λειτουργικές ανωμαλίες των συσκευών δεν θα θεωρούνται ότι καθιστούν το πλοίο αναξιόπλοο ή ως αιτία για καθυστέρηση του πλοίου σε λιμάνια όπου δεν υπάρχουν αμέσως διαθέσιμες ευκολίες επισκευής.
- (1στ) Πλοία ολικής χωρητικότητας 1600 κβρων και άνω, όταν εκτελούν διεθνείς πλδες, θα είναι εφοδιασμένα με συσκευή ραδιογωνιομέτρου που πληροί τις διατάξεις του Κανονισμού IV/I2(α). Η Αρχή σε περιοχές όπου θεωρεί απαραίτητο ή μη αναγκαίο να φέρεται στο πλοίο τέτοια συσκευή, μπορεί να απαλλάξει οποιοδήποτε πλοίο ολικής χωρητικότητας κάτω των 5000 κβρων, από την απαίτηση αυτή λαμβάνοντας υπ' όψη το γεγονός ότι η συσκευή ραδιογωνιομέτρου χρησιμεύει τόσο σαν όργανο ναυσιπλοΐας όσο και σαν βοήθημα για τον εντοπισμό πλοίων, αεροσκαφών ή σωστικών σκαφών.
- (1ζ) Πλοία ολικής χωρητικότητας 1600 κβρων και άνω που έχουν κατασκευασθεί την ή μετά την 25 Μαΐου 1980, όταν εκτελούν διεθνείς πλδες, θα είναι εφοδιασμένα με ραδιοεντοπιστική συσκευή στην ραδιοτηλεφωνική συχνότητα κινδύνου που θα πληροί τις σχετικές διατάξεις του Κανονισμού IV/I2(β).
- (1η) Όλος ο εξοπλισμός που εγκαθίσταται σύμφωνα με τον Κανονισμό αυτό θα είναι τύπου εγκεκριμένου από την Αρχή. Εξοπλισμός που εγκαθίσταται στα πλοία την ή μετά την 1 Σεπτεμβρίου 1984 θα πληροί κατάλληλα πρότυπα απόδοσης που δεν θα είναι κατώτερα από εκείνα που υιοθετούνται από τον Οργανισμό. Εξοπλισμός που εγκα-

ταστάθηκε πριν από την υιοθέτηση των σχετικών πρότυπων απόδοσης μπορεί να εξαιρεθεί από την πλήρη συμμόρφωση με τα πρότυπα αυτά κατά την κρίση της Αρχής, αφού ληφθούν υπ' όψη τα συνιστάμενα κριτήρια που ο Οργανισμός θα μπορούσε να υιοθετήσει σε σχέση με τα αναφερόμενα πρότυπα.

- (ιθ) Μία στερεά συνδεδεμένη σύνθετη μονάδα ενός σκάφους που ωθεί και του σχετικού σκάφους που ωθείται, όταν έχει σχεδιασθεί σαν ένας αποκλειστικός και ολοκληρωμένος συνδυασμός ρυμουλκού και φορηγίδας, θα θεωρείται ως ένα ~~κατα~~ πλοίο για το σκοπό του Κανονισμού αυτού.
- (κ) Αν η εφαρμογή των απαιτήσεων του Κανονισμού αυτού απαιτεί κατασκευαστικές τροποποιήσεις σε πλοίο που έχει κατασκευασθεί πριν από την 1 Σεπτεμβρίου 1984, η Αρχή μπορεί να επιτρέψει παράταση του χρονικού ορίου εγκατάστασης του απαιτούμενου εξοπλισμού, όχι αργότερα από την 1 Σεπτεμβρίου 1989, λαμβάνοντας υπ' όψη τον πρώτο προγραμματισμένο δεξαμενισμό του πλοίου που απαιτείται από τους Κανονισμούς αυτούς.
- (κα) Εκτός από τις περιπτώσεις που προβλέπονται σε άλλα σημεία του Κανονισμού αυτού, η Αρχή μπορεί να χορηγήσει σε συγκεκριμένα πλοία απαλλαγές περιορισμένες ή υπο όρους, όταν οποιοδήποτε τέτοιο πλοίο εκτελεί πλοίο κατά τον οποίο η μέγιστη απόσταση του πλοίου από την ξηρά, το μήκος και η φύση του ταξιδιού, η απουσία γενικών κινδύνων ναυσιπλοΐας και άλλες συνθήκες που επηρεάζουν την ασφάλεια είναι τέτοιες ώστε να καθιστούν την πλήρη εφαρμογή του Κανονισμού αυτού ~~παρα~~λογική ή μη αναγκαία. Προκειμένου να αποφασισθεί η χορήγηση ή μη απαλλαγών σε συγκεκριμένο πλοίο, η Αρχή θα λαμβάνει υπ' όψη της την επίδραση που μπορεί να έχει μία απαλλαγή στην ασφάλεια όλων των άλλων πλοίων.

Κανονισμός 16

Σήματα διάσωσης.

Το υπάρχον κείμενο της παραγράφου (6) αντικαθίσταται από το ακόλουθο:

- (6) Σήματα που χρησιμοποιούνται από αεροσκάφος που απασχολείται σε επιχειρήσεις έρευνας και διάσωσης για να κατευθύνουν πλοία προς αεροσκάφος, πλοίο ή άτομο που κινδυνεύει:
- (ι) Οι ακόλουθοι χειρισμοί που εκτελούνται κατά σειρά από αεροσκάφος σημαίνουν ότι το αεροσκάφος επιθυμεί να κατευθύνει ένα

σκάφος επιφάνειας προς αεροσκάφος ή σκάφος επιφάνειας που κιν-
δυνεύει:

- (1) Διαγράφει ένα τουλάχιστον κύκλο γύρω από το σκάφος επιφάνειας,
- (2) διασταυρώνεται με την προέκταση της πορείας του σκάφους επι-
φάνειας κοντά στην πλήρη του σε χαμηλό ύψος, και:
 - ταλαντεύει τα πτερύγια, ή
 - αυξομειώνει την παροχή καυσίμου, ή
 - μεταβάλλει το βήμα της έλικας,

(Λόγω της υψηλής στάθμης θορύβου στο σκάφος επιφάνειας, τα ηχη-
τικά σήματα μπορεί να είναι λιγώτερο αποτελεσματικά από το
οπτικό σήμα και θεωρούνται ως εναλλακτικά μέσα για την προσέλ-
κυση της προσοχής.)

- (3) κατευθύνεται προς τη διεθθυση προς την οποία πρέπει να κατευ-
θυνθεί το σκάφος επιφάνειας.

Η επανάληψη τέτοιων χειρισμών έχει την ίδια σημασία.

- (ii) Ο ακλόυθος χειρισμός από ένα αεροσκάφος σημαίνει ότι η βοήθεια
του σκάφους επιφάνειας προς το οποίο το σήμα απευθύνεται δεν απαι-
τείται πλέον:

διασταυρώνεται με τα απόνερα του σκάφους επιφάνειας κοντά στη
πρύμνη του σε χαμηλό ύψος, και:

- ταλαντεύει τα πτερύγια, ή
- αυξομειώνει την παροχή καυσίμου, ή
- μεταβάλλει το βήμα της έλικας.

(Λόγω της υψηλής στάθμης θορύβου στο σκάφος επιφάνειας, τα ηχητικά
σήματα μπορεί να είναι λιγώτερο αποτελεσματικά από το οπτικό σή-
μα και θεωρούνται ως εναλλακτικά μέσα για την προσέλκυση της προ-
σοχής.)

Σημείωση: Ο Οργανισμός θα γνωστοποιεί έγκαιρα μεταβολές στα σήματα αυτά,
όπως είναι αναγκαίο.

Κανονισμός 18

Σταθμοί βαδιοτηλεφώνου VHF

Το υπάρχον κείμενο του Κανονισμού αυτού διαγράφεται (βλέπε Κα-
νονισμό IV/4-1(β)).

Κανονισμός 19

Χρήση του αυτόματου πηδαλιούχου

Η ακλόυθη παράγραφος προστίθεται στο υπάρχον κείμενο:

- (6) Το χειροκίνητο πηδάλιο θα δοκιμάζεται μετά από παρατεταμένη χρήση

του αυτόματου πηδαλιούχου, και πριν από την είσοδο σε περιοχές όπου η ναυσιπλοΐα απαιτεί ειδική προσοχή.

Οι ακόλουθοι Κανονισμοί προστίθενται στο Κεφάλαιο αυτό:

Κανονισμός Ι9-1
Λειτουργία μηχανισμού πηδαλίου.

Σε περιοχές όπου η ναυσιπλοΐα απαιτεί ειδική προσοχή, τα πλοία θα έχουν περισσότερες από μία μηχανοκίνητες μονάδες μηχανισμού πηδαλίου σε λειτουργία, εφ' όσον τέτοιες μονάδες είναι ικανές να λειτουργούν ταυτόχρονα.

Κανονισμός Ι9-2
Μηχανισμός πηδαλίου- δοκιμές και γυμνάσια.

- (α) Σε χρονικό διάστημα Ι2 ωρών πριν από την αναχώρηση, ο μηχανισμός πηδαλίου του πλοίου θα ελέγχεται και θα δοκιμάζεται από το πλήρωμα του πλοίου. Η μέθοδος δοκιμής θα περιλαμβάνει, όπου μπορεί να εφαρμοσθεί, την λειτουργία των εξής:
- (i) του κύριου μηχανισμού πηδαλίου,
 - (ii) του βοηθητικού μηχανισμού πηδαλίου,
 - (iii) των συστημάτων τηλεχειρισμού του μηχανισμού πηδαλίου,
 - (iv) των θέσεων πηδαλιούχιας που ευρίσκονται στη γέφυρα ναυσιπλοΐας,
 - (v) της παροχής ενέργειας ανάγκης,
 - (vi) των ενδεικτών γωνίας πηδαλίου σε σχέση με τη πραγματική θέση του πηδαλίου,
 - (vii) των μέσων αναγγελίας διακοπής ενέργειας του συστήματος τηλεχειρισμού του μηχανισμού πηδαλίου,
 - (viii) των μέσων αναγγελίας βλάβης της μηχανοκίνητης μονάδας μηχανισμού πηδαλίου, και
 - (ix) των διατάξεων αυτόματης απομόνωσης και άλλων αυτόματων συσκευών.
- (β) Οι έλεγχοι και οι δοκιμές θα περιλαμβάνουν:
- (i) την πλήρη κίνηση του πηδαλίου σύμφωνα με τις απαιτούμενες δυνατότητες του μηχανισμού πηδαλίου,
 - (ii) μία οπτική επιθεώρηση του μηχανισμού πηδαλίου και των συνδετικών του διατάξεων, και
 - (iii) την λειτουργία των μέσων επικοινωνίας μεταξύ της γέφυρας ναυσιπλοΐας και του διαμερίσματος μηχανισμού πηδαλίου.

- (γ) (i) Απλές οδηγίες λειτουργίας μαζί με ένα διαγραμματικό σχέδιο που δείχνει τους τρόπους εναλλαγής για τα συστήματα τηλεχειρισμού μηχανισμού πηδαλίου και τις μηχανοκίνητες μονάδες μηχανισμού πηδαλίου θα είναι μόνιμα εκτεθειμένες στη γέφυρα ναυσιπλοΐας και στο διαμέρισμα μηχανισμού πηδαλίου.
- (ii) Όλοι οι αξιωματικοί του πλοίου που ασχολούνται με την λειτουργία ή συντήρηση του μηχανισμού πηδαλίου θα είναι εξοικειωμένοι με τη λειτουργία των εγκατεστημένων στο πλοίο συστημάτων πηδαλιουχίας και με τους τρόπους εναλλαγής από το ένα σύστημα στο άλλο.
- (δ) Επιπλέον των συνήθων ελέγχων και δοκιμών που περιγράφονται στις παραγράφους (α) και (β), θα εκτελούνται γυμνάσια πηδαλιουχίας ανάγκης τουλάχιστον μία φορά κάθε τρεις μήνες για την εξάσκηση στους τρόπους πηδαλιουχίας ανάγκης. Τα γυμνάσια αυτά θα περιλαμβάνουν άμεσο έλεγχο μέσα από το διαμέρισμα μηχανισμού πηδαλίου, τον τρόπο επικοινωνίας με τη γέφυρα ναυσιπλοΐας και όπου μπορεί να εφαρμοσθεί, την λειτουργία εναλλακτικών παροχών ενέργειας.
- (ε) Η Αρχή μπορεί να άρει την απαίτηση εκτέλεσης των ελέγχων και δοκιμών που περιγράφονται στις παραγράφους (α) και (β) για πλοία που κανονικά εκτελούν πλές μικρής διάρκειας. Τέτοια πλοία θα εκτελούν αυτούς τους ελέγχους και δοκιμές τουλάχιστον μία φορά κάθε εβδομάδα.
- (στ) Η ημερομηνία κατά την οποία εκτελούνται οι έλεγχοι και οι δοκιμές που περιγράφονται στις παραγράφους (α) και (β) και η ημερομηνία και οι λεπτομέρειες των γυμνασίων πηδαλιουχίας ανάγκης που εκτελούνται κατά τη παράγραφο (δ) θα καταγράφονται στο ημερολόγιο όπως μπορεί να καθορίσει η Αρχή.

ΚΕΦΑΛΑΙΟ VI
ΜΕΤΑΦΟΡΑ ΣΙΤΗΡΩΝ
ΜΕΡΟΣ Α - ΓΕΝΙΚΕΣ ΔΙΑΤΑΞΕΙΣ

Το υπάρχον κείμενο του Κανονισμού 1 αντικαθίσταται από το ακόλουθο :

Κανονισμός 1

Εφαρμογή

Εκτός αν ρητά προβλέπεται διαφορετικά το Κεφάλαιο αυτό εφαρμόζεται στη μεταφορά σιτηρών από όλα τα πλοία στα οποία οι Κανονισμοί αυτοί εφαρμόζονται και από φορτηγά πλοία ολικής χωρητικότητας κάτω των 500 κούβων.

ΜΕΡΟΣ Β - ΥΠΟΛΟΓΙΣΜΟΣ ΥΠΟΘΕΤΙΚΩΝ ΡΟΠΩΝ ΚΑΙΣΗΣ

ΤΜΗΜΑ V. ΕΝΔΕΛΚΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΦΟΡΤΩΣΗΣ ΓΙΑ
ΥΠΑΡΧΟΝΤΑ ΠΛΟΙΑ

(Α) ΓΕΝΙΚΑ

Η δεύτερη παράγραφος τροποποιείται ως εξής :

Για το σκοπό του Μέρους αυτού ο όρος "Υπάρχον Πλοίο" σημαίνει "πλοίο, η τρύπιδα του οποίου τοποθετήθηκε πριν από την 25 Μαΐου 1980".

(Β) ΣΤΟΙΒΑΣΙΑ ΣΕ ΕΙΔΙΚΑ ΚΑΤΑΛΛΗΛΑ ΠΛΟΙΑ

Το υπάρχον κείμενο της υποπαραγράφου (α)(ii)(2) αντικαθίσταται από το ακόλουθο :

- (2) Μέσα σε μισογεμάτα διαμερίσματα ή κύπη οι ελεύθερες επιφάνειες σιτηρών κατακλύονται και μετακινούνται όπως στην υποπαραγραφή (1) ή σε μεγαλύτερη γωνία που μπορεί να θεωρηθεί αναγκαία από την Αρχή ή από τα κυβερνήματα ή από τον εξονόματος της Αρχής, και οι επιφάνειες σιτηρών, αν στοιβάξεται άλλο φορτίο από πάνω, με τα χύμα σιτηρά ισοπεδωμένα και συμπληρωμένα από πάνω με σιτηρά σε σάκκους ή άλλο κατάλληλο φορτίο πυκνά στοιβαγμένο και εκτεινόμενο σε ύψος, όχι λιγότερο από 1,22 m, πάνω από την επιφάνεια των χύμα σιτηρών, μέσα σε χώρους που χωρίζονται με διαμήκες διάφραγμα ή παράφραγμα και όχι λιγότερο από 1,52m μέσα σε χώρους που δεν χωρίζονται έτσι και τα σιτηρά σε σάκκους ή άλλο κατάλληλο φορτίο στηριγμένα σε κατάλληλα δάπεδα που εκτείνονται πάνω από όλη την επιφάνεια των χύμα σιτηρών και αποτελούνται από υποστηρίγματα που απέχουν όχι περισσότερο από 1,22m μεταξύ τους και σανίδες πάχους 25mm που τοποθετούνται από πάνω και απέχουν όχι περισσότερο από 0,10m μεταξύ τους ή από ανθεκτικά διαχωριστικά υφάσματα με επαρκή υπερκάλυψη, θα μετακινηθούν μέχρι γωνίας 8° ως προς τις αρχικές ισοπεδωμένες επιφάνειες. Για το σκοπό της παραγράφου αυτής, αν τοποθετούνται παραφράγματα, θα θεωρούνται ότι περιορίζουν την εγκάρσια μετακίνηση της επιφάνειας των σιτηρών.

Α Π Ο Φ Α Σ Η MSC.2 (XIV)

υιοθετηθείσα την 20η Νοεμβρίου 1981.

ΤΡΟΠΟΠΟΙΗΣΕΙΣ 1981 ΣΤΟ ΠΡΩΤΟΚΟΛΛΟ 1978 ΠΟΥ ΑΝΑΦΕΡΕΤΑΙ ΣΤΗ ΔΙΕΘΝΗ ΣΥΜΒΑΣΗ ΓΙΑ ΤΗΝ ΑΣΦΑΛΕΙΑ ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ ΣΤΗ ΘΑΛΑΣΣΑ 1974.

Η ΕΠΙΤΡΟΠΗ ΝΑΥΤΙΚΗΣ ΑΣΦΑΛΕΙΑΣ,

ΕΧΟΝΤΑΣ ΥΠΟΥΧΗ το Άρθρο II του Πρωτοκόλλου 1978 που αναφέρεται στη Διεθνή Σύμβαση για την Ασφάλεια της Ανθρώπινης Ζωής στη Θάλασσα 1974, το οποίο θα αναφέρεται στη συνέχεια ως "το Πρωτόκολλο" σύμφωνα με το οποίο το Πρωτόκολλο, εκτός από τις διατάξεις του Κεφαλαίου I αυτού, μπορεί να τροποποιηθεί με τη διαδικασία που καθορίζεται στο Άρθρο VIII (β) της Διεθνούς Σύμβασης για την Ασφάλεια της Ανθρώπινης Ζωής στη θάλασσα, η οποία θα αναφέρεται στη συνέχεια ως "η Σύμβαση",

ΕΧΟΝΤΑΣ ΠΑΡΑΠΕΡΑ ΥΠΟΥΧΗ τις αρμοδιότητες τις οποίες το Πρωτόκολλο παρέχει στην Επιτροπή Ναυτικής Ασφάλειας για την εξέταση και υιοθέτηση τροποποιήσεων στο Πρωτόκολλο,

ΑΦΟΥ ΕΞΕΤΑΣΕ στην τεσσαρακοστή πέμπτη σύνοδό της τροποποιήσεις στο Πρωτόκολλο που προτάθηκαν και κυκλοφόρησαν σύμφωνα με το Άρθρο VIII (β)(ι) της Σύμβασης,

1. ΥΙΟΘΕΤΕΙ σύμφωνα με το Άρθρο VIII(β) (ιν) της Σύμβασης, τροποποιήσεις στον Κανονισμό 29(δ)(ι) του Κεφαλαίου II-1, το κείμενο των οποίων δίνεται στο Παράρτημα της απόφασης αυτής,
2. ΑΠΟΦΑΣΙΖΕΙ σύμφωνα με το Άρθρο VIII(β)(νι) (2) (ββ) της Σύμβασης ότι οι τροποποιήσεις που αναφέρονται παραπάνω θα θεωρούνται ότι έχουν γίνει αποδεκτές εκτός αν πριν από την 1 Μαρτίου 1984 περισσότερα από το ένα τρίτο των Μελών του Πρωτοκόλλου ή Μέλη των οποίων το άθροισμα των εμπορευμάτων τους στόλων αποτελεί όχι λιγότερο από το 50% της ολικής χωρητικότητας του παγκοσμίου εμπορικού στόλου, έχουν γνωστοποιήσει τις αντιθέσεις τους στις τροποποιήσεις,
3. ΚΑΛΕΙ τις Κυβερνήσεις να σημειώσουν ότι σύμφωνα με το Άρθρο VIII (β) (νι) (2) της Σύμβασης οι τροποποιήσεις του Πρωτοκόλλου, μετά την αποδοχή τους σύμφωνα με την παραπάνω παράγραφο 2, θα τεθούν σε ισχύ την 1 Σεπτεμβρίου 1984,
4. ΠΑΡΑΚΑΛΕΙ το Γενικό Γραμματέα, σύμφωνα με το Άρθρο VIII(β)(ν) της Σύμβασης να διαβιβάσει θεωρημένα αντίγραφα της απόφασης αυτής και του Παραρτήματός της σε όλα τα Μέλη του Πρωτοκόλλου 1978 που αναφέρεται στη Διεθνή Σύμβαση για την Ασφάλεια της Ανθρώπινης Ζωής στη θάλασσα, 1974,

5. ΠΑΡΑΚΑΛΕΙ ΕΠΙΣΗΣ το Γενικό Γραμματέα να διαβιβάσει αντίγραφα της απόφασης και του Παραρτήματός της στο Μέλη του Οργανισμού που δεν είναι Μέλη του Πρωτοκόλλου.

Π Α Ρ Α Ρ Τ Η Μ Α

ΤΡΟΠΟΠΟΙΗΣΕΙΣ 1981 ΣΤΟ ΠΡΩΤΟΚΟΛΛΟ 1978 ΤΗΣ ΔΙΕΘΝΟΥΣ
ΣΥΜΒΑΣΗΣ ΓΙΑ ΤΗΝ ΑΣΦΑΛΕΙΑ ΤΗΣ ΑΝΘΡΩΠΙΝΗΣ ΖΩΗΣ ΣΤΗ ΘΑΛΑΣΣΑ, 1974.

Κανονισμός 29 του Κεφαλαίου II-1

Μηχάνισμος Πηδαλίου

Αντικαταστήσατε την τέταρτη πρόταση της υποπαράγραφου (δ)(ε)(1) με την ακόλουθη:

"Κάθε σύστημα ελέγχου μηχανισμού πηδαλίου, αν είναι ηλεκτρικό, θα εξυπηρετείται από δικό του χωριστό κύκλωμα που θα τροφοδοτείται από το κύκλωμα ενέργειας μηχανισμού πηδαλίου ή απ'ευθείας από τους ζυγούς του ηλεκτρικού πίνακα που τροφοδοτούν αυτό το κύκλωμα ενέργειας του μηχανισμού πηδαλίου σε σημείο του ηλεκτρικού πίνακα κοντά στην παροχή στο κύκλωμα ενέργειας του μηχανισμού πηδαλίου"

Αντικαταστήσατε την υποπαράγραφο δ(ε)(3) με την ακόλουθη:

"(3) στο διαμέρισμα μηχανισμού πηδαλίου θα προβλέπονται μέσα για την αποσύνδεση οποιουδήποτε συστήματος ελέγχου, που μπορεί να χειρίζεται από τη γέφυρα ναυσιπλοΐας, από τον μηχανισμό πηδαλίου που εξυπηρετεί".