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INHOUD

CONTENTS

Goewermentskennisgewings.

Die volgende Goewermentskennisgewings word vir algemene inligting gepubliseer.

C. F. MARAIS,
Sekretaris van Suidwes-Afrika

Kantoor van die Administrateur,
Windhoek.

Government Notices.

The following Government Notices are published for general information.

C. F. MARAIS,
Secretary for South West Africa.

Administrator's Office,
Windhoek.

GOEWERMENTSKENNISGEWINGS.

C. F. MARAIS,
Sekretaris van Suidwes-Afrika.

Kantoor van die Administrateur,
Windhoek.

DEPARTEMENT VAN VERVOER.

No. 2031 (Unie).] [11 Desember 1959.

MARINE-AFDELING.

REGULASIES VAN TOEPASSING OP DIE VERSKAPPING VAN RADIO-INSTALLASIES OP SKEPE.

Dit het die Minister van Vervoer behaag om, kragtens die bepalings van artikel *driehonderd ses-en-vyftig* van die Handelskeepvaartwet, 1951 (Wet No. 57 van 1951), die volgende regulasies* uit te vaardig.

INHOUD.

* Hierdie regulasies tree in werking op die datum waarop Wet No. 57 van 1951 in werking tree. Die datum sal deur proklamasie in die *Staatskoerant* bekendgemaak word.

GOVERNMENT NOTICES.

C. F. MARAIS,
Secretary for South West Africa.

Administrator's Office,
Windhoek.

DEPARTMENT OF TRANSPORT.

No. 2031 (Union).] [11 December 1959.

MARINE DIVISION.

REGULATIONS GOVERNING THE PROVISION OF RADIO INSTALLATIONS ON SHIPS.

The Minister of Transport has been pleased, under the provisions of section *three hundred and fifty-six* of the Merchant Shipping Act, 1951 (Act No. 57 of 1951), to make the following regulations.*

CONTENTS.

* These regulations will come into operation on the date on which Act No. 57 of 1951 comes into operation. This date will be notified by proclamation in the *Gazette*.

TER INLEIDING.

1. 'n Radio-installasie op 'n skip omvat 'n radiotelegraafinstallasie, 'n radiotelefooninstallasie of 'n rigtingsoeker, na gelang van die geval.

2. Daar sal opgemerk word dat Deel I van die regulasies nie vereis dat skepe wat nie passasierskepe is en wat kleiner as 500 ton is van radiotelegraaf- of radiotelefooninstallasies voorsien moet wees nie, en dat Deel II nie vereis dat 'n skip van minder as 500 ton van 'n rigtingsoeker voorsien moet wees nie. By die eienaars van Suid-Afrikaanse skepe waarop die regulasies nie van toepassing is nie, word egter daarop aangedring om, ter wille van die veiligheid van menselewens en eiendom op see, vrywillig hulle skepe met radiotelegraaf- of radiotelefooninstallasies en met rigtingsoekers uit te rus. In hierdie verband sal dit die Marine-afdeling van die Departement van Vervoer, met medewerking van die Posmeester-generaal, genoeë doen om hulle 'n aanneemlike spesifikasie te help opstel.

INTRODUCTORY NOTES.

1. A radio installation on a ship shall comprise a radiotelegraphy installation, a radiotelephony installation, or a direction-finding apparatus, as the case may be.

2. It will be observed that Part I of the regulations does not require ships, which are not passenger ships, and which are less than 500 tons, to be provided with radiotelegraphy or radiotelephony installations, and that Part II does not require any ship of less than 500 tons to be provided with a direction-finding apparatus. Owners of South African ships to which the regulations do not apply, are however urged in the interests of safety of life and property at sea to equip their ships with radiotelegraphy or radiotelephony installations and with direction-finding apparatus on a voluntary basis, in which connection the Marine Division of the Department of Transport in conjunction with the Postmaster-General will be pleased to assist them in arriving at an acceptable specification.

TER TOELIGTING VOORAF.

1. *Titel van hierdie regulasies.*

Hierdie regulasies heet die Handelskeepvaart-radioregulasies 1960.

(OPMERKING.—Die Toeligting Vooraf geld vir alle Dele van die regulasies. Deel I handel oor radiotelegrafie en radiotelefonie en Deel II oor rigtingsoekers. Deel III handel oor „ Gelykwaardighede " en die bepalings is op beide Deel I en Deel II van toepassing.)

2. *Interpretasie.*

In hierdie regulasies beteken die uitdrukking „ die Wet " die Handelskeepvaartwet, 1951 (Wet No. 57 van 1951), en tensy uit die samehang anders blyk, het enige uitdrukking waaraan daar in die Wet 'n betekenis toegeken is, wanneer dit in hierdie regulasies gebruik word, die aldus toegekende betekenis, en beteken—

„ verbind ", elektries verbind;

„ bestaande installasie "—

(*a*) 'n installasie wat, in die geval van 'n Suid-Afrikaanse skip waarop die Veiligheidskonvensie van toepassing is, ten volle geïnstalleer is voor 19 November 1952, en in die geval van 'n ander skip, voor die datum waarop hierdie regulasies van krag word; en

(*b*) 'n installasie waarvan 'n deel geïnstalleer is voor 19 November 1952 of voor die datum waarop hierdie regulasies van krag word, na gelang van die geval, en waarvan die orige deel bestaan òf uit dele wat ter vervanging van identiese dele geïnstalleer word òf uit dele wat aan die toepaslike vereistes van hierdie regulasies voldoen;

„ steuring ", die belemmering, deur enige uitsending of weerkaatsing van elektromagnetiese energie, van die vervulling van die doeleindes van die telegrafie of telefonie (òf in die algemeen òf gedeeltelik, en sonder om afbreuk te doen aan die algemene strekking van die voorgaande woorde, met betrekking tot al die of sommige van die ontvangers of bedoelde ontvangers van enige berig, geluid of optiese beeld wat bedoel is om deur middel van die telegrafie of telefonie oorgedra te word), en aan die uitdrukking „ steur " word dieselfde betekenis geheg;

„ myl ", 'n seemyl van 6,080 voet;

„ bedienpunt " ten opsigte van enige uitrusting, die plek wat iemand gewoonlik inneem wanneer hy die uitrusting bedien;

„ radiotelegraafskip ", 'n skip wat 'n radiotelegraafinstallasie het en wat nie 'n radiotelefoonskip is nie;

„ radiotelefoonnoodfrekwensie ", 'n frekwensie van 2,182 Khz;

„ radiotelefoonskip ", 'n skip wat nie 'n passasierskip is nie en 'n tonnemaat van 500 ton of meer maar minder as 1,600 ton het, waarvan die eienaar skriftelik aan die Sekretaris kennis gegee het (die kennisgewing moet nie ingetrek wees nie) dat die skip 'n radiotelefooninstallasie het ter voldoening aan hierdie regulasies;

„ radiowag ", in die geval van 'n radiotelegraafskip: luister op 'n frekwensie van 500 Khz., en in die geval van 'n radiotelefoonskip: luister op die radiotelefoonnoodfrekwensie;

„ stiltye ", die tydperke van drie minute wat vir die radiotelegrafie 15 minute en 45 minute na elke uur begin, en vir die radiotelefonie op elke uur en 30 minute na elke uur, in elke geval bepaal volgens middelbare Greenwichtyd;

„ ton ", bruto registerton;

met betrekking tot golwe en seine—

„ tipe A1 " radiotelegrafie deur 'n gelykgolf aan en af te sleutel;

„ tipe A2 ", amplitudegemoduleerde radiotelegrafie deur die sleuteling van 'n moduleeroudiofrekwensie of van 'n uitsending wat voortdurend deur 'n oudiofrekwensie gemoduleer word;

PRELIMINARY.

1. *Title of these Regulations.*

These regulations are called the Merchant Shipping Radio Regulations 1960.

(NOTE.—The Preliminary applies to all Parts of the regulations. Part I deals with radiotelegraphy and radiotelephony, and Part II with direction-finders. Part III deals with " Equivalents ", and the provisions are applicable to both Part I and Part II.)

2. *Interpretation.*

In these regulations the expression " the Act " means the Merchant Shipping Act, 1951 (Act No. 57 of 1951), and unless the context otherwise indicates, any expression used in these regulations to which a meaning has been assigned in the Act, bears the meaning so assigned, and—

" connected " means electrically connected;

" existing installation " means—

(*a*) an installation wholly installed, in the case of a South African ship to which the Safety Convention applies, before the 19th November, 1952, and in the case of any other ship, before the date on which these regulations come into force; and

(*b*) an installation part of which was installed before the 19th November, 1952, or the date on which these regulations come into force, as the case may be, and the rest of which consists either of parts installed in replacement of identical parts, or parts which comply with the relative requirements of these regulations;

" interference " means the prejudicing by any emission or reflection of electro-magnetic energy of the fulfilment of the purposes of the telegraphy or telephony (either generally or in part, and, without prejudice to the generality of the preceding words, as respects all, or as respects any, of the recipients or intended recipients of any message, sound, or visual image intended to be conveyed by the telegraphy or telephony), and the expression " interfere " shall be construed accordingly;

" mile " means a nautical mile of 6,080 feet;

" operating position " in relation to any equipment means the position normally occupied by a person when operating such equipment;

" radiotelegraph ship " means a ship which is provided with a radiotelegraph installation, and which is not a radiotelephone ship;

" radiotelephone distress frequency " means a frequency of 2,182 kc/s;

" radiotelephone ship " means a ship which is not a passenger ship and which is of 500 tons or upwards but of less than 1,600 tons, the owner of which has given written notice to the Secretary (which notice has not been withdrawn) to the effect that the ship is provided wih a radiotelephone installation in compliance with these regulations;

" radio watch ", in the case of a radiotelegraph ship, means listening on a frequency of 500 kc/s, and in the case of a radiotelephone ship, means listening on the radiotelephone distress frequency;

" silence periods " means the periods of 3 minutes beginning for purposes of radiotelegraphy at 15 minutes and at 45 minutes after each hour; and for purposes of radiotelephony at each hour and at 30 minutes after each hour, in every case determined according to Greenwich Mean Time;

" tons " means gross register tons;

in relation to waves and signals—

" Type A1 " means radiotelegraphy by the keying of a continuous wave on and off;

" Type A2 " means amplitude modulated radiotelegraphy by the keying of a modulating audio frequency or of an emission continuously modulated by an audio frequency;

„ tipe A3 ", amplitudegemoduleerde dubbelsybandradiotelefonie; en

„ B-golwe ", gedempte golwe.

[OPMERKING.—Artikel *twee* van die Wet sluit die volgende woordbepalings in:—

„ vissersboot " beteken 'n skip wat vir gewin ter see visvang, maar dit omvat geen robbevaarder of walvisvaarder nie;

„ laslynregulasies " beteken die regulasies wat kragtens paragraaf (*c*) van subartikel (2) van artikel *driehonderd-ses-en-vyftig* uitgevaardig is om gevolg te gee aan Hoofstuk II van die Laslynkonvensie en Aanhangsel I en Aanhangsel II van daardie Konvensie, of bedoelde regulasies soos toegepas kragtens subartikel (3) van genoemde artikel;

„ Minister " beteken die Minister van Vervoer;

„ passasierskip " beteken 'n skip wat meer as twaalf passasiers vervoer;

* „ bevoegde beampte " beteken die beampte wat deur die Minister aangewys is as die bevoegde beampte by die plek en ten opsigte van die saak waarna verwys word in die bepaling in hierdie Wet waarin die uitdrukking voorkom;

„ Veiligheidskonvensie " beteken die Internasionale Konvensie vir die Beveiliging van Menselewens op See wat op die tiende dag van Junie 1948 in Londen onderteken is en waarvan 'n vertaling in die Tweede Bylae van hierdie Wet opgeneem is, en enige wysiging daarvan;

„ Sekretaris " beteken die Sekretaris van Vervoer;

„ Suid-Afrikaanse skip " beteken 'n skip kragtens hierdie Wet in die Unie geregistreer of geag aldus geregistreer te wees.

* Vir die toepassing van hierdie regulasies het die Minister ondergenoemde amptenare as bevoegde beamptes in die Unie aangewys:—

Te Kaapstad en Durban: Die Eerste Beampte van die Marine-afdeling.

Te Port Elizabeth, Oos-Londen, Mosselbaai, Port Nolloth, Lüderitz en Walvisbaai: Die Koopvaardymeester.]

DEEL I.—RADIOTELEGRAFIE EN RADIOTELEFONIE.

HOOFSTUK I.—ALGEMEEN.

3. *Toepassing en indeling van skepe onder Deel I.*

(1) Behoudens die bepalings van paragraaf (2), is hierdie Deel van toepassing op—

(*a*) Suid-Afrikaanse skepe wat op die see uitvaar uit watter hawe ook al; en

(*b*) skepe wat nie Suid-Afrikaanse skepe is nie, en wat op die see uitvaar uit 'n hawe in die Unie.

(2) Hierdie Deel is nie van toepassing op skepe wat nie passasierskepe is en wat van die volgende soorte is nie:—

(*a*) Suid-Afrikaanse skepe wat—

(i) plesierjagte is;

(ii) nie deur meganiese middels aangedryf word nie; of

(iii) van minder as 500 ton is.

) Skepe wat nie Suid-Afrikaanse skepe is nie en wat—

(i) troepeskepe is;

(ii) nie deur meganiese middels aangedryf word nie;

(iii) plesierjagte is;

(iv) houtskepe van primitiewe bou, soos bv. dhows, jonke, ens., is;

(v) vissersbote is; of

(vi) van minder as 500 ton is.

) Die skepe waarop hierdie Deel van toepassing is, d as volg ingedeel:—

las I.

Skepe wat meer as 250 passasiers vervoer of ten opsigte waarvan daar 'n sertifikaat van krag is wat die Sekretaris uitgereik het of enige gesag wat daar-

"Type A3" means double sideband amplitude modulated radiotelephony; and

"Type B waves" means damped waves.

[NOTE.—Section *two* of the Act includes the following definitions:—

"fishing boat" means any ship engaged in sea fishing for profit, but does not include any sealing boat or whaling boat;

"load line regulations" means the regulations made under paragraph (*c*) of sub-section (2) of section *three hundred and fifty-six* to give effect to Chapter II of the Load Line Convention and Annex I and Annex II to that Convention, or such regulations as applied under sub-section (3) of the said section;

"Minister" means the Minister of Transport;

"passenger ship" means a ship which carries more than twelve passengers;

*"proper officer" means the officer designated by the Minister to be the proper officer at the place and in respect of the matter to which reference is made in the provision of this Act in which the expression occurs;

"Safety Convention" means the International Convention for the Safety of Life at sea signed in London on the tenth day of June, 1948, and set out in the Second Schedule hereto, and any amendment thereof;

"Secretary" means the Secretary for Transport;

"South African ship" means a ship registered in the Union in terms of this Act or deemed to be so registered.

* For the purposes of these regulations, the Minister has designated the following officers as proper officers in the Union:—

At Cape Town and Durban: The Principal Officer of the Marine Division.

At Port Elizabeth, East London, Mossel Bay, Port Nolloth, Lüderitz and Walvis Bay: The Shipping Master.]

PART I.—RADIOTELEGRAPHY AND RADIOTELEPHONY.

CHAPTER I.—GENERAL.

3. *Application and Classification of Ships under Part I.*

(1) Subject to the provisions of paragraph (2), this Part shall apply to—

(*a*) South African ships proceeding to sea from any port whatsoever; and

(*b*) ships which are not South African ships, and which proceed to sea from a port in the Union.

(2) This Part shall not apply to ships, which are not passenger ships, and which are of the following kinds:—

(*a*) South African ships which are—

(i) pleasure yachts;

(ii) not propelled by mechanical means; or

(iii) less than 500 tons.

(*b*) ships, which are not South African ships, and which are—

(i) troopships;

(ii) not propelled by mechanical means;

(iii) pleasure yachts;

(iv) wooden ships of primitive build, such as dhows, junks, etc.;

(v) fishing boats; or

(vi) of less than 500 tons.

(3) The ships to which this Part applies shall be classified as follows:—

Class I.

Ships carrying more than 250 passengers or in respect of which there is in force a certificate issued by the Secretary, or by any authority empowered in that behalf by the laws of any

toe gemagtig is deur die wette van enige ander land as die Unie, waarin verklaar word dat hulle geskik is om meer as 250 passasiers te vervoer, en wat—

(*a*) in die geval van Suid-Afrikaanse skepe, langer as 16 uur op see is tussen twee agtereenvolgende hawens;

(*b*) in die geval van skepe wat nie Suid-Afrikaanse skepe is nie, by 'n hawe in die Unie aankom nadat hulle meer as 16 uur op see was sedert hulle laas uit 'n hawe vertrek het, of ten opsigte waarvan om uitklaring gevra word uit 'n hawe in die Unie vir 'n reis waarvoor meer as 16 uur op see nodig is voordat hulle by 'n hawe aankom.

Klas II.

(*a*) Ander passasierskepe as dié van Klas I.

(*b*) Skepe wat nie passasierskepe is nie en wat van 1,600 ton of meer is.

Klas III.

Skepe wat nie passasierskepe is nie en wat van 500 ton of meer maar minder as 1,600 ton is.

4. *Verskaffing van radio-installasies.*

(1) Elke skip van Klas I en Klas II moet van 'n radiotelegraafinstallasie voorsien word, wat die uitrusting moet insluit wat in die Eerste Bylae gespesifiseer word.

(2) Elke skip van Klas III moet van 'n radiotelefooninstallasie voorsien word, wat die uitrusting moet insluit wat in die Eerste Bylae gespesifiseer word, met dien verstande dat die hoof- en noodradiotelegraafsenders in 'n skip van Klas III in 'n enkele toestel gekombineer kan word as dié toestel aan die vereistes van Deel I en Deel III van die Eerste Bylae kan voldoen.

5. *Klimaats- en Duursaamheidstoetse.*

(1) Alle uitrusting moet sodanig wees dat dit vry sal wees van meganiese defekte—

(*a*) terwyl dit die trillings-, droëhitte- en laetemperatuurtoetse ondergaan wat in die Derde Bylae gespesifiseer word;

(*b*) wanneer dit aan die klamhittetoets onderwerp word wat in subparagraaf (4) van paragraaf 3 van genoemde Bylae gespesifiseer word; en

(*c*) onmiddellik nadat dit dié van die ander toetse in genoemde Bylae ondergaan het wat in die omstandighede op die uitrusting van toepassing is.

(2) Alle uitrusting wat bedoel is vir gebruik in die ope lug of in 'n oop boot, moet sodanig wees dat daar geen skimmelgroei op sal wees nie nadat dit die skimmelgroeitoets ondergaan het wat in die Derde Bylae gespesifiseer word.

6. *Steuring van ontvangs.*

Op geen tydstip terwyl die skip op see is, mag die steuring of meganiese ruis wat deur die radio-installasie of deur ander uitrusting op die skip veroorsaak word, genoeg wees om die doeltreffende ontvangs van radioseine deur middel van dié installasie te verhinder nie.

7. *Hoëspanningsdele.*

(1) Alle dele en bedrading waarop hierdie regulasie van toepassing is, moet teen toevallige toegang beveilig wees en moet, behalwe in die geval van 'n ontwikkelaar of omsetter, outomaties geïsoleer wees van alle bronne van elektriese energie wanneer die beveilingsmiddel verwyder word.

Al sulke dele wat kapasitors in 'n sender is, moet ontlaai kan word.

(2) Hierdie regulasie is van toepassing op alle dele en bedrading van die uitrusting in hierdie Deel genoem waarin die gelykstroom- en die wisselstroomspanning (behalwe radiofrekwensiespannings) te eniger tyd kombineer om 'n oomblikspanning te gee wat groter is as—

(*a*) 50 volts in die geval van uitrusting in die Vierde Bylae gespesifiseer;

(*b*) 250 volts in die geval van alle ander uitrusting.

8. *Laai van batterye.*

Aan boord van elke skip moet vir middels voorsiening gemaak word om van die skip se hoofbron van elektriese energie af enige batterye, wat as bron van elektriese

country other than the Union, to the effect that they are fit to carry more than 250 passengers, and which—

(*a*) in the case of South African ships, are at sea for more than 16 hours between two consecutive ports;

(*b*) in the case of ships which are not South African ships, arrive at a port in the Union having been at sea for more than 16 hours since last leaving port, or in respect of which clearance is sought from a port in the Union for a voyage requiring more than 16 hours at sea before reaching port.

Class II.

(*a*) Passenger ships other than those of Class I.

(*b*) Ships, which are not passenger ships, and which are 1,600 tons and upwards.

Class III.

Ships, which are not passenger ships, and which are 500 tons and upwards, but less than 1,600 tons.

4. *Provision of Radio Installations.*

(1) Every ship of Class I and Class II shall be provided with a radiotelegraph installation which shall include the equipment specified in the First Schedule.

(2) Every ship of Class III shall be provided with a radiotelephone installation which shall include the equipment specified in the Second Schedule, or with a radiotelegraph installation which shall include the equipment specified in the First Schedule: Provided that the main and emergency radiotelegraph transmitters in a ship of Class III may be combined in a single instrument, if that instrument is capable of complying with the requirements of Parts I and III of the First Schedule.

5. *Climatic and Durability Tests.*

(1) All equipment shall be such that it will be free of mechanical defects—

(*a*) while undergoing the vibration, dry heat, and low temperature tests specified in the Third Schedule;

(*b*) when subjected to the damp heat test specified in sub-paragraph (4) of paragraph 3 of the said Schedule; and

(*c*) immediately after undergoing such of the other tests specified in the said Schedule as are applicable to the equipment in the circumstances.

(2) Any such equipment which is intended for use in the open or in an open boat shall be such that after undergoing the mould growth test specified in the Third Schedule, no mould growth will be present on it.

6. *Interference with Reception.*

At no time while the ship is at sea shall the interference or mechanical noise produced by the radio installation or by other equipment in the ship be sufficient to prevent the effective reception of radio signals by means of such installation.

7. *High Voltage Parts.*

(1) All parts and wiring to which this regulation applies shall be protected from accidental access and, except in the case of a generator or converter, shall be isolated automatically from all sources of electrical energy when the means of protection are removed.

Any such parts which are capacitors in a transmitter shall be capable of being discharged.

(2) This regulation applies to all parts and wiring of the equipment specified in this Part in which the direct and alternating voltages (other than radio-frequency voltages) combine at any time to give an instantaneous voltage greater than—

(*a*) 50 volts in the case of equipment specified in the Fourth Schedule;

(*b*) 250 volts in the case of all other equipment.

8. *Charging of Batteries.*

Means shall be provided on board every ship for the charging from the ship's main source of electrical energy of any batteries which are provided as a source of electrical

energie vir enige deel van die uitrusting verskaf word, te laai. As die middel om die batterye te laai 'n draaiankeromsetter is, moet bowendien 'n alternatiewe middel vir die laai van die batterye verskaf word.

HOOFSTUK II.—RADIOTELEGRAFIE.

9. *Elektriese onafhanklikheid van hoof- en noodradiotelegraafuitrusting.*

Onderworpe aan die bepalings van paragraaf (2) van regulasie 4, moet die hoof- en die noodradiotelegraafuitrusting wat aan boord van 'n radiotelegraafskip verskaf word, elektries onafhanklik van mekaar wees.

10. *Radiotelegraafkamer.*

(1) Elke radiotelegraafinstallasie wat aan boord van 'n radiotelegraafskip verskaf word, moet geïnstalleer word in een of meer radiotelegraafkamers wat vir geen ander doel as die gebruik van radio-uitrusting gebruik word nie. Die radiotelegraafkamers moet so geleë wees dat die doeltreffende ontvangs van radioseine nie deur geluide van buite af of andersins belemmer sal word nie, en moet so hoog as doenlik op die skip wees.

(2) Elke radiotelegraafinstallasie wat aan boord van 'n radiotelegraafskip verskaf word, moet op so 'n plek geïnstalleer word dat dit teen belemmering van sy doeltreffendheid deur water of temperatuuruiterstes beveilig sal wees.

(3) Elke radiotelegraafkamer moet voorsien wees van—

(*a*) 'n doeltreffende tweerigtingroep-en-spraakverbindingsmiddel met die brug en elke ander plek waarvandaan die skip gewoonlik genavigeer word. Dié verbindingsmiddel moet 'n spreekbuis of 'n telefoon wees of 'n ander ewe doeltreffende middel en moet onafhanklik wees van die hoofkommunikasiestelsel van die skip en van die skip se hoofbron van elektriese energie;

(*b*) 'n betroubare horlosie, met 'n wyserplaat wat 'n middellyn van minstens 5 duim het en 'n sekondewyser in die middel, stewig gemonteer op so 'n plek dat die hele wyserplaat maklik en akkuraat van die radiotelegraafbedienpunt af gesien kan word en, indien die skip 'n outomatiese alarm het, van die punt af waar iemand wat die outomatiese alarm toets, gewoonlik is;

(*c*) 'n elektriese lamp wat brand van die bron van elektriese energie af wat by paragraaf (2) van regulasie 13 vereis word en permanent so geplaas is dat dit die kontroles van die hoof- en die noodradiotelegraafinstallasie asook die horlosie wat by hierdie regulasie vereis word, voldoende verlig, en beheer deur middel van tweewegskakelaars wat onderskeidelik naby die ingang van die radiotelegraafkamer en by die radiotelegraafbedienpunt aangebring is;

(*d*) nog 'n elektriese lamp, vir gebruik as 'n inspeksielamp, wat van bogenoemde energiebron af brand en voorsien is van 'n buigsame leiding wat lank genoeg is sodat alle dele van die radiotelegraafinstallasie maklik gesien kan word;

(*e*) 'n stoel wat by die radiotelegraafbedienpunt vasgesit kan word.

(4) 'n Volledige lys van reserwe-uitrusting en reserwedele wat aan boord van die skip gehou word vir die instandhouding van die radiotelegraafinstallasie moet in elke radiotelegraafkamer beskikbaar wees en aandui waar die uitrusting en dele gehou word.

(5) 'n Yktabel of ykkromme vir elke sender en ontvanger wat deel uitmaak van die radiotelegraafinstallasie moet te alle tye in die radiotelegraafkamer beskikbaar wees, tensy die sender of ontvanger, na gelang van die geval, regstreeks geyk word.

(6) In die geval van 'n radiotelegraafinstallasie wat nie 'n bestaande installasie is nie, moet 'n volledige diagram van die bedrading van die installasie te alle tye in die radiotelegraafkamer beskikbaar wees.

11. *Antennes.*

(1) Elke radiotelegraafskip moet 'n hoofantenne en 'n noodantenne hê.

(OPMERKING.—Ooreenkomstig regulasie 32 kan 'n skip vrygestel word van die vereiste van 'n noodantenne.)

energy for any part of the equipment. An alternative means of charging such batteries shall also be provided if the means of charging such batteries is a rotary converter.

CHAPTER II.—RADIOTELEGRAPHY.

9. *Electrical Independence of Main and Emergency Radiotelegraph Equipments.*

Subject to the provisions of paragraph (2) of regulation 4, the main and emergency radiotelegraph equipments provided on board a radiotelegraph ship shall be electrically independent of each other.

10. *Radiotelegraph Room.*

(1) Every radiotelegraph installation provided on board a radiotelegraph ship shall be installed in one or more radiotelegraph rooms not used for any purpose other than the operation of radio equipment. The radiotelegraph rooms shall be in such a position that there will be no disturbance by extraneous noises or otherwise with the effective reception of radio signals, and shall be as high as practicable in the ship.

(2) Every radiotelegraph installation provided on board a radiotelegraph ship shall be installed in such a position that it will be protected against disturbance of its effectiveness by water or by extremes of temperature.

(3) Every radiotelegraph room shall be provided with—

(*a*) an efficient two-way means of calling and voice communication with the bridge and any other place from which the ship is normally navigated. Such means of communication shall be a voicepipe or a telephone, or some other means equally efficient, and shall be independent of the main communication system of the ship and of the ship's main source of electrical energy;

(*b*) a reliable clock, equipped with a dial not less than 5 inches in diameter and a centre seconds hand, securely mounted in such a position that the entire dial can be easily and accurately observed from the radiotelegraph operating position and, if the ship is provided with an auto-alarm, from the position normally occupied by a person testing the auto-alarm;

(*c*) an electric lamp, operated from the source of electrical energy required by paragraph (2) of regulation 13 and permanently arranged so as to be capable of providing adequate illumination of the operating controls of the main and emergency radiotelepraph installations and of the clock required by this regulation, and controlled by two-way switches placed respectively near the entrance to the radiotelegraph room and at the radiotelegraph operating position;

(*d*) an additional electric lamp, for use as an inspection lamp, operated from the aforesaid source of energy, and provided with a flexible lead of sufficient length to enable all parts of the radiotelegraph installation to be easily seen;

(*e*) a chair capable of being fixed at the radiotelegraph operating position.

(4) A complete list of spare equipment and spare parts carried on board the ship for the maintenance of the radiotelegraph installation, shall be available in every radiotelegraph room and shall indicate where such equipment and parts are kept.

(5) A calibration table or calibration curve for each transmitter and receiver forming part of the radiotelegraph installation shall always be available in the radiotelegraph room, unless the transmitter or receiver, as the case may be, is directly calibrated.

(6) In the case of a radiotelegraph installation which is not an existing installation, a complete diagram of the wiring of such installation shall always be available in the radiotelegraph room.

11. *Aerials.*

(1) Every radiotelegraph ship shall be fitted with a main aerial and an emergency aerial.

(NOTE.—In terms of regulation 32 a ship may be exempted from the requirement of an emergency aerial.)

(2) Aan elkeen van die hystoue wat gebruik word om die hoofantenne te ondersteun, moet 'n veiligheidslus tussen die mastop of ander antennesteun en 'n antenne-isolator aangebring word. Dié veiligheidslus moet bestaan uit 'n deel van die hystou wat minstens drie voet lank is; die lus word gesluit met 'n skakel hoogstens een voet drie duim lank met 'n breekbelasting van hoogstens een derde van die breekbelasting van die antenne of die hystou, na gelang van watter die minste is.

(3) 'n Montasieplan van die antennes moet in die radiotelegraafkamer beskikbaar wees en moet die volgende aantoon:—

(*a*) Vertikale aansig en plattegrond van die antennes;

(*b*) die afmetings van die antennes in voet en duim; en

(*c*) die hoogte van die antennes in meters, gemeet soos gespesifiseer in paragraaf (3) van regulasie 12.

(4) Die hoofantenne en die noodantenne (as daar een is) moet, waar doenlik, so gemonteer word dat beskadiging van die een nie die doeltreffendheid van die ander sal beïnvloed nie.

(5) Die hoof- en die noodantenne moet elkeen, na die eis van omstandighede, verbind kan word met—

(*a*) die hoofsender, òf regstreeks òf oor 'n versterker;

(*b*) die hoofontvanger; en

(*c*) die noodsender.

Die noodantenne moet ook met die noodontvanger verbind kan word.

12. *Sendafstand van senders.*

(1) Die normale sendafstande van radiotelegraafsenders moet minstens die volgende wees:—

(*a*) in die geval van 'n skip van Klas I, 175 myl vir die hoofsender en 150 myl vir die noodsender;

(*b*) in die geval van 'n skip van Klas II, 150 myl vir die hoofsender en 100 myl vir die noodsender;

(*c*) in die geval van 'n skip van Klas III, 100 myl vir die hoofsender en 75 myl vir die noodsender.

(2) Die sendafstand van 'n sender word, na die eienaar van die skip verkies, òf deur berekening òf deur 'n toets bepaal.

(3) Wanneer die normale sendafstand van 'n radiotelegraafsender deur berekening bepaal word, moet dit gedoen word deur die produk te bepaal van die effektiewe stroom in ampères aan die voet van die hoofantenne en die maksimum hoogte in meters van die antenne, gemeet van die laslynmerk af wat die grootste diepte aandui waartoe die skip op enige tydstip of plek mag sak ooreenkomstig die laslynregulasies of, as daar nie so 'n merk aan die skip is nie, van die gemiddelde hoogte van die oppervlak van die water waarin die skip drywe. Die produk wat so verkry word in meter-ampères, word in myle omgereken volgens onderstaande tabel:—

Produk in meter-ampères.	*Ekwivalent in myl.*
102	175
76	150
45	100
34	75
10	25

(4) Wanneer die normale sendafstand van 'n radiotelegraafsender deur 'n toets bepaal word, is dit die afstand wat dié sender seine gedurende die dag onder normale toestande op 'n frekwensie van 500 Khz. oor die see kan stuur, sodat by die ontvanger 'n totale effektiewe veldsterkte tot stand gebring word van minstens 50 mikrovolts per meter.

13. *Toevoer van elektiese energie.*

(1) Op elke radiotelegraafskip moet daar, terwyl die skip op die see is en op alle redelike tye wanneer die skip in 'n hawe is, vir toetsdoeleindes 'n toevoer van elektriese energie beskikbaar wees van die skip se hoofbron van elektiese energie af wat voldoende is vir die werking van die hoofradiotelegraafuitrusting ooreenkomstig hierdie Deel en vir die laai van batterye wat as bron van elektriese energie dien vir die radiotelegraafinstallasie. Die ontwerpspanning van die toevoer van elektriese energie vir die hoofuitrusting moet binne plus of minus 10 persent

(2) Each of the halyards used for supporting the main aerial shall be fitted with a safety loop between the mast-head or other aerial support and an aerial insulator. Such safety loop shall consist of a part of the halyard not less than three feet long, the loop being closed by a link not more than one foot three inches long with a breaking load not more than one-third of the breaking load of the aerial or the halyard, whichever is the less.

(3) A rigging plan of such aerials shall be available in the radiotelegraph room, and shall show the following:—

(*a*) Elevation and plan views of the aerials;

(*b*) the measurements of the aerials in feet and inches; and

(*c*) the height of the aerials in metres measured in the manner specified in paragraph (3) of regulation 12.

(4) The main aerial and the emergency aerial (if any) shall where practicable, be so rigged that damage to the one will not affect the efficiency of the other.

(5) The main and emergency aerials shall each be capable of being connected, as circumstances may require, to—

(*a*) the main transmitter, either directly or with the intervention of an amplifier;

(*b*) the main receiver; and

(*c*) the emergency transmitter.

The emergency aerial shall also be capable of being connected to the emergency receiver.

12. *Range of Transmitters.*

(1) The normal ranges of radiotelegraph transmitters shall not be less than—

(*a*) in the case of a ship of Class I, 175 miles for the main transmitter and 150 miles for the emergency transmitter;

(*b*) in the case of a ship of Class II, 150 miles for the main transmitter and 100 miles for the emergency transmitter;

(*c*) in the case of a ship of Class III, 100 miles for the main transmitter and 75 miles for the emergency transmitter.

(2) The range of a transmitter shall be determined, at the option of the owner of the ship, either by reckoning or by test.

(3) The normal range of a radiotelegraph transmitter when determined by reckoning, shall be calculated by ascertaining the product of the root mean square current in amperes at the base of the main aerial and the maximum height in metres of the aerial measured from the load line mark indicating the greatest depth to which the ship may at any time or place be submerged in accordance with the load line regulations, or if there is no such mark on the ship, from the mean level of the surface of the water in which the ship is afloat. The product so ascertained in metre-amperes shall be converted to miles in accordance with the following table:—

Product in metre-amperes.	*Equivalent in miles.*
102	175
76	150
45	100
34	75
10	25

(4) The normal range of a radiotelegraph transmitter, when determined by test, shall be the distance to which signals can be transmitted by such transmitter over the sea by day under normal conditions on a frequency of 500 kc/s so as to set up at the receiver a total root mean square field strength of at least 50 microvolts per metre.

13. *Supply of Electrical Energy.*

(1) There shall be available in every radiotelegraph ship while the ship is at sea and at all reasonable times when the ship is in port, for testing purposes, a supply of electrical energy from the ship's main source of electrical energy sufficient for the operation of the main radiotelegraph equipment in accordance with this Part, and for the charging of any batteries which are a source of electrical energy for the radiotelegraph installation. The rated voltage of the supply of electrical energy for the main equipment shall be maintained within plus or minus 10

gehandhaaf word. Die toevoer van elektriese energie moet, as dit 'n gelykstroomtoevoer is, van die regte polariteit wees. Op 'n skip wat nie op 'n internasionale reis gebruik word nie, kan genoemde toevoer van elektriese energie egter uit 'n battery verkry word; in dié geval moet ook 'n duplikaatbattery vir dié doel verskaf word.

(2) Die nooduitrustig moet 'n bron van elektriese energie insluit wat onafhanklik is van die dryfkrag van die skip en van die res van die skip se elektriese installasie en wat onmiddellik in werking gestel kan word deur middel van 'n skakelbord wat in 'n radiotelegraafkamer aangebring is of maklik daarvandaan bereik kan word. Enige bron van elektriese energie wat ooreenkomstig hierdie paragraaf verskaf word, moet van sodanige kapasiteit wees en te alle tye wanneer die skip op die see is in so 'n toestand gehou word dat dit 6 uur lank onafgebroke, ongeag of dit in gebruik is vir enige ander doel of nie, 'n totale stroom kan lewer wat gelyk is aan die som van—

(*a*) die stroom wat nodig is om die noodsender te laat werk met die skakelaar op;

(*b*) drie vyfdes van die verskil tussen die stroom wat nodig is om die noodsender te laat werk met die skakelaar af en die stroom nodig om dit te laat werk met die skakelaar op;

(*c*) die stroom wat nodig is om die noodontvanger te laat werk; en

(*d*) die stroom wat verbruik word deur die elektriese lamp wat by subparagraaf (*c*) van paragraaf (3) van regulasie 10 vereis word.

(3) Die bron van elektriese energie wat ingevolge paragraaf (2) verskaf word, moet op geen tydstip vir iets anders gebruik word nie as om die volgende te laat werk:—

(*a*) Die noodsender en -ontvanger;

(*b*) die lampe wat by subparagrawe (*c*) en (*d*) van paragraaf (3) van regulasie 10 vereis word;

(*c*) die outomatiese sleuteltoestel;

(*d*) 'n outomatiese alarm;

(*e*) 'n rigtingsoeker.

14. *Gereedskap, meetinstrumente en reserwedele.*

Elke radiotelegraafskip moet voorsien wees van die gereedskap, meetinstrumente, reserwedele en ander materiaal wat in die Vyfde Bylae gespesifiseer word.

15. *Verskaffing van radiobeamptes.*

(1) Elke radiotelegraafskip wat, wanneer hy op die see uitvaar, nie van 'n outomatiese alarm voorsien is wat aan die vereistes in die Sesde Bylae gestel, voldoen nie, moet die volgende radiobeamptes hê:—

Klas I.—Drie radiobeamptes.

Klas II.—Twee radiobeamptes wanneer hy hoogstens 48 uur lank op die see is tussen twee agtereenvolgende hawens en drie radiobeamptes as hy meer as 48 uur op die see is tussen agtereenvolgende hawens.

Klas III.—Een radiobeampte.

(2) Elke radiotelegraafskip wat, wanneer hy op die see uitvaar, van 'n outomatiese alarm voorsien is wat aan voorgenoemde vereistes voldoen, moet die volgende radiobeamptes hê:—

Klas I.—Twee radiobeamptes.

Klas II.—Een radiobeampte.

Klas III.—Een radiobeampte.

16. *Kwalifikasies van radiobeamptes.*

(1) Niemand is geregtig om 'n radiobeampte te wees of mag as sodanig in diens wees op 'n Suid-Afrikaanse skip wat 'n radiotelegraafskip is nie tensy hy—

(*a*) 'n Suid-Afrikaanse burger is of 'n burger van 'n land (behalwe die Unie) wat lid is van die Statebond;

(*b*) in besit is van 'n geldige sertifikaat van bekwaamheid of bevoegdheid in radiotelegrafie van die eerste of tweede klas, toegeken deur die Posmeester-generaal of, behoudens artikel *driehonderd vier-en-vyftig* van die Wet, deur 'n gesag

per cent. The supply of electrical energy shall, if it is a direct current supply, be of correct polarity. Provided that in any ship not engaged on an international voyage the aforesaid supply of electrical energy may be derived from a battery, in which case a duplicate battery shall also be provided for that purpose.

(2) The emergency equipment shall include a source of electrical energy independent of the propelling power of the ship and of the rest of the ship's electrical installation, and be capable of being brought into immediate operation by means of a switchboard situated in a radiotelegraph room or readily accessible therefrom. Any source of electrical energy provided in compliance with this paragraph shall be of such capacity and shall be maintained at all times when at sea in such condition as to be able to supply continuously for a period of 6 hours, whether or not it is in use for any other purpose, a total current equal to the sum of—

(*a*) the current required to operate the emergency transmitter with the key up;

(*b*) three-fifths of the difference between the current required to operate the emergency transmitter with the key down and the current required to operate it with the key up;

(*c*) the current required to operate the emergency receiver; and

(*d*) the current consumed by the electric lamp required by sub-paragraph (*c*) of paragraph (3) of regulation 10.

(3) The source of electrical energy provided under paragraph (2) shall not be used at any time except for the operation of—

(*a*) the emergency transmitter and receiver;

(*b*) the lamps required by sub-paragraphs (*c*) and (*d*) of paragraph (3) of regulation 10;

(*c*) the automatic keying device;

(*d*) an auto-alarm;

(*e*) a direction-finder.

14. *Tools, Measuring Instruments and Spare Parts.*

Every radiotelegraph ship shall be provided with the tools, measuring instruments, spare parts and other material specified in the Fifth Schedule.

15. *Provision of Radio Officers.*

(1) Every radiotelegraph ship which upon proceeding to sea is not provided with an auto-alarm complying with the requirements specified in the Sixth Schedule shall be provided with radio officers as follows:—

Class I—three radio officers.

Class II—two radio officers if she is at sea for not more than 48 hours between consecutive ports, and three radio officers if she is at sea for more than 48 hours between consecutive ports.

Class III—one radio officer.

(2) Every radiotelegraph ship which upon proceeding to sea is provided with an auto-alarm complying with the aforesaid requirements shall be provided with radio officers as follows:—

Class I—two radio officers.

Class II—one radio officer.

Class III—one radio officer.

16. *Qualifications of Radio Officers.*

(1) No person shall be qualified to be a radio officer, or be employed as such, on any South African ship which is a radiotelegraph ship unless—

(*a*) he is a South African citizen or a citizen of a country (other than the Union) which is a member of the Commonwealth;

(*b*) he holds a valid certificate of proficiency or competence in radiotelegraphy of the first or second class granted by the Postmaster-General, or subject to section *three hundred and fifty-four* of the Act by an authority empowered in that behalf by

daartoe gemagtig deur die wette van 'n land (behalwe die Unie) wat lid is van die Statebond; dié sertifikaat moet deur die Posmeester-generaal erken word as gelykwaardig met die sertifikaat wat hy toeken; en

(*c*) hy die verklaring van geheimhouding onderskryf het wat by subartikel (2) van artikel *tweehonderd twee-en-twintig* van die Wet vereis word.

(2) Op elke Suid-Afrikaanse passasierskip moet minstens een van die radiobeamptes in besit wees van so 'n sertifikaat, wat van die eerste klas moet wees.

(3) Vir die toepassing van subparagraaf (*b*) van paragraaf (1) word geen bekwaamheid- of bevoegdheidsertifikaat op enige datum as geldig beskou nie as dit meer as twee jaar voor dié datum toegeken is en òf—

(*a*) die houer se tydperke van ondervinding altesaam nie drie maande is nie; òf

(*b*) die houer se laaste ondervinding meer as twee jaar voor dié datum was,

tensy die houer die Posmeester-generaal deur hereksamen of op 'n ander wyse daarvan oortuig dat hy nog al die kwalifikasies besit wat in sy sertifikaat gemeld word. Vir die toepassing van hierdie regulasie beteken die uitdrukking „ondervinding" ondervinding ter see as radiobeampte of ondervinding as bediener van radiotelegraafapparaat by 'n radiotelegraafstasie wat die Posmeester-generaal of die Suid-Afrikaanse Spoorwegadministrasie op land in stand hou vir kommunikasie met handelskepe, of ondervinding in 'n soortgelyke radiotelegraafstasie in 'n land (behalwe die Unie) wat lid is van die Statebond, mits van sodanige ondervinding bewys gelewer kan word tot tevredenheid van die bevoegde beampte.

(4) Op elke Suid-Afrikaanse skip van Klas I en Klas II (*a*) moet minstens een van die radiobeamptes iemand wees wat ondervinding ter see opgedoen het as radiobeampte vir altesaam minstens—

(*a*) twee jaar in die geval van skepe van Klas I; en

(*b*) een jaar in die geval van skepe van Klas II (*a*).

(5) Op elke Suid-Afrikaanse skip van 3,000 ton of meer van Klas II (*b*) moet minstens een van die radiobeamptes iemand wees wat ondervinding ter see opgedoen het as radiobeampte vir altesaam minstens ses maande, en in skepe van Klas II (*b*) van 1,600 ton en meer maar minder as 3,000 ton, vir altesaam minstens drie maande.

(6) Niemand word as 'n radiobeampte aan boord van 'n skip wat nie in die Unie geregistreer is, beskou nie tensy hy in besit is van 'n geldige sertifikaat van bekwaamheid of bevoegdheid in radiotelegrafie toegeken deur 'n gesag wat daartoe gemagtig is of in dié verband erken word deur die wette van die land waarin die skip geregistreer is; die Posmeester-generaal moet dié sertifikaat erken as gelykwaardig met die sertifikaat wat hy toeken.

17. *Radiowag deur middel van radiotelegraaf.*

(1) Behoudens die bepalings van paragraaf (1) van regulasie 18, moet radiowag ter see aan boord van elke radiotelegraafskip deur 'n radiobeampte gehou word, as volg:—

(*a*) Indien die skip, wanneer hy op die see uitvaar, nie van 'n outomatiese alarm voorsien is wat voldoen aan die vereistes wat in die Sesde Bylae gespesifiseer word nie—

(i) in die geval van 'n skip van Klas I en Klas II, 'n onafgebroke wag;

(ii) in die geval van 'n skip van Klas III, 'n wag van agt uur per dag op die tye genoem in kolom 5 van die Sewende Bylae, met betrekking tot die sone waarin die skip dan is;

(*b*) indien die skip, wanneer hy op die see uitvaar, voorsien is van 'n outomatiese alarm soos hierbo gemeld—

(i) in die geval van 'n skip van Klas I, 'n wag van sestien uur per dag op die tye genoem in kolom 4 van die Sewende Bylae, met betrekking tot die sone waarin die skip dan is;

the laws of a country (other than the Union) which is a member of the Commonwealth, which certificate is recognised by the Postmaster-General as the equivalent of such a certificate granted by him; and

(*c*) he has subscribed to the declaration of secrecy required by sub-section (2) of section *two hundred and twenty-two* of the Act.

(2) In any South African passenger ship at least one of the radio officers shall hold such a certificate which shall be of the first class.

(3) For the purposes of sub-paragraph (*b*) of paragraph (1) no certificate of proficiency or competency shall be deemed to be valid at any date if it was granted more than two years before that date and either—

(*a*) the holder's periods of experience do not total three months; or

(*b*) the holder's last experience was more than two years before that date,

unless the holder satisfies the Postmaster-General by re-examination or otherwise that he still possesses all of the qualifications described in his certificate. For the purposes of this regulation the expression "experience" means experience at sea as a radio officer or experience as an operator of radiotelegraph apparatus at a radiotelegraph station maintained on land by the Postmaster-General or the South African Railways Administration for communication with merchant ships, or experience in a similar radiotelegraph station in a country (other than the Union) which is a member of the Commonwealth, provided proof of such experience can be produced to the satisfaction of the proper officer.

(4) In any South African ship of Class I and Class II (*a*) at least one of the radio officers shall be a person who has had experience at sea as a radio officer for a total of not less than—

(*a*) two years in the case of ships of Class I; and

(*b*) one year in the case of ships of Class II (*a*).

(5) In any South African ship of 3,000 tons or upwards of Class II (*b*), at least one of the radio officers shall be a person who has had experience at sea as a radio officer for a total of not less than six months, and in ships of Class II (*b*) of 1,600 tons and upwards but under 3,000 tons, for a total of not less than three months.

(6) No person shall be deemed to be a radio officer on board any ship not registered in the Union unless he holds a valid certificate of proficiency or competence in radiotelegraphy granted by an authority empowered or recognised in that behalf by the laws of the country in which the ship is registered, which certificate is recognised by the Postmaster-General as the equivalent of such a certificate granted by him.

17. *Radio Watch by Radiotelegraph.*

(1) Subject to the provisions of paragraph (1) of regulation 18, radio watch shall be maintained at sea on board every radiotelegraph ship by a radio officer as follows:—

(*a*) If the ship upon proceeding to sea is not provided with an auto-alarm complying with the requirements specified in the Sixth Schedule—

(i) in the case of a ship of Class I or Class II a continuous watch;

(ii) in the case of a ship of Class III, a watch of eight hours a day at the times specified in column 5 of the Seventh Schedule in relation to the zone in which the ship then is.

(*b*) If the ship upon proceeding to sea is provided with an auto-alarm as aforesaid—

(i) in the case of a ship of Class I, a watch of sixteen hours a day at the times specified in Column 4 of the Seventh Schedule in relation to the zone in which the ship then is;

(ii) in die geval van 'n skip van Klas II of Klas III, 'n wag van agt uur per dag op die tye genoem in kolom 5 van die Sewende Bylae, met betrekking tot die sone waarin die skip dan is.

(2) Elke outomatiese alarm aan boord van 'n radiotelegraafskip moet op alle tye wanneer geen radiowag gehou word nie, in werking wees, tensy die outomatiese alarm onklaar geraak het sedert die skip laas op die see uitgevaar het en nie op die see so herstel kan word dat dit doeltreffend werk nie.

18. *Waghou, toets en instandhouding deur radiobeamptes.*

(1) Elke radiobeampte aan boord van 'n radiotelegraafskip moet dwarsdeur sy dienstydperk radiowaghou deur middel van koptelefoonontvangs, behalwe wanneer 'n ander radiobeampte radiowaghou deur middel van koptelefoonontvangs; met dien verstande dat—

(*a*) radiowag deur middel van luidsprekerontvangs gehou kan word; of

(*b*) indien luidsprekerontvangs nie doenlik is nie, van radiowag afgesien kan word, behalwe gedurende 'n stiltetyd,

vir die tye wat nodig is om die radiobeampte in staat te stel om ander dienste te verrig ter voldoening aan hierdie Deel of Deel II (Rigtingsoekers).

(2) Elke radiobeampte aan boord van 'n radiotelegraafskip wat van 'n outomatiese alarm voorsien is wat voldoen aan die vereistes in die Sesde Bylae gestel, moet, wanneer radiowag gestaak word gedurende of aan die einde van sy dienstydperk, die outomatiese alarm met die skip se hoofantenne of met 'n ander ewe doeltreffende antenne verbind en die outomatiese alarm in werking stel. Elke radiobeampte wat 'n outomatiese alarm in werking laat wanneer hy van diens af gaan, moet, eerdat hy van diens af gaan—

(*a*) die doeltreffendheid van die outomatiese alarm toets; en

(*b*) die uitslag van die toets onmiddellik aan die gesagvoerder van die skip of aan die beampte in beheer van die navigasie van die skip bekendmaak.

(3) Elke sodanige radiobeampte wat, wanneer hy op diens gaan, vind dat 'n outomatiese alarm met 'n antenne verbind is, moet onmiddellik die doeltreffendheid van die outomatiese alarm toets voordat hy daaraan stel.

(4) Terwyl 'n radiotelegraafskip op die see is, moet die radiobeampte of, as daar meer as een is, die eerste radiobeampte, die volgende toetse laat uitvoer:—

(*a*) Een maal daagliks die noodradiotelegraafsender laat toets wat met 'n kunsantenne verbind is wat voldoen aan die vereistes gestel in paragraaf 13 van Deel III van die Eerste Bylae;

(*b*) as die skip op 'n internasionale reis gebruik word, een maal gedurende elke reis die noodradiotelegraafsender laat toets wat met die noodantenne, as daar een is, verbind is;

(*c*) eenmaal daagliks met 'n voltmeter en een maal per maand met 'n hidrometer alle batterye laat toets wat 'n energiebron vir die radiotelegraafinstallasie is;

(*d*) eenmaal daagliks elke ander bron van elektriese energie wat vir die noodradiotelegraafuitrusting verskaf word, laat toets; en

(*e*) eenmaal daagliks die kringe van die hoorbare alarms en die klokke wat deel uitmaak van die outomatiese alarm laat toets.

(5) Terwyl 'n radiotelegraafskip op die see is, moet die radiobeampte of, as daar meer as een is, die eerste radiobeampte, alle stappe doen wat hy moontlik kan om die uitrusting waaroor dit in hierdie Deel gaan, behoorlik te laat onderhou en wanneer nodig te laat herstel en regstel. Dié beampte moet alle batterye wat 'n bron van elektriese energie is vir enige deel van die radiotelegraafinstallasie, waarvan gevind word dat hulle nie ten volle gelaai is nie, so gou moontlik laat vol laai.

(ii) in the case of a ship of Class II or Class III, a watch of eight hours a day at the times specified in Column 5 of the Seventh Schedule in relation to the zone in which the ship then is.

(2) Any auto-alarm provided on board a radiotelegraph ship shall be in operation at all times at which a radio watch is not maintained unless the auto-alarm has broken down since the ship last put to sea and cannot be repaired at sea so as to operate effectively.

18. *Watchkeeping, Testing and Maintenance by Radio Officers.*

(1) Every radio officer on board a radiotelegraph ship shall keep radio watch by means of headphone reception throughout his period of duty except when another radio officer keeps radio watch by headphone reception: Provided that—

(*a*) radio watch may be maintained by means of loud-speaker reception; or

(*b*) if loud-speaker reception is impracticable radio watch may be dispensed with except during a silence period,

for such periods as may be necessary to enable the radio officer to perform other duties in compliance with this Part or with Part II (Direction-finders).

(2) Every radio officer on board a radiotelegraph ship provided with an auto-alarm complying with the requirements specified in the Sixth Schedule shall, whenever radio watch ceases to be maintained during or at the end of his period of duty, connect the auto-alarm with the ship's main aerial, or with any other equally efficient aerial, and shall put the auto-alarm into operation. Every radio officer who leaves an auto-alarm in operation when he goes off duty shall before going off duty—

(*a*) test the efficiency of the auto-alarm; and

(*b*) immediately report the result of such test to the master of the ship or to the officer in charge of the navigation of the ship.

(3) Every such radio officer who finds an auto-alarm connected to an aerial when he goes on duty shall immediately test the efficiency of the auto-alarm before making any adjustment thereto.

(4) While a radiotelegraph ship is at sea, the radio officer, or if there is more than one, the first radio officer, shall cause the following tests to be made:—

(*a*) A test once a day of the emergency radiotelegraph transmitter connected with an artificial aerial complying with the requirements specified in paragraph 13 of Part III of the First Schedule;

(*b*) if the ship is engaged on an international voyage a test once during every voyage of the emergency radiotelegraph transmitter connected with the emergency aerial, if any;

(*c*) a test once a day by voltmeter and once a month by hydrometer of any batteries which are a source of energy for the radiotelegraph installation;

(*d*) a test once a day of any other source of electrical energy provided for the emergency radiotelegraph equipment; and

(*e*) a test once a day of the audible alarm circuits and of the bells forming part of the auto-alarm.

(5) While a radiotelegraph ship is at sea, the radio officer, or if there is more than one, the first radio officer, shall take all steps within his power to cause the equipment referred to in this Part to be properly maintained and when necessary to be repaired and adjusted. Such officer shall cause all batteries, being a source of electrical energy for any part of the radiotelegraph installation, which are found not to be fully charged to be brought up to that condition as soon as may be.

19. *Beperking van gebruik van noodsender.*

Die sender wat deel uitmaak van die noodradiotelegraafuitrusting mag nie gebruik word om ander berigte as dié wat op die veiligheid van menselewens op see betrekking het, uit te send nie, tensy dié sender voldoen aan die vereistes gestel in Deel I van die Eerste Bylae.

20. *Radiotelegraaflog.*

(1) 'n Radiotelegraaflogboek in vorm T.V. 5/321 en T.V. 5/321 (*a*), in die Agste Bylae gespesifiseer, moet in 'n radiotelegraafkamer aan boord van elke Suid-Afrikaanse radiotelegraafskip gehou word en beskikbaar wees vir insae deur elkeen wat die Sekretaris of die Posmeestergeneraal daartoe gemagtig het.

(2) Elke radiobeampte aan boord van so 'n skip moet, wanneer hy op diens is, in die logboek inskryf—

(*a*) sy naam;

(*b*) die tye waarop hy op diens kom en van diens af gaan;

(*c*) die kennommer van elke berig wat hy stuur of ontvang, asook die tyd en datum van die uitsending of ontvangs, die stasie waarheen hy elke berig stuur en die stasie waarvandaan hy elke berig ontvang; en

(*d*) aantekeninge oor alle voorvalle gedurende sy dienstyd wat op die radiotelegraafinstallasie en die werking daarvan betrekking het en wat na sy oordeel van belang is vir die beveiliging van menselewens op see; hy moet insonderheid die volgende inskryf:—

(i) Die volledige teks van alle berigte wat hy stuur of ontvang wat betrekking het op onmiddellike hulp verlang deur persone wat in nood verkeer op die see of bokant die see;

(ii) die volledige teks van alle berigte wat hy stuur of ontvang wat voorafgegaan word deur 'n sein in algemene internasionale gebruik as 'n spoedsein of veiligheidsein;

(iii) aantekeninge oor die radiowag wat hy hou gedurende elkeen van die stiltetye;

(iv) aantekeninge oor elke voorval gedurende sy dienstyd wat die doeltreffendheid van die radiotelegraafinstallasie raak;

(v) aantekeninge oor die toetse wat hy uitvoer ooreenkomstig paragrawe (2), (3) en (4) van regulasie 18, en oor die uitslag van die toetse;

(vi) aantekeninge oor die laai van batterye deur hom wat as 'n bron van energie vir die radiotelegraafinstallasie gebruik word; en

(vii) indien die skip 'n outomatiese alarm het, besonderhede van enige onklaarraking of herstel daarvan gedurende sy dienstyd.

(3) Die radiobeampte of, as daar meer as een is, die eerste radiobeampte, moet minstens een maal daagliks die tyd wat die horlosie in elke radiotelegraafkamer aanwys in vergelyking met middelbare Greenwichtyd asook enige korreksie aangebring ten opsigte van dié horlosie, in die logboek inskryf.

(4) Die gesagvoerder van die skip en, as daar meer as een radiobeampte is, die eerste radiobeampte, moet die logboek een maal daagliks nagaan en teken. Die gebruik van 'n rubberstempel in plaas van 'n handtekening word nie toegelaat nie.

(5) Die radiotelegraaflogboek moet beskou word as deel van die amptelike skeepsjoernaal en artikels *honderd tweeen-tagtig, honderd vier-en-tagtig, honderd vyf-en-tagtig* en *honderd ses-en-tagtig* van die Wet is van toepassing op die radiotelegraaflogboek soos hulle van toepassing is op die amptelike skeepsjoernaal, met uitsondering van subartikel (4) van artikel *honderd twee-en-tagtig* van die Wet.

(OPMERKING.—Bogenoemde artikels van die Wet het o.a. bepalings oor die bewaring van die amptelike skeepsjoernaal, onwettige inskrywings of veranderings daarin en die aflewering en stuur daarvan aan die bevoegde beampte.)

19. *Restriction of Use of Emergency Transmitter.*

The transmitter forming part of the emergency radiotelegraph equipment shall not be used to transmit messages other than those relating to the safety of life at sea, unless such transmitter complies with the requirements specified in Part I of the First Schedule.

20. *Radiotelegraph Log.*

(1) A radiotelegraph log-book in form T.V. 5/321 and T.V. 5/321 (*a*) specified in the Eighth Schedule shall be kept in a radiotelegraph room on board every South African radiotelegraph ship and shall be available for inspection by any person authorised on that behalf by the Secretary or by the Postmaster-General.

(2) Every radio officer on board such a ship shall, when on duty, enter in such log-book—

(*a*) his name;

(*b*) the times at which he goes on and off duty;

(*c*) the identifying number of each message transmitted by him, or received by him, together with the time and date of such transmission or reception, the station to which each message is transmitted by him and the station from which each message is received by him; and

(*d*) a record of all incidents occuring during his period of duty which relates to the radiotelegraph installation and the operation thereof and which appear to him to be of importance to the safety of life at sea; in particular, he shall make the following entries:—

(i) The full text of all messages transmitted by him or received by him which relate to immediate assistance required by persons in distress at sea or above the sea;

(ii) the full text of all messages transmitted by him or received by him which are preceded by a signal in general international use as an urgency signal or a safety signal;

(iii) a record of the radio watch maintained by him during each of the silence periods;

(iv) a record of any incident occurring during his period of duty which affects the efficiency of the radiotelegraph installation;

(v) a record of the tests conducted by him in accordance with paragraphs (2), (3) and (4) of regulation 18, and of the results of such tests;

(vi) a record of the charging by him of any batteries used as a source of energy for the radiotelegraph installation; and

(vii) if the ship is provided with an auto-alarm, details of any failure or repair thereof during his period of duty.

(3) The radio officer, or, if there is more than one, the first radio officer, shall cause an entry to be made in such log-book at least once a day recording the time shown by the clock in each radiotelegraph room in comparison with Greenwich Mean Time, and any correction made in respect of that clock.

(4) The master of the ship and, if there is more than one radio officer, the first radio officer, shall inspect and sign such log-book once a day. The use of a rubber stamp in lieu of a signature shall not be permitted.

(5) The radiotelegraph log-book shall be regarded as being part of the official log-book, and sections *one hundred and eighty-two, one hundred and eighty-four, one hundred and eighty-five* and *one hundred and eighty-six* of the Act shall apply to the radiotelegraph log-book as they apply to the official log-book, with the exception of sub-section (4) of section *one hundred and eighty-two* of the Act.

(NOTE.—The above-mentioned sections of the Act provide among other things for the custody, unlawful entries or alterations, delivery and transmission to the proper officer of official log-books.)

Die radiotelegraaflogboek moet afsonderlik van die amptelike skeepsjoernaal gehou word en is 'n dokument wat betrekking het op die navigasie van die skip vir die toepassing van artikel *honderd sewe-en-tagtig* van die Wet (wat bepaal dat, by 'n verandering van gesagvoerder, dokumente aan 'n opvolger oorhandig word).

HOOFSTUK III.—RADIOTELEFONIE.

21. *Antenne.*

Op elke radiotelefoonskip moet 'n antenne aangebring wees en die skip moet daarby 'n reserweantenne hê wat volledig immekaargesit is vir onmiddellike oprigting. 'n Montasieplan van die antenne wat aangebring is, moet aan boord beskikbaar wees en die volgende aantoon:—

(*a*) vertikale aansig en plattegrond van die antenne;

(*b*) die afmetings van die antenne in voet en duim; en

(*c*) die hoogte van die antenne in meters, gemeet soos gespesifiseer in paragraaf (3) van regulasie 22.

22. *Sendafstand.*

(1) Die normale sendafstand van die radiotelefoonsender moet minstens 150 myl wees.

(2) Die sendafstand van 'n radiotelefoonsender word, na die eienaar van die skip verkies, òf deur berekening òf deur 'n toets bepaal.

(3) Wanneer die normale sendafstand van 'n radiotelefoonsender bepaal word deur berekening op die radiotelefoonnoodfrekwensie, moet dit gedoen word deur die produk te bepaal van die effektiewe stroom in ampères aan die voet van die antenne en die maksimum hoogte in meters van die antenne, gemeet van die uitlei-isolator af. Daar word geag dat die sender aan die vereistes van hierdie regulasie voldoen as die produk wat so verkry word minstens die volgende is:—

(*a*) 9·6 meter-ampères op 'n frekwensie van 1650 Khz., of 7·5 meter-ampères op 'n frekwensie van 2182 Khz., in elke geval as die antenne 'n horisontale toplengte het van minstens die helfte van sy maksimum hoogte gemeet van die uitlei-isolator af;

(*b*) 14·7 meter-ampères op 'n frekwensie van 1650 Khz., of 12·8 meter-ampères op 'n frekwensie van 2182 Khz. in die geval van enige ander antenne.

(4) Wanneer die normale sendafstand van 'n radiotelefoonsender deur 'n toets op die radiotelefoonnoodfrekwensie bepaal word, is dit die afstand wat dié sender gedurende die dag onder normale toestande op dié frekwensie seine oor die see kan stuur, sodat by die ontvanger deur die ongemoduleerde draaggolf 'n totale effektiewe veldsterkte tot stand gebring word van minstens 25 mikrovolts per meter.

23. *Toevoer van elektriese energie.*

(1) Op elke radiotelefoonskip moet daar, terwyl die skip op die see is, 'n toevoer van elektriese energie beskikbaar wees wat voldoende is om die radiotelefooninstallasie te laat werk ooreenkomstig hierdie Deel. As die toevoer van elektriese energie 'n gelykstroomtoevoer is, moet dit van die regte polariteit wees. In die geval van 'n radiotelefooninstallasie wat nie 'n bestaande installasie is nie, moet 'n noodbron van elektriese energie verskaf word in die boonste deel van die skip, tensy die hoofbron van elektriese energie daar is. Elke energiebron wat ooreenkomstig hierdie regulasie verskaf word, moet van so 'n kapasiteit wees dat dit ses uur lank onafgebroke 'n totale stroom kan lewer gelyk aan die som van—

(*a*) die helfte van die stroom wat nodig is om die radiotelefoonsender te laat werk vir die uitsending van spraak;

(*b*) die stroom wat nodig is om die radiotelefoonontvanger te laat werk; en

(*c*) die stroom wat gebruik word deur die elektriese lamp wat by paragraaf (*d*) van regulasie 24 vereis word.

The radiotelegraph log-book shall be kept distinct from the official log-book and shall be a document relating to the navigation of the ship for the purposes of section *one hundred and eighty-seven* of the Act (which provides for documents to be handed to a successor on change of master).

CHAPTER III.—RADIOTELEPHONY.

21. *Aerial.*

Every radiotelephone ship shall be fitted with an aerial, and in addition shall carry a spare aerial completely assembled for immediate erection. A rigging plan of the fitted aerial shall be available on board and shall show—

(*a*) elevation and plan views of the aerial;

(*b*) the measurements of the aerial in feet and inches; and

(*c*) the height of the aerial in metres, measured in the manner specified in paragraph (3) of regulation 22.

22. *Range.*

(1) The normal range of the radiotelephone transmitter shall not be less than 150 miles.

(2) The range of a radiotelephone transmitter shall be determined at the option of the owner of the ship either by reckoning or by test.

(3) The normal range of a radiotelephone transmitter, when determined by reckoning on the radiotelephone distress frequency, shall be calculated by ascertaining the product of the root mean square current in amperes at the base of the aerial and the maximum height in metres of the aerial measured from the lead-out insulator. The transmitter shall be deemed to comply with the requirements of this regulation if the product so ascertained is not less than—

(*a*) 9·6 metre-amperes on a frequency of 1,650 kc/s, or 7·5 metre-amperes on a frequency of 2,182 kc/s, in either case if the aerial has a horizontal top-length of not less than one half of its maximum height measured from the lead-out insulator;

(*b*) 14·7 metre-amperes on a frequency of 1,650 kc/s, or 12·8 metre-amperes on a frequency of 2,182 kc/s, in the case of any other aerial.

(4) The normal range of a radiotelephone transmitter, when determined by test on the radiotelephone distress frequency, shall be the distance to which signals can be transmitted by such transmitter over the sea by day under normal conditions on that frequency so as to set up at the receiver by the unmodulated carrier a total root mean square field strength of at least 25 microvolts per metre.

23. *Supply of Electrical Energy.*

(1) There shall be available in every radiotelephone ship while she is at sea a supply of electrical energy sufficient to operate the radiotelephone installation in accordance with this Part. The supply of electrical energy shall if it is a direct current supply, be of correct polarity. In the case of a radiotelephone installation which is not an existing installation an emergency source of electrical energy shall be provided in the upper part of the ship unless the main source of electrical energy is so situated. Each source of energy provided in compliance with this regulation shall be of such capacity as to be able to supply continuously for a period of six hours a total current equal to the sum of—

(*a*) one-half of the current required to operate the radiotelephone transmitter for the transmission of speech;

(*b*) the current required to operate the radiotelephone receiver; and

(*c*) the current consumed by the electric lamp required by paragraph (*d*) of regulation 24.

(2) Indien 'n enkele battery vir bogenoemde doel verskaf is, moet ook die nodige middels verskaf word om òf—

(i) die radiotelefoonontvanger en -sender van die skip se hoofbron van elektriese energie af te laat werk; òf

(ii) die battery vlottend te laai terwyl dit in gebruik is; in dié geval moet daar voldoende beveiliging wees teen spanningstoename.

Dié middels moet so ontwerp wees dat dit nie die aarding van die skip se hoofbron van elektriese energie nodig maak nie en 'n filter moet verskaf word om te voorkom dat steuring wat deur die kragnet aangevoer word die ontvanger binnedring.

(3) Wanneer die batterye vir die radiotelefoonsender nie in gebruik is nie, moet elke battery binne 'n tydperk van hoogstens 16 uur vol gelaai kan word deur die laaimiddel wat by regulasie 8 vereis word.

24. *Diverse vereistes.*

Die volgende bepalings is op elke radiotelefoonskip van toepassing:—

(*a*) Die radiotelefooninstallasie moet so hoog as wat prakties moontlik is in die skip geïnstalleer word.

(*b*) 'n Doeltreffende middel vir tweerigtingsverbinding moet verskaf word tussen die plek waar die radiotelefooninstallasie geïnstalleer is en enige ander plek waarvandaan die skip gewoonlik genavigeer word.

(*c*) 'n Betroubare horlosie moet stewig gemonteer word op so 'n plek dat dit van die bedienpunt van die radiotelefooninstallasie af gesien kan word.

(*d*) 'n Elektriese lamp moet verskaf word en moet van die noodbron van elektriese energie af brand wat by regulasie 23 vereis word of, indien geen noodbron van elektriese energie aldus vereis word nie, van die hoofbron af. Die lamp moet permanent so geplaas word dat dit die kontroles van die radiotelefooninstallasie en die horlosie wat by subparagraaf (*c*) vereis word, voldoende kan verlig. Die lamp moet beheer word deur middel van tweewegskakelaars wat onderskeidelik naby 'n ingang na die kamer waarin die radiotelefooninstallasie geïnstalleer is en by die bedienpunt daarvan in dié kamer, aangebring is.

25. *Verskaffing en kwalifikasies van Radiotelefoonoperateurs.*

(1) Elke radiotelefoonskip moet minstens een gekwalifiseerde radiotelefoonoperateur hê, wat 'n lid van die bemanning kan wees.

(2) Niemand word as gekwalifiseerde radiotelefoonoperateur beskou of mag as sodanig op 'n Suid-Afrikaanse skip wat 'n radiotelefoonskip is, in diens wees nie tensy hy—

(*a*) 'n Suid-Afrikaanse burger is of burger van 'n land (behalwe die Unie) wat lid is van die Statebond;

(*b*) in besit is van 'n geldige sertifikaat van bekwaamheid of bevoegdheid in radiotelefonie of radiotelegrafie toegeken deur die Posmeester-generaal of, behoudens artikel *driehonderd vier-en-vyftig* van die Wet, deur 'n gesag wat daartoe gemagtig is deur die wette van 'n land (behalwe die Unie) wat lid is van die Statebond; dié sertifikaat moet deur die Posmeester-generaal erken word as gelykwaardig met die sertifikaat wat hy toeken; en

(*c*) die verklaring van geheimhouding onderskryf het wat by subartikel (2) van artikel *tweehonderd tweeen-twintig* van die Wet vereis word.

(3) Niemand word beskou as 'n radiotelefoonoperateur aan boord van 'n skip wat in 'n ander land as die Unie geregistreer is nie, tensy hy in besit is van 'n geldige sertifikaat van bekwaamheid of bevoegdheid in radiotelefonie of radiotelegrafie toegeken deur 'n gesag wat daartoe gemagtig is of in dié verband erken word deur die wette van die land waarin die skip geregistreer is; dié sertifikaat moet deur die Posmeester-generaal erken word as gelykwaardig met die sertifikaat wat hy toeken.

(2) If a single battery is provided for the foregoing purpose, means shall also be provided for either—

(i) operating the radiotelephone receiver and transmitter from the ship's main source of electrical energy; or

(ii) float-charging the battery while it is in use, in which case there shall be adequate protection against voltage rise.

Such means shall be so designed as not to require the earthing of the ship's main source of electrical energy, and a filter shall be provided to prevent mainsborne interference from entering the receiver.

(3) When the batteries for the radiotelephone transmitter are not in use, each battery shall be capable of being fully charged within a period of not more than 16 hours by the means for charging required by regulation 8.

24. *Miscellaneous Requirements.*

The following provisions shall apply to every radiotelephone ship:—

(*a*) The radiotelephone installation shall be installed as high as practicable in the ship.

(*b*) An efficient two-way means of communication shall be provided between the place where the radiotelephone installation is installed and any other place from which the ship is normally navigated.

(*c*) A reliable clock shall be securely mounted within sight of the operating position of the radiotelephone installation.

(*d*) An electric lamp shall be provided and shall be operated from the emergency source of electrical energy required by regulation 23, or, if no emergency source of electrical energy is so required, from the main source. The lamp shall be permanently arranged so as to be capable of providing adequate illumination of the operating controls of the radiotelephone installation and the clock required by sub-paragraph (*c*). The lamp shall be controlled by two-way switches placed respectively near an entrance to the room in which the radiotelephone installation is installed and at the operating position thereof in that room.

25. *Provision and Qualifications of Radiotelephone Operators.*

(1) Every radiotelephone ship shall be provided with at least one qualified radiotelephone operator, who may be a member of the crew.

(2) No person shall be regarded as a qualified radiotelephone operator, or be employed as such on any South African ship which is a radiotelephone ship unless—

(*a*) he is a South African citizen or a citizen of a country (other than the Union) which is a member of the Commonwealth;

(*b*) he holds a valid certificate of proficiency or competence in radiotelephony or radiotelegraphy granted by the Postmaster-General, or subject to section *three hundred and fifty-four* of the Act by an authority empowered in that behalf by the laws of a country (other than the Union) which is a member of the Commonwealth, which certificate is recognised by the Postmaster-General as the equivalent of such a certificate granted by him; and

(*c*) he has subscribed to the declaration of secrecy required by sub-section (2) of section *two hundred and twenty-two* of the Act.

(3) No person shall be deemed to be a radiotelephone operator on board a ship registered in a country other than the Union unless he holds a valid certificate of proficiency or competence in radiotelephony or radiotelegraphy granted by an authority empowered or recognised in that behalf by the laws of the country in which the ship is registered, which certificate is recognised by the Postmaster-General as the equivalent of such a certificate granted by him.

26. *Radiowag deur middel van radiotelefoon.*

Terwyl 'n radiotelefoonskip op die see is, moet 'n radiotelefoonoperateur minstens 8 uur per dag radiowaghou, op die tye genoem in kolom 5 van die Sewende Bylae, met betrekking tot die sone waarin die skip dan is.

27. *Waghou, toets en instandhouding deur radiotelefoonoperateur.*

(1) Elke radiotelefoonoperateur aan boord van 'n radiotelefoonskip moet radiowaghou gedurende die dienstye wat die gesagvoerder van die skip aan hom toewys.

(2) Terwyl 'n radiotelefoonskip op die see is, moet die radiotelefoonoperateur of, as daar meer as een is, die eerste radiotelefoonoperateur, batterye wat 'n bron van elektriese energie vir die radiotelefooninstallasie is, eenmaal daagliks laat toets en so gou as moontlik laat vol laai.

28. *Radiotelefoonlog.*

(1) 'n Radiotelefoonlogboek in vorm T.V. 5/322, gespesifiseer in die Negende Bylae, moet naby die radiotelefooninstallasie in elke radiotelefoonskip gehou word en beskikbaar wees vir insae deur enigeen wat die Sekretaris of die Posmeester-generaal daartoe gemagtig het.

(2) Paragrawe (2), (3), (4) en (5) van regulasie 20 is *mutatis mutandis* van toepassing op dié radiotelefoonlogboek; met dien verstande dat 'n inskrywing in die logboek gedoen moet word slegs van die algemene strekking van die berigte wat in subparagraaf (*d*) van paragraaf (2) van dié regulasie genoem word.

HOOFSTUK IV.—TEGNIESE VEREISTES VAN RADIOUITRUSTING VIR REDDINGSBOTE.

29. *Radio-uitrusting vir motorreddingsbote.*

(1) Die radiotelegraafuitrusting wat vereis word by paragraaf (9) van regulasie 5 en paragraaf (12) van regulasie 6 van die regulasies insake reddingsuitrusting, moet voldoen aan die spesifikasies vervat in Deel I van die Vierde Bylae.

(2) Die battery wat deel uitmaak van dié uitrusting moet vir geen ander doel gebruik word as die werking van dié uitrusting en van die soeklig wat ooreenkomstig die Regulasies insake Reddingsuitrusting, verskaf is nie.

30. *Draagbare radio-uitrusting vir reddingsbote.*

Die uitrusting wat vereis word by paragraaf (10) van regulasie 5, paragraaf (13) van regulasie 6 en paragraaf (3) van regulasie 12 van die Regulasies insake Reddingsuitrusting, moet voldoen aan die spesifikasies vervat in Deel II van die Vierde Bylae.

31. *Toets van radio-uitrusting vir reddingsbote.*

(1) Wanneer 'n radiotelegraafskip wat van die uitrusting voorsien is wat in regulasie 29 of regulasie 30 genoem word, op die see is, moet die radiobeampte of, as daar meer as een is, die eerste radiobeampte, minstens een maal elke 7 dae die sender wat deel uitmaak van dié installasie of uitrusting laat toets met sy kunsantenne en alle batterye, behalwe selfvulbatterye, wat 'n bron van elektriese energie vir dié installasie of uitrusting is, met 'n voltmeter en hidrometer laat toets en so gou as moontlik laat vol laai.

(2) Die radiobeampte wat die toetse uitvoer wat in paragraaf (1) genoem word, moet die uitslag van die toetse in die radiotelegraaflogboek laat inskryf.

HOOFSTUK V.—VRYSTELLINGS.

32. *Vrystelling ten opsigte van noodantenne.*

Indien die Minister of die Sekretaris, na gelang van die geval, daarvan oortuig is dat die verskaffing van 'n noodantenne ondoenlik of onredelik sou wees, kan hy 'n skip vrystel van die bepalings van paragraaf (1) van regulasie 11 ten opsigte van die noodantenne.

26. *Radio Watch by Radiotelephone.*

While a radiotelephone ship is at sea, radio watch shall be maintained by a radiotelephone operator for at least 8 hours a day, at the times specified in Column 5 of the Seventh Schedule in relation to the zone in which the ship then is.

27. *Watchkeeping, Testing and Maintenance by Radiotelephone Operators.*

(1) Every radiotelephone operator on board a radiotelephone ship shall keep radio watch during the periods of duty assigned to him by the master of the ship.

(2) While a radiotelephone ship is at sea, the radiotelephone operator, or if there is more than one, the first radiotelephone operator, shall cause any batteries which are a source of electrical energy for the radiotelephone installation to be tested once a day and brought up to fully-charged condition as soon as may be.

28. *Radiotelephone Log.*

(1) A radiotelephone log-book in form T.V. 5/322 specified in the Ninth Schedule shall be kept near the radiotelephone installation in every radiotelephone ship, and shall be available for inspection by any person authorised in that behalf by the Secretary or the Postmaster-General.

(2) Paragraphs (2), (3), (4) and (5) of regulation 20 shall *mutatis mutandis* apply to such radiotelephone log-book: Provided that an entry shall be required to be made in the radiotelephone log-book only of the general sense of the messages referred to in sub-paragraph (*d*) of paragraph (2) of that regulation.

CHAPTER IV.—TECHNICAL REQUIREMENTS OF RADIO EQUIPMENT FOR LIFEBOATS.

29. *Radio Equipment for Motor Lifeboats.*

(1) The radiotelegraph equipment required by paragraph (9) of regulation 5 and paragraph (12) of regulation 6 of the lifesaving equipment regulations, shall comply with the specifications set forth in Part I of the Fourth Schedule.

(2) The battery included in such equipment shall not be used for any purpose other than the operation of such equipment and of the searchlight provided in compliance with the lifesaving equipment regulations.

30. *Portable Radio Equipment for Lifeboats.*

The equipment required by paragraph (10) of regulation 5, paragraph (13) of regulation 6 and paragraph (3) of regulation 12 of the lifesaving equipment regulations, shall comply with the specifications set forth in Part II of the Fourth Schedule.

31. *Tests of Radio Equipment for Lifeboats.*

(1) When a radiotelegraph ship provided with the equipment referred to in regulation 29 or regulation 30 is at sea the radio officer, or if there is more than one, the first radio officer, shall at least once every seven days, cause the transmitter forming part of such installation or equipment to be tested with its artificial aerial and cause any batteries, other than self-priming batteries, which are a source of electrical energy for such installation or equipment to be tested by voltmeter and hydrometer and brought up to fully-charged condition as soon as may be.

(2) The radio officer making the tests referred to in paragraph (1), shall cause the results of such tests to be entered in the radiotelegraph log-book.

CHAPTER V.—EXEMPTIONS.

32. *Exemption in Respect of Emergency Aerial.*

If the Minister or Secretary, as the case may be, is satisfied that the provision of an emergency aerial would be impracticable or unreasonable, he may exempt any ship from the requirements of paragraph (1) of regulation 11 in respect of such emergency aerial.

Elke skip wat aldus vrygestel is, moet 'n reserweantenne aan boord hê wat volledig inmekaargesit is, sodat dit onmiddellik opgerig kan word.

[OPMERKING.—Vrystelling kragtens hierdie Deel kan as volg verleen word:—

(1) Deur die Minister ten opsigte van die volgende skepe:—

(*a*) Passasierskepe wat op internasionale reise of in enige besondere passasiersbedryf gebruik word; en

(*b*) skepe wat nie passasierskepe is nie en wat op internasionale reise gebruik word;

(2) deur die Sekretaris ten opsigte van die volgende skepe:—

(*a*) Passasierskepe wat nie op internasionale reise gebruik word nie; en

(*b*) skepe wat nie passasierskepe is nie en wat nie op internasionale reise gebruik word nie.]

33. *Algemene vrystelling ten opsigte van skepe wat op internasionale reise gebruik word.*

Die Minister kan, op die voorwaardes wat hy nodig ag, enige skip waarna in paragraaf (1) van die opmerking onderaan regulasie 32 verwys word, vrystel van enigeen van die bepalings van hierdie Deel, indien hy daarvan oortuig is dat die maksimum afstand van die skip van die kus af, die lengte van die reis, die afwesigheid van algemene navigasiegevare en ander omstandighede rakende veiligheid sodanig is dat dit die toepassing van hierdie Deel onredelik of onnodig maak.

34. *Algemene vrystelling ten opsigte van skepe wat nie op internasionale reise gebruik word nie.*

Die Sekretaris kan, op die voorwaardes wat hy nodig ag, enige skip waarna in paragraaf (2) van die opmerking onderaan regulasie 32 verwys word, vrystel van enigeen van of van al die vereistes van hierdie Deel.

DEEL II.—RIGTINGSOEKERS.

35. *Toepassing.*

(1) Behoudens die bepaling van paragraaf (2), is hierdie Deel van toepassing op—

(*a*) Suid-Afrikaanse skepe van 500 ton en meer wat uit watter hawe ookal op die see uitvaar; en

(*b*) skepe wat nie Suid-Afrikaanse skepe is nie, van 1,600 ton en meer wat uit 'n hawe van die Unie op die see uitvaar.

(2) Hierdie Deel is nie van toepassing nie op—

(*a*) Suid-Afrikaanse skepe wat—

(i) plesierjagte is;
(ii) nie deur meganiese middels aangedryf word nie;

(*b*) skepe wat nie Suid-Afrikaanse skepe is nie en wat—

(i) troepeskepe is;
(ii) plesierjagte is;
(iii) houtskepe van primitiewe bou is, soos bv. dhows, jonke, ens.;
(iv) nie deur meganiese middels aangedryf word nie; en
(v) vissersbote is.

(3) Die Minister of die Sekretaris, na gelang van die geval, kan in gevalle waar hy dit onredelik of onnodig ag dat daar peilapparaat aan boord moet wees, enige skip van minder as 5,000 ton vrystel van die bepalings van hierdie Deel.

[OPMERKING.—Vrystelling kragtens hierdie Deel kan as volg verleen word:—

Deur die Minister ten opsigte van die volgende skepe:—

(*a*) Passasierskepe wat op internasionale reise of in enige besondere passasiersbedryf gebruik word; en

Any ship so exempted shall carry a spare aerial completely assembled for immediate erection.

[NOTE.—Exemptions under this Part may be granted as follows:—

(1) By the Minister in respect of the following ships:—

(*a*) Passenger ships engaged on international voyages or in any special passenger trade; and

(*b*) ships, which are not passenger ships, and which are engaged on international voyages.

(2) By the Secretary in respect of the following ships:—

(*a*) Passenger ships which do not engage on international voyages; and

(*b*) ships, which are not passenger ships, and which do not engage on international voyages.]

33. *General Exemption in Respect of Ships Engaged on International Voyages.*

The Minister may on such conditions as he may deem necessary, exempt any ship referred to in paragraph (1) of the note to regulation 32, from any of the provisions of this Part if he is satisfied that the maximum distance of the ship from the shore, the length of the voyage, the absence of general navigation hazards and other conditions affecting safety, are such as to render the application of this Part unreasonable or unnecessary.

34. *General Exemption in Respect of Ships Which do Not Engage on International Voyages.*

The Secretary may on such conditions as he may deem necessary, exempt any ship referred to in paragraph (2) of the note to regulation 32, from any or all of the requirements of this Part.

PART II.—DIRECTION-FINDERS.

35. *Application.*

(1) Subject to the provisions of paragraph (2), this Part shall apply to—

(*a*) South African ships of 500 tons and upwards proceeding to sea from any port whatsoever; and

(*b*) ships which are not South African ships, of 1,600 tons and upwards which proceed to sea from a port in the Union.

(2) This Part shall not apply to—

(*a*) South African ships which are—

(i) pleasure yachts;
(ii) not propelled by mechanical means;

(*b*) ships, which are not South African ships, and which are—

(i) troopships;
(ii) pleasure yachts;
(iii) wooden ships of primitive build, such as dhows, junks, etc.;
(iv) not propelled by mechanical means; and
(v) fishing boats.

(3) The Minister or Secretary as the case may be may, in cases where he considers it unreasonable or unnecessary for direction-finding apparatus to be carried, exempt any ship of less than 5,000 tons from the provisions of this Part.

[NOTE.—Exemptions under this Part may be granted as follows:—

By the Minister in respect of the following ships:—

(*a*) Passenger ships engaged on international voyages or in any special passenger trade; and

(*b*) skepe wat nie passasierskepe is nie en wat op internasionale reise gebruik word.

Deur die Sekretaris ten opsigte van die volgende skepe:—

(*a*) Passasierskepe wat nie op internasionale reise gebruik word nie; en

(*b*) skepe wat nie passasierskepe is nie en wat nie op internasionale reise gebruik word nie.]

36. *Verskaffing van rigtingsoekers.*

Elke skip waarop hierdie Deel van toepassing is, moet van 'n rigtingsoeker voorsien wees wat voldoen aan die vereistes vervat in die Tiende Bylae.

37. *Klimaats- en duursaamheidstoetse.*

(1) Die rigtingsoeker moet geen meganiese gebreke hê nie en voldoen aan die vereistes van hierdie Deel—

(*a*) terwyl dit die trillings-, die droëhitte- en die lae-temperatuurtoets ondergaan wat in die Elfde Bylae beskryf word;

(*b*) wanneer dit onderwerp word aan die klamhittetoets wat in subparagraaf (4) van paragraaf 3 van genoemde Bylae beskryf word; en

(*c*) onmiddellik nadat dit die ander toetse ondergaan het wat in genoemde Bylae beskryf word.

(2) Die lusantennestelsel wat in die Tiende Bylae genoem word, moet sodanig wees dat daar geen skimmel daarop sal wees nadat dit die skimmelgroeitoets ondergaan het wat in die Elfde Bylae genoem word nie.

38. *Steurnig van ontvangs.*

Op geen tydstip wanneer die skip op die see is, mag steuring of meganiese ruis wat deur die rigtingsoeker of deur ander uitrusting op die skip veroorsaak word genoeg wees om die doeltreffende bepaling van radiopeilings deur middel van die rigtingsoeker te verhinder nie.

39. *Hoëspanningsdele.*

Alle dele en bedrading van die uitrusting wat in hierdie Deel gespesifiseer word, waarin die gelyk- en die wisselstroomspanning (behalwe radiofrekwensiespannings) te eniger tyd kombineer om 'n oomblikspanning groter as 250 volts te gee, moet teen toevallige toegang beveilig word en, behalwe in die geval van 'n ontwikkelaar of omsetter, outomaties geïsoleer wees van alle bronne van elektriese energie wanneer die beveiligingsmiddel verwyder word.

40. *Toevoer van elektriese energie.*

Op elke skip moet daar te alle tye wanneer hy op die see is 'n toevoer van elektriese energie beskikbaar wees wat voldoende is om die rigtingsoeker te laat werk. Wanneer die skip in 'n hawe is, moet dié toevoer ook op alle redelike tye vir toetsdoeleindes beskikbaar wees.

41. *Laai van batterye.*

Uitrusting moet aan boord van elke skip verskaf word vir die laai van batterye wat as 'n bron van elektriese energie vir die rigtingsoeker verskaf is en die skip se hoofbron van elektriese energie moet altyd beskikbaar wees om die batterye te laai wanneer die skip op die see is. Die gesagvoerder van die skip moet die batterye een keer daagliks met 'n voltmeter en een keer per maand met 'n hidrometer laat toets en elke battery waarvan gevind word dat dit nie ten volle gelaai is nie, so spoedig moontlik laat vol laai.

42. *Installering van rigtingsoeker.*

(1) Elke rigtingsoeker moet in so 'n posisie geïnstalleer word dat die doeltreffende bepaling van radiopeilings deur middel van die rigtingsoeker nie deur geluide van buite af belemmer sal word nie.

(2) (*a*) Die lusantennestelsel wat in die Tiende Bylae genoem word, moet op so 'n wyse gemonteer word dat die doeltreffende bepaling van radiopeilings deur middel van die rigtingsoeker so min moontlik deur die nabyheid van antennes, laaibome, draadhystoue en ander groot metaalvoorwerpe belemmer sal word.

(*b*) ships, which are not passenger ships, and which are engaged on international voyages.

By the Secretary in respect of the following ships:—

(*a*) Passenger ships which do not engage on international voyages; and

(*b*) ships, which are not passenger ships, and which do not engage on international voyages.]

36. *Provision of Direction-finders.*

Every ship to which this Part applies shall be provided with a direction-finder complying with the requirements set forth in the Tenth Schedule.

37. *Climatic and Durability Tests.*

(1) The direction-finder shall be free from mechanical defects and shall comply with the requirements of this Part—

(*a*) while undergoing the vibration, dry heat, and low temperature tests specified in the Eleventh Schedule;

(*b*) when subjected to the damp heat test specified in sub-paragraph (4) of paragraph 3 of the said Schedule; and

(*c*) immediately after undergoing the other tests specified in the said Schedule.

(2) The loop aerial system referred to in the Tenth Schedule shall be such that after undergoing the mould growth tests specified in the Eleventh Schedule, no mould growth will be present on it.

38. *Interference with Reception.*

At no time when the ship is at sea shall interference or mechanical noise produced by the direction-finder or by other equipment in the ship be sufficient to prevent the efficient determination of radio bearings by means of the direction-finder.

39. *High Voltage Parts.*

All parts and wiring of the equipment specified in this Part in which the direct and alternating voltages (other than radio frequency voltages) combine at any time to give an instantaneous voltage greater than 250 volts shall be protected from accidental access and, except in the case of a generator or converter, shall be isolated automatically from all sources of electrical energy when the means of protection are removed.

40. *Supply of Electrical Energy.*

There shall be available in every ship at all times when it is at sea, a supply of electrical energy sufficient for the operation of the direction-finder. When the ship is in port such supply shall also be available for testing purposes at all reasonable times.

41. *Charging of Batteries.*

Equipment shall be provided on board every ship for the charging of any batteries which are provided as a source of electrical energy for the direction-finder, and the ship's main source of electrical energy shall always be available for charging the batteries when the ship is at sea. The master of the ship shall cause such batteries to be tested once a day by voltmeter and once a month by hydrometer, and shall cause any battery which is found not to be fully charged to be brought up to that condition as soon as may be.

42. *Installation of Direction-finder.*

(1) Every direction-finder shall be installed in such a position that efficient determination of radio bearings by means of the direction-finder will not be hindered by extraneous noises.

(2) (*a*) The loop aerial system referred to in the Tenth Schedule shall be mounted in such manner that the efficient determination of radio bearings by means of the direction-finder will be hindered as little as possible by the proximity of aerials, derricks, wire halyards and other large metal objects.

(*b*) Tensy die voerkabels, wat die lusantennestelsel met die ontvanger verbind wat deel uitmaak van die rigtingsoeker, uit afgeskermde kabel met soliede diëlektrikum, bestaan, moet hulle beskerm word deur middel van metaalbuise wat geaard is. Die lasse van die voerder moet waterdig wees.

43. *Kommunikasiemiddel.*

(1) Op elke skip moet daar 'n doeltreffende tweerigting-roep-en-spraakverbindingsmiddel wees tussen die ontvanger wat deel uitmaak van die rigtingsoeker en die brug waarvandaan die skip gewoonlik genavigeer word.

(2) Op elke skip moet daar 'n doeltreffende seinmiddel wees tussen die ontvanger wat deel uitmaak van die rigtingsoeker en die skip se standaardkompas of tolkompasherhaler, as daar een is.

44. *Beperking van gebruik van die rigtingsoeker.*

Die rigtingsoeker mag nie gebruik word—

(*a*) vir ander doeleindes as dié van die skip nie; of

(*b*) om die radiowag te hou wat by regulasie 17 van Deel I van hierdie regulasies vereis word nie.

45. *Yking.*

(1) Die gesagvoerder van elke skip moet die rigtingsoeker ooreenkomstig hierdie regulasie deur twee persone laat yk; een van hulle moet ervare wees in die neem van radiopeilings en die ander in die neem van optiese peilings.

(2) Die rigtingsoeker moet aldus geyk word so spoedig moontlik nadat dit op die skip geïnstalleer is en telkens wanneer 'n verandering in die posisie van die lusantennestelsel aangebring word.

(3) Die rigtingsoeker moet as volg geyk word:—

(*a*) Die yking van die rigtingsoeker word uitgevoer deur gelyktydig optiese peilings op 'n yksender en radiopeilings daarop te neem deur middel van die rigtingsoeker; die skip word òf—

(i) vir 'n volledige sirkel geswaai, òf

(ii) omsirkel deur 'n ander skip wat die yksender op het,

en in elke geval word die peilings dwarsdeur 360° geneem met tussenafstande van 5 grade of so naby daaraan as moontlik. Die yksender waarop die peilings geneem word, ongeag of dit op die kus of aan boord van 'n ander skip is, moet 'n sender wees wat op 'n frekwensie tussen 285 Khz. en 315 Khz. werk.

(*b*) Yktabelle en -krommes moet opgestel word aan die hand van die peilings wat ooreenkomstig subparagraaf (*a*) van hierdie paragraaf geneem is.

(4) Die gesagvoerder van die skip moet die yktabelle en -krommes wat ooreenkomstig die voorgaande bepalings van hierdie regulasie opgestel is, laat verifieer deur middel van kontrolepeilings geneem soos daarin voorgeskryf—

(*a*) met tussenposes van hoogstens twaalf maande, en

(*b*) telkens wanneer 'n verandering aangebring word in enige struktuur of toebehore op dek wat die noukeurigheid waarskynlik sal beïnvloed.

Indien die verifikasie toon dat die yktabelle of -krommes wesentlik onjuis is, moet die gesagvoerder van die skip die rigtingsoeker opnuut so spoedig moontlik laat yk op die wyse wat in die voorgaande bepaling van hierdie regulasie gespesifiseer word.

46. *Stukke insake yking en verifikasie.*

Die gesagvoerder van elke skip moet die volgende stukke aan boord laat hou op 'n plek waartoe enigeen wat die rigtingsoeker bedien, toegang het, en sorg dat dit op enige redelike tyd beskikbaar is vir insae deur enigeen wat die Sekretaris of die Posmeester-generaal daartoe gemagtig het:—

(*a*) 'n Lys of diagram wat die toestand en posisie aandui, by die jongste geleentheid waarby die rigtingsoeker geyk is, van—

(i) die antennes, en van

(ii) alle verplaasbare strukture

aan boord van die skip wat die noukeurigheid van die rigtingsoeker mag beïnvloed;

(*b*) die yktabelle en -krommes wat opgestel is by die jongste geleentheid waarby die rigtingsoeker geyk is;

(*b*) Unless the feeder cables connecting the loop aerial system with the receiver forming part of the direction-finder consists of solid-dielectric screened cable, they shall be protected by metal tubes which are bonded to earth. The joints of the feeder shall be watertight.

43. *Means of Communication.*

(1) In every ship an efficient two-way means of calling and voice communication shall be provided between the receiver forming part of the direction-finder and the bridge from which the ship is normally navigated.

(2) In every ship an efficient means of signalling shall be provided between the receiver forming part of the direction-finder and the ship's standard compass or gyro compass repeater, if any.

44. *Restriction of Use of the Direction-finder.*

The direction-finder shall not be used—

(*a*) for any purpose other than the business of the ship; or

(*b*) for keeping the radio watch required by regulation 17 of Part 1 of these regulations.

45. *Calibration.*

(1) The master of every ship shall cause the direction-finder to be calibrated in accordance with this regulation by two persons, the one experienced in taking of radio bearings and the other experienced in taking visual bearings.

(2) The direction-finder shall be so calibrated as soon as may be after it has been installed in the ship and whenever any change is made in the position of the loop aerial system.

(3) The direction-finder shall be calibrated in the following manner:—

(*a*) The calibration of the direction-finder shall be carried out by taking simultaneously visual bearings upon a calibrating transmitter and radio bearings thereon by means of the direction-finder, the ship being either—

(i) swung through a complete circle; or

(ii) circled by another ship carrying the calibrating transmitter,

and in either case the bearings being taken throughout 360° at intervals of 5 degrees or as close thereto as may be. The calibrating transmitter upon which the bearings are taken, whether it is situated on shore or on board another ship, shall be a transmitter operating on a frequency between 285 kc/s and 315 kc/s.

(*b*) Calibration tables and curves shall be prepared on the basis of the bearings taken in accordance with sub-paragraph (*a*) of this paragraph.

(4) The master of the ship shall cause the calibration tables and curves prepared in accordance with the foregoing provisions of this regulation to be verified by means of check-bearings taken in the manner therein specified—

(*a*) at intervals not exceeding twelve months; and

(*b*) whenever any change is made in any structure or fitting on deck which is likely to affect the accuracy.

If such verification shall show that the calibration tables or curves are materially inaccurate the master of the ship shall cause the direction-finder to be recalibrated as soon as may be in the manner specified in the foregoing provision of this regulation.

46. *Records of Calibration and Verification.*

The master of every ship shall cause the following records to be kept on board in a place accessible to any person operating the direction-finder, and to be available for inspection at any reasonable time by any person authorised by the Secretary or by the Postmaster-General:—

(*a*) A list or diagram indicating the conditions and position, on the most recent occasion on which the direction-finder was calibrated, of—

(i) the aerials, and of

(ii) all movable structures

on board the ship which might affect the accuracy of the direction-finder;

(*b*) the calibration tables and curves which were prepared on the most recent occasion on which the direction-finder was calibrated;

(*c*) 'n yksertifikaat, in die vorm wat in die Twaalfde Bylae voorgeskryf word, wat betrekking het op die jongste geleentheid waarby die rigtingsoeker geyk is en geteken deur die persone wat die yking doen; en

(*d*) 'n register, in die vorm wat in die Dertiende Bylae voorgeskryf word, van kontrolepeilings wat geneem is vir die verifikasie van die yking; die peilings word genommer in die volgorde waarin dit geneem is.

47. *Bedradingsdiagram en instruksies.*

'n Skematiese bedradingsdiagram van die rigtingsoeker en 'n boek met voldoende instruksies betreffende die gebruik van die rigtingsoeker moet verskaf word en moet te alle tye beskikbaar wees vir gebruik deur enigeen wat die rigtingsoeker bedien of toets.

DEEL III.—GELYKWAARDIGHEDE.

48. *Algemeen.*

Waar hierdie regulasies voorskryf dat 'n besondere toestel, inrigting of apparaat of tipe daarvan in 'n skip aangebring of aan boord daarvan gehou moet word of dat enige besondere voorsiening gemaak moet word, kan die Minister of Sekretaris na gelang van die geval, toelaat dat enige ander toestel, inrigting of apparaat of tipe daarvan aangebring of aan boord gehou word of dat enige ander voorsiening in daardie skip gemaak word indien hy oortuig is dat sodanige ander toestel, inrigting of apparaat of tipe daarvan, of sodanige ander voorsiening minstens net so doeltreffend is as dié wat deur hierdie regulasies voorgeskryf word.

EERSTE BYLAE.

Regulasie 4 (1).

RADIOTELEGRAAFUITRUSTING.

DEEL I.

HOOFRADIOTELEGRAAFSENDER.

1. *Algemeen.*

Die hoofradiotelegraafsender (in hierdie Deel „die sender" genoem) moet voorsien wees van alle uitrusting wat nodig mag wees om dit van die energiebron af te laat werk wat in paragraaf (1) van regulasie 13 genoem word en moet vinnig met die hoof- en die noodantenne verbind kan word wat in regulasie 11 genoem word.

2. *Golftipes en frekwensiegebied.*

Die sender moet ingestel kan word vir die uitsending van A1- sowel as A2-golwe, soos nodig mag wees, in die frekwensiegebied 405 Khz. tot 525 Khz.

3. *Sendfrekwensies.*

Die sender moet onafgebroke maar nie gelyktydig nie radiotelegraafseine op die frekwensies 500 Khz., 410 Khz. en 512 Khz. en op twee van die volgende frekwensies kan send:—

425 Khz., 454 Khz., 468 Khz. en 480 Khz.

4. *Bestek van belastingsimpedansie.*

Die sender moet aan al die vereistes van hierdie Deel kan voldoen wanneer dit met 'n kunsbelasting verbind is waarvan een kant geaard is en wat bestaan uit 'n weerstand met die waarde R in serie met 'n kapasitansie met die waarde C, in al die kombinasies wat in die volgende tabel gespesifiseer word:—

C....	300	400	500	600	750	Pikofarads.
R....	3·6	2·8	2·2	2	1·9	Ohms.

5. *Vermoë van sender.*

(1) Vir die toepassing van hierdie paragraaf beteken die uitdrukking „die vermoë van die sender" die totale vermoë wat in die kunsbelasting ontwikkel word wat in paragraaf 4 van hierdie Deel gespesifiseer word, gedurende 'n tydperk wanneer die sendskakelaar afgedruk is, en dit sluit nie vermoë in wat verlore gaan in 'n onderdeel wat deel uitmaak van die sender nie.

(*c*) a certificate of calibration, in the form specified in the Twelfth Schedule relating to the most recent occasion on which the direction-finder was calibrated, and signed by the persons making the calibration; and

(*d*) a record, in the form specified in the Thirteenth Schedule, of check-bearings taken for the verification of calibration, the bearings being numbered in the order in which they were taken.

47. *Wiring Diagram and Instructions.*

A schematic wiring diagram of the direction-finder and a book containing adequate instructions as to the use of the direction-finder shall be provided and shall be available at all times for use by any person operating or testing the direction-finder.

PART III.—EQUIVALENTS.

48. *General.*

Where these regulations require that a particular fitting, appliance or apparatus, or type thereof, shall be fitted or carried in a ship or that any particular provision shall be made, the Minister or Secretary as the case may be, may allow any other fitting, appliance or apparatus, or type thereof, to be fitted or carried, or any other provision to be made in that ship, if he is satisfied that such other fitting, appliance or apparatus, or type thereof, or such other provision is at least as effective as that required by these regulations.

FIRST SCHEDULE.

Regulation 4 (1).

RADIOTELEGRAPH EQUIPMENT.

PART I.

MAIN RADIOTELEGRAPH TRANSMITTER.

1. *General.*

The main radiotelegraph transmitter (in this Part referred to as "the transmitter") shall be provided with any equipment which may be necessary to enable it to be operated from the supply of energy referred to in paragraph (1) of regulation 13 and shall be capable of being quickly connected with the main and emergency aerials referred to in regulation 11.

2. *Types of Waves and Frequency Range.*

The transmitter shall be capable of adjustment for the transmission of both type A1 and type A2 waves as may be required in the frequency range 405 kc/s to 525 kc/s.

3. *Transmitting Frequencies.*

The transmitter shall be capable of transmitting continuously but not simultaneously, radiotelegraph signals on the frequencies of 500 kc/s, 410 kc/s and 512 kc/s and on two of the following frequencies:—

425 kc/s, 454 kc/s, 468 kc/s and 480 kc/s.

4. *Range of Load Impedance.*

The transmitter shall be capable of complying with all the requirements of this Part when connected to an artificial load, one side of which is earthed, consisting of a resistance of value R in series with a capacitance of value C in all the combinations specified in the following table:—

C.....	300	400	500	600	750	Picofarads.
R.....	3·6	2·8	2·2	2	1·9	Ohms.

5. *Power of Transmitter.*

(1) For the purposes of this paragraph the expression "the power of the transmitter" means the total power developed in the artificial load specified in paragraph 4 of this Part during a period when the transmitting key is depressed and does not include power dissipated in any component forming part of the transmitter.

(2) Die maksimum vermoë van die sender mag nie minder as W watt wees by enige frekwensie binne sy gebied nie. W word bepaal deur middel van die formule:—

$$W = \frac{100}{1 + \frac{500}{f}}$$

waar f die frekwensie in kilohertz is waarby die toets gedoen word.

(3) Die sender moet so ontwerp word dat sy vermoë verminder kan word, òf deurlopend òf in trappe van hoogstens ses desibels, tot 'n vermoë van tussen 2 watt en 9 watt.

(4) Wanneer die sender ingestel is om sy maksimum ontwerpvermoë te ontwikkel, moet hy—

(*a*) onafgebroke kan werk om radiotelegraafseine uit te stuur teen enige spoed tot en met die maksimum wat in paragraaf 8 van hierdie Deel gespesifiseer word; en

(*b*) minstens vyftien minute kan werk onder egalige werk- of rustoestande.

6. *Modulasiediepte.*

Wanneer die sender A2-golwe send, moet die modulasiediepte as volg wees:—

(1) Minstens 80 en hoogstens 95 persent wanneer die vermoë van die sender 25 watt of meer is;

(2) minstens 70 en hoogstens 95 persent wanneer die vermoë van die sender minder as 25 watt is.

7. *Toonfrekwensie.*

Die toonfrekwensie van die sender moet minstens 500 en hoogstens 1200 hz. wees.

8. *Transmissiesnelheid.*

Die sender moet telegraafseine kan stuur teen alle snelhede tot en met 30 bauds, sonder kritieke relêverstelling.

9. *Frekwensiestabiliteit.*

Die sender moet, sonder dat die kontroles verstel word, 'n frekwensietoleransie van plus of minus 0·1 persent dwarsdeur elke uitsending kan handhaaf, al wissel die impedansie van die antenne of 'n ander belasting waarmee dit verbind is, of al wissel die toevoerspanning binne plus of minus 10 persent.

10. *Parasiet- en bofrekwensiekomponente in die leweringsein.*

(1) Die radiofrekwensielewering van die sender moet geheel en al vry wees van frekwensiekomponente weens parasietossillasies in enige deel van die sender.

(2) Die maksimum uitgangsvermoë van die sender by enige bofrekwensie van die radiofrekwensie moet nie 20 milliwatt te bowe gaan nie, ongeag of A1- dan wel A2-golwe uitgesend word.

(3) Wanneer die sender punte stuur teen 'n snelheid van 30 bauds, moet 95 persent van die totale vermoë wat van die sender af uitgestraal word, uitgestraal word binne plus of minus 100 hz. van die gelykmatige draagfrekwensie vir A1-golwe en binne plus of minus 2500 hz. van die gelykmatige draagfrekwensie vir A2-golwe.

11. *Werkfasiliteite.*

(1) Die sender moet so ingerig wees dat die verstellings wat nodig is om dit van werking op enigeen van die frekwensies wat by paragraaf 3 van hierdie Deel vereis word, na werking op enige ander van die frekwensies oor te skakel, deur een operateur in hoogstens 10 sekondes gedoen kan word.

(2) Die sender moet op volle vermoë kan werk binne 60 sekondes nadat enige deel van die sender die eerste keer aangeskakel is.

(3) Indien die sender so ontwerp en gebou is dat dit nodig is om met die aanwending van sekere spannings te wag totdat dit 'n rukkie aangeskakel is, moet daar vir outomatiese vertraging voorsiening gemaak word deur middel van 'n vertragingskakelaar.

(4) Die sender moet voorsien wees van 'n toestel wat, wanneer die sendsleutel nie afgedruk is nie, die hoofradiotelegraafontvanger waarmee die sender saam werk, outo-

(2) The maximum power of the transmitter shall not be less than W watts at any frequency within its range, W being determined by the formula:—

$$W = \frac{100}{1 + \frac{500}{f}}$$

where f is the frequency in kilocycles per second at which the test is made.

(3) The transmitter shall be so designed that its power can be reduced, either continuously or in steps of not more than six decibels, to a power between 2 watts and 9 watts.

(4) When adjusted to develop its maximum rated power the transmitter shall be capable of—

(*a*) continuous operation for the transmission of radiotelegraph signals at any speed up to the maximum specified in paragraph 8 of this Part; and

(*b*) operation under steady marking or spacing conditions for a period of not less than fifteen minutes.

6. *Depth of Modulation.*

The depth of modulation when the transmitter is transmitting type A2 waves shall be—

(1) not less than 80 and not more than 95 per cent when the power of the transmitter is 25 watts or more;

(2) not less than 70 and not more than 95 per cent when the power of the transmitter is less than 25 watts.

7. *Note Frequency.*

The note frequency of the transmitter shall not be less than 500 and not more than 1,200 c/s.

8. *Speed of Transmission.*

The transmitter shall be capable of transmitting telegraph signals at all speeds up to 30 bauds without critical relay adjustment.

9. *Frequency Stability.*

The transmitter shall be capable of maintaining a frequency tolerance of plus or minus 0·1 per cent throughout every transmission without adjustment of controls, notwithstanding variations of the impedance of the aerial or any other load to which it is connected, or variations of supply voltage within plus or minus 10 per cent.

10. *Spurious and Harmonic Components in the Output Signal.*

(1) The radio-frequency output of the transmitter shall be entirely free from frequency components due to spurious oscillations in any part of the transmitter.

(2) The maximum power output of the transmitter at any harmonic of the radio frequency shall not exceed 20 milliwatts, whether type A1 or type A2 waves are being transmitted.

(3) When the transmitter is transmitting dots at a speed of 30 bauds, 95 per cent of the total power radiated from the transmitter shall be radiated within plus or minus 100 c/s of the steady-state carrier frequency for type A1 waves and within plus or minus 2,500 c/s of the steady-state carrier frequency for type A2 waves.

11. *Operating Facilities.*

(1) The transmitter shall be so arranged that the adjustments necessary to change it from operation on any one of the frequencies required by paragraph 3 of this Part to operation on any other of such frequencies can be made by one operator in a period not exceeding 10 seconds.

(2) The transmitter shall be capable of being operated on full power within 60 seconds after any part of the transmitter has been first switched on.

(3) If the transmitter is so designed and constructed that it is necessary to delay the application of certain voltages for a period after it has been switched on, the delay shall be automatically provided for by a delay switch.

(4) The transmitter shall be provided with a device which, when the transmitting key is not depressed, automatically brings into operation the main radiotelegraph receiver in conjunction with which the transmitter is

maties in werking stel. Middels moet voorsien word om steuring by ontvangs, nl. steuring wat deur die sender veroorsaak word, te onderdruk.

(5) Die sender moet saam met 'n outomatiese sleuteltoestel gebruik kan word.

12. *Beveiligingsreëlings.*

Die sender moet so ontwerp en gebou wees dat, wanneer die sendsleutel afgedruk word, die antenne uitgeskakel of die lewering kortgesluit kan word sonder dat enige deel van die sender beskadig word. Middels moet verskaf word om die sender te beveilig teen beskadiging veroorsaak deur 'n te sterk stroom of te hoë spanning.

13. *Kristalhouers.*

As die sender ontwerp is vir gebruik met piësoëlektriese kristalle, moet dit geskik wees vir gebruik met 'n kristalhouer wat aan een van die volgende spesifikasies voldoen:—

(*a*) 'n Houer in die vorm van 'n reghoekige parallelepipedum met twee uitstekende penne daarbo. Die penne moet—

(i) simmetries geplaas wees met betrekking tot die breedte en diepte van die reghoekige parallelepipedum;
(ii) 'n middellyn van 0·125 dm. hê, behoudens 'n toleransie van plus of minus 0·002 dm.;
(iii) 0·75 dm. van mekaar af wees, behoudens 'n toleransie van plus of minus 0·005 dm.;
(iv) 0·56 dm. lank wees, behoudens 'n toleransie van plus of minus 0·005 dm.; en
(v) gerond wees aan die ente.

Die parallelepipedum moet—

1·81 duim hoog wees, behoudens 'n toleransie van plus 0·005 duim of minus 0·015 duim;
1·6 duim breed, behoudens 'n toleransie van minus 0·01 duim; en
0·75 duim diep, behoudens 'n toleransie van minus 0·01 duim; of

(*b*) 'n houer in die vorm van 'n reghoekige parallelepipedum met twee uitstekende penne daarbo. Die penne moet—

(i) simmetries geplaas wees met betrekking tot die breedte en diepte van die reghoekige parallelepipedum;
(ii) 'n middellyn van 0·125 dm. hê, behoudens 'n toleransie van plus of minus 0·002 dm.;
(iii) 0·5 dm. van mekaar af wees, behoudens 'n toleransie van plus of minus 0·002 dm.;
(iv) 0·56 dm. lank wees, behoudens 'n toleransie van plus of minus 0·005 dm.; en
(v) gerond wees aan die ente.

Die parallelepipedum moet—

1·34 dm. hoog wees, behoudens 'n toleransie van plus 0·005 dm. of minus 0·015 dm.;
1·18 dm. breed wees, behoudens 'n toleransie van minus 0·1 dm.; en
0·455 dm. diep wees, behoudens 'n toleransie van minus 0·1 dm.

14. *Kunsantenne.*

'n Kunsantenne moet verskaf word wat 'n aanwyser of lamp moet insluit om die deurvloei van radiofrekwensiestrome aan te dui, en dit moet geskik wees om die sender op volle vermoë te toets.

15. *Meter.*

Die sender moet van 'n antenneammeter voorsien wees.

DEEL II.

HOOFRADIOTELEGRAAFONTVANGER.

1. *Algemeen.*

(1) Die hoofradiotelegraafontvanger (in hierdie Deel „die ontvanger" genoem) kan uit 'n enkele eenheid of uit afsonderlike eenhede bestaan, waarvan elkeen op een of meer seksies van die frekwensiegebied wat in paragraaf 2 van hierdie Deel genoem word, kan ontvang, en moet vinnig met die hoof- en die noodantenne wat in regulasie 11 genoem word, verbind kan word.

operated. Means shall be provided for suppressing interference with reception, being interference caused by the transmitter.

(5) The transmitter shall be capable of being used in conjunction with an automatic keying device.

12. *Protective Arrangements.*

The transmitter shall be so designed and constructed that when the transmitting key is depressed the aerial can be disconnected or the output can be short-circuited without damage being caused to any part of the transmitter. Means shall be provided for protecting the transmitter from damage caused by excessive current or voltage.

13. *Crystal Holders.*

If the transmitter is designed for use with piezo-electric crystals it shall be suitable for use with a crystal holder complying with one of the following specifications:—

(*a*) A holder in the form of a rectangular parallelepiped surmounted by two projecting pins, such pins being—

(i) situated symmetrically with respect to the width and depth of the rectangular parallelepiped;
(ii) 0·125 inches in diameter, subject to a tolerance of plus or minus 0·002 inches;
(iii) spaced 0·75 inches apart, subject to a tolerance of plus or minus 0·005 inches;
(iv) 0·56 inches in length, subject to a tolerance of plus or minus 0·005 inches; and
(v) rounded at the ends.

Such parallelepiped shall be—

1·81 inches in height, subject to a tolerance of plus 0·005 inches, or minus 0·015 inches;
1·6 inches in width, subject to a tolerance of minus 0·01 inches; and
0·75 inches in depth, subject to a tolerance of minus 0·01 inches; or

(*b*) a holder in the form of a rectangular parallelepiped surmounted by two projecting pins, such pins being—

(i) situated symmetrically with respect to the width and depth of the rectangular parallelepiped;
(ii) 0·125 inches in diameter, subject to a tolerance of plus or minus 0·002 inches;
(iii) spaced 0·5 inches apart, subject to a tolerance of plus or minus 0·002 inches;
(iv) 0·56 inches in length, subject to a tolerance of plus or minus 0·005 inches; and
(v) rounded at the ends.

Such parallelepiped shall be—

1·34 inches in height, subject to a tolerance of plus 0·005 inches or minus 0·015 inches;
1·18 inches in width, subject to a tolerance of minus 0·1 inches; and
0·455 inches in depth, subject to a tolerance of minus 0·1 inches.

14. *Artificial Aerial.*

An artificial aerial shall be provided which shall include an indicator or lamp to indicate the passage of radio-frequency currents, and shall be suitable for testing the transmitter on full power.

15. *Meter.*

The transmitter shall be provided with an aerial ammeter.

PART II.

MAIN RADIOTELEGRAPH RECEIVER.

1. *General.*

(1) The main radiotelegraph receiver (in this Part referred to as "the receiver") may consist of a single unit or of separate units, each of which is capable of reception on one or more of sections of the frequency range specified in paragraph 2 of this Part, and shall be capable of being quickly connected with the main and emergency aerials referred to in regulation 11.

(2) Elke eenheid van die ontvanger moet 'n plaat aan hê waarop die frekwensiegebied vermeld staan wat dit bedoel is om te dek.

(3) Die ontvanger moet nie so gebou wees dat hy in sy geheel of gedeeltelik kan werk deur middel van energie van droë batterye af nie.

2. *Frekwensiegebied en golftipes.*

Die ontvanger moet seine kan ontvang in die frekwensiegebiede en van die tipes wat in die volgende tabel genoem word:—

Frekwensiegebied.	Tipe golf.
15 tot en met 20 Khz	A1.
100 tot en met 160 Khz	A1.
160 tot en met 1,500 Khz	A1, A2, B.
1·5 tot en met 4 Mhz	A1, A2, A3.
4 tot en met 25 Mhz	A1, A2, A3.

3. *Ontvangsfasiliteite.*

Die ontvanger moet koptelefoonontvangs kan gee dwarsdeur die frekwensiegebiede wat in paragraaf 2 van hierdie Deel genoem word.

4. *Kontroles.*

Die ontvanger moet voorsien wees van—

(1) Afsonderlike radiofrekwensie- en oudiofrekwensieversterkingsreëlaars;

(2) 'n middel om die ontvangerversterking te verminder wanneer die sendsleutel van die sender afgedruk is, sodat seine sonder ongemak vir die operateur of skade aan die ontvanger gehoor kan word wanneer die sender gesleutel word teen seinsnelhede tot 30 woorde per minuut;

(3) 'n skakelaar om die toestel, as daar een is, vir die vermindering van die uitwerking van impulsiewe ruisseine uit te skakel;

(4) instemmers wat die volgende moontlik maak—

(*a*) vinnige instemming dwarsdeur die frekwensiegebied; en

(*b*) fyn instemming deur middel van bandspreiding of 'n ander metode, beheer deur 'n knop met 'n middellyn van minstens twee duim, waarvan die dooiegang nie meer as een graad is nie, en wat so gerat is dat, nadat die dooiegang, as daar is, opgeneem is, 'n draai van een graad nie die instemfrekwensie met meer as die hoeveelheid in onderstaande tabel aangegee, verander nie:—

Frekwensiegebied.	Verandering van frekwensie per graad; dele in 10^4.
15 Khz. tot 1·5 Mhz	3
1·5 Mhz. tot 25 Mhz	1

(5) 'n akkurate middel om die instemfrekwensie oor te stel; as daar 'n logskaal vir dié doel is, moet een duim op die skaal ooreenkom met 'n frekwensieverandering van hoogstens een persent;

(6) 'n skaal vir gebruik met die snelinstemmiddel wat in subparagraaf (4) (*a*) genoem word; die skaal moet direk in frekwensie geyk word tensy ykkaarte vir gebruik daarmee verskaf word.

5. *Algemene toetsmetode.*

Die ontvanger moet voldoen aan die vereistes van paragrawe 6 tot en met 17 van hierdie Deel wanneer dit op die volgende wyse getoets word, behalwe waar 'n ander manier van toets in die genoemde paragrawe gespesifiseer word:—

(1) 'n Kunsantenne moet vir die toets gebruik word, wat moet bestaan uit 'n nie-induktiewe weerstand van 75 ohms as die toets uitgevoer word by frekwensies

(2) Each unit of the receiver shall bear a plate stating the frequency range it is intended to cover.

(3) The receiver shall not be constructed for operation in whole or in part from energy supplied by dry batteries.

2. *Frequency Range and Types of Waves.*

The receiver shall be capable of receiving signals within the frequency ranges and of the types specified in the following table:—

Frequency Range.	Type of Wave.
15 to 20 kc/s (inclusive)	A1
100 to 160 kc/s (inclusive)	A1
160 to 1,500 kc/s (inclusive)	A1, A2, B
1·5 to 4 Mc/s (inclusive)	A1, A2, A3
4 to 25 Mc/s (inclusive)	A1, A2, A3

3. *Reception Facilities.*

The receiver shall be capable of headphone reception throughout the frequency ranges specified in paragraph 2 of this Part.

4. *Controls.*

The receiver shall be provided with—

(1) separate radio-frequency and audio-frequency gain controls;

(2) a means for reducing the receiver gain when the transmitting key of the transmitter is depressed, so that signals may be heard without inconvenience to the operator or damage to the receiver when the transmitter is keyed at signalling speeds up to 30 words per minute;

(3) a switch for disconnecting the device, if any, for reducing the effect of impulsive noise signals;

(4) tuning controls which permit—

(*a*) rapid tuning throughout the frequency range; and

(*b*) fine tuning by bandspread or other method, controlled by a knob of at least two inches diameter, the backlash of which shall not exceed one degree, and which shall be so geared that, after any backlash has been taken up, a rotation of one degree will not change the frequency of tune by more than the amount indicated in the following table:—

Frequency Range.	Change of frequency per degree; Parts in 10^4.
15 kc/s to 1·5 Mc/s	3
1·5 Mc/s to 25 Mc/s	1

(5) accurate means of resetting tune; if a logging scale is provided for that purpose one inch on the scale shall correspond to a frequency change of not more than one per cent;

(6) a scale for use with the means of rapid tuning referred to in sub-paragraph (4) (*a*); the scale shall be calibrated directly in frequency unless calibration charts are provided for use therewith.

5. *General Method of Testing.*

The receiver shall comply with the requirements of paragraphs 6 to 17, inclusive, of this Part, when tested in the following manner, except where another manner of testing is specified in the said paragraphs:—

(1) An artificial aerial shall be used for the test and shall consist of a 75 ohm non-inductive resistor if the test is conducted at frequencies above 4 Mc/s,

van bo 4 Mhz. en 'n weerstand van 10 ohms in serie met 'n kapasitor met 'n waarde van tussen 200 en 600 pikofarads as die toets by frekwensies van onder 4 Mhz. uitgevoer word.

(2) A2-seine wat in die toets gebruik word, moet tot 'n diepte van 30 persent gemoduleer word en 'n toonfrekwensie van 400 Mhz. hê.

(3) Die frekwensie van die steur- of ongewenste seine wat aangewend word, moet nie tot die frekwensiegebied van die ontvanger beperk wees nie.

(4) Die standaardoudiofrekwensieleweringspeil van die ontvanger vir koptelefoonontvangs (hierna in hierdie Deel „die standaardlewering" genoem) moet een milliwatt wees in 'n weerstand in wat wesenlik gelyk is aan die modulus van die impedansie van die telefoongehoorstukke by 1000 hz.

6. *Selektiwiteit.*

(1) Behoudens die bepalings van subparagraaf (3) moet die selektiwiteit wat aan die einddetektor van die ontvanger voorafgaan, reëlbaar wees, òf deurlopend òf in trappe, en moet dit aan die volgende vereistes voldoen dwarsdeur die gespesifiseerde frekwensiegebiede:—

	Bandbreedtestelling.			
	Breed.	Tussenstelling.	Smal.	Baie smal.
Frekwensiegebied...	1·5 Mhz. tot 25 Mhz.	160 Khz. tot 25 Mhz.	15 Khz. tot 25 Mhz.	15 Khz. tot 160 Khz.
Diskriminasie van hoogstens 6 desibels moet verkry word by frekwensies wat van instemfrekwensie verwyder is met	4 Khz.	1·5 Khz.	0·5 Khz. (geld nie onderkant 100 Khz. nie)	—
Diskriminasie van minstens 30 desibels moet verkry word by alle frekwensies wat van instemfrekwensie verwyder is met	12 Khz.	6 Khz.	2·5 Khz.	0·75 Khz.
Diskriminasie van minstens 60 desibels moet verkry word by alle frekwensies wat van instemfrekwensie verwyder is met	24 Khz.	12 Khz.	5 Khz.	5 Khz.
Diskriminasie van minstens 90 desibels moet verkry word by alle frekwensies wat van instemfrekwensie verwyder is met	50 Khz.	35 Khz.	25 Khz.	25 Khz.
	dien verstande dat die diskriminasie teen 'n steursein van 'n groter frekwensie as 1·5 Mhz. nie meer as 60 desibels hoef te wees nie.			

(2) As die ontvanger 'n superheterodineontvanger is, moet—

(*a*) die beeldgevoeligheidsverhoudings daarvan nie minder as die volgende wees nie:—

Frekwensie van gewenste seine.	Beeldgevoeligheidsverhouding.
15 tot 1,000 Khz	80 desibels.
1 tot 1·5 Mhz	70 desibels.
1·5 tot 7 Mhz	60 desibels.
7 tot 15 Mhz	40 desibels.
bo 15 Mhz	25 desibels.

and a 10 ohm resistor in series with a capacitor having any value between 200 and 600 picofarads if the rest is conducted at frequencies below 4 Mc/s.

(2) Type A2 signals used in the test shall be modulated to a depth of 30 per cent and shall have a note frequency of 400 c/s.

(3) The frequency of the interfering or unwanted signals applied shall not be restricted to the frequency range of the receiver.

(4) The standard audio-frequency output level of the receiver for headphone reception (hereafter in this Part referred to as "the standard output") shall be one milliwatt into a resistance substantially equal to the modulus of the impedance of the telephone receivers at 1,000 c/s.

6. *Selectivity.*

(1) Subject to the provisions of sub-paragraph (3), the selectivity preceding the final detector of the receiver shall be variable, either continuously or in steps, and shall satisfy the following requirements throughout the frequency ranges specified:—

	Bandwidth Setting.			
	Wide.	Intermediate.	Narrow.	Very Narrow.
Frequency range....	1·5 Mc/s to 25 Mc/s	160 kc/s to 25 Mc/s	15 kc/s to 25 Mc/s	15 kc/s to 160 kc/s
Discrimination of not more than 6 decibels to be obtained at frequencies removed from tune by	4 kc/s	1·5 kc/s	0·5 kc/s (does not apply below 100 kc/s)	— —
Discrimination of at least 30 decibels to be obtained at all frequencies removed from tune by	12 kc/s	6 kc/s	2·5 kc/s	0·75 kc/s
Discrimination of at least 60 decibels to be obtained at all frequencies removed from tune by	24 kc/s	12 kc/s	5 kc/s	5 kc/s
Discrimination of at least 90 decibels to be obtained at all frequencies removed from tune by	50 kc/s	35 kc/s	25 kc/s	25 kc/s
	provided that the discrimination against an interfering signal of frequency greater than 1·5 Mc/s need not exceed 60 decibels.			

(2) If the receiver is a superheterodyne receiver—

(*a*) the image response ratios thereof shall not be less than the following:—

Frequency of wanted signals.	Image response ratio.
15 to 1,000 kc/s	80 decibels
1 to 1·5 Mc/s	70 decibels.
1·5 to 7 Mc/s	60 decibels
7 to 15 Mc/s	40 decibels
Above 15 Mc/s	25 decibels

(*b*) die tussenfrekwensiegevoeligheidsverhoudings daarvan nie minder as die volgende wees nie:—

Tussenfrekwensie.	Tussenfrekwensie-gevoeligheids-verhouding.
Tussen 140 en 1,600 Khz.....	90 desibels.
Buite bogenoemde grense.....	60 desibels.

(3) Nieteenstaande die bepalings van subparagraaf (1) kan die baie smal bandbreedtestelling van die ontvanger verskaf word deur 'n oudiofrekwensietoonfilter wat die volgende moet hê:—

(*a*) 'n Middelbandfrekwensie van een kilohertz,

(*b*) 'n diskriminasie van minstens 20 desibels by alle frekwensies buitekant 'n band 700 hertz breed,

en dit moet na willekeur in- of uitgeskakel kan word.

7. *Gevoeligheid.*

Die standaardlewering van die ontvanger moet by alle bandbreedtestellings verkry word, en met die outomatiese versterkingsreëlaar sowel aan as af, met 'n inset wat nie die volgende peile oorskry nie:—

Frekwensie.	Maksimum inset vir A1-golwe.	Maksimum inset vir A2-golwe.
15–160 Khz.....	30 desibels bo een mikrovolt	Nie van toepassing nie.
160–1,500 Khz...	20 desibels bo een mikrovolt	30 desibels bo een mikrovolt.
1·5–10 Mhz.....	10 desibels bo een mikrovolt	20 desibels bo een mikrovolt.
10–25 Mhz.....	20 desibels bo een mikrovolt	30 desibels bo een mikrovolt.

8. *Sein/ruisverhouding.*

(1) Die sein/ruisverhouding van die ontvanger moet nie minder wees as die verhouding wat in die volgende tabel gespesifiseer word nie, wanneer dit 'n sein ontvang òf van tipe A1 òf van tipe A2, van die maksimum inset wat in paragraaf 7 van hierdie Deel gespesifiseer word wanneer die ontvangerversterking so gestel is dat dit die standaardlewering gee en die toonfilter, as daar een is, uitgeskakel is:—

Frekwensie.	Bandbreedtestelling.	Sein/ruis-verhouding.
15–160 Khz.....	Smal.....	10 desibels.
160–1,500 Khz...	Tussenstelling.....	10 desibels.
1·5–4 Mhz.....	Breed.....	10 desibels.
4–10 Mhz.....	Breed.....	20 desibels.
10–25 Mhz.....	Breed.....	25 desibels.

(2) Vir die toepassing van hierdie paragraaf moet parasietfluit as ruis beskou word.

9. *Outomatiese versterkingsreëlaar.*

(1) Die ontvanger moet van 'n outomatiese versterkingsreëlaar voorsien wees wat doeltreffend kan werk op A1-, A2- en A3-golwe van alle frekwensies tussen 1500 Khz. en 25 Mhz. en wat uitgeskakel kan word.

(2) Wanneer die ontvanger gestel is om die standaardlewering te gee met 'n A2-insetsein 10 desibels bo die toepaslike maksimum inset wat in paragraaf 7 van hierdie Deel gespesifiseer word op enige frekwensie tussen 1·5 en 25 Mhz.—

(*a*) moet 'n vermeerdering van 20 desibels in die inset 'n verbetering in die sein/ruisverhouding gee van minstens 15 desibels, en

(*b*) moet 'n vermeerdering van 60 desibels in die inset die lewering met nie meer as 10 desibels vermeerder nie.

(3) Die laaitydkonstante van die outomatiese versterkingsreëlingstelsel moet tussen ·05 en 0·2 sekonde wees en die ontlaaitydkonstante daarvan tussen 0·5 en 2 sekondes.

(*b*) the intermediate frequency response ratios thereof shall not be less than the following:—

Intermediate Frequency.	Intermediate Frequency response Ratio.
Between 140 and 1,600 kc/s.....	90 decibels
Outside the above limits.....	60 decibels

(3) Notwithstanding the provisions of sub-paragraph (1) the very narrow bandwidth setting of the receiver may be provided by an audio-frequency note filter which shall have—

(*a*) a midband frequency of one kilocycle per second;

(*b*) a discrimination of at least 20 decibels at all frequencies outside a band 700 c/s wide,

and shall be capable of being switched in or out of circuit at will.

7. *Sensitivity.*

The standard output of the receiver shall be obtained at all bandwidth settings, and with the automatic gain control both on and off, with an input not exceeding the following levels:—

Frequency.	Maximum input for type A1 Waves.	Maximum input for type A2 Waves.
15–160 kc/s...	30 decibels above one microvolt	Does not apply.
160–1,500 kc/s	20 decibels above one microvolt	30 decibels above one microvolt.
1·5–10 Mc/s..	10 decibels above one microvolt	20 decibels above one microvolt.
10–25 Mc/s...	20 decibels above one microvolt	30 decibels above one microvolt.

8. *Signal/Noise Ratio.*

(1) The signal/noise ratio of the receiver shall not be less than the ratio specified in the following table, when receiving any signal being either a type A1 signal or a type A2 signal, of the maximum input specified in paragraph 7 of this Part when the receiver gain is adjusted to give the standard output and the note filter, if any, is switched out of circuit:—

Frequency.	Bandwidth Setting.	Signal/noise Ratio.
15–160 kc/s.....	Narrow.....	10 decibels.
160–1,500 kc/s.....	Intermediate.....	10 Decibels.
1·5–4 Mc/s.....	Wide.....	10 decibels.
4–10 Mc/s.....	Wide.....	20 decibels.
10–25 Mc/s.....	Wide.....	25 decibels.

(2) For the purposes of this paragraph spurious whistles shall be regarded as noise.

9. *Automatic Gain Control.*

(1) The receiver shall be provided with an automatic gain control, capable of operating efficiently on types A1, A2 and A3 waves of all frequencies between 1,500 kc/s and 25 Mc/s, and which can be switched out of circuit.

(2) When the receiver is adjusted to give the standard output with a type A2 input signal 10 decibels above the appropriate maximum input specified in paragraph 7 of this Part on any frequency between 1·5 and 25 Mc/s:—

(*a*) an increase in input of 20 decibels shall result in an improvement in the signal/noise ratio of at least 15 decibels; and

(*b*) an increase in input of 60 decibels shall not increase the output by more than 10 decibels.

(3) The charge time constant of the automatic gain control system shall be between ·05 and ·2 seconds and the discharge time constant thereof shall be between 0·5 and 2 seconds.

10. *Leweringbeperking.*

'n Vermeerdering in die inset na die versterker met 60 desibels wanneer—

(1) die outomatiese versterkingsreëlaar afgeskakel is; en

(2) die ontvanger gestel is om die standaardlewering te gee met 'n A1-insetsein 20 desibels bo die toepaslike maksimum inset wat in paragraaf 7 van hierdie Deel gespesifiseer word,

moet die lewering met nie meer as 10 desibels verhoog nie.

11. *Versperring.*

Die verandering in die lewering van die ontvanger moet nie meer as 3 desibels wees nie wanneer—

(*a*) (i) die bandbreedte op „ tussenbreedte " gestel is,
(ii) die outomatiese versterkingsreëlaar in werking is,
(iii) die ontvanger gestel is om die standaardafvoer te gee met 'n gewenste insetsein van tipe A2 op 'n peil van 60 desibels bo een mikrovolt en van enige frekwensie tussen 160 Khz. en 25 Mhz., en
(iv) 'n A1-insetsein op 'n peil van 100 desibels bo een mikrovolt en by 'n frekwensie 10 Khz. bo of onder die gewenste frekwensie dan gelyktydig aangewend word; of

(*b*) (i) die bandbreedte op „ smal " gestel is,
(ii) die outomatiese versterkingsreëlaar afgeskakel is,
(iii) die ontvanger gestel is om die standaardlewering te gee met 'n gewenste insetsein van tipe A1 op 'n peil 30 desibels bo een mikrovolt en van enige frekwensie tussen 15 en 160 Khz., en
(iv) 'n A1-insetsein van 'n peil 70 desibels bo een mikrovolt en by 'n frekwensie 5 Khz. bo of onder dié van die gewenste frekwensie dan gelyktydig aangewend word.

12. *Kruismodulasie.*

Die ontvanger moet nie 'n lewering gee van 'n peil hoër as 30 desibels onder die standaardlewering nie wanneer—

(1) die bandbreedte op „ tussenbreedte " gestel is,

(2) die outomatiese versterkingsreëlaar in werking is,

(3) die ontvanger gestel is om die standaardlewering te gee met 'n gewenste insetsein van tipe A2 op 'n peil van 60 desibels bo een mikrovolt en van enige frekwensie tussen 160 Khz. en 25 Mhz.,

(4) die modulasie van die sein afgeskakel is, en

(5) 'n A2-insetsein van 'n peil 90 desibels bo een mikrovolt en 'n frekwensie 10 Khz. bo of onder die gewenste frekwensie dan gelyktydig aangewend word.

13. *Intermodulasie en bofrekwensieproduksie.*

Die ontvanger moet nie 'n lewering hoër as die standaardlewering gee nie wanneer—

(*a*) (i) die bandbreedte op „ tussenbreedte " gestel is,
(ii) die outomatiese versterkingsreëlaar afgeskakel is,
(iii) die ontvanger gestel is om die standaardlewering te gee met 'n gewenste insetsein van tipe A2 op 'n peil 30 desibels bo een mikrovolt en by enige frekwensie tussen 160 Khz. en 550 Khz.,
(iv) die gewenste insetsein verwyder is, en
(v) enige twee steurseine, een van tipe A1 en die ander van tipe A2, elkeen van 'n peil 110 desibels een mikrovolt en van 'n frekwensie wat geen beduidende lewering gee wanneer dit alleen aangewend word nie en waarvan die frekwensieverskil of frekwensiesom dieselfde is as die frekwensie van die gewenste sein, dan gelyktydig aangewend word; of

10. *Output Limiting.*

An increase in the input to the receiver by 60 decibels when—

(1) the automatic gain control is switched off; and

(2) the receiver is adjusted to give the standard output with a type A1 input signal 20 decibels above the appropriate maximum input specified in paragraph 7 of this Part;

shall not increase the output by more than 10 decibels.

11. *Blocking.*

The change in the output of the receiver shall not exceed 3 decibels when—

(*a*) (i) the bandwidth is set at " intermediate ";
(ii) the automatic gain control is in operation;
(iii) the receiver is adjusted to give the standard output with an input wanted signal of type A2 at a level of 60 decibels above one microvolt and of any frequency between 160 kc/s and 25 Mc/s; and
(iv) a type A1 input signal at a level of 100 decibels above one microvolt and at a frequency 10 kc/s above or below the wanted frequency is then simultaneously applied; or

(*b*) (i) the bandwidth is set at " narrow ";
(ii) the automatic gain control is switched off;
(iii) the receiver is adjusted to give the standard output with an input wanted signal of type A1 at a level 30 decibels above one microvolt and of any frequency between 15 and 160 kc/s; and
(iv) a type A1 input signal of a level of 70 decibels above one microvolt and at a frequency 5 kc/s above or below that of the wanted frequency is then simultaneously applied.

12. *Cross Modulation.*

The receiver shall not produce an output of level higher than 30 decibels below the standard output when—

(1) the bandwidth is set at " intermediate ";

(2) the automatic gain control is in operation;

(3) the receiver is adjusted to give the standard output with an input wanted signal of type A2 at a level of 60 decibels above one microvolt and of any frequency between 160 kc/s and 25 Mc/s;

(4) the modulation of the signal is switched off; and

(5) a type A2 input signal of level 90 decibels above one microvolt and frequency 10 kc/s above or below the wanted frequency is then simultaneously applied.

13. *Intermodulation and Harmonic Production.*

An output exceeding the standard output shall not be produced by the receiver when—

(*a*) (i) the bandwidth is set at " intermediate ";
(ii) the automatic gain control is switched off;
(iii) the receiver is adjusted to give the standard output with an input wanted signal of type A2 at a level 30 decibels above one microvolt and at any frequency between 160 kc/s and 550 kc/s;
(iv) the input wanted signal has been removed; and
(v) any two interfering signals one of type A1 and the other of type A2 each of a level 110 decibels above one microvolt and of such frequency as to give no appreciable output when applied alone and of which the frequency difference or frequency sum is the same as the frequency of the wanted signal, are then simultaneously applied; or

(*b*) (i) die bandbreedte op „ tussenbreedte " gestel is,

(ii) die outomatiese versterkingsreëlaar afgeskakel is,

(iii) die ontvanger gestel is om die standaardlewering te gee met 'n gewenste insetsein van tipe A2 op 'n peil 30 desibels bo een mikrovolt en by enige frekwensie tussen 280 Khz. en 550 Khz.,

(iv) die gewenste insetsein verwyder is, en

(v) 'n A2-sein, waarvan die frekwensie die helfte is van dié van die gewenste sein en op 'n peil 116 desibels bo een mikrovolt aangewend word.

14. *Getrouheid.*

Die maksimum verandering in die peil van die lewering van die ontvanger moet minder as agt desibels wees, terwyl die modulasiefrekwensie van 'n insetsein van konstante peil en modulasiediepte deurlopend verander word van 300 hz. tot 2500 hz. wanneer die bandbreedte op „breed " gestel is vir die ontvangs van A3-golwe met 'n frekwensie van bo 1500 Khz. Die ontvanger moet aan die voorgaande vereiste voldoen wanneer die peil en modulasiediepte van die insetsein sodanig is dat die lewering van die ontvanger nie meer is as die standaardlewering nie.

15. *Nie-lineêre vervorming.*

Met die outomatiese versterkingsreëlaar aangeskakel, moet die totale bofrekwensie-inhoud van die oudiofrekwensielewering van die ontvanger by enige lewering wat nie meer is as die standaardlewering nie, hoogstens die volgende wees:—

(1) 5 persent met 'n insetsein van 'n frekwensie van een megaherts op enige peil tussen 30 desibels en 80 desibels bo een mikrovolt en sinusvormig gemoduleer tot 'n diepte van 30 persent by 400 hz.;

(2) 15 persent met die insetsein gemoduleer tot 'n diepte van 80 persent by 400 hz.

16. *Instemmingsdwaling en -stabiliteit.*

Die instemmingsdwaling en -stabiliteit van die ontvanger moet aan die volgende vereistes voldoen:—

(*a*) Nadat die ontvanger 5 minute aangeskakel is, moet die veranderings van instemfrekwensie gedurende enige tydperk van 5 minute nie meer wees as die waarde wat aangegee word in die tweede kolom van die volgende tabel, binne die frekwensiegebiede wat in die eerste kolom gegee word nie:—

Frekwensiegebiede.	Maksimum verandering (dele in 10^4).
15 Khz. tot 1·5 Mhz.....	3
1·5 Mhz. tot 25 Mhz.....	1

(*b*) 'n Verandering van 5 persent in enigeen van die toevoerspannings na die ontvanger moet nie 'n maksimum verandering in instemfrekwensie gee wat groter is as die waarde wat aangegee word in die tweede kolom van die volgende tabel, binne die frekwensiegebiede wat in die eerste kolom daarvan genoem word nie:—

Frekwensiegebiede.	Maksimum verandering (dele in 10^4).
15 Khz. tot 1·5 Mhz.....	3
1·5 Mhz. tot 25 Mhz.....	1

(*c*) 'n Verandering in omgewingstemperatuur van 5° C. binne die bestek 0° C. tot 50° C., aangebring nadat die ontvanger een uur lank aangeskakel is, moet nie 'n maksimum verandering in instemfrekwensie

(*b*) (i) the bandwidth is set at " intermediate ";

(ii) the automatic gain control is switched off;

(iii) the receiver is adjusted to give the standard output with an input wanted signal of type A2 at a level 30 decibels above one microvolt and at any frequency between 280 kc/s and 550 kc/s;

(iv) the input wanted signal has been removed; and

(v) a type A2 signal, the frequency of which is half that of the wanted signal and at a level 116 decibels above one microvolt, is applied.

14. *Fidelity.*

The maximum change in level of the output of the receiver shall be less than eight decibels while the modulation frequency of an input signal of constant level and modulation depth is varied continuously from 300 c/s to 2,500 c/s when the bandwidth is set at " wide " for the reception of type A3 waves having a frequency above 1,500 kc/s. The receiver shall comply with the foregoing requirements when the level and modulation depth of the input signal are such that the output of the receiver does not exceed the standard output.

15. *Non-Linear Distortion.*

With the automatic gain control switched on, the total harmonic content of the audio-frequency output of the receiver at any output not exceeding the standard output shall not exceed—

(1) 5 per cent with an input signal of a frequency of one megacycle per second at any level between 30 decibels and 80 decibels above one microvolt and sinusoidally modulated to a depth of 30 per cent at 400 c/s;

(2) 15 per cent with such input signal modulated to a depth of 80 per cent at 400 c/s.

16. *Tuning Drift and Stability.*

The tuning drift and stability of the receiver shall comply with the following requirements:—

(*a*) After the receiver has been switched on for 5 minutes the changes of tune frequency during any period of 5 minutes shall not exceed the value shown in the second column of the following table within the frequency ranges shown in the first column thereof:—

Frequency Ranges.	Maximum Change (Parts in 10^4).
15 kc/s to 1·5 Mc/s.....	3
1·5 Mc/s to 25 Mc/s.....	1

(*b*) A change of 5 per cent in any one of the supply voltages to the receiver shall not produce a maximum change of tune frequency exceeding the value shown in the second column of the following table within the frequency ranges shown in the first column thereof:—

Frequency Ranges.	Maximum Change (Parts in 10^4).
15 kc/s to 1·5 Mc/s.....	3
1·5 Mc/s to 25 Mc/s.....	1

(*c*) A change in ambient temperature of 5° C. within the range of 0° C. to 50° C. applied after the receiver has been switched on for one hour shall not produce a maximum change of tune frequency

teweegbring wat groter is as die waarde wat in die tweede kolom van die volgende tabel aangegee word, binne die frekwensiegebiede wat in die eerste kolom gegee word nie:—

Frekwensiegebiede.	Maksimum verandering (dele in 10^4).
15 Khz. tot 1·5 Mhz.....	10
1·5 Mhz. tot 25 Mhz.....	3

17. *Heterodinetoonstabiliteit.*

Die heterodinetoonstabiliteit van die ontvanger moet sodanig wees dat—

(1) die frekwensie van 'n heterodinetoon wat aanvanklik een kilohertz is, met nie meer as 100 hz. moet verander wanneer die toepaslike insetpeil wat in subparagraaf (2) van paragraaf 10 van hierdie Deel gespesifiseer word, met nie meer as 60 desibels verhoog word nie;

(2) dit by alle insetpeile binne die gebied wat in subparagraaf (1) van hierdie paragraaf gespesifiseer word, moontlik is om 'n swewingstoon van 200 hz. te verkry wanneer òf na òf weg van nulswewing ingestem word.

18. *Uitstraling.*

(1) Wanneer die ontvanger in gebruik is, moet dit nie 'n veld produseer van meer as 0·1 mikrovolt per meter wanneer dit op 'n afstand van een myl van die ontvanger af gemeet word nie.

(2) Daar moet beskou word dat die ontvanger aan die vereiste van subparagraaf (1) voldoen indien, wanneer—

(*a*) die ontvanger in die middel van 'n afgeskermde geaarde hok van minstens ses voet by ses voet by ses voet geplaas word,

(*b*) die aardklem van die ontvanger met die binnekant van die skerm verbind word,

(*c*) die antenneklem deur 'n onafgeskermde reghoekige vierwindingsoekspoel in genoemde hok, groot een voet in die vierkant, en 'n onafgeskermde leiding met 'n weerstandmeetinstrument verbind is wat buite die hok gemonteer is en waarvan die ander klem geaard is, en

(*d*) die ontvanger dan bekrag en onafgeskermde koptelefone daarmee verbind word,

die vermoë wat die meetinstrument meet, nie meer as 4×10^{-10} watt is nie, wat ook al die weerstand van die meetinstrument of die instelling van die ontvanger is, al word die soekspoel kortgesluit of op enige manier beweeg, mits dit nie nader as ses duim aan die ontvangerkas kom nie.

DEEL III.

NOODRADIOTELEGRAAFSENDER.

1. *Algemeen.*

Die noodradiotelegraafsender (in hierdie Deel „die sender" genoem), moet voorsien wees van alle uitrusting wat nodig is om dit van die noodenergiebron af te laat werk wat in paragraaf (2) van regulasie 13 genoem word, en moet vinnig met die hoof- en die noodantenne in regulasie 11 genoem, verbind kan word.

2. *Golftipes en frekwensiegebied.*

Die sender moet onafgebroke A2-golwe op die frekwensie 500 Khz. kan stuur.

3. *Energiebron.*

(1) Die sender moet van die noodenergiebron af kan werk wat in paragraaf (2) van regulasie 13 genoem word.

(2) As 'n trillerkrageenheid gebruik word, moet 'n noodtriller, op so 'n wyse aangebring dat dit onmiddellik ingeskakel kan word, verskaf word.

exceeding the value shown in the second column of the following table within the frequency ranges shown in the first column thereof:—

Frequency Ranges.	Maximum Change (Parts in 10^4).
15 kc/s to 1·5 Mc/s.....	10
1·5 Mc/s to 25 Mc/s.....	3

17. *Heterodyne Note Stability.*

The heterodyne note stability of the receiver shall be such that—

(1) the frequency of a heterodyne note which is initially one kilocycle per second shall not vary by more than 100 c/s when the appropriate input level specified in sub-paragraph (2) of paragraph 10 of this Part is increased by not more than 60 decibels;

(2) it is possible at all input levels within the range specified in sub-paragraph (1) of this paragraph, to obtain a beat note of 200 c/s when tuning either towards or away from zero beat.

18. *Radiation.*

(1) The receiver when in use shall not produce a field exceeding 0·1 microvolt per metre when measured at a distance of one mile from the receiver.

(2) The receiver shall be deemed to comply with the requirement of sub-paragraph (1) if, when—

(*a*) the receiver is placed centrally in a screened earthed enclosure of dimensions at last six feet cube;

(*b*) the earth terminal of the receiver is connected to the inside of the screen;

(*c*) the aerial terminal is connected through an unscreened four-turn rectangular search coil situated within the said enclosure and of dimensions one foot square and an unscreened lead to a resistive measuring instrument mounted outside the enclosure and having its other terminal earthed; and

(*d*) the receiver is then energised and unscreened headphones are connected thereto,

the power measured by the measuring instrument does not exceed 4×10^{-10} watts whatever the resistance of the measuring instrument or the adjustment of the receiver, notwithstanding that the search coil be short circuited or moved in any way, provided that it does not approach within six inches of the receiver case.

PART III.

EMERGENCY RADIOTELEGRAPH TRANSMITTER.

1. *General.*

The emergency radiotelegraph transmitter (in this Part referred to as " the transmitter "), shall be provided with all equipment necessary to enable it to operate from the emergency source of energy referred to in paragraph (2) of regulation 13, and shall be capable of being quickly connected with the main and emergency aerials referred to in regulation 11.

2. *Types of Waves and Frequency Range.*

The transmitter shall be capable of transmitting continuously type A2 waves on the frequency of 500 kc/s.

3. *Source of Energy.*

(1) The transmitter shall be capable of operation from the emergency source of energy referred to in paragraph (2) of regulation 13.

(2) If a vibrator power unit is employed, a standby vibrator, arranged in such manner that it may be immediately switched into circuit, shall be provided.

4. *Bestek van belastingsimpedansie.*

Wanneer die sender met 'n kunsbelasting verbind is, waarvan een kant geaard is, wat bestaan uit 'n weerstand met die waarde R in serie met 'n kapasitansie met die waarde C, moet dit voldoen aan al die vereistes van hierdie Deel met al die kombinasies van R en C wat in die volgende tabel gespesifiseer word:—

C.....	250	300	400	500	600	750	Pikofarads.
R.....	4	3·6	2·8	2·2	2	1·9	Ohms.

5. *Vermoë van sender.*

(1) Vir die toepassing van hierdie paragraaf word die vermoë van die sender beskou as die gemiddelde vermoë wat in die kunsbelasting ontwikkel word gedurende 'n tydperk wanneer die sendsleutel afgedruk is, en dit sluit nie vermoë in wat verlore gaan in enige onderdeel wat deel uitmaak van die sender nie.

(2) Die vermoë van die sender moet nie minder as 15 watt wees wanneer die energiebron 90 persent van sy ontwerpspanning ontwikkel nie.

(3) Wanneer die sender gestel is om sy maksimum vermoë te ontwikkel, moet hy die volgende kan doen:—

(*a*) Onafgebroke werk vir die uitsending van telegraafseine teen enige snelheid tot en met die maksimum wat in paragraaf 8 van hierdie Deel gespesifiseer word;

(*b*) minstens 15 minute lank onder gelykmatige werk- of gelykmatige rustoestande werk.

6. *Modulasie.*

(1) Die draaggolf moet gemoduleer word tot 'n diepte van minstens 75 persent en hoogstens 100 persent.

(2) Die bofrekwensie-inhoud van die moduleeromhulling moet nie meer as 30 persent wees nie.

7. *Toonfrekwensie.*

Die toonfrekwensie van die sender moet nie minder as 500 hz. of meer as 1,200 hz. wees nie.

8. *Transmissiesnelheid.*

Die sender moet telegraafseine kan stuur teen alle snelhede tot en met 25 bauds sonder kritieke stelling van relais.

9. *Frekwensiestabiliteit.*

Die sender moet 'n frekwensietoleransie van plus of minus 0·5 persent dwarsdeur elke uitsending kan handhaaf sonder verstelling van reëlaars, al wissel die impedansie van die antenne of van enige ander belasting waarmee dit verbind is, of al wissel die toevoerspanning binne plus of minus 10 persent.

10. *Werkfasiliteite.*

(1) Die sender moet op volle vermoë kan werk binne ses sekondes na dit aangeskakel is.

(2) Die sender moet saam met die outomatiese sleuteltoestel gebruik kan word wat in Deel V gespesifiseer word.

11. *Beveiligingsmaatreëls.*

Die sender moet so ontwerp en gebou wees dat wanneer die sender gestel is om sy maksimum vermoë te ontwikkel en wanneer die sendsleutel afgedruk is, die antenne uitskakel of die lewering kortgesluit kan word sonder om enige deel van die sender te beskadig.

12. *Kristalhouers.*

As die sender ontwerp is vir gebruik met piësoëlektriese kristalle, moet dit geskik wees vir gebruik met 'n kristalhouer gespesifiseer in paragraaf 13 van Deel I.

13. *Kunsantenne.*

'n Kunsantenne moet verskaf word wat 'n aanwyser of lamp moet insluit om die deurvloei van radiofrekwensiestrome aan te dui en wat geskik moet wees om die sender op volle vermoë te toets.

4. *Range of Load Impedance.*

When connected to an artificial load, one side of which is earthed, consisting of a resistance of value R in series with a capacitance of value C, the transmitter shall meet the requirements of this Part with all the combinations of R and C specified in the following table:—

C.....	250	300	400	500	600	750	Picofarads.
R.....	4	3·6	2·8	2·2	2	1·9	Ohms.

5. *Power of Transmitter.*

(1) For the purposes of this paragraph the power of the transmitter shall be taken to be the mean power developed in the artificial load during a period when the transmitting key is depressed and shall not include power dissipated in any component forming part of the transmitter.

(2) The power of the transmitter shall not be less than 15 watts when the source of energy is developing 90 per cent of its rated voltage.

(3) When adjusted to develop its maximum power, the transmitter shall be capable of—

(*a*) continuous operation for the transmission of telegraph signals at any speed up to the maximum specified in paragraph 8 of this Part;

(*b*) operation under steady marking or steady spacing conditions for a period of not less than 15 minutes.

6. *Modulation.*

(1) The carrier wave shall be modulated to a depth of not less than 75 per cent and not more than 100 per cent.

(2) The harmonic content of the modulating envelope shall not exceed 30 per cent.

7. *Note Frequency.*

The note frequency of the transmitter shall not be less than 500 c/s or more than 1,200 c/s.

8. *Speed of Transmission.*

The transmitter shall be capable of transmitting telegraph signals at all speeds up to 25 bauds without critical adjustment of relays.

9. *Frequency Stability.*

The transmitter shall be capable of maintaining a frequency tolerance of plus or minus 0·5 per cent throughout every transmission without adjustment of controls notwithstanding variations of the impedance of the aerial or of any other load to which it is connected, or variation of supply voltage within plus or minus 10 per cent.

10. *Operating Facilities.*

(1) The transmitter shall be capable of being operated on full power within six seconds after it has been switched on.

(2) The transmitter shall be capable of being used in conjunction with the automatic keying device specified in Part V.

11. *Protective Arrangements.*

The transmitter shall be so designed and constructed that when the transmitter is adjusted to develop its maximum power and when the transmitting key is depressed the aerial can be disconnected or the output can be short-circuited without damage being caused to any part of the transmitter.

12. *Crystal Holders.*

If the transmitter is designed for use with piezo-electric crystals it shall be suitable for use with a crystal holder specified in paragraph 13 of Part I.

13. *Artificial Aerial.*

An artificial aerial shall be provided which shall include an indicator or lamp to indicate the passage of radio-frequency currents and shall be suitable for testing the transmitter on full power.

14. *Meter.*

Die sender moet van 'n antenneammeter voorsien wees.

15. *Gebruik vir normale kommunikasie.*

As die sender anders gebruik word as in 'n noodgeval of vir die toetse wat by paragraaf (4) (*b*) van regulasie 18 vereis word, is paragrawe 3, 6, 8, 9, 10 en 11 van Deel I van hierdie Bylae daarop van toepassing soos dit op die hoofsender van toepassing is.

DEEL IV.

NOODRADIOTELEGRAAFONTVANGER.

1. *Algemeen.*

Die noodradiotelegraafontvanger (in hierdie Deel „die ontvanger" genoem) moet, tensy dit 'n ontvanger is wat deel uitmaak van 'n outomatiese alarm wat aan paragraaf 7 van die Sesde Bylae voldoen, vinnig met die noodantenne verbind kan word wat in regulasie 11 genoem word.

2. *Frekwensiegebied en golftipes.*

Behoudens die bepalings van paragraaf 3 van hierdie Deel, moet die ontvanger A2-golwe en B-golwe kan ontvang, in elke geval dwarsdeur die frekwensiegebied 488 Khz. tot 513 Khz., en vir dié doel moet 'n breë banddeurlaat verskaf word.

3. *Ontvangsfasiliteite.*

Die ontvanger moet koptelefoonontvangs en luidsprekerontvangs kan gee dwarsdeur die frekwensiegebied wat in paragraaf 2 van hierdie Deel gespesifiseer word, tensy daar twee noodontvangers verskaf is, waarvan een koptelefoonontvangs kan gee, met of sonder instemming, dwarsdeur die genoemde gebied en die ander luidsprekerontvangs dwarsdeur die genoemde gebied, sonder instemming.

4. *Energiebron.*

(1) Die ontvanger moet kan werk sowel vanaf die hoofbron van elektriese energie wat by paragraaf (1) van regulasie 13 vereis word as vanaf die noodbron van elektriese energie wat by paragraaf (2) van dié regulasie vereis word; met dien verstande dat as die skip met twee noodontvangers uitgerus is soos hierbo genoem, van die ontvanger wat luidsprekerontvangs kan gee, vereis word om slegs van die genoemde hoofbron van elektriese energie af te werk.

(2) Die ontvanger moet voldoen aan die vereistes van paragrawe 7 tot en met 15 van hierdie Deel, al wissel die toevoerspanning binne die gebied—

(i) plus 5 persent en minus 10 persent van die nominale spanning wanneer die ontvanger van die noodbron van elektriese energie af werk wat by paragraaf (2) van regulasie 13 vereis word, en

(ii) plus en minus 10 persent van die nominale spanning wanneer die ontvanger van die hoofbron van elektriese energie af werk wat by paragraaf (1) van regulasie 13 vereis word.

5. *Kontroles.*

Die ontvanger moet voorsien wees van—

(1) 'n handversterkingsreëlaar;

(2) as slegs 'n enkele noodontvanger verskaf is, 'n skakelaar om die ontvanger van werking van die hoofbron van elektriese energie af wat in paragraaf (1) van regulasie 13 genoem word, oor te skakel na die noodbron van elektriese energie wat in paragraaf (2) van dié regulasie genoem word; en

(3) as die ontvanger ontwerp is om in te stem op frekwensies bo en behalwe dié in die frekwensiegebied wat in paragraaf 2 van hierdie Deel genoem word, 'n skakelaar om ontvangs oor te skakel na die frekwensiegebied wat in dié paragraaf genoem word.

14. *Meter.*

The transmitter shall be provided with an aerial ammeter.

15. *Use for Normal Communications.*

If the transmitter is used otherwise than in an emergency or for the tests required by paragraph (4) (*b*) of regulation 18, paragraphs 3, 6, 8, 9, 10 and 11 of Part I of this Schedule shall apply in relation to it as they apply in relation to the main transmitter.

PART IV.

EMERGENCY RADIOTELEGRAPH RECEIVER.

1. *General.*

The emergency radiotelegraph receiver (in this Part referred to as "the receiver"), unless it is a receiver forming part of an auto-alarm which complies with paragraph 7 of the Sixth Schedule, shall be capable of being rapidly connected to the emergency aerial referred to in regulation 11.

2. *Frequency Range and Types of Waves.*

Subject to the provisions of paragraph 3 of this Part, the receiver shall be capable of receiving type A2 waves and type B waves in each case throughout the frequency range 488 kc/s to 513 kc/s, and for that purpose a wide band-pass shall be provided.

3. *Reception Facilities.*

The receiver shall be capable of headphone reception and loud-speaker reception throughout the frequency range specified in paragraph 2 of this Part, unless two emergency receivers are provided, one of which is capable of headphone reception, with or without tuning, throughout the said range and the other of which is capable of loud-speaker reception throughout the said range without tuning.

4. *Source of Energy.*

(1) The receiver shall be capable of operation both from the main source of electrical energy required by paragraph (1) of regulation 13 and the emergency source of electrical energy required by paragraph (2) of that regulation. Provided that if the ship is equipped with two emergency receivers as aforesaid, the receiver capable of loud-speaker reception shall be required to be capable of operation only from the said main source of electrical energy.

(2) The receiver shall comply with the requirements of paragraphs 7 to 15 inclusive of this Part notwithstanding variations in the supply voltage within the range—

(i) plus 5 per cent and minus 10 per cent of the nominal voltage when operated from the emergency source of electrical energy required by paragraph (2) of regulation 13; and

(ii) plus and minus 10 per cent of the nominal voltage when operated from the main source of electrical energy required by paragraph (1) of regulation 13.

5. *Controls.*

The receiver shall be provided with—

(1) a manual gain control;

(2) if only a single emergency receiver is provided, a switch for changing the receiver from operation from the main source of electrical energy referred to in paragraph (1) of regulation 13 to the emergency source of electrical energy referred to in paragraph (2) of that regulation; and

(3) if the receiver is designed to tune to frequencies additional to the frequency range specified in paragraph 2 of this Part of this Schedule, a switch for changing reception to the frequency range referred to in that paragraph.

6. *Toetsmetode.*

Die ontvanger moet voldoen aan paragrawe 7 tot en met 15 van hierdie Deel wanneer dit op die volgende wyse getoets word, behalwe waar 'n ander toetsmetode in die genoemde paragrawe gespesifiseer word:—

(1) 'n Kunsantenne moet vir die toets gebruik word, wat moet bestaan uit 'n weerstand van 10 ohms in serie met 'n kapasitor van enige waarde tussen 200 en 600 pikofarads.

(2) A2-seine wat in die toets gebruik word, moet tot 'n diepte van 30 persent gemoduleer word en 'n toonfrekwensie van 400 hz. hê.

(3) Die standaardoudiofrekwensieleweringspeil (hierna in hierdie Deel „die standaardlewering" genoem) van die ontvanger moet as volg wees—

(*a*) vir koptelefoonontvangs, 10 desibels onderkant een milliwatt in 'n weerstand in wat wesenlik gelyk is aan die modulus van die impedansie van die telefoonontvangers by 1000 hz., en

(*b*) vir luidsprekerontvangs, 17 desibels bokant een milliwatt in 'n weerstand in wat die leweringsbuis belas met die belasting wat aan die buis eie is

7. *Selektiwiteit.*

(1) Behoudens die bepalings van subparagraaf (2), moet die selektiwiteit wat aan die einddetektor van die ontvanger voorafgaan, as dit 'n breë banddeurlaat het, aan die volgende vereistes voldoen by die frekwensies wat gespesifiseer word—

(*a*) hoogstens 4 desibels diskriminasie met betrekking tot die maksimum weergawe by frekwensies van 488 tot en met 513 Khz.;

(*b*) minstens 30 desibels diskriminasie met betrekking tot die maksimum weergawe by frekwensies onder 475 Khz. en bo 525 Khz.;

(*c*) minstens 60 desibels diskriminasie met betrekking tot die maksimum weergawe by frekwensies onder 450 Khz. en bo 550 Khz.; en

(*d*) minstens 90 desibels diskriminasie met betrekking tot die maksimum weergawe by frekwensies onder 400 Khz. en 600 Khz.

(2) As die ontvanger 'n superheterodineontvanger is, moet die tussenfrekwensieweergaweverhouding minstens 60 desibels wees, mits die tussenfrekwensie buitekant die grense 140 Khz. tot 1600 Khz. is.

(3) As 'n noodontvanger, wat 'n ontvanger is wat koptelefoonontvangs kan gee, ingestem kan word oor die frekwensiegebied wat in paragraaf 2 van hierdie Deel gespesifiseer word, moet die selektiwiteit wat aan die einddetektor voorafgaan by alle frekwensies binne die genoemde gebied, voldoen aan die vereistes wat in die volgende tabel aangegee word:—

Diskriminasie	Ooreenstemmende bandbreedte.
10 desibels.....	Minstens 4 Khz.
30 desibels.....	Hoogstens 50 Khz.
60 desibels.....	Hoogstens 100 Khz.
Groter as 60 desibels.....	Groter as 100 Khz.

8. *Gevoeligheid.*

Die standaardlewering moet verkry word met 'n insetsein van tipe A2 hoogstens 40 desibels bo een mikrovolt.

9. *Sein/ruisverhouding.*

Met 'n insetsein van tipe A2 van 40 desibels bo een mikrovolt en wanneer die handversterkingsreëlaar gestel is om die standaardlewering te gee, moet die sein/ruisverhouding minstens 20 desibels wees.

6. *Method of Testing.*

The receiver shall comply with paragraphs 7 to 15 inclusive of this Part when tested in the following manner, except where another manner of testing is specified in the said paragraphs:—

(1) An artificial aerial shall be used for the test and shall consist of a 10 ohm resistor in series with a capacitor having any value between 200 and 600 picofarads.

(2) Type A2 signals used in the test shall be modulated to a depth of 30 per cent and shall have a note frequency of 400 c/s.

(3) The standard audio-frequency output level (hereafter in this Part referred to as " the standard output ") of the receiver shall be—

(*a*) for headphone reception 10 decibels below one milliwatt into a resistance, substantially equal to the modulus of the impendance of the telephone receivers at 1,000 c/s; and

(*b*) for loud-speaker reception 17 decibels above one milliwatt into a resistance that loads the output valve with the load appropriate to the valve.

7. *Selectivity.*

(1) Subject to the provisions of sub-paragraph (2), the selectivity preceding the final detector of the receiver shall, if it is provided with a wide band-pass, satisfy the following requirements at the relative frequencies specified:—

(*a*) Not more than 4 decibels discrimination relative to the maximum response at frequencies between 488 and 513 kc/s inclusive;

(*b*) at least 30 decibels discrimination relative to the maximum response at frequencies below 475 kc/s and above 525 kc/s;

(*c*) at least 60 decibels discrimination relative to the maximum response at frequencies below 450 kc/s and above 550 kc/s; and

(*d*) at least 90 decibels discrimination relative to the maximum response at frequencies below 400 kc/s and above 600 kc/s.

(2) If the receiver is a superheterodyne receiver the intermediate frequency response ratio shall not be less than 60 decibels provided that the intermediate frequency is outside the limits 140 kc/s to 1,600 kc/s.

(3) If an emergency receiver, being a receiver capable of headphone reception, is tunable over the frequency range specified in paragraph 2 of this Part, the selectivity preceding the final detector at all frequencies within the said range shall satisfy the requirements set forth in the following table:—

Discrimination.	Corresponding Bandwidth.
10 decibels.....	Not less than 4 kc/s.
30 decibels.....	No greater than 50 kc/s.
60 decibels.....	No greater than 100 kc/s.
Greater than 60 decibels.....	Greater than 100 kc/s.

8. *Sensitivity.*

The standard output shall be obtained with an input signal of type A2 not exceeding 40 decibels above one microvolt.

9. *Signal/Noise Ratio.*

The signal/noise ratio, with an input signal of type A2 of 40 decibels above one microvolt and when the manual gain control is adjusted to give the standard output, shall not be less than 20 decibels.

10. *Versperring.*

As die ontvanger vir luidsprekerontvangs bedoel is, mag die verandering in die lewering van die ontvanger hoogstens 3 desibels wees wanneer—

(1) die ontvanger gestel is om die standaardlewering te gee met 'n gewenste sein van tipe A2 op 'n peil van 60 desibels bo een mikrovolt en van 'n frekwensie van 500 Khz., en

(2) 'n A1-insetsein op 'n peil van 100 desibles bo een mikrovolt en van 'n frekwensie van 440 Khz. of 560 Khz. dan gelyktydig aangewend word.

11. *Kruismodulasie.*

As die ontvanger vir luidsprekerontvangs bestem is, moet die ontvanger nie 'n lewering van 'n hoër peil as 30 desibels onder die standaardlewering gee nie wanneer—

(1) die ontvanger gestel is om die standaardlewering te gee met 'n gewenste insetsein van tipe A2 op 'n peil van 60 desibels bo een mikrovolt en van 'n frekwensie van 500 Khz.,

(2) die modulasie van die sein afgeskakel is, en

(3) 'n A2-sein op 'n peil van 90 desibels bo een mikrovolt en van 'n frekwensie van 425 Khz. of 575 Khz. dan gelyktydig aangewend word.

12. *Intermodulasie en bofrekwensieproduksie.*

As die ontvanger vir luidsprekerontvangs bestem is, mag 'n lewering wat die standaardlewering oorskry, nie deur die ontvanger geproduseer word nie wanneer—

(1) die ontvanger gestel is om die standaardlewering te gee met 'n gewenste insetsein van tipe A2 op 'n peil van 40 desibels bo een mikrovolt en van 'n frekwensie van 500 Khz.,

(2) die gewenste insetsein verwyder is, en

(3) (*a*) enige twee steurseine, een van tipe A1 en die ander van tipe A2, elk op 'n peil van 110 desibels bo een mikrovolt en van so 'n frekwensie dat dit geen beduidende lewering gee wanneer dit alleen aangewend word nie, en waarvan die frekwensiesom of -verskil 500 Khz. is, dan gelyktydig aangewend word, of

(*b*) 'n sein van tipe A2 op 'n peil van 116 desibels bokant een mikrovolt en van 'n frekwensie van 250 Khz. aangewend word.

13. *Leweringbeperking.*

As die ontvanger vir luidsprekerontvangs bestem is, moet die ontvanger voorsien wees van 'n doeltreffende en outomatiese middel om die versterking tydens die ontvangs van sterk seine te verminder.

14. *Instemmingsdwaling en -stabiliteit.*

Die instemmingsdwaling en stabiliteit van die ontvanger moet so wees dat daar binne vyf minute nadat die ontvanger aangeskakel is, aan die vereistes van paragraaf 7 van hierdie Deel voldoen word.

15. *Getrouheid.*

Die getrouheid van die ontvanger moet sodanig wees dat 'n verandering in die oudiofrekwensielewering minder is as 8 desibels wanneer die modulasiefrekwensie van die insetsein deurlopend verander word van 400 hz. tot 1400 hz., terwyl die peil en modulasiediepte van die insetsein konstant gehou word. Vir die toepassing van hierdie paragraaf kan die insetsein enige peil en modulasiediepte hê, mits die lewering van die ontvanger nie die standaardlewering oorskry nie.

16. *Uitstraling.*

(1) Wanneer die ontvanger in gebruik is, moet dit nie 'n veld van meer as 0·1 mikrovolt per meter produseer wanneer dit gemeet word op 'n afstand van een myl van die ontvanger af nie.

(2) Daar word beskou dat die ontvanger aan die vereiste van subparagraaf (1) voldoen indien, wanneer—

(*a*) die ontvanger in die middel van 'n afgeskermde geaarde hok van minstens ses voet by ses voet by ses voet geplaas word;

10. *Blocking.*

If the receiver is intended for loudspeaker reception the change in the output of the receiver shall not exceed 3 decibels when—

(1) the receiver is adjusted to give the standard output with an input wanted signal of type A2 at a level of 60 decibels above one microvolt and of a frequency of 500 kc/s, and

(2) a type A1 input signal at a level of 100 decibels above one microvolt and of a frequency of 440 kc/s or 560 kc/s is then simultaneously applied.

11. *Cross Modulation.*

If the receiver is intended for loudspeaker reception, the receiver shall not produce an output of level higher than 30 decibels below the standard output when—

(1) the receiver is adjusted to give the standard output with an input wanted signal of type A2 at a level of 60 decibels above one microvolt and of a frequency of 500 kc/s.

(2) the modulation of the signal is switched off, and

(3) a type A2 signal at a level of 90 decibels above one microvolt and of a frequency of 425 kc/s or 575 kc/s is then simultaneously applied.

12. *Intermodulation and Harmonic Production.*

If the receiver is intended for loudspeaker reception an output exceeding the standard output shall not be produced by the receiver when—

(1) the receiver is adjusted to give the standard output with an input wanted signal of type A2 at a level of 40 decibels above one microvolt and of a frequency of 500 kc/s,

(2) the input wanted signal has been removed, and

(3) (*a*) any two interfering signals, one of type A1 and the other of type A2, each at a level of 110 decibels above one microvolt and of such frequency as to give no appreciable output when applied alone, and of which the frequency sum or difference is 500 kc/s, are then simultaneously applied, or

(*b*) a signal of type A2 at a level of 116 decibels above one microvolt and of a frequency of 250 kc/s is applied.

13. *Output Limiting.*

If the receiver is intended for loudspeaker reception the receiver shall be provided with an efficient and automatic means of reducing the gain during the reception of strong signals.

14. *Tuning Drift and Stability.*

The tuning drift and the stability of the receiver shall be such that within five minutes of the receiver being switched on the requirements of paragraph 7 of this Part shall be met.

15. *Fidelity.*

The fidelity of the receiver shall be such that a change in the audio-frequency output shall be less than 8 decibels when the modulation frequency of the input signal is varied continuously from 400 c/s to 1,400 c/s, the level and modulation depth of the input signal being kept constant. For the purposes of this paragraph the input signal may have any level and depth of modulation provided the output of the receiver does not exceed the standard output.

16. *Radiation.*

(1) The receiver when in use shall not produce a field exceeding 0·1 microvolt per metre when measured at a distance of one mile from the receiver.

(2) The receiver shall be deemed to comply with the requirement of sub-paragraph (1) if, when—

(*a*) the receiver is placed centrally in a screened earthed enclosure of dimensions at least six feet cube;

(*b*) die aardklem van die ontvanger met die binnekant van die skerm verbind word;

(*c*) die antenneklem deur 'n onafgeskermde reghoekige vierwindingsoekspoel binne-in genoemde hok, groot een voet in die vierkant, en 'n onafgeskermde leiding verbind word met 'n weerstandmeetinstrument wat buitekant die hok aangebring is en waarvan die ander klem geaard is; en

(*d*) die ontvanger dan bekrag en 'n onafgeskermde koptelefoon daarmee verbind word,

die vermoë wat die meetinstrument meet nie meer is as 4×10^{-10} watt nie, ongeag die weerstand van die meetinstrument of die instelling van die ontvanger en al word die soekspoel kortgesluit of op watter manier ook beweeg, sonder om nader as ses duim aan die ontvangerkas te kom.

DEEL V.

OUTOMATIESE SLEUTELTOESTEL.

1. Die outomatiese sleuteltoestel (in hierdie Deel „die toestel" genoem) moet—

(1) in die plek van die handsendsleutel verbind kan word deur middel van 'n klink of 'n ander doeltreffende middel, met—

(*a*) die hoofradiotelegraafsender,

(*b*) die noodradiotelegraafsender, en

(*c*) die generator vir outomatiese alarmtoetssein, genoem in paragraaf 1 van die Sesde Bylae;

(2) Wanneer dit met enigeen van die bogenoemde stukke uitrusting verbind is—

(*a*) outomaties die alarmsein wat in paragraaf 3 van hierdie Deel gespesifiseer word, kan sleutel en onmiddellik daarna stop en die sleutelkring verbreek tensy dit teruggestel of weer opgewen word; en

(*b*) outomaties die noodsein wat in paragraaf 4 van hierdie Deel gespesifiseer word, op so 'n wyse kan sleutel dat as die toestel gebruik word sonder dat iemand daarby op diens is, die outomatiese sleuteling van die noodoproep een keer elke twaalf minute herhaal sal word.

Die toestel moet geen ander seine kan sleutel as dié wat in paragraaf 3 en paragraaf 4 van hierdie Deel gespesifiseer word nie.

2. Wanneer die toestel na uitsending van die noodoproep uitgeskakel word, moet die toestel deur 'n outomatiese middel of met die hand teruggestel kan word, sodat, nadat die toestel weer ingeskakel is, sleuteling binne tien sekondes begin by die begin van die noodoproep.

As die terugstelling met die hand geskied, moet daar in die toestel 'n middel wees om aan te dui wanneer terugstelling nodig is.

3. Die alarmsein wat in subparagraaf (2) van paragraaf 1 van hierdie Deel genoem word, moet bestaan uit twaalf strepe van vier sekondes geskei deur russeine van een sekonde; die lengte van die strepe en russeine moet binne 'n toleransie van plus of minus 0·2 sekonde gehou word.

4. (1) Die noodoproep waarvan in genoemde paragraaf gewag gemaak word, moet bestaan uit die volgende seine in die aangegewe volgorde:—

(*a*) die noodsein, nl. die morsetekens vir die letters SOS, drie keer herhaal;

(*b*) die morsetekens vir die woord DE; en

(*c*) 'n lang streep;

met dien verstande dat die morsetekens vir die woord DE weggelaat kan word.

Die tekens van die noodsein moet met 'n snelheid van hoogstens 16 woorde per minuut gesleutel word en die lang streep moet minstens 20 sekondes duur. Die totale duur van die noodoproep moet nie 90 sekondes te bowe gaan nie.

(*b*) the earth terminal of the receiver is connected to the inside of the screen;

(*c*) the aerial terminal is connected through an unscreened four-turn rectangular search coil situated within the said enclosure and of dimensions one foot square and an unscreened lead to a resistive measuring instrument mounted outside the enclosure and having its other terminal earthed; and

(*d*) the receiver is then energised and unscreened headphones are connected thereto,

the power measured by the measuring instrument does not exceed 4×10^{-10} watts whatever the resistance of the measuring instrument or the adjustment of the receiver, and notwithstanding that the search coil is short-circuited or moved in any way, without approaching within six inches of the receiver case.

PART V.

AUTOMATIC KEYING DEVICE.

1. The automatic keying device (in this Part referred to as " the device ") shall be capable of—

(1) being connected in place of the manual transmitting key by a jack or other efficient means, to—

(*a*) the main rediotelegraph transmitter,

(*b*) the emergency radiotelegraph transmitter, and

(*c*) the auto-alarm test signal generator referred to in paragraph 1 of the Sixth Schedule;

(2) when connected to any of the aforesaid equipment—

(*a*) keying automatically the alarm signal specified in paragraph 3 of this Part and immediately thereafter stopping and opening the keying circuit unless re-set or re-wound; and

(*b*) keying automatically the distress call specified in paragraph 4 of this Part in such manner that if the device is used without attention the automatic keying of the distress call will be repeated once every twelve minutes.

The device shall not be capable of keying any signals other than those specified in paragraphs 3 and 4 of this Part.

2. When switched out of circuit after transmission of the distress call, the device shall be capable of being re-set by automatic or manual means so that after the device has again been switched into circuit keying shall commence within ten seconds at the beginning of the distress call.

If the re-setting is by manual means the device shall include a means of indicating when re-setting is necessary.

3. The alarm signal referred to in sub-paragraph (2) of paragraph 1 of this Part shall consist of twelve four-second dashes separated by one-second spaces, the length of the dashes and spaces being maintained within a tolerance of plus or minus 0·2 second.

4. (1) The distress call referred to in the said subparagraph shall consist of the following signals in the following order:—

(*a*) The distress signal, being the morse characters for the letters S O S, repeated three times;

(*b*) the morse characters for the word DE; and

(*c*) a long dash;

provided that the morse characters for the word DE may be omitted.

The characters of the distress signal shall be keyed at a speed of not more than 16 words per minute and the duration of the long dash shall not be less than 20 seconds. The total length of the distress call shall not exceed 90 seconds.

(2) Die meganisme vir die sleuteling van die noodoproep wat in subparagraaf (1) gespesifiseer word, moet sodanig wees dat dit geredelik aangepas kan word, sodat die toestel binne 'n tydperk van 90 sekondes 'n noodoproep kan sleutel wat uit die volgende seine in die aangegewe volgorde bestaan—

(*a*) die noodsein, nl. die morsetekens vir die letters S O S, drie keer herhaal;
(*b*) die morsetekens vir die woord DE;
(*c*) die morsetekens vir die skip se roepsein drie keer; en
(*d*) 'n lang streep wat minstens 20 sekondes duur.

5. As die toestel elektries werk, moet die bron van elektriese energie waardeur dit aangedryf word, die noodbron van elektriese energie wees wat in paragraaf (2) van regulasie 13 genoem word.

TWEEDE BYLAE.

RADIOTELEFOONINSTALLASIE.

Regulasie 4 (2).

1. *Woordomskrywing.*

In hierdie Bylae omvat die uitdrukking „die uitrusting" 'n radiotelefoonsender en -ontvanger en alle ander uitrusting nodig vir die werking van die installasie, maar nie 'n antenne nie.

2. *Golftipes en frekwensiegebied.*

(1) Die uitrusting moet ingestel kan word vir die uitsending en ontvangs sowel van A2- as van A3-golwe op enige frekwensie binne die frekwensiegebied 1,600 Khz. tot 3,800 Khz.

(2) Die uitrusting vir die uitsending van A2-golwe moet so ontwerp wees dat dit buite werking gestel kan word deur inwendige diskonnektering.

3. *Werkfrekwensies.*

Die uitrusting moet A2- en A3-golwe kan stuur en ontvang en moet gestel kan word sowel vir uitsending as vir ontvangs op die radiotelefoonnoodfrekwensie en op minstens die getal vaste frekwensies wat in die volgende tabel aangegee word, en gekies op enige punte binne die betrokke frekwensiegrense wat daarin gespesifiseer word. Die sender moet nie anders as op vaste frekwensies gewerk kan word nie.

Getal vaste frekwensies.		Frekwensiegrense.
Send.	Ontvang.	
4 en	4 en	1,600 tot 2,850 Khz.
2 en	2 en	3,500 tot 3,800 Khz.
1	1	1,600 tot 3,800 Khz.

4. *Kragtoevoer.*

Die uitrusting moet kan werk van die bron van elektriese energie af wat by regulasie 23 vereis word.

5. *Sender.*

(1) Die kiesing van enigeen van die sendfrekwensies wat in paragraaf 3 genoem word, moet deur middel van 'n enkele skakelaar of drukknop geskied.

(2) Die sender moet voldoen aan die vereistes wat in hierdie Bylae gestel word wanneer dit met enigeen van die kunsantennes verbind word wat in die volgende tabel gespesifiseer word:—

Frekwensiegebied.	Kunsantennes (alle elemente in serie).		
	Weerstand ohms.	Kapasitansie pikofarads.	Induktansie mikro-henrys.
Onder 3 Mhz....	6	250	—
Bo 3 Mhz.....	10	250	—
	40	250	8

(2) The mechanism for keying the distress call specified in sub-paragraph (1) shall be such that it can be readily adapted so as to enable the device to key, within a period of 90 seconds, a distress call consisting of the following signals in the following order:—

(*a*) The distress signal, being the morse characters for the letters S O S, repeated three times;
(*b*) the morse characters for the word DE;
(*c*) the morse characters for the ship's call sign three times; and
(*d*) a long dash having a duration of at least 20 seconds.

5. If the device is electrically operated, the source of electrical energy by which it is operated shall be the emergency source of electrical energy referred to in paragraph (2) of regulation 13.

SECOND SCHEDULE.

RADIOTELEPHONE INSTALLATION.

Regulation 4 (2).

1. *Definition.*

In this Schedule the expression "the equipment" includes a radio telephone transmitter and receiver, and all other equipment necessary for the operation of the installation, but does not include an aerial.

2. *Types of Wave and Frequency Range.*

(1) The equipment shall be capable of adjustment for the transmission and reception of both type A2 and type A3 waves on any frequency within the frequency range 1,600 kc/s to 3,800 kc/s.

(2) The facilities for the transmission of type A2 waves shall be so designed that they can be rendered incapable of operation by internal disconnection.

3. *Operating Frequencies.*

The equipment shall be capable of transmitting and receiving type A2 and type A3 waves, and shall be capable of being set for both transmission and reception on the radiotelephone distress frequency and on at least the number of spot frequencies specified in the following table, and selected at any points within the relative frequency limits therein specified. The transmitter shall not be capable of being operated otherwise than on spot frequencies.

Number of Spot Frequencies.		Frequency Limits.
Transmitting.	Receiving.	
4 and	4 and	1,600 to 2,850 kc/s.
2 and	2 and	3,500 to 3,800 kc/s.
1	1	1,600 to 3,800 kc/s.

4. *Power Supply.*

The equipment shall be capable of being operated from the supply of electrical energy required by regulation 23.

5. *Transmitter.*

(1) Selection of any of the transmitter frequencies referred to in paragraph 3 shall be by a single switch or push button.

(2) The transmitter shall comply with the requirements specified in this Schedule when connected to each of the artificial aerials specified in the following table:—

Frequency range.	Artificial Aerials (all elements in series).		
	Resistance Ohms	Capacitance Picofarads.	Inductance Microhenrys.
Below 3 Mc/s....	6	250	—
Above 3 Mc/s....	10	250	—
	40	250	8

(3) Die totale draagvermoë wat die sender aan voornoemde kunsbelasting lewer (vermoë wat verlore gaan in 'n antenne-insteminduktor of 'n ander komponent wat deel uitmaak van die sender, nie inbegrepe nie), moet op enige frekwensie tussen 1,600 Khz. en 3,800 Khz. minstens 15 watt en hoogstens 100 watt wees en 'n middel moet verskaf word om dié vermoë tot 'n vermoë tussen 5 watt en 10 watt te verminder.

(4) 'n Topbegrenser moet verskaf word om oormodulasie van die sender te voorkom.

(5) Die spraakmodulasie van die sender moet sodanig wees dat—

(*a*) die frekwensieweergawe van die mikrofoon en die sender gesamentlik nie meer as 7·5 desibels afwyk nie van 'n waarde wat teen 6 desibels per oktaaf toeneem van 250 hz. tot 2,500 hz.;

(*b*) die weergawe met betrekking tot die topweergawe nie hoër is nie as—

(i) minus 20 desibels by alle frekwensies bo 3,500 hz., en nie bo 5,000 hz. nie; en

(ii) minus 40 desibels by alle frekwensies bo 5,000 hz.

(6) Die moduleerstelsel moet so wees dat die topmodulasie van die sender tussen 80 en 95 persent lê vir enige geluiddruk waarvan die effektiewe waarde, gemeet in die vlak van die mikrofoonmondstuk met 'n suiwer golf van 1,000 hz., tussen 25 dines en 100 dines per vierkante sentimeter lê.

(7) Wanneer die sender op sy ontwerpvermoë of daaronder werk en gemoduleer is tot 'n diepte van 90 persent deur 'n sinusgolf van 'n frekwensie van 400 hz. by die mikrofoonklemme aangewend, en die topbegrenser buite werking gestel is, moet die bofrekwensie-inhoud van die gemoduleerde leweringspanning nie meer as 10 persent wees nie.

(8) Die sender moet 'n frekwensietoleransie van plus of minus 0·02 persent dwarsdeur elke uitsending kan handhaaf sonder dat enige kontrole gestel word en ondanks veranderings in die impedansie van die antenne of 'n ander belasting waarmee dit verbind is, of veranderings in die toevoerspanning binne plus of minus 10 persent.

(9) (*a*) Die radiofrekwensielewering van die sender moet vry wees van frekwensiekomponente weens parasietossilasies in enige deel van die uitrusting.

(*b*) Die lewering by enige bofrekwensie van die radiofrekwensie moet nie meer as 0·1 watt wees nie.

(*c*) Met die mikrofoon oop of kortgesluit—

(i) moet die totale ruis- en bromkrag in die leweringsgolf minstens 20 desibels onder die draagvermoë wees;

(ii) moet die totale ruis- en bromkrag in die sybande wat ooreenkom met oudiofrekwensies tussen die grense 250 hz. en 3,000 hz., minstens 40 desibels onder die draagvermoë wees.

(10) Die sender moet sodanig wees dat—

(*a*) een operateur in nie meer as tien sekondes nie al die verstellings kan doen wat nodig is om die sender oor te skakel van werking op enigeen van die frekwensies wat in paragraaf 3 genoem word na werking op enige ander van die frekwensies;

(*b*) as die sender so ontwerp en gebou is dat dit nodig is om die aanwending van sekere spannings te vertraag totdat dit 'n rukkie aangeskakel is, die vertraging outomaties geskied deur middel van 'n vertragingskakelaar;

(*c*) 'n aanwyser aandui wanneer die sender gereed is vir werking; en

(*d*) 'n bedrewe persoon veranderings kan aanbring in die vaste frekwensies binne die grense wat in paragraaf 3 gespesifiseer word, sonder om die installasie van die skip af te verwyder.

(11) As die sender ingestel is vir die uitsending van A2-golwe, moet—

(*a*) die modulasiediepte minstens 70 persent en hoogstens 100 persent wees;

(3) The total carrier power delivered by the transmitter to the aforesaid artificial load (not including power dissipated in an aerial tuning inductor or any other component forming part of the transmitter) shall on any frequency between 1,600 kc/s and 3,800 kc/s be not less than 15 watts and not more than 100 watts, and means shall be provided for reducing such power to a power between 5 watts and 10 watts.

(4) A peak limiter shall be provided to prevent overmodulation of the transmitter.

(5) The speech modulation of the transmitter shall be such that—

(*a*) the frequency response of the microphone and transmitter together shall not vary by more than 7·5 decibels from a value which rises at the rate of 6 decibels per octave from 250 c/s to 2,500 c/s;

(*b*) the response relative to the peak response shall not be higher than—

(i) minus 20 decibels at all frequencies above 3,500 c/s., and not above 5,000 c/s; and

(ii) minus 40 decibels at all frequencies above 5,000 c/s.

(6) The modulating system shall be such that the peak modulation of the transmitter lies between 80 and 95 per cent for any sound pressure the root mean square value of which, measured in the plane of the microphone mouthpiece with a pure wave of 1,000 c/s., lies between 25 dynes and 100 dynes per square centimetre.

(7) With the transmitter operating at its rated power or below and modulated to a depth of 90 per cent by a sinusoidal wave of frequency 400 c/s applied to the microphone terminals, and with the peak limiter rendered inoperative, the harmonic content of the modulated output voltage shall not exceed 10 per cent.

(8) The transmitter shall be capable of maintaining a frequency tolerance of plus or minus 0·02 per cent throughout every transmission without adjustment of any control and notwithstanding variations of the impedance of the aerial or other load to which it is connected, or variations of supply voltage within plus or minus 10 per cent.

(9) (*a*) The radio-frequency output of the transmitter shall be free from frequency components due to spurious oscillations in any part of the equipment.

(*b*) The output power at any harmonic of the radio-frequency shall not exceed 0·1 watt.

(*c*) With the microphone open or short-circuited—

(i) the total noise and hum power in the output wave shall be at least 20 decibels below the carrier power;

(ii) the total noise and hum power contained in the sidebands corresponding to audio-frequencies between the limits of 250 c/s and 3,000 c/s shall be at least 40 decibels below the carrier power.

(10) The transmitter shall be such that—

(*a*) in not more than 10 seconds one operator can carry out all such adjustments as are necessary to change the transmitter from operation on any one of the frequencies referred to in paragraph 3 to operation on any other of such frequencies;

(*b*) if the transmitter is so designed and constructed that it is necessary to delay the application of certain voltages for a period after it has been switched on, the delay shall be automatically provided by a delay switch;

(*c*) an indicator shall show when the transmitter is ready for operation; and

(*d*) a skilled person can make alterations in the spot frequencies within the limits specified in paragraph 3 without removing the installation from the ship.

(11) If the transmitter is adjusted for the transmission of type A2 waves—

(*a*) the depth of modulation shall not be less than 70 per cent and not more than 100 per cent;

(*b*) die toonfrekwensie minstens 500 hz. en hoogstens 1,200 hz. wees; en

(*c*) die sender telegraafseine kan stuur teen alle snelhede tot en met 30 bauds.

(12) Die sender moet so ontwerp en gebou wees dat wanneer dit vir maksimum vermoë ingestel is, die antenne uitgeskakel of die lewering kortgesluit kan word sonder dat enige deel van die installasie beskadig word. 'n Middel moet verskaf word om die sender te beveilig teen skade deur 'n te sterk stroom of 'n te hoë spanning.

6. *Ontvanger.*

(1) 'n Middel moet verskaf word om elkeen van die vaste ontvangerfrekwensies wat in paragraaf 3 genoem word, deur middel van 'n enkele handeling te kan kies.

(2) Die ontvanger moet sowel telefoon- as luidsprekerontvangs kan gee.

(3) Die ontvanger moet voorsien wees van—

(*a*) 'n oudiofrekwensieversterkingsreëlaar wat met die hand bedien word; en

(*b*) 'n outomatiese versterkingsreëlaar wat doeltreffende werking op A2- en A3-golwe kan gee.

(4) Elke topbegrenser of ander toestel wat in die detektor- of leweringskring van die ontvanger ingesluit is ten einde die uitwerking van impulsiewe ruisseine te verminder, moet deur middel van 'n skakelaar uitgeskakel kan word.

(5) Die ontvanger moet voldoen aan die vereistes van subparagrawe (6) tot en met (14) wanneer dit as volg getoets word, behalwe waar 'n ander manier van toets in genoemde subparagrawe gespesifiseer word:—

(*a*) Kunsantennes met die kenmerke gespesifiseer in die tabel wat in subparagraaf (2) van paragraaf 5 vervat is, moet vir die toets gebruik word;

(*b*) A2-seine wat vir die toets gebruik word, moet gemoduleer word tot 'n diepte van 30 persent met 'n toonfrekwensie van 400 hz.;

(*c*) die standaardoudiofrekwensielewering van die ontvanger (in hierdie paragraaf die „standaardlewering" genoem) moet as volg wees:

(i) vir telefoongehoorstukontvangs, een milliwatt in 'n weerstand in wat wesenlik gelyk is aan die modulus van die impedansie van die telefoon by 1,000 hz.;

(ii) vir luidsprekerontvangs, 50 milliwatt in 'n weerstand in wat die leweringsbuis belas met die belasting wat eie is aan die buis.

(6) (*a*) Die selektiwiteit van die ontvanger gemeet op 'n punt wat die einddetektor onmiddellik voorafgaan, moet aan die volgende vereistes voldoen by die aangegewe frekwensies:—

Diskriminasie van hoogstens 6 desibels moet verkry word by frekwensies wat van instemfrekwensie verwyder is met	3 Khz.
Diskriminasie van minstens 30 desibels moet verkry word by frekwensies wat van instemfrekwensie verwyder is met	7·5 Khz.
Diskriminasie van minstens 60 desibels moet verkry word by frekwensies wat van instemfrekwensie verwyder is met	15 Khz.
Diskriminasie van minstens 80 desibels moet verkry word by frekwensies wat van instemfrekwensie verwyder is met	30 Khz.

(*b*) As die ontvanger 'n superheterodineontvanger is—

(i) moet die beelddiskriminasie minstens 35 desibels wees by frekwensies bo 3 Mhz. en minstens 40 desibels by frekwensie onder 3 Mhz.; en

(ii) moet die tussenfrekwensieweergaweverhoudings minstens die volgende wees:—

Tussenfrekwensie.	Tussenfrekwensie-weergawe-houding.
Tussen 140 en 1,600 Khz	80 desibels.
Buite bostaande grense	60 desibels.

(*b*) the note frequency shall not be less than 500 c/s and not more than 1,200 c/s; and

(*c*) the transmitter shall be capable of transmitting telegraph signals at all speeds up to 30 bauds.

(12) The transmitter shall be so designed and constructed that when it is adjusted for maximum power the aerial may be disconnected or the output short-circuited without damage being caused to any part of the installation. Means shall be provided for protecting the transmitter from damage caused by excessive current or voltage.

6. *Receiver.*

(1) Means shall be provided to enable each of the receiver spot frequencies referred to in paragraph 3 to be selected by a single operation.

(2) The receiver shall be capable of both telephone and loud-speaker reception.

(3) The receiver shall be provided with—

(*a*) a manual audio-frequency gain control; and

(*b*) an automatic gain control capable of efficient operation on type A2 and type A3 waves.

(4) Any peak limiter or other device included in the detector or output circuits of the receiver for the purpose of reducing the effect of impulsive noise signals shall be capable of being disconnected by means of a switch.

(5) The receiver shall comply with the requirements of sub-paragraphs (6) to (14), inclusive, when tested in the following manner, except where another manner of testing is specified in the said sub-paragraphs—

(*a*) artificial aerials with the characteristics specified in the table set forth in sub-paragraph (2) of paragraph 5 shall be used for the test;

(*b*) type A2 signals used for the test shall be modulated to a depth of 30 per cent with a note frequency of 400 c/s;

(*c*) the standard audio-frequency output of the receiver (in this paragraph referred to as the "standard output") shall be—

(i) for telephone receiver reception, one milliwatt into a resistance which is substantially equal to the modulus of the impedance of the telephone at 1,000 c/s;

(ii) for loud-speaker reception, 50 milliwatts into a resistance which loads the output valve with the load appropriate to the valve.

(6) (*a*) The selectivity of the receiver measured at a point immediately preceding the final detector shall satisfy the following requirements at the relative frequencies specified:—

Discrimination of not more than 6 decibels to be obtained at frequencies removed from tune by	3 kc/s.
Discrimination of at least 30 decibels to be obtained at frequencies removed from tune by	7·5 kc/s.
Discrimination of at least 60 decibels to be obtained at frequencies removed from tune by	15 kc/s.
Discrimination of at least 80 decibels to be obtained at frequencies removed from tune by	30 kc/s.

(*b*) If the receiver is a superheterodyne receiver—

(i) the image discrimination shall not be less than 35 decibels at frequencies above 3 Mc/s and not be less than 40 decibels at frequencies below 3 Mc/s; and

(ii) the intermediate frequency response ratios shall not be less than the following:—

Intermediate Frequency.	Intermediate Frequency Response Ratio.
Between 140 and 1,600 kc/s	80 decibels.
Outside the above limits	60 decibels.

(7) Die sein/ruisverhouding van die lewering van die ontvanger moet minstens 20 desibels wees wanneer die ontvanger gestel is om die standaardlewering te gee met 'n insetsein van tipe A2 op 'n peil van 30 desibels bo een mikrovolt.

(8) Die outomatiese versterkingsreëling moet sodanig wees dat wanneer die ontvanger gestel is om die standaardlewering te gee met 'n insetsein van tipe A2 op 'n peil van 30 desibels bo een mikrovolt—

(*a*) 'n toename in inset van 20 desibels 'n verbetering in in die sein/ruisverhouding tot gevolg het van minstens 15 desibels; en

(*b*) 'n toename in inset van 50 desibels nie die lewering met meer as 10 desibels vermeerder nie.

(9) Die verandering in lewering van die ontvanger moet nie meer as 3 desibels wees nie wanneer die ontvanger gestel is om die standaardlewering te gee met 'n gewenste insetsein van tipe A2 op 'n peil van 60 desibels bo een mikrovolt en 'n A1-insetsein gelyktydig aangewend word op 'n peil van 100 desibels bo een mikrovolt en by 'n frekwensie van 20 Khz. bo of onder die gewenste frekwensie.

(10) Daar moet nie 'n lewering van 'n hoër peil as 30 desibels onder die standaardlewering wees wanneer die ontvanger gestel is om die standaardlewering te gee met 'n gewenste insetsein van tipe A2 op 'n peil van 60 desibels bo een mikrovolt, die modulasie van die seingenerator afgeskakel is en 'n A2-sein gelyktydig aangewend word op 'n peil 90 desibels bo een mikrovolt en by 'n frekwensie van 20 Khz. bo of onder die gewenste frekwensie nie.

(11) Daar moet nie 'n lewering van bo die standaardlewering wees wanneer die ontvanger gestel is om die standaardlewering te gee met 'n insetsein van tipe A2 op 'n peil van 30 desibels bo een mikrovolt, die gewenste sein verwyder is en twee steurseine gelyktydig aangewend word, een van tipe A1 en een van tipe A2, elkeen van 'n peil 100 desibels bo een mikrovolt, waarvan die frekwensiesom of -verskil dieselfde is as die frekwensie van die gewenste sein, maar waarvan geeneen 'n beduidende lewering gee wanneer dit gemoduleer en alleen aangewend word nie.

(12) Die maksimum verandering in die peil van die oudiofrekwensielewering moet minder as 8 desibels wees wanneer die modulasiefrekwensie van die insetsein deurlopend van 250 hz. na 3,000 hz. verander word, terwyl die insetsein konstant in modulasiepeil en -diepte bly. Wanneer die modulasiefrekwensie bo 3,000 hz. vermeerder word, moet die lewering vinnig daal. Die insetsein kan enige modulasiepeil en -diepte hê, mits die lewering van die ontvanger nie die standaardlewering oorskry nie.

(13) Die totale bofrekwensie-inhoud van die oudiofrekwensie-leweringspanning van die ontvanger by enige lewering wat nie die standaardlewering oorskry nie, moet hoogstens die volgende wees:—

(*a*) 5 persent met 'n insetsein op enige peil tussen 40 en 80 desibels bo een mikrovolt en sinusvormig gemoduleer tot 'n diepte van 30 persent by 400 hz.; of

(*b*) 15 persent met 'n insetsein soos voorgeskryf in (*a*), maar gemoduleer tot 'n diepte van 80 persent by 400 hz.

(14) Elke instemfrekwensie wat in paragraaf 3 genoem word, moet binne een kilohertz van sy nominale waarde gehou word, al verander die toevoerspanning plus of minus 10 persent en die omgewingstemperatuur van minus 10° C. tot plus 40° C.

(15) (*a*) Die ontvanger moet in normale diens nie 'n veld van meer as 0·1 mikrovolt per meter verwek wanneer dit op 'n afstand van een myl van die ontvanger af gemeet word nie.

(*b*) Daar word geag dat die ontvanger aan die vereiste van subparagraaf (*a*) van hierdie paragraaf voldoen indien wanneer—

(i) die ontvanger in die middel van 'n afgeskermde geaarde hok geplaas word wat minstens 6 vt. in die kubiek groot is;

(ii) die aardklem van die ontvanger met die binnekant van die skerm verbind word;

(iii) die antenneklem deur 'n onafgeskermde reghoekige vierwindingsoekspoel binne-in genoemde hok en

(7) The signal/noise ratio of the output of the receiver shall be at least 20 decibels when the receiver is adjusted to give the standard output with an input signal of type A2 at a level of 30 decibels above one microvolt.

(8) The automatic gain control shall be such that when the receiver is adjusted to give the standard output with an input signal of type A2 at a level of 30 decibels above one microvolt—

(*a*) an increase in input of 20 decibels will result in an improvement in the signal/noise ratio of at least 15 decibels; and

(*b*) an increase in input of 50 decibels will not increase the output by more than 10 decibels.

(9) The change in output of the receiver shall not exceed 3 decibels when the receiver is adjusted to give the standard output with an input wanted signal of type A2 at a level of 60 decibels above one microvolt and a type A1 input signal is simultaneously applied at a level of 100 decibels above one microvolt and at a frequency of 20 kc/s above or below the wanted frequency.

(10) An output of level higher than 30 decibels below the standard output shall not be produced when the receiver is adjusted to give the standard output with an input wanted signal of type A2 at a level of 60 decibels above one microvolt, the modulation of the signal generator has been switched off, and a type A2 input signal is simultaneously applied at a level 90 decibels above one microvolt and at a frequency of 20 kc/s above or below the wanted frequency.

(11) An output exceeding the standard output shall not be produced when the receiver is adjusted to give the standard output with an input signal of type A2 at a level of 30 decibels above one microvolt, the wanted signal has been removed, and two interfering signals are simultaneously applied, one of type A1 and one of type A2, each of level 100 decibels above one microvolt, of which the frequency sum or difference is the same as the frequency of the wanted signal, but neither of which will give an appreciable output when modulated and applied alone.

(12) The maximum change in level of the audio-frequency output shall be less than 8 decibels when the modulation frequency of the input signal is varied continuously from 250 c/s to 3,000 c/s, the input signal remaining constant in level and depth of modulation. When the modulation frequency is increased above 3,000 c/s the output shall fall rapidly. The input signal may have any level and depth of modulation provided the output of the receiver does not exceed the standard output.

(13) The total harmonic content of the audio-frequency output voltage of the receiver at any output not exceeding the standard output shall not exceed—

(*a*) 5 per cent with an input signal at any level between 40 and 80 decibels above one microvolt and sinusoidally modulated to a depth of 30 per cent at 400 c/s; or

(*b*) 15 per cent with an input signal as prescribed in (*a*) but modulated to a depth of 80 per cent at 400 c/s.

(14) Each frequency of tune referred to in paragraph 3 shall be maintained within one kilocycle per second of its nominal value notwithstanding variation in the supply voltage of plus or minus 10 per cent and notwithstanding ambient temperature changes from minus 10° C. to plus 40° C.

(15) (*a*) The receiver shall not in normal service produce a field exceeding 0·1 microvolt per metre when measured at a distance of one mile from the receiver.

(*b*) The receiver shall be deemed to comply with the requirement of sub-paragraph (*a*) of this paragraph if, when—

(i) the receiver is placed centrally in a screened earthed enclosure of dimensions at least six feet cube;

(ii) the earth terminal of the receiver is connected to the inside of the screen;

(iii) the aerial terminal is connected through an unscreened four-turn rectangular search coil situated

een voet in die vierkant groot, en 'n onafgeskermde leiding met 'n weerstandsmeetinstrument verbind is wat buitekant die hok gemonteer is en waarvan die ander klem geaard is; en

(iv) die ontvanger dan bekrag word en 'n onafgeskermde koptelefoon daarmee verbind word,

die krag wat die meetinstrument meet, hoogstens 4×10^{-10} watt is, ongeag die weerstand van die meetinstrument of die instelling van die ontvanger, en al word die soekspoel kortgesluit of op enige manier beweeg sonder om nader as ses duim aan die ontvangerkas te kom.

7. *Fasiliteite vir tweerigtingkommunikasie.*

(1) Die uitrusting moet oombliklik van uitsending na ontvangs, en omgekeerd, oorgeskakel kan word deur middel van 'n lang- of ander enkele skakelaar, antenneoorskakelrelais en die ander toestelle wat vir dié doel nodig is. Indien daarenbowe 'n spraaktoestel vir dié doel voorsien word, moet die aantreknaloop nie meer as 10 millisekondes wees nie en die afvalnaloop minstens 150 millisekondes en hoogstens 200 millisekondes.

(2) 'n Middel moet verskaf word om die ontvanger teen beskadiging te beveilig wanneer die uitrusting besig is om te send.

(3) 'n Middel moet verskaf word om outomaties te verseker dat die luidspreker uitgeskakel is te alle tye wanneer die mikrofoon in gebruik is.

8. *Grootte van kontroles.*

Alle kontroles aan die ontvanger moet so groot wees dat iemand met dik handskoene aan normale verstellings kan doen.

9. *Kristalhouers.*

As die installasie ontwerp is vir gebruik met piësoëlektriese kristalle, moet dit geskik wees om gebruik te word met 'n kristalhouer gespesifiseer in paragraaf 13 van Deel I van die Eerste Bylae.

DERDE BYLAE.

KLIMAATS- EN DUURSAAMHEIDSTOETSE.

Regulasie 5.

1. In hierdie Bylae moet—

(1) Verwysings na Klas B-uitrusting opgevat word as verwysings na uitrusting wat afgesonder is vir gebruik slegs onder dek of in 'n dekhuis of ander soortgelyke afdeling; en

(2) verwysings na Klas X-uitrusting opgevat word as verwysings na uitrusting wat afgesonder is vir gebruik of opberging in die ope lug of in 'n oop boot.

2. (1) Klas B-uitrusting moet die toetse ondergaan wat genoem word teenoor die letter B in die tabel in subparagraaf (4), en Klas X-uitrusting moet die toetse ondergaan wat teenoor die letter X in dié tabel genoem word.

(2) Al dié toetse moet in die volgorde uitgevoer word waarin hulle in voornoemde tabel voorkom.

(3) Op enige tydstip wanneer die uitrusting ingevolge die bepalings van paragraaf 3 aan die werk gehou moet word vir die uitvoering van die toetse, moet krag daaraan gelewer word onder die spanning waaronder die uitrusting ontwerp is om te werk.

(4) TABEL.

Aard van toets.	Klasse uitrusting waarop die toets uitgevoer moet word.
(1) Trillingstoets	B en X.
(2) Stamptoets	B en X.
(3) Droëhittetoets	B en X.
(4) Klamhittetoets	B en X.
(5) Laetemperatuurtoets	B en X.
(6) Reëntoets	X.
(7) Indompelingstoets	X.
(8) Korrosietoets—soutwater	B en X.
(9) Korrosietoets—suurdampe (indien daar 'n battery in die uitrusting is)	B en X.
(10) Skimmelgroeitoets	X.

within the said enclosure and of dimensions one foot square and an unscreened lead to a resistive measuring instrument mounted outside the enclosure and having its other terminal earthed; and

(iv) the receiver is then energised and unscreened headphones are connected thereto,

the power measured by the measuring instrument does not exceed 4×10^{-10} watts whatever the resistance of the measuring instrument or the adjustment of the receiver, and notwithstanding that the search coil is short-circuited or moved in any way without approaching within six inches of the receiver case.

7. *Facilities for Two-way Communication.*

(1) The equipment shall be capable of changing instantaneously from transmitting to receiving and vice versa by means of a pressel or other single switch, aerial changeover relays, and such other devices as are necessary for that purpose. If, in addition, a voice-operated device is provided for that purpose the operating lag shall not exceed 10 milli-seconds, and the release lag shall not be less than 150 milli-seconds and not more than 200 milli-seconds.

(2) Means shall be provided for protecting the receiver from damage when the equipment is transmitting.

(3) Means shall be provided to assure automatically that at all times when the microphone is in use the loudspeaker is disconnected.

8. *Size of Controls.*

All controls on the receiver shall be of such size as to permit normal adjustments being performed by a person wearing thick gloves.

9. *Crystal Holders.*

If the installation is designed for use with piezo-electric crystals, it shall be suitable for use with a crystal holder specified in paragraph 13 of Part I of the First Schedule.

THIRD SCHEDULE.

CLIMATIC AND DURABILITY TESTS.

Regulation 5.

1. In this Schedule—

(1) references to Class B equipment shall be construed as references to equipment appropriated for use only below deck or in a deckhouse or other similar compartment; and

(2) references to Class X equipment shall be construed as references to equipment appropriated for use or storage in the open or in an open boat.

2. (1) Class B equipment shall be subject to the tests named opposite the letter B in the table given in subparagraph (4), and Class X equipment shall be subjected to the tests named opposite the letter X in that table.

(2) All such tests shall be conducted in the order in which they appear in the aforesaid table.

(3) At any time when the equipment is required by the provisions of paragraph 3 to be kept working for the purposes of such tests, power shall be supplied thereto at the voltage at which such equipment is designed to be operated

(4) TABLE.

Nature of Test.	Classes of Equipment to which the Test shall be applied.
(1) Vibration test	B and X.
(2) Bump test	B and X.
(3) Dry heat test	B and X.
(4) Damp heat test	B and X.
(5) Low temperature test	B and X.
(6) Rain test	X.
(7) Immersion test	X.
(8) Corrosion test—salt water	B and X.
(9) Corrosion test—acid fumes (if a battery is included in the equipment)	B and X.
(10) Mould growth test	X.

3. Die toetse genoem in paragraaf 2 moet onderskeidelik as volg uitgevoer word:—

(1) *Trillingstoets.*—Die uitrusting, volledig met sy onderstelbedekkings en skokbrekers (as daar is), moet, in sy normale werkstand, aan 'n triltafel vasgeklemp word. Die tafel word laat tril teen alle frekwensies tussen 0 en 12½ hertz teen 'n amplitude van plus of minus 0·16 cm., en die uitrusting moet gedurende dié tydperk onafgebroke werk. Die tafel moet aldus laat tril word vir drie tydperke van agt minute elk. Dwarsdeur elke sodanige tydperk moet die rigting van die trillings loodreg wees op die rigting van die trilings gedurende die ander twee tydperke.

(2) *Stamptoets.*—Die uitrusting moet onderwerp word aan minstens 500 stampe teen 'n konstante tempo van tussen een en vier stampe per sekonde, met 'n vry val van minstens 2·5 cm.

(3) *Droëhittetoets.*

(*a*) Klas B-uitrusting moet in 'n kamer geplaas word waarin die temperatuur twee uur lank konstant op 55° C., binne 'n toleransie van plus of minus 1° C., gehou word, en gedurende dié tydperk moet die uitrusting onafgebroke werk.

(*b*) Klas X-uitrusting moet in 'n kamer geplaas word waarin die temperatuur tien uur lank konstant op 70° C., binne 'n toleransie van plus of minus 1° C., gehou word, en gedurende dié tydperk moet die uitrusting nie werk of getoets word nie. Genoemde kamer moet dan afgekoel word tot 'n konstante temperatuur van 55° C., binne 'n toleransie van plus of minus 1° C., en die uitrusting moet twee uur lank onafgebroke teen dié temperatuur werk.

(4) *Klamhittetoets.*—Die uitrusting moet soos volg vir die klamhittetoets voorberei word:—

(*a*) Die uitrusting moet in 'n kamer geplaas word wat binne 'n tydperk van hoogstens twee uur van kamertemperatuur tot 40° C. verhit moet word en waarvan die relatiewe vogtigheid op minstens 95 persent gebring moet word.

(*b*) Die kamer moet twaalf uur lank op 'n temperatuur van 40° C., binne 'n toleransie van plus of minus 1° C., en op 'n relatiewe vogtigheid van minstens 95 persent gehou word.

(*c*) Aan die begin van die laaste 60 minute van die tydperk moet alle bereikbare oppervlakke en onderdele afgedroog en alle waaiers of drooglampe in die uitrusting aangeskakel word.

Nadat die waaiers of drooglampe 30 minute lank gewerk of gebrand het en terwyl die temperatuur van die kamer nog 40° C. is, met voornoemde toleransie, moet die uitrusting getoets word.

Nadat die uitrusting getoets is, moet die temperatuur van die kamer laat daal word tot onder 25° C., ter voorbereiding vir die laetemperatuurtoets. Die uitrusting bly in die kamer.

(5) *Laetemperatuurtoets.*

(*a*) Klas B-uitrusting moet minstens twaalf uur lank aan 'n temperatuur van minus 15° C. by normale lugdruk blootgestel word.

(*b*) Klas X-uitrusting moet minstens twaalf uur lank aan 'n temperatuur van minus 25° C. by normale lugdruk blootgestel word.

(6) *Reëntoets.*—Die uitrusting moet in 'n kamer geplaas word waarin agt spuitkoppe aangebring is. Die spuitent van elkeen moet bestaan uit 'n plat, roesvry metaalplaat, 0·16 cm. dik, met ses-en-dertig gaatjies wat elk 'n middellyn van 0·1 cm. het, ewe ver van mekaar gespasieer in konsentriese sirkels, as volg:—

16 gaatjies op die omtreklyn van 'n sirkel met 'n middellyn van 5·1 cm.

3. The tests referred to in paragraph 2 shall be conducted respectively as follows:—

(1) *Vibration Test.*—The equipment, complete with its chassis covers and shock absorbers (if any) shall, in its normal operating position, be clamped to a vibration table. The table shall be vibrated at all frequencies between 0 and 12½ cycles per second at an amplitude of plus or minus 0·16 cm. during which period the equipment shall be kept working continuously. The table shall be so vibrated for three periods each of which shall be of eight minutes duration. Throughout each such period the direction of the vibrations shall be perpendicular to the direction of the vibrations during the other two periods.

(2) *Bump Test.*—The equipment shall be subjected to not less than 500 bumps at a constant rate of between one and four bumps per second with a free drop of at least 2·5 cm.

(3) *Dry Heat Test.*

(*a*) Class B equipment shall be placed in a chamber which is maintained for a period of two hours at a constant temperature of 55° C. within a tolerance of plus or minus 1° C. during which period the equipment shall be kept working continuously.

(*b*) Class X equipment shall be placed in a chamber which is maintained for a period of ten hours at a constant temperature of 70° C. within a tolerance of plus or minus 1° C., during which period the equipment shall not be worked or tested. The said chamber shall then be cooled to a constant temperature of 55° C. within a tolerance of plus or minus 1° C. and the equipment shall be kept working continuously at that temperature for a period of two hours.

(4) *Damp Heat Test.*—The equipment shall be prepared for the damp heat test in the following manner:—

(*a*) The equipment shall be placed in a chamber which within a period not exceeding two hours shall be heated from room temperature to 40° C. and shall be brought to a relative humidity of not less than 95 per cent.

(*b*) The chamber shall be kept at a temperature of 40° C. within a tolerance of plus or minus 1° C. for a period of 12 hours, and at a relative humidity of not less than 95 per cent.

(*c*) At the beginning of the last 60 minutes of such period, all accessible surfaces and components shall be wiped dry and any fans or drying lamps provided in the equipment shall be switched on.

After the fans or drying lamps have been in operation for 30 minutes and while the temperature of the chamber is still 40° C., subject to the aforesaid tolerance, the equipment shall be tested.

After the equipment has been tested the temperature of the chamber shall, in preparation for the low temperature test, be allowed to fall below 25° C., the equipment remaining in the chamber.

(5) *Low Temperature Test.*

(*a*) Class B equipment shall be exposed to a temperature of minus 15° C. at normal atmospheric pressure for a period of not less than twelve hours.

(*b*) Class X equipment shall be exposed to a temperature of minus 25° C. at normal atmospheric pressure for a period of not less than twelve hours.

(6) *Rain Test.*—The equipment shall be placed in a chamber fitted with eight shower heads, the discharge end of which shall consist of a flat, non-rustable metal plate, 0·16 cm. thick, having thirty-six holes each of 0·1 cm. diameter evenly spaced in concentric circles in the following manner:—

16 holes on the periphery of a circle of 5·1 cm. diameter.

8 gaatjies op die omtreklyn van 'n sirkel met 'n middellyn van 3·8 cm.
8 gaatjies op die omtreklyn van 'n sirkel met 'n middellyn van 2·5 cm.
4 gaatjies op die omtreklyn van 'n sirkel met 'n middellyn van 1·3 cm.

Genoemde spuitkoppe moet op 'n afstand van minstens 50 cm. en hoogstens 80 cm. van die uitrusting af opgestel word op so 'n wyse dat die water uit vier van die spuitkoppe onder 'n hoek van 45° na onder spuit op elkeen van die vier boonste hoeke van die uitrusting en die water uit die ander vier spuitkoppe horisontaal spuit op die middel van elke oppervlak van die vier sye van die uitrusting. Vars water teen kamertemperatuur en teen 'n statiese druk van minstens 15 en hoogstens 25 pond per vierkante duim moet 'n uur lank uit bogenoemde spuitkoppe op die uitrusting gespuit word in die stand waarin dit gewoonlik werk. Dwarsdeur die toets moet die uitrusting teen tussen 12 en 20 omwentelings per minuut gedraai word om 'n vertikale as wat deur die middel van die uitrusting loop.

(7) *Indompelingstoets.*—Die uitrusting moet in die toestand waarin dit gewoonlik aan boord van die skip gehou word, in water ingedompel word, sodat die oppervlak van die water minstens 10 cm. bokant die hoogste punt van die uitrusting is, en een uur lank so ingedompel bly. Wanneer die uitrusting uit die water uitgehaal word, moet al die water daaruit gedreineer word.

(8) *Korrosietoets (soutwater).*—Die uitrusting moet in 'n kamer geplaas word waarin apparaat aangebring is wat òf natuurlike seewater òf kraanwater waarin die volgende soute opgelos is, in die vorm van 'n fyn mis kan spuit:—

Natriumchloried	2·7	persent.
Magnesiumchloried	0·6	persent.
Kalsiumchloried	0·1	persent.
Kaliumchloried	0·07	persent.

Die hoeveelheid van elke sout kan plus of minus 10 persent meer of minder wees as die aangegewe persentasie.

Die spuitapparaat moet sodanig wees dat die korrosieprodukte nie met die seewater of die oplossing in die spuitbak kan meng nie. Die uitrusting moet een uur lank gelyktydig op al sy buitevlakke met die seewater of die oplossing bespuit word en gedurende die laaste dertig minute daarvan onafgebroke aan die werk gehou word. Onmiddellik daarna moet die uitrusting sewe dae lank gebêre word by 'n temperatuur van 40° C., binne 'n toleransie van plus of minus 1° C., en 'n relatiewe vogtigheid van minstens 60 persent en hoogstens 80 persent. Die uitrusting moet by vier afsonderlike geleenthede op bogenoemde wyse bespuit en gebêre word.

(9) *Korrosietoets (suurdampe).*—Elke battery wat in die uitrusting ingesluit is, moet vol gelaai en dan in die uitrusting aangebring word. Indien die uitrusting so ingerig is dat die battery gelaai kan word sonder dat dit uit die uitrusting uitgehaal hoef te word, moet die battery vier en twintig uur lank onafgebroke gelaai word teen die maksimum toepaslike tempo. Die uitrusting moet onmiddellik daarna vier weke lank gebêre word by 'n temperatuur van 40° C., binne 'n toleransie van plus of minus 1° C., en by 'n relatiewe vogtigheid van minstens 60 persent en hoogstens 80 persent.

(10) *Skimmelgroeitoets.*—Die uitrusting moet ingeënt word deur dit te bespuit met 'n watersuspensie van skimmelspore wat al die kulture in kolom A of al die kulture in kolom B van die volgende tabel bevat:—

A

Aspergillus niger;
Aspergillus amstelodami;
Paecilomyces varioti;
Stachybotrys atra;

8 holes on the periphery of a circle of 3·8 cm. diameter.
8 holes on the periphery of a circle of 2·5 cm. diameter.
4 holes on the periphery of a circle of 1·3 cm. diameter.

The said shower heads shall be arranged at a distance of not less than 50 cm. and not more than 80 cm. from the equipment in such a manner that spray from four of such shower heads is directed downwards at an angle of 45° at each of the four uppermost corners of the equipment, and the spray from the other four shower heads is directed horizontally at the centre of each area of the four sides of the equipment. Fresh water at room temperature and at a static pressure of not less than 15 or more than 25 pounds per square inch shall be sprayed on to the equipment from the aforesaid shower heads for a period of one hour with the equipment in the position in which it is normally operated. Throughout the test equipment shall be rotated at between 12 and 20 revolutions per minute about a vertical axis passing through the centre of the equipment.

(7) *Immersion Test.*—The equipment in the condition in which it will normally be kept on board ship shall be immersed in water the surface of which is at least 10 cm. above the highest point of the equipment, and shall remain for a period of one hour. Upon its removal from the water the equipment shall be drained of water.

(8) *Corrosion Test (Salt Water).*—The equipment shall be placed in a chamber fitted with apparatus capable of spraying in the form of a fine mist either natural sea water or tap water containing the following salts in solution:—

Sodium Chloride	2·7	per cent.
Magnesium Chloride	0·6	per cent.
Calcium Chloride	0·1	per cent.
Potassium Chloride	0·07	per cent.

The quantity of each salt shall be subject to a tolerance of plus or minus 10 per cent.

Such spraying apparatus shall be such that the products of corrosion cannot mix with the sea water or solution contained in the spray reservoir. The equipment shall be sprayed simultaneously on all its external surfaces with the sea water or solution for a period of one hour and shall be kept working continuously for the last thirty minutes thereof. The equipment shall immediately thereafter be stored for a period of seven days at a temperature of 40° C. within a tolerance of plus or minus 1° C. at a relative humidity of not less than 60 per cent, and not more than 80 per cent. The equipment shall be sprayed and stored as aforesaid on four separate occasions.

(9) *Corrosion Test (Acid Fumes).*—Any battery included in the equipment shall be fully charged and shall then be fitted into the equipment. If the arrangements are such that the battery can be charged without being removed from the equipment, the battery shall continue to be charged at the maximum rate appropriate to it for period of twenty-four hours. The equipment shall immediately thereafter be stored for a period of four weeks at a temperature of 40° C. within a tolerance of plus or minus 1° C. at a relative humidity of not less than 60 per cent and not more than 80 per cent.

(10) *Mould Growth Test.*—The equipment shall be inoculated by spraying with an aqueous suspension of mould spores containing all the cultures named in column A or all the cultures named in column B of the following table:—

A

Aspergillus niger;
Aspergillus amstelodami;
Paecilomyces varioti;
Stachybotrys atra;

Penicillium brevi-compactum;
Penicillium cyclopium;
Chaetomium globosum.

B

Aspergillus niger;
Aspergillus amstelodami;
Aspergillus versicolor;
Stachybotrys atra;
Penicillium brevi-compactum;
Cladosporum herbasum.

Onmiddellik nadat die uitrusting so bespuit is, moet dit in 'n kamer geplaas word waarvan die temperatuur op enige vasgestelde waarde binne die bestek 31° C. tot en met 33° C., beheer binne 'n toleransie van plus of minus 1° C., en by 'n relatiewe vogtigheid van minstens 95 persent gehou word. Die uitrusting moet agt en twintig dae lank in genoemde kamer bly.

VIERDE BYLAE.

RADIOTELEGRAAFUITRUSTING VIR REDDINGSBOTE.

DEEL I.
Regulasies 29 en 30.

VASTE UITRUSTING.

1. *Algemeen.*

(1) Die radiotelegraafuitrusting vir reddingsbote (in hierdie Deel „ die uitrusting " genoem) moet bestaan uit 'n radiotelegraafsender en -ontvanger, 'n antenne- en aardstelsel, 'n energiebron en alle ander uitrusting wat nodig is vir die werking van die installasie.

(2) Die uitrusting moet so ontwerp wees dat 'n ongeskoolde persoon dit maklik die seine kan laat stuur wat in paragraaf 5 van hierdie Deel genoem word.

(3) Die doel van alle kontroles wat nie vir die uitsending van genoemde seine nodig is nie, moet duidelik en blywend aangedui word.

(4) Eenvoudige aanwysings vir die werking van die uitrusting op die frekwensies wat in subparagraaf (1) van paragraaf 4 en subparagraaf (1) van paragraaf 6 van hierdie Deel gespesifiseer word, moet in duidelike en permanente vorm aan of naby die uitrusting vasgeheg word.

(5) Alle kontroles moet groot genoeg wees sodat iemand met dik handskoene aan normale verstellings kan doen, en in die besonder moet alle instemknoppe 'n middellyn van minstens 2 duim hê.

(6) Die oorskakeling van send na ontvang, en omgekeerd, met inbegrip van outomatiese verandering van antenneverbindings, moet deur middel van een skakelaar geskied.

(7) Die uitrusting moet maklik van die reddingsboot af verwyder kan word.

(8) 'n Elektriese lamp wat 'n sterkte van tussen 3 watt en 15 watt, omsluit deur 'n waterdigte hulsel, moet verskaf word om die kontrolepanele en voornoemde aanwysings te verlig.

(9) 'n Elektriese verwarmer, verbind met die skip se kragnet, moet verskaf word en moet die temperatuur binnein die kas waarin die uitrusting geïnstalleer is, minstens 10° C. bokant die omgewingstemperatuur kan hou. Die verwarmer moet so gemonteer wees dat dit die gevaar sal verminder dat die kontroles of dop van die uitrusting sal vasys, maar dat dit geen deel van die installasie te warm sal laat word nie.

(10) Alle ander dele as die antenne en sy klem wat nie by aardpotensiaal is nie, moet bedek wees. Die antenneklem moet teen toevallige kontak beskut wees.

(11) Die uitrusting moet aan die rendementsvereistes kan voldoen wat in hierdie Deel gespesifiseer word terwyl die reddingsboot se motor aan die loop is en ongeag of die battery besig is om gelaai te word of nie.

Penicillium brevi-compactum;
Pencillium cyclopium;
Chaetomium globosum.

B.

Aspergillus niger;
Aspergillus amstelodami;
Aspergillus versicolor;
Stachybotrys atra;
Penicillium brevi-compactum;
Cladosporum herbasum.

Immediately after it has been so sprayed the equipment shall be placed in a chamber, the temperature of which shall be maintained at any fixed value within the range 31° C. to 33° C. inclusive and controlled to within a tolerance of plus or minus 1° C. at a relative humidity of not less than 95 per cent. The equipment shall remain in the said chamber for a period of twenty-eight days.

FOURTH SCHEDULE.

RADIOTELEGRAPH EQUIPMENT FOR LIFEBOATS.

PART I.
Regulations 29 and 30.

FIXED EQUIPMENT.

1. *General.*

(1) The radiotelegraph equipment for lifeboats (in this Part referred to as " the equipment ") shall include a radiotelegraph transmitter and receiver, an aerial and earth system, a source of energy, and all other equipment necessary for the operation of the installation.

(2) The equipment shall be so designed that an unskilled person can readily cause it to transmit the signals referred to in paragraph 5 of this Part.

(3) The purpose of all controls not required for transmitting the said signals shall be clearly and permanently indicated.

(4) Simple instructions for the operation of the equipment on the frequencies specified in sub-paragraph (1) of paragraph 4 and sub-paragraph (1) of paragraph 6 of this Part shall be affixed in clear and permanent form to or near the equipment.

(5) All controls shall be of such size as will permit normal adjustments to be made by a person wearing thick gloves, and in particular all tuning knobs shall not be less than 2 inches in diameter.

(6) The change-over from transmitting to receiving and vice versa, including automatic change of aerial connections, shall be made by means of one switch.

(7) The equipment shall be readily removable from the lifeboat.

(8) An electric lamp of power between 3 watts and 15 watts, with a waterproof casing, shall be provided to illuminate the control panels and the aforesaid instructions.

(9) An electrical heater, connected to the ship's mains shall be provided and shall be capable of maintaining the interior of the case in which the equipment is installed at a temperature at least 10° C. above the ambient temperature. The heater shall be so mounted that it will reduce the risk of the controls or cover of the equipment becoming frozen into position but will not cause any part of the installation to become overheated.

(10) All parts other than the aerial and its terminal which are not at earth potential shall be enclosed. The aerial terminal shall be guarded against accidental contact.

(11) The equipment shall be capable of complying with the performance requirements specified in this Part while the lifeboats engine is running, and whether or not the battery is being charged.

2. *Antenne- en aardstelsel.*

(1) Die uitrusting moet bestaan uit—

(*a*) 'n enkeldraadantenne van stringdraad of omvlegte draad van hoë geleidingsvermoë wat deur die reddingsbootmas gesteun kan word sonder om van marsstenge gebruik te maak, op 'n maksimum hoogte van 22 voet bokant die waterlyn; en

(*b*) 'n aardstelsel wat deurgaans van dieselfde materiaal moet wees en moet bestaan uit minstens drie onafhanklike vasgeboute verbindings—

(i) met die romp, in die geval van 'n metaalreddingsboot; of

(ii) met 'n kaal koperplaat met 'n oppervlakte van minstens ses vierkante voet wat onderkant die waterlyn aan die romp bevestig is, in die geval van ander reddingsbote.

(2) Die antennestelsel moet meganies sterk wees.

(3) Alle moontlike stappe moet gedoen word om antenneverliese tot 'n minimum te beperk.

(4) Alle dele van die antenne wat met die insittendes van die reddingsboot in aanraking kan kom terwyl die uitrusting in gebruik is, moet geïsoleer word.

3. *Energiebron.*

(1) Die uitrusting moet een 24-voltbattery insluit wat saamgestel is uit sekondêre selle en 'n groot genoeg kapasiteit het om die ontvanger vier uur lank te laat werk en onmiddellik daarna die sender twee uur lank onder werktoestande op volle vermoë te laat werk.

(2) As die voorneme bestaan om 'n soeklig van die battery af te laat werk, moet die battery se kapasiteit minstens 30 ampère-uur meer wees as dié wat in subparagraaf (1) genoem word.

(3) Die battery moet ten volle herlaai kan word—

(*a*) in nie meer as 20 uur nie van 'n dinamo af wat saam met en dwarsdeur die normale snelheidsbestek van die reddingsbootmotor werk as die battery nie terselfdertyd in gebruik is nie; en

(*b*) van die skip se hoofbron van elektriese energie af sonder dat dit uit die reddingsboot verwyder word.

(4) Geen vloeistof moet uit die battery loop as dit in enige rigting tot 'n hoek van 60° van sy normale stand af skuins gedraai word nie.

(5) Wanneer die sender en die ontvanger afgeskakel is, moet die battery elektries van die res van die uitrusting geïsoleer wees.

(6) As 'n trillerkrageenheid gebruik word, moet 'n reserwetriller verskaf word wat so deur middel van 'n oorskakelaar beheer word dat dit onmiddellik ingeskakel kan word.

4. *Sender.*

(1) Die uitrusting moet 'n sender insluit wat die volgende kan doen:—

(*a*) Onafgebroke maar nie gelyktydig nie radiotelegraafseine van A2-golwe stuur op die frekwensies 500 Khz. en 8,364 Khz.—

(i) deur middel van handbediening teen alle snelhede tot en met minstens 25 bauds sonder kritieke relaisverstelling; en

(ii) deur middel van 'n outomatiese sleuteltoestel wat voldoen aan die vereistes van paragraaf 5 van hierdie Deel; en

(*b*) sonder verstelling van enige kontrole dwarsdeur elke uitsending 'n frekwensietoleransie kan handhaaf van—

(i) plus of minus 0·5 persent op 'n frekwensie van 500 Khz.; en

(ii) plus of minus 0·02 persent op 'n frekwensie van 8,364 Khz.;

ondanks wisselings in die impedansie van die antenne of van enige ander belasting waarmee dit verbind is of van toevoerspanning binne plus of minus 10 persent; en

(*c*) werking op volle vermoë binne 30 sekondes nadat dit aangeskakel is.

2. *Aerial and Earth System.*

(1) The equipment shall include—

(*a*) a single-wire aerial of high conductivity stranded or braided wire capable of being supported by the lifeboat mast without the use of top-masts at a maximum height of not less than 22 feet above the waterline; and

(*b*) an earth system which shall be of the same material throughout and shall consist of at least three independent bolted connections—

(i) to the hull in the case of a metal lifeboat, or

(ii) to a bare copper plate of area at least six square feet fixed to the hull below the waterline in the case of other lifeboats.

(2) The aerial system shall be mechanically robust.

(3) All practicable steps shall be taken to reduce aerial losses to a minimum.

(4) All parts of the aerial which may come in contact with the occupants of the lifeboat when the equipment is in use shall be insulated.

3. *Source of Energy.*

(1) The equipment shall include one 24 volt battery composed of secondary cells and of a capacity sufficient to operate the receiver for four hours and immediately thereafter to run the transmitter under full-power marking conditions for two hours.

(2) If it is intended to operate a searchlight from the battery, the capacity thereof shall be at least 30 ampere hours in excess of that referred to in sub-paragraph (1).

(3) The battery shall be capable of being completely recharged—

(*a*) in not more than 20 hours from a dynamo working in conjunction with and throughout the normal range of speeds of the lifeboat engine if the battery is not in use at the same time; and

(*b*) from the ship's main source of electrical energy without being removed from the lifeboat.

(4) The battery shall not spill when tilted to an angle of 60° from its normal position in any direction.

(5) The battery shall be electrically isolated from the rest of the equipment when the transmitter and receiver are switched off.

(6) If a vibrator power unit is employed, a reserve vibrator shall be provided and so controlled by a change-over switch that it can be put into circuit immediately.

4. *Transmitter.*

(1) The equipment shall include a transmitter capable of—

(*a*) sending continuously but not simultaneously radiotelegraph signals of type A2 waves on the frequencies of 500 kc/s and 8,364 kc/s—

(i) by manual operation at all speeds up to at least 25 bauds without critical relay adjustment; and

(ii) by means of an automatic keying device complying with the requirements of paragraph 5 of this Part; and

(*b*) maintaining without adjustment of any control, a frequency tolerance throughout every transmission of—

(i) plus or minus 0·5 per cent on a frequency of 500 kc/s; and

(ii) plus or minus 0·02 per cent on a frequency of 8,364 kc/s;

notwitstanding variations of the impedance of the aerial or of any other load to which it is connected or of supply voltage within plus or minus 10 per cent; and

(*c*) operation on full power within 30 seconds of being switched on.

(2) Die draaggolf moet deur 'n reghoekige golf tot 'n diepte van 100 persent gemoduleer word, sodat die draaggolf vir minstens 30 persent en hoogstens 50 persent van 'n modulasiesiklus aangeskakel is.

(3) Die toonfrekwensie moet minstens 500 hz. en hoogstens 1,200 hz. wees.

(4) Die vermoë van die sender moet—

(*a*) minstens 15 meter-ampères wees op 'n frekwensie van 500 Khz., wanneer dit vasgestel word op die wyse voorgeskryf by paragraaf (3) van regulasie 12;

(*b*) minstens 50 watt wees op 'n frekwensie van 500 Khz., wanneer dit gemeet word in 'n kunsantenne in wat bestaan uit 'n weerstand van 30 ohms in serie met 'n kapasitor van elke waarde tussen 350 en 450 pikofarads; en

(*c*) minstens 15 watt wees op 'n frekwensie van 8,364 Khz., wanneer dit gemeet word in 'n kunsantenne in wat die impedansie van die antenne naboots wat in paragraaf 2 van hierdie Deel gespesifiseer word.

(5) Die sender moet so ontwerp en gebou wees dat wanneer dit vir maksimum vermoë ingestel is en die sendsleutel afgedruk word, die antenne uitgeskakel of die lewering kortgesluit kan word sonder dat enige deel van die installasie beskadig word.

(6) Daar moet die volgende wees:—

(*a*) 'n Kunsantenne om die sender op volle vermoë te toets, wat 'n aanwyser of lamp moet insluit om die deurvloei van radiofrekwensiestrome aan te dui; en

(*b*) 'n antennemeter, en 'n optiese aanwyser om die deurvloei van radiofrekwensiestroom aan te dui. As enigeen van die twee onklaar raak, moet die antennekring nie daardeur verbreek word nie.

5. *Outomatiese transmissie.*

(1) 'n Toestel vir outomatiese sleuteling moet verskaf word as deel van die radiotelegraafuitrusting vir reddingsbote, wat, wanneer dit ingeskakel word saam met die sender, outomaties die volgende kan doen:—

(*a*) Die alarmsein stuur wat in subparagraaf (2) gespesifiseer word en onmiddellik daarna stop en die sleutelkring verbreek tensy dit teruggestel of opnuut opgewen word; en

(*b*) (i) die noodoproep wat in subparagraaf (3) gespesifiseer word, op so 'n wyse stuur dat as die toestel gebruik word sonder dat iemand daarby op diens is, die oorsending al om die twaalf minute herhaal word totdat die bron van elektriese energie uitgeput is; en

(ii) die elektriese energie na die sender afskakel in die stil tussenpoos tussen sulke uitsendings en, vir sover dit vir die beveiliging van die sender nodig is, die aanwending van elektriese energie nadat die toestel aangeskakel is, outomaties vertraag.

(2) Die alarmsein moet bestaan uit twaalf strepe van vier sekondes geskei deur russeine van een sekonde; die lengte van die strepe en russeine word binne 'n toleransie van plus of minus 0·2 sekonde gehou.

(3) Die noodoproep moet bestaan uit die noodsein, . . . — — — . . . , drie keer herhaal, gevolg deur 'n lang streep. Die tekens van die noodsein word uitgesend teen 'n snelheid van 8 tot en met 16 woorde per minuut en die lang streep moet minstens 20 sekondes duur. Die totale lengte van die oproep moet nie 90 sekondes te bowe gaan nie.

(4) Middels moet verskaf word om te verseker dat, wanneer die noodsein gestuur word, die uitsending begin by die aanvang van die sein binne 40 sekondes nadat die toestel vir outomatiese sleuteling ingeskakel is.

(2) The carrier wave shall be modulated to a depth of 100 per cent by a wave of rectangular character so that the carrier is switched on for not less than 30 per cent and not more than 50 per cent of a modulation cycle.

(3) The note frequency shall not be less than 500 c/s and not more than 1,200 c/s.

(4) The power of the transmitter—

(*a*) shall not be less than 15 metre-amperes on a frequency of 500 kc/s, when determined in the manner prescribed by paragraph (3) of regulation 12;

(*b*) shall not be less than 50 watts on a frequency of 500 kc/s, when measured into an artificial aerial consisting of a 30 ohm resistor in series with a capacitor of every value between 350 and 450 picofarads; and

(*c*) shall not be less than 15 watts on a frequency of 8,364 kc/s when measured into an artificial aerial simulating the impedance of the aerial specified in paragraph 2 of this Part.

(5) The transmitter shall be so designed and constructed that when it is adjusted for maximum power and the transmitting key is depressed the aerial may be disconnected or the output short-circuited without damage being caused to any part of the installation.

(6) There shall be provided—

(*a*) an artificial aerial for testing the transmitter on full power, which shall include an indicator or lamp to indicate the passage of radio-frequency currents; and

(*b*) an aerial ammeter, and a visual indicator to indicate the passage of radio frequency current, the failure of either of which shall not disconnect the aerial circuit.

5. *Automatic Transmission.*

(1) A device for automatic keying shall be provided as part of the radiotelegraph installation for lifeboats which when switched into circuit with the transmitter, shall be capable of automatically—

(*a*) sending the alarm signal specified in sub-paragraph (2) and immediately thereafter stopping and opening the keying circuit unless reset or re-wound; and

(*b*) (i) sending the distress call specified in sub-paragraph (3) in such manner that if the device is used without attention the transmission will be repeated once every twelve minutes until the source of electrical energy is exhausted; and

(ii) switching off the electrical energy to the transmitter in the silent interval between such transmissions and, so far as is necessary for the protection of the transmitter automatically delaying the application of electrical energy after the device has been switched on.

(2) The alarm signal shall consist of twelve four second dashes separated by one second spaces, the length of the dashes and spaces being maintained within a tolerance of plus or minus 0·2 second.

(3) The distress call shall consist of the distress signal . . . — — — . . . repeated three times, followed by a long dash, the characters of the distress signal being transmitted at a speed between 8 and 16 words inclusive per minute, and the duration of the long dash shall not be less than 20 seconds. The total length of the call shall not exceed 90 seconds.

(4) Means shall be provided to ensure that, when the distress signal is sent, the transmission begins at the commencement of the signal within 40 seconds after the device for automatic keying has been switched into circuit.

(5) Die meganisme vir die sleuteling van die noodoproep wat in subparagraaf (3) gespesifiseer word, moet sodanig wees dat dit geredelik aangepas kan word om 'n noodoproep te stuur wat uit die volgende seine in die aangegewe volgorde bestaan:—

(*a*) Die noodsein . . . — — — . . . , drie keer;
(*b*) die morsetekens vir die woord DE;
(*c*) die morsetekens vir die reddingsboot se roepsein drie keer; en
(*d*) 'n lang streep wat minstens 20 sekondes duur.

Die duur van die noodoproep moet in dié geval hoogstens 90 sekondes wees.

6. *Ontvanger.*

(1) Die uitrusting moet 'n ontvanger insluit wat die volgende kan doen:—

(*a*) A2- en B-golwe ontvang; en
(*b*) oor die frekwensiegebied 488 Khz. tot 513 Khz. ingestem word.

(2) Hoëfrekwensieontvangs, indien verskaf, moet A1- en A2-golwe kan ontvang op enige frekwensie binne die frekwensieband 8,266 Khz. tot 8,745 Khz.

(3) Die ontvanger moet 'n handversterkingsreëlaar hê.

(4) 'n Koptelefoon moet verskaf word, wat afgeskerm moet word om ruis uit te skakel.

(5) Die ontvanger moet voldoen aan die vereistes van subparagrawe (6) tot en met (9) wanneer dit as volg getoets word:—

(*a*) 'n Kunsantenne moet gebruik word, wat moet bestaan uit 'n weerstand van 40 ohms in serie met 'n induktansie van 2 mikrohenrys en 'n kapasitansie van 100 pikofarads;
(*b*) 'n A2-sein moet, tensy anders gespesifiseer, gemoduleer word tot 'n diepte van 30 persent by 400 hz.; en
(*c*) die standaardoudiofrekwensielewering moet een milliwatt wees in 'n weerstand in wat wesenlik gelyk is aan die modulus van die impedansie van die telefoonontvangers by 1,000 hz.

(6) (*a*) Die selektiwiteit wat aan die einddetektor van die ontvanger voorafgaan, moet aan die volgende vereistes voldoen oor die frekwensiegebied 488 Khz. tot 513 Khz.:—

(i) Hoogstens 6 desibels diskriminasie moet verkry word by frekwensies wat 1 Khz. van instemfrekwensie af verwyder is;
(ii) minstens 6 desibels diskriminasie moet verkry word by frekwensies wat 4 Khz. van instemfrekwensie af verwyder is;
(iii) minstens 30 desibels diskriminasie moet verkry word by frekwensies wat 20 Khz. van intemfrekwensie af verwyder is;
(iv) minstens 60 desibels diskriminasie moet verkry word by frekwensies wat 50 Khz. van instemfrekwensie af verwyder is.

(*b*) In die geval van 'n superheterodineontvanger moet die beeldweergaweverhouding minstens 20 desibels wees.

(7) Die gevoeligheid van die ontvanger moet sodanig wees dat die standaardoudiofrekwensielewering met 'n inset verkry word wat nie onderstaande peile te bowe gaan nie:—

Frekwensies.	Maksimum inset vir A1-golwe.	Maksimum inset vir A2-golwe.
500 Khz.....	Nie van toepassing nie	40 desibels bo 1 mikrovolt.
8,364 Khz. (indien verskaf)	30 desibels bo 1 mikrovolt	40 desibels bo 1 mikrovolt.

(8) Die sein/ruisverhouding moet, met die insette en golwe wat in subparagraaf (7) gespesifiseer word en met die draaiomsetter of triller aan die loop, minstens die volgende wees:—

(*a*) 15 desibels op 'n frekwensie van 500 Khz.;
(*b*) 25 desibels op 'n frekwensie van 8,364 Khz. (indien verskaf).

(5) The mechanism for keying the distress call specified in sub-paragraph (3) shall be such that it can be readily adapted to send a distress call consisting of the following signals in the following order:—

(*a*) The distress signal . . . — — — . . . three times;
(*b*) the morse characters for the word DE;
(*c*) the morse characters for the lifeboat's call sign three times; and
(*d*) a long dash having a duration of at least 20 seconds.

The duration of the distress call shall not in that case be more than 90 seconds.

6. *Receiver.*

(1) The equipment shall include a receiver capable of—

(*a*) receiving type A2 and type B waves; and
(*b*) being tuned over the frequency range 488 kc/s to 513 kc/s.

(2) High frequency reception, if provided, shall be capable of receiving type A1 and type A2 waves on any frequency within the frequency band 8,266 kc/s to 8,745 kc/s.

(3) The receiver shall be fitted with a manual gain control.

(4) Headphones shall be provided and shall be shrouded to exclude noise.

(5) The receiver shall comply with the requirements of sub-paragraphs (6) to (9) inclusive, when tested in the following manner:—

(*a*) An artificial aerial shall be used and shall consist of a 40 ohm resistance in series with a 2 microhenry inductance and 100 picofarad capacitance;
(*b*) a type A2 signal shall, unless otherwise specified be modulated to a depth of 30 per cent at 400 c/s; and
(*c*) the standard audio-frequency output shall be one milliwatt into a resistance substantially equal to the modulus of the impedance of the telephone receivers at 1,000 c/s.

(6) (*a*) The selectivity preceding the final detector of the receiver shall comply with the following requirements over the frequency range 488 kc/s to 513 kc/s—

(i) Not more than 6 decibels discrimination shall be obtained at frequencies removed from tune by 1 kc/s;
(ii) at least 6 decibels discrimination shall be obtained at frequencies removed from tune by 4 kc/s;
(iii) at least 30 decibels discrimination shall be obtained at frequencies removed from tune by 20 kc/s;
(iv) at least 60 decibels discrimination shall be obtained at frequencies removed from tune by 50 kc/s.

(*b*) In the case of a superheterodyne receiver, the image response ratio shall be at least 20 decibels.

(7) The sensitivity of the receiver shall be such that the standard audio-frequency output is obtained with an input not exceeding the following levels:—

Frequencies.	Maximum input for type A1 waves.	Maximum input for type A2 waves.
500 kc/s.....	Does not apply.....	40 decibels above 1 microvolt.
8,364 kc/s (if provided)	30 decibels above 1 microvolt	40 decibels above 1 microvolt.

(8) The signal/noise ratio shall, with the inputs and waves respectively specified in sub-paragraph (7) and with the rotary converter or vibrator running, be not less than—

(*a*) 15 decibels on a frequency of 500 kc/s;
(*b*) 25 decibels on a frequency of 8,364 kc/s (if provided).

(9) Die getrouheid van die ontvanger moet sodanig wees dat die vernadering in peil van die oudiofrekwensielewering minder as 8 desibels is wanneer die modulasiefrekwensie van die insetsein deurlopend verander word van 300 hz. tot 1,500 hz., terwyl die modulasiepeil en -diepte van die insetsein konstant gehou word. Vir hierdie doel kan die insetsein enige modulasiepeil en -diepte hê, mits die lewering van die ontvanger nie die standaardoudiofrekwensielewering te bowe gaan nie.

7. Verbindings met skip se kragnet.

Alle verbindings van die uitrusting met die skip se hoofenergiebron moet so aangebring wees dat dit nie die tewaterlating van die reddingsboot belemmer nie.

DEEL II.

DRAAGBARE UITRUSTING.

1. Algemeen.

(1) Die draagbare radiotelegraafuitrusting vir reddingsbote (in hierdie Deel „die uitrusting" genoem) moet 'n handontwikkelaar, 'n sender, 'n ontvanger en alle ander apparaat insluit wat vir die werking van die uitrusting nodig is.

(2) Eenvoudige aanwysings vir die bediening van die uitrusting op die frekwensies wat in subparagraaf (1) van paragraaf 5 van hierdie Deel gespesifiseer word, moet in 'n duidelike en blywende vorm aan die uitrusting vasgeheg word.

(3) Op die uitrusting moet 'n verwyderbare plaat aangebring word waarop in 'n duidelike en blywende vorm die roepsein van die reddingsboot in letters en morsetekens aangegee word.

(4) Vir die toepassing van die Derde Bylae word geag dat die uitrusting Klas X-uitrusting is. Die indompelingstoets wat in subparagraaf (7) van paragraaf 3 van genoemde Bylae gespesifiseer word, moet op die uitrusting toegepas word wanneer dit op die wyse verpak is waarin dit aan boord van die skip opgeberg sal word.

2. Ontwerp en bou.

Die uitrusting moet so ontwerp en gebou word dat—

(1) al die uitrusting in 'n enkele eenheid vervat is; met dien verstande dat die mas wat in subparagraaf (2) van paragraaf 3 van hierdie Deel genoem word, aan die enkele eenheid bevestig kan word;

(2) 'n ongeskoolde persoon die antennestelsel kan oprig en, sonder moeilikheid en deur eenvoudige bediening en outomatiese middels, die radiotelegraafseine kan stuur wat in subparagraaf (4) (*a*) van paragraaf 5 van hierdie Deel gespesifiseer word;

(3) die uitrusting van handvatsels voorsien is en maklik deur een persoon gedra kan word;

(4) dit waterdig is en in water kan dryf;

(5) dit uit 'n hoogte van 30 voet in water laat val kan word sonder dat dit beskadig word;

(6) dit van die bootdek af in die see of reddingsboot laat sak kan word;

(7) dit aan 'n reddingsboot vasgeklamp kan word;

(8) die getal handkontroles beperk is tot die minimum wat nodig is om aan die vereistes van hierdie Deel te voldoen, maar wel die volgende insluit—

(*a*) send-/ontvangskakeling;
(*b*) 'n skakelaar om uitsending van 500 Khz. na 8,364 Khz. te verander, en omgekeerd;
(*c*) 'n skakelaarstand wat dit moontlik maak om die senderbuisgloeidrade onafgebroke te bekrag terwyl die ontvanger bekrag word;
(*d*) 'n enkele ontvangerversterkingsreëlaar;

(9) alle handkontroles so groot is dat iemand met dik handskoene aan normale verstellings kan doen; en

(10) die bediening van handkontroles nie die handontwikkeling van elektriese energie belemmer of daardeur belemmer word nie

(9) The fidelity of the receiver shall be such that the change in level of the audio-frequency output shall be less than 8 decibels as the modulation frequency of the input signal is varied continuously from 300 c/s to 1,500 c/s the level and modulation depth of the input signal being kept constant. For this purpose the input signal may have any level and depth of modulation provided the output of the receiver does not exceed the standard audio-frequency output.

7. Connections with Ship's Mains.

Any connections of the equipment with the ship's main source of energy shall be so provided as not to interfere with the launching of the lifeboat.

PART II.

PORTABLE EQUIPMENT.

1. General.

(1) The portable radiotelegraph equipment for lifeboats (in this Part referred to as " the equipment ") shall include a hand generator, a transmitter, a receiver and all other apparatus necessary for the operation of the equipment.

(2) Simple instructions for the operation of the equipment on the frequencies specified in sub-paragraph (1) of paragraph 5 of this Part shall be affixed in clear and permanent form, to the equipment.

(3) The equipment shall bear a removable plate on which shall be indicated in clear and permanent form the call sign of the lifeboat in letters and morse characters.

(4) For the purposes of the Third Schedule the equipment shall be deemed to be Class X equipment. The immersion test specified in sub-paragraph (7) of paragraph 3 of the said Schedule shall be applied to the equipment when packed in the manner in which it will be stored on board ship.

2. Design and Construction.

The equipment shall be so designed and constructed that—

(1) the entire equipment is contained in a single unit; provided that the mast referred to in sub-paragraph (2) of paragraph 3 of this Part may be attached to the single unit;

(2) an unskilled person can erect the aerial system, and, without difficulty and by simple operation and automatic means, can transmit the radiotelegraph signals specified in sub-paragraph (4) (*a*) of paragraph 5 of this Part;

(3) the equipment is provided with handles and is readily portable by one person;

(4) it is watertight and capable of floating in water;

(5) it may be dropped from a height of 30 feet into water without damage;

(6) it may be lowered into the sea or lifeboat from the boat deck;

(7) it may be clamped to a lifeboat;

(8) the number of manual controls are kept to the minimum required to meet the requirements of this Part, but include—

(*a*) send/receive switching;
(*b*) a switch for changing transmission from 500 kc/s to 8,364 kc/s and vice versa;
(*c*) a switch position so that the transmitter valve filaments can be energised continuously whilst the receiver is energised;
(*d*) a single control of receiver gain;

(9) all manual controls are of such size as to permit normal adjustments to be made by a person wearing thick gloves; and

(10) the operation of manual controls is not impeded by, and does not impede, the hand generation of electrical energy.

3. *Antenne- en aardstelsel.*

Die uitrusting moet die volgende insluit:—

(1) 'n Enkeldraadantenne wat bestaan uit minstens 30 voet stringdraad of omvlegte draad van hoë geleidingsvermoë wat so aangebring is dat dit op die grootste hoogte wat prakties moontlik is van die reddingsboot se mas of gesteun kan word sonder dat van marsstenge gebruik gemaak word;

(2) 'n voubare stagmas wat maklik en vinnig in 'n reddingsboot geïnstalleer kan word en die antenne op 'n hoogte van minstens 16 voet bokant die see kan steun wanneer die voet van die mas op die boom van die reddingsboot rus waarin dit bedoel is om gebruik te word; en

(3) 'n aarddraad van hoë geleidingsvermoë wat stewig met die uitrusting verbind is en op so 'n wyse belas is dat die draad sink wanneer dit oorboord gesit word.

4. *Handontwikkelaar.*

(1) Die handontwikkelaar moet so ontwerp en gebou wees dat wanneer die slinger van die ontwikkelaar teen enige snelheid binne die normale bestek van slingersnelhede gedraai word—

(*a*) genoeg elektriese energie ontwikkel word—

(i) sodat die sender aan die vereistes van subparagraaf (4) (*e*) van paragraaf 5 van hierdie Deel kan voldoen; en

(ii) sodat die ontvanger aan die vereistes van paragraaf 6 van hierdie Deel kan voldoen;

(*b*) die sender voldoen aan die vereistes van subparagraaf (4) (*e*) van paragraaf 5 van hierdie Deel, met 'n draaimomentsnelheid by die slinger wat hoogstens 400, uitgedruk in pond—volt vermenigvuldig met omwentelings per minuut; en

(*c*) 'n aanwyserlamp brand, maar nie brand by 'n snelheid wat nie binne die normale bestek van slingersnelhede val nie.

In hierdie Deel beteken die uitdrukking „normale bestek van slingersnelhede" met betrekking tot 'n ontwikkelaar die reeks snelhede wat strek van die minimum snelheid waarteen die ontwikkelaar dit moontlik maak dat die sender wat deel uitmaak van dieselfde uitrusting, aan die vereistes van subparagraaf (4) (*e*) van paragraaf 5 van hierdie Deel kan voldoen, tot 'n snelheid wat minstens 40 persent hoër is as dié snelheid.

(2) Die handontwikkelaar moet so ontwerp en gebou wees dat—

(*a*) dit deur—

(i) een persoon; en

(ii) twee persone gelyktydig bedien kan word;

(*b*) die slingers nie verkeerd om gedraai kan word nie.

5. *Sender.*

(1) Die sender moet die volgende kan doen:—

(*a*) Onafgebroke, maar nie gelyktydig nie, A2-golwe kan stuur op die frekwensies 500 Khz. en 8,364 Khz.—

(i) deur middel van handbediening teen alle snelhede tot en met 16 bauds; en

(ii) deur outomatiese middels teen die snelhede in subparagraaf (4) (*a*) gespesifiseer;

(*b*) oor die normale bestek van slingersnelhede dwarsdeur elke uitsending 'n frekwensietoleransie handhaaf van—

(i) plus of minus 0·5 persent op 'n frekwensie van 500 Khz;

(ii) plus of minus 0·02 persent op 'n frekwensie van 8,364 Khz;

sonder verstelling van 'n kontrole en ondanks wisselings in die impedansie van die antenne of kunsantenne waarmee dit verbind is; en

(*c*) op volle vermoë werk, wanneer die antennestelsel of kunsantenne verbind is en die nodige kontroles verstel is binne 30 sekondes nadat die ontwikkeling van elektriese energie begin het.

3. *Aerial and Earth System.*

The equipment shall include—

(1) a single-wire aerial consisting of not less than 30 feet of high conductivity stranded or braided wire so fitted as to be capable of being supported from the lifeboat mast without the use of top-masts at the maximum practicable height;

(2) a collapsible stayed mast capable of being easily and quickly installed in a lifeboat and of supporting the aerial at a height of at least 16 feet above the sea when the base of the mast is resting on the bottom of any lifeboat in which it is intended to be used; and

(3) an earth wire of high conductivity firmly connected to the equipment and loaded in such manner that the wire will sink when placed overboard.

4. *Hand Generator.*

(1) The hand generator shall be of such design and construction that when the handle of the generator is rotated at any speed within the normal range of handle speeds:—

(*a*) Sufficient electrical energy will be generated—

(i) to enable the transmitter to comply with the requirements of sub-paragraph (4) (*e*) of paragraph 5 of this Part; and

(ii) to enable the receiver to comply with the requirements of paragraph 6 of this Part;

(*b*) the transmitter will comply with the requirements of sub-paragraph (4) (*e*) of paragraph 5 of this Part with a torque-speed at the handle of not more than 400 expressed in pounds-feet multiplied by revolutions per minute; and

(*c*) an indicator lamp will be lit, but will not be lit at any speed not within the normal range of handle speeds.

In this Part the expression "normal range of handle speeds" in relation to a generator means the range of speeds extending from the minimum speed at which the generator will enable the transmitter forming part of the same equipment to comply with the requirements of sub-paragraph (4) (*e*) of paragraph 5 of this Part to a speed at least 40 per cent greater than that speed.

(2) The hand generator shall be of such design and construction that—

(*a*) it can be operated by—

(i) one person; and

(ii) two persons simultaneously;

(*b*) the handles cannot be rotated in the wrong direction.

5. *Transmitter.*

(1) The transmitter shall be capable of—

(*a*) sending continuously, but not simultaneously, type A2 waves on the frequencies of 500 kc/s and 8,364 kc/s—

(i) by manual operation at all speeds up to 16 bauds; and

(ii) by automatic means at the speeds specified in sub-paragraph (4) (*a*);

(*b*) maintaining over the normal range of handle speeds throughout every transmission a frequency tolerance—

(i) of plus or minus 0·5 per cent on a frequency of 500 kc/s;

(ii) of plus or minus 0·02 per cent on a frequency of 8,364 kc/s;

without adjustment of any control, and notwithstanding any variations of the impedance of the aerial or artificial aerial to which it is connected; and

(*c*) operating on full power, when the aerial system or artificial aerial has been connected and the necessary controls have been adjusted, within 30 seconds after the generation of electrical energy has commenced.

(2) Die draaggolf moet tot 'n diepte van 100 persent gemoduleer word deur 'n reghoekige golf, sodat die draaggolf vir minstens 30 persent en hoogstens 50 persent van 'n modulasiesiklus aangeskakel is.

(3) Die toonfrekwensie moet minstens 450 hz. en hoogstens 1,350 hz. wees.

(4) (*a*) Die sein wat deur die outomatiese middel gestuur moet word wat in subparagraaf (1) (*a*) (ii) genoem word, moet—

(i) wanneer die uitsending op 'n frekwensie van 500 Khz. geskied, bestaan uit die alarmsein van twaalf strepe van vier sekondes geskei deur russeine van een sekonde, gevolg deur die noodsein . . . — — — — . . ., drie keer herhaal, en 'n lang streep; en

(ii) wanneer die uitsending op 'n frekwensie van 8,364 Khz. geskied, die noodsein . . . — — — . . ., drie keer herhaal, insluit, gevolg deur 'n lang streep wat minstens 30 sekondes duur.

(*b*) Oor die normale bestek van slingersnelhede moet—

(i) die snelheid van die outomatiese uitsending van die noodsein minstens 8 en hoogstens 15 woorde per minuut wees;

(ii) die toleransie in die tydreëling van die strepe van die alarmsein nie meer as plus of minus 0·2 sekondes wees nie.

(*c*) Die outomatiese uitsending staak en die sleutelkring word verbreek na een volledige uitsending tensy die meganisme teruggestel of opnuut opgewen word.

(*d*) Middels moet verskaf word om—

(i) te verseker dat die uitsending begin wanneer die sein begin;

(ii) vir die operateur aan te dui dat die meganisme teruggestel of opnuut opgewen moet word.

(*e*) Die gemiddelde vermoë wat die sender in die belasting ontwikkel gedurende 'n werktyd moet—

(i) op 'n frekwensie van 500 Khz. minstens [(3·8 $\log_{10}$ C) − 5·5] watt wees, waar C die kapasitansie van die kunsantenne in pikofarads is, wanneer dit met 'n kunsantenne gemeet word wat bestaan uit 'n 15-ohmweerstand in serie met 'n kapasitor van enige waarde tussen die minimum kapasitante van die antenne wat in subparagraaf (1) van paragraaf 3 van hierdie Deel genoem word en 150 pikofarads en minstens 3·5 watt wanneer dit met 'n kunsantenne gemeet word wat bestaan uit 'n 30-ohmweerstand in serie met 'n kapasitor van enige waarde tussen 350 en 450 pikofarads;

(ii) op 'n frekwensie van 8,364 Khz. minstens 3 watt wees wanneer dit gemeet word met 'n kunsantenne wat bestaan uit 'n 40-ohmweerstand in serie met enige induktiewe of kapasitiewe reaktansie in die gebied plus of minus 60 ohms.

(*f*) Die antennekring moet die volgende insluit:—

(i) 'n Instemmer wat geskik is vir gebruik met alle tipes antenne wat verskaf word; en

(ii) 'n instemaanwyser, waarvan die weiering nie die antennekring sal verbreek nie.

(*g*) Daar moet die volgende wees:—

(i) 'n Kunsantenne binne-in die uitrusting wat geskik is om die sender mee te toets op volle vermoë;

(ii) middels om die fasiliteite vir outomatiese uitsending sonder die ontwikkeling van radiofrekwensie-energie te toets.

(5) Die sender moet so ontwerp en gebou wees dat wanneer dit besig is om te stuur en vir maksimum vermoë ingestel is, die antenne uitgeskakel of die lewering kortgesluit kan word sonder dat enige deel van die uitrusting beskadig word.

6. *Ontvanger.*

(1) Die ontvanger moet 'n ontvanger met vaste instemming wees wat A2-golwe oor die frekwensieband 490 tot 510 Khz. kan ontvang wanneer dit met 'n koptelefoon gebruik word.

(2) The carrier wave shall be modulated to a depth of 100 per cent, by a wave of rectangular character so that the carrier wave is switched on for not less than 30 per cent and not more than 50 per cent of a modulation cycle.

(3) The note frequency shall not be less than 450 c/s or more than 1,350 c/s.

(4) (*a*) The signal to be sent by the automatic means referred to in sub-paragraph (i) (*a*) (ii)—

(i) when the transmission is on a frequency of 500 kc/s shall consist of the alarm signal of twelve four-second dashes separated by one-second spaces, followed by the distress signal . . . — — — . . . repeated three times, and a long dash; and

(ii) when the transmission is on a frequency of 8,364 kc/s shall include the distress signal . . . — — — . . . repeated three times followed by a long dash of not less than 30 seconds duration.

(*b*) Over the normal range of handle speeds—

(i) the speed of the automatic transmission of the distress signal shall be not less than 8 and not more than 15 words a minute;

(ii) the tolerance in the timing of the dashes of the alarm signal shall not be more than plus or minus 0·2 seconds.

(*c*) The automatic transmission shall cease and open the keying circuit after one complete transmission unless the mechanism is re-set or re-wound.

(*d*) Means shall be provided—

(i) to ensure that the transmission begins at the commencement of the signal;

(ii) to indicate to the operator that the mechanism should be re-set or re-wound.

(*e*) The mean power developed by the transmitter in the load during a marking period, shall—

(i) on a frequency of 500 kc/s be not less than [(3·8 $\log_{10}$ C) − 5·5] watts, C being the capacitance of the artificial aerial in picofarads, when measured with an artificial aerial consisting of a 15 ohm resistor in series with a capacitor having any value between the minimum capacitance of the aerial referred to in sub-paragraph (1) of paragraph 3 of this Part and 150 picofarads, and not less than 3·5 watts when measured with an artifical aerial consisting of a 30 ohm resistor in series with a capacitor having any value between 350 and 450 picofarads;

(ii) on a frequency of 8,364 kc/s be not less than 3 watts when measured with an artificial aerial consisting of a 40 ohm resistor in series with any inductive or capacitated reactance in the range plus or minus 60 ohms.

(*f*) The aerial circuit shall include—

(i) a tuning control suitable for use with all types of aerial provided; and

(ii) a tuning indicator, the failure of which shall not disconnect the aerial circuit.

(*g*) There shall be provided—

(i) an artificial aerial within the equipment suitable for testing the transmitter on full power;

(ii) means for testing the facilities for automatic transmission without the generation of radiofrequency energy.

(5) The transmitter shall be so designed and constructed that when it is transmitting and adjusted for maximum power the arial may be disconnected or the output short-circuited in either case without damage being caused to any part of the equipment.

6. *Receiver.*

(1) The receiver shall be a fixed tune receiver which shall be capable of receiving type A2 waves over the frequency band 490 to 510 kc/s when used with headphones.

(2) 'n Koptelefoon wat afgeskerm is om buitegeraas uit te sluit, moet verskaf en permanent aan die ontvanger bevestig word.

(3) Die ontvanger moet aan die vereistes van subparagraaf (4) voldoen wanneer dit op die volgende wyse getoets word:—

(*a*) Kunsantennes moet gebruik word wat bestaan uit òf—

(i) 'n 15-ohmweerstand in serie met 'n kapasitor van enige waarde tussen die minimum kapasitansie van die antenne wat in subparagraaf (1) van paragraaf 3 van hierdie Deel genoem word en 150 pikofarads, òf

(ii) 'n 30-ohmweerstand in serie met 'n kapasitor van enige waarde binne die gebied 350 tot 450 pikofarads;

(*b*) die seine wat gebruik word, moet A2-seine wees wat tot 'n diepte van 30 persent gemoduleer word by 400 hz.

(4) Oor die normale bestek van slingersnelhede moet—

(*a*) die standaardoudiofrekwensielewering van die ontvanger in 'n weerstand in wat wesenlik gelyk is aan die modulus van die impedansie van die telefoonontvangers by 1,000 hz. een milliwatt wees;

(*b*) die selektiwiteit wat aan die einddetektor van die ontvanger voorafgaan, moet aan die vereistes van onderstaande tabel voldoen:—

Frekwensie.	Vereiste.
490 tot 510 Khz...	Weergawe moet oor die gebied eenvormig wees tot binne 6 desibels.
Onder 460 Khz... Bo 540 Khz.....	Minstens 40 desibels diskriminasie met betrekking tot die weergawe by 500 Khz. moet by alle frekwensies verkry word.

(*c*) die oudiofrekwensieweergawe van die ontvanger moet oor die modulasiefrekwensiegebied 400 tot 1,400 hz. tot binne 6 desibels eenvormig wees en aanmerklik daal vir frekwensies buite hierdie gebied;

(*d*) die standaardlewering wat in subparagraaf (*a*) gespesifiseer word, moet verkry word met 'n toetsseininset van hoogstens 40 desibels bo een mikrovolt op 'n frekwensie van 500 Khz.

(*e*) met die toetssein wat in subparagraaf (*d*) gespesifiseer word, moet die sein-ruisverhouding minstens 15 desibels wees.

VYFDE BYLAE.

GEREEDSKAP, MEETINSTRUMENTE EN RESERWEDELE.

Regulasie 14.

DEEL I.

GEREEDSKAP.

1 kontakbruineerder;
1 6 duim.-soetvyl;
1 lasmes;
1 geïsoleerde 7 dm.-draadtang;
1 6 dm.-langbeksykniptang;
1 geïsoleerde skroewedraaier, minstens 8 dm. lank, met $\frac{1}{4}$ dm.-punt;
1 geïsoleerde skroeftapdraaier met $\frac{1}{8}$- dm.-punt;
1 horlosieskroewedraaier met $\frac{1}{16}$ dm.-punt;
1 stel moersleutels, groottes 0, 2, 4 en 6B.A.;
1 moersleutel wat tot vir 1 dm.-moere gestel kan word;
*1 $\frac{1}{4}$ dm.-handboor;
*1 stel snelspiraalbore, groottes $\frac{3}{16}$ dm., 26, 34 en 44;
1 bankskroef;
1 elektriese soldeerbout wat by die skip se spanning aanpas, met 'n kragverbruik van minstens 40 watt en hoogstens 70 watt;

* Hierdie artikels hoef nie op ander skepe verskaf te word as dié wat vir internasionale reise gebruik word nie.

(2) Headphones which are shrouded to exclude external noises shall be provided and shall be permanently attached to the receiver.

(3) The receiver shall comply with the requirements of sub-paragraph (4) when tested in the following manner:—

(*a*) Artificial aerials shall be used and shall consist of either:—

(i) a 15 ohm resistor in series with a capacitor having any value between the minimum capacitance of the aerial referred to in sub-paragraph (1) of paragraph 3 of this Part and 150 picofarads; or

(ii) a 30 ohm resistor in series with a capacitor of any value within the range 350 to 450 picofarads;

(*b*) the signals used shall be type A2 signals modulated to a depth of 30 per cent at 400 c/s.

(4) Over the normal range of handle speeds—

(*a*) the standard audio-frequency output of the receiver into a resistance substantially equal to the modulus of the impedance of the telephone receivers at 1,000 c/s shall be one milliwatt;

(*b*) the selectivity preceding the final detector of the receiver shall comply with the following table:—

Frequency.	Requirement.
490 to 510 kc/s..	Response to be uniform to within 6 decibels over the range.
Below 460 kc/s.. Above 540 kc/s..	At least 40 decibels discrimination relative to the response at 500 kc/s to be obtained at all frequencies.

(*c*) the audio-frequency response of the receiver shall be uniform to within 6 decibels over the range of modulation frequencies 400 to 1,400 c/s and shall substantially fall for frequencies outside this range;

(*d*) the standard output specified in sub-paragraph (*a*) shall be obtained with a test signal input not exceeding 40 decibels above one microvolt on a frequency of 500 kc/s;

(*e*) with the test signal specified in sub-paragraph (*d*) the signal/noise ratio shall be at least 15 decibels.

FIFTH SCHEDULE.

TOOLS, MEASURING INSTRUMENTS AND SPARE PARTS.

Regulation 14.

PART I.

TOOLS.

1 contact burnisher;
1 6-in. smooth file;
1 jointing knife;
1 pair 7-in. wireman's insulated pliers;
1 pair 6-in. long nose pliers with side cutters;
1 insulated screwdriver, not less than 8 in. in length, with $\frac{1}{4}$ in. blade;
1 insulated grub screwdriver with $\frac{1}{8}$-in. blade;
1 watch screwdriver with $\frac{1}{16}$-in. blade;
1 set of spanners, sizes 0, 2, 4, and 6 B.A.
1 spanner adjustable to 1-in. nuts;
*1 $\frac{1}{4}$ in. hand drill;
*1 set of high-speed twist drills, sizes $\frac{3}{16}$ in. 26, 34 and 44;
1 clamp vice;
1 electric soldering iron to suit ship's voltage with a power consumption of not less than 40 watts or more than 70 watts;

* These items need not be provided in ships other than those engaged on international voyages.

1 stofborsel;
1 ½ lb.-bolpenhamer;
'n gereedskapkas of -vak waarin bogenoemde gereedskap toegesluit kan word.

DEEL II.

MEETINSTRUMENTE.

1 hidrometer;
1 dompel-Fahrenheittermometer;
'n Ammeter wat gelykstroom kan meet van 1 milliampère tot 500 milliampères; 'n voltmeter wat gelykstroomspanning kan meet van 75 millivolts tot 500 volts en wisselstroomspanning van 150 millivolts tot 500 volts; en 'n ohmmeter wat weerstand kan meet van 10 ohms tot 20,000 ohms; met dien verstande dat 'n meetinstrument waarin die bogenoemde vereistes vir 'n ammeter, 'n voltmeter en 'n ohmmeter saamgevat is, in die plek van genoemde instrumente gebruik kan word.

DEEL III.

RESERWEDELE EN RESERWE UITRUSTING.

1 stel borsels vir elke masjien wat geïnstalleer word;
2 patrone vir elke patroonsekering in gebruik;
1 stel sleutelkontakte vir elke tipe sleutel in gebruik;
1 hoofantenne, opgemaak (slegs draad);
50 persent van die getal isolators in gebruik (met uitsondering van inlei-isolators);
100 persent van die getal harpe en doppies in gebruik;
12 knypklemme om by die antennedraad te pas;
1 stel telefone en leidings (met stekers, indien gebruik) vir elke tipe telefoon en leiding in gebruik;
1 buis vir elke twee van die eerste ses van elke tipe buis in gebruik en dan 1 buis vir elke bykomende 3 buise of gedeelte van 3 buise van die tipe in gebruik;
3 trillers vir elke tipe triller in gebruik;
1 aanwyserlamp vir elke aanwyserlamp in gebruik;
6 mikaskyfies vir vonkbrug } indien in die radiotele-
1 drukskyfie } graafinstallasie gebruik
1 noodlamp;
1 laaimat as daar 'n matlaai-eenheid in gebruik is;
2 laailampe vir elke tipe laailamp in gebruik
1 gelykrigter as daar 'n gelykrigterlaai-eenheid in gebruik is.

DEEL IV.

DIVERSE ARTIKELS.

4 onse petroleumjellie;
3 velle glaspapier;
8 onse harssoldeersel;
4 onse isoleerband;
½ pint smeerolie;
½ lb. ghries geskik vir masjien in gebruik;
4 onse gemengde smeltdraad, 1 ampère-, 5 ampère- en 15 ampère-draad;
1 stuk lugdraad gelyk aan die lengte van die noodantenne plus 10 voet (ongesny);
4 onse koperbinddraad;
6 jts. buigsame draad (5 ampères) vir verstelbare verbindings;
4 onse kooltetrachloried.

SESDE BYLAE.
Regulasie 15.

OUTOMATIESE ALARM.

1. *Algemeen.*

(1) Die outomatiese alarm moet—

(*a*) 'n ontvanger, 'n kieser, 'n toetsseinontwikkelaar en 'n hoorbare alarmstelsel insluit;

(*b*) 'n hoorbare waarskuwing kan gee van die ontvangs van 'n alarmsein wat bestaan uit 'n reeks van 12 agtereenvolgende strepe, elkeen 4 sekondes lank, geskei deur tussenpose van een sekonde in elke geval, onderworpe aan die toleransies wat in paragraaf 3 gespesifiseer word;

1 dusting brush;
1 ½ lb. ball-pane hammer;
A tool box or compartment for containing the foregoing tools and capable of being locked.

PART II.

MEASURING INSTRUMENTS.

1 hydrometer;
1 dipping fahrenheit thermometer;
An ammeter capable of measuring direct current from 1 milliampere to 500 milliamperes; a voltmeter capable of measuring direct current voltage from 75 millivolts to 500 volts and alternating current voltage from 150 millivolts to 500 volts; and an ohm-meter capable of measuring resistance from 10 ohms and 20,000 ohms; provided that a measuring instrument in which the requirements for an ammeter, a voltmeter and an ohmmeter specified above are combined may be substituted for the said instruments.

PART III.

SPARE PARTS AND SPARE EQUIPMENT.

1 set of brushes for each machine installed;
2 cartridges for each cartridge fuse in use;
1 set of key contacts for each type of key in use;
1 main aerial made up (wire only);
50 per cent of the number of insulators in use (excluding lead-in insulators);
100 per cent of the number of shackles and thimbles in use;
12 bulldog grips to suit the aerial wire;
1 set telephones and leads (with plugs if used) for each type of telephones and leads in use;
1 valve for each two of the first six of each type of valve in use, and then 1 valve for each additional 3 valves or part of 3 valves of that type in use;
3 vibrators for each type of vibrator in use;
1 indicator lamp for each indicator lamp in use;
6 mica discs for spark gap } if used in the radiotele-
1 pressure disc } graph installation;
1 emergency lamp;
1 charging mat if a mat-type charging unit is in use;
2 charging lamps for each type of charging lamp in use;
1 rectifier if a rectifier-type charging unit is in use;

PART IV.

MISCELLANEOUS ITEMS.

4 oz. petroleum jelly;
3 sheets glass paper;
8 oz. resin-cored solder;
4 oz. insulating tape;
½ pint lubricating oil;
½ lb. grease suitable for machine in use;
4 oz. assorted fuse wire, 1 ampere, 5 ampere and 15 ampere
1 length of aerial wire equal to the length of the emergency aerial plus 10 feet (uncut);
4 oz. copper binding wire;
6 yards flexible wire (5 amperes) for adjustable connections;
4 oz. carbon tetrachloride.

SIXTH SCHEDULE.
Regulation 15.

AUTO-ALARM.

1. *General.*

(1) The auto-alarm shall—

(*a*) include, a receiver, a selector, a test signal generator and an audible alarm system;

(*b*) be capable of giving audible warning of the receipt of an alarm signal consisting of a series of 12 consecutive dashes, each with a duration of 4 seconds and separated by intervals of one second in each case subject to the tolerances specified in paragraph 3;

(*c*) vinnig met die hoofantenne verbind kan word wat in regulasie 11 genoem word of met 'n ewe doeltreffende antenne;

(*d*) aan die vereistes van hierdie Bylae voldoen al wissel die toevoerspanning met—

(i) plus 5 persent of minus 10 persent as die uitrusting werk van die noodbron van elektriese energie af wat by paragraaf (2) van regulasie 13 vereis word, of van batterye af; of

(ii) plus of minus 10 persent as die uitrusting van die hoofbron van elektriese energie af werk wat by paragraaf (1) van genoemde regulasie vereis word.

(2) Die ontvanger, kieser en toetsseinontwikkelaar moet in 'n radiotelegraafkamer geïnstalleer wees.

(3) Die outomatiese alarm moet van 'n skakelaar of skakelaarstelsel voorsien wees deur middel waarvan dit met die skip se hoofantenne of met 'n ewe doeltreffende antenne verbind kan word.

(4) Die outomatiese alarm moet 'n handterugsteller insluit wat dit moontlik maak om die kieser terug te stel nadat die hoorbare alarmstelsel in werking gestel is.

2. *Ontvanger.*

(1) Die ontvanger wat deel uitmaak van die outomatiese alarm moet A2- en B-golwe kan ontvang in elke geval op alle toonfrekwensies tussen 400 hz. en 1,400 hz. en op alle draaggolwe van 'n frekwensie tussen 492 Khz. en 508 Khz.

(2) Alle instemreëlaars en versterkingsreëlaars wat die werking van die ontvanger as deel van die outomatiese alarm raak, moet vooraf gestel word en nie van buite die outomatiese alarm af bedien kan word nie.

(3) Die ontvanger moet aan die vereistes van subparagrawe (4) tot en met (7) voldoen wanneer dit soos volg getoets word, behalwe waar 'n ander toetsmetode in genoemde subparagrawe gespesifiseer word:—

(*a*) 'n Kunsantenne, wat bestaan uit 'n 10-ohmweerstand in serie met 'n kapasitor van enige waarde tussen 300 en 750 pikofarads, moet vir die toets gebruik word;

(*b*) A2-seine wat in die toets gebruik word, moet tot 'n diepte van 70 persent gemoduleer word en 'n toonfrekwensie van 400 hz. hê.

(4) Die selektiwiteit van die ontvanger moet sodanig wees dat—

(*a*) die radiofrekwensieweergawe eenvormig is tot binne 3 desibels in 'n frekwensiegebied 492 tot 508 Khz.;

(*b*) die totale verandering van oudiofrekwensieweergawe hoogstens 3 desibels is in die geval van toonfrekwensies in die gebied 400 tot 1,400 hz.;

(*c*) die oudiofrekwensieweergawe vinnig daal in die geval van toonfrekwensies onder 400 hz. en bo 1,400 hz.; en

(*d*) die outomatiese alarm reageer op 'n alarmsein van 'n frekwensie van 500 Khz. en 'n insetpeil van 40 desibels bo een mikrovolt, in die aanwesigheid van 'n ander sein met onderstaande kenmerke:—

(*c*) be capable of being rapidly connected with the main aerial referred to in regulation 11 or to an equally efficient aerial;

(*d*) comply with the requirements of this Schedule notwithstanding variations of the supply voltage of—

(i) plus 5 per cent or minus 10 per cent if the equipment is operated from the emergency source of electrical energy required by paragraph (2) of regulation 13, or from batteries; or

(ii) plus or minus 10 per cent if the equipment is operated from the main source of electrical energy required by paragraph (1) of the said regulation.

(2) The receiver, selector and test signal generator shall be installed in a radiotelegraph room.

(3) The auto-alarm shall be provided with a switch or system of switches by which it may be connected to the ship's main aerial or to an equally efficient aerial.

(4) The auto-alarm shall include a manual re-setting device to enable the selector to be re-set after the audible alarm system has been actuated.

2. *Receiver.*

(1) The receiver forming part of the auto-alarm shall be capable of receiving type A2 waves and type B waves in each case on all note frequencies between 400 c/s and 1,400 c/s and on all carrier waves of a frequency between 492 kc/s to 508 kc/s.

(2) All tuning controls and gain controls which affect the operation of the receiver as part of the auto-alarm shall be pre-set and shall not be capable of operation from the outside of the auto-alarm.

(3) The receiver shall comply with the requirements of sub-paragraphs (4) to (7), inclusive, when tested in the following manner, except where another method of testing is specified in the said sub-paragraphs:—

(*a*) An artificial aerial shall be used for the test and shall consist of a 10 ohm resistor in series with a capacitor having any value between 300 and 750 picofarads;

(*b*) type A2 signals used in the test shall be modulated to a depth of 70 per cent and shall have a note frequency of 400 c/s;

(4) The selectivity of the receiver shall be such that—

(*a*) the radio-frequency response is uniform to within 3 decibels in a frequency range 492 to 508 kc/s;

(*b*) the total variation of audio-frequency response is not more than 3 decibels in the case of note frequencies in the range 400 to 1,400 c/s;

(*c*) the audio-frequency response falls rapidly in the case of note frequencies below 400 c/s and above 1,400 c/s; and

(*d*) the auto-alarm gives response to an alarm signal of a frequency of 500 kc/s and an input level of 40 decibels above one microvolt, in the presence of another signal having the following characteristics:—

Tipe golf.	Modulasiefrekwensie.	Modulasiediepte.	Draagfrekwensie.	Insetpeil (desibels bo een mikrovolt).
Deurlopend gemoduleerde draaggolf	Alle oudiofrekwensies in die gebied 50 hz. tot 1,400 hz.....	70 persent....	Onder 470 Khz. en bo 530 Khz. Onder 450 Khz. en bo 550 Khz..	80 120

Type of wave.	Modulation frequency.	Depth of modulation.	Carrier frequency.	Input level (decibels above one microvolt).
Continuously modulated carrier wave	All audiofrequencies in the range 50 c/s to 1,400 c/s....	70 per cent...	Below 470 kc/s and above 530 kc/s.... Below 450 kc/s and above 550 kc/s.....	80 120

(5) (*a*) Vir die toepassing van hierdie paragraaf moet die gevoeligheid van die ontvanger geneem word as die minimum insetpeil van die toetsalarmsein ingevoer teen 'n frekwensie van 500 Khz. wat die kieser sal laat werk. Die gevoeligheid van die ontvanger moet sodanig wees dat die kieser sal werk wanneer 'n alarmsein ingevoer word van die toetsseinontwikkelaar af wat deel uitmaak van die outomatiese alarm.

(*b*) Die ontvanger moet van 'n outomatiese versterkingsreëlaar voorsien wees wat—

(i) gedurende tye wanneer die kieser onafgebroke werk, die gevoeligheid van die ontvanger gestadig verminder teen 'n tempo binne die gebied 7·5 tot 15 desibels per minuut in die geval van 'n gevoeligheidsgebied van 40 tot 80 desibels bo een mikrovolt, al is die insetpeil van 'n ingevoerde sein op enige peil bo die minimum wat nodig is om die kieser te laat werk;

(ii) gedurende tye wanneer die kieser nie onafgebroke werk nie, die gevoeligheid van die ontvanger gestadig vermeerder tot 'n maksimum peil van tussen 35 en 40 desibels bo een mikrovolt teen 'n vermeerderingstempo binne die gebied 30 tot 60 desibels per minuut in die geval van 'n gevoeligheidsgebied van 40 tot 80 desibels bo een mikrovolt, al is die insetpeil van 'n ingevoerde sein op enige peil onder dié wat met die kieservrymakingsdrumpel ooreenkom.

(6) Wanneer morsesteuring nageboots word deur aanhoudende skakeling van 'n toetssein van 'n frekwensie van 500 Khz. en 'n insetpeil van 100 desibels bo een mikrovolt, met 'n werk/rusverhouding van 19 tot 1, en verandering in die steurfrekwensie verkry word deur die transmissiesnelheid te verander, moet die outomatiese versterkingsreëling sodanig wees dat—

(*a*) wanneer die toetssein drie onderbrekings per sekonde gee, die gevoeligheid van die ontvanger nie verminder word tot onder dié wat nodig is vir die ontvangs van 'n sein van 'n insetpeil van 40 desibels bo een mikrovolt nie; en

(*b*) wanneer die snelheid van die toetssein so gereël word dat daar drie onderbrekings per tydperk van 2 sekondes is, die gevoeligheid van die ontvanger so verminder word nadat dit 15 minute gewerk het dat 'n sein van minstens 70 desibels bo een mikrovolt nodig is om die kieser te laat werk.

(7) As daar benewens die outomatiese versterkingsreëling 'n vooraf gestelde handreëling van versterkerversterking is, moet die gebied van gevoeligheidsveranderings wat dié reëling gee, nie meer as 10 desibels wees nie.

(8) Die ontvanger moet sodanig wees dat die outomatiese alarm sal reageer op 'n toetsalarmsein wat op enige frekwensie in die gebied 492 Khz. tot 508 Khz. gestuur word en op 'n insetpeil van 50 desibels bo een mikrovolt in die aanwesigheid van 'n steursein met onderstaande kenmerke:—

(5) (*a*) The sensitivity of the receiver shall for the purposes of this paragraph, be taken to be the minimum input level of the test alarm signal injected at a frequency of 500 kc/s which will operate the selector. The sensitivity of the receiver shall be such that the selector will operate by the injection of an alarm signal from the test signal generator forming part of the auto-alarm.

(*b*) The receiver shall be provided with an automatic gain control which shall—

(i) during periods when the selector is continuously in operation steadily reduce the sensitivity of the receiver at a rate within the range 7·5 to 15 decibels per minute in the case of a range of sensitivity of 40 to 80 decibels above one microvolt notwithstanding that the input level of an injected signal is at any level above the minimum necessary to operate the selector;

(ii) during periods when the selector is not continuously in operation, steadily increase the sensitivity of the receiver to a maximum level of between 35 and 40 decibels above one microvolt at a rate of increase within the range of 30 to 60 decibels per minute in the case of a range of sensitivity of 40 to 80 decibels above one microvolt, notwithstanding that the input level of an injected signal is at any level below the level corresponding to the threshold of selector release.

(6) The automatic gain control, when morse interference is simulated by continuous keying of a test signal of a frequency of 500 kc/s and an input level of 100 decibels above one microvolt with a mark-to-space ratio of 19 to 1, and variation of frequency of interruption is obtained by varying the speed of transmission, shall be such that—

(*a*) When such test signal produces three interruptions per second, the sensitivity of the receiver is not reduced below that necessary for the reception of a signal of an input level of 40 decibels above one microvolt; and

(*b*) when the speed of such test signal is arranged so that there are three interruptions per period of 2 seconds the sensitivity of the receiver is so reduced after operating for a period of 15 minutes that a signal of at least 70 decibels above one microvolt is required to operate the selector.

(7) If, in addition to the automatic gain control, a preset manual control of receiver gain is provided the range of sensitivity variations provided by that control shall be not more than 10 decibels.

(8) The receiver shall be such that the auto-alarm will respond to a test alarm signal transmitted on any frequency in the range 492 kc/s to 508 kc/s and at an input level of 50 decibels above one microvolt in the presence of an interfering signal with the following characteristics:—

Tipe sein.	Modulasie-diepte.	Modulasiefrekwensie.	Insetpeil.	Transmissiesnelheid.
Tipe A2.....	70 persent....	400 hz. tot 1,400 hz.	120 desibels bo een mikrovolt.....	15 tot 40 woorde per minuut.

Type of signal.	Depth of modulation.	Modulation frequency.	Input level.	Speed of transmission.
Type A2.....	70 per cent	400 c/s-1,400 c/s.....	120 decibels above one micro-volt.....	15–40 words per minute.

(9) Die ontvanger moet sodanig wees dat dit nie die kieser laat werk wanneer enige twee gelykdraaggolwe ingevoer word waarvan die frekwensieverskil of -som binne die gebied 492 Khz. tot 508 Khz. val nie, nl. golwe met die volgende kenmerke:—

(9) The receiver shall be such that it will not operate the selector upon the simultaneous injection of any two continuous carrier waves, of which the frequency difference or sum falls within the range 492 kc/s to 508 kc/s, being waves with the following characteristics:—

Frekwensie.	Insetpeil.	Modulasie.
Buite die gebied 450 Khz. tot 550 Khz.....	120 desibels bo een mikrovolt.....	Een ongemoduleer en die ander gemoduleer tot 'n diepte van 70 persent by enige oudiofrekwensie in die gebied 400 hz. tot 1,400 hz.

Frequency.	Input level.	Modulation.
Outside the range 450 kc/s to 550 kc/s.....	120 decibels above one micro-volt.....	One unmodulated and the other modulated to a depth of 70 per cent at any audio-frequency in the range 400 c/s to 1,400 c/s.

(10) (*a*) Die ontvanger moet in gewone diens 'n veld van nie meer nie as 0·1 mikrovolt per meter gee wanneer dit op 'n afstand van een myl van die ontvanger af gemeet word, tensy die toetsseinontwikkelaar aan die werk is.

(*b*) Daar moet beskou word dat die ontvanger aan die vereistes van subparagraaf (*a*) van hierdie paragraaf voldoen indien, wanneer—

(i) die ontvanger geplaas is in die middel van 'n afgeskermde geaarde hok wat minstens 6 voet in die kubiek groot is;

(ii) die aardklem van die ontvanger met die binnekant van die skerm verbind is;

(iii) die antenneklem van die ontvanger deur 'n onafgeskermde soekspoel binne-in genoemde hok en een voet in die vierkant groot en 'n onafgeskermde leiding met 'n weerstandsmeetinstrument verbind is wat buitekant die hok gemonteer is en waarvan die ander klem geaard is; en

(iv) die ontvanger bekrag word,

die krag met die meetinstrument meet hoogstens 4×10^{-10} watt is, ongeag die weerstand van die meetinstrument of die instelling van die ontvanger en al word die soekspoel kortgesluit of op watter wyse ook beweeg sonder om nader as 6 duim aan die ontvangerkas te kom.

3. *Kieser.*

(1) Die kieser moet, saam met die ontvanger, die volgende kan doen—

(*a*) aanneem—

(i) strepe met 'n duur binne die toleransies 3·5 tot 6·0 sekondes;

(ii) russeine tussen strepe, nl. russeine met 'n duur binne die toleransies 0·01 tot 1·5 sekonde; en

(*b*) weier—

(i) strepe met 'n duur van minder as 3·4 sekondes;

(ii) strepe met 'n duur van meer as 6·2 sekondes; en

(iii) russeine tussen strepe, nl. russeine met 'n duur van meer as 1·6 sekonde.

(2) Nadat die kieser drie of vier agtereenvolgende strepe van die alarmsein aangeneem het, moet dit die hoorbare alarmstelsel in werking bring.

(3) Tydreëlaars wat as deel van die kieser verskaf is, moet vooraf gestel word en nie van buite die uitrusting af bedien kan word nie.

4. *Toetsseinontwikkelaar.*

(1) Die toetsseinontwikkelaar moet die volgende kan doen—

(*a*) vir toetsdoeleindes 'n sein met onderstaande kenmerke opwek—

(i) frekwensie—500 Khz.;

(ii) tipe golf—A2;

(iii) modulasiediepte—binne die gebied 70 tot 100 persent;

(iv) modulasiefrekwensie—binne die gebied 400 tot 1,400 hz.;

(v) insetpeil—gelyk aan 'n spanning gemoduleer tot 'n diepte van 70 persent binne die gebied 37 tot 43 desibles bo een mikrovolt in serie met die kunsantenne; en

(10) (*a*) The receiver shall not in normal service produce a field exceeding 0·1 microvolt per metre when measured at a distance of one mile from the receiver, unless the test signal generator is in operation.

(*b*) The receiver shall be deemed to comply with the requirements of sub-paragraph (*a*) of this paragraph if, when—

(i) the receiver is placed centrally in a screened earthed enclosure of dimensions at least 6 feet cube;

(ii) the earth terminal of the receiver is connected to the inside of the screen;

(iii) the aerial terminal of the receiver is connected through an unscreened search coil situated within the said enclosure and of dimensions one foot square and an unscreened lead to a resistive measuring instrument mounted outside the enclosure and having its other terminal earthed; and

(iv) the receiver is energised;

the power measured by the measuring instrument does not exceed 4×10^{-10} watts whatever the resistance of the measuring instrument or the adjustment of the receiver, and notwithstanding that the search coil is short-circuited or moved in any way without approaching within 6 inches of the receiver case.

3. *Selector.*

(1) The selector, in conjunction with the receiver shall be capable of—

(*a*) accepting—

(i) dashes of a duration within the tolerances 3·5 to 6·0 seconds;

(ii) spaces between dashes, being spaces of a duration within the tolerance 0·01 to 1·5 seconds; and

(*b*) rejecting—

(i) dashes of a duration of less than 3·4 seconds;

(ii) dashes of a duration of more than 6·2 seconds; and

(iii) spaces between dashes, being spaces of a duration of more than 1·6 seconds.

(2) The selector, after accepting three or four consecutive dashes of the alarm signal, shall actuate the audible alarm system.

(3) Any timing controls provided as part of the selector shall be pre-set and shall not be capable of being operated from the outside of the equipment.

4. *Test Signal Generator.*

(1) The test signal generator shall be capable of—

(*a*) generating, for purposes of test, a signal with the following characteristics:—

(i) Frequency—500 kc/s;

(ii) type of wave—A2;

(iii) depth of modulation—within the range 70 to 100 per cent;

(iv) modulation frequency—within the range 400 to 1,400 c/s;

(v) input level— equivalent to a voltage modulated to a depth of 70 per cent within the range 37 to 43 decibels above one microvolt in series with the artificial aerial; and

(*b*) die alarmsein wat in paragraaf 1 (*b*) gespesifiseer word, binne die toleransies wat in subparagraaf (1) (*a*) van paragraaf 3 gespesifiseer word en met die kenmerke gespesifiseer in die voorgaande bepalings van hierdie paragraaf, in die ontvanger invoer, sowel deur middel van—

(i) 'n nie-sluitende handskakelaar; as deur middel van

(ii) die outomatiese sleuteltoestel wat in Deel V van die Eerste Bylae gespesifiseer word.

(2) Die invoermetode moet sodanig wees dat die toetsalarmsein nie die hoorbare alarmstelsel sal laat werk wanneer die antenne uitgeskakel is nie.

(3) Die toetsseinontwikkelaar moet so ontwerp en gebou wees dat die insetpeil van die sein wat in subparagraaf (1) (*a*) gespesifiseer word, deur middel van 'n nie-sluitende skakelaar met ongeveer 20 desibels verhoog kan word.

5. *Hoorbare alarmstelsel.*

(1) Die hoorbare alarmstelsel moet bestaan uit drie alarmklokke, wat onderskeidelik in 'n radiotelegraafkamer, op die brug en in die slaapkamer van 'n radiobeampte geïnstalleer is. Die klokke moet werk van die bron van elektriese energie af wat by paragraaf (2) van regulasie 13 vereis word deur middel van 'n kragkring uit 'n sekeringlose kring en so van 'n sekering voorsien dat die doeltreffendheid van die hoorbare alarmstelsel nie deur die smelt van enige sekering behalwe 'n sekering wat deel uitmaak van die stelsel, geraak sal word nie. Die kragkring moet beheer word deur middel van 'n sluitskakelaar aan of naby die ontvanger wat deel uitmaak van die outomatiese alarm en duidelik en permanent gemerk ter aanduiding van sy doel.

(2) Behoudens die bepalings van subparagraaf (3) moet die alarmklokke, wanneer die outomatiese alarm as sodanig in werking is, 'n alarm gee—

(*a*) wanneer hulle deur die kieser in werking gestel word; en

(*b*) binne 15 sekondes na 'n onderbreking vir 9 sekondes (met 'n toleransie van plus of minus 6 sekondes) van—

(i) die gelykstroomspanning wat die anode voer van enige buis van die ontvanger wat deel uitmaak van die outomatiese alarm, as die ontvanger nie 'n triller het nie;

(ii) 'n triller wat deel uitmaak an die ontvanger;

(iii) 'n kring van 'n gloeidraad van enige direk verhitte buis wat deel uitmaak van die ontvanger, as dit van die hoofbron van elektriese energie af werk wat by paragraaf (1) van regulasie 13 vereis word; en

(iv) enige meganisme wat aanhoudend draai en wat deel uitmaak van 'n kieser wat van genoemde hoofbron van elektriese energie af werk;

binne 15 sekondes na 'n onderbreking of onklaarraking van—

(i) 'n kring van 'n gloeidraad van 'n direk verhitte buis wat deel uitmaak van die ontvanger, as dit van batterye af werk;

(ii) 'n meganisme wat aanhoudend draai en wat deel uitmaak van 'n kieser wat van batterye af werk.

Toestel moet verskaf word wat dit moontlik maak lokke op die brug uit die voornoemde kragkring akel. Die toestel kan 'n middel insluit om die die radiobeampte se slaapkamer ook so uit te Die toestel moet nie-sluitend wees en moet nie n die radiotelegraafkamer kan uitskakel nie. Op l moet duidelik en blywend aangedui word wat

(*b*) injecting into the receiver the alarm signal specified in paragraph 1 (*b*) within the tolerances specified in sub-paragraph (1) (*a*) of paragraph 3 and the characteristics specified in the foregoing provisions of this paragraph, both by means of—

(i) a manual key of a non-locking type; and

(ii) the automatic keying device specified in Part V of the First Schedule.

(2) The method of injection shall be such that the test alarm signal will not operate the audible alarm system when the aerial is disconnected.

(3) The test signal generator shall be so designed and constructed that the input level of the signal specified in sub-paragraph (1) (*a*) can be increased by approximately 20 decibels by means of a non-locking switch.

5. *Audible Alarm System.*

(1) The audible alarm system shall consist of three alarm bells installed respectively in a radiotelegraph room, on the bridge and in the sleeping room of a radio officer. The bells shall be operated from the source of electrical energy required by paragraph (2) of regulation 13 by means of a power circuit taken from an unfused circuit, and so fused that the efficiency of the audible alarm system will not be affected by the rupture of any fuse other than a fuse forming part of that system. The power circuit shall be controlled by a locking switch situated on or near to the receiver forming part of the auto-alarm, and clearly and permanently marked to indicate its purpose.

(2) Subject to the provisions of sub-paragraph (3), the alarm bells shall, whenever the auto-alarm is in operation as such, give an alarm—

(*a*) when actuated by the selector; and

(*b*) within 15 seconds after any failure for 9 seconds (subject to a tolerance of plus or minus 6 seconds) of—

(i) the direct-current voltage feeding the anode of any valve of the receiver forming part of the auto-alarm, if the receiver is not provided with a vibrator;

(ii) any vibrator forming part of the receiver;

(iii) a circuit of a filament of any directly-heated valve forming part of the receiver if it is operated from the main source of electrical energy required by paragraph (1) of regulation 13; and

(iv) any continuously rotating mechanism forming part of a selector operated from the said main source of electrical energy;

(*c*) within 15 seconds after any failure of—

(i) a circuit of a filament of a directly-heated valve forming part of the receiver if it is operated from batteries;

(ii) any continuously rotating mechanism forming part of a selector operated from batteries.

(3) A device shall be provided which will enable the bells situated on the bridge to be disconnected from the aforesaid power circuit. The device may include means for so disconnecting the bell situated in the radio officer's sleeping room. The device shall be non-locking, and shall not be capable of disconnecting the bell in the radio telegraph room. The device shall be clearly [illegible] marked to indicate [illegible]

6. *Veldtoets.*

As die outomatiese alarm 28 dae lank in werking is in verbinding met 'n antenne met 'n effektiewe hoogte van minstens 10 meter en geleë op enige punt wat die Posmeester-generaal bepaal, of anders binne 3 myl van die kus van die Verenigde Koninkryk tussen Land's End en Spurn Point of binne 3 myl van die kus van die Unie van Suid-Afrika tussen Kaapstad en Durban, moet die outomatiese alarm gedurende dié tyd nie deur ander seine in werking gestel word nie as—

(*a*) seine wat plaaslik opgewek is om die outomatiese alarm te toets; en

(*b*) seine binne die toleransies gespesifiseer in subparagraaf (1) (*a*) van paragraaf 3.

7. *Outomatiese alarm as noodradiotelegraafontvanger gebruik.*

As dit die voorneme is om die outomatiese alarm as noodradiotelegraafontvanger te gebruik, moet dit, behalwe dat dit aan die voorgaande vereistes van hierdie Bylae moet voldoen, ook aan onderstaande vereistes voldoen:—

(1) Die ontvanger wat deel uitmaak van 'n outomatiese alarm moet die volgende kan doen:—

(*a*) Koptelefoonontvangs en luidsprekerontvangs kan gee van die golwe wat in subparagraaf (1) van paragraaf 2 gespesifiseer word;

(*b*) kan werk vanaf—

(i) hoofbron van elektriese energie wat by paragraaf (1) van regulasie 13 vereis word; en

(ii) die noodbron van elektriese energie wat by paragraaf (2) van regulasie 13 vereis word.

(2) Die ontvanger moet voorsien wees van—

(*a*) 'n ingeboude skakelaar om die werking van die ontvanger oor te skakel van die hoofbron van elektriese energie na die noodbron van elektriese energie; en

(*b*) 'n handversterkingsreëlaar wat so ingerig is dat die werking van die outomatiese alarm as sodanig nie deur die verstelling van die reëlaar belemmer word nie.

(3) Die standaardoudiofrekwensieleweringspeil van die ontvanger moet as volg wees:—

(*a*) Vir koptelefoonontvangs, 10 desibels onder een milliwatt in 'n weerstand in wat wesenlik gelyk is aan die modulus van die impedansie van die telefoonontvangers by 1,000 hz.; en

(*b*) vir luidsprekerontvangs, 17 desibels bo een milliwatt in 'n weerstand wat die leweringsbuis belas met die belasting wat aan die buis eie is.

(4) Die gevoeligheid van die ontvanger moet sodanig wees dat wanneer dit met 'n sein gemeet word wat op die wyse in subparagraaf (6) (*a*) van paragraaf 2 gespesifiseer, onderbreek word en tot 'n diepte van 30 persent gemoduleer word, die standaardoudiofrekwensieleweringspeil verkry word met 'n seininset van hoogstens 40 desibels bo een mikrovolt.

(5) Wanneer die handversterkingsreëlaar gestel word om die standaardoudiofrekwensielewering van die ontvanger te gee met die seininset wat in subparagraaf (4) gespesifiseer word, moet die sein/ruisverhouding minstens 20 desibels wees.

(6) Wanneer die ontvanger met 'n onafgeskermde koptelefoon gebruik word, moet dit voldoen aan subparagraaf (10) van paragraaf 2.

6. *Field Test.*

If the auto-alarm is in operation for a period of 28 days in connection with an aerial having an effective height of not less than 10 metres and situated at any point as may be determined by the Postmaster-General or alternatively within 3 miles of the coast of the United Kingdom between Lands End and Spurn Point or within 3 miles of the coast of the Union of South Africa between Cape Town and Durban, the auto-alarm shall not be actuated during that period by signals other than—

(*a*) signals locally generated to test the auto-alarm; and

(*b*) signals within the tolerances specified in sub-paragraph (1) (*a*) of paragraph 3.

7. *Auto-alarm Used as an Emergency Radiotelegraph Receiver.*

If the auto-alarm is intended to be used as an emergency radiotelegraph receiver it shall, in addition to complying with the foregoing requirements of this Schedule, comply with the following requirements:—

(1) The receiver forming part of an auto-alarm shall be capable of—

(*a*) headphone reception and loudspeaker reception of the waves specified in sub-paragraph (1) of paragraph 2;

(*b*) operation from—

(i) the main source of electrical energy required by paragraph (1) of regulation 13; and

(ii) the emergency source of electrical energy required by paragraph (2) of regulation 13.

(2) The receiver shall be provided with:—

(*a*) A built-in switch for changing operation of the receiver from the main source of electrical energy to the emergency source of electrical energy; and

(*b*) a manual gain control so arranged that the performance of the auto-alarm as such is not impaired at any setting of the control.

(3) The standard audio-frequency output level of the receiver shall be—

(*a*) for headphone reception, 10 decibels below one milliwatt into a resistance substantially equal to the modulus of the impedance of the telephone receivers at 1,000 c/s; and

(*b*) for loud-speaker reception, 17 decibels above one milliwatt into a resistance which loads the output valve with the load appropriate to the valve.

(4) The sensitivity of the receiver shall be such that when measured with a signal interrupted in the manner specified in sub-paragraph (6) (*a*) of paragraph 2 and modulated to a depth of 30 per cent the standard audio-frequency output level shall be obtained with a signal input not exceeding 40 decibels above one microvolt.

(5) When the manual gain control is adjusted to give the standard audio-frequency output of the receiver with the signal input specified in sub-paragraph (4), the signal/noise ratio shall be at least 20 decibels.

(6) The receiver shall comply with sub-paragraph (10) of paragraph 2 when used with unscreened headphones.

SEWENDE BYLAE.

TABEL VAN WAGURE.

Regulasies 17 *en* 26.

Sones. (1)	Wesgrense. (2)	Oosgrense. (3)	Wagure (Middelbare Greenwichtyd). 16 uur. (4)		8 uur. (5)	
			Van.	Tot.	Van.	Tot.
A.—Oostelike Atlantiese Oseaan, Middellandse See, Noordsee, Oossee.....	Meridiaan 30° W., kus van Groenland	Meridiaan 30° W., tot die suide van die kus van Afrika, oosgrens van die Middellandse See, van die Swartsee en van die Oossee, 30° O. tot die noorde van Noorweë	0 u.	6 u.	8 u.	10 u.
			8 u.	14 u.	12 u.	14 u.
			16 u.	18 u.	16 u.	18 u.
			20 u.	22 u.	20 u.	22 u.
OPMERKING.—*Sone A omvat die kus van die Unie wes van* 30° O (*South Sand Bluff-vuurtoring*). *Van* 30° O. *af ooswaarts, met inbegrip van Durban, is die kus van die Unie in Sone B.*						
B.—Westelike Indiese Oseaan, noordoostelike Yssee	Oosgrens van Sone A	Meridiaan 80° O., weskus van Ceylon tot by Adam's Bridge, daarvandaan weswaarts om die kus van Indië	Van.	Tot.	Van.	Tot.
			0 u.	2 u.	4 u.	6 u.
			4 u.	10 u.	8 u.	10 u.
			12 u.	14 u.	12 u.	14 u.
			16 u.	18 u.	16 u.	18 u.
			20 u.	24 u.		
C.—Oostelike Indiese Oseaan, Sjinese See, Westelike Stille Oseaan	Oosgrens van Sone B	Meridiaan 160° O.....	0 u.	6 u.	0 u.	2 u.
			8 u.	10 u.	4 u.	6 u.
			12 u.	14 u.	8 u.	10 u.
			16 u.	22 u.	12 u.	14 u.
D.—Sentrale Stille Oseaan.....	Oosgrens van Sone C	Meridiaan 140° W.....	0 u.	2 u.	0 u.	2 u.
			4 u.	6 u.	4 u.	6 u.
			8 u.	10 u.	8 u.	10 u.
			12 u.	18 u.	20 u.	22 u.
			20 u.	24 u.	—	
E.—Oostelike Stille Oseaan.....	Oosgrens van Sone D	Meridiaan 90° W. tot by die kus van Sentraal-Amerika, dan die weskus van Sentraal- en Noord-Amerika.....	0 u.	2 u.	0 u.	2 u.
			4 u.	6 u.	4 u.	6 u.
			8 u.	14 u.	16 u.	18 u.
			16 u.	22 u.	20 u.	22 u.
F.—Westelike Atlantiese Oseaan en Golf van Mexiko	Meridiaan 90° W., Golf van Mexiko, ooskus van Noord-Amerika	Meridiaan 30° W., kus van Groenland....	0 u.	2 u.	0 u.	2 u.
			4 u.	10 u.	12 u.	14 u.
			12 u.	18 u.	16 u.	18 u.
			20 u.	22 u.	20 u.	22 u.

SEVENTH SCHEDULE.

TABLE OF WATCH HOURS.

Regulations 17 *and* 26.

Zones. (1)	Western Limits. (2)	Eastern Limits. (3)	Hours of watch (Greenwich Mean Time). 16 hours. (4)		8 hours. (5)	
			From.	To.	From.	To.
A.—Eastern Atlantic Ocean, Mediterranean, North Sea, Baltic	Meridian of 30° W., Coast of Greenland	Meridian of 30° W., to the South of the Coast of Africa, Eastern limits of the Mediterranean, of the Black Sea, and of the Baltic, 30° E. to the North of Norway	0 h.	6 h.	8 h.	10 h.
			8 h.	14 h.	12 h.	14 h.
			16 h.	18 h.	16 h.	18 h.
			20 h.	22 h.	20 h.	22 h.
NOTE.—*Zone A includes the coasts of the Union west of* 30° *E.* (*South Sand Bluff Lighthouse*). *From* 30° E. *eastwards, including Durban, the coast of the Union is in Zone B.*						
B.—Western Indian Ocean, Eastern Arctic Sea	Eastern Limit of Zone A	Meridian of 80° E., West Coast of Ceylon to Adam's Bridge, thence westward round the coast of India	0 h.	2 h.	4 h.	6 h.
			4 h.	10 h.	8 h.	10 h.
			12 h.	14 h.	12 h.	14 h.
			16 h.	18 h.	16 h.	18 h.
			20 h.	24 h.		
C.—Eastern Indian Ocean, China Sea, Western Pacific Ocean	Eastern Limit of Zone B.	Meridian of 160° E.....	0 h.	6 h.	0 h.	2 h.
			8 h.	10 h.	4 h.	6 h.
			12 h.	14 h.	8 h.	10 h.
			16 h.	22 h.	12 h.	14 h.
D.—Central Pacific Ocean.....	Eastern Limit of Zone C	Meridian of 140° W.....	0 h.	2 h.	0 h.	2 h.
			4 h.	6 h.	4 h.	6 h.
			8 h.	10 h.	8 h.	10 h.
			12 h.	18 h.	20 h.	22 h.
			20 h.	24 h.	—	
E.—Eastern Pacific Ocean.....	Eastern Limit of Zone D	Meridian of 90° W. as far as the Coast of Central America, then the West Coast of Central America and North America	0 h.	2 h.	0 h.	2 h.
			4 h.	6 h.	4 h.	6 h.
			8 h.	14 h.	16 h.	18 h.
			16 h.	22 h.	20 h.	22 h.
F.—Western Atlantic Ocean and Gulf of Mexico	Meridian of 90° W., Gulf of Mexico, East Coast of North America	Meridian of 30° W., Coast of Greenland	0 h.	2 h.	0 h.	2 h.
			4 h.	10 h.	12 h.	14 h.
			12 h.	18 h.	16 h.	18 h.
			20 h.	22 h.	20 h.	22 h.

T.V. 5/321.

AGSTE BYLAE.

Regulasie 20.

UNIE VAN SUID-AFRIKA.

DEPARTEMENT VAN VERVOER,
MARINE-AFDELING.

Handelskeepvaartwet, 1951
(Wet No. 57 van 1951).

RADIOTELEGRAAFLOGBOEK.

DEEL I.

HOE DIE RADIOTELEGRAAFLOGBOEK GEHOU MOET WORD.

Elke skip wat verplig is om 'n radiotelegraafinstallasie te hê, moet 'n radiotelegraaflogboek hou. Hierdie dokument moet tydens die seereis in die radiotelegraafkamer gehou word en beskikbaar wees vir insae deur enigeen wat die Sekretaris van Vervoer of die Posmeester-generaal daartoe gemagtig het.

(1) *Invul van radiotelegraaflog.*

Die log is uit twee dele saamgestel, wat ooreenkomstig die volgende instruksies ingevul moet word:—

(*a*) *Deel I.*

Afdeling A—Besonderhede van die radiopersoneel moet ingeskryf word op die vorm wat verskaf word.

Afdeling B—'n Lys van alle batterye wat deel uitmaak van die hoof- en die noodinstallasie, met inbegrip van dié wat gebruik word vir die noodligte, die outomatiese alarm, die rigtingsoeker en die outomatiese sendtoestel (as afsonderlike batterye vir hierdie doel verskaf word) en vir die reddingsbootinstallasies, met inbegrip van die draagbare reddingsbootuitrusting, moet op die vorm ingevul word wat verskaf word.

Afdeling C—'n Daaglikse verslag oor die laaitoestand van elke battery moet ingeskryf word. Die verslag moet besonderhede bevat van die hoeveelheid lading wat gegee is, indien dit wel gelaai is, en van enige ander onderhoudshandeling, bv. byvulling, wat uitgevoer is.

Afdeling D—Een maal per maand moet elke battery volledig, sel vir sel, nagegaan en 'n verslag oor die algemene toestand, ook sel vir sel, in hierdie afdeling ingeskryf word.

Afdelings B, C en D moet in tweevoud ingevul word. Die deurslagkopieë (geperforeerde velle) moet voordat die log ingelewer word, uitgeskeur en sorgvuldig in die radiotelegraafkamer geliasseer word, sodat daar altyd 'n blywende rekord van die batterye beskikbaar sal wees vir die inligting van latere riadiobeamptes, kusonderhoudspersoneel en radio-opmeters.

(*b*) *Deel II.*

Hierdie deel van die log vorm 'n volledige rekord van die werk van die skip se radiotelegraafstasie vir die duur van die reis. Wanneer die radiobeampte die log begin, moet hy die name van die hawens van vertrek en bestemming aanteken. Dan moet hy, in tydsvolgorde, die onderstaande inskryf:—

(i) Sy naam, en die tye waarop sy wag begin en eindig;
(ii) alle noodberigte en -verkeer voluit;
(iii) 'n positiewe inskrywing elke halfuur gedurende die wagure om te meld of die skeepstasie die stiltetye in ag geneem het;
(iv) alle spoed- en veiligheidsberigte;
(v) die posisie van die skip minstens een keer per dag, as die skip se reëls dit toelaat;

T.V. 5/321.

EIGHTH SCHEDULE.

Regulation 20.

UNION OF SOUTH AFRICA.

DEPARTMENT OF TRANSPORT
MARINE DIVISION.

Merchant Shipping Act, 1951
(Act No. 57 of 1951).

RADIOTELEGRAPH LOG-BOOK.

PART I.

INSTRUCTIONS FOR KEEPING THE RADIOTELEGRAPH LOG-BOOK.

Every ship which is compulsorily fitted with a radiotelegraph installation shall carry a radiotelegraph log-book. This document shall be kept in the radiotelegraph room during the voyage, and shall be available for inspection by any person authorised by the Secretary for Transport or by the Postmaster-General.

(1) *Completion of Radiotelegraph Log.*

The log is compiled in two parts, which shall be completed in accordance with the following instructions:—

(*a*) *Part I.*

Section A—Particulars of the radio staff shall be entered in the form provided.

Section B—A list of all batteries forming part of the main and emergency installations, including those used for the emergency lighting, the auto alarm, the direction finder and the automatic sending device (if separate batteries are provided for this purpose) and for the lifeboat installations including the portable lifeboat equipment shall be entered in the form provided.

Section C—A daily report on the charge condition of each battery shall be entered. The report shall contain details of the amount of charge given, if any, and any other maintenance, such as topping up, which has been carried out.

Section D—Once a month a full examination of each battery, cell by cell, shall be made, and a report on the general condition entered, cell by cell, in this section.

Sections B, C and D shall be prepared in duplicate. The carbon copies (perforated sheets) shall, prior to the handing in the log, be detached and carefully filed in the radiotelegraph room so that a permanent record of the batteries will always be available for the information of succeeding radio officers, shore maintenance staff and radio surveyors.

(*b*) *Part II.*

This part of the log will form a complete record of the work of the ship's radiotelegraph station for the period of the voyage. In opening the log the radio officer shall record the names of the ports of departure and destination. He shall then enter, in chronological order, the following:—

(i) His name, and the times at which he goes on and off watch;
(ii) all distress messages and distress traffic in full;
(iii) a positive entry each half hour during the hours of watch as to whether the ship's station has observed the silence periods;
(iv) all urgency and safety communications;
(v) the position of the ship at least once a day, if the ship's rules permit;

(vi) reisbesonderhede (TR's) wat na gebiedstasies gestuur is;

(vii) verkeerslyste vanaf afstandsgebiedstasies in die Statebond volledig;

(viii) oproepe en werkseine gewissel;
(Inskrywings ten opsigte van private berigte moet beperk word tot die oproep, volgnommer van die berig en die tyd ontvang of gestuur. Moeilikhede wat ondervind word by die afhandeling van verkeer moet aangeteken word, maar die adres en teks van private berigte moet weggelaat word.)

(ix) besonderhede van oproepe en werkseine van ander skepe en kusstasies (inskrywings oor die werking van ander stasies moet sowat een keer elke tien minute gemaak word);

(x) ander diensvoorvalle, met inbegrip van enige voorval gedurende die wag wat met die radiotelegraafdiens in verband staan wat van belang lyk vir die veiligheid van menselewens op see;

(xi) tye van aankoms by en vertrek van tussenhawens;

(xii) 'n positiewe inskrywing wanneer luidsprekerwag op die noodfrekwensie begin of beëindig word of wanneer wag op die noodfrekwensie beëindig word om die radiobeampte in staat te stel om ander noodsaaklike radiotelegraafwerk te doen, wat dit ondoenlik maak om met die wag voort te gaan;

(xiii) alle onderbrekings van die hoofkragtoevoer of onklaarrakings van apparaat, en besonderhede van herstelwerk gedoen;

(xiv) 'n rekord van die daaglikse en ander toetse van die noodsender en 'n daaglikse verklaring dat die noodkragtoevoer bevredigend is of nie;

(xv) 'n daaglikse verklaring waarin bevestig word dat alle batterye getoets en tot die normale peil volgelaai is;

(xvi) besonderhede van die toetse en die weierings van die outomatiese alarm (indien daar een aangebring is). (Hierdie toetse moet gedoen word telkens voordat 'n outomatiese alarmwag begin.);

(xvii) die tye waarop die outomatiese alarmwag gestel en beëindig word;

(xviii) besonderhede van die toetse van reddingsbootradiouitrusting;

(xix) 'n daaglikse inskrywing oor 'n vergelyking van die radiotelegraafkamer se horlosie met standaardtyd, insluitende 'n vermelding van foute opgemerk en korreksies aangebring. Outentieke tydseine wat van landstasies af ontvang is, is aanneemlik as standaardtyd.

Die inskrywings in hierdie deel van die log moet in tweevoud gedoen word. Die deurslagkopieë (geperforeerde velle) moet uitgeskeur en sorgvuldig in die regte volgorde aanmekaar gebind word om 'n kopie van die dagboek te vorm, wat uiteindelik behandel moet word soos gelas deur die maatskappy wat die radiodiens lewer of deur die skeepseienaar, na gelang van die geval.

(2) *Opmerkings oor die hou van die log.*

Die belangrikheid daarvan om die log korrek te hou deur alle inskrywings op die regte tyd en met die strengste inagneming van vorm te doen, kan die radiobeampte nie te sterk op die hart gedruk word nie.

Wanneer daar 'n personeelvergadering is, moet toegesien word dat die log volledig en bygewerk is wanneer dit oorhandig word.

Inskrywings moet altyd in tyds- en datumvolgorde gedoen en geen ruimtes oningevul gelaat word nie.

(vi) details of voyage particulars (T.R.s) forwarded to area stations;

(vii) traffic lists from Commonwealth long-distance area stations in full;

(viii) calls and operating signals exchanged;
(Entries in respect of private correspondence should be restricted to the call, serial number of the message and time received or sent. Difficulties encountered in disposing of traffic should be recorded, but the address and text of private correspondence should be omitted).

(ix) details of calls and operating signals of other ships and coast stations (entries relating to the working of other stations should be made about once every ten minutes);

(x) other service incidents including any incident which occurs during the watch connected with the radio-telegraph service which may appear to be of importance to safety of life at sea;

(xi) times of arrival and departure from intermediate ports;

(xii) a positive entry when beginning, or terminating loud speaker watch on the distress frequency, or when watch on the distress frequency is discontinued to enable the radio officer to perform other essential radiotelegraph duties which make it impracticable to maintain the watch;

(xiii) any failures of the main power supply or breakdowns of apparatus and details or repairs effected;

(xiv) a record of the daily and other tests of the emergency transmitter and a daily statement that the emergency power supply is satisfactory or otherwise;

(xv) a daily statement confirming that all batteries have been tested and brought up to the normal fully charged condition;

(xvi) details of the tests and any failures of the auto alarm (if fitted). (These tests must be made before the commencement of each auto alarm watch);

(xvii) the times at which auto-alarm watch is set and terminated;

(xviii) details of the tests of lifeboat radio equipment;

(xix) a daily entry regarding comparison of the radiotelegraph room clock with Standard Time, including an indication of any errors observed and corrections made. Authentic time signals received from land stations shall be acceptable as Standard Time.

The entries in this Part of the log shall be prepared in duplicate. The carbon copies (perforated sheets) shall be detached and carefully fastened together in correct order to form a copy of the diary which should be finally disposed of in the manner directed by the company operating the radio service or by the shipowner as the case may be.

(2) *Notes on the Keeping of the Log.*

The importance of keeping the log correctly by duly making all entries at the proper time and with the strictest regard to form cannot be too strongly stressed on the radio officer.

Care should be taken when there is a change of staff to see that the log, when handed over, is complete and up to date.

Entries shall always be made in order of time and date and no blanks left.

Die radiobeampte wat 'n wag begin, moet die inskrywing „op wag" aanbring en sy naam daaragter teken. Die radiobeampte wat afgelos word of sy wag beëindig, moet die inskrywing „van wag af" aanbring en sy naam daaragter teken. Die radiobeampte wat vir die waginskrywings verantwoordelik is, moet alle loginskrywings aan die end van die wag doen. 'n Paraaf of teken in plaas van die radiobeampte se handtekening word nie aangeneem nie.

As daar te min blaaie in Deel II van die log is, moet die toevlug geneem word tot nog 'n kopie of kopieë van Deel II. Op vervolgkopieë moet die volgorde duidelik gemerk word.

(3) *Nagaan van log.*

Die verantwoordelike radiobeampte moet albei dele van die log daagliks nagaan en teken. Dit moet ook daagliks aan die gesagvoerder voorgelê word vir sy handtekening en sy aandag op inskrywings van belang gevestig word.

(4) *Wat met logboek gedoen word.*

Die gesagvoerder moet binne 48 uur na die skip se aankoms by sy eindbestemmingshawe of by ontslag van die bemanning, wat ook al die eerste gebeur, die radiotelegraaflogboek tesame met die amptelike logboek oorhandig aan die bevoegde beampte voor wie die bemanning ontslaan word. Voordat die radiotelegraaflogboek aldus afgelewer word, moet gesorg word dat die deurslagkopieë verwyder en behandel word soos bo voorgeskryf.

The entry "on watch" shall be made by the radio officer beginning a watch followed by his signature. The entry "off watch" shall be made by the radio officer being relieved or terminating his watch, followed by his signature. All log entries shall be completed at the end of the watch by the radio officer responsible for the watch entries. The use of initials or signs cannot be accepted in lieu of the radio officer's signature.

If the number of pages in Part II of the log are insufficient, recourse should be made to a further copy or copies of Part II. Any copies used in continuation shall be clearly marked with the order of sequence.

(3) *Inspection of Log.*

Both parts of the log shall be inspected daily and signed by the radio officer in charge; it shall also be submitted daily to the Master for his signature and his attention directed to entries of importance or interest.

(4) *Disposal of Log-Book.*

The Master shall within 48 hours after the ship's arrival at its final port of destination or upon the discharge of the crew, whichever first happens, deliver the radiotelegraph log-book together with the official log-book to the proper officer before whom the crew is discharged. Before the radiotelegraph log-book is so delivered, care shall be taken to remove and dispose of the carbon copies as directed above.

RADIOTELEGRAAFBOEK, DEEL I.
RADIOTELEGRAPH LOG-BOOK, PART I.

Naam van skip. Name of Ship.	Amptelike nommer en internasionale roepsein. Official Number and International Call Sign.	Registrasiehawe. Port of Registry.	Brutotonnemaat. Gross Tonnage.

Naam van maatskappy wat die radiodiens lewer_____
Name of company operating the radio service

Hawe waar en datum waarop reis begin het. Port at which and Date when Voyage commenced.	Aard van reis of werk. Nature of the Voyage or Employment.	Hawe waar en datum waarop reis beëindig is. Port at which and Date when Voyage terminated.
Datum Date_____		Datum Date_____
Hawe Port_____		Hawe Port_____

Oorhandig aan die bevoegde beampte by die hawe van_____ op die_____
Delivered to the proper officer at the port of on the

_____ dag van_____ 19____ tesame met die radiotelegraaflogboek.
day of together with radio-telegraph log-book.

Deel II, volgnommers_____ tot_____
Part II, serial numbers to

Medeonderteken_____
Countersigned *Bevoegde Beampte/Proper Officer.*

_____
Gesagvoerder/Master.

_____ Adres.
Address.

AFDELING A.—BESONDERHEDE VAN RADIOPERSONEEL.
SECTION A.—PARTICULARS OF RADIO STAFF.

Naam. Name.	Huisadres. Home Address.	Sertifikaatno. en klas. Certificate No. and Class.

AFDELING B.—BESONDERHEDE VAN BATTERYE AAN BOORD.
SECTION B.—PARTICULARS OF BATTERIES ON BOARD.

Batterynommer.* Battery Number.*	Getal selle. Number of Cells.	Soort. Type.	Datum verskaf. Date Supplied.	Stroomspanning en ampere-uurkapasiteit. Voltage and Ampere-hour Capacity.	Doel waarvoor gebruik. Purpose for which used.

* Die volgnommer in hierdie kolom word gebruik wanneer verwys word na 'n besondere battery in Afdelings C en D.
* The serial number in this column will be used when referring to a particular battery in Sections C and D.

AFDELING C.—DAAGLIKSE ONDERSOEK VAN BATTERYE.
SECTION C.—DAILY EXAMINATION OF BATTERIES.

Datum. Date.	Batterynommer. Battery Number.	Stroomspanning, onbelas. Voltage off Load.	Stroomspanning, belas. Voltage. on Load.	Opmerkings. Remarks.

AFDELING D.—MAANDELIKSE VERSLAG OOR BATTERYE.
SECTION D.—MONTHLY REPORT ON BATTERIES.

ıtum. ate.	Batterynommer (sel vir sel). Battery Number (Cell by Cell).	Soortlike gewig soos gemeet. Specific Gravity as measured.		Datum. Date.	Batterynommer (sel vir sel). Battery Number (Cell by Cell).	Soortlike gewig soos gemeet. Specific Gravity as measured.		Opmerkings. Remarks.
		Voor laai. Before Charge.	Na laai. After Charge.			Voor laai. Before Charge.	Na laai. After Charge.	

T.V. 5/321 (*a*).

AGSTE BYLAE—(*vervolg*).
EIGHT SCHEDULE (*Continued*).
Regulasie 20.
Regulation 20.

UNIE VAN SUID-AFRIKA.
UNION OF SOUTH AFRICA.

DEPARTEMENT VAN VERVOER,
MARINEAFDELING.
Handelsskeepvaartwet, 1951 (Wet No. 57 van 1951).

DEPARTMENT OF TRANSPORT,
MARINE DIVISION.
Merchant Shipping Act, 1951 (Act No. 57 of 1951).

RADIOTELEGRAAFLOGBOEK, DEEL II.
RADIOTELEGRAPH LOG-BOOK, PART II.

Naam van skip. Name of Ship.	Amptelike nommer en internasionale roepsein. Official Number and International Call Sign.	Registrasiehawe. Port of Registry.	Brutotonnemaat. Gross Tonnage.

Volgnommer _____ van _____ tot _____
Serial number from to

Naam van maatskappy WAT DIE RADIODIENS LEWER _____
Name of company OPERATING THE RADIO SERVICE

M.V. _____ Gebied bewaak _____
S.S. Area guarded

DAGBOEK VAN DIE RADIOTELEGRAAFDIENS.
DIARY OF THE RADIOTELEGRAPH SERVICE.

Datum en tyd. M.G.T. Date and Time G.M.T.	Stasie waarvandaan. Station From.	Stasie waarheen. Station To.	Volle besonderhede van oproepe, seine en noodwerking, ens., soos vereis in paragraaf 1 (*b*) van die Instruksies in Deel I van die Radiotelegraaflogboek. Full Details of Calls, Signals and Distress Working, etc., as required by Paragraph 1 (*b*) of the Instructions in Part I of the Radiotelegraph Log-book.	Sterkte van seine en frekwensie (Khz.). Strength of Signals and Frequency (KC/S.).

T.V. 5/322.

NEËNDE BYLAE.
Regulasie 28.

UNIE VAN SUID-AFRIKA.

DEPARTEMENT VAN VERVOER,
MARINE-AFDELING.
Handelsskeepvaartwet, 1951
(Wet No. 57 van 1951).

RADIOTELEFOONLOGBOEK.

HOE DIE RADIOTELEFOONLOGBOEK GEHOU MOET WORD.

Ooreenkomstig die bepalings van Deel I van die Radioregulasies vir die Handelskeepvaart moet daar aan boord van elke radiotelefoonskip 'n radiotelefoonlogboek gehou word. Die boek moet by of naby die punt gehou word vanwaar die installasie bedien word en moet beskikbaar wees vir insae deur enigeen wat die Sekretaris van Vervoer of die Posmeester-generaal daartoe gemagtig het.

1. *Invul van log.*

(1) *Afdeling A.*—Besonderhede van die lede van die bemanning wat gekwalifiseer is om die installasie te bedien, moet ingevul word op die vorm wat verskaf word.

(2) *Afdeling B.*—Hierdie afdeling van die log vorm 'n volledige dagboek van die radiodiens. Die inskrywings in hierdie deel van die log moet in tweevoud geskied. Die deurslagkopieë (geperforeerde velle) moet afgeskeur en sorgvuldig in die regte volgorde aanmekaar vasgebind word om 'n kopie van die dagboek te vorm, wat uiteindelik behandel moet word soos gelas deur die maatskappy wat die radiodiens lewer of deur die skeepseienaar, na gelang van die geval. Die inskrywings in hierdie afdeling moet die volgende insluit:—

(i) Die naam van die operateur en die tye waarop hy op wag en van wag af gaan.

(ii) Besonderhede van alle noodberigte wat gehoor of gestuur word en van noodverkeer wat voorkom. Dit is belangrik dat die algemene strekking van hierdie berigte ingeskryf word.

(iii) 'n Verklaring, elke halfuur gedurende die wagure, dat die stiltetyd in ag geneem is. [Ten einde groter veiligheid vir menselewens op see te verseker, vereis die Internasionale Radioregulasies van skepe dat hulle twee keer elke uur, op die uur en dertig minute na die uur (M.G.T.), drie minute lank op die noodfrekwensie waghou. Gedurende hierdie tussenpose moet alle uitsendings in die band rondom die radiotelefoonnoodfrekwensie, behalwe nood-, spoed- en veiligheidsuitsendings, staak en die operateur op die radiotelefoonnoodfrekwensie luister.]

(iv) 'n Opsomming van alle spoed- en veiligheidsberigte ontvang.

(v) 'n Opsomming van berigte gewissel tussen die skip en landstasies of ander skepe. Inskrywings ten opsigte van oproepe moet slegs die volgnommer van die berig en die tyd waarop dit ontvang of gestuur is, meld. Moeilikhede wat by die afhandeling van verkeer ondervind word, moet aangeteken word, maar die adres en teks van sulke berigte moet weggelaat word. Die werklike berig moet op die toepaslike vorm aangeteken word.

(vi) Belangrike diensvoorvalle van alle soorte, soos onklaarraking van die installasie en herstelwerk uitgevoer.

T.V. 5/322.

NINTH SCHEDULE.
Regulation 28.

UNION OF SOUTH AFRICA.

DEPARTMENT OF TRANSPORT
MARINE DIVISION.
Merchant Shipping Act, 1951 (Act No. 57 of 1951).

RADIOTELEPHONE LOG-BOOK.

INSTRUCTIONS FOR KEEPING THE RADIO-TELEPHONE LOG-BOOK.

In accordance with the provisions of Part I of the Merchant Shipping Radio Regulations, a radiotelephone log-book shall be carried on board every radiotelephone ship. The book shall be kept at or near the position from which the installation is operated, and shall be available for inspection by any person authorised by the Secretary for Transport or by the Postmaster-General.

1. *Completion of Log.*

(1) *Section A.*—Particulars of the members of the crew qualified to operate the installation shall be entered in the form provided.

(2) *Section* B.—This section of the log will form a complete diary of the radio service. The entries in this part of the log shall be prepared in duplicate. The carbon copies (perforated sheets) shall be detached and carefully fastened together in correct order to form a copy of the diary, which should be finally disposed of in the manner directed by the company operating the radio service or by the shipowner as the case may be. The entries to be made in this section shall include:—

(i) The name of the operator, and the times at which he goes on and off watch.

(ii) Details of all distress messages heard or sent and of any distress traffic which takes place. It is important that the general sense of these messages should be entered.

(iii) A statement, each half hour during the hours of watch that the silence period has been observed. [The International Radio Regulations, to ensure greater safety to life at sea, require ships to keep watch on the distress frequency twice each hour for three minutes commencing at the hour and at thirty minutes past the hour (G.M.T.) During these intervals all transmission in the band around the radiotelephone distress frequency except distress, urgency and safety transmissions shall cease and the operator shall listen on the radiotelephone distress frequency.]

(iv) A summary of all urgency and safety communications received.

(v) A summary of communications exchanged between the ship and land stations or other ships. Entries in respect of calls should be restricted to the serial number of the message, and the time received or sent. Difficulties experienced in disposing of traffic should be recorded, but the address and text of such messages should be omitted. The actual message should be recorded on the appropriate form.

(vi) Important service incidents of all kinds, such as breakdowns of the installation and repairs effected.

(vii) Besonderhede van die laai van batterye. Die tyd wanneer met die laai begin en wanneer dit beëindig word, moet vermeld word. In gevalle waar die batterye op die land gelaai of vir gelaaide batterye omgeruil word, moet die log vermeld wanneer en waar dit gelaai of omgeruil is.

(viii) Die posisie van die skip minstens een keer per dag, as die skip se reëls dit toelaat.

2. *Opmerkings oor die hou van die log.*

Dit is belangrik dat die log korrek gehou word deur alle inskrywings op die regte tyd te doen, sodat dit te alle tye volledig en bygewerk is.

Inskrywings moet altyd in datum- en tydsvolgorde gedoen en geen ruimte oningevul gelaat word nie.

Die inskrywings „ op wag " en „ van wag af " moet deur die operateur se handtekening gevolg word.

Berigte moet in volgorde genommer word, daagliks van No. 1 af om 0001 M.G.T., en 'n nuwe reeks moet vir elke kusstasie gebruik word.

Alle loginskrywings moet aan die einde van die wag voltooi wees.

Wanneer hy sy inskrywings doen, moet die radiotelefoonoperateur hom laat lei deur die voorbeelde aan die end van hierdie instruksies.

As daar in Afdeling B nie genoeg blaaie is om die looptyd van die log te dek nie, moet die log in 'n tweede boek voortgesit word.

3. *Nagaan van log.*

Die gesagvoerder moet die log daagliks teken en waar die gesagvoerder nie die radiotelefoonoperateur is nie, moet laasgenoemde die log aan die gesagvoerder voorlê vir ondertekening en sy aandag op inskrywings van belang vestig.

4. *Wat met log gedoen word.*

Die gesagvoerder moet binne 48 uur nadat die skip by sy eindbestemmingshawe aangekom het of nadat die bemanning ontslaan is, wat ook al die eerste gebeur, die radiotelefoonlogboek tesame met die amptelike logboek oorhandig aan die bevoegde beampte voor wie die bemanning ontslaan word. Voordat die radiotelefoonlogboek aldus afgelewer word, moet gesorg word dat die deurslagkopieë verwyder en behandel word soos hierbo voorgeskryf.

(vii) Details of the charging of batteries. The times when the batteries are placed on and taken off charge shall be stated. In cases where the batteries are charged or exchanged for charged batteries on shore the log should state when and where the charging or changing was made.

(viii) The position of the ship at least once a day if the Rules of the ship so permit.

2. *Notes on the Keeping of the Log.*

It is important that the log should be correctly kept by making all entries at the proper time, being always complete and up to date.

Entries shall always be made in order of date and time and no blanks left.

The entries " on watch " and " off watch " shall be followed by the operator's signature.

Messages should be numbered in sequence beginning with No. 1 at 0001 G.M.T. daily and using a fresh series for each coast station.

All log entries shall be completed by the end of the watch.

In making his entries the radiotelephone operator should be guided by the specimen entries which follow these instructions.

If the number of pages in Section B are insufficient to cover the period of currency of the log, the log should be continued in a second book.

3. *Inspection of Log.*

The Master shall sign the log daily, and where the Master is not the radiotelephone operator the latter shall submit the log to the Master for this purpose, drawing his attention to any entries of importance or interest.

4. *Disposal of Log.*

The Master shall within 48 hours after the ship's arrival at its final port of destination or upon the discharge of of the crew, whichever first happens, deliver the radiotelephone log-book together with the official log-book to the proper officer before whom the crew is discharged. Before the radiotelephone log-book is so delivered, care shall be taken to remove and dispose of the carbon copies as directed above.

S.S. NONESUCH. VOORBEELD.

DAGBOEK VAN DIE RADIOTELEFOONDIENS.

Datum en tyd (M.G.T.).	Stasie waarvandaan.	Stasie waarheen.	Frekwensie gebruik.	Rekord van bediening, ens., soos vereis by paragraaf 1 (2) van die instruksies op die omslag.
2/2/49.				
0800				Op wag J. Janse. Posisie van skip 15 myl SO Beachy Head. Batterye verbind—vol gelaai en bevredigend.
0810	Nonesuch.....	Niton.....	1650	TR. Luister 2012.
0812	Nonesuch.....	Niton.....	2012	TR. gestuur.
0814	Niton.....	Nonesuch.....	1825	TR. ontvang: niks vir u nie.
0830				Stiltetyd in ag geneem.
0845				Ontvanger onklaar—defekte buis vervang—bevredigend.
0900				Stiltetyd in ag geneem.
0930				Stiltetyd in ag geneem.
0948	Niton.....	Alle skepe.....	1825	Verkeerslys (niks vir Nonesuch nie).
1000				Van wag af J. Janse. Reddingsboot se draagbare toestel getoets—bevredigend.
1200				Op wag J. Janse. ST in ag geneem.
1202	Thrush.....	Landsend.....	1650	MAYDAY—Thrush 20 myl OSO van Landsend stuur beskadig sleepboot nodig (gesagvoerder verwittig).
1210	Landsend.....	Thrush.....	1650	Sleepboot gestuur u te help einde. Gesagvoerder verwittig.
1230				ST in ag geneem.
1300				ST in ag geneem.
1330				ST in ag geneem.
1348	Niton.....	Alle skepe.....	1825	Verkeerslys. Berig vir Nonesuch.
1350	Nonesuch.....	Niton.....	2012	Stuur u radiotelegram.
1350	Niton.....	Nonesuch.....	1825	Stuur No. 1.
1352	Nonesuch.....	Niton.....	2012	No. 1 ontvang (berig aan gesagvoerder oorhandig).
1400				Van wag af J. Janse.
1600				Op wag J. Janse. ST in ag geneem.
1630				ST in ag geneem.
1700				ST in ag geneem.
1730				ST in ag geneem.

Datum en tyd (M.G.T.).	Stasie waarvandaan.	Stasie waarheen.	Frekwensie gebruik.	Rekord van bediening, ens., soos vereis by paragraaf 1 (2) van die instruksies op die omslag.
1733	N. Foreland.....	Alle skepe.....	1835	Verkeerslys (niks vir Nonesuch nie).
1740	Nonesuch.....	N. Foreland.....	2012	Oproep. Radiotelegram vir u.
1740	N. Foreland...	Nonesuch.....	1835	Stuur u radiotelegram.
1741	Nonesuch.....	N. Foreland.....	2012	No. 1 gestuur.
1743	N. Foreland....	Nonesuch.....	1835	No. 1 ontvang.
1800				Van wag af J. Janse.
2000				Op wag J. Janse. ST in ag geneem.
2030	N. Foreland.....	Alle skepe.....	1650	SÉCURITÉ—Obstruksie gevaarlik vir navigasie naby Oxcars Light (berig aan gesagvoerder meegedeel).
2034	N. Foreland....	Alle skepe.....	1650	SÉCURITÉ—stormwindwaarskuwing, noordelike stormwinde wat noordooswaarts ruim verwag Dogger, Humber en Teems (berig aan gesagvoerder meegedeel).
2100				ST in ag geneem.
2130				ST in ag geneem.
2133	N. Foreland.....	Alle skepe.....	1835	Verkeerslys (niks vir Nonesuch nie). Alle batterye verbind om gelaai te word. Van wag af J. Janse.

S.S. NONESUCH. SPECIMEN.

DIARY OF THE RADIOTELEPHONE SERVICE.

Date and time (G.M.T.)	Station from.	Station to.	Frequency used.	Record of working, etc., as required by Paragraph 1 (2) of the instructions on the cover.
2/2/49.				
0800				On watch J. Jones. Position of ship 15 miles S.E. Beachy Head. Batteries connected—fully charged and satisfactory.
0810	Nonesuch.....	Niton.....	1650	TR. Listen 2012.
0812	Nonesuch.....	Niton.....	2012	TR. sent.
0814	Niton.....	Nonesuch.....	1825	TR. received: nothing for you.
0830				S.P. observed.
0845				Receiver breakdown—faulty valve replaced—satisfactory.
0900				S.P. observed.
0930				S.P. observed.
0948	Niton.....	All ships.....	1825	Traffic List (Nothing for Nonesuch).
1000				Off watch J. Jones. Lifeboat portable set tested and satisfactory.
1200				On watch J. Jones. S.P. observed.
1202	Thrush.....	Landsend.....	1650	MAYDAY—Thrush 20 miles ESE from Landsend steering gear damaged require tug. (Master informed.)
1210	Landsend.....	Thrush.....	1650	Tug sent your assistance ends. Master informed.
1230				S.P. observed.
1300				S.P. observed.
1330				S.P. observed.
1348	Niton.....	All ships.....	1825	Traffic List. Message for Nonesuch.
1350	Nonesuch.....	Niton.....	2012	Send your radiotelegram.
1350	Niton.....	Nonesuch.....	1825	Sends Nr. 1.
1352	Nonesuch.....	Niton.....	2012	Received Nr. 1 (Message handed to Master).
1400				Off watch J. Jones.
1600				On watch J. Jones. S.P. observed.
1630				S.P. observed.
1700				S.P. observed.
1730				S.P. observed.
1733	N. Foreland...	All ships.....	1835	Traffic List (Nothing for Nonesuch).
1740	Nonesuch.....	N. Foreland....	2012	Call. Radiotelegram for you.
1740	N. Foreland...	Nonesuch.....	1835	Send your radiotelegram.
1741	Nonesuch.....	N. Foreland.....	2012	Sent Nr. 1.
1743	N. Foreland.....	Nonesuch.....	1835	Received Nr. 1.
1800				Off watch J. Jones.
2000				On watch J. Jones. S.P. observed.
2030	N. Foreland.....	All ships.....	1650	SÉCURITÉ—Obstruction dangerous to navigation exists near Oxcars Light (Message passed to Master).
2034	N. Foreland.....	All ships.....	1650	SÉCURITÉ—Gale warning, Northerly gales veering North-easterly expected Dogger, Humber and Thames (Message passed to Master).
2100				S.P. observed.
2130				S.P. observed.
2133	N. Foreland.....	All ships.....	1835	Traffic List (nothing for Nonesuch). All batteries placed on charge. Off watch J. Jones.

RADIOTELEFOONLOGBOEK.
RADIOTELEPHONE LOG-BOOK.

Naam van skip. Name of Ship.	Amptelike nommer. Official Number.	Registrasiehawe. Port of Registry.	Brutotonnemaat. Gross Tonnage.

Naam van maatskappy wat die radiodiens lewer_____
Name of company operating the radio service

Tydperk gedek deur log: van_____ tot_____
Period covered by log from to

Oorhandig aan die bevoegde beampte by die hawe_____ op die_____
Delivered to the proper officer at the port of on the

dag van_____ 19____
day of

Bevoedge Beampte/Proper Officer.

Gesagvoerder/Master.

Adres/Address.

AFDELING A.—BESONDERHEDE VAN RADIOTELEFOONOPERATEURS.
SECTION A.—PARTICULARS OF RADIOTELEPHONE OPERATORS.

Naam. Name.	Huisadres. Home Address.	Sertifikaatno. en klas. Certificate No. and Class.

S.S._____

M.V._____

AFDELING B.—DAGBOEK VAN DIE RADIOTELEFOONDIENS.
SECTION B.—DIARY OF THE RADIOTELEPHONE SERVICE.

Datum en tyd (M.G.T.) Date and Time (G.M.T.)	Stasie waarvandaan Station From	Stasie waarheen Station To	Frekwensie gebruik Frequency Used	Werkrekord, soos voorgeskryf in regulasie Record of Working, as prescribed by Regulation

TIENDE BYLAE.
Regulasie 36.

RIGTINGSOEKER.

1. *Algemeen.*

Die rigtingsoeker moet 'n ontvanger en 'n lusantennestelsel insluit. Vir die toepassing van hierdie Bylae [uitgesonderd paragraaf 10 (2) hiervan] moet 'n goniometer wat deel uitmaak van die rigtingsoeker as deel van die lusantennestelsel beskou word. Die lusantennestelsel, behalwe koeëllaers, slangklemme, klemskroewe en ander dergelike klein dele, moet uit nie-magnetiese materiaal bestaan.

2. *Vermoë.*

Die rigtingsoeker moet koptelefoonontvangs kan gee van golwe van tipe A1, tipe A2 en tipe B van enige frekwensie binne die gebied 255 Khz. tot 525 Khz. ten einde dit moontlik te maak om die radiopeiling en oording van die sein te bepaal deur verwysing na die minimum sterkte daarvan.

TENTH SCHEDULE.
Regulation 36.

DIRECTION-FINDER.

1. *General.*

The direction-finder shall include a receiver and a loop aerial system. For the purposes of this Schedule [except paragraph 10 (2) thereof] any goniometer forming part of the direction-finder shall be deemed to be part of the loop aerial system. The loop aerial system, other than ball bearings, hose clips, set screws and other similar small parts, shall consist of non-magnetic material.

2. *Capability.*

The direction-finder shall be capable of headphone reception of waves of type A1, type A2 and type B of any frequency within the range of 255 kc/s to 525 kc/s, so as to enable the radio bearing and sense of the signal to be determined by reference to the minimum strength thereof.

3. *Kontroles.*

Die ontvanger moet voorsien wees van—

(1) 'n radiofrekwensieversterkingskontrole;

(2) 'n instemmer;

(3) 'n instemskaal waarin op geen punt in die instemgebied 'n tussenruimte van $\frac{1}{8}$ duim ooreenstem met 'n frekwensieverandering van meer as 8 Khz. nie.

4. *Algemene toetsmetode.*

Die ontvanger moet voldoen aan die vereistes van ıragrawe 5 tot en met 12 en paragraaf 16 wanneer dit volg getoets word op enige frekwensie in die gebied 5 Khz. tot 525 Khz.:—

(1) Seine (in hierdie Bylae „plaaslik opgewerkte seine" genoem) moet van een of meer seinontwikkelaars af verkry word.

(2) Plaaslik opgewekte seine moet op so 'n wyse deur 'n net gevoer word dat die seinontwikkelaar of -ontwikkelaars, na gelang van die geval, en die net saam gelyk is aan 'n konstante spanningontwikkelaar in serie met 'n impedansie wat wesenlik gelyk is aan die impedansie van die lusantennestelsel by die toetsfrekwensie, wanneer—

(*a*) die lusantennestelsel gestel is vir die vasstelling van radiopeilings;

(*b*) die oordbepaler nie werk nie; en

(*c*) die impedansie gemeet word tussen die twee klemme waarmee die ontvanger gewoonlik verbind is.

(3) Die effektiewe hoogte (h_e) in meters van die lusantennestelsel moet die verhouding E/e wees, waar E die spanning is wat deur 'n vertikaal gepolariseerde veld van sterkte e volts per meter gegee word, wanneer—

(*a*) die lusantennestelsel gestel is vir die vasstelling van peilings en vir maksimum opvangs:

(*b*) die oordbepaler nie werk nie;

(*c*) die ontvanger nie met die lusantennestelsel verbind is nie; en

(*d*) die spanning gemeet word tussen die klemme van die lusantennestelsel waarmee die ontvanger gewoonlik verbind is.

(4) Die standaardinsetpeil moet die insetpeil wees wat verkry word wanneer die elektromotoriese krag van die ekwivalente seinontwikkelaar wat in subparagraaf (2) genoem word, 50 h_e effektiewe mikrovolts is.

(5) Die standaardleweringspeil moet 'n oudiofrekwensielewering van een milliwatt wees in 'n weerstand in wat wesentlik gelyk is aan die modulus van die impedansie van die telefoongehoorstukke by 1000 hz.

(6) Die sein/ruisverhouding van die rigtingsoeker moet vasgestel word òf deur—

(*a*) vertikaal gepolariseerde golwe te gebruik vir die uitsending van die insetsein, met die lusantennestelsel ingerig vir die vasstelling van peilings en gestel vir maksimum opvangs, maar sonder dat die oordbepaler werk, òf deur

(*b*) plaaslik opgewekte seine te gebruik wat op die ontvanger aangewend word slegs op die wyse in subparagraaf (2) gespesifiseer.

5. *Sein- en tussenfrekwensieselektiwiteit.*

Die seinfrekwensieselektiwiteit van die ontvanger of, in e geval van 'n superheterodineontvanger, die sein- en ıssenfrekwensieselektiwiteit, moet aan onderstaande verstes voldoen:—

(*a*) Die minimum bandbreedte vir 'n diskriminasie van 6 desibels moet 2 Khz. wees.

3. *Controls.*

The receiver shall be provided with—

(1) a radio-frequency gain control;

(2) a tuning control;

(3) a tuning scale in which, at no point in the tuning range, an interval of $\frac{1}{8}$-inch corresponds to a frequency change of more than 8 kc/s.

4. *General Method of Testing.*

The receiver shall comply with the requirements of paragraphs 5 to 12 inclusive, and 16 when tested in the following manner on any frequency within the range 255 kc/s to 525 kc/s:—

(1) Signals (in this Schedule referred to as "locally generated signals") shall be obtained from one or more signal generators.

(2) Locally generated signals shall be injected through a network in such manner that the signal generator or generators, as the case may be, and the network are together equivalent to a constant voltage generator in series with an impedance substantially equal to the impedance of the loop aerial system at the test frequency, when—

(*a*) the loop aerial system is adjusted for the determination of radio-bearings;

(*b*) the sense-finder is not in operation; and

(*c*) the impedance is measured between the two terminals to which the receiver is normally connected.

(3) The effective height (h_e) in metres of the loop aerial system shall be the ratio E/e, where E is the voltage produced by a vertically polarised field of strength e volts per metre, when—

(*a*) the loop aerial system is adjusted for the determination of bearings and for maximum pick-up;

(*b*) the sense-finder is not in operation;

(*c*) the receiver is not connected to the loop aerial system; and

(*d*) the voltage is measured between the terminals of the loop aerial system to which the receiver is normally connected.

(4) The standard input level shall be the input level obtained when the electromotive force of the equivalent signal generator referred to in subparagraph (2) is 50 h_e microvolts root mean square.

(5) The standard output level shall be an audio-frequency output of one milliwatt into a resistance substantially equal to the modulus of the impedance of the telephone receivers at 1,000 c/s.

(6) The signal-noise ratio of the direction-finder shall be determined either—

(*a*) by using vertically polarised waves for transmission of the input signal, and with the loop aerial system arranged for the determination of bearings and adjusted for maximum pick-up, but without the sense-finder in operation, or

(*b*) by using locally generated signals applied to the receiver only in the manner specified in subparagraph (2).

5. *Signal and Intermediate Frequency Selectivity.*

The signal frequency selectivity of the receiver, or in the case of a superheterodyne receiver the signal and intermediate frequency selectivity shall satisfy the following requirements:—

(*a*) The minimum bandwidth for 6 decibels discrimination shall be 2 kc/s.

(*b*) Die maksimum bandbreedte in verhouding tot diskriminasie moet as volg wees:—

Diskriminasie.	30 desibels.	60 desibels.	90 desibels.
Bandbreedte.....	8 Khz.	16 Khz.	35 Khz.

By enige frekwensie buite die bandbreedte 35 Khz. wat in (*b*) gespesifiseer word, mag die diskriminasie nie minder as 90 desibels wees nie, behalwe in die geval van superheterodineontvangers, waar die diskriminasie by die beeldfrekwensie nie minder as 80 desibels mag wees nie.

6. *Versterking.*

Wanneer—

(*a*) die insetklemme van die ontvanger gesluit is slegs deur 'n uitwendige impedansie wat wesenlik gelyk is aan dié van die lusantennestelsel by die toetsfrekwensie,

(*b*) die oordbepaler nie werk nie, en

(*c*) impedansie gemeet word tussen die twee klemme van die lusantennestelsel waarmee die ontvanger gewoonlik verbind is,

moet die versterking van die ontvanger sodanig wees dat ontvangerruis 'n leweringspeil kan gee van minus 10 desibels met betrekking tot die standaardleweringspeil by enige frekwensie binne die frekwensiegebied in paragraaf 2 gespesifiseer.

7. *Sein/ruisverhouding.*

(1) Wanneer—

(*a*) die toonfilter (as daar een is) uitgeskakel word,

(*b*) 'n A1-sein op die standaardinsetpeil ingevoer word, en

(*c*) die ontvangerversterking met die hand gestel word om die standaardleweringspeil te gee,

moet die sein/ruisverhouding nie minder as 20 desibels wees nie.

(2) Wanneer—

(*a*) die toonfilter (as daar een is) uitgeskakel word,

(*b*) 'n A2-sein wat tot 'n diepte van 30 persent gemoduleer is, met 'n toonfrekwensie van 400 hz., op die standaardinsetpeil ingevoer word, en

(*c*) die ontvangerversterking met die hand gestel word om die standaardleweringspeil te gee,

moet die sein/ruisverhouding nie minder as 10 desibels wees nie.

(3) Vir die toepassing van hierdie paragraaf moet parasietfluit as ruis beskou word.

8. *Blokkering.*

Die verandering in die lewering van die ontvanger mag hoogstens 3 desibels wees by enige frekwensie in die frekwensiegebied in paragraaf 2 gespesifiseer, en op alle peile van gewenste sein tot en met 50 desibels bo die standaardinsetpeil, hetsy van tipe A1 of tipe A2, wanneer plaaslik opgewekte seine van tipe A1 of tipe A2 op 'n peil van 40 desibels bo die peil van die gewenste sein en 10 Khz. van die draaggolf van die gewenste sein af gespasieer, aangewend word.

9. *Intermodulasie.*

Die insetpeil van elkeen van twee ongewenste seine moet nie minder wees nie as plus 75 desibels met betrekking tot die standaardinsetpeil wanneer—

(*a*) die ontvanger gestel is om 'n standaardleweringspeil te gee met 'n plaaslik opgewekte gewenste sein van standaardinsetpeil gemoduleer tot 'n diepte van 30 persent, met 'n toonfrekwensie van 400 hz. by enige frekwensie in die frekwensiegebied in paragraaf 2 gespesifiseer;

(*b*) die gewenste insetsein verwyder is; en

(*b*) The maximum bandwidth in relation to discrimination shall be as follows:—

Discrimination.	30 decibels.	60 decibels.	90 decibels.
Bandwidth.....	8 kc/s	16 kc/s	35 kc/s

At any frequency outside the bandwidth of 35 kc/s specified in (*b*) the discrimination shall not be less than 90 decibels except in the case of superheterodyne receivers, where at the image frequency the discrimination shall not be less than 80 decibels.

6. *Gain.*

When—

(*a*) the input terminals of the receiver are closed solely through an external impedance substantially equal to that of the loop aerial system at the test frequency;

(*b*) the sense-finder is not in operation; and

(*c*) impedance is measured between the two terminals of the loop aerial system to which the receiver is normally connected,

the gain of the receiver shall be such that receiver noise can produce an output level of minus 10 decibles relative to the standard output level at any frequency within the range of frequencies specified in paragraph 2.

7. *Signal/Noise Ratio.*

(1) When—

(*a*) the note filter (if any) is switched out of circuit;

(*b*) a type A1 signal is injected at the standard input level; and

(*c*) the receiver gain is manually adjusted to give the standard output level,

the signal/noise ratio shall not be less than 20 decibels.

(2) When—

(*a*) the note filter (if any) is switched out of circuit;

(*b*) a type A2 signal modulated to a depth of 30 per cent with a note frequency of 400 c/s is injected at the standard input level; and

(*c*) the receiver gain is manually adjusted to give the standard output level,

the signal/noise ratio shall not be less than 10 decibels.

(3) For the purposes of this paragraph spurious whistles shall be regarded as noise.

8. *Blocking.*

The change in output of the receiver shall not exceed 3 decibels at any frequency within the range of frequencies specified in paragraph 2, and at all levels of wanted signal up to 50 decibels above the standard input level, whether of type A1 or type A2, when locally generated signals of type A1 or type A2 at a level of 40 decibels above the level of the wanted signal and spaced 10 k/s from the carrier of the wanted signal are applied.

9. *Intermodulation.*

The input level of each of two unwanted signals shall not be less than plus 75 decibels relative to the standard input level when—

(*a*) the receiver is adjusted to give standard output level with a locally generated wanted signal of standard input level modulated to a depth of 30 per cent, with a note frequency of 400 c/s at any frequency within the range of frequencies specified in paragraph 2;

(*b*) the input wanted signal has been removed; and

(*c*) twee ongewenste plaaslik opgewekte seine, elk van enige frekwensie wat nie minder as 50 Khz. van die frekwensie van die gewenste sein af is nie, maar waarvan die frekwensiesom of die frekwensieverskil aan die frekwensie van die gewenste sein gelyk is; een sein word gemoduleer tot 'n diepte van 30 persent met 'n toonfrekwensie van 400 hz. en die ander sein bly ongemoduleer en die twee seine word gelyktydig op gelyke insetpeile aangewend ten einde 'n leweringspeil te gee wat gelyk is aan dié wat vantevore met die gewenste sein verkry is.

10. *Uitstraling.*

(1) Die rigtingsoeker moet in gewone diens 'n veld van nie meer as 0·1 mikrovolt per meter gee wanneer dit op 'n afstand van een myl van die ontvanger af gemeet word nie.

(2) Die ontvanger, met inbegrip van die goniometer, as daar een is, word geag aan die vereiste van subparagraaf (1) te voldoen indien, wanneer—

(*a*) die ontvanger sonder die antennestelsel in die middel van 'n afgeskermde geaarde hok geplaas word wat ses voet in die kubiek groot is,

(*b*) die aardklem met die binnekant van die skerm verbind word,

(*c*) elke antenneklem beurtelings deur 'n onafgeskermde reghoekige vierwindingsoekspoel wat in genoemde hok aangebring is en een voet in die vierkant groot is, en 'n onafgeskermde leiding met 'n weerstandsmeetinstrument verbind word wat buite die hok gemonteer is, met sy ander klem geaard;

(*d*) die antenneklem of -klemme van die ontvanger, behalwe die klem wat met voornoemde meetinstrument verbind is, een op 'n keer of in enige kombinasie geaard word of ongeaard bly of in enige kombinasie onderling verbind word; en

(*e*) die ontvanger bekrag en 'n onafgeskermde koptelefoon daarmee verbind word,

die krag deur genoemde meetinstrument gemeet wanneer dit op dié wyse verbind word wat in (*c*) van hierdie subparagraaf gespesifiseer word, nie 4×10^{-10} watt te bowe gaan nie, ongeag die weerstand van die meetinstrument of die instelling van die ontvanger, al word die soekspoel kortgesluit of op enige manier beweeg, mits dit nie nader as 6 duim aan die ontvangerkas kom nie.

11. *Instemmingsdwaling en -stabiliteit.*

(1) Nadat die ontvanger 5 minute lank aangeskakel is en op enige frekwensie binne die frekwensiegebied in paragraaf 2 gespesifiseer, ingestem word, moet die instemfrekwensie nie met meer as een deel in een duisend verander in enige tydperk van vyf minute nie;

(2) 'n Verandering van 5 persent in enigeen van die toevoerspannings na die ontvanger of na 'n krageenheid wat daaraan verbonde is, moet nie die instemfrekwensie met meer as drie dele in een duisend laat verander nie.

(3) 'n Verandering in omgewingstemperatuur van 5° C. in die gebied 0° C. tot 50° C., aangewend nadat die ontvanger een uur lank aangeskakel is, moet nie die instemfrekwensie met meer as een in een duisend laat verander nie.

12. *Heterodinetoonstabiliteit.*

Die heterodinetoonstabiliteit van die ontvanger moet sodanig wees dat—

(1) die frekwensie van 'n heterodinetoon wat aanvanklik een kilohertz is, met nie meer as 100 hz. verander wanneer 'n insetsein oor die peilgebied 0 tot 60 desibels bo die standaardinset verhoog word nie; en

(2) by alle insetpeile in die gebied gespesifiseer in subparagraaf (1) 'n swewingstoon van 200 hz. verkry kan word deur òf na óf weg van nulswewingstoon in te stem.

(*c*) two unwanted locally generated signals each of any frequency which is not less than 50 kc/s from the frequency of the wanted signal but whose frequency sum or frequency difference is equal to the frequency of the wanted signal, one signal being modulated to a depth of 30 per cent with a note frequency of 400 c/s and the other signal being unmodulated, are simultaneously applied at equal input levels so as to give an output equal to that previously obtained with the wanted signal.

10. *Radiation.*

(1) The direction-finder shall not in normal service produce a field exceeding 0·1 microvolt per metre when measured at a distance of one mile from the receiver.

(2) The receiver, including the goniometer, if any, shall be deemed to comply with the requirement of sub-paragraph (1) if, when—

(*a*) the receiver without the aerial system is placed centrally in a screened earthed enclosure of dimensions at least six feet cube;

(*b*) the earth terminal is connected to the inside of the screen;

(*c*) each aerial terminal in turn is connected through an unscreened four-turn rectangular search coil situated within the said enclosure and of dimensions one foot square and an unscreened lead to a resistive measuring instrument mounted outside the enclosure, having its other terminal earthed;

(*d*) the aerial terminal or terminals of the receiver, other than the terminal connected to the aforesaid measuring instrument, are earthed one at a time or in any combination or remain unearthed or are interconnected in any combination; and

(*e*) the receiver is energised and unscreened headphones are connected thereto,

the power measured by the said measuring instrument when connected in the manner specified in (*c*) of this subparagraph, does not exceed 4×10^{-10} watts whatever the resistance of the measuring instrument or the adjustment of the receiver, notwithstanding that the search coil be short-circuited or moved in any way provided that it does not approach within 6 inches of the receiver case.

11. *Tuning Drift and Stability.*

(1) After the receiver has been switched on for 5 minutes and tuned to any frequency within the frequency range specified in paragraph 2 the tune frequency shall not change by more than one part in one thousand in any period of 5 minutes.

(2) A change of 5 per cent in any one of the supply voltages to the receiver, or to a power unit associated therewith, shall not cause the tune frequency to change by more than three parts in ten thousand; and

(3) A change of ambient temperature of 5° C. within the range of 0° C. to 50° C. applied after the receiver has been switched on for one hour shall not cause the tune frequency to change by more than one in one thousand.

12. *Heterodyne Note Stability.*

The heterodyne note stability of the receiver shall be such that—

(1) the frequency of a heterodyne note which is initially one kilocycle per second shall not vary by more than 100 c/s when an input signal is increased over the range of levels from 0 to 60 decibels above the standard input; and

(2) at all input levels within the range specified in subparagraph (1) a beat note of 200 c/s can be obtained by tuning either towards or away from zero beat.

13. *Akkuraatheid van peilings.*

Wanneer die rigtingsoeker getoets word met gebruikmaking van A2-golwe gemoduleer tot 'n diepte van 80 persent tot 100 persent en met 'n vertikaal gepolariseerde veld wat 'n peil van 40 desibels het met betrekking tot een mikrovolt per meter, moet die peilings wat die skaal van die rigtingsoeker aantoon by alle frekwensies in die frekwensiesgebied in paragraaf 2 gespesifiseer dwarsdeur die hele 360 grade van asimut, en nadat behoorlik toegelaat is vir terreinfoute, korrek wees binne plus of minus een graad van die ware peiling af.

14. *Kwaliteit van minimums.*

Wanneer die rigtingsoeker vir die neem van peilings ingestel is en onder die omstandighede getoets word wat in paragraaf 13 gespesifiseer word, maar met 'n veldsterkte genoeg om 'n sein/ruisverhouding van minstens 50 desibels te gee met die lusantennestelsel vir maksimum lewering gestel, moet veranderings in die instelling van die peilingaanwyser van 5 grade en 90 grade in die een of die ander rigting van die minimumleweringstand of -stande af, by alle frekwensies in die frekwensiegebied in paragraaf 2 gespesifiseer, die oudiofrekwensielewering laat toeneem onderskeidelik met minstens 18 desibels en minstens 35 desibels.

15. *Doeltreffendheid van oordbepaler.*

Wanneer—

(*a*) die uitrusting vir die oordbepaling gestel is en onder die omstandighede getoets word wat in paragraaf 13 gespesifiseer word, maar met 'n veldsterkte genoeg om 'n sein/ruisverhouding van minstens 50 desibels te gee met die lusantennestelsel vir maksimum lewering gestel; en

(*b*) die oordaanwyser gestel is om enige peiling binne plus of minus 10 grade van die ware peiling aan te dui, moet die oudiofrekwensieleweringspeil van die ontvanger weens die gewenste sein minstens 20 desibels onder die leweringspeil wees wat verkry word wanneer die oordaanwyser gestel is om 'n peiling binne 180 ± 10 grade van die ware peiling aan te dui.

16. *Getrouheid.*

Die maksimum verandering in die peil van die lewering van die ontvanger moet minder as 8 desibels wees wanneer die modulasiefrekwensie van 'n insetsein van konstante peil en modulasiediepte deurlopend verander word van 300 hz. tot 1,500 hz. Vir die toepassing van hierdie paragraaf moet die lewering van die ontvanger nie die standaardleweringspeil oorskry nie en die insetsein moet aangewend word op enige peil in die gebied van die standaardinsetpeil af tot 50 desibels bokant dié peil.

ELFDE BYLAE.

Regulasie 37.

KLIMAATS- EN DUURSAAMHEIDSTOETSE.

1. In hierdie Bylae moet—

(1) verwysings na Klas B-uitrusting opgevat word as verwysings na elke deel van die rigtingsoeker, uitgesonderd die lusantennestelsel;

(2) verwysings na Klas X-uitrusting opgevat word as verwysings na die lusantennestelsel.

2. (1) Klas B-uitrusting moet aan die toetse onderwerp word wat teenoor die letter B genoem word in die tabel in subparagraaf (3) en Klas X-uitrusting moet aan die toetse onderwerp word wat teenoor die letter X in dié tabel genoem word; met dien verstande dat Klas X-uitrusting nie aan die indompelingstoets onderwerp moet word as dit aan die reëntoets onderwerp word by 'n statiese druk van minstens 45 of hoogstens 55 pond per vierkante duim nie.

(2) Al die toetse moet uitgevoer word in die volgorde waarin hulle in bogenoemde tabel voorkom.

13. *Accuracy of Bearings.*

When the direction-finder is tested using type A2 waves modulated to a depth of from 80 per cent to 100 per cent and with a vertically polarised field having a level of 40 decibels relative to one microvolt per metre, the bearings indicated by the scale of the direction-finder shall, at all frequencies in the range of frequencies specified in paragraph 2, throughout the whole 360 degrees of azimuth and after due allowance has been made for any site errors, be correct within plus or minus one degree of the true bearing.

14. *Quality of Minima.*

When the direction-finder is arranged for the taking of bearings and is tested under the conditions specified in paragraph 13, but with a field strength sufficient to give a signal/noise ratio of at least 50 decibels with the loop aerial system adjusted for maximum output, changes in the setting of the bearing indicator 5 degrees and 90 degrees in either direction from the position or positions of minimum output shall, at all frequencies in the range of frequencies specified in paragraph 2, cause the audio-frequency output to increase by not less than 18 decibels and not less than 35 decibels respectively.

15 *Efficiency of Sense-finder.*

When—

(*a*) the equipment is adjusted for the determination of sense, and is tested under the conditions specified in paragraph 13, but with a field strength sufficient to give a signal/noise ratio of at least 50 decibels with the loop aerial system adjusted for maximum output; and

(*b*) the sense indicator is adjusted to indicate any bearing within plus or minus 10 degrees of the true bearing,

the audio-frequency output level of the receiver due to the wanted signal shall be at least 20 decibels below the output level that is obtained when the sense indicator is adjusting to indicate any bearing within 180 ± 10 degrees of the true bearing.

16. *Fidelity.*

The maximum change in level of the output of the receiver shall be less than 8 decibels when the modulation frequency of an input signal of constant level and modulation depth is varied continuously from 300 c/s to 1,500 c/s. For the purposes of this paragraph the output of the receiver shall not exceed the standard output level and the input signal shall be applied at any level in the range from the standard input level to 50 decibels above that level.

ELEVENTH SCHEDULE.

Regulation 37.

CLIMATIC AND DURABILITY TESTS.

1. In this Schedule—

(1) references to Class B equipment shall be construed as references to each part of the direction-finder other than the loop aerial system;

(2) references to Class X equipment shall be construed as references to the loop aerial system.

2. (1) Class B equipment shall be subjected to the tests named opposite the letter B in the table given in sub-paragraph (3), and Class X equipment shall be subjected to the tests named opposite the letter X in that table. Provided that Class X equipment shall not be subjected to the Immersion Test if it is subjected to the Rain Test at a static pressure of not less than 45 or more than 55 pounds per square inch.

(2) All such tests shall be conducted in the order in which they appear in the aforesaid table.

(3) Te eniger tyd wanneer die uitrusting by die bepalings van paragraaf 3 vir die uitvoering van die toetse aan die werk gehou moet word, moet krag daaraan gevoer word onder die spanning waaronder die uitrusting bedoel is om te werk.

Aard van toets.	Klas uitrusting.
(1) Trillingstoets	BX.
(2) Stamptoets	BX.
(3) Droëhittetoets	BX.
(4) Klamhittetoets	BX.
(5) Laetemperatuurtoets	BX.
(6) Reëntoets	X.
(7) Indompelingstoets	X.
(8) Korrosietoets—soutwater	BX.
(9) Korrosietoets—suurdampe (as daar 'n battery in die uitrusting is)	BX.
(10) Skimmelgroeitoets	X.

3. Die toetse wat in paragraaf 2 genoem word, moet as volg uitgevoer word:—

(1) *Trillingstoets.*—Die uitrusting, volledig met sy onderstelbedekkings en skokbrekers (as daar is) moet in sy gewone werkstand aan 'n triltafel vasgeklamp word. Die tafel moet by alle frekwensies laat tril word, tussen 0 en 12½ hz. teen 'n amplitude van plus of minus 0·16 cm., en die uitrusting moet gedurende dié tyd onafgebroke aan die werk gehou word. Die tafel moet vir drie tydperke, elk agt minute lank, laat tril word. Dwarsdeur elke afsonderlike tydperk moet die rigting van die trillings loodreg op die rigting van die trillings gedurende die ander twee tydperke wees.

(2) *Stamptoets.*—Die uitrusting moet aan minstens 500 stampe onderwerp word teen 'n konstante tempo van tussen een en vier stampe per sekonde, met 'n vry val van minstens 2·5 cm.

(3) *Droëhittetoets.*

(*a*) Klas B-uitrusting moet in 'n kamer geplaas word waarvan die temperatuur twee uur lank konstant op 55° C., binne 'n toleransie van plus of minus 1° C., gehou word; gedurende dié tydperk moet die uitrusting onafgebroke aan die werk gehou word.

(*b*) Klas X-uitrusting moet in 'n kamer geplaas word waarvan die temperatuur tien uur lank konstant op 70° C., binne 'n toleransie van plus of minus 1° C., gehou word; gedurende dié tydperk moet die uitrusting nie werk of getoets word nie. Die kamer moet dan tot 'n konstante temperatuur van 55° C., binne 'n toleransie van plus of minus 1° C., afgekoel en die uitrusting twee uur lank by dié temperatuur aan die werk gehou word.

(4) *Klamhittetoets.*—Vir die klamhittetoets moet die uitrusting as volg voorberei word:—

(*a*) Die uitrusting moet in 'n kamer geplaas word wat binne hoogstens 2 uur van kamertemperatuur tot 40° C. verhit word en waarvan die relatiewe vogtigheid op minstens 95 persent gebring word.

(*b*) Die kamer moet 12 uur lank by 'n temperatuur van 40° C., binne 'n toleransie van plus of minus 1° C., gehou word en by 'n relatiewe vogtigheid van minstens 95 persent.

(*c*) by die begin van die laaste 60 minute van dié tydperk moet alle toeganklike oppervlakke en onderdele droog afgevee en alle waaiers of drooglampe wat in die uitrusting aangebring is, aangeskakel word. Nadat die waaiers of drooglampe 30 minute lank gewerk of gebrand het en terwyl die temperatuur van die kamer nog 40° C. is, met bogenoemde toleransie, moet die uitrusting getoets word.

(3) At any time when the equipment is required by the provisions of paragraph 3 to be kept working for the purposes of such tests, power shall be supplied thereto at the voltage at which such equipment is intended to be operated.

Nature of Test.	Class of Equipment.
(1) Vibration test	BX.
(2) Bump test	BX.
(3) Dry heat test	BX.
(4) Damp heat test	BX.
(5) Low temperature test	BX.
(6) Rain test	X.
(7) Immersion test	X.
(8) Corrosion test—salt water	BX.
(9) Corrosion test—acid fumes (if a battery is included in the equipment)	BX.
(10) Mould growth test	X.

3. The tests referred to in paragraph 2 shall be conducted respectively as follows:—

(1) *Vibration Test.*—The equipment, complete with its chassis covers and shock absorbers (if any) shall in its normal operating position be clamped to a vibration table. The table shall be vibrated at all frequencies, between 0 and 12½ cycles per second at an amplitude of plus or minus 0·16 cm., during which period the equipment shall be kept working continuously. The table shall be so vibrated for three periods each of which shall be of eight minutes duration. Throughout each such period the direction of the vibrations shall be perpendicular to the direction of the vibrations during the other two periods.

(2) *Bump Test.*—The equipment shall be subjected to not less than 500 bumps at a constant rate of between one and four bumps per second with a free drop of at least 2·5 cm.

(3) *Dry Heat Test.*

(*a*) Class B equipment shall be placed in a chamber which is maintained for a period of two hours at a constant temperature of 55° C. within a tolerance of plus or minus 1° C., during which period the equipment shall be kept working continuously.

(*b*) Class X equipment shall be placed in a chamber which is maintained for a period of ten hours at a constant temperature of 70° C. within a tolerance of plus or minus 1° C., during which period the equipment shall not be worked or tested. The said chamber shall then be cooled to a constant temperature of 55° C. within a tolerance of plus or minus 1° C. and the equipment shall be kept working continuously at that temperature for a period of two hours.

(4) *Damp Heat Test.*—The equipment shall be prepared for the damp heat test in the following manner:—

(*a*) The equipment shall be placed in a chamber which within a period not exceeding two hours shall be heated from room temperature to 40° C., and shall be brought to a relative humidity of not less than 95 per cent.

(*b*) The chamber shall be kept at a temperature of 40° C. within a tolerance of plus or minus 1° C. for a period of 12 hours, and at a relative humidity of not less than 95 per cent.

(*c*) At the beginning of the last 60 minutes of such period, all accessible surfaces and components shall be wiped dry and any fans or drying lamps provided in the equipment shall be switched on. After the fans or drying lamps have been in operation for 30 minutes and while the temperature of the chamber is still 40° C., subject to the aforesaid tolerance, the equipment shall be tested.

Nadat die uitrusting getoets is, moet die temperatuur van die kamer tot 25° C. laat daal word vir die laetemperatuurtoets; die uitrusting bly in die kamer.

(5) *Laetemperatuurtoets.*

(*a*) Klas B-uitrusting moet minstens twaalf uur lank aan 'n temperatuur van minus 15° C. by normale lugdruk blootgestel word.

(*b*) Klas X-uitrusting moet minstens twaalf uur lank aan 'n temperatuur van minus 25° C. by normale lugdruk blootgestel word.

(6) *Reëntoets.*—Die uitrusting moet in 'n kamer geplaas word waarin agt spuitkoppe aangebring is. Die spuitent van elke spuitkop moet bestaan uit 'n plat, roesvry metaalplaat, 0·16 cm. dik, met seseen-dertig gaatjies daarin wat elkeen 'n middellyn van 0·1 cm. het en ewe ver van mekaar as volg in konsentriese sirkels gespasieer is:—

16 gaatjies op die omtreklyn van 'n sirkel met 'n middellyn van 5·1 cm.

8 gaatjies op die omtreklyn van 'n sirkel met 'n middellyn van 3·8 cm.

8 gaatjies op die omtreklyn van 'n sirkel met 'n middellyn van 2·5 cm.

4 gaatjies op die omtreklyn van 'n sirkel met 'n middellyn van 1·3 cm.

Genoemde spuitkoppe moet op 'n afstand van minstens 50 cm. en hoogstens 80 cm. van die uitrusting af aangebring word op so 'n wyse dat die water uit vier van die spuitkoppe onder 'n hoek van 45° op elkeen van die vier boonste hoeke van die uitrusting en die water uit die ander vier spuitkoppe horisontaal op die middelpunt van elkeen van die vier syvlakke van die uitrusting spuit. Vars water by kamertemperatuur en onder 'n statiese druk ooreenkomstig onderstaande tabel moet 'n uur lank uit genoemde spuitkoppe op die uitrusting gespuit word met die uitrusting in die stand waarin dit gewoonlik werk:—

	Minimum druk (pond per vierkante duim).	Maksimum druk (pond per vierkante duim).
As die uitrusting aan die indompelingstoets onderwerp word	15	25
As die uitrusting nie aan die indompelingstoets onderwerp word nie	45	55

Dwarsdeur die toets moet die uitrusting teen tussen 12 en 20 omwentelings per minuut om 'n vertikale as gedraai word wat deur die middel van die uitrusting loop.

(7) *Indompelingstoets.*—In die toestand waarin dit gewoonlik aan boord van die skip gehou sal word, moet die uitrusting in water ingedompel word waarvan die oppervlak minstens 10 cm. bokant die hoogste punt van die uitrusting is, en een uur lank so ingedompel bly. Wanneer dit uitgehaal word, moet al die water uit die uitrusting gedreineer word.

(8) *Korrosietoets (soutwater).*—Die uitrusting moet in 'n kamer geplaas word waarin apparaat aangebring is wat òf natuurlike seewater òf kraanwater waarin ondergenoemde soute opgelos is, in die vorm van 'n fyn mis kan spuit:—

	Persent
Natriumchloried	2·7
Magnesiumhcloried	0·6
Kalsiumchloried	0·1
Kaliumchloried	0·07

Vir die hoeveelheid van elke sout word 'n toleransie van plus of minus 10 persent toegelaat.

Die spuitapparaat moet sodanig wees dat die korrosieprodukte nie met die seewater of die oplossing in die spuitbak kan meng nie. Die uitrusting moet een uur lank gelyktydig op al sy buitevlakke

After the equipment has been tested, the temperature of the chamber shall, in preparation for the low temperature test, be allowed to fall below 25° C., the equipment remaining in the chamber.

(5) *Low Temperature Test.*

(*a*) Class B equipment shall be exposed to a temperature of minus 15° C. at normal atmospheric pressure for a period of not less than twelve hours.

(*b*) Class X equipment shall be exposed to a temperature of minus 25° C. at normal atmospheric pressure for a period of not less than twelve hours.

(6) *Rain Test.*—The equipment shall be placed in a chamber fitted with eight shower heads, the discharge end of each of which shall consist of a flat, non-rustable metal plate, 0·16 cm. thick, having thirty-six holes each of 0·1 cm. diameter evenly spaced in concentric circles in the following manner:—

16 holes on the periphery of a circle of 5·1 cm. diameter.

8 holes on the periphery of a circle of 3·8 cm. diameter.

8 holes on the periphery of a circle of 2·5 cm. diameter.

4 holes on the periphery of a circle of 1·3 cm. diameter.

The said shower heads shall be arranged at a distance of not less than 50 cm. and not more than 80 cm. from the equipment in such a manner that spray from four of such shower heads is directed downwards at an angle of 45° at each of the four uppermost corners of the equipment, and the spray from the other four shower heads is directed horizontally at the centre of each area of the four sides of the equipment. Fresh water at room temperature and at a static pressure in accordance with the following table shall be sprayed on the equipment from the aforesaid shower heads for a period of one hour with the equipment in the position in which it is normally operated:—

	Minimum pressure (pounds per square inch).	Maximum pressure (pounds per square inch).
If the equipment is subjected to the immersion test	15	25
If the equipment is not subjected to the immersion test	45	55

Throughout the test the equipment shall be rotated at between 12 and 20 revolutions per minute about a vertical axis passing through the centre of the equipment.

(7) *Immersion Test.*—The equipment in the condition in which it will normally be kept on board ship shall be immersed in water the surface of which is at least 10 cm. above the highest point of the equipment, and shall remain for a period of one hour. Upon its removal from the water the equipment shall be drained of water.

(8) *Corrosion Test (Salt Water).*—The equipment shall be placed in a chamber fitted with apparatus capable of spraying in the form of a fine mist either natural sea water, or tap water containing the following salts in solution:—

	Per cent.
Sodium Chloride	2·7
Magnesium Chloride	0·6
Calcium Chloride	0·1
Potassium Chloride	0·07

The quantity of each salt shall be subject to a tolerance of plus or minus 10 per cent.

Such spraying apparatus shall be such that the products of corrosion cannot mix with the sea water or solution contained in the spray reservoir. The equipment shall be sprayed simultaneously on

met die seewater of oplossing bespuit word en gedurende die laaste dertig minute van die tydperk onafgebroke aan die werk gehou word. Onmiddellik daarna moet die uitrusting sewe dae lank by 'n temperatuur van 40° C., binne 'n toleransie van plus of minus 1° C., en 'n relatiewe vogtigheid van minstens 60 persent en hoogstens 80 persent weggebêre word. Die uitrusting moet so bespuit en gebêre word by vier afsonderlike geleenthede.

(9) *Korrosietoets (suurdampe).*—As daar 'n battery in die uitrusting is, moet dit vol gelaai en dan in die uitrusting aangebring word. As die uitrusting so ingerig is dat die battery gelaai kan word sonder om dit uit die uitrusting te haal, moet vier-en-twintig uur lank met die laai van die battery, teen die maksimum tempo wat daarvoor geskik is, voortgegaan word. Die uitrusting moet onmiddellik daarna vier weke lank weggebêre word by 'n temperatuur van 40° C., binne 'n toleransie van plus of minus 1° C., en 'n relatiewe vogtigheid van minstens 60 persent en hoogstens 80 persent.

(10) *Skimmelgroeitoets.*—Die uitrusting moet geënt word deur dit te bespuit met 'n watersuspensie van skimmelspore wat al die kulture in kolom A of al die kulture in kolom B van die volgende tabel bevat:—

A

Aspergillus niger;
Aspergillus amstelodami;
Paecilomyces varioti;
Stachybotrys atra;
Penicillium brevi-compactum;
Penicillium cyclopium;
Chaetomium globosum.

B

Aspergillus niger;
Aspergillus amstelodami;
Aspergillus versicolor;
Stachybotrys atra;
Penicillium brevi-compactum;
Cladosporum herbasum.

Onmiddellik nadat dit so bespuit is, moet die uitrusting in 'n kamer geplaas word waarvan die temperatuur op enige vaste waarde tussen 31° C. en 33° C., albei grade inbegrepe, gehou word en wat binne 'n toleransie van plus of minus 1° C. beheer word, by 'n relatiewe vogtigheid van minstens 95 persent. Die uitrusting moet agt-en-twintig dae lank in genoemde kamer bly.

TWAALFDE BYLAE.
Regulasie 46 (*c*).

SERTIFIKAAT VAN YKING VAN RIGTINGSOEKER.

Ons, die ondergetekendes, sertifiseer hierby dat ons vandag—

(*a*) die rigtingsoeker geïnstalleer in

s.s. ..... m.b.

geyk het ooreenkomstig Deel II (wat handel oor rigtingsoekers) van die Radioregulasies, 19.....;

(*b*) aan die gesagvoerder van genoemde skip ykkorreksietabelle gegee het;

(*c*) genoemde rigtingsoeker so gestel het dat die aflesings daarmee geneem, wanneer gekorrigeer met die tabelle, van die juiste peilings verskil het met nie meer as plus of minus twee grade nie.

Voorts sertifiseer ons hierby dat aan die gesagvoerder van genoemde skip 'n lys of diagram verstrek is waarin die toestand en posisie, ten tyde van die yking, van die antennes en van alle beweegbare strukture aan boord van die skip wat die akkuraatheid van die rigtingsoeker mag beïnvloed, aangetoon word.

..... Radiowaarnemer.
..... Optiese Waarnemer.
..... Datum.

all its external surfaces with the sea water or solution for a period of one hour and shall be kept working continuously for the last thirty minutes thereof. The equipment shall immediately thereafter be stored for a period of seven days at a temperature of 40° C. within a tolerance of plus or minus 1° C. at a relative humidity of not less than 60 per cent and not more than 80 per cent. The equipment shall be sprayed and stored as aforesaid on four separate occasions.

(9) *Corrosion Test (Acid Fumes).*—Any battery included in the equipment shall be fully charged and shall then be fitted into the equipment. If the arrangements are such that the battery can be charged without being removed from the equipment, the battery shall continue to be charged at the maximum rate appropriate to it for a period of twenty-four hours. The equipment shall immediately thereafter be stored for a period of four weeks at a temperature of 40° C. within a tolerance of plus or minus 1° C. at a relative humidity of not less than 60 per cent and not more than 80 per cent.

(10) *Mould Growth Test.*—The equipment shall be inoculated by spraying with an aqueous suspension of mould spores containing all the cultures named in Column A or all the cultures named in column B of the following table:—

A

Aspergillus niger;
Aspergillus amstelodami;
Paecilomyces varioti;
Stachybotrys atra;
Penicillium brevi-compactum;
Penicillium cyclopium;
Chaetomium globosum.

B

Aspergillus niger;
Aspergillus amstelodami;
Aspergillus versicolor;
Stachybotrys atra;
Penicillium brevi-compactum;
Cladosporum herbasum.

Immediately after it has been so sprayed the equipment shall be placed in a chamber, the temperature of which shall be maintained at any fixed value within the range 31° C. to 33° C. inclusive and controlled to within a tolerance of plus or minus 1° C. at a relative humidity of not less than 95 per cent. The equipment shall remain in the said chamber for a period of twenty-eight days.

TWELFTH SCHEDULE.
Regulation 46 (*c*).

CERTIFICATE OF CALIBRATION OF DIRECTION-FINDER.

We, the undersigned, hereby certify that we have this day—

(*a*) calibrated in accordance with Part II (which Part deals with direction-finders) of the Radio Regulations 19..... the direction-finder installed in the

s.s. .....;
m.v.

(*b*) handed to the Master of that ship tables of calibration corrections;

(*c*) adjusted the said direction-finder so that the readings taken thereby, when corrected with such tables differed from the correct bearings by no more than plus or minus two degrees.

We hereby further certify that the Master of the said ship has been furnished with a list or diagram indicating the conditions and position, at the time of such calibration, of the aerials and of all moveable structures on board the ship which might affect the accuracy of the direction-finder.

..... Radio Observer.
..... Visual Observer.
..... Date.

DERTIENDE BYLAE.
Regulasie 46 (*d*).

REGISTER VAN KONTROLEPEILINGS DEUR MIDDEL VAN RIGTINGSOEKER GENEEM.

(1) Volgnommer van peilings.....
(2) Datum.....
(3) Tye (M.G.T.).....
(4) Breedtegraad } Skip se posisie by benadering....
(5) Lengtegraad }
(6) Afstand van sender af.....
(7) Rigtingspeiling van (naam).....
(8) Relatiewe rigtingspeiling met korreksie vir kwadrantsfout
(9) Boegrigting volgens kompas 0/360°.....
(10) Totale kompasfout.....
(11) ½ konvergensie toegepas.....
(12) Boegrigting gekorrigeer (ware).....
(13) Ware peiling volgens rigtingsoeker [item (8) en item (12)]
(14) Ware peiling volgens berekening of volgens optiese kontrole (meld of bereken dan wel opties)
(15) Korreksie nodig om item (13) aan item (14) gelyk te maak (meld of − dan wel +)
(16) Handtekening(s) van waarnemer(s).....

No. 2032 (Unie).] [11 Desember 1959.

MARINE-AFDELING.

REGULASIES IN VERBAND MET DIE VEILIGHEID VAN DIE NAVIGASIE.

Dit het die Minister van Vervoer behaag om, kragtens die bepalings van artikel *driehonderd ses-en-vyftig* van die Handelskeepvaartwet, 1951 (Wet No. 57 van 1951), die volgende regulasies* uit te vaardig.

INHOUD.

* Hierdie regulasies tree in werking op die datum waarop Wet No. 57 van 1951 in werking tree. Die datum sal deur proklamasie in die *Staatskoerant* bekendgemaak word.

THIRTEENTH SCHEDULE.
Regulation 46 (*d*).

RECORD OF CHECK-BEARINGS TAKEN BY MEANS OF THE DIRECTION-FINDER.

(1) Serial Number of Bearings.....
(2) Date.....
(3) Times (G.M.T.).....
(4) Latitude } Ship's Approximate Position.....
(5) Longitude }
(6) Distance from Transmitter.....
(7) Direction-Finder Bearing of (Name).....
(8) Direction-Finder relative Bearing corrected for Quadrantal Error
(9) Ship's Head by Compass 0/360°.....
(10) Total Compass Error.....
(11) ½ Convergency Applied.....
(12) Ship's Head Corrected (True).....
(13) True Bearing by Direction-Finder [item (8) and item (12)]
(14) True Bearing by Calculation or by Visual Check (whether calculated or Visual to be indicated)
(15) Correction required to make item (13) equal item (14) (indicating whether − or +)
(16) Signature(s) of Observer or Observers.....

No. 2032 (Union).] [11 December 1959.

MARINE DIVISION.

REGULATIONS GOVERNING SAFETY OF NAVIGATION.

The Minister of Transport has been pleased, under the provisions of section *three hundred and fifty-six* of the Merchant Shipping Act, 1951 (Act No. 57 of 1951), to make the following regulations*.

CONTENTS.

* These regulations will come into operation on the date on which Act No. 57 of 1951 comes into operation. The date will be notified by proclamation in the *Gazette*.

HOOFSTUK VI.—NOODSEINE.

20. Toepassing van Hoofstuk VI.
21. Noodseine.
22. Gebruik van noodseine.

HOOFSTUK VII.—REDDINGSEINE.

23. Toepassing van Hoofstuk VII.
24. Reddingseine.

HOOFSTUK VIII.—BOOT- EN BRANDWEER-OEFENINGE EN INSPEKSIE VAN REDDINGS-UITRUSTING.

25. Toepassing van Hoofstuk VIII.
26. Monsterrol en noodseine.
27. Monsterposte vir passasiers.
28. Oefening en inspeksie.
29. Draagbare radiotoestel vir reddingsboot, wanneer aan boord.

HOOFSTUK IX.—VERVOER VAN GEVAARLIKE GOEDERE.

30. Toepassing van Hoofstuk IX.
31. Uitsonderinge.
32. Beskrywing en klassifikasie van gevaarlike goedere.
33. Lys van gevaarlike goedere.
34. Merk van gevaarlike goedere.
35. Verpakking en vervoer van goedere in massa.
36. Stuwing.
37. Vervoer van gevaarlike goedere in passasierskepe.
38. Vervoer van brandbare vloeistowwe.
39. Vervoer van stowwe wat in staat is tot self-ontbranding.
40. Publikasies in verband met die vervoer van gevaarlike goedere in skepe.

HOOFSTUK X.—VERVOER VAN GRAAN.

41. Toepassing van Hoofstuk X.
42. Voorsorgsmaatreëls om te verhoed dat graan verskuif.
43. Inspeksie.
44. Uitreiking van sertifikaat.

HOOFSTUK XI.—HOUTVRAGREGULASIES.

45. Toepassing van Hoofstuk XI.
46. Dekopeninge wat deur dekvragte hout bedek word.
47. Stuwing.
48. Toegang tot die akkommodasie vir die bemanning en die masjienruime, beskerming van die bemanning, ens.
49. Dekstuurinrigting.
50. Sjorrings.
51. Stutte.
52. Addisionele voorsorgsmaatreëls vir skepe wat houtvaartlaslyne gebruik.
53. Stuwing (sien regulasie 52).
54. Sjorrings (sien regulasie 52).
55. Middele om stutte vas te maak (sien regulasie 52).
56. Uitreiking van sertifikaat.

HOOFSTUK XII.—GEVARE VIR DIE SKEEPVAART.

57. Toepassing van Hoofstuk XII.
58. Gevare moet aangemeld word.
59. Aard van inligting wat verstrek moet word.

CHAPTER VI.—DISTRESS SIGNALS.

20. Application of Chapter VI.
21. Distress signals.
22. Use of distress signals.

CHAPTER VII.—LIFE-SAVING SIGNALS.

23. Application of Chapter VII.
24. Life-saving signals.

CHAPTER VIII.—BOAT AND FIRE DRILLS AND INSPECTION OF LIFE-SAVING EQUIPMENT.

25. Application of Chapter VIII.
26. Muster list and emergency signals.
27. Assembly stations for passengers.
28. Training and inspection.
29. Lifeboat portable radio apparatus, when carried.

CHAPTER IX.—CARRIAGE OF DANGEROUS GOODS.

30. Application of Chapter IX.
31. Exceptions.
32. Description and classification of dangerous goods.
33. List of dangerous goods.
34. Marking of dangerous goods.
35. Packing and carriage in bulk.
36. Stowage.
37. Carriage of dangerous goods in passenger ships.
38. Carriage of inflammable liquids.
39. Carriage of substances liable to spontaneous combustion.
40 Publications covering the carriage of dangerous goods in ships.

CHAPTER X.—CARRIAGE OF GRAIN.

41. Application of Chapter X.
42. Precautions to prevent grain from shifting.
43. Inspection.
44. Issue of certificate.

CHAPTER XI.—TIMBER CARGO REGULATIONS.

45. Application of Chapter XI.
46. Deck openings covered by timber deck cargo.
47. Stowage.
48. Access to crew accommodation and machinery spaces; protection of crew, etc.
49. Deck steering gear.
50. Lashings.
51. Uprights.
52. Additional precautions applying to ships using timber load lines.
53. Stowage (see regulation 52).
54. Lashings (see regulation 52).
55. Means for securing uprights (see regulation 52).
56. Issue of certificate.

CHAPTER XII.—DANGERS TO NAVIGATION.

57. Application of Chapter XII.
58. Dangers to be reported.
59. Nature of information to be furnished.

HOOFSTUK XIII.—SKIPBREUKE, ONGELUKKE, BOTSINGS OF BESKADIGING MOET AANGEMELD WORD.

HOOFSTUK XIV.—DIEPLODINGTOESTELLE.

HOOFSTUK XV.—ANKERS, ANKERKETTINGS, TROSSE EN VERHAALTOUE.

HOOFSTUK XVI.—LOODSLERE.

HOOFSTUK XVII.—NAVIGASIELIGTE EN -FIGURE EN GELUIDSEINE.

HOOFSTUK XVIII.—SLUITING VAN OPENINGE IN ROMPE EN IN WATERDIGTE BESKOTTE.

HOOFSTUK XIX.—VRYSTELLINGS, GELYKWAARDIGHEID, ENS.

CHAPTER XIII.—WRECKS, CASUALTIES, COLLISIONS OR DAMAGE TO BE REPORTED.

CHAPTER XIV.—DEPTH-SOUNDING DEVICES.

CHAPTER XV.—ANCHORS, CHAIN CABLES, HAWSERS AND WARPS.

CHAPTER XVI.—PILOT LADDERS.

CHAPTER XVII.—NAVIGATION LIGHTS AND SHAPES, AND SOUND SIGNALS.

CHAPTER XVIII.—CLOSING OF OPENINGS IN HULLS AND IN WATERTIGHT BULKHEADS.

CHAPTER XIX.—EXEMPTIONS, EQUIVALENTS, ETC.

96. Verbeteringe in die veiligheid van skepe.

Bylae A.—Kennisgewing No. 1 uitgereik kragtens paragraaf (4) van regulasie 5.

Bylae B.—Gehalte en prestasie van droë kompasse en vloeistofkompasse vir gebruik by die navigasie van handelskepe.

Bylae C.—Voorsorgsmaatreëls om te verhoed dat graan verskuif.

Bylae D.—Sertifikaat vir die vervoer van graan.

Bylae E.—Seisoensvaargebiede.

Bylae F.—Sertifikaat ten opsigte van 'n dekvrag hout.

Bylae G.—Ongevalleverslag.

HOOFSTUK I.—ALGEMEEN.

1. Titel van hierdie regulasies.

Hierdie regulasies word genoem die regulasies in verband met die veiligheid van die navigasie 1960.

2. Woordomskrywing.

In hierdie regulasies beteken die uitdrukking „die Wet" die Handelskeepvaartwet, 1951 (Wet No. 57 van 1951) en, tensy uit die samehang anders blyk, het enige uitdrukking waaraan daar in die Wet 'n betekenis toegeken is, wanneer dit in hierdie regulasies gebruik word, die aldus toegekende betekenis, en het—

„breedte van die skip" die betekenis wat in die regulasies in verband met konstruksie daaraan geheg word;

„beskotdek" die betekenis wat in die regulasies in verband met konstruksie daaraan geheg word;

„vryboorddek" die betekenis wat in die laslynregulasies daaraan geheg word;

„indompelingsgrenslyn" die betekenis wat in die regulasies in verband met konstruksie daaraan geheg word;

en beteken—

„monstering" 'n bootoefening en 'n brandweeroefening;

„loodsleer" 'n leer, tesame met die nodige inrigtings en uitrusting, wat gebruik word vir die inskeping en ontskeping van loodse en ander amptenare terwyl 'n skip by 'n hawe aankom of 'n hawe verlaat, maar sluit nie die valreepleer, loopplank of loopbrug van die skip in nie;

„standaardkompas" die hoof magnetiese kompas, of slegs die magnetiese kompas as daar net een aan boord is, indien die kompas op so 'n plek in die nabyheid van die stuurhuis of navigasiebrughuis geplaas is dat dit so vry as moontlik van die magnetiese invloed van die skip se bouwerk is en indien dit van middele voorsien is om akkurate peilings te maak;

„stuurkompas" 'n magnetiese kompas wat by 'n stuurplek geleë is, indien die stuurplek geleë is op enige plek behalwe die plek waar die standaardkompas is;

en het

„boboudek" die betekenis wat in die laslynregulasies daaraan geheg word;

„dekvrag hout" die betekenis wat in die laslynregulasies daaraan geheg word;

en beteken—

„houtvaartlaslyn" 'n spesiale laslyn wat slegs gebruik moet word wanneer 'n skip wat 'n dekvrag hout vervoer, aan Hoofstuk XI van hierdie regulasies en die laslynregulasies voldoen;

„ton" bruto-registerton.

[Opmerking.—Die volgende uitdrukkings is ook in artikel *twee* van die Wet vervat, en daarvolgens beteken—

„leerling-offisier", 'n vakleerling in die seediens wat deur 'n leerkontrak verbind is;

„kadet" 'n vakleerling in die seediens wat nie deur 'n leerkontrak verbind is nie;

96. Improvements in the safety of ships.

Annex A.—Notice No. 1 issued under paragraph (4) of regulation 5.

Annex B.—Quality and performance of dry card and liquid compasses for use in the navigation of merchant ships.

Annex C.—Precautions to prevent grain from shifting.

Annex D.—Certificate for the carriage of grain.

Annex E.—Seasonal areas.

Annex F.—Certificate in respect of a deck cargo of timber.

Annex G.—Casualty report.

CHAPTER I.—GENERAL.

1. Title of these Regulations.

These regulations are called the Safety of Navigation Regulations, 1960.

2. Interpretation.

In these regulations the expression "the Act" means the Merchant Shipping Act, 1951 (Act No. 57 of 1951), and unless the context otherwise indicates, any expression used in these regulations to which a meaning has been assigned in the Act, bears the meaning so assigned, and—

"breadth of the ship" has the meaning assigned to it in the Construction Regulations;

"bulkhead deck" has the meaning assigned to it in the Construction Regulations;

"freeboard deck" has the meaning assigned to it in the Load Line Regulations;

"margin line" has the meaning assigned to it in the Construction Regulations;

"muster" means a boat drill and a fire drill;

"pilot ladder" means any ladder, and gear or equipment used in conjunction therewith, used for the purpose of embarking and disembarking pilots and other officials while a ship is arriving at or leaving a port, but does not include the ship's accomodation ladder, gang-plank or gangway;

"standard compass" means the main magnetic compass, or only magnetic compass if only one is carried, if such compass is situated in the vicinity of the wheelhouse or navigating bridge structure in such position as to ensure that the compass is as free of the magnetic influence of the ship's structure as possible, and if it is fitted with means for taking accurate bearings;

"steering compass" means a magnetic compass situated at a steering position, if such steering position is situated in any place other than where the standard compass is situated;

"superstructure deck" has the meaning assigned to it in the Load Line Regulations;

"timber deck cargo" has the meaning assigned to it in the Load Line Regulations;

"timber load line" means a special load line to be used only when a ship carrying a timber deck cargo complies with Chapter XI of these regulations and with the Load Line Regulations;

"tons" means gross register tons.

[Note.—Section *two* of the Act includes the following definitions:—

"apprentice-officer" means an indentured apprentice to the sea service;

"cadet" means an unindentured apprentice to the sea service;

„ gevaarlike goedere " goedere wat vanweë hul aard, hoeveelheid of manier van berging òf afsonderlik òf gesamentlik geneig is om die lewens of die gesondheid van mense op of naby die skip in gevaar te stel of om die skip in gevaar te bring, en omvat dit alle stowwe inbegrepe by „ ontplofbare stowwe " soos gebesig in die Wet op Ontplofbare Stowwe, 1956 (Wet No. 26 van 1956), en enige ander goedere wat die Minister by kennisgewing in die *Staatskoerant* as gevaarlike goedere mag aandui.

„ vissersboot " 'n skip wat vir gewin ter see visvang, maar dit omvat geen robbevaarder of walvisvaarder nie;

„ internasionale reis ", in verband met skepe wat in 'n land geregistreer is waarop die Laslynkonvensie van toepassing is, 'n reis vanaf 'n hawe in een land tot 'n hawe in 'n ander land waar een van die twee 'n land is waarop die Laslynkonvensie van toepassing is, en in verband met skepe wat in 'n land geregistreer is waarop die Veiligheidskonvensie van toepassing is, beteken dit 'n reis vanaf 'n hawe in een land na 'n hawe in 'n ander land waar een van die twee 'n land is waarop die Veiligheidskonvensie van toepassing is; en „ kort internasionale reis ", 'n internasionale reis waarop 'n skip nie meer as tweehonderd seemyl vanaf 'n hawe waarin die passasiers of bemanning in veiligheid gebring sou kan word, sal wees nie, en waarop die afstand tussen die laaste aanloophawe van die land waarin die reis 'n aanvang geneem het en die uiteindelike bestemmingshawe, nie meer as seshonderd seemyl sal wees nie; en by die toepassing van hierdie omskrywing—

(*a*) word geen afwyking deur 'n skip van sy voorgenome reis in aanmerking geneem wanneer sodanige afwyking uitsluitend veroorsaak is deur onweer of ander omstandighede wat nòg die gesagvoerder nòg die eienaar nòg die bevragter (as daar een is) van die skip kon vermy of voorkom het; en

(*b*) word elke kolonie, oorsese gebied, protektoraat, gebied vir die internasionale betrekkinge waarvan 'n Staat wat die Veiligheidskonvensie aangeneem het, verantwoordelik is, gebied waarvan die Verenigde Volke die besturende owerheid is, en gebied wat bestuur word deur 'n Staat ten gunste waarvan 'n mandaat daaroor uitgereik is deur die Raad van die voormalige Volkebond, geag 'n aparte land te wees: Met dien verstande dat die Unie en die Gebied Suidwes-Afrika by sodanige toepassing as een land bekou word;

„ laslynskip " 'n skip van vyf-en-twintig of meer brutoton wat nie net vir visvang gebruik word nie en nie 'n plesierjag is nie;

„ gesagvoerder ", ten opsigte van 'n skip, iemand (behalwe 'n loods) wat toesig het of gesag voer oor bedoelde skip;

„ geneesheer "—

(*a*) by 'n plek in die Unie, iemand wat as sodanig ingevolge die Wet op Geneeshere, Tandartse en Aptekers, 1928 (Wet No. 13 van 1928), geregistreer is; of

(*b*) by 'n plek buite die Unie, iemand wat ingevolge die Wet wat op daardie plek van krag is, geregtig is om as sodanig te praktiseer;

„ Minister ", die Minister van Vervoer;

„ deel van die Statebond ", die gebied van 'n land wat lid is van die Statebond en ook enige gebied onder die soewereiniteit of beheer van so 'n land;

„ passasier ", 'n persoon wat op 'n skip vervoer word, behalwe—

(*a*) 'n persoon wat in enige hoedanigheid aan boord van die skip in verband met die besigheid van die skip in diens is of bedrywig is;

" dangerous goods " means goods which by reason of their nature, quantity or mode of stowage, are either singly or collectively liable to endanger the lives or the health of persons on or near the ship or to imperil the ship, and includes all substances within the meaning of the expression " explosives " as used in the Explosives Act, 1956 (Act No. 26 of 1956), and any other goods which the Minister by notice in the *Gazette* may specify as dangerous goods;

" fishing boat " means any ship engaged in sea fishing for profit, but does not include any sealing boat or whaling boat;

" international voyage ", when used with reference to ships registered in a country to which the Load Line Convention applies, means a voyage from a port in one country to a port in another country, either of those countries being a country to which the Load Line Convention applies, and when used with reference to ships registered in a country to which the Safety Convention applies, means a voyage from a port in one country to a port in another country either of those countries being a country to which the Safety Convention applies; and " short international voyage " means an international voyage in the course of which a ship is not more than two hundred nautical miles from a port in which the passengers and crew could be placed in safety, and which does not exceed six hundred nautical miles in length between the last port of call in the country in which the voyage begins and the final port of destination; and in the application of this definition—

(*a*) no account shall be taken of any deviation by a ship from her intended voyage due solely to stress of weather or any other circumstance which neither the master nor the owner nor the charterer (if any) of the ship could have prevented or forestalled; and

(*b*) every colony, overseas territory, protectorate, territory for whose international relations a State that has accepted the Safety Convention is responsible, territory for which the United Nations are the administering authority, and territory administered by a State in whose favour a mandate thereover was issued by the Council of the former League of Nations, shall be deemed to be a separate country: Provided, however, that the Union and the Territory of South West Africa shall, in such application, be regarded as one country;

" load line ship " means any ship of twenty-five or more gross tons, which is not solely engaged in fishing and is not a pleasure yacht;

" master " means, in relation to a ship, any person (other than a pilot) having charge or command of such ship;

" medical practitioner " means—

(*a*) at a place in the Union, a person registered as such under the Medical, Dental and Pharmacy Act, 1928 (Act No. 13 of 1928); or

(*b*) at a place outside the Union, a person who is entitled to practise as such under the law in force in that place;

" Minister " means the Minister of Transport;

" part of the Commonwealth " means the territory of any country which is a member of the Commonwealth, and includes any territory under the sovereignty or control of any such country;

" passenger " means any person carried in a ship, except—

(*a*) a person employed or engaged in any capacity on board the ship on the business of the ship;

(*b*) 'n persoon wat aan boord van die skip is of ingevolge die verpligting wat hierdie Wet die gesagvoerder oplê om skipbreukelinge, mense in nood of ander persone te vervoer, of vanweë enige omstandigheid wat nòg die gesagvoerder nòg die eienaar nòg die bevragter (as daar een is) kon voorkom het nie; en

(*c*) 'n kind wat onder een jaar oud is;

„passasierskip", 'n skip wat meer as twaalf passasiers vervoer;

*„bevoegde beampte", die beampte wat deur die Minister aangewys is as die bevoegde beampte by die plek en ten opsigte van die saak waarna verwys word in die bepaling in hierdie Wet waarin die uitdrukking voorkom;

„Veiligheidskonvensie", die Internasionale Konvensie vir die Beveiliging van Menselewens op See wat op die tiende dag van Junie 1948 in Londen onderteken is en waarvan 'n vertaling in die Tweede Bylae van hierdie Wet opgeneem is, en enige wysiging daarvan;

„robbevaarder", 'n skip wat uitsluitend vir robbevangs gebruik word;

„Sekretaris", die Sekretaris van Vervoer;

„skip", enige soort vaartuig wat in navigasie gebruik word en nie deur middel van roeispane voortbeweeg word nie;

„walvisvaarder met landbasis", 'n walvisvaarder wat sy gehele vangs vir verwerking in 'n fabriek wat aan wal in die Unie opgerig is, aflewer;

„Suid-Afrikaanse skip", 'n skip kragtens hierdie Wet in die Unie geregistreer of geag aldus geregistreer te wees;

„opnemer", 'n skeepsopnemer, ingenieur-opnemer of radio- of ander opnemer (in aanmerking genome die sake wat ondersoek word of ondersoek moet word) wat kragtens paragraaf (*b*) van artikel *vier* erken of aangestel is;

„onseewaardig", in verband met 'n vaartuig, dat die vaartuig—

(*a*) wat die toestand van sy romp, uitrusting of masjinerie, die berging van sy vrag of ballas, of die aantal of die kwalifikasies van sy gesagvoerder of bemanning betref, of in enige ander opsig nie in 'n geskikte toestand verkeer om teen die gewone gevare van die reis waarop die vaartuig is of op die punt staan om te gaan, bestand te wees nie;

„vaartuig", ook enige skip of boot of enige ander soort vaartuig wat gebruik word of ontwerp is vir gebruik in navigasie.

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* Vir die toepassing van hierdie regulasies het die Minister die volgende beamptes as „bevoegde beamptes" in die Unie aangewys:—

Te Kaapstad en Durban: Die Eerste Beampte van die Marine-afdeling.

Te Port Elizabeth, Oos-Londen, Mosselbaai, Port Nolloth, Lüderitz en Walvisbaai: Die Koopvaardymeester.]

3. KLASSIFIKASIE VAN SKEPE.

Die skepe waarop hierdie regulasies van toepassing is, word soos volg geklassifiseer:—

(*a*) *Passasierskepe.*

Klas I.—Passasierskepe wat vir reise gebruik word enige waarvan internasionale reise behalwe kort internasionale reise is.

Klas II.—Passasierskepe, behalwe skepe van Klas I, wat vir reise gebruik word enige waarvan kort internasionale reise is.

Klas IIA.—Passasierskepe, behalwe skepe van Klas VI, wat vir reise van enige soort behalwe internasionale reise gebruik word.

Klas III.—Nog nie toegewys nie.

Klas IV.—Nog nie toegewys nie.

Klas V.—Nog nie toegewys nie.

(*b*) a person on board the ship either in pursuance of the obligation laid upon the master to carry shipwrecked, distressed or other persons or by reason of any circumstance that neither the master nor the owner nor the charterer (if any) could have prevented; and

(*c*) a child under one year of age;

"passenger ship" means a ship which carries more than twelve passengers;

*"proper officer" means the officer designated by the Minister to be the proper officer at the place and in respect of the matter to which reference is made in the provision of this Act in which the expression occurs;

"Safety Convention" means the International Convention for the Safety of Life at Sea signed in London on the tenth day of June, 1948, and set out in the Second Schedule hereto, and any amendment thereof;

"sealing boat" means any ship exclusively employed in seal-catching;

"Secretary" means the Secretary for Transport;

"ship" means any kind of vessel used in navigation not propelled by oars;

"shore-based whaling boat" means a whaling boat which delivers the whole of its catch to be processed in a factory established ashore in the Union;

"South African ship" means a ship registered in the Union in terms of this Act or deemed to be so registered;

"surveyor" means a ship surveyor, engineer surveyor or radio or other surveyor (having regard to the matters surveyed or to be surveyed) recognized or appointed in terms of paragraph (*b*) of section *four;*

"unseaworthy", used in relation to a vessel, means that she—

(*a*) is not in a fit state as to the condition of her hull, equipment or machinery, the stowage of her cargo or ballast, or the number or qualifications of her master or crew, or in any other respect, to encounter the ordinary perils of the voyage upon which she is engaged or is about to enter;

"vessel" includes any ship or boat or any other description of vessel used or designed to be used in navigation.

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* For the purposes of these regulations, the Minister has designated the following officers as "proper officers" in the Union:—

At Cape Town and Durban: The Principal Officer of the Marine Division.

At Port Elizabeth, East London, Mossel Bay, Port Nolloth, Lüderitz and Walvis Bay: The Shipping Master.]

3. CLASSIFICATION OF SHIPS.

The ships to which these regulations apply, shall be divided into the following classes:—

(*a*) *Passenger Ships.*

Class I.—Passenger ships engaged on voyages any of which are international voyages other than short international voyages.

Class II.—Passenger ships, other than ships of Class I, engaged on voyages any of which are short international voyages.

Class IIA.—Passenger ships, other than ships of Class VI, engaged on voyages of any kind other than international voyages.

Class III.—Not yet allocated.

Class IV.—Not yet allocated.

Class V.—Not yet allocated.

Klas VI.—Passasierskepe wat slegs vir die volgende reise gebruik word:—

(i) Reise waarop hoogstens 250 passasiers aan boord is, met mooi weer, en op welke reise die skepe nooit meer as 15 myl uitgesonderd kalm waters, van hulle uitvaartplek of meer as 5 myl van die land af sal wees nie; of

(ii) reise op kalm waters.

(*b*) *Skepe behalwe passasierskepe.*

Klas VII.—Skepe (behalwe die skepe van Klas VIIA, IX, X, XI en XII) wat vir reise gebruik word enige waarvan internasionale reise behalwe kort internasionale reise is.

Klas VIIA.—Skepe wat in die walvisbedryf gebruik word, behalwe walvisvaarders met landbasis.

Klas VIII.—Skepe (behalwe die skepe van Klas X, XI en XII) wat vir reise tussen Unie-hawens of vir kort internasionale reise gebruik word.

Klas IX.—Sleepbote, verbindingsbote, barkasse, ligters, baggerskepe, trek- en baggerskuite wat by Unie-hawens gebruik word en kort afstande ter see uitvaar.

Klas IXA.—Sleepbote, verbindingsbote, barkasse, ligters, baggerskepe, trek- en baggerskuite wat by Unie-hawens gebruik word en wat nie ter see uitvaar nie.

Klas X.—Vissersbote, robbevaarders en walvisvaarders met landbasis.

Klas XI.—Seilskepe (behalwe die skepe van Klas X en XII) wat ter see uitvaar.

Klas XII.—Plesierjagte wat ter see uitvaar.

HOOFSTUK II.—VOLTALLIGE BEMANNING VAN SKIP.

4. Toepassing van Hoofstuk II.

Hierdie Hoofstuk is van toepassing op—

(*a*) elke Suid-Afrikaanse skip wat van enige hawe waar ook al ter see uitvaar; en

(*b*) elke skip, wat nie 'n Suid-Afrikaanse skip is nie, wat passasiers by 'n Unie-hawe aan boord neem en van 'n Unie-hawe uitvaar,

en 'n „skip van Hoofstuk II" is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

[Opmerking.—In verband met Statebondskepe (behalwe Suid-Afrikaanse skepe) wat nie passasiers in die Unie aan boord neem nie, word die aandag gevestig op subartikel (4) van artikel *drie-en-sewentig* en subartikel (2) van artikel *tweehonderd een-en-twintig* van die Wet, ingevolge waarvan sodanige skepe beman moet word ooreenkomstig die wette wat in daardie deel van die Statebond waarin die skepe geregistreer is, van krag is.]

5. Bemanning.

(1) Die eienaar en die gesagvoerder van elke skip van Hoofstuk II moet, benewens die offisiere en ander persone wat in artikel *drie-en-sewentig* van die Wet voorgeskryf word, as bemanning die aantal en soort persone in diens neem wat voldoende sal wees om te verseker dat die skip toereikend en doeltreffend beman is.

(2) Vir die toepassing van hierdie regulasie word 'n skip, onderworpe aan die bepalings van paragraaf (4), geag as genoegsaam beman te wees indien dit volgens die mening van die bevoegde beampte as bemanning behoorlik gekwalifiseerde persone aan boord het sodat dit ter see kan uitvaar met inagneming van die vereistes van die regulasies in verband met botsings, die regulasies vir reddingstoerusting, die handelskeepvaartradio-regulasies en enige ander veiligheidsbepalings wat op die skip van toepassing mag wees.

Class VI.—Passenger ships engaged only on voyages of the following descriptions:—

(i) Voyages with not more than 250 passengers on board, in fine weather, in the course of which voyages the ships are at no time more than 15 miles, exclusive of any smooth waters, from their point of departure nor more than 5 miles from land; or

(ii) voyages in smooth waters.

(*b*) *Ships other than Passenger Ships.*

Class VII.—Ships (other than ships of Classes VIIA, IX, X, XI and XII) engaged on voyages any of which are international voyages other than short international voyages.

Class VIIA.—Ships engaged in the whaling industry, other than shore-based whaling boats.

Class VIII.—Ships (other than ships of Classes X, XI and XII) engaged on voyages between ports in the Union or on short international voyages.

Class IX.—Tugs, tenders, launches, lighters, dredgers, barges and hoppers which are employed at ports in the Union and proceed for short distances to sea.

Class IXA.—Tugs, tenders, launches, lighters, dredgers, barges and hoppers which are employed at ports in the Union and do not proceed to sea.

Class X.—Fishing boats, sealing boats and shore-based whaling boats.

Class XI.—Sailing ships (other than ships of Classes X and XII) which proceed to sea.

Class XII.—Pleasure yachts which proceed to sea.

CHAPTER II.—SHIPS' COMPLEMENT.

4. Application of Chapter II.

This Chapter applies to—

(*a*) every South African ship which proceeds to sea from any port whatsoever; and

(*b*) every ship, which is not a South African ship, which embarks passengers at and goes to sea from any port in the Union,

and a "Chapter II ship" means a ship to which this Chapter so applies.

[Note.—In regard to Commonwealth ships (other than South African ships) which do not embark passengers in the Union, attention is invited to sub-section (4) of section *seventy-three* and sub-section (2) of section *two hundred and twenty-one* of the Act in terms of which such ships are required to be manned in accordance with the laws in force in that part of the Commonwealth in which the ships are registered.]

5. Manning.

(1) The owner and master of every Chapter II ship shall, in addition to the officers and other persons prescribed in section *seventy-three* of the Act, employ as crew an adequate number and description of persons to ensure that the ship is sufficiently and efficiently manned.

(2) For the purpose of this regulation, a ship shall, subject to the provisions of paragraph (4), be considered to be sufficiently and efficiently manned if in the opinion of the proper officer, she has as crew suitably qualified persons to enable her to proceed to sea with due regard to the requirements of the Collision Regulations, the Life-saving Equipment Regulations, the Merchant Shipping Radio Regulations, and any other safety provisions which may be applicable to the ship.

(3) Wanneer die bevoegde beampte vasstel of die bemanning ooreenkomstig die bepalings van paragraaf (2) voldoende is, moet hy die volgende in aanmerking neem:—

(*a*) Die voltallige bemanning wat normalerwys aan boord is van soortgelyke skepe wat op soortgelyke reise gebruik word;

(*b*) die voltallige bemanning wat die betrokke skip in die pas afgelope tyd op vorige reise aan boord gehad het; en

(*c*) die aard van die diens waarvoor die skip bedoel is.

(4) Wanneer nodig, reik die Sekretaris 'n kennisgewing uit waarin die getal persone wat die bemanning van 'n skip moet uitmaak en die hoedanighede waarin hulle diens moet doen, uiteengesit word.

[OPMERKINGS.

(1) Die aandag word bepaal by die kennisgewing wat in Bylae A verskyn.

(2) Kragtens artikel *tweehonderd-en-veertig* van die Wet is dit 'n misdryf indien toegelaat word dat 'n skip in 'n onseewaardige toestand ter see uitvaar (sien die omskrywing van „onseewaardig" in regulasie 2).

(3) Die aandag word bepaal by artikels *honderd-en-tien* en *honderd-en-elf* van die Wet wat die indiensneming van 'n persoon onder die ouderdom van vyftien jaar in enige hoedanigheid in 'n skip, en van 'n persoon onder die ouderdom van agtien jaar as 'n stoker of tremmer, verbied.]

HOOFSTUK III.—GEGEWENS OOR STABILITEIT VAN SKIP.

6. TOEPASSING VAN HOOFSTUK III.

Hierdie Hoofstuk is van toepassing op elke Suid-Afrikaanse skip wat gebou is na die datum waarop hierdie regulasies in werking getree het, en 'n „skip van Hoofstuk III" is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

7. VERSKAFFING VAN GEGEWENS OOR STABILITEIT.

(1) Die eienaar van elke skip van Hoofstuk III moet sodanige gegewens in geskrif oor die stabiliteit van die skip aan boord laat hou as wat nodig is vir die leiding van die gesagvoerder by die inlaai van vrag of ballas in die skip.

(2) Die eienaar van die skip moet 'n afskrif van die gegewens oor stabiliteit deur die kantoor van die bevoegde beampte aan die Sekretaris stuur.

(3) Die gegewens oor stabiliteit word op die bepaling van die stabiliteit van die skip deur middel van 'n hellingtoets gebaseer: Met dien verstande dat die Sekretaris kan toelaat dat die gegewens op 'n dergelike bepaling van die stabiliteit van 'n susterskip gebaseer word.

(4) Die gegewens oor stabiliteit word, kragtens artikel *honderd sewe-en-tagtig* van die Wet, geag dokumente betreffende die navigasie van die skip te wees en moet as sodanig by verwisseling van gesagvoerder aan die opvolger oorhandig word.

8. VORM VAN GEGEWENS OOR STABILITEIT.

(1) Stabiliteitsgegewens wat deur enige bevoegde persoon opgestel is, kan aangeneem word indien die Sekretaris oortuig is dat die metode van aanbieding duidelik en omvattend is.

(2) Die gegewens moet in die vorm van planne, opgawes en tekeninge wees wat afsonderlik opgestel of toepaslik gegroepeer is, en moet insluit—

(*a*) 'n profielplan van die skip, na 'n geskikte skaal geteken, waarop of in tabelvorm langsaan aangetoon word—

(i) die kapasiteit en die hoogte (bokant die kiel) van die swaartepunt van elke ruim wat vir die vervoer van vrag, brandstof, voorrade, toevoerwater, huishoudelike water en waterballas beskikbaar is;

(3) The proper officer shall, when determining the adequacy of the crew in accordance with the provisions of paragraph (2), take the following into consideration:—

(*a*) The complement normally carried by similar ships employed on similar voyages;

(*b*) the complement which the ship under consideration has recently carried on previous voyages; and

(*c*) the nature of the service for which the ship is intended.

(4) The Secretary shall, as and when necessary, issue a notice setting forth the number of persons to constitute the crew of a ship and the capacities in which those persons are to serve.

[NOTES.

(1) Attention is invited to the notice set forth in Annex A.

(2) It is under section *two hundred and forty* of the Act an offence if a ship is permitted to go to sea in an unseaworthy state (see the definition of "unseaworthy" in regulation 2).

(3) Attention is invited to sections *one hundred and ten* and *one hundred and eleven* of the Act which prohibit the employment of a person under the age of fifteen years in any capacity on board a ship, and of a person under the age of eighteen years as a fireman or trimmer.]

CHAPTER III.—INFORMATION CONCERNING THE STABILITY OF A SHIP.

6. APPLICATION OF CHAPTER III.

This Chapter applies to every South African ship built after the date of coming into force of these regulations, and a "Chapter III ship" means a ship to which this Chapter so applies.

7. PROVISION OF STABILITY INFORMATION.

(1) The owner of every Chapter III ship shall cause to be kept on board the ship such information in writing about the stability of the ship as is necessary for the guidance of the master in loading and ballasting the ship.

(2) The owner of the ship shall send a copy of the stability information to the Secretary through the office of the proper officer.

(3) The stability information shall be based upon the determination of the stability of the ship by means of an inclining test: Provided that the Secretary may allow the information to be based on a similar determination of the stability of a sister ship.

(4) The stability information shall be deemed to be documents relating to the navigation of the ship under section *one hundred and eighty-seven* of the Act, and as such shall be handed to the successor on change of master.

8. FORM OF STABILITY INFORMATION.

(1) Stability information drawn up by any qualified person may be accepted if the Secretary is satisfied that the method of presentation is clear and comprehensive.

(2) The information shall be in the form of plans, statements and diagrams drawn up separately or appropriately grouped, and shall include—

(*a*) a profile plan of the ship drawn to a suitable scale showing thereon or in tables alongside—

(i) the capacity and the height (above the keel) of the centre of gravity of each space available for the carriage of cargo, fuel, stores, feed water, domestic water and water ballast;

(ii) die totale geskatte gewigte van die passasiers en van die bemanning en hul besittings, en die hoogtes (bokant die kiel) van die ooreenstemmende swaartepunte. Vir hierdie doel word geag dat die passasiers en bemanning op die skip versprei is in die ruimtes wat hulle gewoonweg bewoon of gebruik, met inbegrip van die hoogste dekke waartoe hulle toegang het. In die geval van passasierskepe van Klasse II tot en met VI moet die veronderstelde verspreiding op 'n gepaste wyse op die plan of daar langsaan aangedui word;

(iii) die geskatte gewig, skikking en hoogte (bokant die kiel) van die swaartepunt van enige homogene dekvrag wat die skip bedoel is om te vervoer of wat dit na verwagting sal vervoer;

(*b*) 'n opgawe van die leë gewig van die skip wanneer dit ten volle toegerus is maar geen permanente ballas, brandstof of voorrade aan boord het nie, en die posisie van die swaartepunt van die leë gewig soos deur die hellingtoets bepaal. Die gewig, skikking en hoogte (bokant die kiel) van die swaartepunt van enige permanente ballas moet afsonderlik op die opgawe getoon word;

(*c*) 'n tekening of getabelleerde opgaaf van die verplasing, ton indompeling per duim, en die ladingsgewig volgens 'n skaal van gemiddelde diepgang tussen die leë- en diepwaterlaslyne van die skip;

(*d*) 'n tekening of getabelleerde opgaaf van die hidrostatiese besonderhede van die skip met inbegrip van die hoogtes (bokant die kiel) van die dwars metasenters en die moment om die trem by verskillende gemiddelde diepgange een duim te verander;

(*e*) 'n opgawe van die uitwerking wat vrye oppervlakte in elke tenk waarin vloeistof vervoer kan word, op die stabiliteit het;

(*f*) 'n tekening van die dwarskurwes van stabiliteit en die veronderstelde hoogte (bokant die kiel) van die swaartepunt waarop hulle gebaseer is. Hierdie kurwes neem net die boboue bokant die vryboorddek in aanmerking wat so gebou en gesluit is dat hulle heeltemal effektief is ten opsigte van stabiliteit. Die tekening moet aandui watter boboue vir hierdie doel inbegrepe is;

(*g*) tekeninge, na 'n geskikte klein skaal geteken, en opgawes van die leë gewig, die skikking en gewig van die permanente ballas, indien enige, die skikking en totale gewig van al die samestellende dele van die ladingsgewig, die verplasing, die ooreenkomstige diepgange voor en agter, tremgegewens, die ooreenkomstige hoogtes van die swaartepunt en die metasenter, die korreksie vir vrye oppervlakte en die betrokke tenks, die gekorrigeerde metasentriese hoogte, en 'n kurwe van statiese stabiliteit wat van die dwarskurwes van stabiliteit afgelei is. Hierdie gegewens moet afsonderlik verskaf word vir—

(i) die leë skip;

(ii) die ballastoestand by vertrek en aankoms;

(iii) die toestand by vertrek en aankoms wanneer 'n homogene vrag aan boord is;

(iv) die bevragte dienstoestande by vertrek en aankoms.

Gepaste instruksies moet gegee word in die geval van 'n skip waarin enige vrag- of bunkerruim net gedeeltelik gevul moet word ten einde voldoende stabiliteit te verseker. Enige tekening of opgawe ooreenkomstig hierdie subparagraaf wat 'n toestand toon waar die skip se stabiliteit onvoldoende is, moet 'n prominente waarskuwing bevat;

(*h*) in enige skip waar 'n spesiale prosedure nodig is om voldoende stabiliteit op die reise te handhaaf, moet die inligting wat in subparagrawe (*a*) tot (*g*) vermeld word, aangevul word deur skriftelike instruksies vir die leiding van die gesagvoerder by die veilige bediening van die skip.

(ii) the estimated total weights of the passengers and of the crew and their effects, and the heights (above the keel) of the corresponding centres of gravity. For this purpose the passengers and crew shall be assumed to be distributed about the ship in the spaces which they would normally occupy, including the highest decks to which they have access. In the case of passenger ships of Classes II to VI inclusive, the assumed distribution shall be suitably indicated on or alongside the plan;

(iii) the estimated weight, disposition and height (above the keel) of the centre of gravity of any homogeneous deck cargo which the ship is designed to carry or which it is expected will be carried;

(*b*) a statement showing the light weight of the ship fully equipped but with no permanent ballast, fuel or stores on board, and the position of the centre of gravity of the light weight as determined by the inclining test. The weight, disposition and height (above the keel) of the centre of gravity of any permanent ballast shall be shown separately on the statement.

(*c*) a diagram or tabular statement showing the displacement, tons per inch immersion and deadweight corresponding to a scale of mean draughts between the light and deep load water lines of the ship;

(*d*) a diagram or tabular statement showing the hydrostatic particulars of the ship including the heights (above the keel) of the transverse metacentres and the moment to change trim one inch at various mean draughts;

(*e*) a statement showing the effect on stability of free surface in each tank in which liquid may be carried;

(*f*) a diagram showing cross-curves of stability and the assumed height (above the keel) of the centre of gravity on which they are based. These curves shall take into account only those superstructures above the freeboard deck which are so constructed and closed as to be fully effective as far as stability is concerned. The diagram shall indicate what superstructures have been included for this purpose;

(*g*) diagrams, drawn to a suitable small scale, and statements showing the light weight, the disposition and weight of the permanent ballast, if any, the disposition and total weights of all components of the deadweight, the displacement, the corresponding draughts forward and aft, trim data, the corresponding heights of the centre of gravity and the metacentre, the correction for free surface and the tanks concerned, the corrected metacentric height and a curve of statical stability derived from the cross curves of stability. This information shall be given separately for—

(i) light ship;

(ii) ballast condition at departure and arrival;

(iii) condition when loaded with a homogeneous cargo at departure and arrival;

(iv) service loaded conditions at departure and arrival.

Suitable instructions shall be given in the case of a ship in which any cargo or bunker space must be only partly filled in order to ensure adequate stability. Any diagram or statement provided under this sub-paragraph which shows a condition where the ship's stability is inadequate shall contain a prominent note of warning;

(*h*) in any ship where any special procedure is needed to maintain adequate stability throughout her voyages, the information referred to in sub-paragraphs (*a*) to (*g*) shall be supplemented by written instructions for the master's guidance in safely working the ship.

9. SPESIALE GEVALLE.

Indien 'n eienaar van mening is dat die egaligheid van die reistoestande van 'n skip, die stabiliteitseienskappe van die skip of ander omstandighede dit onnodig maak om al die inligting te verskaf wat in regulasie 8 uiteengesit word, moet hy (deur die kantoor van die bevoegde beampte) 'n afskrif van die inligting wat hy voornemens is om te verskaf aan die Sekretaris stuur, tesame met genoeg besonderhede omtrent die skip se diens en stabiliteit om die Sekretaris in staat te stel om te besluit of die voorgestelde vorm van inligting voldoende sal wees, en die Sekretaris kan, indien hy tevrede gestel is, toelaat dat die skip van die mindere gegewens voorsien word.

(OPMERKING.—Waar susterskepe in dieselfde skeepswerf gebou word, sal gegewens oor stabiliteit vir die tweede skip wat gebaseer is op 'n hellingtoets op die eerste skip, normalerwys goedgekeur word, mits daar tot bevrediging van die Sekretaris getoon word dat so 'n basis betroubaar is.)

10. GEGEWENS MOET BETROUBAAR WEES.

Die gegewens oor die stabiliteit van 'n skip moet ten alle tye betroubaar en tot op datum wees. Indien daar 'n verandering byvoorbeeld in die konstruksie, ballasvulling of diens van die skip plaasvind wat die akkuraatheid of toereikendheid van die stabiliteitsgegewens affekteer, moet hierdie gegewens behoorlik hersien en gewysig word, en afskrifte van die wysigings moet aan die Sekretaris (deur die kantoor van die bevoegde beampte) gestuur word. Indien die verandering van so 'n aard is dat die gewysigde gegewens daardeur onbetroubaar gemaak word, moet die skip weer aan 'n hellingtoets onderwerp word en die nuwe gegewens gebaseer op die nuwe toets moet aan boord van die skip gehou en 'n afskrif daarvan aan die Sekretaris gestuur word.

HOOFSTUK IV.—MAGNETIESE SKEEPSKOMPASSE.

11. TOEPASSING VAN HOOFSTUK IV.

Hierdie Hoofstuk is van toepassing op elke Suid-Afrikaanse skip van vyf-en-twintig ton of meer, en 'n „skip van Hoofstuk IV" is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

(OPMERKING.—Die aandag word gevestig op regulasie 88 waarkragtens 'n skip van die voorskrifte van hierdie Hoofstuk vrygestel kan word.)

12. GETAL EN TIPE KOMPASSE.

(1) Elke skip van Hoofstuk IV, Klas I, moet voorsien word van drie doeltreffende magnetiese kompasse op die middellyn van die skip. Een van hierdie kompasse moet voorsien word vir gebruik as 'n stuurkompas en aangebring word by die gewone stuurplek, 'n tweede kompas moet voorsien word vir gebruik as 'n standaardkompas en aangebring word naby die gewone stuurplek op 'n plek waarvandaan die uitsig op die horison die minste belemmer is, en 'n derde sodanige kompas moet aangebring word by die agterstuurplek en moet, tesame met sy beueleenhede, met die stuurkompas verwisselbaar wees: Met dien verstande dat 'n magnetiese stuurkompas nie vereis word nie indien—

(*a*) die standaardkompas van die reflektor- of projektortipe is en toegerus is met 'n toestel sodat dit vanaf die gewone stuurplek gelees kan word;

(*b*) die standaardkompas met die agterstuurkompas verwisselbaar is; en

(*c*) 'n kaart van 'n girokompas of van 'n herhaler daarvan vanaf die gewone stuurplek gelees kan word.

Elke magnetiese kompas wat in so 'n skip aangebring word, moet in 'n kompashuis opgestel word: Met dien verstande dat die agterstuurkompas op 'n voetstuk opgestel kan word.

9. SPECIAL CASES.

If an owner considers that the constancy of a ship's voyage conditions, her stability characteristics or other circumstances make it unnecessary to provide all the information set forth in regulation 8, he shall send to the Secretary (through the office of the proper officer) a copy of the information he proposes to provide together with sufficient particulars about the ship's service and stability to enable the Secretary to decide whether the proposed form of information will be adequate, and the Secretary may, if he is satisfied, allow the ship to be provided with the lesser information.

(NOTE.—Where sister ships are built in the same yard, stability information for the second ship based on the inclining test of the first ship, will normally be approved provided it is shown to the satisfaction of the Secretary that such a basis is reliable.)

10. INFORMATION TO BE RELIABLE.

A ship's stability information shall at all times be reliable and up-to-date. If there is any change, for example in the construction, ballasting or service of the ship, which affects the accuracy or adequacy of the stability information, this information shall be properly revised and amended and copies of the amendments shall be sent to the Secretary (through the office of the proper officer). If the change is such as to make the amended information unreliable, the ship shall be re-inclined, and new information based on the new test shall be placed on board the ship and a copy sent to the Secretary.

CHAPTER IV.—SHIPS' MAGNETIC COMPASSES.

11. APPLICATION OF CHAPTER IV.

This Chapter applies to every South African ship of twenty-five tons or over, and a "Chapter IV ship" means a ship to which this Chapter so applies.

(NOTE.—Attention is invited to regulation 88 in terms of which a ship may be exempted from the requirements of this Chapter.)

12. NUMBER AND TYPE OF COMPASSES.

(1) Every Chapter IV ship of Class I shall be provided with three efficient magnetic compasses which shall be sited on the ship's centre line. One of such compasses shall be provided for use as a steering compass and shall be sited at the normal steering position, and another shall be provided for use as a standard compass and shall be sited near to the normal steering position and in a position from which the view of the horizon is least obstructed. A third such compass shall be provided at the after steering position, and shall, together with its gimbal units, be interchangeable with the steering compass: Provided that a magnetic steering compass shall not be required if—

(*a*) the standard compass is of the reflector or projector type and is equipped with a device by which it may be read from the normal steering position;

(*b*) the standard compass is interchangeable with the after steering compass; and

(*c*) a card of a gyroscopic compass or of a repeater thereof can be read from the normal steering position.

Every magnetic compass provided in such a ship shall be mounted in a binnacle: Provided that the after steering compass may be mounted on a pedestal.

(2) (*a*) Elke skip van Hoofstuk IV, Klasse II, IIA, VII, VIIA en VIII moet voorsien word van twee doeltreffende magnetiese kompasse op die skip se middellyn, waarvan een van die projektor-reflektor- of sendertipe mag wees indien dit instaat is om as 'n gewone magnetiese kompas gebruik te word wanneer die elektriese krag buite werking raak.

(*b*) Een magnetiese kompas moet voorsien word vir gebruik as 'n standaardkompas en aangebring word naby die gewone stuurplek op 'n plek waarvandaan die uitsig op die horison die minste belemmer is.

(*c*) Die tweede magnetiese kompas moet voorsien word vir gebruik as 'n stuurkompas en aangebring word by die gewone stuurplek: Met dien verstande dat die projekteerde of reflekteerde beeld van 'n magnetiese kompas, girokompas of 'n herhaler van 'n girokompas vir hierdie doel voorsien mag word, in welke geval die tweede magnetiese kompas aangebring kan word in 'n kompashuis of op 'n voetstuk by die agterstuurplek.

(3) Elke skip van Hoofstuk IV, Klasse VI, IX, IXA, X, XI en XII, moet voorsien word van een doeltreffende magnetiese kompas wat redelik by die gewone stuurplek beskikbaar is.

(4) Die gehalte en prestasie van elke droë- en vloeistofkompas moet voldoen aan die vereistes wat in Bylae B uiteengesit word.

(OPMERKING.—Die bepalings van hierdie regulasie wat betrekking het op skepe van Klasse I, II, IIA en VI, is 'n herhaling van die bepalings van regulasie 80 van die regulasies in verband met konstruksie. Hierdie herhaling word gedoen met die oog op duidelikheid en om verwysing te vergemaklik.)

13. STEL VAN KOMPASSE.

Die kompasse van elke skip van Hoofstuk IV moet behoorlik gestel word deur 'n persoon wat deur die eienaar gekies kan word as bevoeg om skeepskompasse te stel. Die sertifikaat van so 'n persoon ten effekte dat die kompasse van die skip behoorlik gestel is, tesame met 'n verklaring dat die kompasse nie in 'n merkbare mate geaffekteer word deur enige steurende uitwerking van elektriese strome naby die kompasse, of deur die nabyheid van elektroniese of elektriese instrumente of toerusting wanneer hulle aan- en afgeskakel word nie, moet deur die gesagvoerder gehou word.

(OPMERKING.—Wanneer omstandighede dit toelaat, sal regulasies in verband met die eksamens en lisensiëring van kompasstellers uitgevaardig word.)

14. DEVIASIETABEL.

In alle gevalle, hetsy by die eerste of daaropvolgende stelling van die kompasse, moet die gesagvoerder voorsien word van 'n tabel wat enige nadeviasies van die kompas aandui. Sodanige tabelle moet deur die persoon wat die stelwerk doen, onderteken word.

15. DEVIASIEBOEK.

(1) Elke skip van Hoofstuk IV moet 'n kompasdeviasieboek wat tot op datum gehou moet word, aan boord hou. Die steldatums moet in die boek ingeskryf word en die besonderhede, met inbegrip van die posisie van stelmagnete, op die deviasiekaart aangedui word.

(2) Die deviasieboek en deviasietabel word geag dokumente betreffende die navigasie van die skip ingevolge artikel *honderd sewe-en-tagtig* van die Wet te wees, en moet as sodanig by verwisseling van gesagvoerder aan die opvolger oorhandig word.

HOOFSTUK V.—SEINLAMPE.

16. TOEPASSING VAN HOOFSTUK V.

Hierdie hoofstuk is van toepassing op—

(*a*) elke Suid-Afrikaanse skip van honderd of meer ton wat van enige hawe waar ook al ter see uitvaar; en

(*b*) elke skip, wat nie 'n Suid-Afrikaanse skip is nie, van honderd-en-vyftig of meer ton wat van 'n Uniehawe ter see uitvaar,

en 'n „skip van Hoofstuk V" is 'n skip waarop hierdie hoofstuk aldus van toepassing is.

(2) (*a*) Every Chapter IV ship of Classes II, IIA, VII, VIIA and VIII shall be provided with two efficient magnetic compasses sited on the ship's centre line, of which one may be of the projector reflector or transmitting type if it is capable of being used as a normal magnetic compass on failure of the electrical power.

(*b*) One magnetic compass shall be provided for use as a standard compass and shall be sited near to the normal steering position and in a position from which the view of the horizon is least obstructed.

(*c*) The second magnetic compass shall be provided for use as a steering compass and shall be sited at the normal steering position: Provided that the projected or reflected image of a magnetic compass, gyro compass, or a repeater from a gyro compass may be provided for this purpose in which case the second magnetic compass may be sited in a binnacle or on a pedestal at the after steering position.

(3) Every Chapter IV ship of Classes VI, IX, IXA, X, XI and XII shall be provided with one efficient magnetic compass which shall be readily available at the normal steering position.

(4) The quality and performance of every dry card and liquid compass shall conform to the requirements set forth in Annex B.

(NOTE.—The provisions of this regulation relating to ships of Classes I, II, IIA and VI are a repetition of the provisions of regulation 80 of the Construction Regulation, the repetition being made for purposes of clarity and easy reference.)

13. ADJUSTMENT OF COMPASSES.

The compasses of every Chapter IV ship shall be properly adjusted by a person who may be selected by the owner as competent to adjust the compasses of ships. The certificate of such a person to the effect that the compasses of the ship are properly adjusted, together with a declaration that the compasses are not affected to any appreciable extent by any disturbing effects from electric circuits which may pass near the compasses, or by the near presence of electronic instruments or electrical instruments or equipment when switched on and off, shall be retained by the master.

(NOTE.—When circumstances are favourable, regulations will be promulgated governing the examination and licensing of adjusters of compasses.)

14. TABLE OF DEVIATION.

In all cases, whether on the first or subsequent adjustment of the compasses, the master shall be provided with a table showing any residual deviations of the compass. Such tables shall be signed by the person making the adjustment.

15. DEVIATION BOOK.

(1) Every Chapter IV ship shall carry a compass deviation book which shall be kept up to date. The dates of adjustments shall be entered in the book, and the details including the position of correctors shown on the deviation card.

(2) The deviation book and table of deviations shall be deemed to be documents relating to the navigation of the ship under section *one hundred and eighty-seven* of the Act, and as such shall be handed to the successor on change of master.

CHAPTER V.—SIGNALLING LAMPS.

16. APPLICATION OF CHAPTER V.

This Chapter applies to—

(*a*) every South African ship of one hundred tons or over which proceeds to sea from any port whatsoever; and

(*b*) every ship, which is not a South African ship, of one hundred and fifty tons or over which proceeds to sea from a port in the Union,

and a "Chapter V ship" means a ship to which this Chapter so applies.

17. VOORSIENING VAN SEINLAMP.

Die gesagvoerder of eienaar van elke skip van Hoofstuk V moet sorg dra dat daar elke keer wanneer die skip ter see uitvaar, 'n doeltreffende seinlamp aan boord is.

18. VOORSKRIFTE VIR SEINLAMP.

Die seinlamp moet 'n doeltreffende draagbare lamp wees van 'n tipe wat geskik is vir gebruik sowel bedags as snags.

19. BATTERYE.

Indien die seinlamp van die batterytipe is, moet middele voorsien word waarvolgens die batterye, wanneer nodig, herlaai kan word. Sodanige batterye is slegs vir die bediening van die seinlamp bedoel en het geen verband met die batterye wat vir die radio-uitrusting van die skip voorsien word nie.

HOOFSTUK VI.—NOODSEINE.

20. TOEPASSING VAN HOOFSTUK VI.

Hierdie Hoofstuk is van toepassing op elke Suid-Afrikaanse skip waar ook al en op elke skip wat nie 'n Suid-Afrikaanse skip is nie onderwyl dit binne die Unie of die Unie se territoriale waters is, en 'n „skip van Hoofstuk VI" is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

21. NOODSEINE.

Die volgende seine is noodseine:—

(*a*) 'n kanonskoot of ander knalsein afgevuur met tussenpose van ongeveer 1 minuut;

(*b*) 'n aanhoudende geluid met die een of ander misseintoestel;

(*c*) vuurpyle of granate wat rooi sterre afgee en wat met kort tussenpose een op 'n keer afgevuur word;

(*d*) 'n sein deur middel van radiotelegrafie of 'n ander seinmetode uitgesend wat bestaan uit die groep . . . — — — . . . van die Morse-kode;

(*e*) 'n sein uitgesend deur middel van radiotelefonie wat bestaan uit die gesproke woord „Mayday";

(*f*) die noodsein van die Internasionale Seinboek aangedui deur N.C.;

(*g*) 'n sein bestaande uit 'n vierkantige vlag met 'n bal of iets wat soos 'n bal lyk, bokant of onderkant die vlag;

(*h*) vlamme op die vaartuig (bv. van 'n brandende teer- of olievat, ens.);

(*i*) 'n vuurpylvalskermfakkel wat 'n rooi lig afgee.

[OPMERKINGS.

(1) 'n Radiosein is voorgeskryf vir gebruik deur skepe in nood met die doel om die outo-alarmtoestelle van ander vaartuie in werking te stel en aldus die aandag te vestig op noodoproepe of -berigte. Die sein bestaan uit 'n reeks van twaalf strepe wat in 1 minuut uitgesend word sodat elke streep 4 sekondes duur en die tydsverloop tussen twee opeenvolgende strepe een sekonde is.

(2) Bostaande seine is dié wat uiteengesit word in Reël 31 van die Internasionale Regulasies vir die Voorkoming van Botsings op See, 1948.]

22. GEBRUIK VAN NOODSEINE.

Die seine wat in regulasie 21 uiteengesit is, is die seine wat gebruik of vertoon moet word, òf tesame òf afsonderlik, wanneer 'n skip van Hoofstuk VI in nood verkeer en hulp nodig het van ander skepe of van die kus af.

(OPMERKING.—Ingevolge artikel *tweehonderd twee-en-dertig* van die Wet word die misbruik van noodseine verbied, asook 'n private sein wat vir 'n noodsein aangesien kan word. Die Wet maak ook voorsiening vir streng strawwe vir oortreding van genoemde artikel.)

17. PROVISION OF SIGNALLING LAMP.

The master or owner of every Chapter V ship shall ensure that on each occasion on which the ship proceeds to sea, there is on board an efficient signalling lamp.

18. REQUIREMENTS FOR SIGNALLING LAMP.

The signalling lamp shall be an efficient portable lamp of a type suitable for use both by day and by night.

19. BATTERIES.

If the signalling lamp is of the battery operated type, means shall be provided whereby the batteries may be re-charged when necessary. Any such batteries shall be for the operation of the signalling lamp alone and shall be independent of the batteries supplied for the radio equipment of the ship.

CHAPTER VI.—DISTRESS SIGNALS.

20. APPLICATION OF CHAPTER VI.

This Chapter applies to every South African ship wherever it may be, and to every ship which is not a South African ship, while it is within the Union or the territorial waters thereof, and a "Chapter VI ship" means a ship to which this Chapter so applies.

21. DISTRESS SIGNALS.

The following signals shall be signals of distress:—

(*a*) A gun or other explosive signal fired at intervals of about a minute;

(*b*) a continuous sounding with any fog-signal apparatus;

(*c*) rockets or shells, throwing red stars fired one at a time at short intervals;

(*d*) a signal made by radiotelegraphy or by any other signalling method consisting of the group . . . — — — . . . in the Morse Code;

(*e*) a signal sent by radiotelephony consisting of the spoken word "Mayday";

(*f*) the international code signal of distress indicated by N.C.;

(*g*) a signal consisting of a square flag having above or below it a ball or anything resembling a ball;

(*h*) flames on the vessel (as from a burning tar barrel, oil barrel, etc.);

(*i*) a rocket parachute flare showing a red light.

[NOTES.

(1) A radio signal has been provided for use by ships in distress for the purpose of actuating the auto-alarms of other ships and thus securing attention to distress calls or messages. The signal consists of a series of twelve dashes, sent in one minute, the duration of each dash being four seconds, and the duration of the interval between two consecutive dashes one second.

(2) The above signals are those set forth in Rule 31 of the International Regulations for Preventing Collisions at Sea, 1948.]

22. USE OF DISTRESS SIGNALS.

The signals set forth in regulation 21 shall be the signals to be used or displayed, either together or separately, when a Chapter VI ship is in distress and requires assistance from other ships or from the shore.

(NOTE.—In terms of section *two hundred and thirty-two* of the Act, the misuse of signals of distress is prohibited as well as any private signal which can be mistaken for a signal of distress. The Act also provides for severe penalties for contravention of the said section.)

HOOFSTUK VII.—REDDINGSEINE.

23. Toepassing van Hoofstuk VII.

Hierdie Hoofstuk is van toepassing op elke vaartuig terwyl dit binne die Unie of die Unie se territoriale waters is.

24. Reddingseine.

Die onderstaande seine moet deur 'n reddingstasie gebruik word wanneer in verbinding getree word met 'n vaartuig wat in nood verkeer, en deur 'n vaartuig wat in nood verkeer wanneer in verbinding getree word met 'n reddingstasie:—

(*a*) *Antwoorde van die kusstasie op noodseine van 'n vaartuig.*

Sein.	*Betekenis.*
Bedags: Wit rookseine..... Snags: Vuurpyl met wit sterre.....	" Ons sien u—hulp word so spoedig moontlik verleen ".

(*b*) *Landingseine vir die leiding van klein bote wat die bemanning van 'n gestrande vaartuig na die strand vervoer.*

Sein.	*Betekenis.*
Bedags: Vertikale beweging van 'n wit vlag of van die arms Snags: Vertikale beweging van 'n wit lig of sinjaalvlam. 'n Ligging (aanduiding van rigting) kan gegee word deur 'n vaste wit lig of sinjaalvlam laer en in 'n lyn met die waarnemer te plaas	„ Dit is die beste plek om te land ".
Bedags: Horisontale beweging van 'n wit vlag of die arms horisontaal uitgestrek Snags: Horisontale beweging van 'n wit lig of sinjaalvlam	„ Om hier te land is hoogs gevaarlik ".
Bedags: Horisontale beweging van 'n wit vlag gevolg deur die steek van 'n wit vlag in die grond en die dra van 'n ander wit vlag in die rigting wat aangegee moet word Snags: Horisontale beweging van 'n wit lig of sinjaalvlam gevolg deur die plasing van 'n wit lig of sinjaalvlam op die grond en die dra van 'n ander wit lig of sinjaalvlam in die rigting wat aangegee moet word	„ Om hier te land is hoogs gevaarlik. 'n Gunstiger plek om te land word in die aangegewe rigting gevind ".

(*c*) *Seine wat aangewend moet word in verband met die gebruik van 'n reddingsmiddel wat op die kus opgestel is.*

Sein.	*Betekenis.*
Bedrags: Vertikale beweging van 'n wit vlag of van die arms Snags: Vertikale beweging van 'n wit lig of sinjaalvlam	In die algemeen—„ Bevestigend ". In besondere gevalle— „ Vuurpyllyn word gehou ". „ Stertblok is vasgemaak ". „ Tros is vasgemaak ". „ Daar is iemand in die broekboei ". „ Trek weg ".
Bedags: Horisontale beweging van 'n wit vlag of arms horisontaal uitgestrek Snags: Horisontale beweging van 'n wit vlag of sinjaalvlam	In die algemeen—„ Ontkennend ". In besondere gevalle— „ Verslap die toue ". „ Hou op met trek ".

HOOFSTUK VIII.—BOOT- EN BRANDWEEROEFENINGE EN INSPEKSIE VAN REDDINGSUITRUSTING.

25. Toepassing van Hoofstuk VIII.

Hierdie Hoofstuk is van toepassing op elke Suid-Afrikaanse skip soos in hierdie Hoofstuk uiteengesit, en 'n „ skip van Hoofstuk VIII " is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

(Opmerking.—Die aandag word gevestig op regulasie 89 ingevolge waarvan 'n skip vrygestel kan word van die voorskrifte van hierdie Hoofstuk.)

26. Monsterrol en noodseine.

(1) Die gesagvoerder van elke skip van Hoofstuk VIII van Klasse I, II, IIA, VI, VII, VIIA en VIII moet 'n monsterrol opstel en aantoon watter besondere pligte vir die geval van 'n noodtoestand aan elke lid van die bemanning toegewys word en die pos waarheen elkeen moet gaan, met inbegrip van pligte en poste wat by die blus van brand van toepassing is.

CHAPTER VII.—LIFE-SAVING SIGNALS.

23. Application of Chapter VII.

This Chapter applies to every vessel while it is within the Union or the territorial waters thereof.

24. Life-saving Signals.

The following signals shall be used by a life-saving station when communicating with a vessel in distress and by a vessel in distress when communicating with a life-saving station:—

(*a*) *Replies from shore station to distress signals made by the vessel.*

Signal.	*Signification.*
By day: White smoke signal..... By night: White star rocket.....	" You are seen—assistance will be given as soon as possible ".

(*b*) *Landing signals for the guidance of small boats bringing away the crew of a wrecked vessel.*

Signal.	*Signification.*
By day: Vertical motion of a white flag or the arms By night: Vertical motion of a white light or flare. A range (indication of direction) may be given by placing a steady white light or flare lower and in line with the observer.	" This is the best place to land ".
By day: Horizontal motion of a white flag or arms extended horizontally By night: Horizontal motion of a white light or flare	" 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 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	" Landing here highly dangerous. A more favourable location to land is in the direction indicated ".

(*c*) *Signals to be employed in connection with the use of shore life-saving apparatus.*

Signal.	*Signification.*
By day: Vertical motion of a white flag or the arms By night: Vertical motion of a white light or flare	In general—" Affirmative ". Specifically:— " Rocket line is held ". " Tail block is made fast ". " Hawser is made fast ". " Man is in the breeches buoy ". " Haul away ".
By day: Horizontal motion of a white flag or arms extended horizontally By night: Horizontal motion of a white light or flare	In general—" Negative ". Specifically:— " Slack away ". " Avast hauling ".

CHAPTER VIII.—BOAT AND FIRE DRILLS AND INSPECTION OF LIFE-SAVING EQUIPMENT.

25. Application of Chapter VIII.

This Chapter applies to every South African ship as set forth in this Chapter, and a " Chapter VIII ship " means a ship to which this Chapter so applies.

(Note.—Attention is invited to regulation 89 in terms of which a ship may be exempted from the requirements of this Chapter.)

26. Muster List and Emergency Signals.

(1) The master of every Chapter VIII ship, of Classes I, II, IIA, VI, VII, VIIA and VIII shall prepare a muster list showing in respect of each member of the crew, the special duties which are allotted to him and the station to which he shall go in the event of an emergency, including duties and stations applicable for extinguishing fire.

(2) Die monsterrol moet onderstaande bepaalde seine angee waardeur alle persone aan boord in 'n noodgeval na hul boot- en brandposte opgroep word en waarmee angedui word wanneer die skip verlaat moet word:—

(*a*) Die noodsein om alle persone aan boord na monsterposte op te roep, bestaan uit sewe of meer opeenvolgende kort stote gevolg deur een lang stoot op die fluit of die mishoring;

(*b*) die noodsein moet op skepe van Klas I aangevul word deur die elektries werkende seine wat dwarsdeur die skip aangebring is en vanaf die brughuis in werking gestel word ooreenkomstig die regulasies vir reddingsuitrusting.

(3) Die monsterrol moet aan die verskillende lede van die bemanning pligte toewys in verband met—

(*a*) die sluit van waterdigte deure, vuurvaste deure, kleppe en sluitingsmeganismes van spuigate, asstortkokers, ens.;

(*b*) die uitrus van die reddingsbote en drywende toestelle in die algemeen;

(*c*) die tewaterlating van bote wat aan davits bevestig is;

(*d*) die gereedmaking in die algemeen van enige ander bote en drywende toestelle, met inbegrip van opblaasbare vlotte;

(*e*) die saamroep van passasiers (indien enige);

(*f*) die blus van brand.

(4) Die plig om toe te sien dat die bote en drywende toestelle en ander reddingstoestelle ten alle tye gereed is vir gebruik, moet deur die monsterrol aan een of meer van die skeepsoffisiere toegewys word.

(5) Die monsterrol moet aan die personeel van die algemene diens hul onderskeie pligte ten aansien van die passasiers in tyd van nood toewys. Hierdie pligte omvat die volgende:—

(*a*) Waarskuwing van die passasiers;

(*b*) toesien dat hulle behoorlik gekleed is en hul reddingsbuise reg aangetrek het;

(*c*) die saamroep van die passasiers op die monsterposte;

(*d*) die handhawing van orde in die gange en op die trappe en in die algemeen die reëling van die verkeer van die passasiers;

(*e*) toesien dat 'n voorraad komberse na die reddingsbote geneem word.

(6) Die monsterrol moet opgestel of, indien 'n nuwe rol nie nodig is nie, hersien word nadat die ooreenkoms met die bemanning onderteken is en alvorens die skip ter see uitvaar, en moet deur die gesagvoerder gedateer en onderteken word.

(7) Indien daar na die opstel van die monsterrol enige verandering in die bemanning plaasvind wat 'n verandering in die rol nodig maak, moet die gesagvoerder die rol hersien of 'n nuwe rol opstel.

(8) Afskrifte van die monsterrol moet in verskeie dele van die skip aangebring word, en veral in die bemanning se kwartiere, voordat die skip ter see uitvaar, en moet aldus vertoon bly terwyl die skip op see is.

(9) Indien die bevoegde beampte dit nodig ag, moet, benewens die opstel van die monsterrol, aan elke lid van die bemanning 'n kaart uitgereik word wat met 'n tou of band aan sy reddingsbuis bevestig kan word en waarop onder andere sy bootpos, noodpos of poste en pligte en enige seine wat daarop betrekking het, vermeld is.

[OPMERKING.—In die geval van sommige skepe kan die opstel van die monsterrol verder vergemaklik word indien die rang of graad en kooi- of slaappleknommer (in plaas van die naam) van elke lid van die bemanning aangegee word.]

27. MONSTERPOSTE VIR PASSASIERS.

In elke passasierskip van Hoofstuk VIII moet monsterposte vir alle passasiers aangewys word vir gebruik in 'n noodgeval. Die betekenis van alle seine wat vir die passasiers van belang is, met noukeurige instruksies oor

(2) The muster list shall specify the following definite signals for calling all persons on board to their boat and fire stations in an emergency, and for indicating when the ship is to be abandoned:—

(*a*) Emergency signal for calling all persons on board to muster stations shall be a succession of seven or more short blasts followed by one long blast on the whistle or siren;

(*b*) the emergency signal shall be supplemented on ships of Class I by the electrically operated signals provided throughout the ship and controlled from the bridge in accordance with the Life-saving Equipment Regulations.

(3) The muster list shall assign duties to the different members of the crew in connection with—

(*a*) the closing of watertight doors, fire-proof doors, valves and closing mechanism of scuppers, ash-shoots etc.;

(*b*) the equipment of the boats and buoyant apparatus generally;

(*c*) the launching of the boats attached to davits;

(*d*) the general preparation of any other boats and buoyant apparatus, including inflatable rafts;

(*e*) the muster of the passengers (if any);

(*f*) the extinction of fire.

(4) The duty of seeing that the boats and buoyant apparatus and other life-saving apparatus are at all times ready for use, shall be assigned by the muster list to one or more ship's officers.

(5) The muster list shall assign to members of the stewards' department their several duties in relation to the passengers at the time of the emergency. These duties shall include—

(*a*) warning to passengers;

(*b*) seeing that they are suitably clad and have put on their life-jackets in a proper manner;

(*c*) assembling the passengers at muster stations;

(*d*) keeping order in the passages and on the stairways, and generally controlling the movements of the passengers;

(*e*) seeing that a supply of blankets is taken to the lifeboats.

(6) The muster list shall be prepared, or, if a new list is not necessary, revised after the agreement with the crew has been signed and before the ship proceeds to sea, and shall be dated and signed by the master.

(7) If, after the muster list has been prepared, any change takes place in the crew which necessitates an alteration in the muster list, the master shall either revise the list or prepare a new list.

(8) Copies of the muster list shall be posted in several parts of the ship, and in particular in the crew's quarters, before the ship proceeds to sea and shall be kept so posted while the ship is at sea.

(9) The preparation of the muster list shall, if necessary in the opinion of the proper officer, be supplemented by the issue, to each member of the crew, of a card capable of being attached by a string or cord to his life-jacket, showing (among other particulars) his boat station, emergency station or stations and duties, and any signals connected therewith.

[NOTE.—In the case of some ships, the preparation of the muster list may be further facilitated if the list shows the rank or rating and bunk or berth numbers (instead of names) of the individual members of the crew.]

27. ASSEMBLY STATIONS FOR PASSENGERS.

In every Chapter VIII passenger ship, assembly stations for all passengers shall be appointed for use in an emergency. The meaning of all signals affecting passengers, with precise instructions on what they are to do

wat hulle in 'n noodgeval moet doen, moet duidelik in Afrikaans en Engels en in sodanige ander tale as wat gepas mag wees, aangegee word op kaarte wat in hul kajuite en op prominente plekke in ander passasiersverblywe aangebring moet word.

(OPMERKING.—Ingevolge artikel *tweehonderd vyf-en-twintig* van die Wet moet die gesagvoerder van 'n passasierskip tot die tevredenheid van 'n opnemer ruim voorsiening laat maak by wyse van gedrukte kennisgewings en van tekeninge waar dit nodig is, om die passasiers in staat te stel om uit te vind waar reddingsbote, reddingsbuise en ander reddingstoestelle, brandemmers, byle en brandblussers is. Hy laat ook kennisgewings wat wys hoe om reddingsbuise aan te trek in elke kajuit en dwarsdeur die skip tot die tevredenheid van 'n opnemer vertoon hou.)

28. OEFENING EN INSPEKSIE.

(1) Die gesagvoerder van elke skip van Hoofstuk VIII, Klasse I, II, IIA, VI, VII, VIIA en VIII, en die gesagvoerder van elke ander skip van Hoofstuk VIII van 500 of meer ton moet, as dit prakties uitvoerbaar is—

(*a*) boot- en brandweeroefeninge laat hou, in die geval van 'n passasierskip, minstens eenkeer in elke week, en, in die geval van 'n ander skip as 'n passasierskip, minstens eenkeer in elke maand; en

(*b*) inspeksie laat doen van die reddingstoestelle aan boord van die skip, met tussenpose wat nie langer is as dié wat vir boot- en brandweeroefeninge voorgeskryf is nie, om vas te stel of hulle ten alle tye vir onmiddellike gebruik ter see gereed is.

(2) In skepe van Hoofstuk VIII, Klas I, moet 'n monstering van die bemanning gehou word voordat die skip die laaste afvaarhawe verlaat, en 'n monstering van die passasiers moet gehou word binne vier-en-twintig uur nadat die skip sodanige hawe verlaat het.

(3) By agtereenvolgende bootoefeninge moet verskillende groepe bote om die beurt gebruik word. Die oefeninge en inspeksies moet op so 'n wyse gereël word dat die bemanning deeglik op hoogte is van en geoefend is in die pligte wat hulle moet vervul, en dat alle reddings- en brandweertoestelle tesame met die nodige toebehore altyd vir onmiddellike gebruik gereed is.

(4) Die gesagvoerder laat in die amptelike skeepsjoernaal aantekening hou van elke geleentheid waarby boot- en brandweeroefeninge gehou of inspeksie van die reddingstoestelle gedoen word. Indien om enige rede die gemelde oefeninge nie gehou of inspeksie van die gemelde toestelle nie met die voorgeskrewe tussenpose gedoen word nie, moet die gesagvoerder 'n inskrywing in die amptelike skeepsjoernaal laat maak van die redes waarom die oefeninge nie gehou of die toestelle nie geïnspekteer is nie.

(OPMERKING.—In die geval van skepe waarop hierdie regulasie nie van toepassing is nie, word gesagvoerders en eienaars versoek om sorg te dra dat die seelui op hoogte is van en geoefend is in die pligte wat aan hulle toegewys is vir die geval van 'n noodtoestand, en dat hulle weet hoe om die reddings- en brandweertoestelle te gebruik en waar sodanige toestelle gehou word.)

29. DRAAGBARE RADIOTOESTEL VIR REDDINGSBOOT, WANNEER AAN BOORD.

Die gesagvoerder moet aan minstens twee lede van die bemanning (wat radio-offisiere kan wees) die plig toewys om te sorg dat die radio-apparaat van die reddingsboot (wat bymekaar gehou moet word in die kaartkamer of op 'n ander geskikte plek gereed om in 'n noodgeval na die een of ander reddingsboot geneem te word) in 'n reddingsboot geplaas of op 'n ander wyse beskikbaar gemaak word vir gebruik in 'n noodgeval. By enige geleentheid wanneer 'n bootoefening gehou word, moet die radio van die reddingsboot in 'n reddingsboot of op 'n ander plek wat vir gebruik in 'n noodgeval aangewys is, geplaas word by wyse van 'n oefening, indien dit prakties uitvoerbaar is. Genoeg lede van die bemanning benewens die radio-offisiere moet opleiding in die gebruik van die radio-apparaat van die reddingsboot ontvang om die volle en behoorlike gebruik daarvan in 'n noodgeval te verseker.

in an emergency shall be clearly stated in Afrikaans and English and in such other languages as are appropriate, on cards posted in their cabins and in conspicuous places in other passenger quarters.

(NOTE.—In terms of section *two hundred and twenty-five* of the Act, the master of a passenger ship shall cause ample provision to be made, to the satisfaction of the surveyor, by printed notices, and by diagrams where necessary, to enable the passengers to ascertain the position of life-boats, life-jackets and other life-saving appliances, fire-buckets, axes and fire-extinguishers. He shall also cause to be kept exhibited in each cabin, and throughout the ship to the satisfaction of the surveyor, notices showing the method of adjusting life-jackets to the body.)

28. TRAINING AND INSPECTION.

(1) The master of every Chapter VIII ship of Classes I, II, IIA, VI, VII, VIIA and VIII and the master of every other Chapter VIII ship of 500 tons or over, shall, if it is practicable to do so, cause—

(*a*) boat drill and fire drill to be practised, in the case of a passenger ship, at least once in every week, and, in the case of a ship other than a passenger ship, at least once in every month; and

(*b*) the life-saving appliances on board the ship to be inspected at intervals not greater than those prescribed for boat and fire drills to ascertain that they are at all times ready for immediate use at sea.

(2) In Chapter VIII ships of Class I, a muster of the crew shall be held before the ship leaves her final port of departure and a muster of the passengers shall be held within twenty-four hours after leaving such port.

(3) Different groups of boats shall be used in turn at successive boat drills. The drills and inspections shall be so arranged that the crew thoroughly understand and are practised in the duties they have to perform, and that all life-saving appliances and fire appliances with the gear appertaining to them are always ready for immediate use.

(4) The master shall cause an entry to be made in the official log-book of every occasion on which boat drill and fire drill are practised or the life-saving appliances inspected. If for any reason the said drills are not held or the said appliances are not inspected at the prescribed intervals, the master shall cause a statement to be entered in the official log-book of the reasons why the drills were not practised or the appliances not inspected.

(NOTE.—In the case of ships to which this regulation does not apply, masters and owners are requested to ensure that seamen understand and are drilled in the duties assigned to them for the event of an emergency, and that they understand the uses of life-saving appliances and fire appliances and know where such appliances are kept.)

29. LIFEBOAT PORTABLE RADIO APPARATUS, WHEN CARRIED.

The master shall assign to at least two members of the crew (who may be radio officers) the duty of seeing that the lifeboat radio gear (which shall be kept together in the chartroom or other suitable place ready to be moved to one or other of the life-boats in the event of an emergency) is placed in a lifeboat or otherwise made available for use in an emergency. On any occasion when boat drill is practised, the lifeboat radio shall be placed in a lifeboat or other place detailed for use in an emergency, as an exercise, if it is practicable to do so. Sufficient members of the crew in addition to radio officers shall be given instruction in the use of the lifeboat radio gear so as to ensure its full and proper use in an emergency.

HOOFSTUK IX.—VERVOER VAN GEVAARLIKE GOEDERE.

30. Toepassing van Hoofstuk IX.

Hierdie Hoofstuk is van toepassing op—

(*a*) elke Suid-Afrikaanse skip waar ook al; en

(*b*) elke skip wat nie 'n Suid-Afrikaanse skip is nie, terwyl die skip in 'n Unie-hawe is of in die Unie se territoriale waters passasiers aan boord neem of ontskeep of in gemelde waters vrag of brandstof laai of aflaai,

n 'n „skip van Hoofstuk IX" is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

(Opmerking.—Die aandag word gevestig op regulasie 0 waarkragtens 'n skip van die voorskrifte van hierdie Hoofstuk vrygestel kan word.)

31. Uitsonderinge.

Vir die toepassing van hierdie Hoofstuk omvat die uitrukking „gevaarlike goedere" nie die volgende nie:—

(*a*) Skeepsnoodseine wat 'n deel uitmaak van die uitrusting van die skip waarin hulle vervoer word;

(*b*) vloot- of militêre voorrade vir die diens van die Staat wanneer hulle vervoer word onder toestande wat die Sekretaris magtig; en

(*c*) goedere ten opsigte waarvan nòg die eienaar van die skip nòg enige persoon in sy diens of agente wat met sodanige goedere handel, geweet het of moes geweet het of redelike gronde gehad het om te vermoed dat hulle gevaarlike goedere was.

32. Beskrywing en klassifikasie van gevaarlike goedere.

(1) Niemand stuur in enige skip van Hoofstuk IX of, s hy nie die gesagvoerder of eienaar van die skip is nie, ervoer in daardie skip enige gevaarlike goedere sonder m duidelik in een van die landstale van die Unie op die uitekant van die houer daarvan die aard van die goedere an te dui en sodoende aan te toon onder watter van die ndergenoemde kategorieë die goedere val, en sonder om kriftelike kennis van die aard van sodanige goedere en an die naam en adres van die afsender daarvan aan die esagvoerder of eienaar van die skip te gee ten tyde van f voor die versending van die goedere wat aan boord van ie skip geneem moet word nie:—

(*a*) Ontplofbare stowwe;

(*b*) saamgeperste, vloeibare en opgeloste gasse;

(*c*) bytende stowwe;

(*d*) gifstowwe;

(*e*) stowwe wat ontvlambare dampe afgee;

(*f*) stowwe wat gevaarlik word wanneer hulle met water of lug in aanraking kom;

(*g*) sterk oksiderende stowwe;

(*h*) stowwe wat in staat is tot selfontbranding;

(*i*) laboratoriumchemikalieë en geneeskundige preparate in beperkte hoeveelhede; en

(*j*) ander gevaarlike goedere met inbegrip van radioaktiewe stowwe.

(2) Vir die toepassing van hierdie Hoofstuk is die uitrukkings „laboratoriumchemikalieë" en „geneeskundige reparate" nie van toepassing nie op toiletpreparate, oonheidsmiddels, parfuumprodukte of stowwe bedoel r gebruik anders as laboratriumchemikalieë of geneeskundige preparate. Verder word met die uitdrukking beperkte hoeveelhede" bedoel die hoeveelheid van enige danige stowwe as wat die Sekretaris mag besluit.

33. Lys van gevaarlike goedere.

Die gesagvoerder moet 'n lys aan boord van die skip at hou waarop, ooreenkomstig die inligting wat kragtens e bepalings van regulasie 32 verskaf is, die gevaarlike edere aangegee is wat aan boord is op die reis, en danige lys moet op aanvraag getoon word aan enige ersoon wat daartoe deur die Sekretaris gemagtig is.

CHAPTER IX.—CARRIAGE OF DANGEROUS GOODS.

30. Application of Chapter IX.

This Chapter applies to—

(*a*) every South African ship wherever it may be; and

(*b*) every ship (which is not a South African ship), while it is within any port in the Union, or is embarking or disembarking passengers within the territorial waters of the Union, or is loading or discharging cargo or fuel within those waters,

and a "Chapter IX ship" means a ship to which this Chapter so applies.

(Note.—Attention is invited to regulation 90 in terms of which a ship may be exempted from the requirements of this Chapter.)

31. Exceptions.

For the purposes of this Chapter, the following shall not be included in the expression "dangerous goods":—

(*a*) ships' distress signals, forming part of the equipment of the ship in which they are carried;

(*b*) naval or military stores for the public service when carried under conditions authorised by the Secretary; and

(*c*) goods which neither the owner of the ship nor any of his servants or agents dealing with such goods, knew or ought to have known, or had reasonable grounds for suspecting to be dangerous goods.

32. Description and Classification of Dangerous Goods.

(1) No person shall send by any Chapter IX ship, or, if he be not the master or owner of the ship, carry in that ship, any dangerous goods without distinctly marking, in one of the official languages of the Union, their nature on the outside of the package, indicating to which of the undermentioned categories the goods belong, and without giving written notice of the nature of such goods and of the name and address of the sender thereof to the master or owner of the ship at or before the time of sending the same to be taken on board the ship:—

(*a*) Explosives;

(*b*) compressed, liquified or dissolved gases;

(*c*) corrosives;

(*d*) poisons;

(*e*) substances giving off inflammable vapours;

(*f*) substances which become dangerous by interaction with water or air;

(*g*) strong oxidising agents;

(*h*) substances which are liable to spontaneous combustion;

(*i*) laboratory chemicals and medicinal preparations in limited quantities; and

(*j*) other dangerous goods, including radio-active material.

(2) For the purposes of this Chapter, the expressions "laboratory chemicals" and "medicinal preparations" shall not apply to toilet preparations, cosmetics, perfumery products or to substances intended for use other than as laboratory chemicals or medical preparations. Further, the expression "limited quantities" shall be the quantity of any such substances as may be decided by the Secretary.

33. List of Dangerous Goods.

The master shall cause a list to be carried in the ship setting forth, in accordance with the information furnished under the provisions of regulation 32, the dangerous goods carried in the ship on the voyage in which she is currently engaged, and such list shall on demand be produced to any person acting under the authority of the Secretary.

34. MERK VAN GEVAARLIKE GOEDERE.

(1) Gevaarlike goedere, in 'n draer, houer of pakket, moet nie aan boord van 'n skip van Hoofstuk IX geneem word nie tensy die draer, houer of pakket waarin die goedere is, duidelik in een van die landstale van die Unie met 'n onderskeidingsetiket of merkplaat gemerk is wat die aard van die gevaar aandui wat die goedere kan laat ontstaan en ook aandui waaruit die goedere bestaan.

(2) In gevalle waar goedere aan boord van die skip geneem word tesame met die draer waarin hulle bevat is, of waar goedere aan boord van die skip geneem word tesame met die houer waarin hulle bevat is, wat naamlik 'n houer is wat uit 'n addisionele omhulsel vir 'n draer bestaan en vervaardig of aangepas is vir die doel om die draer met die goedere daarbinne gesit of daarvan afgeneem te word, word dit geensins deur paragraaf (1) vereis dat enige sodanige houer of enige pakket waarin die goedere in die draer bevat mag wees, of, na gelang van die geval, enige pakket waarin die goedere in die houer bevat mag wees, ook gemerk moet word nie.

35. VERPAKKING EN VERVOER VAN GOEDERE IN MASSA.

(1) Gevaarlike goedere wat naamlik goedere is wat nie in massa ingelaai word nie, moet nie aan boord van 'n skip van Hoofstuk IX geneem word vir vervoer in daardie skip nie as die eienaar van die skip of enige van die persone in sy diens of agente wat daarmee handel, weet of behoort te weet dat die goedere nie goed genoeg verpak is om die gewone risiko's van hantering en vervoer op see met die oog op die aard van die goedere te weerstaan nie: Met dien verstande dat dit in enige prosesverrigtings teen 'n eienaar of gesagvoerder ten aansien van versuim om te voldoen aan die bepalings van hierdie regulasie, 'n goeie verweer is as bewys word dat die eienaar of gesagvoerder voor die inskeping van die goedere deur die verskeper voorsien is van 'n skriftelike verklaring ten effekte dat die goedere verpak is ooreenkomstig die vereistes van hierdie regulasie en dat nòg die eienaar nòg enige van die persone in sy diens of agente geweet het dat die goedere nie aldus verpak was nie.

(2) Gevaarlike goedere moet nie in massa in enige skip van Hoofstuk IX ingelaai word vir vervoer in daardie skip nie as die eienaar van die skip of enige van die persone in sy diens of agente wat daarmee handel, weet of behoort te weet dat die goedere nie met veiligheid in massa vervoer kan word na die bestemming waarheen hulle versend word nie.

36. STUWING.

Gevaarlike goedere en enige draer, houer of pakket wat gevaarlike goedere bevat wat aan boord van enige skip van Hoofstuk IX geneem word vir vervoer in daardie skip, moet in die skip opgeberg word en opgeberg gehou word op 'n wyse wat veilig en behoorlik vir sodanige goedere is, of, na gelang van die geval, vir die draer, houer of pakket, met inagneming van die identiteit en gevaarlike aard soos aangedui deur die merke waarna in regulasie 34 verwys word.

37. VERVOER VAN GEVAARLIKE GOEDERE IN PASSASIERSKEPE.

(1) Ontplofbare stowwe moet nie aan boord van 'n passasierskip van Hoofstuk IX vir vervoer in daardie skip geneem word nie, behalwe—

(*a*) enige ontplofbare stof wat deur die Sekretaris gespesifiseer kan word; of

(*b*) enige ontplofbare stowwe, met inbegrip van die omhulsel of verpakkingsmateriaal, met 'n totale gewig van hoogstens 20 lb.; of

(*c*) enige noodseinvuurpyle vir gebruik in skepe of vliegtuie as die totale gewig van sodanige vuurpyle hoogstens 1 ton is; of

(*d*) enige winkelvuurwerke.

(2) Enige noodseinvuurpyle of winkelvuurwerke wat in 'n passasierskip van Hoofstuk IX vervoer word, moet opgeberg word onder toesig van 'n persoon wat vir dié doel deur die gesagvoerder van die skip in geskrif onder sy handtekening aangestel is.

34. MARKING OF DANGEROUS GOODS.

(1) Dangerous goods, being goods contained in a vehicle, receptacle or package, shall not be taken on board any Chapter IX ship, unless the vehicle, receptacle or package in which the goods are contained is clearly marked, in one of the official languages of the Union, with a distinctive label or stencil indicating the nature of the danger to which the goods give rise, and indicating also the identity of the goods.

(2) Where goods are taken on board the ship together with the vehicle in which they are contained, or where goods are taken on board the ship together with the receptacle in which they are contained, being a receptacle which is an additional body for a vehicle and is constructed or adapted for the purpose of being taken on or off the vehicle with goods contained therein, nothing in paragraph (1) shall be taken to require any such receptacle or any package in which the goods in the vehicle may be contained, or, as the case may be, any package in which the goods in the receptacle may be contained, to be also marked.

35. PACKING AND CARRIAGE IN BULK.

(1) Dangerous goods, being goods which are not loaded in bulk, shall not be taken on board any Chapter IX ship for carriage in that ship if the owner of the ship or any of his servants or agents dealing therewith knows or ought to know that the goods are not packed in a manner adequate to withstand the ordinary risks of handling and transport by sea having regard to their nature: Provided that in any proceedings against an owner or master in respect of failure to comply with the provisions of this regulation, it shall be a good defence to prove that before the goods were taken on board the ship the owner or master was furnished with a statement in writing by the shipper to the effect that the goods were packed in accordance with the requirements of this regulation, and neither the owner nor any of his servants or agents knew that the goods were not so packed.

(2) Dangerous goods shall not be loaded in bulk into any Chapter IX ship for carriage in that ship if the owner of the ship or any of his servants or agents dealing therewith knows or ought to know that the goods cannot safely be carried in bulk to the destination to which they are consigned.

36. STOWAGE.

Dangerous goods and any vehicle, receptacle or package containing dangerous goods, taken on board any Chapter IX ship for carriage in that ship, shall be stowed in the ship, and shall be kept so stowed, in a manner which is a safe and proper manner of stowage for such goods, or, as the case may be, for the vehicle, receptacle or package having regard to the identity and dangerous nature indicated by the markings referred to in regulation 34.

37. CARRIAGE OF DANGEROUS GOODS IN PASSENGER SHIPS.

(1) Explosives shall not be taken on board any Chapter IX passenger ship for carriage in that ship except—

(*a*) any explosive which may be specified by the Secretary; or

(*b*) any explosives the total weight of which does not exceed 20 lb., including their immediate casing or packing; or

(*c*) any distress signal rockets for use in ships or aircraft if the total weight of such rockets does not exceed 1 ton; or

(*d*) any shop fireworks.

(2) Any distress signal rockets or shop fireworks carried in a Chapter IX passenger ship shall be stowed under the supervision of a person appointed for that purpose by the master of the ship in writing signed by him.

(3) Gevaarlike goedere (behalwe ontplofbare stowwe) t deur die Sekretaris gespesifiseer kan word, moet nie n boord van 'n passasierskip van Hoofstuk IX geneem rd vir vervoer in daardie skip nie: Met dien verstande hierdie paragraaf nie verbied dat gevaarlike goedere n boord van sodanige skip geneem word ten opsigte arvan daar 'n geldige sertifikaat deur die Sekretaris gereik is of deur enige owerheid daartoe deur die wette n enige land behalwe die Unie gemagtig, ten effekte dat lanige skip geskik is om 'n aantal passasiers van ogstens vyf-en-twintig te vervoer, of 'n getal gelyk aan n-tiende van die lengte van die skip in voet, watter ook die grootste getal mag wees.

38. VERVOER VAN BRANDBARE VLOEISTOWWE.

Vloeistowwe ten opsigte waarvan die eienaar van die p of enige van die persone in sy diens of agente wat rmee handel, weet of behoort te weet dat dit brandbaar moet nie aan boord van enige skip van Hoofstuk IX vervoer in daardie skip geneem word nie tensy ventie wat onder die omstandighede voldoende is, voorsien vir die ruimtes waarin die vloeistowwe vervoer moet rd.

39. VERVOER VAN STOWWE WAT IN STAAT IS TOT SELFONTBRANDING.

Stowwe ten opsigte waarvan die eienaar van die skip of ge van die persone in sy diens of agente wat daarmee ndel, weet of behoort te weet dat hulle in staat is tot ontbranding, moet nie aan boord van enige skip van ofstuk IX vir vervoer as vrag in daardie skip geneem rd nie, tensy die regte voorsorgsmaatreëls in dié standighede getref word vir die voorkoming van die ontbranding van sodanige stowwe.

40. PUBLIKASIES IN VERBAND MET DIE VERVOER VAN GEVAARLIKE GOEDERE IN SKEPE.

(1) Vir die leiding van alle persone wat by die vervoer gevaarlike goedere in skepe betrokke is, moet 'n lys gevaarlike goedere van tyd tot tyd gepubliseer en nneer nodig gewysig word met magtiging van die retaris, en die lys moet in die vorm wees wat die retaris nodig ag.

(2) Die lys moet inligting en aanbevelings bevat in band met die verpakking, vervoer, merk, hanteer en wing van gevaarlike goedere in skepe, asook ander aste inligting, wat persone in staat sal stel om aan die eistes van hierdie Hoofstuk te voldoen. Die Sekretaris egter in afsonderlike gevalle op aansoek van die naar, gesagvoerder of agente van 'n skip alternatiewe rstelle insake die hantering, opberging en vervoer van aarlike goedere oorweeg.

(3) Die stowwe wat in die lys getabelleer en geklassifi- kan word, moet nie geag word 'n volledige lys van gevaarlike goedere te wees nie, en as 'n stof met aarlike eienskappe nie in die lys verskyn nie, stel dit sone wat te doen het met die vervoer van gevaarlike dere in skepe nie vry van hul verantwoordelikheid ten igte van die behoorlike verpakking, vervoer, merk, tering en stuwing van sodanige goedere nie. Wanneer ang word om enige stof te verskeep wat gevaarlike dere mag wees en wat nie in die lys verskyn nie, moet geval aan die Sekretaris of 'n persoon deur hom aange- vir oorweging voorgelê word.

OPMERKINGS.

(a) Die Sekretaris het besluit dat die jongste uitgawe enige wysigings daarvan) van die publikasie „The riage of Dangerous Goods and Explosives in Ships", ruk deur Her Majesty's Stationery Office, Londen, en emeen bekend as die „Blue Book", voorlopig die lys uitmaak waarna in hierdie regulasie verwys word.

(b) Die aandag van eienaars en gesagvoerders word aal by die regulasies en latere wysigings daarvan opge- kragtens die Wet op Ontplofbarestowwe (Wet No. 26 1956) vir sover hulle die inlaai en ontskeping van plofbare stowwe in Unie-hawens betref.]

(3) Dangerous goods (other than explosives) which may be specified by the Secretary shall not be taken on board any Chapter IX passenger ship for carriage in that ship: Provided that nothing in this paragraph shall prohibit the taking of dangerous goods on board such ship in respect of which there is in force a certificate issued by the Secretary, or by any authority empowered on that behalf by the laws of any country other than the Union, to the effect that such ship is fit to carry a number of passengers not exceeding twenty-five or a number equal to one-tenth of the length of the ship in feet, whichever shall be the greater.

38. CARRIAGE OF INFLAMMABLE LIQUIDS.

Liquids which the owner of the ship or any of his servants or agents dealing therewith know or ought to know to be inflammable, shall not be taken on board any Chapter IX ship for carriage in that ship, unless ventilation adequate in the circumstances is provided for the spaces in which the liquids are to be carried.

39. CARRIAGE OF SUBSTANCES LIABLE TO SPONTANEOUS COMBUSTION.

Substances which the owner of the ship or any of his servants or agents dealing therewith know or ought to know to be liable to spontaneous combustion, shall not be taken on board any Chapter IX ship for carriage in that ship as cargo, unless precautions proper in the circumstances are taken for the prevention of the spontaneous combustion of such substances.

40. PUBLICATIONS COVERING THE CARRIAGE OF DANGEROUS GOODS IN SHIPS.

(1) For the guidance of all persons concerned with the carriage of dangerous goods in ships, a list of dangerous goods shall be published from time to time and amended when necessary under the authority of the Secretary, and the list shall be in such form and manner as the Secretary may consider necessary.

(2) The list shall contain information and recommendations for the packing, carriage, marking, handling and stowage of dangerous goods in ships, and any other pertinent information, which will enable persons to comply with the requirements of this Chapter. The Secretary may, however, in individual cases on application by the owner, master or agents of a ship, consider alternative suggestions as to the handling, stowage and carriage of dangerous goods.

(3) The substances which may be listed and classified in the list shall not be regarded as forming a full list of all dangerous goods, and the non-inclusion of any substance possessing dangerous properties shall not relieve persons concerned with the carriage of dangerous goods in ships from their responsibility for proper packing, carriage, marking, handling and stowage of such goods. When it is desired to ship any substance which may be dangerous goods and which is not provided for in the list, the case shall be submitted to the Secretary or a person appointed by him for consideration.

[NOTES.

(*a*) The Secretary has decided that for the time being, the latest issue (and any amendments thereto) of the publication entitled "The Carriage of Dangerous Goods and Explosives in Ships", printed by Her Majesty's Stationery Office, London, and commonly known as the "Blue Book", shall be the list referred to in this regulation.

(*b*) The attention of owners and masters is invited to the regulations and subsequent amendments thereto framed under the Explosives Act (Act No. 26 of 1956) insofar as they concern the loading and discharging of explosives in harbours of the Union.]

HOOFSTUK X.—VERVOER VAN GRAAN.

41. TOEPASSING VAN HOOFSTUK X.

(1) Hierdie Hoofstuk is van toepassing op—

(*a*) enige skip, waar dit ook al geregistreer mag wees, waarin graan in 'n Unie-hawe gelaai word;

(*b*) enige skip waarin graan waar ook al gelaai word vir ontskeping in die Unie; en

(*c*) enige Suid-Afrikaanse skip waarin graan in enige hawe buite die Unie gelaai word,

en 'n „skip van Hoofstuk X" is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

(2) Hierdie Hoofstuk is nie van toepassing op 'n skip wat in alle opsigte gelaai is ooreenkomstig bepalings wat deur die Sekretaris in 'n spesiale geval goedgekeur is nie.

[OPMERKINGS.

(1) In artikel *tweehonderd ses-en-dertig* van die Wet waarop hierdie Hoofstuk gebaseer is, sluit die omskrywing van „graan" koring, mielies, hawer, rog, gars, rys, peulvrugte en sade in.

(2) Die aandag word gevestig op regulasies 91 en 95 wat betrekking het op vrystellings en die aanneem van gelykwaardige reëlings kragtens hierdie Hoofstuk.]

42. VOORSORGSMAATREËLS OM TE VERHOED DAT GRAAN VERSKUIF.

Die gesagvoerder of eienaar van 'n skip van Hoofstuk X of 'n agent van die eienaar aan wie dit opgedra is om die skip te laat laai of die met graan bevragte skip ter see te laat uitvaar, moet sorg dat al die voorsorgsmaatreëls wat in Bylae C uiteengesit word, getref word, en moet daarbenewens alle ander voorsorgsmaatreëls tref wat onder die omstandighede nodig en redelik is, om te verhoed dat die graan verskuif.

[OPMERKINGS.

(1) Die aandag word gevestig op artikel *tweehonderd ses-en-dertig* van die Wet ingevolge waarvan die eienaar en gesagvoerder aan 'n misdryf skuldig is en die skip geag word onseewaardig te wees indien die voorgeskrewe voorsorgsmaatreëls nie getref word nie.

(2) Verder word die aandag gevestig op die kennisgewing wat die gesagvoerder kragtens subartikel (4) van artikel *tweehonderd ses-en-dertig* van die Wet aan die bevoegde beampte moet oorhandig by die aankoms van die skip by 'n Unie-hawe.]

43. INSPEKSIE.

(1) Wanneer graan in massa in enige hawe in die Unie gelaai moet word, moet die eienaar of gesagvoerder van 'n skip van Hoofstuk X of 'n agent van die eienaar aan wie dit opgedra is om die skip te laai of die met graan bevragte skip ter see te laat uitvaar, die bevoegde beampte van die voorneme om die graan te laai, in kennis stel, en die bevoegde beampte moet die skip laat ondersoek deur 'n opnemer of ander persoon wat vir dié doel deur die Sekretaris aangestel is.

(2) Die ondersoek moet plaasvind terwyl die graanuitrusting wat deur Bylae C vereis word, aangebring word.

44. UITREIKING VAN SERTIFIKAAT.

As die opnemer of ander persoon wat vir die doel deur die Sekretaris aangestel is, oortuig is dat—

(*a*) die skip uitgerus is ooreenkomstig die bepalings van Bylae C;

(*b*) die graanuitrusting bevredigend is; en

(*c*) alle voorsorgsmaatreëls wat onder die omstandighede nodig en redelik is, getref is om te verhoed dat die graan verskuif,

reik hy aan die gesagvoerder van die skip 'n sertifikaat te dien effekte uit in die vorm T.V. 5/323 uiteengesit in Bylae D.

CHAPTER X.—CARRIAGE OF GRAIN.

41. APPLICATION OF CHAPTER X.

(1) This Chapter applies to—

(*a*) any ship wherever she may be registered loading grain in any port in the Union;

(*b*) any ship which loads grain anywhere for discharge in the Union; and

(*c*) any South African ship loading grain in any port outside the Union,

and a "Chapter X ship" means a ship to which this Chapter so applies.

(2) This Chapter shall not apply in respect of a ship loaded in all respects in accordance with any provisions approved by the Secretary in a special case.

[NOTES.

(1) Section *two hundred and thirty-six* of the Act on which this Chapter is based, defines "grain" as including wheat, maize, oats, rye, barley, rice, pulses and seeds.

(2) Attention is invited to regulations 91 and 95 dealing with exemption and the acceptance of equivalent arrangements under this Chapter.]

42. PRECAUTIONS TO PREVENT GRAIN FROM SHIFTING.

The master or owner of a Chapter X ship or any agent of the owner who is charged with the loading or with the sending of such ship to sea loaded with grain, shall take the precautions set forth in Annex C and shall in addition take all other precautions to prevent the grain from shifting which in the circumstances are necessary and reasonable.

[NOTES.

(1) Attention is invited to section *two hundred and thirty-six* of the Act in terms of which the owner and master shall be guilty of an offence and the ship regarded as unseaworthy, if the prescribed precautions are not taken.

(2) Attention is further invited to the notice which the master is by sub-section (4) of section *two hundred and thirty-six* of the Act required to deliver to the proper officer on the arrival of the ship at a port in the Union.]

43. INSPECTION.

(1) Whenever grain in bulk is to be loaded at any port in the Union, the owner or master of a Chapter X ship, or any agent of the owner who is charged with the loading or with the sending of the ship to sea laden with grain, shall advise the proper officer of the intention to load the grain, and the proper officer shall cause the ship to be inspected by a surveyor or other person appointed by the Secretary for the purpose.

(2) The inspection shall take place while the grain fittings required by Annex C, are being installed.

44. ISSUE OF CERTIFICATE.

If the surveyor or other person appointed by the Secretary for the purpose, is satisfied that—

(*a*) the ship is fitted in accordance with the provisions of Annex C;

(*b*) the grain fittings are satisfactory; and

(*c*) all precautions to prevent the grain from shifting which in the circumstances are necessary and reasonable, have been taken,

he shall issue to the master of the ship a certificate to that effect in form T.V. 5/323 set forth in Annex D.

HOOFSTUK XI.—HOUTVRAGREGULASIES.

45. Toepassing van Hoofstuk XI.

Hierdie Hoofstuk is van toepassing op elke laslynskip vat 'n dekvrag hout in 'n hawe in die Unie laai, en 'n skip van Hoofstuk XI" is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

(Opmerking.—Die aandag word gevestig op regulasie 2 waarkragtens 'n skip vrygestel kan word van die vereistes van hierdie Hoofstuk.)

46. Dekopeninge wat deur dekvragte hout bedek word.

Openinge wat na ruimtes onder die vryboorddek lei, moet goed gesluit en vasgekeg word. Alle uitrusting soos kildbalke, langsmerkels en luike moet op hul plek wees. Wanneer ventilasie van die ruime nodig is, moet die luggokers op doeltreffende wyse beskerm word.

47. Stuwing.

(1) 'n Dekvrag hout moet vas opmekaar gepak, gesjor en vasgemaak wees. Dit moet op generlei wyse die navigasie en die verrigting van noodsaaklike werksaamhede aan boord belemmer of die versekering van voldoende stabiliteit tydens die hele reisduur verhinder nie, terwyl gelet moet word op die toename van gewig soos as gevolg van die opneem van water deur die hout en die verlies van gewig soos as gevolg van die verbruik van brandstof en voorrade.

(2) Brandkrane, kleppe vir die dekwaterdiens en stoomkleppe wat aangebring is vir die bediening van die skip en vir brandbestryding, peilkokers na tenks of vullings, moet en alle tye vry en toeganklik gehou word.

(3) In die geval van 'n skip binne enige van die gebiede wat in die tweede kolom van Bylae E aangegee is, in die onderskeie tydperke wat teenoor sodanige gebiede in die derde kolom van genoemde Bylae aangegee is, moet die hoogte van die dekvrag hout bo die vryboorddek hoogstens een-derde van die grootste skeepsbreedte wees.

48. Toegang tot die akkommodasie vir die bemanning en die masjienruime, beskerming van die bemanning, ens.

(1) 'n Dekvrag hout moet op so 'n wyse gepak word dat veilige en bevredigende toegang tot die akkommodasie vir die bemanning, tot masjienruime en tot alle ander gedeeltes wat in verband met die noodsaaklike werksaamhede van die skip gebruik word, ten alle tye moontlik is.

(2) By die openinge wat tot hierdie gedeeltes toegang verleen, moet die dekvrag hout so gepak wees dat hierdie openings behoorlik dig gemaak en teen die binnedringing van water afgesluit kan word.

(3) Doeltreffende beskerming vir die bemanning in die vorm van relingwerk of gespanne lyne wat vertikaal nie meer as 12 duim van mekaar gespasieer is nie tot 'n hoogte van minstens 4 voet bo die vrag, moet aan albei kante van die dekvrag hout aangebring word. Die dekvrag hout moet op so 'n wyse gepak word dat dit gelyk genoeg is om as loopgang te kan dien.

49. Dekstuurinrigting.

Die dekstuurinrigting moet op deugdelike wyse teen beskadiging deur 'n dekvrag hout beskerm word en, vir sover dit uitvoerbaar is, moet die inrigting toeganklik wees. Doeltreffende voorsiening moet vir die stuur van die skip gemaak word vir die geval dat die hoofstuurinrigting beskadig word.

50. Sjorrings.

'n Volledige stelsel van sjorrings wat lank genoeg is en in 'n goeie toestand verkeer, moet verskaf word om oor die dekvrag hout te span en dit oor die hele lengte daarvan doeglik vas te maak. Die sjorrings moet voorsien wees in losmaakuitrusting wat ten alle tye toeganklik moet wees. Alle uitrusting en toestelle wat ten opsigte van die sjorrings gebruik word, moet van 'n sterkte wees wat gelyk is aan die sterkte van die sjorrings. Sodanige uitrusting en toestelle moet van 'n bevredigende tipe wees.

CHAPTER XI.—TIMBER CARGO REGULATIONS.

45. Application of Chapter XI.

This Chapter applies to every load line ship loading a deck cargo of timber at a port in the Union, and a "Chapter XI ship" means a ship to which this Chapter so applies.

(Note.—Attention is invited to regulation 92 in terms of which a ship may be exempted from the requirements of this Chapter.)

46. Deck Openings Covered by Timber Deck Cargo.

Openings to spaces below the freeboard deck, shall be securely closed and battened down. All fittings, such as hatchway beams, fore-and-afters and covers, shall be in place. Where hold ventilation is needed, the ventilators shall be efficiently protected.

47. Stowage.

(1) Timber deck cargo shall be compactly stowed, lashed and secured. It shall not interfere in any way with the navigation and necessary work of the ship, or with the provision of a safe margin of stability at all stages of the voyage, regard being given to additions of weight such as those due to absorption of water by the timber, and to losses of weight such as those due to consumption of fuel and stores.

(2) Fire hydrants, valves for the deck water service and steam valves provided for the working of the ship and for fire fighting purposes, sounding pipes to tanks or bilges, shall be kept clear and accessible at all times.

(3) In the case of a ship within any of the areas set out in the second column of Annex E, during the periods set out respectively opposite to such areas in the third column of the said Annex, the height of the timber deck cargo above the freeboard deck shall not exceed one-third of the extreme breadth of the ship.

48. Access to Crew Accommodation and Machinery Spaces, Protection of Crew, etc.

(1) Timber deck cargo shall be so stowed as to leave available at all times safe and satisfactory access to crew accommodation, to machinery spaces and to all other parts used in the necessary work of the ship.

(2) Timber deck cargo in way of openings which give access to such parts, shall be so stowed that the openings can be properly closed and secured against the admission of water.

(3) Efficient protection for the crew in the form of guard rails or life lines, spaced not more than 12 inches apart vertically, shall be provided on each side of the timber deck cargo to a height of at least 4 feet above the cargo. The timber deck cargo shall be so stowed as to be sufficiently level for gangway purposes.

49. Deck Steering Gear.

Deck steering arrangements shall be effectively protected from damage by timber deck cargo, and, as far as is practicable, shall be accessible. Efficient provision shall be made for steering in the event of a breakdown in the main steering arrangements.

50. Lashings.

A complete system of overall lashings of ample strength and in good condition, shall be provided so as to give effective security throughout the length of the timber deck cargo. The lashings shall be fitted with releasing arrangements accessible at all times. All fittings and appliances used in connection with the lashings shall be of strength corresponding to the strength of the lashings. Such fittings and appliances shall be of a satisfactory type.

51. STUTTE.

Wanneer stutte weens die aard van die houtvrag nodig is—

(*a*) moet hulle sterk genoeg wees en kan hulle van hout of metaal wees;

(*b*) die spasiëring moet verband hou met die lengte en die aard van die houtvrag, maar moet nie meer as 10 voet wees nie; en

(*c*) doeltreffende middels moet aangebring word om die stutte vas te maak.

52. ADDISIONELE VOORSORGSMAATREËLS VIR SKEPE WAT HOUTVAARTLASLYNE GEBRUIK.

Regulasies 53, 54 en 55 is van toepassing op skepe van Hoofstuk XI wat gemerk is met houtvaartlaslyne wanneer hulle dieper gelaai is as die maksimum diepte waartoe hulle voorlopig kragtens die Laslynregulasies geregtig sou gewees het as hulle nie met houtvaartlaslyne gemerk was nie.

53. STUWING (sien regulasie 52).

Die kuile op die vryboorddek moet gevul word met hout wat so dig moontlik gepak moet wees tot 'n hoogte van minstens (i) 6 voet ten opsigte van skepe tot en met 250 voet lank; (ii) 7 voet 6 duim ten opsigte van skepe van 400 en meer voet lank; en (iii) 'n proporsionele intermediêre hoogte ten opsigte van skepe meer as 250 voet maar minder as 400 voet lank.

54. SJORRINGS (sien regulasie 52).

(1) 'n Dekvrag hout moet op deeglike wyse oor die hele lengte deur onafhanklike sjorrings wat oor die dekvrag gespan is, hoogstens 10 voet van mekaar vasgemaak word. Die sjorrings oor die dekvrag moet in 'n goeie toestand wees en moet bestaan uit 'n digte ketting van minstens $\frac{3}{4}$ duim in deursnee of uit buigsame staalkabel van gelyke sterkte wat voorsien is van sliphake en spanskroewe wat ten alle tye bereikbaar moet wees. In staalkabelsjorrings moet 'n kort entketting met lang skakels wees om dit moontlik te maak om die lengte van die sjorrings te reguleer.

(2) Wanneer die lengte van die hout korter as 12 voet is, moet die spasiëring van die sjorrings verminder word om by die lengte van die hout aan te pas of ander geskikte voorsiening moet gemaak word.

(3) Wanneer die spasiëring van die sjorrings 5 voet of kleiner is, kan die grootte van die sjorrings verminder word, maar 'n ketting van minstens $\frac{1}{2}$ duim in deursnee of 'n gelykwaardige staalkabel moet gebruik word.

55. MIDDELE OM STUTTE VAS TE MAAK (sien regulasie 52).

(1) Wanneer stutte weens die aard van die houtvrag nodig is, moet sterk hoekstale of metaalpotte wat op deeglike wyse aan die stringerplaat bevestig is, of ander ewe doeltreffende middels, aangebring word om die stutte vas te maak.

(2) Op boboudekke moet stutte, wanneer hulle aangebring word, deur dwarsskeepse sjorrings van voldoende sterkte vasgemaak word.

56. UITREIKING VAN SERTIFIKAAT.

Wanneer 'n vrag hout op die dek van 'n skip van Hoofstuk XI wat vir so 'n vrag geskik is, in enige hawe in die Unie gelaai is en die opnemer oortuig is dat die hout ooreenkomstig die bepalings van hierdie Hoofstuk gepak en vasgemaak is, moet hy aan die gesagvoerder 'n sertifikaat in die vorm T.V. 5/324 wat in Bylae F verskyn, uitreik.

(OPMERKING.—Ingevolge artikel *tweehonderd sewe-en-dertig* is dit 'n misdryf as 'n skip sonder die sertifikaat wat volgens hierdie regulasie vereis word, uit 'n Unie-hawe uitvaar.)

HOOFSTUK XII.—GEVARE VIR DIE SKEEPVAART.

57. TOEPASSING VAN HOOFSTUK XII.

Hierdie Hoofstuk is van toepassing op elke Suid-Afrikaanse skip waar hy hom ook al bevind, en 'n „skip van Hoofstuk XII" is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

51. UPRIGHTS.

When uprights are required by the nature of the timber—

(*a*) the uprights shall be of adequate strength and may be of wood or metal;

(*b*) the spacing shall be suitable for the length and character of timber carried, but shall not exceed 10 feet; and

(*c*) efficient means shall be provided for securing the uprights.

52. ADDITIONAL PRECAUTIONS APPLYING TO SHIPS USING TIMBER LOAD LINES.

Regulations 53, 54 and 55 shall apply to Chapter XI ships marked with timber load lines when loaded beyond the maximum depth to which they would, for the time being, be entitled under the Load Line Regulations to be loaded if they were not marked with timber load lines.

53. STOWAGE (see regulation 52).

The wells on the freeboard deck shall be filled with timber stowed as solidly as possible, to a height of at least (i) 6 feet for ships up to and including 250 feet in length, (ii) 7 feet 6 inches for ships 400 feet in length and above, and (iii) a proportionate intermediate height for ships above 250 feet but less than 400 feet in length.

54. LASHINGS (see regulation 52).

(1) The timber deck cargo shall be efficiently secured throughout its length by independent overall lashings spaced not more than 10 feet apart. Overall lashings shall be in good condition and shall consist of close link chain of not less than $\frac{3}{4}$-inch diameter, or flexible wire rope of equivalent strength, fitted with slip hooks and stretching screws, which shall be accessible at all times. Wire rope lashings shall have a short length of long link chain to permit the length of lashings to be regulated.

(2) When the timber is in lengths of less than 12 feet, the spacing of the lashings shall be reduced to suit the length of timber, or other suitable provision made.

(3) When the spacing of the lashings is 5 feet or less, the size of the lashings may be reduced, but not less than $\frac{1}{2}$-inch diameter chain or equivalent wire rope shall be used.

55. MEANS FOR SECURING UPRIGHTS (see regulation 52).

(1) For the purpose of securing uprights when these are required by the nature of the cargo, strong angles or metal sockets efficiently secured to the stringer plate, or equally efficient means, shall be provided.

(2) On superstructure decks, uprights, where fitted, shall be secured by athwartship lashings of ample strength.

56. ISSUE OF CERTIFICATE.

When a Chapter XI ship which is suitable for such load, has been loaded with a deck cargo of timber at any port in the Union, and the surveyor is satisfied that the timber has been loaded and secured in accordance with the provisions of this Chapter, he shall issue to the master a certificate in form T.V. 5/324 set forth in Annex F.

(NOTE.—In terms of section *two hundred and thirty-seven* of the Act it is an offence if a ship proceeds to sea from a port in the Union without the certificate provided for in this regulation.)

CHAPTER XII.—DANGERS TO NAVIGATION.

57. APPLICATION OF CHAPTER XII.

This Chapter applies to every South African ship wherever it may be, and a "Chapter XII ship" means a ship to which this Chapter so applies.

(OPMERKING.—Artikel *tweehonderd nege-en-veertig* van die Wet waarop hierdie Hoofstuk gebaseer is, omskryf 'n „gevaarlike storm" as 'n orkaan, tifoon, sikloon of ander storm van 'n soortgelyke aard. Die artikel bepaal verder dat daar geag word dat die gesagvoerder van 'n skip 'n gevaarlike storm teëgekom het as hy rede het om te glo dat daar so 'n storm in sy nabyheid is.)

58. GEVARE MOET AANGEMELD WORD.

(1) Die gesagvoerder van 'n skip van Hoofstuk XII wat gevaarlike ys, 'n gevaarlike wrak, 'n gevaarlike storm of enige ander regstreekse gevaar vir die skeepvaart teëkom, moet onmiddellik al die skepe in die nabyheid met alle kommunikasiemiddels tot sy beskikking daarvan in kennis stel, en ook die naaste hawebeamptes per radio in kennis stel.

Indien die skip nie van 'n radiotoestel voorsien is nie, moet die gesagvoerder 'n verslag aan die hawebeamptes lewer sodra die skip in die hawe terug is.

(OPMERKING.—Die aandag word gevestig op artikel *tweehonderd-en-vyftig* van die Wet ingevolge waarvan die gesagvoerder, wanneer ys in die nag op of naby die koers van sy skip aangemeld word, òf teen 'n matige snelheid moet vaar òf van koers moet verander sodat hy ruim buitekant die gebied van die ys en die gevaar vaar.)

(2) Die gesagvoerder van 'n skip van Hoofstuk XII wat 'n gevaarlike wrak teëgekom het, of ander regstreekse gevaar vir die skeepvaart wat 'n geruime tyd 'n gevaar kan bly, moet by sy eersvolgende terugkeer na 'n hawe in die Unie so 'n gevaar by die bevoegde beampte aanmeld en die posisie van die gevaar aandui toe dit teëgekom is, asook sodanige verdere inligting waaroor hy beskik en wat die beampte verlang: Met dien verstande dat 'n verslag kragtens hierdie paragraaf nie nodig sal wees nie as die gesagvoerder reeds 'n verslag aan die bevoegde beampte by 'n Unie-hawe ooreenkomstig paragraaf (1) gelewer het.

59. AARD VAN INLIGTING WAT VERSTREK MOET WORD.

Verslae van gevare vir die skeepvaart moet, waar moontlik, die volgende besonderhede bevat:—

(*a*) Ys, wrakke en ander regstreekse gevare vir die skeepvaart:—

(i) die aard van die waargenome ys, wrak of ander gevaar;

(ii) die plek waar die ys, wrak of ander gevaar die laaste waargeneem is; en

(iii) die tyd (Middelbare Tyd Greenwich) en datum waarop die waarneming gedoen is.

(*b*) Gevaarlike storms—

(i) of die storm teëgekom is en of die gesagvoerder goeie rede het om aan te neem dat dit in sy omgewing bestaan;

(ii) die tyd (Middelbare Tyd Greenwich), datum en posisie van die skip tydens die waarnemings;

(iii) barometerstand (in millibaar, duim of millimeter, en of dit gekorrigeer of ongekorrigeer is);

(iv) neiging van die barometerstand (die verandering in die barometerstand gedurende die laaste drie uur);

(v) die ware windrigting;

(vi) windkrag (skaal van Beaufort);

(vii) toestand van die see (kalm, matig, ru, hoog);

(viii) deining (laag, matig, hoog) en die ware rigting vanwaar dit kom. [Periode of lengte van die deining (kort, gemiddeld, lank) is ook van belang]; en

(ix) ware koers en snelheid van die skip.

(OPMERKING.—Wanneer die gesagvoerder 'n gevaarlike storm gerapporteer het, is dit wenslik dat verdere waarnemings gedoen word en elke uur, of indien nie uitvoerbaar nie, elke drie uur, uitgesend word solank die skip nog die nasleep van die storm ondervind.)

(NOTE.—Section *two hundred and forty-nine* of the Act on which this Chapter is based, defines a "dangerous storm" as meaning a hurricane, typhoon, cyclone, or other storm of a similar nature. That section further states that the master of the ship shall be deemed to have met with a dangerous storm if he has reason to believe that there is such a storm in his vicinity.)

58. DANGERS TO BE REPORTED.

(1) The master of a Chapter XII ship, on meeting with dangerous ice, a dangerous derelict, dangerous storm or any other direct danger to navigation, shall at once inform all ships in the vicinity, using all means of communication at his disposal, and shall also inform the nearest port authorities by radio.

If the ship is not equipped with a radio apparatus, the master shall as soon as the ship returns to port, furnish a report to the port authorities.

(NOTE.—Attention is invited to section *two hundred and fifty* of the Act in terms of which the master shall, when ice is reported on or near his course at night, either proceed at a moderate speed or change course so as to keep well clear of the ice and of the area of danger.)

(2) The master of a Chapter XII ship, when he has met with a dangerous derelict or other direct danger to navigation which might remain a danger for a considerable time, shall on his next return to a port in the Union report such danger to the proper officer and shall give the position of the danger when sighted and such further information at his disposal as that officer may require: Provided that a report under this paragraph shall not be necessary if the master has already rendered a report to the proper officer at a port in the Union in accordance with paragraph (1).

59. NATURE OF INFORMATION TO BE FURNISHED.

Reports of dangers to navigation shall, whenever possible, contain the following particulars:—

(*a*) Ice, derelicts and other direct dangers to navigation—

(i) the kind of ice, derelict or other danger observed;

(ii) the position of the ice, derelict or other danger when last observed; and

(iii) the time (Greenwich Mean Time) and date when the observation was made.

(*b*) Dangerous storms—

(i) whether the storm has been encountered or whether the master has good reason to believe that it exists in his neighbourhood;

(ii) the time (Greenwich Mean Time), date, and position of the ship when the observations were made;

(iii) barometric pressure (in millibars, inches or millimetres, and whether corrected or uncorrected);

(iv) barometric tendency (the change in barometric pressure during the past three hours);

(v) true wind direction;

(vi) wind force (Beaufort scale);

(vii) state of the sea (smooth, moderate, rough, high);

(viii) swell (slight, moderate, heavy) and the true direction from which it comes. [Period or length of swell (short, average, long) is also of value]; and

(ix) true course and speed of ship.

(NOTE.—When the master has reported a dangerous storm, it is desirable that further observations be made and transmitted hourly, or if impracticable, every three hours, for so long as the ship remains under the influence of the storm.)

HOOFSTUK XIII.—SKIPBREUKE, ONGELUKKE, BOTSINGS OF BESKADIGING MOET AANGEMELD WORD.

60. Toepassing van Hoofstuk XIII.

Hierdie Hoofstuk is van toepassing op—

(*a*) elke skip wat in die Unie geregistreer of gelisensieer is of geag word aldus geregistreer of gelisensieer te wees, waar die skip hom ook al mag bevind; en

(*b*) elke skip wat nie in die Unie geregistreer of gelisensieer is nie, terwyl hy hom in die Unie of die Unie se territoriale waters bevind en indien die voorval wat aangemeld moet word, voorgekom het gedurende 'n reis na 'n hawe in die Unie of binne die Unie of sy territoriale waters,

en 'n „ skip van Hoofstuk XIII " is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

61. Verslae moet ingedien word.

(1) Behoudens die bepalings van paragraaf (2), moet die eienaar of gesagvoerder van 'n skip van Hoofstuk XIII, indien die skip—

(*a*) verlore gegaan het, verlaat is of gestrand het; of

(*b*) beskadig is of skade aan 'n ander skip veroorsaak het; of

(*c*) die toneel was van 'n ongeval wat lewensverlies of ernstige besering van 'n persoon veroorsaak het; of

(*d*) in groot gevaar verkeer het, hetsy deur die optrede van 'n ander skip, hetsy om 'n ander rede; of

(*e*) na 'n hawe in die Unie moes terugkeer nadat hy uit daardie hawe vertrek het; of

(*f*) vasgeloop het in, of skade veroorsaak het aan, enige hawe, dok of kaai of aan enige ligskip, boei, baken of seeteken,

die voorval binne vier-en-twintig uur nadat dit gebeur het of so gou daarna soos moontlik aan die naaste bevoegde beampte rapporteer op vorm T.V. 5/325 wat in Bylae G verskyn, en al die inligting verstrek wat op die vorm aangevra word.

(2) Subparagraaf (*f*) van paragraaf (1) is nie van toepassing op 'n hawevaartuig wat aan die Spoorwegadministrasie behoort nie.

[Opmerkings.

(1) Vorm T.V. 5/325 is verkrygbaar by die kantoor van die bevoegde beampte, en die gesagvoerder moet aan die begin van die reis in die Unie 'n voorraad daarvan verkry.

(2) Vorm T.V. 5/325 word ook gebruik vir die kennisgewing wat in artikel *tweehonderd-en-sestig* van die Wet voorgeskryf word.]

HOOFSTUK XIV.—DIEPLODINGTOESTELLE.

62. Toepassing van Hoofstuk XIV.

Hierdie Hoofstuk is van toepassing op elke skip van vyf-en-twintig of meer ton wat in die Unie geregistreer of gelisensieer is of geag word aldus geregistreer of gelisensieer te wees, en 'n „ skip van Hoofstuk XIV " is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

(Opmerking.—Die aandag word gevestig op regulasie 93 ingevolge waarvan 'n skip van enige van die vereistes van hierdie Hoofstuk vrygestel kan word.)

63. Skepe van Klasse I, II en IIA.

(1) Elke skip van Hoofstuk XIV, Klasse I, II en IIA, moet toegerus word met 'n doeltreffende meganiese dieplodingtoestel en genoeg vervangdele, met die oog op die tipe toestel en die diens waarvoor die skip bedoel is, om die toestel in werkende orde te hou terwyl die skip op see is.

(2) Elke skip van Hoofstuk XIV, Klasse I, II en IIA, moet toegerus word met twee handloodlyne, elk minstens 25 vadems lank en elk met 'n lood wat minstens 7 lb. weeg.

(Opmerking.—Die bostaande is 'n herhaling van regulasie 81 van die regulasies in verband met konstruksie. Die herhaling geskied duidelikheidshalwe en om verwysing te vergemaklik.)

CHAPTER XIII.—WRECKS, CASUALTIES, COLLISIONS OR DAMAGE TO BE REPORTED.

60. Application of Chapter XIII.

This Chapter applies to—

(*a*) every ship registered or licensed in the Union or deemed to be so registered or licensed, wherever she may be; and

(*b*) every ship not registered or licensed in the Union, while she is within the Union or the territorial waters thereof and if the event to be reported has occurred during a voyage to a port in the Union or within the Union or the territorial waters thereof,

and a " Chapter XIII ship " means a ship to which this Chapter so applies.

61. Reports to be Made.

(1) Subject to the provisions of paragraph (2), the owner or master of a Chapter XIII ship shall, if the ship—

(*a*) has been lost, abandoned or stranded; or

(*b*) has been damaged or has caused damage to another ship; or

(*c*) has been the scene of any casualty resulting in loss of life or serious injury to any person; or

(*d*) has been in a position of great peril either from the action of some other ship or for any other reason; or

(*e*) has had to put back to a port in the Union after having left that port; or

(*f*) has fouled or done any damage to any harbour, dock or wharf or to any lightship, buoy, beacon or seamark,

report the occurrence within twenty-four hours after it has happened or as soon thereafter as possible, to the nearest proper officer on form T.V. 5/325 set forth in Annex G, and shall give all the information required by that form.

(2) Sub-paragraph (*f*) of paragraph (1) shall not apply to harbour craft owned by the Railway Administration.

[Notes.

(1) Form T.V. 5/325 is obtainable at the office of the proper officer, and the master should obtain a supply thereof at the commencement of the voyage in the Union.

(2) Form T.V. 5/325 should also be used for the notification called for in section *two hundred and sixty* of the Act.]

CHAPTER XIV.—DEPTH-SOUNDING DEVICES.

62. Application of Chapter XIV.

This Chapter applies to every ship of twenty-five tons or over registered or licensed in the Union or deemed to be so registered or licensed, and a " Chapter XIV ship " means a ship to which this Chapter so applies.

(Note.—Attention is invited to regulation 93 in terms of which a ship may be exempted from any of the requirements of this Chapter.)

63. Ships of Classes I, II and IIA.

(1) Every Chapter XIV ship of Classes I, II and IIA shall be provided with an efficient mechanical depth-sounding device, and with such spare parts as are sufficient, having regard to the type of the device and to the intended service of the ship, to enable the device to be maintained in working order while the ship is at sea.

(2) Every Chapter XIV ship of Classes I, II and IIA shall be provided with two hand lead-lines, each at least 25 fathoms long, and each with a lead weighing at least 7 lb.

(Note.—The above is a repetition of regulation 81 of the construction regulations which repetition is being made for purposes of clarity and easy reference.)

64. SKEPE VAN KLASSE VII, VIIA, VIII EN X.

(1) Elke skip van Hoofstuk XIV, Klasse VII, VIIA, III en X, van 100 of meer ton moet toegerus word met 'n doeltreffende meganiese dieplodingtoestel. Die toestel moet genoeg vervangdele by hê met die oog op die tipe toestel en die diens waarvoor die skip bedoel is.

(2) Behoudens die bepalings van paragraaf (3) moet elke skip van Hoofstuk XIV, Klasse VII, VIIA en VIII, toegerus word met twee handloodlyne, en elke skip van Hoofstuk XIV, Klas X, met een handloodlyn. Elk van hierdie lyne moet minstens 25 vadems lank wees, met 'n lood wat minstens 7 lb. weeg.

(3) Waar 'n skip van Hoofstuk XIV, Klasse VII, VIIA, III of X, of ooreenkomstig die bepalings van paragraaf (1) of op 'n vrywillige basis met 'n meganiese dieplodingtoestel toegerus is, is net een handloodlyn nodig: Met dien verstande dat 'n skip van minder as eenhonderd ton in geen geval met meer as een so 'n lyn toegerus hoef te word nie.

65. HANDLOODLYN.

(1) Die handloodlyn moet op 'n gepaste wyse gemerk word sodat die diepte van die water vasgestel kan word.

(2) Die lood moet gelaai kan word sodat die aard van die seebodem vasgestel kan word.

HOOFSTUK XV.—ANKERS, ANKERKETTINGS, TROSSE EN VERHAALTOUE.

66. TOEPASSING VAN HOOFSTUK XV.

Hierdie Hoofstuk is van toepassing op elke skip van vyf-en-twintig of meer ton wat in die Unie geregistreer of gelisensieer is of geag word aldus geregistreer of gelisensieer te wees, en 'n „skip van Hoofstuk XV" is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

67. VOORSIENING VAN ANKERS EN KABELS.

Elke skip van Hoofstuk XV moet toegerus word met ankers en ankerkettings wat voldoende is ten opsigte van getal, gewig en sterkte, met inagneming van die grootte van die skip en die diens waarvoor dit bedoel word.

68. VOORSIENING VAN TROSSE EN VERHAALTOUE.

Elke skip van Hoofstuk XV moet toegerus word met trosse en verhaaltoue wat voldoende is ten opsigte van getal en sterkte, met inagneming van die grootte van die skip en die diens waarvoor dit bedoel word.

HOOFSTUK XVI.—LOODSLERE.

69. TOEPASSING VAN HOOFSTUK XVI.

(1) Behoudens die bepalings van paragraaf (2), is hierdie Hoofstuk van toepassing op—

(*a*) elke skip van vyf-en-twintig of meer ton wat in die Unie geregistreer of gelisensieer is of geag word aldus geregistreer of gelisensieer te wees, waar so 'n skip hom ook al mag bevind; en

(*b*) elke skip wat aan 'n land behalwe die Unie behoort, terwyl die skip in 'n Unie-hawe is en 'n loods aan boord moet neem of van boord moet laat gaan.

en 'n „skip van Hoofstuk XVI" is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

(2) Hierdie Hoofstuk is nie van toepassing op 'n skip wat aan 'n land behalwe die Unie behoort as die skip nie na 'n Unie-hawe sou gewees het nie, was dit nie vir weers- of enige ander omstandighede wat nie deur die gesagvoerder of die eienaar of die bevragter (as daar een is) van die skip vermy of voorkom kon gewees het nie.

(OPMERKING.—Die aandag word gevestig op regulasie 94 ingevolge waarvan 'n skip van die vereistes van hierdie Hoofstuk vrygestel kan word.)

70. VOORSIENING VAN LOODSLERE.

(1) Elke loodsleer moet doeltreffend wees om die loods veilig aan boord te laat kom of van boord te laat gaan, en sonder om aan die algemene strekking van die voorgaande af te doen, moet dit lank genoeg wees om van die skip waarop die loods moet inskeep of waarvandaan hy moet ontskeep, tot by die water te kom wanneer die skip lig is en nie oorhel nie.

64. SHIPS OF CLASSES VII, VIIA, VIII AND X.

(1) Every Chapter XIV ship of Classes VII, VIIA, VIII and X of 100 tons or over, shall be provided with an efficient mechanical depth-sounding device. The device shall include such spare parts as are sufficient, having regard to the type of the device and to the intended service of the ship.

(2) Subject to the provisions of paragraph (3), every Chapter XIV ship of Classes VII, VIIA and VIII shall be provided with two hand lead-lines, and every Chapter XIV ship of Class X with one hand lead-line. Each such line shall be at least 25 fathoms in length with a lead weighing at least 7 lb.

(3) Where a Chapter XIV ship of Classes VII, VIIA, VIII or X is equipped with a mechanical depth-sounding device either in accordance with the provisions of paragraph (1) or on a voluntary basis, only one hand lead-line shall be required: Provided that in no case shall a ship of less than one hundred tons be required to be provided with more than one such line.

65. HAND LEAD-LINE.

(1) The hand lead-line shall be suitably marked to enable the depth of the water to be ascertained.

(2) The lead shall be capable of being armed to enable the nature of the bottom of the sea to be ascertained.

CHAPTER XV.—ANCHORS, CHAIN CABLES, HAWSERS AND WARPS.

66. APPLICATION OF CHAPTER XV.

This Chapter applies to every ship of twenty-five tons or over registered or licensed in the Union or deemed to be so registered or licensed, and a "Chapter XV ship" means a ship to which this Chapter so applies.

67. PROVISION OF ANCHORS AND CABLES.

Every Chapter XV ship shall be provided with such anchors and chain cables as are sufficient in number, weight and strength, having regard to the size and intended service of the ship.

68. PROVISION OF HAWSERS AND WARPS.

Every Chapter XV ship shall be provided with such hawsers and warps as are sufficient in number and strength, having regard to the size and intended service of the ship.

CHAPTER XVI.—PILOT LADDERS.

69. APPLICATION OF CHAPTER XVI.

(1) Subject to the provisions of paragraph (2), this Chapter applies to—

(*a*) every ship of twenty-five tons or over registered or licensed in the Union or deemed to be so registered or licensed, wherever such ship may be; and

(*b*) every ship belonging to a country, other than the Union, while she is within any port in the Union, requiring to embark or disembark a pilot,

and a "Chapter XVI ship" means a ship to which this Chapter so applies.

(2) This Chapter shall not apply to a ship belonging to a country, other than the Union, if she would not have been within a port in the Union but for stress of weather or any other circumstances that neither the master nor the owner nor the charterer (if any) of the ship could have prevented or forestalled.

(NOTE.—Attention is invited to regulation 94 in terms of which a ship may be exempted from the requirements of this Chapter.)

70. PROVISION OF PILOT LADDERS.

(1) Each pilot ladder shall be efficient for the purpose of enabling a pilot to embark and disembark safely from the ship and, without prejudice to the generality of the foregoing, shall be of sufficient length to reach the water, when the ship is in an unloaded condition and has no list, from the deck on which it is intended that the pilot shall embark and disembark.

(2) 'n Handleier met 'n omtrek van minstens 2½ duim moet aan weerskante van die loodsleer aangebring word en die binneboordpunt van die handleier moet stewig aan die skip vasgemaak word.

(3) Elke loodsleer moet 'n kleur geverf word wat kontrasteer met die kleur van die kant van die skip.

71. POSISIE VAN DIE LOODSLEER EN TOEGANG TOT DIE DEK.

Middele moet voorsien word sodat die loodsleer aan albei kante van die skip gebruik kan word en die loods veilig kan gaan van die bo-end van die leer op die skeepsdek, en omgekeerd.

72. VERLIGTING.

Middels moet aangebring word sodat die loodsleer en die toegang tot die dek snags doeltreffend verlig kan word.

73. TOESIG OOR LOODSLEER.

Elke keer as 'n loods of ander beampte deur middel van die loodsleer aan of van boord gaan, moet 'n skeepsoffisier by die loodsleer op diens wees.

74. BEPERKTE GEBRUIK, KONSTRUKSIE EN INSTANDHOUDING VAN LOODSLERE.

(1) Die loodsleer moet sover moontlik slegs vir die aan boord kom en vir die van boord gaan van loodse en ander amptenare gebruik word terwyl die skip 'n hawe binnekom of dit verlaat. Die leer moet in 'n goeie toestand gehou word.

(2) Die loodsleer moet lank en sterk genoeg wees. Die gehalte van die materiaal en die konstruksie moet bevredigend wees.

(3) Spreiers moet, indien nodig, aan die loodsleer aangebring word om te verhoed dat die leer draai wanneer dit gebruik word.

75. AANSPREEKLIKHEID VIR OORTREDING VAN HIERDIE HOOFSTUK.

Die eienaar en gesagvoerder van enige skip van Hoofstuk XVI en enige lid van die bemanning wat die bepalings van hierdie Hoofstuk oortree of nie nakom nie en daardeur die besering of die dood veroorsaak van 'n loods of ander amptenaar wat nie 'n lid van die bemanning is nie, as gevolg van die verkeerde gebruik van 'n loodsleer terwyl die loods aan boord kom of van boord gaan, of as gevolg van 'n gebrek behalwe 'n verborge gebrek wat nie bemerkbaar is by behoorlike oplettendheid nie, is elkeen ondanks enige ander aanspreeklikheid wat op die skip rus, by skuldigbevinding strafbaar met 'n boete van hoogstens vyftig pond.

Met dien verstande dat in enige prosesverrigtings teen 'n eienaar of gesagvoerder of enige lid van die bemanning ten aansien van 'n oortreding of verontagsaming van die bepalings van hierdie Hoofstuk, dit 'n goeie verweer is as bewys word dat die besering of dood van so 'n loods of ander amptenaar veroorsaak is deur die nalatigheid of skuld van die loods of ander amptenaar terwyl hy die loodsleer gebruik het om aan boord of van boord te gaan, of deur die nalatigheid of die skuld van enige persoon in 'n loodsvaartuig, of deur ander omstandighede wat nie deur die eienaar of die gesagvoerder of die lid van die bemanning vermy kon gewees het nie.

HOOFSTUK XVII.—NAVIGASIELIGTE EN -FIGURE EN GELUIDSEINE.

76. TOEPASSING VAN HOOFSTUK XVII.

(1) Behoudens die bepalings van paragraaf (2) is hierdie Hoofstuk van toepassing op—

(*a*) elke skip terwyl die skip binne die Unie of die territoriale waters van die Unie is; en

(*b*) elke Suid-Afrikaanse skip waar die skip hom ook al mag bevind,

en 'n „skip van Hoofstuk XVII" is 'n skip waarop hierdie Hoofstuk aldus van toepassing is.

(2) Regulasies 78 en 79 is nie van toepassing op 'n skip wat aan 'n ander land as die Unie behoort nie.

(2) A man-rope of not less than 2½ inches circumference shall be provided on each side of the pilot ladder and the inboard end of the man-rope shall be firmly secured to the ship.

(3) Each pilot ladder shall be painted in a contrasting colour to that of the ship's side.

71. POSITION OF PILOT LADDER AND ACCESS TO DECK.

Means shall be provided to enable the pilot ladder to be used on each side of the ship and to enable the pilot to pass safely from the head of the pilot ladder to the deck of the ship and vice versa.

72. LIGHTING.

Means shall be provided for the effective illumination at night of the pilot ladder and the deck access.

73. SUPERVISION OF PILOT LADDER.

On each occasion when a pilot or other official embarks or disembarks from the ship by means of the pilot ladder, a ship's officer shall be in attendance at the pilot ladder.

74. RESTRICTED USE, CONSTRUCTION AND MAINTENANCE OF PILOT LADDERS.

(1) The pilot ladder shall, as far as possible, be used only for embarking and disembarking pilots and other officials while the ship is arriving at or leaving a port. The pilot ladder shall be kept in good condition.

(2) The pilot ladder shall be of adequate strength and robust in construction. The materials and workmanship shall be of satisfactory quality.

(3) Spreaders shall, if necessary, be fitted to the pilot ladder to prevent the ladder twisting in use.

75. LIABILITY FOR CONTRAVENTION OF THIS CHAPTER.

The owner and master of any Chapter XVI ship, and any member of the crew, who contravenes or fails to comply with the provisions of this Chapter and thereby causes any pilot or other official who is not a member of the crew to suffer hurt, injury or death through the improper use, or defect, other than latent defect not discoverable by due diligence, of any pilot ladder while embarking or disembarking such pilot or other official shall, notwithstanding any other liability resting upon the ship, on conviction, each be liable to a fine not exceeding fifty pounds.

Provided that in any proceedings against an owner or master or any member of the crew in respect of a contravention of or failure to comply with the provisions of this Chapter, it shall be a good defence to prove that the hurt, injury or death of such pilot or other official was caused by negligence or fault of such pilot or other official while using the pilot ladder for embarking onto or disembarking from the ship, or by negligence or fault of any person in a pilot-vessel, or other circumstances that neither the owner, master nor member of the crew could have prevented.

CHAPTER XVII.—NAVIGATION LIGHTS AND SHAPES, AND SOUND SIGNALS.

76. APPLICATION OF CHAPTER XVII.

(1) Subject to the provisions of paragraph (2), this Chapter applies to—

(*a*) every ship while it is within the Union or the territorial thereof, and

(*b*) every South African ship wherever it may be,

and a "Chapter XVII ship" means a ship to which this Chapter so applies.

(2) Regulations 78 and 79 shall not apply to a ship belonging to a country other than the Union.

77. SKIP MOET BEHOORLIK TOEGERUS WORD.

(1) Die eienaar en gesagvoerder van elke skip van Hoofstuk XVII moet sorg dra dat die skip behoorlik toegerus s met ligte en figure en toestelle om geluidseine uit te end ten einde die bepalings van die regulasies in verband net botsings na te kom.

(2) Ligte en figure en toestelle om geluidseine uit te end moet behoorlik en tot bevrediging van die bevoegde eampte ingerig word.

78. OLIELAMPE.

Behoudens die bepalings van regulasie 79, moet elke kip van Hoofstuk XVII van doeltreffende olielampe voorien word sodat die skip aan die bepalings en vereistes van lie regulasies in verband met botsings kan voldoen, ongeag f so 'n skip van elektriese lampe voorsien is of nie.

79. UITSONDERINGS.

(1) Daar word nie ten opsigte van petroleumtrekskuite f ander soortgelyke skepe van Hoofstuk XVII waarop die ansteek van olielampe verbied word deur die verordeninge at van krag is in die hawens waarin die skepe vaar, vereis lat hulle olielampe aan boord moet hê nie, mits elektriese atterye voorsien is wat die nodige stroom minstens estien uur lank sonder herlaai kan verskaf vir die ligte at kragtens die regulasies in verband met botsings ertoon moet word.

(2) Daar word nie ten opsigte van kragaangedrewe kepe van Hoofstuk XVII van kleiner as 40 ton en seilkepe van Hoofstuk XVII van kleiner as 20 ton vereis at hulle olielampe behalwe as ankerlig aan boord moet hê nie, mits hulle toegerus is met 'n ontwikkelaar en 'n attery van minstens 12 volt waarvan elkeen die ligte at kragtens die regulasies in verband met botsings ertoon moet word, gelyktydig kan verskaf. Die ontwikelaar moet die battery kan herlaai, en die battery moet terk genoeg wees om die ligte minstens sestien uur lank ol te hou. 'n Reserwestel geskikte elektriese gloeilampies oet aan boord gehou word.

As hierdie skepe net een nag op enige reis op see sal ees, kan duplikaatbatterye waarvan elkeen minstens estien uur lank die ligte kan voorsien wat kragtens die egulasies in verband met botsings vertoon moet word, in laas van bogenoemde ontwikkelaar en battery aangeneem ord, mits die batterye ten volle gelaai is voor die skip n reis onderneem.

(OPMERKING.—Indien daar besondere redes bestaan aarom 'n skip van Hoofstuk XVII, behalwe die skepe aarna in hierdie regulasie verwys word, nie die ebruiklike stel navigasie-olielampe aan boord moet hê ie, kan die Sekretaris alternatiewe inrigtings oorweeg by ntvangs van 'n aansoek te dien effekte deur die eienaar.)

HOOFSTUK XVIII.—SLUITING VAN OPENINGE IN ROMPE EN IN WATERDIGTE BESKOTTE.

80. TOEPASSING VAN HOOFSTUK XVIII.

(1) Hierdie Hoofstuk is van toepassing op elke Suidfrikaanse skip wat 'n passasierskip is, en 'n „skip van Hoofstuk XVIII" is 'n skip waarop hierdie Hoofstuk dus van toepassing is.

(2) By die toepassing van hierdie Hoofstuk word geag at 'n skip ter see uitvaar wanneer die skip 'n ankerplek f 'n meerplek in 'n hawe met daardie doel verlaat, en at 'n skip op see is totdat die skip by 'n meerplek of nkerplek in 'n hawe vasgemaak is.

81. INRIGTINGS WAT GESLUIT MOET WORD.

In elke skip van Hoofstuk XVIII moet die inrigtings aarop hierdie regulasie betrekking het, dig toegemaak ord onmiddellik voor die skip ter see uitvaar, en moet dus toegemaak bly terwyl die skip op see is. Die inrigngs waarop hierdie regulasie betrekking het, is soos olg:—

(*a*) Waterdigte draaideure onderkant die indompelingsgrenslyn in beskotte wat ingevolge die vereistes van die regulasies in verband met konstruksie waterdig moet wees en wat tussendekse laairuime van mekaar skei.

77. SHIP TO BE PROPERLY EQUIPPED.

(1) The owner and master of every Chapter XVII ship shall ensure that she is properly equipped with lights and shapes and means of making sound signals in order to comply with the provisions of the Collision Regulations.

(2) Lights and shapes and means of making sound signals shall be of suitable construction and to the satisfaction of the proper officer.

78. OIL LAMPS.

Subject to the provisions of regulation 79, every Chapter XVII ship shall be provided with efficient oil lamps to enable the ship to comply with the provisions and requirements of the Collision Regulations, whether or not such ship is provided with electric lamps.

79. EXCEPTIONS.

(1) Petroleum barges or other similar Chapter XVII ships upon which the lighting of oil lamps is prohibited by the bye-laws in force at the ports within which the ships ply, shall not be required to carry oil lamps, provided that electric batteries are fitted capable of supplying the necessary current for the lights required to be shown under the Collision Regulations, for not less than sixteen hours without re-charging.

(2) Power-driven Chapter XVII ships of less than 40 tons and Chapter XVII ships under sails of less than 20 tons, shall not be required to carry oil lamps, except for the anchor light, provided they are equipped with a generator and a battery of not less than 12 volts, each being capable of supplying simultaneously the lights required to be shown under the Collision Regulations. The generator shall be capable of re-charging the battery, and the battery shall have sufficient capacity to maintain the lights for not less than sixteen hours. A spare set of suitable electric light bulbs shall be carried.

If such ships do not spend more than one night at sea on any one voyage, duplicate batteries, each capable of maintaining the lights required to be shown under the Collision Regulations for not less than sixteen hours, may be accepted in lieu of the generator and battery mentioned above, provided that the batteries are fully charged before the ship makes a voyage.

(NOTE.—If there are special reasons why any Chapter XVII ship, other than those referred to in this regulation should not carry the normal set of oil navigation lamps, the Secretary may consider alternative arrangements on application being made on that behalf by the owner.)

CHAPTER XVIII.—CLOSING OF OPENINGS IN HULLS AND IN WATERTIGHT BULKHEADS.

80. APPLICATION OF CHAPTER XVIII.

(1) This Chapter applies to every South African ship being a passenger ship, and a "Chapter XVIII ship" means a ship to which this Chapter so applies.

(2) In the application of this Chapter, a ship shall be deemed to proceed to sea when she leaves a mooring or anchorage at a port for that purpose, and to be at sea until she has been secured at a mooring or anchorage at a port.

81. CONTRIVANCES TO BE CLOSED.

In every Chapter XVIII ship, the contrivances to which this regulation relates, shall, immediately before the ship proceeds to sea, be securely closed, and shall be kept so closed while the ship is at sea. The contrivances to which this regulation relates are the following:—

(*a*) Hinged watertight doors below the margin line which are fitted in bulkheads required by the Construction Regulations to be watertight and which divide cargo between deck spaces.

(*b*) Alle patryspoorte wat oopgemaak kan word en wat geleë is in enige tussendek en onderkant die indompelingsgrenslyn, indien die laagste punt van die opening van so 'n patryspoort laer geleë is as 'n lyn wat ewewydig aan die beskotdek op die skeepsboord getrek is en met sy laagste punt $4\frac{1}{2}$ voet benewens $2\frac{1}{2}$ persent van die breedte van die skip bo die water wanneer 'n skip die eerste maal in seewater vlot is nadat dit uitgevaar het: Met dien verstande dat met mooi weer in tropiese vaargebiede volgens die bedoeling van die laslynregulasies (met inbegrip van tropiese seisoensvaargebiede in die toepaslike seisoene) hierdie subparagraaf toegepas sal word asof „ $4\frac{1}{2}$ voet " deur „ $3\frac{1}{2}$ voet " vervang is.

(*c*) Patryspoorte onderkant die indompelingsgrenslyn wat nie toeganklik sal wees terwyl die skip op see is nie, en ook hul blinde ligte.

(*d*) Patryspoorte onderkant die indompelingsgrenslyn in ruimte wat afwisselend vir die vervoer van vrag of van passasiers gebruik word, en ook hul blinde ligte, wanneer die ruimte waarin hulle geleë is, gebruik word vir die vervoer van vrag.

(*e*) Deurgangs-, laai- en brandstofpoorte onderkant die indompelingsgrenslyn.

Vir die toepassing van hierdie regulasie word 'n inrigting geag onderkant die indompelingsgrenslyn te wees indien die laagste punt van die opening van die inrigting onderkant daardie lyn is, en 'n patryspoort word nie as toegemaak geag nie tensy dit gesluit is.

82. Waterdigte deure moet gesluit word.

In elke skip van Hoofstuk XVIII moet elke waterdigte deur, maar nie 'n deur waarna in subparagraaf (*a*) van regulasie 81 verwys word nie, gesluit bly terwyl die skip op see is behalwe wanneer hulle moet oopgemaak word vir die bediening van die skip. Wanneer hulle oop is, moet elke deur vry wees van enige belemmering wat die vinnige toemaak daarvan kan verhinder.

83. Verplaasbare plate moet op hul plek wees.

In elke skip van Hoofstuk XVIII moet elke verplaasbare plaat bedoel vir die sluiting van 'n opening, heeltemal of gedeeltelik onderkant die indompelingslyn op enige plek in die binnedele van die skip, wat volgens die vereistes van die regulasies in verband met konstruksie waterdig moet wees, op sy plek wees wanneer die skip ter see uitvaar en op sy plek bly terwyl die skip op see is, behalwe in 'n uiters dringende geval. Wanneer so 'n plaat teruggeplaas word, moet alle redelike voorsorgsmaatreëls getref word om te verseker dat die nate waterdig is.

84. Kleppe van as- en vuilgoedstortkokers moet gesluit word.

In elke skip van Hoofstuk XVIII moet die deksel en klep van enige asstortkoker, vuilgoedstortkoker of ander soortgelyke inrigting waarvan die binneboordopening onderkant die indompelingsgrenslyn is, dig gesluit gehou word wanneer die inrigting nie gebruik word nie.

85. Oefeninge moet gehou word.

(1) In elke skip van Hoofstuk XVIII moet waterdigte deure en ander inrigtings wat in regulasies 81, 82 en 84 vermeld is, vir oefeningdoeleindes oopgemaak en gesluit word—

(*a*) met tussenpose van hoogstens sewe dae; en

(*b*) onmiddellik voor die skip ter see uitvaar indien dit die bedoeling is dat die skip vir 'n tydperk van langer as sewe dae op see moet bly.

Met dien verstande dat niks in hierdie paragraaf as magtiging geag sal word vir die oopmaak, terwyl die skip op see is, van enige waterdigte deur of ander inrigting wat kragtens regulasie 81 gesluit moet bly nie.

(*b*) All sidescuttles which can be opened and which are situated in any between decks and below the margin line, if any of such sidescuttles have their sills below a line drawn parallel to the bulkhead deck at the side of the ship and having its lowest point $4\frac{1}{2}$ feet in addition to $2\frac{1}{2}$ per cent of the breadth of the ship above the water when the ship is first afloat in sea water after proceeding to sea: Provided that in fair weather in tropical zones within the meaning of the Load Line Regulations, (including seasonal tropical zones in the appropriate seasons) this sub-paragraph shall have effect as if " $3\frac{1}{2}$ feet " were substituted for " $4\frac{1}{2}$ feet ".

(*c*) Sidescuttles below the margin line which will not be accessible while the ship is at sea, together with their deadlights.

(*d*) Sidescuttles below the margin line situated in spaces appropriated alternatively to the carriage of cargo or passengers, together with their deadlights, when the space in which they are situated is used for the carriage of cargo.

(*e*) Gangway, cargo and fuelling ports below the margin line.

For the purpose of this regulation, a contrivance shall be deemed to be below the margin line, if the sill of the contrivance is below that line, and a sidescuttle shall not be deemed to be closed unless it is locked.

82. Watertight Doors to be Closed.

In every Chapter XVIII ship, every watertight door, not being a door referred to in sub-paragraph (*a*) of regulation 81, shall be kept closed while the ship is at sea except when it is required to be open for the working of the ship. When open, every such door shall be kept free from obstructions which might prevent its rapid closure.

83. Portable Plates to be in Place.

In every Chapter XVIII ship, every portable plate closing an opening in any portion of the internal structure of the ship which is required by the Construction Regulations to be watertight, being an opening which is wholly or partly below the margin line, shall be in place when the ship proceeds to sea and shall be kept in place while the ship is at sea, except in case of urgent necessity. In replacing any such plate, all reasonable precautions shall be taken to ensure that the joints are watertight.

84. Valves of Ash-shoots and Rubbish-shoots to be Closed.

In every Chapter XVIII ship, the cover and valve of any ash-shoot, rubbish-shoot or other similar contrivance having its inboard opening below the margin line, shall be kept securely closed when the device is not in use.

85. Practise Drills to be Held.

(1) In every Chapter XVIII ship, all watertight doors and other contrivances referred to in regulations 81, 82 and 84, shall be opened and closed for purposes of drill—

(*a*) at intervals of not more than seven days; and

(*b*) immediately before the ship proceeds to sea, if the ship is intended to remain at sea for a period of more than seven days.

Provided that nothing in this paragraph shall be taken to authorise the opening, while the ship is at sea, of any watertight door or other contrivance which is required by regulation 81 to be kept closed.

(2) In elke skip van Hoofstuk XVIII moet alle waterdigte deure in dwarsbeskotte wat ingevolge die regulasies in verband met konstruksie waterdig moet wees (maar nie deure wat ingevolge hierdie Hoofstuk gesluit moet wees wanneer die skip op see is nie) eenmaal in elke tydperk van vier-en-twintig uur wanneer die skip op see is, vir oefeningdoeleindes oopgemaak en gesluit word, as sodanige deure—

(*a*) swaaideure is, of deur krag in werking gestel word; en

(*b*) oop moet wees vir die bediening van die skip te enige tyd terwyl die skip op see is:

Met dien verstande dat niks in hierdie paragraaf die oopmaak en sluiting van enige bunkerdeur gedurende die reis sal vereis voordat dit vir die bediening van die skip gedurende daardie reis oopgemaak is nie.

86. INSPEKSIES MOET MET TUSSENPOSE UITGEVOER WORD.

In elke skip van Hoofstuk XVIII moet inspeksies van—

(*a*) alle waterdigte deure;

(*b*) alle meganismes, aanwysers en waarskuwingstoestelle ten opsigte van sulke deure;

(*c*) alle kleppe waarvan die sluiting nodig is om enige kompartement onderkant die indompelingsgrenslyn waterdig te maak; en

(*d*) alle kleppe waarvan die inwerkingstelling noodsaaklik is vir die doeltreffende werking van dwarsverbindings by die beheer van beskadiging,

uitgevoer word met tussenpose van hoogstens sewe dae deur 'n persoon wat vir dié doel deur die gesagvoerder van die skip aangestel is.

87. INSKRYWINGS MOET IN DIE AMPTELIKE SKEEPSJOERNAAL GEMAAK WORD.

In elke skip van Hoofstuk XVIII moet 'n verslag in die amptelike skeepsjoernaal ingeskryf word met vermelding van—

(*a*) die tyd van die laaste sluiting, voordat die skip ter see uitvaar, van die waterdigte deure en ander inrigtings vermeld in regulasie 81, en van die eersvolgende oopmaak van sodanige deure en inrigtings;

(*b*) die tyd van die sluiting en die tyd van die oopmaak, terwyl die skip op see is, van enige waterdigte deur wat aangebring is tussen bunkers in die tussendek onderkant die beskotdek;

(*c*) of die verplaasbare plate vermeld in regulasie 83 op hul plekke is wanneer die skip ter see uitvaar, en die tyd, indien enige, van die verwydering en die terugsit van sodanige plate wanneer die skip op see is; en

(*d*) die kere wanneer oefeninge gehou word en inspeksies uitgevoer word ter nakoming van die voorafgaande bepalings van hierdie Hoofstuk, en ook of die inrigtings waarmee sodanige oefeninge en inspeksies in verband staan, in goeie werkende orde is.

HOOFSTUK XIX.—VRYSTELLINGS, GELYKWAARDIGHEDE, ENS.

88. VRYSTELLING TEN OPSIGTE VAN MAGNETIESE SKEEPSKOMPASSE.

Die Sekretaris kan enige skip van enige van die vereistes van Hoofstuk IV vrystel as hy oortuig is dat die toepassing daarvan weens die konstruksie en beoogde diens van die skip onredelik of ondoenlik is.

89. VRYSTELLING TEN OPSIGTE VAN BOOT- EN BRANDWEEROEFENINGE EN INSPEKSIE VAN REDDINGSUITRUSTING.

Die Sekretaris kan enige skip van enige van die vereistes van Hoofstuk VIII vrystel indien hy oortuig is dat daar redelikerwys van sodanige vereistes afgesien kan word.

(2) In every Chapter XVIII ship, all watertight doors fitted in transverse bulkheads required by the Construction Regulations to be watertight (not being doors required by this Chapter to be kept closed when the ship is at sea) shall be opened and closed for the purposes of drill once in every period of twenty-four hours when the ship is at sea, if such doors are both—

(*a*) hinged, or operated by power; and

(*b*) required to be open for the working of the ship at any time while the ship is at sea.

Provided that nothing in this paragraph shall require any bunker door to be opened and closed during any voyage before it has been opened for the working of the ship during that voyage.

86. INSPECTIONS TO BE MADE AT INTERVALS.

In every Chapter XVIII ship—

(*a*) all watertight doors;

(*b*) all mechanisms, indicators and warning devices connected with such doors;

(*c*) all valves the closing of which is necessary to make watertight any compartment below the margin line; and

(*d*) all valves the operation of which is necessary for the efficient operation of damage-control cross-connections

shall be inspected at intervals of not more than seven days by a person appointed for that purpose by the master of the ship.

87. ENTRIES TO BE MADE IN THE OFFICIAL LOG-BOOK.

In every Chapter XVIII ship, entries shall be made in the official log-book recording the following:—

(*a*) the times of the last closing, before the ship proceeds to sea, of the watertight doors and other contrivances referred to in regulation 81, and of the next subsequent opening of such doors and contrivances;

(*b*) the times of the closing and opening, while the ship is at sea, of any watertight door which is fitted between bunkers in the between decks below the bulkhead deck;

(*c*) whether the portable plates referred to in regulation 83 are in place when the ship proceeds to sea, and the times, if any, of the removal and replacement of such plates when the ship is at sea; and

(*d*) the occasions on which drills are held and inspections made in compliance with the foregoing provisions of this Chapter, and whether the contrivances to which such drills and inspections relate are in good working order.

CHAPTER XIX.—EXEMPTIONS, EQUIVALENTS, ETC.

88. EXEMPTION IN RESPECT OF SHIPS' MAGNETIC COMPASSES.

The Secretary may exempt any ship from any of the requirements of Chapter IV if he is satisfied that by reason of the ship's construction or intended service, compliance with such requirements would be unreasonable or impracticable.

89. EXEMPTION IN RESPECT OF BOAT AND FIRE DRILLS AND INSPECTION OF LIFE-SAVING EQUIPMENT.

The Secretary may exempt any ship from any of the requirements of Chapter VIII, if he is satisfied that compliance therewith may reasonably be dispensed with.

90. VRYSTELLING TEN OPSIGTE VAN DIE VERVOER VAN GEVAARLIKE GOEDERE.

Diet Sekretaris kan enige skip van die vereistes van Hoofstuk IX vrystel indien so 'n skip gevaarlike goedere laai in 'n hawe van 'n land waarvan die regering 'n Kontrakterende Regering ten opsigte van die Veiligheidskonvensie is of van 'n gebied waarna die Veiligheidskonvensie uitgebrei is, of in 'n hawe van enige ander land, mits die gevaarlike goedere vervoer word ooreenkomstig die wette van so 'n land met betrekking tot die vervoer van sodanige goedere, en mits al die bepalings van die wette insoverre hulle van toepassing is, nagekom is, en sodanige wette in hoofsaak nie minder doeltreffend vir die veilige vervoer van gevaarlike goedere as die vereistes van Hoofstuk IX is nie.

91. VRYSTELLING TEN OPSIGTE VAN DIE VERVOER VAN GRAAN.

Die Sekretaris kan—

(*a*) enige skip of klas skip van enige van die vereistes van Hoofstuk X vrystel indien hy van oordeel is dat die beskutte aard en omstandighede van die reis sodanig is dat die toepassing van die betrokke vereistes onredelik of onnodig is;

(*b*) enige skip van die vereistes van Hoofstuk X vrystel, wanneer so 'n skip graan laai in 'n hawe van 'n land waarvan die regering 'n Kontrakterende Regering ten opsigte van die Veiligheidskonvensie is of van 'n gebied waarna die Veiligheidskonvensie uitgebrei is, of in 'n hawe van enige ander land, mits die graan vervoer word ooreenkomstig die wette van so 'n land met betrekking tot die vervoer van graan, en mits al die bepalings van die wette insoverre hulle van toepassing is, nagekom is, en sodanige wette in hoofsaak nie minder doeltreffend vir die veilige vervoer van graan as die vereistes van Hoofstuk X is nie.

92. VRYSTELLING VAN DIE HOUTVRAGREGULASIES.

Die Sekretaris kan enige skip van enige van die vereistes van Hoofstuk XI vrystel indien hy oortuig is dat die inrigtings vir die vervoer van dekvragte hout nie minder veilig is as dié wat deur daardie Hoofstuk vereis word nie.

93. VRYSTELLING TEN OPSIGTE VAN DIEPLODINGTOESTELLE.

Die Minister (of Sekretaris in die geval van 'n skip wat nie vir gebruik op 'n internasionale reis bedoel is nie) kan enige skip van enige van die vereistes van Hoofstuk XIV vrystel indien hy oortuig is dat uitvoering daarvan in die omstandighede onredelik en onnodig is.

94. VRYSTELLING TEN OPSIGTE VAN LOODSLERE.

Die Sekretaris kan enige skip van die vereistes van Hoofstuk XVI vrystel indien hy oortuig is dat daar redelikerwys van die vereistes afgesien kan word.

95. GELYKWAARDIGHEDE.

Waar die bepalings van Hoofstuk X voorskryf dat 'n besondere toestel, inrigting of apparaat of tipe daarvan in 'n skip aangebring of aan boord daarvan gehou moet word of dat enige besondere voorsiening gemaak moet word, kan die Sekretaris toelaat dat enige ander toestel, inrigting of apparaat of tipe daarvan aangebring of aan boord gehou word of dat enige ander voorsiening in die skip gemaak word indien hy oortuig is dat sodanige ander toestel, inrigting of apparaat of tipe daarvan, of sodanige ander voorsiening minstens net so doeltreffend is as dié wat deur daardie Hoofstuk voorgeskryf word.

96. VERBETERINGE IN DIE VEILIGHEID VAN SKEPE.

Ten einde eienaars en gesagvoerders by die verbetering van die veiligheid van hul skepe en persone aan boord daarvan behulpsaam te wees, moet die Sekretaris, wanneer nodig, 'n kennisgewing publiseer waarin sodanige inligting en aanbevelings as wat hy wenslik ag, vervat is.

90. EXEMPTION IN RESPECT OF THE CARRIAGE OF DANGEROUS GOODS.

The Secretary may exempt any ship from the equirements of Chapter IX when such ship loads dangerous goods in a port of a country the Government of which is a Contracting Government to the Safety Convention or a territory to which the Safety Convention is extended, or in a port of any other country, provided that the dangerous goods are being carried in accordance with the laws of such country relating to the carriage of such goods and that all the provisions of the law in so far as the same are applicable have been complied with, and that such laws are substantially no less effective for the safe carriage of dangerous goods than the requirements of Chapter IX.

91. EXEMPTION IN RESPECT OF THE CARRIAGE OF GRAIN.

The Secretary may—

(*a*) exempt any ship or class of ship from any of the requirements of Chapter X, if he considers that the sheltered nature and conditions of the voyage are such as to render the application of those requirements unreasonable or unnecessary;

(*b*) exempt any ship from the requirements of Chapter X, when such ship loads grain in a port of a country the Government of which is a Contracting Government to the Safety Convention or a territory to which the Safety Convention is extended, or in a port of any other country, provided that the grain is being carried in accordance with the laws of such country relating to the carriage of grain, and that all the provisions of such laws in so far as the same are applicable have been complied with, and that such laws are substantially no less effective for the safe carriage of grain than the requirements of Chapter X.

92. EXEMPTION FROM TIMBER CARGO REGULATIONS.

The Secretary may exempt any ship from any of the requirements of Chapter XI, if he is satisfied that the arrangements for the carriage of timber deck cargo are no less safe than the requirements of that Chapter.

93. EXEMPTION IN RESPECT OF DEPTH-SOUNDING DEVICES.

The Minister (or Secretary in the case of a ship which is not intended to be engaged in international voyages) may exempt any ship from any of the requirements of Chapter XIV, if he is satisfied that compliance therewith is unreasonable or unnecessary in the circumstances.

94. EXEMPTION IN RESPECT OF PILOT LADDERS.

The Secretary may exempt any ship from the requirements of Chapter XVI, if he is satisfied that compliance therewith may reasonably be dispensed with.

95. EQUIVALENTS.

Where the provisions of Chapter X require that a particular fitting, appliance or apparatus, or type thereof, shall be fitted or carried in a ship or that any particular provision shall be made, the Secretary may allow any other fitting, appliance or apparatus, or type thereof, to be fitted or carried, or any other provision to be made in that ship, if he is satisfied that such other fitting, appliance or apparatus, or type thereof, or such other provision is at least as effective as that required by that Chapter.

96. IMPROVEMENTS IN THE SAFETY OF SHIPS.

To assist owners and masters in the improvement of the safety of their ships and persons on board, the Secretary shall as and when necessary, publish a notice containing such information and recommendations as he considers desirable.

BYLAE A.

KENNISGEWING No. 1.—UITGEREIK KRAGTENS PARAGRAAF (4) VAN REGULASIE 5.

BEMANNING VAN SKEPE.

1. (*a*) Die volgende artikels van die Handelskeepvaartwet, 1951 (Wet No. 57 van 1951) het betrekking op die bemanning van skepe:—

(i) *Gediplomeerde gesagvoerders en offisiere (dek en masjienkamer).*—Artikel 73, waarin die vereistes in hierdie verband uiteengesit word.

(ii) *Kadette en leerling-offisiere.*—Artikel 91, wat die indienshouding van 'n groter getal kadette en leerling-offisiere aan boord van 'n Suid-Afrikaanse skip as wat deur die regulasies toegelaat word, verbied. Artikel 356 (1) (xv) maak voorsiening vir regulasies wat die klasse van Suid-Afrikaanse skepe voorskryf waarop kadette en leerling-offisiere in diens gehou moet word en die maksimum getal wat op verskillende klasse van die skepe in diens gehou moet word.

(iii) *Volle seelui.*—Artikel 112, wat die gradering van 'n seeman as 'n volle matroos op 'n Suid-Afrikaanse skip na 'n sekere datum verbied, tensy hy die houer is van 'n bevoegdheidsertifikaat, en artikel 356 (1) (xiii) wat voorsiening maak vir regulasies in verband met bevoegdheidsertifikate. Artikel 356 (1) (x) maak voorsiening vir regulasies in verband met die minimum van die verskeie kategorieë van seelui wat die bemanning van 'n skip moet uitmaak en artikel 356 (1) (xii) maak voorsiening vir regulasies in verband met hulle kwalifikasies.

(iv) *Koks.*—Artikel 159, wat voorsiening maak vir die indienshouding van 'n gekwalifiseerde kok op Suid-Afrikaanse skepe van 'n sekere tonnemaat, en artikel 356 (1) (xiii), wat onder andere voorsiening maak vir regulasies in verband met bevoegdheidsertifikate vir koks.

(v) *Die getal en soort persone (behalwe gediplomeerde gesagvoerders en offisiere) wat as bemanning in diens gehou moet word.*—Artikel 221, wat vereis dat die voorgeskrewe getal en soort persone in diens gehou moet word, en artikels 356 (1) (x), 356 (1) (xi), 356 (1) (xii) en 356 (1) (xvi) wat voorsiening maak vir regulasies in verband met die minimum getal van die verskeie kategorieë van seelui wat as bemanning in diens geneem moet word, die deel van die seelui op 'n Suid-Afrikaanse skip wat Suid-Afrikaanse burgers moet wees, die kwalifikasies van persone wat in bepaalde hoedanighede in diens is, en die manier waarop en die mate waarin 'n skip beman moet word.

(vi) *Geneeshere.*—Artikel 356 (1) (xx), wat voorsiening maak vir regulasies in verband met die klas skepe waarop gekwalifiseerde geneeshere in diens gehou moet word.

(*b*) Afgesien van die vereistes in verband met bemanning waarvoor uitdruklik in die Wet voorsiening gemaak word, maak die volgende regulasies wat daaronder uitgevaardig is, voorsiening in verband met personeel aan boord van 'n skip:—

(i) *Gediplomeerde reddingsbootlui.*—Voorsiening word ingevolge die regulasies vir reddingsuitrusting gemaak.

(ii) *Bevoegde radio-offisiere en radiotelefoon-operateurs.*—Voorsiening word ingevolge die handelskeepvaart-radioregulasies gemaak.

2. *Gediplomeerde gesagvoerders en offisiere (dek en masjienkamer).*—Die tabel wat in artikel 73 van die Wet verskyn, word aangeheg om verwysing te vergemaklik.

(OPMERKING.—Die Minister kan onder sekere omstandighede hierdie vereistes wysig.)

ANNEX A.

NOTICE No. 1.—ISSUED UNDER PARAGRAPH (4) OF REGULATION 5.

MANNING OF SHIPS.

1 (*a*) The following sections of the Merchant Shipping Act, 1951 (Act No. 57 of 1951) deal with the manning of ships:—

(i) *Certificated Masters and Officers (Deck and Engine Room).*—Section 73, which sets forth the requirements in this regard.

(ii) *Cadets and Apprentice-Officers.*—Section 91, which prohibits the employment of cadets and apprentice-officers on board a South African ship in excess of the number permitted by the regulations. Section 356 (1) (xv) provides for regulations prescribing the classes of South African ships on which cadets and apprentice-officers are to be employed and the maximum number to be employed on different classes of such ships.

(iii) *Able Seamen.*—Section 112, which prohibits the rating of a seaman as able seaman on a South African ship after a certain date, unless he holds a certificate of qualification, and section 356 (1) (xiii) which provides for regulations governing certificates of qualification. Section 356 (1) (x) provides for regulations governing the minimum number of the several classes of seamen to form the crew of a ship, and section 356 (1) (xii) provides for regulations governing their qualifications.

(iv) *Cooks.*—Section 159, which provides for a qualified cook to be employed on South African ships of certain tonnage, and section 356 (1) (xiii) which provides for regulations governing certificates of qualification *inter alia* for cooks.

(v) *The number and description of persons (other than Certificated Masters and Officers) to be Employed as Crew.*—Section 221, which requires the employment of the number and description of persons prescribed, and sections 356 (1) (x), 356 (1) (xi), 356 (1) (xii) and 356 (1) (xvi) which provide for regulations governing the minimum number of the several classes of seamen to be engaged as crew, the proportion of seamen on a South African ship to be South African citizens, the qualifications of persons engaged in particular capacities, and the manner and extent to which a ship shall be manned.

(vi) *Medical Practitioners.*—Section 356 (1) (xx), which provides for regulations governing the class of ships on which qualified medical practitioners shall be employed.

(*b*) Apart from the manning requirements specifically provided for in the Act, the following regulations promulgated thereunder make certain provisions regarding personnel on board ship:—

(i) *Certificated Lifeboatmen.*—Provided for under the Lifesaving Equipment Regulations.

(ii) *Qualified Radio Officers and Radiotelephone* Operators.—Provided for under the Merchant Shipping Radio Regulations.

2. *Certificated Masters and Officers (Deck and Engine Room).*—The table set forth in section 73 of the Act, is appended for easy reference.

(NOTE.—The Minister may, in certain circumstances, vary these requirements.)

Kolom 1.	Kolom 2.	Kolom 3.	Kolom 4.	Kolom 5.
Item No.	Kategorie van skip.	Bruto-registertonnemaat of perdekrag.	Getal offisiere of ander persone wat in diens moet wees.	Sertifikate wat die persone wat in Kolom 4 aangedui word, moet besit, en paragrawe van subartikel (1) van artikel *vyf-en-sewentig* waarby toekenning van sertifikate gemagtig word.
1	Skip of vreemde vaart.....	Enige.....	Een..... Een..... Een.....	Gesagvoerder: paragraaf (*a*). Hoof-navigasie-offisier: paragraaf (*b*). Tweede navigasie-offisier: paragraaf (*c*).
2	Kusvaarder.....	100 of meer ton.....	Een..... Een.....	Gesagvoerder: paragraaf (*d*). Navigasie-offisier: paragraaf (*e*).
3	Vissersboot of robbevaarder of walvisvaarder met landbasis	100 of meer ton.....	Een..... Een..... Een.....	Skipper: paragraaf (*f*). Stuurman: paragraaf (*g*). Bootsman: paragraaf (*h*).
4	Kusvaarder of vissersboot, robbevaarder of walvisvaarder met landbasis	50 of meer maar minder as 100 ton	Een..... Een.....	Skipper: paragraaf (*i*). Stuurman: paragraaf (*j*).
5	Kusvaarder of robbevaarder of walvisvaarder met landbasis	Minder as 50 ton...	Een..... Een.....	Skipper: paragraaf (*i*). Stuurman: paragraaf (*j*).
6	Vissersboot.....	Minder as 50 ton...	Een.....	Stuurman: paragraaf (*j*).
7	Skip op vreemde vaart (behalwe 'n Walvisvaarder)	1,000 of meer perdekrag	Een..... Een.....	Hoof-ingenieuroffisier: paragraaf (*k*). Tweede ingenieuroffisier: paragraaf (*l*).
8	Kusvaarder.....	1,500 of meer perdekrag	Een.....	Hoof-ingenieuroffisier: paragraaf (*k*).
9	Walvisvaarder (behalwe 'n walvisvaarder met landbasis)	1,000 of meer perdekrag	Een.....	Hoof-ingenieuroffisier: paragraaf (*k*).
10	Kusvaarder.....	Minder as 1,500 perdekrag	Een.....	Tweede ingenieuroffisier: paragraaf (*l*).
11	Skip op vreemde vaart (behalwe 'n walvisvaarder)	Minder as 1,000 perdekrag	Een.....	Tweede ingenieuroffisier: paragraaf (*l*).
12	Walvisvaarder (behalwe 'n walvisvaarder met landbasis)	Minder as 1,000 perdekrag	Een.....	Tweede ingenieuroffisier: paragraaf (*l*).
13	Vissersboot of robbevaarder of walvisvaarder met landbasis wat meganies voortbeweeg word	Meer as 300 perdekrag	Een..... Een.....	See-masjinis: paragraaf (*m*). Assistent-seemasjinis: paragraaf (*n*).
14	Vissersboot of robbevaarder of walvisvaarder met landbasis wat meganies voortbeweeg word	300 of minder perdekrag	Een.....	Assistent-seemasjinis: paragraaf (*n*).

Column 1.	Column 2.	Column 3.	Column 4.	Column 5.
Item No.	Class of Ship.	Gross Register-tonnage or Horse-power.	Numbers of Officers or Other Persons to be employed.	Certificates to be held by persons shown in Column 4, and paragraphs of sub-section (1) of section *seventy-five* by which grant of certificates is authorised.
1	Foreign-going ship.....	Any.....	One..... One..... One.....	Master: Paragraph (*a*). Chief Navigating Officer: Paragraph (*b*). Second Navigating Officer: Paragraph (*c*).
2	Coasting ship.....	100 or more tons...	One..... One.....	Master: Paragraph (*d*). Navigating Officer: Paragraph (*e*).
3	Fishing, sealing or shore-based whaling boat	100 or more tons...	One..... One..... One.....	Skipper: paragraph (*f*). Mate: Paragraph (*g*). Boatswain: Paragraph (*h*).
4	Coasting ship or fishing, sealing or shore-based whaling boat	50 or more but less than 100 tons	One..... One.....	Skipper: Paragraph (*i*). Mate: Paragraph (*j*).
5	Coasting ship or sealing or shore-based whaling boat	Less than 50 tons...	One..... One.....	Skipper: Paragraph (*i*). Mate: Paragraph (*j*).
6	Fishing Boat.....	Less than 50 tons....	One.....	Mate: Paragraph (*j*).
7	Foreign-going ship, other than a whaling boat	1,000 or more horse-power	One..... One.....	Chief Engineer-officer: Paragraph (*k*). Second Engineer-officer: Paragraph (*l*).
8	Coasting ship.....	1,500 or more horse-power	One.....	Chief Engineer-officer: Paragraph (*k*).
9	Whaling boat, other than a shore-based whaling boat	1,000 or more horse-power	One.....	Chief Engineer-officer: Paragraph (*k*).
10	Coasting ship.....	Less than 1,500 horsepower	One.....	Second Engineer-officer: Paragraph (*l*).

Column 1.	Column 2.	Column 3.	Column 4.	Column 5.
Item. No.	Class of Ship.	Gross Register-tonnage or Horse-power.	Numbers of Officers or Other Persons to be employed.	Certificates to be held by persons shown in Column 4, and paragraphs of sub-section (1) of section *seventy-five* by which grant of certificates is authorised
11	Foreign-going ship, other than a whaling boat	Less than 1,000 horsepower	One.....	Second Engineer-officer: Paragraph (*l*).
12	Whaling boat other than a shore-based whaling boat	Less than 1,000 horsepower	One.....	Second Engineer-officer. Paragraph (*l*).
13	Power-driven fishing, sealing or shore-based whaling boat	More than 300 horse-power	One..... One.....	Marine Engineman: Paragraph (*m*). Assistant Marine Engineman: Paragraph (*n*).
14	Power-driven fishing, sealing or shore-based whaling boat	300 or less horse-power	One.....	Assistant Marine Engineman: Paragraph (*n*).

3. *Kadette en leerling-offisiere.*—(*a*) Die maksimum getal kadette of leerling-offisiere inbegrepe in die dek-bemanningskaal van enige klas Suid-Afrikaanse skip, behalwe 'n opleidingskip, moet wees:—

(i) In 'n skip van minder as 500 ton 1

(ii) In 'n skip van 500 of meer ton maar hoogstens 2,500 ton 2

(iii) In 'n skip van meer as 2,500 ton maar hoogstens 5,500 ton 3

(iv) In 'n skip van meer as 5,500 ton 4

(*b*) Die maksimum getal kadette en leerling-offisiere op n opleidingskip wat op die see uitvaar, moet van tyd tot yd deur die Sekretaris bepaal word.

4. *Volle seelui.*—Kragtens die regulasies in verband met evoegdheidsertifikate word onder andere voorsiening emaak vir seelui om hulle as volle seelui te bekwaam.

Daar is besluit om voorlopig nie die getal volle seelui vat op 'n besondere skip in diens gehou moet word, te epaal nie. Die saak word derhalwe aan die oordeel van ienaars en gesagvoerders van skepe oorgelaat, wat seelui noet aanmoedig om bevoegdheidsertifikate te verwerf.

5. *Koks.*—Daar is besluit om 'n uitsteltydperk toe te aat voordat bepalings betreffende koks toegepas word.

6. *Die getal en soort persone (behalwe gediplomeerde esagvoerders en offisiere) wat as bemanning in diens moet ees.* Afgesien van die oorblywende bepalings van ierdie kennisgewing, is daar besluit om voorlopig die emanning van skepe oor te laat aan die oordeel van esagvoerders en eienaars van skepe in samewerking met ie bevoegde beampte. In hierdie verband word die andag gevestig op paragrawe (1), (2) en (3) van egulasie 5.

7. *Geneesheer.*—Ingevolge regulasie 4 van die regulasies n verband met geneesmiddels en mediese toerusting, moet n geneesheer in diens wees op elke skip op vreemde vaart aarop daar honderd of meer persone (passasiers en emanning) aan boord is, en so 'n geneesheer moet aan-eteken word op die ooreenkoms met die bemanning.

8. *Gediplomeerde reddingsbootlui.*—(*a*) Die regulasies ir bevoegdheidsertifikate skryf onder andere die kwalifi-asies vir reddingsbootlui voor.

(*b*) Ingevolge regulasie 43 van die regulasies vir red-ingsbootuitrusting, moet die bemanning van elke skip van lasse I, II en IIA vir elke reddingsboot aan boord 'n etal gediplomeerde reddingsbootlui insluit, minstens yeel as wat in die onderstaande tabel aangegee word:—

Voorgeskrewe getal opvarendes op reddingsboot.	*Minimum getal gediplomeerde reddingsbootlui.*
Minder as 41 persone	2
Van 41 tot 61 persone	3
Van 62 tot 85 persone	4
Bo 85 persone	5

3. *Cadets and Apprentice-Officers.*—(*a*) The maximum number of cadets or apprentice-officers included in the deck manning scale of any class of South African ship, other than a training ship, shall be:—

(i) In a ship of less than 500 tons 1

(ii) In a ship of 500 tons or over, but not exceeding 2,500 tons 2

(iii) In a ship of over 2,500 tons, but not exceeding 5,500 tons 3

(iv) In a ship of over 5,500 tons 4

(*b*) On a sea-going training ship, the maximum number of cadets and apprentice-officers shall be determined by the Secretary from time to time.

4. *Able Seamen.*—Under the certificates of qualification regulations, provision is made for seamen to qualify *inter alia* as able seamen.

It has been decided not to determine for the time being the number of able seamen to be employed on a particular ship. The matter is therefore being left to the discretion of owners and masters of ships who should encourage seamen to become qualified.

5. *Cooks.*—It has been decided to allow a period of grace before introducing provisions regarding cooks.

6. *The Number and Description of Persons (other than Certificated Masters and Officers) to be Employed as Crew.*—Apart from the remaining provisions of this Notice, it has for the present been decided to leave the manning of ships to the discretion of masters and owners of ships in collaboration with the proper officer. In this connection, attention is invited to paragraphs (1), (2) and (3) of regulation 5.

7. *Medical Practitioner.*—In terms of regulation 4 of the Medicines and Medical Appliances Regulations, a medical practitioner shall be employed on every foreign-going ship on board which one hundred or more persons (passengers and crew) are carried, and such medical practitioner shall be entered on the agreement with the crew.

8. *Certificated Lifeboatmen.*—(*a*) The Certificates of Qualification Regulations prescribe *inter alia* the qualifications for lifeboatmen.

(*b*) In terms of regulation 43 of the Life-saving Equipment Regulations, the crew of every ship of Classes I, II and IIA shall include, for each lifeboat carried, a number of certificated lifeboatmen not less than that specified in the following table:—

Prescribed Complement of Lifeboat.	*Minimum Number of Certificated Lifeboatmen.*
Less than 41 persons	2
From 41 to 61 persons	3
From 62 to 85 persons	4
More than 85 persons	5

9. *Radio-offisiere en radiotelefoon-operateurs.*—(*a*) Ingevolge regulasie 15 van die handelskeepvaart-radioregulasies moet elke radiotelegrafiese skip voorsien word van radio-offisiere, soos volg:—

(i) *Skip wat nie met 'n outo-alarmtoestel toegerus is nie.*

Klas I: 3 radio-offisiere.

Klas II: 2 radio-offisiere indien die skip hoogstens 48 uur op see tussen opeenvolgende hawens is, en 3 radio-offisiere indien die skip langer as 48 uur op see tussen opeenvolgende hawens is.

Klas III: 1 radio-offisier.

(ii) *Skip wat met 'n outo-alarmtoestel toegerus is.*

Klas I: 2 radio-offisiere.

Klas II: 1 radio-offisier.

Klas III: 1 radio-offisier.

(OPMERKING.—Bostaande klasse van skepe is dié wat in die handelskeepvaartradioregulasies voorgeskryf word.)

(*b*) Ingevolge regulasie 25 van die handelskeepvaart-radioregulasies moet elke radiotelefoonskip voorsien word van minstens een radiotelefoon-operateur.

(*c*) Die kwalifikasies vir radio-offisiere en radiotelefoon-operateurs word in die handelskeepvaart-radioregulasies voorgeskryf.

BYLAE B.
[Regulasie 12 (4).]

GEHALTE EN PRESTASIE VAN DROË KOMPASSE EN VLOEISTOFKOMPASSE VIR GEBRUIK BY DIE NAVIGASIE VAN HANDELSKEPE.

I. KOMPAS.

1. Alle dele, behalwe die magnete van die rigstelsel, wat by die konstruksie gebruik word, moet van niemagnetiese materiaal wees.

2. Die magnete gebruik in die rigstelsel moet van 'n geskikte magneetmateriaal van hoë remanensie en hoë dwingkrag gemaak word.

3. Die vertragingsmoment van die rigstelsel moet om alle horisontale asse deur die draagvlak van die juweel dieselfde wees.

4. Die rigstelsel moet *in situ* deur 'n geskikte inrigting gehou word. Die rigstelsel moet vry wees wanneer die bak 10 grade in enige rigting gekantel word. Die bak moet horisontaal wees wanneer die kompashuis 40 grade in enige rigting gekantel word.

5. (i) Die gewig van die hele rigstelsel in enige vloeistof wat in die kompasbak gebruik word, moet minstens 4 gram en hoogstens 8 gram wees, tensy die deursnee van die kompas meer as 6½ duim is, in welke geval die gewig van die rigstelsel hoogstens 12 gram moet wees.

(ii) In 'n droë kompas moet die luggewig van die hele rigstelsel met inbegrip van die juweeldop minstens 10 gram en hoogstens 20 gram wees, en die veld wat gedek word, moet van 6 naald, 8 duim deursnee tot 10 naald, 10 duim deursnee wees.

6. Die periode van die rigstelsel van 'n aanvangsdefleksie van 40 grade van die meridiaan af moet minstens 23 sekonde en hoogstens 35 sekonde by 'n temperatuur van 15 grade Celsius in 'n horisontale veld van 0·18 gauss wees. So nie, kan dit aperiodiek wees.

7. Die vlak van die kaart van die rigstelsel moet hoogstens 30 boogminute vanaf die horisontale wees wanneer die rigstelsel in die kompasbak in 'n vertikale veld van 0·43 gauss in die noordelike halfrond inmekaargesit word.

8. Die verandering in kanteling van die rigstelsel wanneer dit onderwerp word aan 'n verandering van 1 c.g.s.-eenheid in die vertikale veld, moet hoogstens 3 grade wees.

9. *Radio Officers and Radiotelephone Operators.*—(*a*) In terms of regulation 15 of the Merchant Shipping Radio Regulations, every radiotelegraph ship shall be provided with radio officers as follows:—

(i) *Ship not fitted with an auto-alarm.*

Class I: 3 radio officers.

Class II: 2 radio officers if the ship is at sea for not more than 48 hours between consecutive ports, and 3 radio officers if she is at sea for more than 48 hours between consecutive ports.

Class III: 1 radio officer.

(ii) *Ship fitted with an auto-alarm.*

Class I: 2 radio officers.

Class II: 1 radio officer.

Class III: 1 radio officer.

(NOTE.—The above Classes of ships are those prescribed in the Merchant Shipping Radio Regulations.)

(*b*) In terms of regulation 25 of the Merchant Shipping Radio Regulations, every radiotelephone ship shall be provided with at least one radiotelephone operator.

(*c*) The qualifications for radio officers and radiotelephone operators are prescribed in the Merchant Shipping Radio Regulations.

ANNEX B.
[Regulation 12 (4).]

QUALITY AND PERFORMANCE OF DRY CARD AND LIQUID COMPASSES FOR USE IN THE NAVIGATION OF MERCHANT SHIPS.

I. COMPASS.

1. All parts used in construction, except the magnets of the directional system, shall be of non-magnetic material.

2. The magnets used in the directional system shall be made of a suitable magnet material of high remanence and high coercive force.

3. The moment of inertia of the directional system shall be the same about all horizontal axes through the bearing surface of the jewel.

4. The directional system shall be retained *in situ* by a suitable arrangement. The directional system shall remain free when the bowl is tilted 10 degrees in any direction. The bowl shall remain horizontal when the binnacle is tilted 40 degrees in any direction.

5. (i) The weight of the complete directional system in any liquid used in the compass bowl shall not be less than 4 grams and not greater than 8 grams, unless the diameter of the compass exceeds 6½ inches, in which event the weight of the directional system shall be not more than 12 grams.

(ii) In a dry card compass, the weight in air of the complete directional system including the jewelled cap, shall be not less than 10 grams and not more than 20 grams, the range covered being from 6 needle, 8 inch diameter to 10 needle, 10 inch diameter.

6. The period of the directional system from an initial deflection of 40 degrees from the meridian shall be not less than 23 seconds and not more than 35 seconds at a temperature of 15 degrees Centigrade in a horizontal field of 0·18 gauss. Alternatively, it may be aperiodic.

7. The plane of the card of the directional system shall be not more than 30 minutes of arc from the horizontal when the directional system is assembled in the compass bowl in a vertical field of 0·43 gauss in the Northern Hemisphere.

8. The change in tilt of the directional system when subjected to a change in vertical field of 1 c.g.s. unit shall be not more than 3 degrees.

9. Die afstand tussen die stuurmerk en die buitenste rand van die kaart moet minstens 1 persent en hoogstens 2 persent van die deursnee van die kaart wees.

10. Die kompasbeuelasse, die gegradueerde rand van die kaart en die stuurmerk en spilpunte moet in dieselfde horisontale vlak lê wanneer die dekglas en bedding vir die asimutspieël of asimutsirkel horisontaal is. Die gegradueerde rand van 'n droë kaart kan onderkant die horisontale vlak deur die spilpunt wees, mits die vertikale afstand daarvan van die vlak af hoogstens 0·6 duim is en mits die bak gebeuel is.

11. Graduerings op die kompaskaart moet òf in grade òf in punte halfpunte en kwartpunte, of so nie volgens albei stelsels gemerk word. In die geval van die stuurkompas, wat van 'n vergroter voorsien moet word, moet die boegrigting op 'n afstand van 4 voet 6 duim in daglig of kunslig deur die stuurman gelees kan word, en minstens 15 grade van die kaartsektor moet aan elke kant van die stuurmerk deur die vergroter sigbaar wees.

12. 'n Asimutpeiltoestel moet vir die standaardkompas voorsien word; hierdie toestel moet 'n gesigsveld van 10 grade behels en 'n asimutpeiling kan maak van voorwerpe of hemelliggame wat in die vertikale vlak tussen 5 grade onderkant die horisontale vlak en 60 grade bokant die horisontale vlak lê.

13. Die rand van die bak van 'n standaardkompas moet in grade afgemerk word.

14. Enige vloeistofdemping wat in 'n kompasbak gebruik word, moet oor 'n temperatuurstrek van – 30 grade tot + 60 grade Celsius vry van blasies wees en moet nie by – 30 grade Celsius emulgeer of vries nie; ook moet daar geen inlek van lug of uitlek van vloeistof oor hierdie temperatuurstrek wees nie.

15. Wanneer die kompas 180 grade in 30 sekonde gedraai word, moet die draaingsfout hoogstens 6 grade by 'n temperatuur van 15 grade Celsius in 'n horisontale veld van 0·18 gauss wees.

16. Die rigstelsel van die kompas moet so ontwerp word dat wanneer dit saam met 'n geskikte inrigting vir kwadrantkorreksie werk, die induksiefout nie groter as 3 grade in asimut in 'n horisontale veld van 0·18 gauss is nie.

17. Middele moet voorsien word om te verhoed dat die kompasbak onder enige seegangs- en weerstoestande verwikkel.

18. *Akkuraatheidsvereistes.*

(i) *Fout.*—Die totale kaartfoute op enige koers moet hoogstens 20 boogminute wees.

(ii) *Wrywing.*—Wanneer die kaart 2 grade weggebuig en gelos word, eers aan een kant van die meridiaan en dan aan die ander kant, moet enige foutres nie groter as 6 boogminute in 'n horisontale veld van 0·18 gauss wees nie.

(iii) *Stuurmerk.*—Die vertikale vlak wat deur die stuurmerk en die middel van die kaart loop, moet parallel met die voorste en agterste beuelas en loodreg met die dwarsskeepse beuelas met 'n perk van 20 boogminute wees.

(iv) *Asimutpeiltoestel.*—Wanneer die instrument reg gerig is, moet die fout by enige lesing nie groter as 20 boogminute tussen hoogtes van 5 grade onderkant en 45 grade bokant die horisontale vlak wees nie, en nie groter as 30 boogminute by hoogtes bokant 45 grade nie. Dwarsdeur eersgenoemde hoogtestrek moet die swakrigfout nie groter as 1 graad vir elke 5 grade van swakrig by een van die twee kante wees nie, en dwarsdeur laasgenoemde hoogtestrek moet hierdie fout hoogstens 1½ grade wees. Die swakrigfout moet hoogstens 30 boogminute by 27 grade van hoogte by enige ooshoogte wees.

9. The distance between the lubber mark and the outer edge of the card shall be not less than 1 per cent and not more than 2 per cent of the diameter of the card.

10. The gimbal axes, the graduated edge of the card and the lubber mark and pivot points, shall lie in the same horizontal plane when the top glass and seating for the azimuth mirror or azimuth circle are horizontal. The graduated edge of a dry card may be below the horizontal plane through the pivot point, provided that its vertical distance from the plane does not exceed 0·6 inch and provided that the bowl is gimballed.

11. Graduations on the compass card shall be marked either in degrees or in points, half-points and quarter-points, or alternatively in both systems. In the case of the steering compass, which shall be supplied with a magnifier, the ship's heading shall be readable by the helmsman at a distance of 4 feet 6 inches in daylight or artificial lighting, and not less than 15 degrees of card sector shall be visible through the magnifier on each side of the lubber mark.

12. An azimuth taking device shall be provided for the standard compass; this shall embrace a field of vision of 10 degrees and be capable of taking azimuth bearings of objects or celestial bodies whose position in the vertical plane lies between 5 degrees below the horizontal plane and 60 degrees above the horizontal plane.

13. In a standard compass, the rim of the bowl shall be marked in degrees.

14. Any liquid damping employed in a compass bowl, shall remain free from bubbles over a temperature range of – 30 degrees to + 60 degrees Centigrade and shall not emulsify or freeze at – 30 degrees Centigrade; also there shall be no inward leak of air or outward leak of liquid through this temperature range.

15. When rotated 180 degrees in 30 seconds, the swirl error shall not exceed 6 degrees at a temperature of 15 degrees Centigrade in a horizontal field of 0·18 gauss.

16. The directional system of the compass shall be designed in such a manner that, when working in conjunction with suitable quadrantal correcting arrangements, the induction error will not exceed 3 degrees in azimuth in a horizontal field of 0·18 gauss.

17. Means shall be provided to prevent dislodgment of the compass bowl under all seaway and weather conditions.

18. *Requirements of accuracy.*

(i) *Error.*—The total card errors on any heading shall not be greater than 20 minutes of arc.

(ii) *Friction.*—When the card is deflected by 2 degrees and released, first on one side of the meridian and then on the other, any residual error shall not exceed 6 minutes of arc in a horizontal field of 0·18 gauss.

(iii) *Lubber Mark.*—The vertical plane passing through the lubber mark and the centre of the card, shall be parallel to the fore and aft gimbal axis and perpendicular to the athwartship gimbal axis with a limit of 20 minutes of arc.

(iv) *Azimuth Taking Device.*—With the instrument correctly aimed, the error on any reading shall not exceed 20 minutes of arc between altitudes of 5 degrees below and 45 degrees above the horizontal plane, and shall not exceed 30 minutes of arc at altitudes above 45 degrees. Throughout the former altitude range, the ill-aiming error shall not exceed 1 degree for 5 degrees of ill-aiming on either side and throughout the latter altitude range this error shall not exceed 1½ degrees. The ill-aiming error shall not exceed

19. *Identifikasie.*—Die vervaardiger of handelaar se naam moet op die kaart, die buitering en die asimutpeiltoestel aangebring word. Die serienommer moet op die kaart, die bak, die beuelring en die asimutpeiltoestel verskyn.

II. KOMPASHUIS.

20. Die kompas moet in 'n geskikte kompashuisstaander opgestel word sodat die hartlyn van die magnete van die rigstelsel minstens 42 duim en hoogstens 49 duim van die onderste oppervlakte van die toebehore van die kompashuisdek af is.

21. Die kompashuis moet stewig van hoë kwaliteit hout of nie-magnetiese materiaal gebou word. Die dikte van enige plaatmetaalwerk, soos die rand of die helm, moet minstens 20 s.w.g. wees en moet nie-magneties wees; enige steune, boute, ens. moet ook van nie-magnetiese materiaal gemaak word. Die kompashuis moet deur 'n totale hoek van minstens 6 grade geswaai kan word wanneer dit op sy dekboute in posisie geplaas is.

22. Voorsiening moet gemaak word vir die verligting van die kompaskaart deur middel van elektriese lig en deur 'n olielamp in 'n noodgeval. 'n Geskikte demptoestel vir die elektriese lig moet voorsien word, en die olielamp vir 'n noodgeval moet met 'n brander van die „ Barton "-tipe toegerus wees.

23. Die kompashuis moet 'n geskikte toestel bevat om asimutdeviasies van die kompas wat ontstaan as gevolg van die subpermanente magnetisme van die skip, te korrigeer. Geen magnetiese deel van hierdie toestel moet nader aan die rigstelsel van die kompas wees as tweemaal die lengte van die magnete waaruit die korreksietoestel bestaan nie. Die korreksietoestel moet 'n koëffisiënt B van 40 grade en 'n koëffisiënt C van 40 grade kan korrigeer. Wanneer stelmagnete vir hierdie doel gebruik word, moet hulle 8 duim lank en òf $\frac{3}{8}$ duim òf $\frac{3}{16}$ duim in deursnee wees.

24. Die kompashuis moet 'n toestel bevat wat die vertikale magnetisme van die skip by die plek van die kompaskaart kan neutraliseer. Die middelpunt van die magnete waaruit hierdie toestel bestaan, moet nie nader aan die rigstelsel van die kompas wees as tweemaal die lengte van die magnete nie. Die toestel moet verstelbaar wees om vertikale velde van minstens $\pm$ 0·75 gauss te voorsien. Wanneer oorhelfoutmagnete vir hierdie doel gebruik word, moet hulle 9 duim lank en $\frac{3}{8}$ duim in deursnee wees.

25. Stelmagnete waarvoor in paragrawe 23 en 24 voorsiening gemaak word, moet van 'n geskikte magneetmateriaal van hoë remanensie en hoë dwingkrag gemaak wees.

26. Die kompashuis moet voorsien word van 'n toestel om te kompenseer vir kompasdeviasies wat voortspruit uit die horisontale komponente van velde wat deur die aarde se veld in die sagteyster van die skip geïnduseer word. Hierdie toestel moet 'n koëffisiënt D tot by + 14 grade kan neutraliseer. Wanneer sagteysterbolle vir hierdie doel gebruik word, moet hulle met boute van $\frac{5}{8}$ duim deursnee toegerus word en so bevestig word dat die middelpunte van die bolle 5 duim bokant die vasmaaksteune lê.

27. Die kompashuis moet voorsien word van 'n toestel om te kompenseer vir deviasies wat ontstaan uit die vertikale komponente van velde wat deur die aarde se veld in die sagteyster van die skip geïnduseer word, voor of agter die posisie van die kompas. Wanneer 'n Flindersstaaf vir hierdie doel gebruik word, moet dit van soliede sagteyster 3 duim in deursnee wees en voorsien word in lengtes van $1\frac{1}{2}$, 3, 6 en 12 duim.

28. Enige materiaal wat gebruik word vir die toestelle om geïnduseerde velde te korrigeer, moet 'n konstante en hoë permeabiliteit, lae dwingkrag en 'n geringe remanensie hê.

29. Voorsiening moet gemaak word vir die aanteken van die posisie van die korreksietoestelle vermeld in paragrawe 23, 24 en 26 en vir die bevredigende vasmaak van die toestelle na verstelling. Wanneer nommers gebruik

19. *Identification.*—The maker's or supplier's name shall be marked on the card, the verge ring and the azimuth taking device. The serial number shall be shown on the card, the bowl, the gimbal ring and the azimuth taking device.

II. BINNACLE.

20. The compass shall be mounted in a suitable form of binnacle stand, so that the centre line of the magnets of the directional system is not less than 42 inches and not more than 49 inches from the under surface of the binnacle deck fittings.

21. The binnacle shall be soundly constructed from high quality wood or non-magnetic material. Any sheet metal work, such as rim or helmet, shall be not less than 20 s.w.g. thickness and shall be non-magnetic; any brackets, bolts, etc., shall also be made of non-magnetic material. The binnacle shall be capable of being slewed through a total angle of at least 6 degrees when sited on its deck bolts.

22. Provision shall be made for illuminating the compass card by electric light and by an emergency oil lamp. A suitable dimming device for the electric light shall be provided, and the emergency oil lamp shall be fitted with a burner of the " Barton " type.

23. The binnacle shall contain a device suitable for correcting azimuth deviations of the compass arising from the subpermanent magnetism of the ship. No magnetic part of this device shall be nearer to the directional system of the compass than twice the length of the magnets composing the correcting device. The correcting device shall be capable of neutralising a coefficient B of 40 degrees and a coefficient C of 40 degrees. When corrector magnets are used for this purpose, they shall be 8 inches in length and either $\frac{3}{8}$ inch or $\frac{3}{16}$ inch in diameter.

24. The binnacle shall contain a device capable of neutralising the vertical magnetism of the ship at the position of the compass card. The centre of the magnets composing this device, shall not be nearer to the directional system of the compass than twice the length of the magnets. The device shall be adjustable so as to provide vertical fields of at least $\pm$ 0·75 gauss. When heeling error magnets are used for this purpose, they shall be 9 inches in length and $\frac{3}{8}$-inch in diameter.

25. Corrector magnets as provided for in paragraphs 23 and 24 shall be made of a suitable magnet material of high remanence and high coercive force.

26. The binnacle shall be provided with a device for compensating compass deviations arising from the horizontal components of fields induced in the soft iron of the ship by the earth's field. This device shall be capable of neutralising a coefficient D up to + 14 degrees. When soft iron spheres are used for this purpose, they shall be fitted with $\frac{5}{8}$-inch diameter bolts and so fixed that the centre of the spheres lie 5 inches above the securing brackets.

27. The binnacle shall be provided with a device for compensating deviations arising from the vertical components of fields induced in the soft iron of the ship by the earth's field, forward or aft of the compass position. When a Flinders bar is used for this purpose, it shall be of solid soft iron 3 inches in diameter and supplied in lengths of $1\frac{1}{2}$, 3, 6 and 12 inches.

28. Any material used in the devices for correcting induced fields shall have a uniform and high permeability, low coercive force and a negligible remanence.

29. Provision shall be made for recording the position of the correcting devices referred to in paragraphs 23, 24 and 26 and for them to be satisfactorily secured after

word om die posisies aan te dui van die korreksietoestelle wat in paragrawe 23 en 24 vermeld word, moet hulle van onder af boontoe loop.

30. 'n Hellingmeter met 'n hellingstrek van 40 grade moet op die standaard- en stuurkompashuise aangebring word. Hierdie hellingmeter moet 'n temperatuur van – 30 grade en + 60 grade Celsius kan weerstaan.

31. In die geval van 'n standaardkompashuis moet 'n geskikte rigmiddel aan die helm aangebring word.

32. 'n Stel van vier dekboute, sokke en al die nodige bevestigingskroewe moet voorsien word om die kompashuis aan die dek vas te maak. Die dekboute moet 'n deursnee van $\frac{3}{4}$ duim hê en die onderste bevestigingsgate van die kompashuis moet 'n steeksirkeldeursnee van 16 duim of $17\frac{3}{4}$ duim of 23 duim hê en aangebring word by die hoeke van 'n vierkant waarvan die sye in 'n langsrigting en dwarsskeepse rigting lê.

33. *Akkuraatheidsvereistes.*

(i) Die voorste en agterste merke op die kompashuis en die as van die voorste en agterste tappe van die beuels moet in dieselfde vertikale vlak binne 30 boogminute wees.

(ii) Die velde veroorsaak deur die toestelle wat die horisontale en vertikale komponente van die skip se subpermanente magnetisme kompenseer, moet konstant wees in die gebied wat afgetas word deur die rigstelsel van die kompas.

(iii) Die middelpunt van die korreksietoestel vir kwadrantdeviasie moet geleë wees in dieselfde horisontale vlak as dié wat die middelpunte van die magnete van die rigstelsel bevat, binne 'n toleransie van 2 persent van die effektiewe deursnee van die toestel self wanneer die kompashuis vertikaal is.

(iv) Die „ magnetiese pool " van die toestel wat vir deviasies kompenseer wat ontstaan as gevolg van 'n geïnduseerde vertikale veld van die skip, moet in dieselfde horisontale vlak geleë wees as dié wat die middelpunte van die magnete van die rigstelsel bevat wanneer die kompashuis vertikaal is.

(v) Wanneer die kompashuis op 'n horisontale oppervlakte geleë is, moet die hellingmeter nul binne ± 1 graad lees.

BYLAE C.

(Regulasie 42.)

VOORSORGMAATREËLS OM TE VERHOED DAT GRAAN VERSKUIF.

WOORDOMSKRYWING.

1. In hierdie Bylae, tensy die samehang anders vereis, het onderstaande uitdrukkings die onderskeie betekenisse wat hierby aan hulle geheg word, te wete—

„ spesiale afdeling " beteken 'n heeltemal ingeslote gedeelte van die vragruim in die tussendek of die bobou van die skip;

„ graan ", soos omskryf in artikel *tweehonderd ses-en-dertig* van die Wet, sluit in koring, mielies, hawer, rog, gars, rys, peulvrugte en sade;

„ swaar graan " beteken alle graan behalwe hawer, ligte gars en katoensaad;

„ ligte gars " beteken gars wat 51·575 lb. of minder per skepel van 1·2837 kubieke voet weeg.

GRAANBESKOTTE, STAANDERS, ENS.

Graanbeskotte.

2. Graanbeskotte moet minstens 2 duim dik en van goeie soliede hout wees en graandig gemaak word. Hulle moet met staanders gesteun word.

adjustment. When numbers are used to indicate the positions of the correcting devices referred to in paragraphs 23 and 24, they shall read from the bottom upwards.

30. An inclinometer having a range of 40 degrees of heel shall be fitted on the standard and steering binnacles. This inclinometer shall be capable of withstanding a temperature of – 30 degrees and + 60 degrees Centigrade.

31. In the case of the standard binnacle, a suitable sight shall be fixed to the helmet.

32. A set of four deck bolts, sockets, and all necessary securing screws shall be provided for fixing the binnacle to the deck. The deck bolts shall be of $\frac{3}{4}$-inch diameter and the base securing holes of the binnacle shall have a pitch circle diameter of 16 inches or $17\frac{3}{4}$ inches or 23 inches, and be located at the corners of a square the sides of which lie in the fore and aft and athwartship directions.

33. *Requirements of Accuracy.*

(i) The fore and aft marks on the binnacle, and the axis of the fore and aft journals of the gimbals, shall be in the same vertical plane within 30 minutes of arc.

(ii) The fields produced by the devices compensating the horizontal and vertical components of the ship's sub-permanent magnetism, shall be uniform in the area swept by the directional system of the compass.

(iii) The centre of the quadrantal deviation correcting device shall lie in the same horizontal plane as that containing the centres of the magnets of the directional system within a tolerance of 2 per cent of the effective diameter of the device itself when the binnacle is vertical.

(iv) The " magnetic pole " of the device compensating deviations arising from induced vertical field of the ship, shall lie in the same horizontal plane as that containing the centres of the magnets of the directional system when the binnacle is vertical.

(v) When the binnacle is on a horizontal surface, the inclinometer shall read zero within ± 1 degree.

ANNEX C.

(Regulation 42).

PRECAUTIONS TO PREVENT GRAIN FROM SHIFTING.

DEFINITIONS.

1. In this Annex, unless the context otherwise requires, the following expressions have the meanings hereby respectively assigned to them, that is to say—

" bin " means a completely enclosed section of cargo space in the 'tween decks or superstructure of the ship.

" Grain " as defined in section *two hundred and thirty-six* of the Act, includes wheat, maize, oats, rye, barley, rice, pulses and seeds.

" Heavy grain " means all grain other than oats, light barley and cotton seed.

" light barley " means barley which weighs 51·575 lb. or less per bushel of 1·2837 cu. ft.

SHIFTING BOARDS, UPRIGHTS, ETC.

Shifting Boards.

2. Shifting boards shall be of a minimum thickness of 2 in. of good sound timber, and fitted graintight. They shall be supported by uprights.

3. Die maksimum ongesteunde spanwydte wat vir graanbeskotte van verskillende diktes toegelaat word, is soos volg:—

Dikte.	*Spanwydte.*	*Inlating in beskotte.*
2 dm.-planke...	Ongesteunde spanwydte hoogstens 8 vt.	3 dm.
2½ dm.-planke..	Ongesteunde spanwydte hoogstens 11 vt.	3 dm.
3 dm.-planke...	Ongesteunde spanwydte hoogstens 13 vt.	3 dm.

4. Graanbeskotte moet stewig in elke beskot ingelaat word deur middel van permanente hoekstawe of houtskuinslyste wat minstens 6 dm. wyd en 3 dm. dik en behoorlik gestut moet wees.

5. Waar 2½ dm.- of 3 dm.-graanbeskotte gebruik word, kan die beskotte stuikgelas wees by die staanders en minstens 4 dm. van die plank moet gesteun word. Waar 2 dm.-graanbeskotte gebruik word, moet die lasse minstens 9 dm. oormekaarslaan by die staanders.

6. Waar geen permanente reëlings vir graandigte vulling tussen die dwarsbalke getref word nie, moet houtvulstukke van dieselfde dikte as die graanbeskotte graandig tussen die dwarsbalke aangebring word en aan albei kante op hul plekke vasgemaak word met klampe of beslag en aan albei kante ingepas word. Die klampe of beslag moet minstens 2 dm. × 4 dm. groot wees en moet die volle diepte van die vulstuk en ook nog 'n gelyke afstand daaronder strek, en moet stewig aan die graanbeskotte en vulstukke vasgespyker of vasgebout word.

Staanders.

7. Houtstaanders moet minstens 10 dm. wyd en 2 dm. dik wees.

8. Waar stutte aangebring word, moet hulle aan die tenktop of -dak vasgeklamp word, en wanneer die staander bo nie stewig ingelaat is nie, moet die boonste stutte of ankerstutte hoogstens 18 dm. onderkant die dek of bopunt van die staander aangebring word.

9. Indien 'n digte ry pilare wat as hoofsteun van die dek bo 'n ruim of kompartement dien, gebruik word om die graanbeskotte by die middellyn te steun, en indien die pilare nie gerol of verspringend is nie, moet addisionele steun voorsien word deur middel van haakboute en vertikale bindplate of staanders wat aan die pilare vasgemaak is. Hierdie bindplate moet minstens 3 dm. wyd en ½ dm. dik wees, hoogstens 3 vt. van mekaar af deurgebout.

10. Die horisontale afstande tussen die middelpunte van staanders moet wees soos in paragraaf 3 gespesifiseer. Houtstaanders wat saam met draadankerstutte gebruik word, moet minstens 11 dm. wyd en 3 dm. dik wees. Die bou en afmetings van hoekstaafstaanders wat saam met draadankerstutte gebruik word, moet in ooreenstemming wees met die spesifikasie en metode wat in subparagraaf (*a*) van hierdie paragraaf uiteengesit word, of met een van die spesifikasies en die metode wat in subparagraaf (*b*) daarvan uiteengesit word:—

(*a*) Elke staander moet bestaan uit vier hoekstawe 4 dm. × 4 dm. × 0·40 dm. groot, en staalplate van 11½ dm. × 0·50 dm. wat vasgeklink is om een volledige struktuur te vorm waarby inlatings van 4 dm. aan sowel die voorkant as die agterkant toegelaat word. Steune wat vasgeklink is aan kop en hiel moet aangebring word, elkeen waarvan vyf ⅞ dm.-boute met ooreenstemmende ore of hoekstawe aan tenktop, tonneltop en luikstutwande moet hê.

3. The maximum unsupported span to be allowed for shifting boards of various thicknesses shall be as follows:—

Thickness.	*Span.*	*Housing at Bulkheads.*
2-in. planks.....	Unsupported span not to exceed 8 ft.	3 in.
2½-in. planks....	Unsupported span not to exceed 11 ft.	3 in.
3-in. planks.....	Unsupported span not to exceed 13 ft.	3 in.

4. Shifting boards shall be securely housed at each bulkhead by means either of permanent angle bars, or of wood cants not less than 6 in. in width and 3 in. in thickness and suitably shored.

5. Where 2½ in. or 3 in. shifting boards are used, the boards may be butt-jointed in way of the uprights, and at least 4 in. of plank shall be supported. Where 2 in. shifting boards are used, the joints shall overlap by at least 9 in. in way of the uprights.

6. Where no permanent arrangements are made for graintight filling between the beams, wood filling pieces of the same thickness as the shifting boards shall be fitted graintight between the beams, and shall be secured in place by cleats or scabs at both ends and fitted both sides. The cleats or scabs shall be at least 2 in. x 4 in. in size and shall extend the full depth of the filling piece and as much again below, and be securely spiked or bolted to the shifting boards and filling pieces.

Uprights.

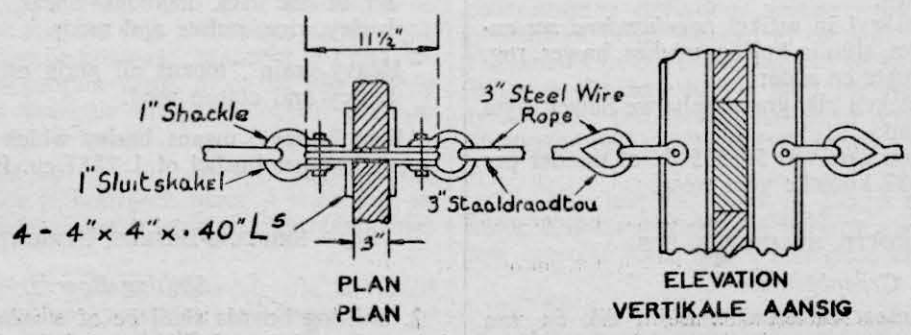
7. Wood uprights shall not be less than 10 in. in width and 2 in. in thickness.

8. Uprights shall be cleated to the tanktop or ceiling where fitted, and when the upright is not securely housed at the top, the upermost supporting shores or stays shall not be more than 18 in. down from the deck or top of the upright.

9. If a tier of closely spaced pillars which serves as a principal support to the deck over in a hold or compartment is utilized for supporting the shifting boards at the middle line and if the pillars are not reeled or staggered, additional support shall be provided by means of hookbolts and vertical tieplates or uprights secured to the pillars. Such tieplates shall consist of plates not less than 3 in. in width and ½ in. in thickness and shall be through-bolted at intervals of not more than 3 ft.

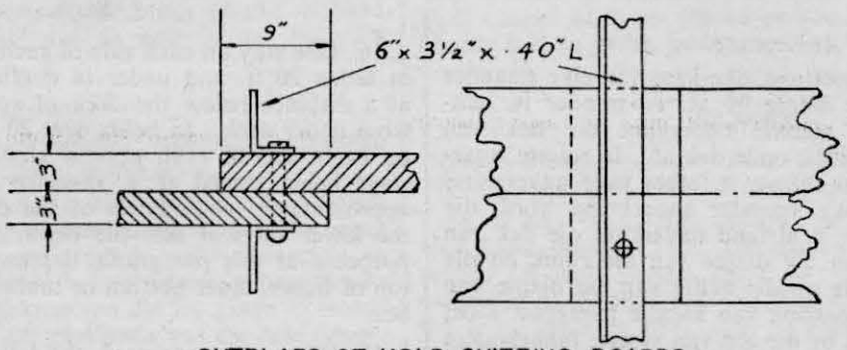
10. The horizontal distances between the centres of uprights shall be as specified in paragraph 3. Wood uprights used in association with wire stays shall be not less than 11 in. in width and 3 in. in thickness. The construction and dimensions of angle bar uprights used in association with wire stays shall conform to the specification and method set forth in sub-paragraph (*a*) of this paragraph or to one of the specifications and to the method set forth in sub-paragraph (*b*) thereof:—

(*a*) Each upright shall consist of four angle bars 4 in. × 4 in. × 0·40 in. and steel plate 11½ in. × 0·50 in. riveted to form one complete structure allowing 4 in. housings on both forward and after sides. Brackets riveted to head and heel shall be fitted, each to take five ⅞-in. bolts with corresponding lugs or angles on tanktop, tunnel top and hatch webs.



(*b*) *Horisontale afstand tussen middelpunte van staanders.*	*Vertikale spanwydtes gesteun deur elke ankerstut.*	*Groottes van hoekstawe.*
8 vt. (2 dm.-graanbeskotte)..	8 vt.....	3 dm × 3 dm. × 0·38 dm.
8 vt. (2 dm.-graanbeskotte)..	11 vt.....	3½ dm × 3½ dm. × 0·38 dm.
8 vt. (2 dm.-graanbeskotte)..	14 vt.....	4½ dm. × 3½ dm. × 0·44 dm.
11 vt. (2½ dm.-graanbeskotte)	8 vt.....	3 dm. × 3 dm. × 0·38 dm.
11 vt. (2½ dm.-graanbeskotte)	11 vt.....	4 dm. × 3½ dm. × 0·40 dm.
11 vt. (2½ dm.-graanbeskotte)	14 vt.....	6 dm. × 3½ dm. × 0·40 dm.
13 vt. (3 dm.-graanbeskotte)	8 vt.....	3 dm. × 3 dm. × 0·38 dm.
13 vt. (3 dm.-graanbeskotte)	11 vt....	4 dm. × 3½ dm. × 0·42 dm.
13 vt. (3 dm.-graanbeskotte)	14 vt....	6 dm. × 3½ dm. × 0·40 dm.

(*b*) *Horizontal Distance between Centres of Uprights.*	*Vertical Spans supported by each Stay.*	*Sizes of Angle Bars.*
8 ft. (2-in. shifting boards)..	8 ft.....	3 in. × 3 in. × 0·38 in.
8 ft. (2-in. shifting boards)..	11 ft....	3½ in. × 3½ in. × 0·38 in.
8 ft. (2-in. shifting boards)..	14 ft....	4½ in. × 3½ in. × 0·44 in.
11 ft. (2½-in. shifting boards)	8 ft.....	3 in. × 3 in. × 0·38 in.
11 ft. (2½-in. shifting boards)	11 ft....	4 in. × 3½ in. × 0·40 in.
11 ft. (2½-in. shifting boards)	14 ft....	6 in. × 3½ in. × 0·40 in.
13 ft. (3-in shifting boards)..	8 ft.....	3 in. × 3 in. × 0·38 in.
13 ft. (3-in. shifting boards)	11 ft....	4 in. × 3½ in. × 0·42 in.
13 ft. (3-in. shifting boards)	14 ft....	6 in. × 3½ in. × 0·40 in.



OVERLAPS OF HOLD SHIFTING BOARDS
OORSLAE VAN RUIMGRAANBESKOTTE

Vertikale hoekstawe moet by kop en hiel aan die tenktop, tonneltop, dekdwarsbalke en luikstutwande verbind word deur hoekore met twee $\frac{7}{8}$ dm.-boute in elke hoekstaander en hegstukke van gelyke sterkte wat vas is aan die tenktop, tonneltop, dekdwarsbalke en luikstutwande. Die vertikale hoekstawe moet deur die graanbeskotte met $\frac{7}{8}$ dm.-boute ongeveer 4 vt. van mekaar af aanmekaar vasgebout word.

Stutte en ankerstutte.

11. Houtstaanders moet gesteun word deur staaldraadtou-ankerstutte wat aan die kant van die skip aangebring is, of deur houtstutte stewig teen die permanente struktuur van die skip gehiel. Alle houtstutte moet van goeie soliede hout in een stuk wees.

Stutte.

12. Die vertikale spasiëring van houtstutte moet soos volg wees:—

Behalwe soos in paragraaf 8 bepaal, moet die boonste stut hoogstens 7 vt. onderkant die bopunt van die staander wees, en daaropvolgende stutte moet hoogstens 7 vt. van mekaar af wees, vertikaal gemeet van die boonste stut afwaarts, behalwe dat 'n afstand van 8 vt. tussen die onderste stut en die hielsteunstuk toegelaat moet word. Stutte kan op die tenktop of plafonne gehiel word indien die hiele vasgemaak word met klampe of skuinslyste en doeltreffend teen die permanente struktuur verspan word. Stutte moet nie regstreeks teen die sybeplating van die skip gehiel word nie.

13. Behoudens die bepalings van paragrawe 14 en 15, moet die groottes van houtstutte soos volg wees:—

Lengte van stutte	Minimum groottes.	
	Reghoekige gedeelte.	Sirkelvormige gedeelte.
Hoogstens 16 vt.....	6 dm. × 4 dm.	5½ dm. deursnee.
Langer as 16 vt. maar hoogstens 20 vt.	6 dm × 6 dm.	7 dm. deursnee.
Langer as 20 vt. maar hoogstens 24 vt.	8 dm. × 6 dm.	7½ dm. deursnee.
Langer as 24 vt. maar hoogstens 28 vt.	8 dm. × 6 dm.*	8 dm. deursnee.
Langer as 28 vt.....	8 dm. × 6 dm.*	8½ dm. deursnee.

* Stewig gebrug teen ongeveer middellengte. Gesplitste stutte moet nie gebruik word nie.

Vertical angle bars shall be connected at head and heel to the tanktop, tunnel top, deck beams, and hatch webs by angle lugs having two $\frac{7}{8}$ in. bolts in each angle bar upright and fastenings of equal strength to tanktop, tunnel top, deck beams and hatch webs. The vertical angle bars shall be bolted together through the shifting boards by $\frac{7}{8}$ in. bolts approximately 4 ft. apart.

Shores and Stays.

11. Wood uprights shall be supported by steel wire rope stays set up at the ship's side, or by wood shores securely heeled against the permanent structure of the ship. All wood shores shall be of good sound timber in a single piece.

Shores.

12. The vertical spacing of wood shores shall be as follows:—

Except as provided in paragraph 8, the uppermost shore shall be not more than 7 ft. below the top of the upright and succeeding shores shall be spaced not more than 7 ft. apart measured vertically from the uppermost shore downwards, except that a distance of 8 ft. shall be permitted between the lowest shore and the heel support. Shores may be heeled on the tanktop or ceilings if the heels are secured by cleats or cants and efficiently braced against the permanent structure. Shores shall not be heeled directly against the ship's side plating.

13. Subject to the provisions of paragraphs 14 and 15, the sizes of wood shores shall be as follows:—

Length of Shores.	Minimum Sizes.	
	Rectangular Section.	Circular Section.
Not exceeding 16 ft.....	6 in. × 4 in...	5½-in. diameter.
Over 16 ft. and not exceeding 20 ft.	6 in. × 6 in...	7-in. diameter.
Over 20 ft. and not exceeding 24 ft.	8 in. × 6 in...	7½-in. diameter.
Over 24 ft. and not exceeding 28 ft.	8 in. × 6 in.*	8-in. diameter.
Over 28 ft.....	8 in. × 6 in.*	8½-in. diameter.

* Securely bridged at approximately mid-length. Spliced shores shall not be used.

14. Behoudens die bepalings van paragraaf 15, indien die spasiëring van die staanders of stutte kleiner is as dié wat onderskeidelik in paragrawe 3 en 12 vermeld word, kan die groottes van die stutte na verhouding verminder word.

15. Waar die hoek van die stutte met die horisontale hoogstens 10° is, moet die stutte wat aangebring word, van die groottes wees wat in paragraaf 13 gespesifiseer word. Waar hul hoek met die horisontale as gevolg van die konstruksie van die skip groter is as 10°, moet die grootte stut wat die naasvolgende is op dié wat deur die lengte daarvan vereis word, aangebring word. In geen geval moet die hoek tussen enige stut en die horisontale groter as 45° wees nie.

Ankerstutte.

16. Een ankerstut moet aan elke kant van elke staander in ruime waarvan die diepte 20 vt. en minder is, aangebring word op 'n afstand onderkant die dek van ongeveer een-derde van die onderdek af. In ruimte waarvan die diepte meer as 20 vt. is, moet twee ankerstutte aan elke kant van elke staander aangebring word, die boonste ankerstutte op 'n afstand onderkant die dek van ongeveer een-kwart van die diepte van die ruim, en die die onderste ankerstutte op die helfte van die diepte van die ruim. Vir die toepassing van hierdie paragraaf moet diepte gemeet word tot by die top van vloere, binnebodem of tonneltop, al na die geval.

17. Wanneer ankerstutte gebruik word, is die volgende bepalings van toepassing:—

(*a*) Die ankerstutte moet van buigsame staaldraadtou 3 dm. in omtrek wees en horisontaal aangebring word.

(*b*) Die monteerskroewe moet 1¼ dm. in deursnee wees en op bereikbare plekke aangebring word.

(*c*) Die sluitskakels moet 1 dm. wees.

(*d*) Die oogboute deur die hout- of hoekstaafstaanders moet 1¼ dm. wees.

(*e*) ⅞ dm.-skroefboute en moere wat nodig is om die houtstaanders of staalhoekstawe vas te maak, moet voorsien word.

(*f*) Oogplate 1 dm. dik moet stewig aan die systringers of rame vasgeklink word, of so nie moet 1 dm.-sluitskakels deur die raam aangebring word.

18. Indien enige graanbeskotte nie tot die volle diepte van die ruim strek nie, moet die graanbeskotte en hul staanders gesteun of geanker word sodat hulle net so doeltreffend is as graanbeskotte wat tot die volle diepte van die ruim strek.

Konstruksie van graanvoerders, spesiale afdelings en beskotte.

19. Graanvoerders, spesiale afdelings en beskotte moet sterk genoeg wees om die druk van die massa graan daarin te weerstaan en moet graandig wees.

20. Skepe met een dek of meer waarvan die ruim aaneenlopend is, hetsy voor of agter, met twee luike vir daardie ruim, moet 'n goedgeboude beskot hê wat tussen die twee luike van die een kant van die skip na die ander strek en die ruim in twee verdeel.

21. Houtvoerders, vleuelvoerders en beskotte van die spesiale afdeling moet gebou word—

(*a*) òf van planke wat vertikaal gewerk en minstens 2½ dm. dik is: Met dien verstande dat wanneer die vertikale ongesteunde spanwydte van die planke meer as 8 vt. is, die dikte daarvan proporsioneel vermeerder moet word of addisionele verstywing na verhouding aangebring moet word;

(*b*) òf van 'n raamwerk uitgevoer met graandigte planke 2 dm. dik, of twee diktes van 1 dm. skuinsliplasse met verspringende lasse gelê; waar moontlik moet die raamwerk binnekant die luikhoofde aangebring word en moet minstens 4 dm. × 6 dm. op kante gelê wees, hoogstens 2 vt. van mekaar af van hart tot hart.

Die planke by die hoeke moet goed aan stewige vertikale skuinslyste vasgemaak word.

22. Indien die diepte van die luikeindskilde of eindhoofplate meer as 15 dm. onderkant die oppervlakte van die dek is, moet voergate voorsien word sodat die graan deur die laaihoofde in die ruim of tussendek kan vloei.

14. Subject to the provisions of paragraph 15, if the spacings of the uprights or shores are less than those respectively referred to in paragraphs 3 and 12, the sizes of the shores may be reduced in proportion.

15. Where their angle from the horizontal does not exceed 10°, the shores fitted shall be of the sizes specified in paragraph 13. Where, by reason of the construction of the ship, their angle from the horizontal exceeds 10°, then the next larger size of shore to that required by its length shall be fitted. In no case shall the angle between any shore and the horizontal exceed 45°.

Stays.

16. One stay on each side of each upright shall be fitted in holds 20 ft. and under in depth and shall be placed at a distance below the deck of approximately one-third from under deck. In holds over 20 ft. in depth, two stays on each side of each upright shall be fitted, the upper stays being placed at a distance below the deck of approximately one-quarter of the depth of the hold and the lower stays at half the depth of the hold. For the purposes of this paragraph, depths shall be measured to top of floors, inner bottom or tunnel top, as the case may be.

17. When stays are used, the following provisions shall apply:—

(*a*) The stays shall be of 3 in. circumference flexible steel wire rope and shall be fitted horizontally.

(*b*) The rigging screws shall be 1¼ in. in diameter and shall be fitted in accessible positions.

(*c*) The shackles shall be 1 in.

(*d*) The eye bolts through the wood or angle bar uprights shall be 1¼ in.

(*e*) ⅞ in. screw bolts and nuts shall be provided as may be necessary for securing the wood uprights or steel angle bars.

(*f*) Either eye plates of 1 in. thickness shall be securely riveted to the side stringers or frames, or 1 in. shackles passed through the frame.

18. If any shifting boards do not extend to the full depth of the hold, the shifting boards and their uprights shall be supported or stayed so as to be as efficient as shifting boards which extend to the full depth of the hold.

Construction of Feeders, Bins and Bulkheads.

19. Feeders, bins and bulkheads shall be of sufficient strength to withstand the pressure due to the head of grain contained therein and shall be grain-tight.

20. Ships having one or more decks with any continuous hold, whether forward or aft, with two hatches to that hold, shall have a well-constructed bulkhead extending from side to side of the ship between the two hatches to divide the hold.

21. Wood feeders, wing feeders and bin bulkheads shall be constructed either—

(*a*) of planks which have been worked vertically and which are not less than 2½ in. thickness: Provided that when the vertical unsupported span of the planks exceeds 8 ft., the thickness thereof shall be increased proportionately or proportional additional stiffening shall be fitted; or

(*b*) of framing lined with grain-tight boards 2 in. in thickness or two 1 in. layers of shiplap, laid horizontally with broken joints; the framing shall where possible be placed inside the hatch coamings and shall be not less than 4 in. x 6 in. laid on edge spaced not more than 2 ft. apart centre to centre.

The planks at the corners shall be well secured to substantial vertical cants.

22. If the depth of the hatch end beams or coamings exceeds 15 in. below the surface of the deck, feeding holes shall be provided to allow the grain to flow through the coamings into the hold or 'tween decks. When the

Wanneer die laaihoofde onderkant die oppervlakte van die dek dieper as 15 dm. maar hoogstens 18 dm. is, moet voergate van 2 dm. deursnee voorsien word. Wanneer die laaihoofde dieper as 18 dm. is, moet voergate met 'n deursnee van 3½ dm. voorsien word. Voergate moet ongeveer 2 vt. van mekaar af aangebring word.

23. Masjienkamer- en stookruimbeskotte en hulpketelnisse moet, waar hulle aan hitte onderwerp word, 'n skild van hout kry en graandig gemaak word. 'n Lugruimte van minstens 6 dm. moet tussen die beskot en die skild gelaat word, en 'n skaglugkoker van 6 dm. × 8 dm. moet van die bopunt van die lugruimte na 'n lugkoker of luik voorsien word. Skildstukke moet gesteun word op vertikale bane wat minstens 2 vt. van mekaar van hart tot hart gespasieer is en moet bestaan uit 2 dm.-planke of twee diktes van 1 dm.-planke wat so gelê is dat hulle 'n verspringende lyn vorm.

STUWING.

Ruime, kompartemente of spesiale afdelings gedeeltelik met los graan in massa gevul.

24. Indien enige ruim, kompartement of spesiale afdeling gedeeltelik met los graan in massa gevul is, moet die graan gelyk gemaak en afgedek word met graan in sakke of met ander geskikte lading tot op 'n hoogte van minstens 4 voet bo die bokant van die los graan in massa en geplaas wees op geskikte platforms wat die hele oppervlakte van die los graan in massa beslaan. Daarbenewens moet die ruim of kompartement, al na die geval, verdeel word deur 'n behoorlik geboude langskeepse beskot of deur graanbeskotte parallel met die kiel, vanaf die bodem van die ruim of dek, al na die geval, tot op 'n hoogte van minstens 2 vt. bokant die oppervlakte van die graan in massa, op so 'n wyse dat dit verskuiwing verhoed.

Met dien verstande dat die aanbring van 'n langsskeepse beskot of graanbeskotte in 'n laer ruim nie vereis word as die graan in massa nie meer as een-derde van die inhoud van die ruim, of in die geval van 'n ruim met 'n skag of ander soortgelyke tonnel, die helfte van die inhoud van daardie ruim beslaan nie.

Ruime, kompartemente of spesiale afdelings heeltemal met los graan in massa gevul.

25. Indien enige ruim of kompartement heeltemal met los graan in massa gevul word, moet dit verdeel word deur n langsskeepse beskot of deur graanbeskotte, in 'n lyn met lie kiel, wat behoorlik gebou en bevestig moet word en raandig moet wees met behoorlike vullingstukke tussen ie dekbalke. In ruime moet hierdie graanbeskotte van e onderkant van die dek na benede deurloop tot op 'n stand van minstens een-derde van die diepte van die im of 8 vt., wat ook al die grootste is. In tussendekmpartemente en boboue moet hulle van dek tot dek ırloop. In alle gevalle moet die graanbeskotte deurloop by die bokant van die graanvoerders van die ruim of npartement waarin hulle geleë is.

6. Alle graan in massa moet goed opgetrem word en die balke en die vleuels en die ruimte daartussen t heeltemal gevul word.

. Enige ruim, kompartement of spesiale afdeling wat emal met los graan in massa gevul is, moet gevul deur behoorlik geboude graanvoerders wat op te plekke aangebring is en wat minstens 2½ persent ogstens 8 persent moet bevat van die hoeveelheid wat vervoer word in die kompartement wat hulle Vanneer los graan in massa in 'n diep tenk gelaai is spesiaal geboude graanvoerders nie 'n vereiste s die diep tenk deur 'n langsskeepse staalbeskot in ldel verdeel is en die graan in massa goed gestu die tenk en tenkluike heeltemal gevul en die luike

raanvoerders na 'n ruim, kompartement of spesiale moet so ingerig word dat daar 'n vrye vloei van alle dele van daarde ruim, kompartement of afdeling is. Wanneer die afstand, in 'n langslyn an enige deel van 'n ruim of kompartement na graanvoerder meer as 25 vt. is, moet die graan druimtes meer as 25 vt. van die naaste graanf, gelyk gemaak word tot op 'n hoogte van

depth of the coamings below the surface of the deck exceeds 15 in. and does not exceed 18 in., feeding holes 2 in. in diameter shall be provided. When the depth exceeds 18 in., feeding holes of 3½ in. diameter shall be provided. Feeding holes shall be spaced approximately 2 ft. apart.

23. Engine-room and stokehold bulkheads and donkey boilers recesses, where subjected to heat, shall be sheathed with wood and made grain-tight. An air space of at least 6 in. shall be left between the bulkhead and the sheathing and a box trunk ventilator 6 in. × 8 in. in size shall be provided from the top of the air space to a ventilator or hatchway. Sheathing shall be supported on vertical runners spaced not less than 2 ft. apart centre to centre and shall consist of 2 in. planks or two thicknesses of 1 in. boards laid to break joint.

STOWAGE.

Holds, Compartments or Bins Partly Filled with Loose Grain in Bulk.

24. If any hold, compartment or bin is partly filled with loose grain in bulk, the grain shall be levelled and topped off with bagged grain or other suitable cargo extending to a height not less than 4 ft. above the top of the loose grain in bulk and supported on suitable platforms laid over the whole surface of the loose grain in bulk. In addition the hold or compartment, as the case may be, shall be divided by a properly constructed longitudinal bulkhead or by shifting boards which shall be in line with the keel, and shall extend from the bottom of the hold or deck, as the case may be, to a height of not less than 2 ft. above the surface of the bulk grain in such a way as to prevent shifting.

Provided that the fitting of a longitudinal bulkhead or shifting boards in a lower hold shall not be required if the grain in bulk does not exceed one-third of the capacity of the hold, or in the case of a hold containing a shaft or other similar tunnel, one-half the capacity of the hold.

Holds, Compartments or Bins Entirely Filled With Loose Grain in Bulk.

25. If any hold or compartment is entirely filled with loose grain in bulk, it shall be divided by a longitudinal bulkhead or shifting boards, in line with the keel, which shall be properly constructed and secured, and fitted grain-tight with proper fillings between the beams. In holds, such shifting boards shall extend downwards from the underside of the deck to a distance of at least one-third of the depth of the hold or 8 ft. whichever is the greater. In compartments in 'tween decks and superstructures they shall extend from deck to deck. In all cases the shifting boards shall extend to the top of the feeders of the hold or compartment in which they are situated.

26. All bulk grain shall be well trimmed up between the beams and in the wings and the space between them shall be completely filled.

27. Any hold, compartment or bin which is entirely filled with loose grain in bulk, shall be fed by suitably placed and properly constructed feeders, which shall contain not less than 2½ per cent or more than 8 per cent of the quantity of grain carried in the compartment that they feed. When loose grain in bulk is loaded in a deep tank, specially built feeders shall not be required if the deep tank is divided by a steel centre longitudinal division and the bulk grain is well stowed, the tank and tank hatchways being completely filled and the hatch covers secured.

28. Feeders to a hold, compartment or bin shall be so arranged as to secure a free flow of grain to all parts of that hold, compartment or bin. When the distance, measured in a fore and aft line, from any part of a hold or compartment to the nearest feeder in the end

29. Die platforms deur hierdie Bylae vereis, moet bestaan uit draers hoogstens 4 vt. van mekaar af met 1 dm.-planke daarop gelê, hoogstens 4 dm. van mekaar af, of teerseile of sterk skeidingseildoek wat ver genoeg oormekaar slaan.

30. Ligte graan in massa moet in die geval van 'n enkeldekskip vervoer word in die ruime of boboue daarvan, en in die geval van ander skepe slegs in die ruime of tussendekke daarvan, en in alle gevalle moet graanvoerders en graanbeskotte ooreenkomstig die vereistes van hierdie Bylae aangebring word. In skepe waar tussendekke of skuildekke nie ingedeel is nie, moet beskotte gebou word om sodanige skuildekke of tussendekke, na gelang van die geval, in kompartemente met 'n maksimum lengte van hoogstens 70 vt. in te deel.

31. Swaar graan in massa moet nie bodeks vervoer word nie behalwe op die wyse wat in paragrawe 32 en 33 gespesifiseer word.

32. Swaar graan in massa moet nie in 'n enkeldekskip bodeks of in 'n tweedekskip in die tussendek of in 'n skip met meer as twee dekke in die boonste tussendek vervoer word nie, behalwe—

(*a*) in graanvoerders behoorlik ooreenkomstig hierdie Bylae gebou;

(*b*) in spesiale afdelings behoorlik ooreenkomstig hierdie Bylae gebou.

33. Waar swaar graan in massa in spesiale afdelings vervoer word, moet—

(i) die kompartement of kompartemente onmiddellik onderkant die spesiale afdelings heeltemal met graan in massa gevul word;

(ii) die ruim of kompartement onder die spesiale afdeling of afdelings behoorlik geskalk en vry van die graanvoerder na so 'n ruim of kompartement wees;

(iii) die totale hoeveelheid graan wat in spesiale afdelings en in alle graanvoerders vervoer word, volgens gewig hoogstens 23 persent wees van die hele lading onderkant die dek waarop die spesiale afdelings geleë is;

(iv) die kapasiteit van enige spesiale afdeling hoogstens 8,000 kub. vt. wees;

(v) waar die afstand van die graanvoerder na die dwarsbeskot meer as 20 vt. is, die ruimte aan die ander kant gevul word met graan in sakke of ander geskikte vrag;

(vi) waar 'n spesiale afdeling nie heeltemal met graan gevul is nie, is die bepalings van paragraaf 24 van toepassing.

34. Daar word nie vereis dat graanbeskotte aangebring moet word in ruime, tussendekke of boboue wat ruime, tussendekke of boboue is wat slegs graan in sakke bevat nie.

35. Graan in sakke moet vervoer word in soliede sakke wat goed gevul en stewig toegemaak is.

29. The platforms required by this Annex shall consist of bearers spaced not more than 4 ft. apart and 1 in. boards laid thereon spaced not more than 4 in. apart or tarpaulins or strong separation cloths with adequate overlapping.

30. Light grain in bulk shall be carried in the case of a single deck ship in the holds or superstructures thereof, and in the case of other ships only in the holds or 'tween decks thereof and in all cases feeders and shifting boards shall be fitted which comply with this Annex. In ships where 'tween decks or shelter decks are not subdivided, bulkheads shall be constructed so as to divide such shelter decks or 'tween decks, as the case may be, into compartments of a maximum length of not exceeding 70 ft.

31. Heavy grain in bulk shall not be carried above deck except in the manner specified in paragraphs 32 and 33.

32. Heavy grain in bulk shall not be carried above deck in a single deck ship, or in the 'tween deck of a two deck ship, or in the uppermost 'tween deck of a ship having more than two decks except: —

(*a*) In feeders properly constructed in accordance with this Annex;

(*b*) in bins properly constructed in accordance with this Annex.

33. Where heavy grain in bulk is carried in bins—

(i) the compartment or compartments immediately below the bins shall be completely filled with bulk grain;

(ii) the hold or compartment below the bin or bins shall be properly battened down clear of the feeder to such hold or compartment;

(iii) the aggregate quantity of grain carried in bins and all feeders shall not exceed 23 per cent by weight of the total cargo below the deck on which the bins are situated;

(iv) the capacity of any bin shall not exceed 8,000 cu. ft.;

(v) where the distance from the feeder to the transverse bulkhead exceeds 20 ft., the space beyond shall be filled with bagged grain or other suitable cargo;

(vi) where a bin is not completely filled with grain, the provisions of paragraph 24 shall apply.

34. Shifting boards shall not be required to be fitted in holds, 'tween decks or superstructures being holds, 'tween decks or superstructures which contain only grain in bags.

35. Bagged grain shall be carried in sound bags which shall be well filled and securely closed.

BYLAE/ANNEX. D.

T.V. 5/323.
(Regulasie/Regulation 44.)

UNIE VAN SUID-AFRIKA.
UNION OF SOUTH AFRICA.

DEPARTEMENT VAN VERVOER—MARINE-AFDELING.
Handelskeepvaartwet, 1951 (Wet No. 57 van 1951).

DEPARTMENT OF TRANSPORT—MARINE DIVISION.
Merchant Shipping Act, 1951 (Act No. 57 of 1951).

SERTIFIKAAT VIR DIE VERVOER VAN GRAAN.
CERTIFICATE FOR THE CARRIAGE OF GRAIN.

Naam van skip. Name of ship.	Amptelike No. Official No.	Registrasiehawe (en land). Port of registry (and country).	Netto-tonnemaat van skip. Net tonnage of ship.	Naam van gesagvoerder. Name of master.

Hiermee sertifiseer ek dat ek op hierdie dag bogenoemde skip ondersoek het om te bepaal of sy behoorlik toegerus is vir die
I hereby certify that I have this day inspected the above-mentioned ship to ascertain whether she is properly equipped for the

* vervoer van ligte/swaar graan.
* carriage of light/heavy grain.

Die reëlings vir die berging van graan en die voorsorgmaatreëls wat getref is om te verhoed dat die graan verskuif, is in ooreen-
The arrangements for the stowage of the grain and the precautions taken to prevent the grain from shifting are in accordance with

stemming met die regulasies betreffende die vervoer van graan soos van krag in die Unie.
the regulations governing the carriage of grain as in force in the Union.

Hierdie sertifikaat word namens die regering van die Unie van Suid-Afrika uitgereik.
This certificate is issued on behalf of the Government of the Union of South Africa.

Hawe.
Port.

.....
Handtekening en ampstitel.
Signature and designation.

Datum.
Date.

* Skrap woord wat nie van toepassing is nie.
* Delete word which does not apply.

BYLAE E.
(Regulasie 47 (3)].

SEISOENSVAARGEBIEDE.

No.	Gebied. Beskrywing.	Wintertydperk.
1	Die watergebied binne en ten noorde van die volgende lyn:— 'n Lyn suid getrek van die kus van Groenland op 50° westerlengte tot aan 45° noorderbreedte, vandaar langs die parallel van 45° noorderbreedte tot aan 15° westerlengte, vandaar noord tot aan 60° noorderbreedte en vervolgens langs die parallel van 60° noorderbreedte tot aan die weskus van Noorweë. Daar moet beskou word dat Bergen op die grenslyn lê tussen hierdie watergebied en die watergebied 2 hieronder vermeld	16 Oktober tot 15 April.
2	Die watergebied ten noorde van 'n lyn getrek van die ooskus van Amerika langs die parallel van 36° noorderbreedte tot aan Tarifa in Spanje met uitsondering van bostaande watergebied 1 maar met inbegrip van die Baltiese See	1 November tot 31 Maart.
3	Die Middellandse See en die Swart See.	16 Desember tot 15 Maart.
4	Die Japanse See tussen die parallelle van 35° en 50° noorderbreedte	1 Desember tot 28/29 Februarie.
5	Die gebied ten noorde van 'n lyn getrek vanaf die ooskus van Honshiu in Japan langs die parallel van 35° noorderbreedte tot aan 150° westerlengte en vandaar langs die loksodroom na die weskus van Brits-Columbia op 55° noorderbreedte maar met uitsondering van bovermelde watergebied 4	16 Oktober tot 15 April.
6	Die watergebied aan die suidekant van 'n lyn getrek vanaf die ooskus van Suid-Amerika langs die parallel van 40° suiderbreedte tot aan 56° westerlengte, vandaar langs die loksodroom na 'n punt op 34° suiderbreedte, en 50° westerlengte, vandaar langs die parallel van 34° suiderbreedte tot aan die weskus van Suid-Afrika; van die ooskus van Suid-Afrika op 30° suiderbreedte langs die loksodroom na 'n punt op 35° 30′ suiderbreedte en 118° oosterlengte op die hoogte van die suidkus van Australië, vandaar langs die loksodroom na Kaap Grim, Tasmanië, vandaar langs die noordkus van Tasmanië na Eddystone-punt, vandaar langs die loksodroom na die weskus van Suid-eiland, Nieu-Seeland, op 170° oosterlengte, vandaar langs die wes-, suid- en ooskus van Suid-eiland tot Kaap Saunders, vandaar langs die loksodroom na 'n punt op 33° suiderbreedte en 170° westerlengte; en vandaar langs die parallel van 33° suiderbreedte na die weskus van Suid-Amerika	16 April tot 15 Oktober.

ANNEX. E.
[Regulation 47 (3).]

SEASONAL AREAS.

No.	Area. Description.	Winter Period.
1	The area within and to the northwards of the following line:— A line drawn south from the coast of Greenland at long. 50° W. to lat. 45° N. thence along the parallel of 45° N. to long. 15° W. thence north to lat. 60° N. thence along the parallel of 60° N. to the west coast of Norway. Bergen is considered as being on the boundary between this area and area 2 below	16th October to 15th April.
2	The area north of a line drawn from the east coast of America along the parallel of 36° N. to Tarifa in Spain excluding area 1 above but including the Baltic Sea	1st November to 31st March.
3	The Mediterranean and the Black Seas..	16th December to 15th March.
4	The Sea of Japan between the parallels of 35° N. and 50° N.	1st December to 28th/29th February.
5	The area north of a line drawn from the east coast of Honshiu in Japan along the parallel of 35° N. to long. 150° W. and thence along a rhumb line to the west coast of British Columbia at lat. 55° N. but excluding area 4 above	16th October to 15th April.
6	The area south of a line drawn from the east coast of South America along the parallel of 40° S. to long. 56° W. thence along a rhumb line to the point lat. 34° S., long. 50° W. thence along the parallel of 34° S. to the west coast of South Africa; from the east coast of South Africa at lat. 30° S. along a rhumb line to the point lat. 35° 30′ S. long. 118° E. off the southern coast of Australia, thence along a rhumb line to Cape Grim, Tasmania, thence along the north coast of Tasmania to Eddystone Point thence along a rhumb line to the west coast of South Island, New Zealand, at long. 170° E. thence along the west, south and east coasts of South Island to Cape Saunders thence along a rhumb line to the point lat. 33° S. long 170° W.; and thence along the parallel of 33° S. to the west coast of South America	16th April to 15th October.

BYLAE/*ANNEX. F.*

T.V. 5/324.
(Regulasie/Regulation 56.)

UNIE VAN SUID-AFRIKA.
UNION OF SOUTH AFRICA.

DEPARTEMENT VAN VERVOER—MARINE-AFDELING.
Handelskeepvaartwet, 1951 (Wet No. 57 van 1951).

DEPARTMENT OF TRANSPORT—MARINE DIVISION.
Merchant Shipping Act, 1951 (Act No. 57 of 1951).

SERTIFIKAAT TEN OPSIGTE VAN 'N DEKVRAG HOUT.
CERTIFICATE IN RESPECT OF A DECK CARGO OF TIMBER.

Naam van skip. Name of ship.	Amptelike No. Official No.	Registrasiehawe (en land). Port of registry (and country).	Naam van gesagvoerder. Name of Master.

Hiermee sertifiseer ek dat bogenoemde skip geskik is vir die vervoer van hout as dek-vrag. Die skip is behoorlik toegerus ingevolge
I hereby certify that the above-mentioned ship is suitable for the carriage of timber as deck cargo. The ship is properly equipped

die regulasies wat in die Unie van Suid-Afrika van krag is, en die vrag hout wat gelaai is by die hawe _____
in accordance with the regulations in force in the Union of South Africa, and the timber cargo loaded at the port of

(Suid-Afrika) op die _____ (datum) is behoorlik geberg en vasgemaak kragtens daardie regulasies.
(South Africa) on the (date) is properly stowed and secured in accordance with those regulations.

Die vrag hout is bestem vir _____
The timber cargo is destined for

Hierdie sertifikaat word namens die regering van die Unie van Suid-Afrika uitgereik.
This certificate is issued on behalf of the Government of the Union of South Africa.

Hawe.
Port.

_____
Handtekening van opnemer.
Signature of Surveyor.

Datum.
Date.

BYLAE/*ANNEX. G.*

T.V. 5/325.
(Regulasie/Regulation 61.)

UNIE VAN SUID-AFRIKA.—UNION OF SOUTH AFRICA.

DEPARTEMENT VAN VERVOER—MARINE-AFDELING.
Handelskeepvaartwet 1951 (Wet No. 57 van 1951).

DEPARTMENT OF TRANSPORT—MARINE DIVISION.
Merchant Shipping Act, 1951 (Act No. 57 of 1951).

ONGEVALLEVERSLAG.
(Artikel *tweehonderd nege-en-vyftig* van die Wet.)

CASUALTY REPORT.
(Section *two hunderd and fifty-nine* of the Act.)

A. BESONDERHEDE VAN SKIP EN VRAG./PARTICULARS OF SHIP AND CARGO.

Naam van skip (meld stoom, motor of seil). Name of ship (state whether steam, motor or sail).	Amptelike nommer en nasionaliteit. Official number and nationality.	Registrasiehawe. Port of registry.	Bruto tonnemaat. Gross tonnage.	Netto-tonnemaat. Net tonnage.	Yster, staal of hout. Iron, steel or wood.	Jaar wanneer gebou. Year of build.	Aantal bemanningslede. Number of crew.	Aantal passasiers. Number of passengers.	Beskrywing en gewig van vrag. Description and weight of cargo.	Slegs vermiste skepe. Missing ships only.				
										Bedrag van assuransie op. Amount of insurance on.			Waarde van. Value of.	
										Skip. Ship.	Vraggeld. Freight.	Vrag. Cargo.	Skip. Ship.	Vrag. Cargo.

B. BESONDERHEDE BETREFFENDE GESAGVOERDER EN EIENAARS VAN SKIP. PARTICULARS REGARDING MASTER AND OWNERS OF SHIP.

Gesagvoerder/Master.					Eienaars/Owners.
Volle naam. Name in full.	Nasionaliteit. Nationality.	No. van sertifikaat. No. of certificate.	Datum van uitreiking van sertifikaat. Date of issue of certificate.	Plek waar sertifikaat uitgereik is. Place of issue of certificate.	Naam en adres. Name and address.

C. BESONDERHEDE VAN REIS./PARTICULARS OF VOYAGE.

Vreemdevaart, kusvaart, visvangs, ens. Foreign-going, coasting, fishing, etc.	Oorspronklike hawe van vertrek. Original port of departure.	Datum van vertrek vana oorspronklike hawe. Date of departure from original port.	Laaste hawe waarvandaan uitgevaar. Port last sailed from.	Uiteindelike bestemmingshawe. Port of final destination.	

D. BESONDERHEDE VAN ONGEVAL (MELD OF DIT GREENWICH MIDDELBARE TYD OF PLAASLIKE TYD IS). PARTICULARS OF CASUALTY (STATE WHETHER GREENWICH MEANTIME OR LOCAL TIME).

Juiste plek OF (naam van plek, land of see). Exact locality OR (name of place, country or sea).	Waar skip laaste van gehoor is. Where ship was last heard of.	Breedtegraad en lengtegraad. Latitute and longitude.	Juiste ligging en distansie van land, ens. True bearing and distance from land, etc.	Datum en uur. Date and hour.	Toestand van gety. State of tide.	Toestand van weer en atmosfeer. State of weather and atmosphere.	Toestand van see en rigting waarin dit vloei. State of sea and in what direction flowing.	Rigting en sterkte van wind. Direction and force of wind.	Aantal lewens verlore. Number of lives lost.	
									Bemanning. Crew.	Passasiers. Passengers.

E. ALGEMEEN./GENERAL.

Indien berging-dienste gelewer is, meld deur wie en of dit betaal is teen berging- of gewone tariewe. If salvage services were rendered, state by whom and whether paid for at salvage or ordinary rates.	Naam van loods (indien enige). Name of pilot (if any).	Kort verslag van ongeval, met opmerkings betreffende oorsake en of dit kon vermy gewees het. Toon mate van skade aan skip en vrag aan. Brief account of casualty, with remarks as to causes and whether it could have been avoided. Give extent of damage to ship and cargo.

AANTEKENING.—Vrae 1 tot 33 moet voltooi word wanneer die skip verlore gegaan het, verlaat, gestrand of beskadig is, en vrae 34 tot 69 in die geval van 'n botsing.

NOTE.—Questions 1 to 33 shall be completed when the ship has been lost, abandoned, stranded or damaged, and questions 34 to 69 in the case of a collision.

Besonderhede van skip/Particulars of ship.

1. Wat was die skip se water-diepgang voor en agter?
   What was the ship's draught of water forward and aft?
2. Naam, datum en publiseerder van kaart van omgewing van ongeval, en indien 'n Admiraliteitskaart, die nommer en datum van die jongste korreksie?
   Title, date and publisher of the chart of the locality of the casualty, and, if an Admiralty Chart, the number and date of the last correction?
3. Aantal kompasse? Was hulle in goeie toestand?
   Number of compasses? Were they in good condition?
4. Kon enige deel van die vrag die kompas beïnvloed?
   Could any part of the cargo affect the compass?
5. Was die reddings-toestelle aan boord in ooreenstemming met die voorgeskrewe vereistes?
   Were the life-saving appliances on board in accordance with prescribed requirements?
6. Aantal waterdigte afdelings?
   Number of watertight compartments?
7. Was hulle van nut in hierdie geval?
   Did they prove of use in this case?
8. Was die vuurblustoestelle aan boord in ooreenstemming met die voorgeskrewe vereistes?
   Were the fire appliances on board in accordance with prescribed requirements?
9. Was die skip goed uitgerus in alle opsigte?
   Was the ship well found in all respects?
10. Hoe was die kolehokke geventileer?
    How were the bunkers ventilated?
11. Indien die skip in ballas was, meld soort, hoeveelheid en waar aan boord?
    If the ship was in ballast, state kind, quantity and where carried?

Besonderhede van vrag/Particulars of cargo.

12. Het die skip 'n dekvrag gehad?
Had the ship a deck load?
13. Indien dit hout was, was dit in ooreenstemming met die voorgeskrewe vereistes?
If of timber, was it in accordance with prescribed requirements?
14. Was die skip oorlaai?
Was the ship overladen?
15. Was die vrag behoorlik geberg?
Was the cargo properly stowed?
16. Indien die skip 'n vrag graan gehad het, was dit in ooreenstemming met die voorgeskrewe vereistes geberg?
If the ship had a grain cargo, was it stowed in accordance with prescribed requirements?
17. Indien 'n vrag kole, was alle ruimtes heeltemal vol, indien nie, meld kapasiteit van leë spasie wat in elke ruim oor is? Hoe was die ruime geventileer?
If a coal cargo, were all holds completely full, if not, state capacity of empty space left in each hold? How were the holds ventilated?
18. Beskrywing van kole en koolmyn waar dit vandaan kom?
Description of coal and colliery of origin?
19. Was die kole gestapel voordat dit verskeep is, en indien so, hoelank?
Had the coal been stacked before shipment, and if so, how long?
20. Weersomstandighede ten tyde van verskeping?
State of weather at time of shipment?

Besonderhede van navigasie/Particulars of navigation.

21. Rang van offisier in bevel?
Rank of officer in charge?
22. Was die skip met radar of ander navigasie-hulpmiddels uitgerus? Indien so, noem hulle.
Was the ship fitted with radar or other navigational aids? If so, name them
23. Was hulle voor die stranding in werking?
Were they in operation prior to the stranding?
24. Wat en op welke tyd, was die laaste landmerke, bakens of boeie sigbaar? (Vermeld of dit Greenwich Middelbare Tyd of Plaaslike tyd is)
What, and at what time, were the last landmarks, beacons or buoys visible? (State whether Greenwich Mean Time or local time)
25. Was die tekens met die blote oog gesien of deur middel van radar? Toon gesigs-peilings of radarreikwydte en peilings aan
Were these marks seen directly or by radar? Give visual bearings or radar ranges and bearings
26. Was peilings van enige baken of rigtingsoeker-stasie verkry? Indien wel, meld peilings wat verkry is
Were bearings obtained from any beacon or direction-finding station? If so, state bearings obtained
27. Hoe lank voor die stranding was hierdie peilings verkry?
How long before stranding were these bearings obtained?
28. Was diepte-peilings geneem? Hoe lank voor die stranding?
Were soundings taken? How long before stranding?
29. Wat was die diepte by die eerste en laaste diepte-peiling?
What was the depth at the first and the last sounding?
30. Rigting gestuur toe ongeval plaasgevind het? Meld of dit juis of magneties is
Course steered when casualty happened? State whether true or magnetic
31. Spoed ten tyde van stranding?
Speed at time of stranding?
32. Rigting van skip se voorpunt na stranding?
Direction of ship's head after stranding?
33. Was ongeval veroorsaak deur 'n ongekaarte obstruksie?
Was casualty due to an uncharted obstruction?

Besonderhede van skip en vrag/Particulars of ship and cargo.

34. Wat was die skip se water-diepgang voor en agter?
What was the ship's draught of water forward and aft?
35. Aantal kompasse? Was hulle in goeie toestand?
Number of compasses? Where they in good order?
36. Aantal waterdigte afdelings?
Number of watertight compartments?
37. Was hulle in hierdie geval van nut?
Did they prove of use in this case?
38. Aantal en toestand van pompe by aanvangs van reis?
Number and condition of pumps at commencement of voyage?
39. Hoeveel en watter het voor die sinking nutteloos geword?
How many, and which, had become useless before foundering?
40. Was die reddingstoestelle aan boord in ooreenstemming met die voorgeskrewe vereistes?
Were the life-saving appliances on board in accordance with prescribed requirements?
41. Was die skip goed uitgerus in algemene uitrusting?
Was the ship well found in general equipment?
42. Het die skip 'n dekvrag gehad?
Had the ship a deck load?
43. Indien dit hout was, was dit in ooreenstemming met voorgeskrewe vereistes?
If of timber, was it in accordance with prescribed requirements?
44. Was die skip oorlaai?
Was the ship overladen?
45. Was vrag behoorlik geberg?
Was cargo properly stowed?
46. Indien die skip 'n vrag graan gehad het, was dit in ooreenstemming met voorgeskrewe vereistes geberg?
If the ship had a grain cargo, was it stowed in accordance with prescribed requirements?
47. Indien 'n vrag kole, was alle ruime heeltemal vol? Indien nie, meld kapasiteit van leë spasie wat in elke ruim oor is? Hoe was die ruime geventileer?
If a coal cargo, were all holds completley full? If not, state capacity of empty space left in each hold? How were the holds ventilated?
48. Het hierdie skip enige hulp nodig gehad? Indien wel, hoe was dit ontbied?
Was any assistance required by this ship? If so, how was it summoned?

Besonderhede wat verlang word insake botsings/ Particulars required for collisions.

49. Rang van offisier in bevel ten tyde van botsing?
Rank of officer in charge at time of collision?
50. Was die skip met radar of ander navigasie-hulpmiddels uitgerus? Indien wel, noem hulle
Was the ship fitted with radar or other navigational aids? If so, name them
51. Was hulle voor die stranding in werking
Were they in operation prior to the collision?
52. Rigting van skip wanneer die ander een vir die eerste keer gesien is?
Course of ship when the other was first seen?
53. Hoe was hierdie rigting bepaal?
How was this course determined?
54. Spoed van skip toe die ander vir die eerste keer gesien is?
Speed of ship when the other was first seen?
55. Wat was die peiling van die ander skip toe dit vir die eerste keer gesien is? Meld hoe dit bepaal is (bv. blote oog, deur radar, radio of
What was the bearing of the other ship when first seen? State how obtained (e.g. visually, by radar, radio or other navigational
ander navigasie-hulpmiddel)
aid)
56. Kleur van lig of ligte van ander skip wat eerste gesien is, en hoelank voor die botsing?
Colour of light or lights of other ship first seen, and how long before the collision?
57. Rigting van die ander skip toe dit vir die eerste keer gesien is? Meld hoe dit bepaal is (soos onder 55).
Course of the other ship when first seen? State how obtained (as under 55)
58. Rigting van hierdie skip se voorpunt ten tyde van die botsing?
Direction of this ship's head at the time of the collision?
59. Rigting van ander skip se voorpunt ten tyde van botsing?
Direction of other ship's head at the time of the collision?
60. Was die spoed van die masjiene van hierdie skip verminder of heeltemal tot stilstand gebring? Gee besonderhede
Were the engines of this ship slowed or stopped? Give particulars
61. Spoed toe botsing plaasgevind het?
Speed when the collision took place?
62. Was ligte behoorlik toegerus en vertoon, en was misseine in ooreenstemming met die regulasies gegee?
Were lights properly fitted and shown, and fog signals made in accordance with the regulations?
63. Het die ander skip sy naam verstrek en na die botsing byderhand gebly, in ooreenstemming met die voorgeskrewe vereistes?
Did the other ship give her name and stand by after the collision, in accordance with prescribed requirements?
64. Naam, nasionaliteit, hawe en amptelike nommer van die ander skip?
Name, nationality, port and official number of the other ship?

Sinkings/Founderings.

65. Het die masjiene ingestort of nutteloos geword voor die sinking?
Had engines broken down or become useless before foundering?
66. Datum en uur wanneer lek ontstaan het of wanneer hoë golwe aanboord gekry is?
Date and hour of springing leak or of ship shipping heavy seas?
67. Rigting gestuur voor die skip gesink het?
Course steered prior to ship foundering?
68. Omstandighede van die reis onmiddellik voor die sinking?
Circumstances of the voyage immediately preceding the foundering?
69. Besonderhede van stappe wat gedoen is om sinking te verhoed
Details of measures taken to prevent the foundering

Gedateer te _____ op hierdie _____ dag van _____
Dated at _____ this _____ day of _____

(Geteken) _____
(Signed)

* *Gesagvoerder/Eienaar/Eienaar se verteenwoordiger.*
* *Master/Owner/Owner's representative.*

Adres _____
Address

* Skrap watter ookal nie van toepassing is nie.
Delete whichever is not applicable.

Besonderhede wat verlang word insake botsings/ Particulars required for collisions.

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Gedateer te / Dated at _____ op hierdie / this _____ dag van / day of _____

(Geteken)
(Signed) _____
* *Gesagvoerder/Eienaar/Eienaar se verteenwoordiger.*
* *Master/Owner/Owner's representative.*

Adres
Address _____

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