



## SUMMARY OF DATA

### ON SAFETY OF LIFE AT SEA AND LIFESAVING TOGETHER WITH SIGNALS USED IN CONNECTION THEREWITH

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**S**AFETY of life at sea depends upon good navigation and upon good types and designs of ships rather than upon lifesaving apparatus, or, in other words the prevention of disaster is more important than remedial measures, but, even with every known precaution, sinkings, collisions and strandings do and will occur. This publication deals with "*Safety first*" as the real issue.

The advance of science has placed in the hands of seamen new and improved instruments as aids to navigation. New designs of ships and lifesaving apparatus have contributed much to increased safety of life and the saving of life at sea. Increased intelligence and efficiency in the personnel, as well as improved services in Notices to Mariners and in warnings of all kinds have lessened risks of navigation, but great sources of danger to shipping yet remain, which international agreements can, and should eradicate, because, under the guise of aiding seamen, they create additional risks to navigation. These sources of danger are the almost entire lack of international uniformity in visual, coastal, port, storm warning and life saving signals, as well as in buoyage and buoy and coastal lighting.

This Bureau has, as one of its objects, to coordinate the hydrographic work of the Hydrographic Offices of its States Members "with a view to rendering navigation easier and safer in all the seas of the world". The recognised functions of the Hydrographic Office of a country are to chart its coasts and harbours and to publish all possible information as to aids to their safe navigation. Certain of these publications are variously called Coast Pilots, Handbooks,

Sailing Directions, *etc.*, and contain data as to location and characteristics of lighthouses, light-ships, buoys, beacons, range marks and sound signals, and lifesaving stations, as well as the position of coastal and port signal stations, with the character and meaning of the signals they display. Through Notices to Mariners, both daily by radio and periodically by published bulletins, all information as to changes in the location, appearance or character of these aids is promptly given to seamen, with the addition of warnings as to the existence of ice, derelicts and other dangers to navigation. It has thus resulted that mariners, the world over, look to the various Hydrographic Offices to keep them informed of all existing aids to navigation, and any changes therein, as well as regards known dangers which may arise.

The Hydrographic Offices themselves have come to look to this Bureau to assemble accurate data because some of the information which is contained in the Sailing Directions is not up to date, through the failure of the various organisation which control them to inform the Hydrographic Offices when new systems are put into effect or changes are made in existing ones. As these organisations exist solely, or in most cases, largely for the benefit of mariners, it results that they do not do their duty in the matter, which thereby incidentally increases the employment of pilots through the uncertainty of ship captains as to the accuracy of information contained in Sailing Directions, as well as to the appalling lack of uniformity in coastal signals and in the port signals of the various ports even of the same country. This puts an additional and unnecessary burden on shipping, already handicapped by charges for port services they do not receive. Many of the port dues which shipping have to pay are for increased port facilities for handling, receiving and despatching cargoes, besides the costs of harbour engineering, port conservancy, and the provision by Port Authorities of buoyage and port signals, but there are many port services neglected in the various ports.

In the interests of shipping the Maritime Governments of the world should seek to reduce the charges which are exacted from shipping, for consular visas, for practically useless bills of health and for port dues, and bring strong pressure to bear upon their Port Authorities to increase their port services, at the same time bringing about international uniformity in aids to navigation. This work is being undertaken by the Organisation for Communications and Transit of the League of Nations, which looks to this Bureau to advise it as to accurate data in hydrographic and maritime matters.

Article 17 of the Statutes of this Bureau says : "The Bureau shall give a considered opinion on all questions dealing with its work which are referred to it by Conferences or by Scientific Institutions". The activities of the Bureau in this respect, and the publication of all data regarding the visual aids to safe navigation which are so generously provided at great cost on the coasts and in the inland waters, approaches and harbours of the maritime countries of the world, was thoroughly discussed at the Second International Conference, at Monaco, in October-November, 1926, and approved by all the delegations except two.

In the course of the study of the Sailing Directions of all the coasts and ports of the world, the writer has succeeded in tabulating and having printed what has seemed to be practically all of the existing data as to coastal and port signals of the world considered as aids to navigation. Their publication has served the double purpose of inviting the attention of the Governments of the world to the danger to mariners resulting from the lamentable lack of uniformity in signals and aids to navigation, as well as to developing the fact that the published data are not entirely accurate through the failure of other organisations to get the necessary information into the Sailing Directions by informing the Hydrographic Offices of their own or other countries. At any rate, for instance, the tabulations of the Buoyage and Buoy Lighting Systems, and also of the Storm Warning Signals of the world show that there are about 26 different systems of each, and these have stirred the League of Nations and the International Meteorological Committee to action. As to Coastal and Port Signals, the only semblance of uniformity is where all Governments have adopted certain proposals for uniformity made at International Conferences already held, and the publications of the Bureau on this subject will be the basis of future conferences. It will be well, therefore, to examine the work of previous conferences with a view to outlining what may possibly be accomplished at other conferences which may be held.

## THE INTERNATIONAL MARINE CONFERENCE

WASHINGTON, 1889.

The International Marine Conference, which was held in Washington from October 16<sup>th</sup> to December 31<sup>st</sup>, 1889, in response to an invitation extended by the President of the United States to all maritime States "to secure greater safety for life and property at sea"

was attended by delegates from 21 countries and its agenda and resulting proposals mark an epoch in maritime affairs because of the subsequent adoption internationally of so many important measures which it initiated.

The agenda of the Conference was as follows :

- I. Rules for the Prevention of Collisions, and Rules of the Road.
- II. Regulation to Determine the Seaworthiness of Vessels.
- III. Draught to which Vessels should be restricted when loaded.
- IV. Uniform Regulations regarding the designating and Marking of Vessels.
- V. Saving of Life and Property from Shipwreck.
- VI. Necessary Qualifications for Officers and Seamen, including Tests for Sight and Colour-Blindness.
- VII. Lanes for Steamers on frequented Routes.
- VIII. Night Signals for communicating Information at Sea.
- IX. Warnings of approaching Storm.
- X. Reporting, marking, and removing Dangerous Wrecks or Obstructions to Navigation.
- XI. Notice of dangers to Navigation. Notice of Changes in Lights, Buoys, and other Day and Night Marks.
- XII. A uniform System of Buoys, and Beacons.
- XIII. The Establishment of a Permanent International Maritime Commission.

All of the proposals of the Conference were adopted except the last one, N° XIII - "The Establishment of a Permanent International Maritime Commission". As no great progress has since been made, it is to be regretted that a permanent commission was not established (\*). With regard to proposal N° VIII, the Conference adopted all the proposals for modification of the International Signal Code Book, but declined to recommend a "revised edition", from which it resulted that none of the distinguishing lights or marks of vessels, and none of the sound signals adopted by various countries as a result of the Conference, were incorporated in the Code Book. The revision and modernisation of the International Code of Signals is one of the pressing maritime problems, for, in its present form, it can easily cause serious accidents through certain International agreements not having been incorporated in it, since it has already been adopted, in its present form, by 38 different countries.

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(\*) *Note.* — With regard to XII "Uniform System of Buoys and Beacons" an International Maritime Conference, which met in St. Petersburg from 12<sup>th</sup> to 18<sup>th</sup> March, 1912, modified the uniform buoyage proposals of the Washington Conference, and three countries, Italy, Portugal and Spain, have since adopted these recommendations to the further confusion of the international situation.

This Bureau has cooperated with the Technical Committee of the League of Nations in drawing up proposals for a uniform system of Buoyage, Buoy Lights and Coastal Lights, with the hope of reaching a greater degree of uniformity.

Question V of the Agenda was considered by the Washington Conference under the following headings :

“ V. SAVING LIFE AND PROPERTY FROM SHIPWRECK.

“ 1. Saving of life and property from shipwreck at sea.

- (a) Duties of vessels after collision.
- (b) Apparatus for lifesaving to be carried on board ship. (Life-boats, life-preservers, life-rafts, pumps, and fire-extinguishing-apparatus.)
- (c) The use of oil and the necessary apparatus for its use.
- (d) Uniform inspections as to (b) and (c).

“ 2. Saving of life and property from shipwreck by operations from shore.

- (a) Organisation of, and methods employed by, life-saving institutions.
- (b) The employment of drilled and disciplined crews at life-saving stations.
- (c) The maintenance of a patrol upon dangerous coasts by night, and during thick weather by day, for warning off vessels standing into danger, and for the early discovery of wrecks.
- (d) Uniform means of transmitting information between stranded vessels and the shore.
- (e) Life-boats, life-saving apparatus and appliances.

“ 3. Official inquiries into causes and circumstances of shipwrecks and other casualties. The proposals of the Conference were as follows : -

(1) *Resolved.* — In every case of collision between two vessels, it should be the duty of the master or person in charge of each vessel, if and so far as he can do so without danger to his own vessel, crew and passengers (if any) to stay by the other vessel until he has ascertained that she has no need of further assistance, and to render to the other vessel, her master, crew, and passengers (if any) such assistance as may be practical, and as may be necessary in order to save them from any danger caused by the collision ; and also to give to the master or person in charge of the other vessel the name of his own vessel, and of her port of registry, or of the port or place to which she belongs, and also the names of the ports and places from which and to which she is bound.

(2) *Resolved.* — That the Conference approve of the principle of the Rules made by the Board of Great Britain under “ The Merchant Shipping (Life-Saving Appliances) Act, 1888”, relating to boats and appliances to be carried on board ship for saving life ; and recommend that the several Governments adopt measures to secure compliance with this principle in regard to such boats and appliances for vessels of 150 tons and upwards gross tonnage.

“ It is also recommended that the principle of these Rules be extended to all smaller craft, as far as practicable ; and that each vessel of this class should carry at least one life-buoy of approved pattern and material, and for every person on board an efficient life-belt or jacket.

(3) *Resolved.* — That the Conference recommend that the several Governments require all their sea-going vessels to carry a sufficient quantity of animal or vegetal oil, for the purpose of calming the sea in rough weather, together with suitable means for applying it.

(4) *Resolved.* — That the Conference recommend that all institutions for saving life from wrecked vessels prepare uniform instructions to mariners with reference to their co-operation with those attempting their rescue from shore, and that said instructions include the following signals : —

“ Upon the discovery of a wreck by night the life-saving force will burn a red pyrotechnic light or a red rocket to signify “ You are seen ” assistance will be given as soon as possible.

“ A red flag waved on shore by day, or a red light, red rocket, or red Roman candle displayed by night will signify “ Haul away ”.

“ A white flag waved on shore by day, or a white light slowly swung back and forth, or a white Rocket or white Roman candle fired by night, will signify “ Slack away ”.

“ Two flags, white and a red, waved at the same time on shore by day, or two lights, a white and a red, slowly swung at the same time, or a blue pyrotechnic light burned by night, will signify “ Do not attempt to land in your own boats, it is impossible ”.

“ A man on shore beckoning, by day, or two torches burning near together, by night, will signify “ This is the best place to land ”.

“ Any of these signals may be answered from the vessel as follows : In the daytime by waving a flag, a handkerchief, a hat, or even the hand ; at night by firing a rocket, a blue light or a gun, or by showing a light over the ship’s gunwale for a short time and then concealing it.

“ And it is recommended that several Governments take measures to keep all their sea-going vessels supplied with copies of such instructions.

(5) *Resolved.* — That the Conference recommend that the several nations provide by legislative enactments for official inquiry into the causes and circumstances of all shipwrecks and other serious casualties happening to their vessels ”.

## INTERNATIONAL CONFERENCE ON SAFETY OF LIFE AT SEA. LONDON, 1914.

An International Conference on Safety of Life at Sea was held in London on January 20<sup>th</sup>, 1914, following the loss of the S. S. “ TITANIC ”. The following countries were represented :— AUSTRIA-HUNGARY, BELGIUM, FRANCE, GERMANY, GREAT BRITAIN, ITALY, NETHER-

LANDS, NORWAY, RUSSIA, SPAIN, SWEDEN, and the UNITED STATES of AMERICA. The Conference agreed to certain regulations for merchant ships of the States signing the convention "Which are mechanically propelled, which carry more than 12 passengers and which proceed from a port of one of the said States to a port situated outside of the States, or conversely, shall be subject to the provision of the Convention, but not applying to ports situated in the Colonies, possessions or protectorates of the States signing the Convention nor applying to vessels making voyages in the course of which the ship does not go more than 200 sea miles from the nearest coast". The Convention agreed to the destruction of derelicts in the northern part of the Atlantic Ocean ; the transmission of information from ships meeting dangerous ice or a dangerous derelict, or becoming aware of the existence of imminent and serious danger to navigation ; the compulsory installation of a Morse signalling lamp of sufficient range of visibility and the prohibition of the use of International distress signals for any purpose than that of signals of distress ; the selection of routes across the Atlantic in both directions in safety lanes ; to sufficiently and efficiently man the ships with proper crews ; and to try to obtain from other Governments not parties of the Convention their agreement to a revision of the Regulations for Preventing Collisions at Sea as follows :

"(A) The regulations shall be completed or revised in regard to the following points :

- (1) The second white light.
- (2) The stern light.
- (3) A day signal for motor vessels.
- (4) A sound signal for a vessel towed.
- (5) The prohibition of signals similar to distress signals.

"(B) Articles 2, 10, 14, 15, 31 of the said Regulations shall be amended in accordance with the following provision:—

- Article 2. The second white mast-head light to be compulsory.
- Article 10. A permanent fixed stern light to be compulsory.
- Article 14. A special day signal to be compulsory for motor vessels.
- Article 15. A special sound signal to be established for use by a vessel in tow, or if the tow is composed of several vessels by the last vessel of the tow.
- Article 31. Article 31 to be modified in the following manner : Add to the lists of both day and night signals the international radio-telegraph distress signal (SOS).

The Convention also included Regulations regarding sub-divisions of ships into water-tight compartments; the design and the testing of all bulkheads; the provision of adequate radio or wireless equipment; the provision of life-saving appliances and fire protection; the having on board of a Morse signal lamp of sufficient range; and the general precautions looking to the saving of life in cases of disaster, *etc.*

In connection with radio telegraphy, the Convention adopted the following International Signals for the Morse Code : —

“ These signals may be made at night or in thick weather, either by long and short flashes of light, or by long and short sound signals (whistles, fog-horns, *etc.*) or during the day by hand flags.

### “ I. Urgent and Important Signals.

- “ You are standing into danger ” - - —
- “ I want assistance ; remain by me ” - - - —
- “ Have encountered ice ” - — —
- “ Your lights are out (or, burning badly) ” - — — -
- “ The way is off my ship ; you may feel your way past me ” - — -
- “ Stop (or heave to) ; I have something important to communicate ” - — - -
- “ Am disabled ; communicate with me ” - - - - -

As these signals correspond respectively to the letters U, V, W, P, R, L and F of the Morse Code, it is thus seen that their adoption has caused considerable confusion in the existing Morse Code as given in the International Signal Code Book, the easy solution of which is hereafter given in the proposed revision of the “ Regulations for Preventing Collisions at Sea ”, page 133. The Conference also made the following recommendations as regards the *Safety of Navigation* : —

“ 1. — The Government of the United States and the Directors of the Suez Canal Company should be asked to publish at four hourly intervals at Colon, and Panama and Suez, the barometric pressure with the necessary corrections for temperature and height above sea level.

(See *Proceedings of International Conference on “ Safety of Life at Sea ”*, London, 1914.)

“ 2. — The attention of the Governments which have adopted the Regulations for the Prevention of Collisions at Sea should be drawn to the necessity of revising these regulations, and in particular as regards.

1. The lights of sailing ships ;
2. The signals intended to indicate the course of a ship in fog ;
3. Regulations relating to warships navigating without lights ;
4. Navigation in the neighbourhood of warships ;
5. Regulations relating to submarines ;
6. The adaptation of lights and sound signals to the dimensions and speed of modern ships.



“ 3. — The administrations concerned should continue to take steps to ensure that the power of ships’ lights and sound signals comply fully with the requirements of the International Regulations for preventing Collisions at Sea.

“ 4. — In view of the diversity of practice and opinion in the different countries, the question of the adoption of a uniform system of helm orders should be considered at the same time as the revision of the Regulations for preventing Collisions at Sea.

“ 5. — In districts where fog is frequent, every lightship on an important outside station should be provided with a submarine bell.

“ 6. — Every ship defined in Article 2 of this Convention of large size should be provided with search-lights for use in rescue work and other urgent cases.

“ 7. — Binoculars should not be provided for look-out men.

“ 8. — The tests in use for visual acuity and colour vision for officers and look-out men should be made general.

“ 9. — The question of rendering harbour and tide signals uniform should be considered by the different Governments.

“ 10. — The Governments of the High Contracting Parties should consider the question of approaching the companies and owners concerned with a view to securing that ships crossing the North Atlantic shall not pass over the Newfoundland Banks during the fishing season.

“ 11. — The international services provided for in Articles 6 and 7 of the Convention should, if possible, be established in time for the seasons of 1914 and 1915.

“ 12. — The International Load Line Conference, which the British Government proposes to convene as soon as the necessary preliminary work is completed, should also deal, if possible, with timber deck loads.

### **As regards Radiotelegraphy :**

“ 13. — The Governments of the Contracting States should make the necessary representation to the International Meteorological Committee that it should consider the increase of the number of stations able to send out weather messages to ships at sea and the best distribution of these stations.

“ 14. — In support of the recommendations of the International Time Conference held at Paris in 1912 :

1. A radiotelegraph meteorology service should be established conformably to the provisions of Article XLV, of the Regulations appended to the London Radiotelegraph Convention.

2. Foreign-going sailing and steam ships should be provided with an apparatus for the reception of time and weather signals.

“ 15. — The attention of the Governments of the Contracting States should be drawn to the desirability of making every effort to reduce the delays allowed by Article 38 of this Convention for the installation of radiotelegraph apparatus and the pro-

vision and training of operators for ships in the First and Second Classes, as well as those provided in the same article for the installation of the said apparatus, the provision and training of operators and the establishment of a continuous watch on ships of the Second and Third Classes.

### As regards Life-Saving Appliances :

“ 1. — The attention of each of the Governments of the Contracting States should be drawn to the desirability of applying at the earliest possible moment the provisions of the Convention relating to the handling of boats and boat-drills and fire-drills, as well as the provisions for preventing, discovering and extinguishing fire. ”

### CONFERENCE OF SUB-COMMITTEE FOR PORTS AND MARITIME NAVIGATION. LONDON, 1924.

The Advisory and Technical Committee for Communications and Transit of the League of Nations appointed a Sub-Committee for “ Ports and Maritime Navigation ” which met in London July 21-24, 1924, with delegates from BELGIUM, CUBA, FRANCE, GERMANY, GREAT BRITAIN, ITALY, JAPAN, NETHERLANDS, NORWAY, ROUMANIA, SPAIN. One of the questions on its Agenda was Safety at Sea and the Protection of Navigation. In the discussion of this question Sir ALAN ANDERSON stated that in his view, two questions arose :

- “ (1) In what way could life be protected at sea ?  
“ (2) What action would the Sub-Committee take as an organ of the League of Nations?

“ Many conferences had been held with the object of increasing security. In January 1914, after the TITANIC disaster, an International Convention was drawn up in London, but very few states had ratified it and, owing to subsequent events, it had not been generally enforced, although several Governments had passed national laws on similar lines.

“ Experience acquired in the course of the war, during which a large number of vessels foundered, had shown that certain provisions of the Convention of 1914, had the effect of diminishing the safety of the vessel herself, or of the ship’s company, through over-anxiety to increase safety in case of accident.

“ He referred in particular to the regulations concerning the number of life-boats. This number had been fixed too high, and it had been found that the important consideration was not the number of life-boats but the possibility of launching them at the critical moment.

“ It was all-important that ships-owners should render their vessels as safe as possible. The multiplication of regulations was a very real danger, as it might hinder constructional improvement and retard the development of international trade.

“ For these reasons, he thought that the League of Nations should not take up the question ; it was too complicated, and it had not yet reached a stage at which international regulations could be applied. Moreover, any such regulations would have to be very general, and certain leading maritime States were not members of the League. ”

He noted there was some misunderstanding as to the precise meaning of the term "safety at sea"; he had always held that term included all questions connected with the construction of vessels, such as load lines, deck cargoes and lifesaving appliances. It also involved wireless questions. There is a large number of questions for which he would prefer a different term. Secretary-General HAAS of the League of Nations suggested the term "protection of navigation".

"Annex 4a" of the Conference was as follows:

"Text of a Proposal regarding the Enquiry into Safety at Sea made by certain Members of the Advisory and Technical Committee for Communications and Transit.

"As regards international communications and traffic by sea, the safety of the crews, passengers, the ship herself and the cargo would appear to be an essential object of the task entrusted to the Advisory and Technical Committee for Communications and Transit.

"In seeking to attain real freedom and facility of communication between nations, the Committee should not neglect the protection of the lives of the passengers and crew, and the protection of the ship and of the goods on board, since everything which serves to ensure safety in travel facilitates traffic.

"We are of opinion that it is within the province of the Advisory and Technical Committee for Communications and Transit to examine fully the whole problem from all points of view. By devoting to the question its special knowledge and the means of every kind at its disposal, our Organisation will undoubtedly give effect to the hopes expressed on its formation and will satisfy one of the most serious anxieties of all who, in any capacity whatever, are directly concerned in navigation, and one of the most grave preoccupations of humanitarians.

"Moreover, it would certainly be surprising if the Advisory and Technical Committee for Communications and Transit, which, with a view to facilitating communications through the world, is attempting to codify international obligations regarding freedom of transit, freedom of navigation on waterways, equality of treatment for goods in ports and equality of transport facilities by rail, did not endeavour to co-ordinate, and thereby render more effective, the methods of protecting vessels from the dangers to which they are exposed, of bringing assistance to them as quickly as possible in case of accident, and — should disaster occur — of saving everything which can be saved.

"There is much to be accomplished in this sphere. In the first place, such work necessitates an enquiry into all the means at present available; secondly, an investigation of the best methods of employing these means and co-ordinating their employment; and, finally, the preparation of a general code to be recommended to all nations specially concerned in shipping. Though the work would be enormous, it is not beyond the power of the Advisory and Technical Committee for Communications and Transit to carry it out. Work of this kind can confer enormous benefits on mankind. The Advisory and Technical Committee will not hesitate to undertake the task.

"For this reason we request — and we have complete confidence in the result — the Advisory and Technical Committee for Communications and Transit to introduce immediately into its scheme of work a general enquiry into the question of safety at sea,

more particularly with reference to the international organisation and systematic co-ordination of posts or stations to aid shipping, of lifeboats and the fixing of their radius of action, of the rules regarding harbours of refuge, marine and coastal systems of signalling, and more especially radio-telegraph and radio-telephone systems of signalling, *etc.* — in short, all the methods which can possibly contribute to the saving of human life, ships and cargoes committed to the perils of the deep ”.

It was after this Conference that the work of tabulation of data was initiated in this Bureau, beginning with the question of buoyage.

## TECHNICAL COMMITTEE ON “BUOYAGE AND LIGHTING OF COASTS.”

A Sub-Committee, with Mr. H. WATIER as President, was formed to assemble experts to study the question of Buoyage. Buoy Lights, Lights, *etc.* This Sub-Committee subsequently called itself the “Technical Committee on Buoyage and Lighting of Coasts” and first met, as previously stated, in Paris, in December, 1924, and since then has co-operated with this Bureau in formulating proposals.

In connection with the proposal to create the above-mentioned Technical Sub-Committee, Mr. G. E. BAKER, of the Board of Trade, London, British Representative, said “that he did not in any way wish to oppose the suggestion that the Sub-Committee should set up a Committee to study the question (c) of the unification of buoyage and maritime signalling, but he felt bound, nevertheless, to make certain reservations in this connection, for he could not at present give any undertaking that the British Government would take part in a Committee of this kind. As a matter of fact, in Great Britain, questions of buoyage, coast lights and tide signals, *etc.*, were under the jurisdiction not only of the Central Government, but of the Local Authorities (the port authorities, for instance, as regards buoyage in harbours) and he was not sure that the British Government could bind these authorities in any way.”

When this Technical Committee met in Paris, in December, 1924, the International Hydrographic Bureau protested to the League of Nations that the former was duplicating the work of the latter, and, as a result, this Bureau was invited to participate in the proceedings of the Technical Committee. The invitation was too late to be effective, however, and the Technical Committee therefore arranged for a joint meeting in Monaco, in November, 1925, at which the full data collected by this Bureau of all existing Buoyage and Buoy Lighting Systems of the world was submitted. At this Meeting also

a small Joint Committee was appointed to meet in Paris, in May, 1926, to report on Coastal and Port Signals to the Technical Committee at its next Meeting, which took place in Stockholm, in August, 1926, with the full co-operation of this Bureau, and the proposals there adopted were based on the data submitted by the Bureau. It was announced at the conclusion of the Conference in Stockholm that the League of Nations would probably call an International Maritime Conference to meet in October or November, 1927. It is in view of such a Conference that this data is assembled in the interests of mariners for earnest study in advance.

### THIRD INTERNATIONAL SHIPPING CONFERENCE,

LONDON, APRIL, 1926.

The First and Second International Shipping Conferences were held in London in Nov. 1921, and May, 1924 respectively, and the Third International Shipping Conference was also held in London from the 14<sup>th</sup> to 16<sup>th</sup> April, 1926. The Right Honourable WALTER RUNCIMAN was elected Chairman, Sir ALAN G. ANDERSON, Vice-Chairman, and Sir NORMAN HILL, Rapporteur, these gentlemen being respectively President, Past President, and Past Vice-President of the Chamber of Shipping of the United Kingdom. The Conference was attended by delegates from 14 countries, *viz*: AUSTRALIA, BELGIUM, CANADA, DENMARK, GERMANY, GREAT BRITAIN, HOLLAND, ITALY, JAPAN, NORWAY, SPAIN, SWEDEN and the UNITED STATES of AMERICA, as well as by a representative of the International Maritime Committee and by Mr. Robert HAAS, Secretary-General of the Advisory and Technical Committee for Communications and Transit of the League of Nations.

“The Conference noted with concern the rapid growth of international organisations dealing with shipping questions, and drew up proposals with a view to securing better co-ordination and more adequate representation of the views of the shipping industry and the Governments of maritime countries, at the same time taking full advantage of the expert knowledge of other international bodies”, and at the same it appointed a Committee to consider and formulate concrete suggestions for changes in existing Rules or International Regulations for preventing Collisions at Sea, and referred the question of Oil Discharge or Leakage in Harbours to an International Diplomatic Conference in the event of it being held at Washington”.

In connection with Safety of Life at Sea, the Conference considered the steps which have been taken by various countries since the last Conference in regard to : —

- “ (A) Deck cargoes,
- (B) Sub-divisions of Passenger Vessels,
- (C) Load Line,
- (D) Life Saving Appliances, and
- (E) The revisions of the Safety Convention of 1914 were reviewed, and the following Resolutions adopted : —

“ 1. Take note of the further progress which has been made since their last meeting towards the international acceptance of standards of safety.

“ 2. Reaffirm their desire for an early Diplomatic Conference to revise the Convention on Safety of Life at Sea.

“ 3. Note with satisfaction that the British Government have recently expressed the hope that they will shortly be in a position to call such a Conference.

“ 4. Urge upon all Governments the need for ample representation of Shipowners and Technical Experts at such Conference in order to obtain sound and practical results, and consider it desirable that this Conference should deal with all safety questions including wireless.

The Conference really sought to pave the way for the International Diplomatic Conference to revise the “Convention for the Safety of Life at Sea” held in London in 1914. This is a further reason why this data is prepared as a basis for study.

#### FUTURE INTERNATIONAL MARITIME CONFERENCES.

We have seen, as a result of recent Conferences, that everything is shaping towards an International Maritime Conference of wide scope, such as that at Washington, 1889, or for several conferences of a more limited and technical character. In any case, such Conference, or Conferences, should be previously well documented with technical data in order that the delegates may come well prepared to discuss the proposals, and they should also have full authority from their respective Governments to sign a preliminary agreement or convention, subject to subsequent ratification by their Governments.

The following data are therefore submitted as a basis for study and action for future Maritime Conferences, comprising information for seamen, such as is usually given in Sailing Directions, as well as the signals in connection with safety of life and saving of life at sea.

## TABULATION OF DATA.

(a) *Subject* : **Buoyage and Buoy Lighting, and Lighting of Coasts.**

Full data will be found in *Special Publication N° 6*, of this Bureau, entitled "Uniformity in Buoyage and Buoy Lighting", and in three charts published by the Hydrographic Office, Washington, giving data supplied to it by this Bureau, entitled "Buoyage and Buoy Lighting Systems of the World". This is supplemented by *Special Publication N° 6<sup>a</sup>*, and by *Special Publication N° 9* on the subject of "Uniformity in Buoyage". The proposals of this Bureau have been largely embodied in the joint work of the Bureau and of the Technical Committee on "Buoyage and Lighting of the Coasts" of the League of Nations. At its last meeting in Stockholm, in August, 1926, there was formulated a more or less ideal system of buoyage, buoy lighting and lighting of coasts for the consideration of any Conference which may hereafter take up the subject of unification. This is published by the League of Nations (C.C.T. 260) and may be obtained from the Director of Publication Sales Department.

(b) *Subject* : **Coastal Signals.**

The question of uniformity in Coastal Signals has been fully dealt with in *Special Publication N° 15*, entitled "Summary of Data on Coastal Signals", together with a series of three charts on Coastal Signals of "European and Mediterranean Countries", and five charts of the remaining countries of the world, which have been tabulated by the writer and published gratuitously in English by the Hydrographic Office at Washington. The Coastal Signals therein tabulated are held to comprise signals for pilots; lifesaving; danger and warning; distress and assistance; entrance obstructed or prohibited; storm warnings; searchlight interference; submarines or divers operating; gun, mine or torpedo practice or experiment; mine sweeping or hydrographic sweeping for obstructions, non-local ice, tide, current and weather; coast semaphore; fish nets; distinguishing marks required by the "Regulation for Preventing Collisions at Sea"; "Urgent and Important Signals" of the International Code; and Steering Commands. Many of these have been adopted and put forward by the League of Nations in its publication C. C. T. 260.

The guiding principles which should be observed in attempting to bring about uniformity are laid down and the conflict between the present International Code of Signals and subsequent international agreements are pointed out. Many of the proposals for the unification of Coastal Signals as given in *Special Publication N° 15*, have been embodied in the recommendations of the report of the Technical Committee of the League of Nations at its meeting in Stockholm, 1926. (C. C. T. 260.)

There are a number of visual life saving, danger and warning signals in the International Code Signal Book made by one-flag and two-flag hoists, by distant signals, by coastal and hand semaphore and by hand flag; to these have been added, by the International Conference on Safety of Life at Sea, certain additional sound and visual signals. Not only should the number of signals for such purposes be largely increased but their scope should be enlarged to include signals for lighthouses, light-vessels and life saving stations to indicate that they themselves are in distress, or some vessel in the vicinity is in need of assistance, together with the appropriate answers which should be made when such signals are displayed. These signals should be thoroughly standardised and brought up-to-date, as there are wide divergences in the local signals now used by the various countries. The International Signal Book itself needs readjustment and standardisation and so brought up-to-date that all conflicting provisions are eliminated. This can only be done by an International Conference and this Bureau might be designated to undertake this work subsequent to the Conference. If so, this Bureau should at the same time be authorised to compile a second volume to accompany the revised edition of the International Code of Signals, containing lists for all coasts and ports of the world, and the following data, now usually scattered throughout Light Lists, Buoy Lists and Sailing Directions and on charts : —

“ Tabulations of time-signal stations ; time-zones ; storm-warnings ; signals stations ; tide signals ; port and coastal signals ; life saving stations ; submarine bells ; radio sound signals ; direction-finding (compass) and sound-ranging signals and stations ; semaphore and international signal station ; Lloyds' and Semaphore telegram coastal signal stations. Tabulations of buoyage and buoy lighting, with the addresses of the buoyage authorities ; tabulation of local and non-local storm-warning signals systems and stations ; urgent and important international signals ; conventional signs and abbreviations of charts, and all information to mariners, aids to navigation and regulations for safety of life at sea, now scattered through other publications, some of them requiring a standardisation through international agreement. (The exact position of all stations will be indicated, giving, where necessary, their exact latitude and longitude).”



There should also be given in this volume the location of the Office in each maritime port in which the Notices to Mariners of all the countries of the world can be consulted.

As to Storm Warning Signals, the proposals of the International Meteorological Committee, as modified at their meeting in Vienna, in September, 1926, should be universally adopted, as giving to seamen, in whatever port they may be, the knowledge of the meaning of the uniform system of signals instead of, as now, having so many different systems thereby leading to confusion. The Non-Local Storm Warning Signals, however, of the various countries are adapted to the needs of special localities and each country should be allowed to retain them, as well as to add signals, additional to the uniform system for local storm warnings, to suit local conditions.

(c) *Subject: Port Signals.*

The difference between a coastal signal and one of similar purport but regarded as a port signal may be illustrated as follows: The signal "Entrance obstructed or prohibited" is regarded as a coastal signal when the prohibition is a general one for the ports of a certain section of the coast of any country, as, for instance, during manœuvres, or for all ports in case of war or insurrection, or special quarantine or other emergency. When a port is closed temporarily to an entering vessel, as for instance, for another vessel going out of the channel, or for temporary obstruction in the channel, or for extensive dredging or harbour works, *etc.*, the signal is purely a port signal. In the same way, certain pilot, dredger, warning, assistance and storm warning signals are local to the port whereas they are primarily coastal signals. Similarly, for tidal or depth signals, the local signals indicate depths over the sill of a dock or in a particular channel, as for instance; "Depth on the bar", whereas coastal tidal or depth signals refer to the tidal datum. A right-of-way or a rule of the road signal applies equally as a coastal or a port signal, as does a life-saving, distress, assistance, or warning signal.

The question of Port Signals has been fully dealt with in the Bureau's *Special Publication N° 16*, entitled "Summary of Data on Port Signals, with Proposals for their Unification" together with a series of charts in both English and French, comprising the Port Signals of the Maritime Countries of the world, which were tabulated by the writer and published by the Bureau. It appears that most of

the elaborate port signals may easily be made by signals of the International Code, which would in itself automatically produce international uniformity. The International adoption by a Conference of other port signals than those contained in the International Code of Signals would not mean that the competent authorities in the various countries would be bound to employ all of the signals in question. It would, therefore, be desirable that the authorities should, when deciding to introduce some form of signal for a particular category of danger, hold themselves bound to employ only those signals which have been adopted internationally.

The guiding principles laid down are similar to those for Coastal Signals with the additional ones, *i. e.* (a) Coastal Signals should be agreed upon internationally before port signals ; (b) that Port Signals should, in restricted waters, be as similar as may be in colour, number and arrangement, to those for railways on shore ; and (c) that a uniform system of Storm Warning Signals should be adopted internationally prior to the adoption of a uniform system of Port Signals, because it has been proposed by a responsible international organisation, the International Meteorological Committee.

Port Signals are divided into four categories as follows :

I. *Approach.* - (1) Cautionary, such as "Port closed" or "Entrance obstructed," "Anchor," or "Do not approach," *etc.* ; (2) bar and entrance ; (3) local ice ; (4) local tide or depth, with plane of reference ; (5) local current ; (6) local pilot ; (7) harbour entrance lights.

II. *Entering and Leaving.* - (8) Right-of-way ; (9) dredger and fairway obstruction ; (10) quarantine examination ; (11) customs and immigration examination.

III. *Traffic.* - (12) Traffic interrupted ; (13) explosives ; (14) anchorage area distinguishing marks ; (15) prohibited anchorage area distinguishing marks ; (16) lock ; (17) dock ; (18) berthing ; (19) bridge.

IV. *Port Service.* - (20) Public holidays (or non-working days) ; (21) time ; (22) weather ; (23) mail ; (24) medical officer ; (25) customs officer ; (26) death on board ; (27) water boat ; (28) ash lighter ; (29) fuel wanted ; (30) tug wanted ; (31) fire on board ; (32) harbour police ; (33) mutiny ; (34) warning signals ; (35) adjustment of compasses ; (36) vessel clearing or sailing.

At the meeting of the Technical Committee in Stockholm, in August 1926, a uniform system of Dredger Signals and of Lock, Bridge and Narrow Water Signals was proposed for international adoption, based upon the proposals in *Special Publication N° 16.* (See C. C. T. 260.)

## PORT SERVICE SIGNALS.

Most of the Port Service Signals can be provided for in a revised edition of the International Signal Code Book, and many of them are now in the present edition of the book. Attention is here invited to the fact that port dues are paid by shipping for "port facilities" for handling, receiving and discharging cargoes, while very poor port service is sometimes rendered as part of the obligation after such port dues are paid. One of the port services not usually provided for in the harbours of the world, but of pressing necessity, is that of the provision of receptacles, or tank vessels similar to ash lighters or boats, for removing the oil discharge of oil burning or oil carrying vessels. The pollution of harbours due to the seepage, or discharge of oil from such vessels has become a crying evil and is largely due to the lack of enterprise of port authorities in providing proper receptacles, and in not inflicting heavy penalties upon ships which disregard the precautions necessary to safeguard the private and public interests of the ports in which they are temporarily anchored.

(d) **Subject : Regulations for Safety of Life at Sea  
and for preventing Collisions at Sea.**

Aside from a general feeling and the knowledge of seamen that there is a great need for revision and modernisation of the "Regulations for Preventing Collisions at Sea" which were proposed at the International Marine Conference at Washington, in 1889, and subsequently adopted by the maritime countries of the world, the "International Conference on Safety of Life at Sea", which met in London, in January, 1914, has, as has been previously shown, made certain proposals for their revision. This question was taken up by the International Shipping Conference which met in London, in April 1926, and a Committee was appointed to formulate concrete suggestions for changing in the existing rules. The International Marine Conference which met at Washington, in 1889, at the same time that it proposed the "Regulations for Preventing Collisions at Sea" made many other proposals which were subsequently adopted, but which have not been incorporated in the International Code Signals now in use by the shipping of the world, because the last revised edition which was submitted by its Committee was made in the same year,

and later a second revision by the Committee was forwarded to all the Foreign Maritime Powers, most of which have since expressed approval of it, and some of which have caused a translation of it to be issued. This second revision did not take cognizance of the said proposals, probably because it took some years for them to be adopted by the Maritime Powers.

At any International Maritime Conference which may be called in the future the question of the revision of the rules of the road at sea is bound to arise. There is therefore submitted herewith the Regulations as adopted at Washington, together with proposed changes in *italics* and the necessary changes in *heavy type* required to be inserted in the International Code of Signals, in accordance with international agreements as they now exist.

#### “ Preliminary.

“ These rules shall be followed by all vessels on the high seas and in all waters connected therewith, navigable by sea-going vessels.

“ In the following rules every steam-vessel (*or vessel mechanically propelled*) which is under sail and not under steam (*or power*) is to be considered a sailing vessel, and every vessel under steam (*or power*) whether under sail or not, is to be considered a steam vessel.

(See Article 2, “ Convention for the Safety of Life at Sea ”.)

“ The word “ steam-vessel ” shall include any vessel propelled by machinery (*mechanically propelled*).

(See Article 2, “ Convention for the Safety of Life at Sea ”.)

“ A vessel is “ under way ” within the meaning of these rules when she is not at anchor or made fast to shore, or aground.

#### Rules concerning Lights, etc.

“ The word “ visible ” in these Rules when applied to lights shall mean visible on a dark night with a clear atmosphere.

“ ART. 1. — The Rules concerning lights shall be complied with in all weathers from sunset to sunrise, and during such time no other lights which may be mistaken for the prescribed lights shall be exhibited.

“ ART. 2. — A steam vessel when under way shall carry :

“ (a) On or in front of the foremast, or if a vessel without a foremast then in the forepart of the vessel, at a height above the hull of not less than 20 feet (6. 1<sup>m</sup>), and if the breadth of the vessel exceeds 20 feet (6. 1<sup>m</sup>), then at a height above the hull not less than such breadth, so, however, that the light need not be carried at a greater height above the hull than 40 feet (12. 19<sup>m</sup>), *two bright white lights not less than 8 feet (2.5 metres) apart*, so constructed as to show an unbroken light over an arc of the

horizon of 20 points of the compass, so fixed as to throw the light 10 points on each side of the vessel, *viz.* from right ahead to 2 points abaft the beam on either side, and of such a character as to be visible at a distance of at least 5 miles.

(See Article 14 (A) (1) and (B) "Convention for the Safety of Life at Sea".)

"(b) On the starboard side a green light so constructed as to show an unbroken light over an arc of the horizon of 10 points of the compass, so fixed as to throw the light from right ahead to 2 points abaft the beam on the starboard side, and of such a character as to be visible at a distance of at least 2 miles.

"(c) On the port side a red light so constructed as to show an unbroken light over an arc of the horizon of 10 points of the compass so fixed as to throw the light from right ahead to 2 points abaft the beam on the port side, and of such a character as to be visible at a distance of at least two miles.

"(d) The said green and red side-lights shall be fixed with inboard screens projecting at least three feet (0.914<sup>m</sup>) forward from the light, so as to prevent these lights being seen across the bow.

"(e) *A steam-vessel when under way may carry an additional white light similar in construction to the two masthead lights mentioned in sub-division (a). This additional light shall be so placed in line with the keel that it shall be at least 15 feet (4.570<sup>m</sup>) higher than the upper of the two masthead lights, but the vertical distance between the additional light and the masthead lights shall be not less than the horizontal distance.*

(Modified to conform to Art. 2 (a) above.)

"ART. 3. — A steam-vessel when towing another vessel shall, in addition to her side-lights, carry two bright lights in a vertical line one over the other, not less than 6 feet (1.824<sup>m</sup>) apart, and when towing more than one vessel shall carry an additional bright white light 6 feet (1.8<sup>m</sup>) above or below such lights if the length of the tow, measuring from the stern of the towing vessel to the stern of the last vessel towed, exceeds 600 feet (183 metres). Each of these lights shall be of the same construction and character, and shall be carried in the same position as the white light mentioned in Article (2) (a), excepting the additional light, which may be carried at a height of not less than 14 feet (4.2<sup>m</sup>) above the hull.

"Such steam-vessel may carry a small white light abaft the funnel or aftermast for the vessel towed to steer by, but such light shall not be visible forward of the beam.

"ART. 4. — (a) A vessel which from any accident is not under command, or a vessel aground in or near a fairway, or from the nature of the work in which she is engaged is not able to manœuvre, shall carry, by day, the International Code flag "H" at the fore masthead, and, in addition, where they can best be seen, two black balls or shapes, each 2 feet in diameter (0<sup>m</sup>6), and not less than 6 feet (1<sup>m</sup>8) apart, and, by night, shall carry at the same height as the white lights mentioned in Article 2 (a), where they can best be seen, and, if a steam vessel, in lieu of those lights, two red lights in a vertical line, one over the other, not less than 6 feet (1<sup>m</sup>8) apart, and of such a character as to be visible all around the horizon at a distance of at least 2 miles.

(Modified to conform to Article 2 (a) and to the International Code of signals.)

"(b) A vessel employed in laying or in picking up a telegraph cable shall carry in the same position as the two white lights mentioned in Article 2 (a), and if a steam

vessel in lieu of *those* lights three lights in a vertical line one over the other, not less than 6 feet apart. The highest and lowest of these lights shall be red, and the middle light shall be white, and they shall be of such a character as to be visible all round the horizon at a distance of at least 2 miles. By day shall carry in a vertical line one over the other, not less than 6 feet (1.8<sup>m</sup>) apart, where they can best be seen, three shapes not less than 2 feet (0.60<sup>m</sup>) in diameter, of which the highest and lowest shall be globular in shape and red in colour, and the middle one diamond in shape and white.

(Modified to conform to Art. 2 (a). )

“(c) The vessels referred to in this Article, when not making way through water, shall not carry the side-lights, but when making way shall carry them.

“(d) The lights and shapes required to be shown by this Article are to be taken by other vessels as signals that the vessel showing them is not under command, and cannot therefore get out of the way.

“These signals are not signals of vessels in distress and requiring assistance. Such signals are contained in Article 31.

“ART. 5. — A sailing-vessel under way, and any vessel being towed, shall carry the same lights as are prescribed by Article 2 for a steam-vessel under way, with the exception of the white lights mentioned therein, which they shall never carry.

“ART. 6. — Whenever, as in the case of small vessels under way during bad weather, the green and red side-lights cannot be fixed, these lights shall be kept at hand, lighted and ready for use, and shall, on the approach of or to other vessels, be exhibited on their respective sides in sufficient time to prevent collision, in such manner as to make them most visible, and so that the green light shall not be seen on the port side, nor the red light on the starboard side, nor if practicable more than 2 points abaft the beam on their respective sides.

“To make the use of these portable lights more certain and easy, the lanterns containing them shall each be painted outside with the colour of the light they respectively contain and shall be provided with proper screens.

“ART. 7. — Steam-vessels of less than 40, and vessels under oars or sails of less than 20 tons gross tonnage, respectively, when under way, shall not be obliged to carry the lights mentioned in Article 2 (a), (b) and (c), but if they do not carry them they shall be provided with the following lights :

“(1) Steam-vessels of less than 40 tons shall carry.

“(a) In the fore part of the vessel, or on or in front of the funnel, where it can best be seen, and at a height above the gunwale of not less than 9 feet, a bright white light constructed and fixed as prescribed in Article 2 (a), and of such a character as to be visible at a distance of at least 2 miles.

“(b) Green and red side-lights constructed and fixed as prescribed in Article 2 (b) and (c), and of such a character as to be visible at a distance of at least 1 mile, or a combined lantern showing a green light and a red light from right ahead to 2 points abaft the beam on their respective sides. Such lantern shall be carried not less than 3 feet below the white light.

“(2) Small steam-boats, such as are carried by sea-going vessels, may carry the white light at a less height than 9 feet (2.7<sup>m</sup>) above the gunwale, but it shall be carried above the combined lantern mentioned in subdivision 1 (b).

“(3) Vessels under oars or sails, of less than 20 tons, shall have ready at hand a lantern with a green glass on one side and a red glass on the other, which, on the approach of or to other vessels, shall be exhibited in sufficient time to prevent collision, so that the green light shall not be seen on the port side, nor the red light on the starboard side.

“(4) *Rowing boats, whether under oars or sail, shall have ready at hand a lantern showing a white light, which shall be temporarily exhibited in sufficient time to prevent collision.*

“The vessels referred to in this Article shall not be obliged to carry the lights prescribed by Article 4 (a), and Article 11, last paragraph.

“ART. 8. — Pilot-vessels when engaged on their station on pilotage duty shall not show the lights required for other vessels, but (a) shall carry a white (*red*) light at the masthead, visible all round the horizon, and shall also exhibit *an alternating red and white flare-up light, or flare-up lights at short intervals, which shall never exceed fifteen minutes*: (b) *by day, they shall fly at the masthead, or other conspicuous place, a flag of large dimensions as compared with the size of the pilot boat, of rectangular shape, with the upper horizontal half white and the lower half red. If a steam-vessel shall have painted on each side of the funnel the letters P T, and underneath that the initial letter of the name of the port it serves, or its four letters from the geographical table of the International Code of Signals. In the case of a sailing-vessel, the said inscriptions shall be exhibited on the mainsail. All pilot vessels shall, in addition, have painted on each bow the word “pilot” in the language of the country, and, on the bulwarks, in large letters, the full or abbreviated name of the port which it serves. The number of the pilot vessel, if there are more than one, shall be exhibited in a conspicuous place.* (c) *In fog, rain, mist or falling snow, pilot vessels shall sound two short blasts, followed by two long blasts ( - - — — ) on the steam whistle or fog horn, or other sound apparatus. Where pilot vessels are cruising at nodal points, or off pilot stations where there are pilots for more than one port, these signals shall be followed at short intervals by the international letter of the port it serves made by sound signal of the Morse code.* (d) *In addition, at night, a pilot vessel may flash by Morse lamp with corresponding long and short flashes any of the above distinguishing signals.*

(Modified to conform to Proposal N<sup>o</sup> 2, Special Publication N<sup>o</sup> 15, I. H. B.)

“(e) *The display of a pilot flag by a station or vessel should signify that pilots are available, and, if not displayed, that no pilot is available.*

“(f) On the near approach of or to other vessels (at night) they shall have their side lights lighted, ready for use, and shall flash or show them at short intervals, to indicate the direction in which they are heading, but the green light shall not be shown on the port side, nor the red light on the starboard side.

“(g) A pilot vessel of such a class as to be obliged to go alongside of a vessel to put a pilot on board may show the white light instead of carrying it at the masthead, and may, instead of the coloured lights above mentioned, have at hand ready for use a lantern with a green glass on the one side and a red glass on the other, to be used as prescribed above.

“(h) Pilot vessels when not engaged on their station on pilotage duty shall carry lights similar to those of other vessels of their tonnage.

“ (i) *The following signals shall be used to call a pilot : —*

- BY DAY. “ (1) *The national flag, or Jack, with white border, hoisted at the fore.*  
 “ (2) *The International Code pilot signals indicated by “ P T ”.*  
 “ (3) *The International Code flag “ Z ”, with or without the code pennant over it.*  
 “ (4) *The distant signal consisting of a cone, point upwards, having above it two balls, or shapes resembling balls.*  
 “ (5) *The Morse code signal for the letter “ Z ” consisting of two long blasts, followed by two short blasts ( — — - - ).*

BY NIGHT. “ (1) *A blue pyrotechnic light every fifteen minutes.*

- “ (2) *A bright white light flashed, or a white flare, at short intervals just above the bulwarks, for about one minute at a time.*  
 “ (3) *The Morse sound signal for “ Z ”, consisting of two long blasts, followed by two short blasts, ( — — - - ) which may, if desired be followed by the international letter of the port by Morse code for which the pilot is required.*  
 “ *The reply from a pilot vessel, or pilot station, to a request for a pilot, shall be the affirmative of the International Code of Signals, by visual or sound signals, if a pilot is coming, and the negative signal if no pilot is available, or unable to come, or not coming.”*

(See Proposal No 2, Special Publication No 15, I. H. B.)

“ (i) *When a pilot boards a ship to take over his duties, it shall be understood between the Captain of the ship and the pilot that the use of the words “ Starboard ” and “ Port ”, or their equivalents in any language, shall indicate the direction to which it is desired the ship’s head should go, and, that further, the hand and arm may be used to reinforce the order by being waved in the direction indicated by the word, and the arm to be held in a vertical position to mean “ Steady as you go ! ”. It should be understood, however, that the use of the arm is not obligatory, but only permissible.”*

(See Proposal No 22, Special Publication No 15, I. H. B.)

ART. 9. — Fishing-vessels and fishing-boats when under way, and when not required by this Article to carry or show the lights therein named, shall carry or show the lights prescribed for vessels of their tonnage under way.

“ (a) *Vessels and boats when fishing with drift-nets shall exhibit two white lights, with a green light below each, from any part of the vessel where they can best be seen. Such lights shall be placed so that the vertical distance between them shall be not less than 6 feet and not more than 10 feet, and so that the horizontal distance between them, measured in a line with the keel, shall be not less than 5 feet and not more than 10 feet. The lower of these two (groups of) lights shall be the more forward, and both of them shall be of such a character as to show all round the horizon, and to be visible at a distance of not less than 3 miles.*

“ (b) *Vessels when engaged in trawling, by which is meant the dragging of an apparatus along the bottom of the sea.*



“(1) If steam-vessels, shall carry in the same position as the white light mentioned in Article 2 (a) a tricoloured lantern so constructed and fixed as to show a white light from right ahead to 2 points on each bow, and a green light and a red light over an arc of the horizon from 2 points on either bow to 2 points abaft the beam on the starboard and port side respectively; and not less than 6 (1.8<sup>m</sup>) nor more than 12 (3.65<sup>m</sup>) feet below the tricoloured lantern, a white light in a lantern, so constructed as to show a clear, uniform, and unbroken light all round the horizon.

“(2) If sailing-vessels of 7 tons gross tonnage and upwards, shall carry a white light in a lantern, so constructed as to show a clear, uniform, and unbroken light all round the horizon, and shall also be provided with a sufficient supply of red pyrotechnic lights, which shall each burn for at least thirty seconds, and shall be shown on the approach of or to other vessels in sufficient time to prevent collision.

“In the Mediterranean Sea, the vessels referred to in subdivision (b) 2 may use a flare-up light in lieu of a pyrotechnic light.

“All lights mentioned in subdivision b (1) and (2) shall be visible at a distance of at least 2 miles.

“(3) If sailing-vessels of less than 7 tons gross tonnage, shall not be obliged to carry the white light mentioned in subdivision b (2) of this Article, but if they do not carry such light; they shall have at hand, ready for use, a lantern showing a bright white light, which shall, on the approach of or to other vessels, be exhibited where it can best be seen, in sufficient time to prevent collision; and they shall also show a red pyrotechnic light as prescribed in subdivision b (2), or in lieu thereof a flare-up light.

“(c) Vessels and boats when line-fishing with their lines out and attached to their lines, and when not at anchor or stationary, shall carry the same lights as vessels fishing with drift nets.

“(d) Fishing-vessels and fishing boats may at any time use a flare-up light in addition to the lights which they are by this Article required to carry and show. All flare-up lights exhibited by a vessel when trawling or fishing with any kind of drag-net shall be shown at the after part of the vessel, excepting that, if the vessel is hanging by the stern to her fishing gear, they shall be exhibited from the bow.

“(e) Every fishing-vessel and every boat when at anchor shall exhibit a white light visible all round the horizon at a distance of at least 1 mile.

“(f) If a vessel or boat when fishing becomes stationary in consequence of her gear getting fast to a rock or other obstruction, she shall show the light and make the fog signal prescribed for a vessel at anchor, respectively. (See Article 15 (d), (e), and last paragraph).

“(g) In fog, mist, falling snow, or heavy rain storms, drift net vessels attached to their nets, and vessels when trawling, dredging, or fishing with any kind of drag-net, and vessels line-fishing with their lines out, shall, if of 20 tons gross tonnage or upwards, respectively, at intervals of not more than one minute, make a blast; if steam-vessels with whistle or siren, and if sailing-vessels with the fog-horn, each blast to be followed by ringing the bell.

“(h) Sailing-vessels or boats fishing with nets or lines or trawls, when under way, shall in daytime indicate their occupation to an approaching vessel by displaying a basket or other efficient signal, where it can best be seen.

“(i) The colours of day and night distinguishing marks for coastal fishing-nets and fish-weirs, and also for drift-nets, seines and trawls on the high sea shall be white and green. Buoys and all supports carrying distinguishing marks used in connection with said fishing appliances shall be painted in horizontal bands or stripes of alternate white and green. The corners or conspicuous supports marking the shore ends and seaward ends of coastal nets and fish weirs shall be marked with two shapes, placed vertically one over the other, one green and the other white, alternating in sequence white above green and green above white; and all floats supporting nets shall be painted alternately white and green. By night, all the said buoys and supports used in connection with day marks shall display a green and a white light in lieu of the green and white shapes and corresponding thereto. Vessels and boats, when fishing with drift nets, or when linefishing with lines out, or when tending and attached to seines, nets, lines or trawls, and thereby unable to manœuvre, shall in addition to the two white lights required by Article 9, carry a light, green in colour, below the two white lights, at a distance equal to that between the two white lights, and, as prescribed by Article 9 (d) may, in addition to the above lights, use a flare-up light, preferably white or green in colour, but under no circumstances to be red, which colour is reserved for pilot vessels. It shall be understood that the word “shape”, to be displayed by day, to mean a ball, or shape of light-weight material, or a basket, bucket or lantern covered with bunting or cloth of green or white colour, or painted, the said colours to correspond with the colours of the light similarly displayed at night.

(See Proposal No 18, Special Publication No 15, I. H. B.)

“(j) The vessels referred to in this Article shall not be obliged to carry the lights prescribed by Article 4 (a), and Article 11, last paragraph.

“ART. 10. — (Omit : A vessel which is being overtaken by another shall show from her stern to such last-mentioned vessel a white light or a flare-up light. The white light required to be shown by this Article may be fixed and) and substitute :

“ART. 10. — All vessels are required to show a fixed white light carried in a lantern so constructed, fitted and screened that it shall throw an unbroken light over an arc of the horizon of 12 points of the compass, viz. for 6 points from right aft on each side of the vessel, so as to be visible at a distance of at least 1 mille. Such light shall be carried as nearly as practicable on the same level as the side lights.

(See Articles 14 (A) (2) and (B), “Convention for the Safety of Life at Sea”.)

“ART. 11. — A vessel under 150 feet in length, when at anchor, shall carry forward, where it can best be seen, but at a height not exceeding 20 feet (6.10<sup>m</sup>) above the hull, a white light in a lantern, so constructed as to show a clear, uniform, and unbroken light visible all round the horizon at a distance of at least 1 mile (1<sup>km</sup>609<sup>m</sup>).

“A vessel of 150 feet (45.74<sup>m</sup>) or upwards in length, when at anchor, shall carry in the forward part of the vessel, at a height of not less than 20 (6.10<sup>m</sup>) and not exceeding 40 feet (12.19<sup>m</sup>) above the hull, one such light, and at or near the stern of the vessel, and at such a height that it shall not be less than 15 feet lower than the forward light, another such light.

(Note : The “Regulations for the Prevention of Collisions at Sea” of at least thirty States have substituted a new Article 9 with entirely different wording, which is more up-to-date in its provisions than Article 9 given above. It is considered, however, that the new proposal in paragraph (i) will still further modernise the provision with regard to fishing vessels.)

“ The length of a vessel shall be deemed to be the length appearing in her certificate of registry.

“ A vessel aground in or near a fairway shall carry the above light or lights and the two red lights prescribed by Article 4 (a).

“ ART. 12. — Every vessel may, if necessary in order to attract attention, in addition to the lights which she is by these Rules required to carry, show a flare-up light or use any detonating signal that cannot be mistaken for a distress signal.

“ ART. 13. — Nothing in these Rules shall interfere with the operations of any special Rules, made by the Government of any nation, with respect to additional station and signal-lights for two or more ships of war or for vessels sailing under convoy, or with the exhibition of recognition signals adopted by ship-owners, which have been authorised by their respective Governments and duly registered and published.

“ ART. 14. — A steam vessel proceeding under sail only, but having her funnel up, or a motor vessel with or without a funnel, proceeding under sail only shall carry in day-time, forward, where it can best be seen, one black ball or shape 2 feet (0.6<sup>m</sup>) in diameter. The absence of the black ball shall be taken to indicate that the vessel is also under power, and is to be considered as a steam vessel.

(See Article 14 (A) (3) and (B), “ Convention for the Safety of Life at Sea ”.)

#### Sound Signals for Fog, etc.

“ ART. 15. — All signals prescribed by this Article for vessels under way shall be given : —

“ 1. By “ steam-vessels ” on the whistle or siren.

“ 2. By “ sailing-vessels ” and “ vessels towed ” on the fog-horn.

“ The words “ prolonged blast ” used in this Article shall mean a blast of from four to six seconds' duration.

“ A steam-vessel shall be provided with an efficient whistle or siren, sounded by steam or some substitute for steam, so placed that the sound may not be intercepted by any obstruction, and with an efficient fog-horn, to be sounded by mechanical means, and also with an efficient bell. (\*)

“ A sailing-vessel of 29 tons gross tonnage or upwards shall be provided with a similar fog-horn and bell.

“ In fog, mist, falling snow, or heavy rain-storms, whether by day or night, the signals, described in this Article, shall be used as follows, *viz.* :

“ (a) A steam-vessel having way upon her shall sound, at intervals of not more than two minutes, a prolonged blast.

“ (b) A steam-vessel under way, but stopped and having no way upon her, shall sound, at intervals of not more than two minutes, two prolonged blasts, with an interval of about one second between them.

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(\*) Note. - In all cases where the Rules require a bell to be used a drum may be substituted on board Turkish vessels, or a gong where such articles are used on board sailing vessels.

“(c) A sailing-vessel under way shall sound, at intervals of not more than one minute, when on the starboard tack one blast, when on the port tack two blasts in succession, and when with the wind abaft the beam three blasts in succession.

“(d) A vessel when at anchor shall, at intervals of not more than one minute, ring the bell rapidly for about five seconds.

\* “(e) A vessel, at anchor at sea, when not in ordinary anchorage ground and when in such a position as to be an obstruction to vessels under way, shall sound, if a steam-vessel, at intervals of not more than two minutes, two prolonged blasts with her whistle or siren, followed by ringing her bell; or, if a sailing-vessel, at intervals of not more than one minute, two blasts with her fog-horn, followed by ringing her bell.

\* “(f) A vessel when towing shall, instead of the signals prescribed in subdivisions (a) and (c) of this article, at intervals of not more than two minutes, sound three blasts in succession, *viz.* one prolonged blast, followed by two short blasts. A vessel towed shall similarly sound five blasts in succession, *viz.* one prolonged blast followed by four short blasts, or, if the tow is composed of several vessels, by the last vessel of the tow only.

(See Article 14 (A) (4) and (B), “Convention for the Safety of Life at Sea”.)

\* “(g) A steam-vessel wishing to indicate to another “The way is off my vessel, you may feel your way past me”, may sound three blasts in succession, *viz.*, short, long, short, with intervals of about one second between them.

\* “(h) A vessel employed in laying or picking up a telegraph cable shall, on hearing the fog-signal of an approaching vessel, sound in answer three prolonged blasts in succession.

\* “(i) A vessel under way, which is unable to get out of the way of an approaching vessel through being not under command, or unable to manœuvre as required by these Rules, shall, on hearing the fog-signal of an approaching vessel, sound in answer four short blasts in succession.

“Sailing-vessels and boats of less than 20 tons gross tonnage shall not be obliged to give the above-mentioned signals, but if they do not, they shall make some other efficient sound-signal at intervals of not more than one minute.

#### “Speed of Ships to be Moderate in Fog, etc.

“ART. 16. — Every vessel shall, in a fog, mist, falling snow, or heavy rain-storms, go at a moderate speed, having careful regard to the existing circumstances and conditions. (*Moderate speed is one at which the available backing power is such as to bring her to a dead stop in three ship's lengths.*)

“A steam-vessel hearing, apparently forward of her beam, the fog-signal of a vessel the position of which is not ascertained, shall, so far as the circumstances of the case admit, stop her engines, and then navigate with caution until the danger of collision is over.”

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\* Note : The “Regulations for the Prevention of Collisions at Sea” as adopted by many countries and translated into different languages, have not preserved the original paragraphs (e), (f), (g), (h) and (i), which are here given as they appeared in the original draft proposed by the Washington Conference. This calls for similar action on the part of all other countries.)

**STEERING AND SAILING RULES.****Preliminary — risk of Collision.**

“ Risk of collision can, when circumstances permit, be ascertained by carefully watching the compass bearing of an approaching vessel. If the bearing does not appreciably change, such risk should be deemed to exist.

“ ART. 17. — When two sailing-vessels are approaching one another, so as to involve risk of collision, one of them shall keep out of the way of the other, as follows, *viz*; —

“ (a) A vessel which is running free shall keep out of the way of a vessel which is close hauled.

“ (b) A vessel which is close-hauled on the port tack shall keep out of the way of a vessel which is close-hauled on the starboard tack.

“ (c) When both are running free, with the wind on different sides, the vessel which has the wind on the port side shall keep out of the way of the other.

“ (d) When both are running free, with the wind on the same side, the vessel which is to windward shall keep out of the way of the vessel which is to leeward.

“ (e) A vessel which has the wind aft shall keep out of the way of the other vessel.

“ ART. 18. — When two steam-vessels are meeting end on, or nearly end on, in such a manner as to involve risk of collision, each shall alter her course to starboard, so that each may pass on the port side of the other.

“ This Article only applies to cases where vessels are meeting end on, or nearly end on, in such a manner as to involve risk of collision, and does not apply to two vessels which must, if both keep on their respective courses, pass clear of each other.

“ The only cases to which it does not apply are when each of the two vessels is end on, or nearly end on, to the other; in other words, to cases which, by day, each vessel sees the masts of the other in a line, or nearly in a line, with her own, and by night, to cases in which each vessel is in such a position as to see both the side-lights of the other.

“ It does not apply, by day, to cases in which a vessel sees another ahead crossing her own course; or by night, to cases where the red light of one vessel is opposed to the red light of the other, or where the green light of one vessel is opposed to the green light of the other, or where a red light without a green light, or a green light without a red light, or where both green and red lights are seen anywhere but ahead.”

*(A ship under way on soundings may claim the right-of-way (a) if on full speed trial, and (b) if she is of such deep draught that while proceeding in a dredged channel the giving of the right-of-way to another ship would cause her to go aground. But a vessel so claiming the right-of-way must fly the International Signal Code flag “A” at the fore masthead, but if the vessel requested to cede the right-of-way be of such deep draught; as not to be able to do so, she should also fly the same signal.)*

*(See International Code of Signals.)*

“ART. 19. — When two steam-vessels are crossing, so as to involve risk of collision, the vessel which has the other on her own starboard side shall keep out of the way of the other.

“ART. 20. — When a steam-vessel and a sailing-vessel are proceeding in such directions as to involve risk of collision, the steam-vessel shall keep out of the way of the sailing vessel.

\* “ART. 21. — Where by any of these Rules one of two vessels is to keep out of the way, the other shall keep her course and speed.

“ART. 22. — Every vessel which is directed by these Rules to keep out of the way of another vessel shall, if the circumstances of the case admit, avoid crossing ahead of the other.

“ART. 23. — Every steam vessel which is directed by these Rules to keep out of the way of another vessel shall, on approaching her, if necessary, slacken her speed or stop or reverse.

“ART. 24. — Notwithstanding anything contained in these Rules, every vessel overtaking any other shall keep out of the way of the overtaken vessel.

“Every vessel coming up with another vessel from any direction more than 2 points abaft her beam, *i. e.*, in such a position, with reference to the vessel which she is overtaking that at night she would be unable to see either of that vessel's side-lights, shall be deemed to be an overtaking vessel; and no subsequent alteration of the bearing between the two vessels shall make the overtaking vessel a crossing vessel within the meaning of these Rules, or relieve her of the duty of keeping clear of the overtaken vessel until she is finally past and clear.

“As by day the overtaking vessel cannot always know with certainty whether she is forward of or abaft this direction from the other vessel she should, if in doubt, assume that she is an overtaking vessel and keep out of the way.

“ART. 25. — In narrow channels every steam-vessel shall, when it is safe and practicable, keep to that side of the fairway or mid-channel which lies on the starboard side of such vessel.

“ART. 26. — Sailing-vessels under way shall keep out of the way of sailing-vessels or boats fishing with nets, or lines, or trawls. This Rule shall not give to any vessel or boat engaged in fishing the right of obstructing a fairway used by vessels other than fishing-vessels or boats.

“ART. 27. — In obeying and constructing these Rules due regard shall be had to all dangers of navigation and collision, and to any special circumstances which may render a departure from the above Rules necessary in order to avoid immediate danger.

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\* *Note.* — The following note appears in many of the “Regulations” adopted by various Governments :

“*Note.* — When, in consequence of thick weather or other causes, such vessel finds herself so close that collision cannot be avoided by the action of the giving-way vessel alone, she also shall take such action as will best aid to prevent collision. (See Articles 27 and 29).”

**“ Sound Signals for Vessels in sight of one another.**

“ ART. 28. — The words “ short blast ” used in this Article shall mean a blast of about one second’s duration.

“ When vessels are in sight of one another, a steam-vessel under way, in taking any course authorised or required by these Rules, shall indicate that course by the following signals on her whistle or siren *viz.* :

“ One short blast to mean, “ I am directing my course to starboard. ”

“ Two short blasts to mean, “ I am directing my course to port. ”

“ Three short blasts to mean, “ My engines are going full speed astern. ”

“ *Four short blasts to mean, “ At the moment not under command, ” or, “ About to turn round ”. This signal should be repeated at intervals whilst turning round.*

*It is also used to requests signal from a dredger as to which side she should be passed; or, to request the opening of a draw or swing bridge. (See Art. 15 (i).)*

“ *Five or more short blasts to mean, “ I have run aground and am unable to manœuvre ”.*

*(These new proposals conform to the “ Regulations of the Port of London.”)*

**“ No Vessel, under any circumstances, to neglect proper Precautions.**

“ ART. 29. — Nothing in these Rules shall exonerate any vessel, or the owner, or master, or crew thereof, from the consequences of any neglect to carry lights or signals, or of any neglect to keep a proper look-out, or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

**“ Reservation of Rules for Harbours and Inland Navigation.**

“ ART. 30. — Nothing in these Rules shall interfere with the operation of a special Rule, duly made by local authority, relative to the navigation of any harbour, river, or inland waters. (But such special Rules should diverge as little as practicable from the preceding Rules for the high seas and inland waters where no special rules exist.)

**“ Distress Signals.**

“ ART. 31. — When a vessel is in distress and requires assistance from other vessels, or from the shore, the following shall be the signals to be used or displayed by her, either together or separately, *viz.* :

“ IN THE DAYTIME :

“ (1) A gun fired at intervals of about a minute;

“ (2) The International Code signal of distress indicated by NC;

“ (3) The distant signal, consisting of a square flag, having either above or below it a ball or anything resembling a ball;

“ (4) Rockets or shells as prescribed below for use at night;

“ (5) A continuous sounding with any fog-signal apparatus;

“ (6) *The International Signal SOS by means of visual or radio signals, or radio telephony.*

## AT NIGHT :

- “ (1) A gun fired at intervals of about a minute ;
- “ (2) Flames on the vessel (as from a burning tar-barrel, oil-barrel, etc. ;)
- “ (3) Rockets or shells, bursting in the air with a loud report and throwing stars of any colour or description, fired one at a time at short intervals ;
- “ (4) A continuous sounding with any fog-signal apparatus ;
- “ (5) *The International Signal SOS by means of flashing light or radio signals, or by radio Telephony.*

(See Article 14 (B), “ Convention for the Safety of Life at Sea ”.)

“ *The use of International Distress signals for any other purpose than signals of distress, or the use of private signals which are liable to be confused with the International Distress signals are prohibited on every ship.* ”

(See Article 12 “ Convention for the Safety of Life at Sea ”.)

“ ART. 32. — *When aircraft is in distress, the following signals may be made and ships observing same will render assistance if practicable :*

- “ (1) *The international signal SOS by means of visual or radio signals or by radio telephony.*
- “ (2) *International Code Signal of Distress “ NC ”.*
- “ (3) *Distant signals, consisting of a square flag, having above or below it a ball, or anything resembling a ball.*
- “ (4) *A continuous sound with any sound apparatus.*
- “ (5) *A signal consisting of a succession of white pyrotechnical lights fired at short intervals.*
- “ (6) *A white flare from which, at intervals of three seconds, a white light is ejected into the air.* ”

(See Proposal N° 6, Special Publication N° 15, I. H. B.)

## SEARCHLIGHT INTERFERENCE.

“ ART. 33. — *Any vessel approaching a defended port while searchlights are being operated, and, finding that they interfere with its safe navigation, may use the following signals, either singly or combined, but both are recommended to be used :*

- “ (a) *By flashing lamp, four short flashes, followed by one long flash.*
- “ (b) *By whistle, siren or fog-horn, four short blasts followed by one long blast, ( - - - - — ).* ”

*On these signals being made, the searchlights will be worked so as to cause the least inconvenience, being either extinguished, raised, or their direction altered.*

(See Proposal N° 7, Special Publication N° 15, I. H. B.)

## (\*) QUARANTINE SIGNALS.

“ ART. 34. (a) *By day, the colour yellow shall be used to indicate quarantine, and the following International Code flags, when hoisted singly at the fore masthead, shall indicate :*

- “ Q ‘ *I have a clean bill of health, but have not been granted pratique.*
- “ I ‘ *I have not a clean bill of health.*’
- “ L ‘ *I have (or, have had) a dangerous infectious disease on board.*’

(\*) Note. - These signals meet the views of the International Office of Public Health or Office International d'Hygiène Publique.



“(b) The Quarantine Examining vessel shall fly on the flagstaff in the bow the international Code flag “Q” as distinguishing mark.

“(c) By night, two lights, vertically, at the fore masthead, not less than 3 feet (1<sup>m</sup>) apart, the upper one red and the lower one white, to take the place of the “Q” flag by day; and three lights, vertically, at the fore masthead, not less than 3 feet (1<sup>m</sup>) apart, the upper of which shall be red and the two lower ones white, to take the place of the “L” flag by day.

(See (10) Quarantine Signals, Special Publication N° 16, I. H. B.)

### EXPLOSIVES.

“ART. 35. — Vessels carrying explosives or dangerous combustibles shall display the following signals while entering or leaving a port, or while actually in a port and during the time that they have such cargoes on board :

“(a) The international signal for a cargo of explosives shall be the International Code flag “B” at the fore, by day, and a red light, by night.

“(b) A green flag, at least three feet square, at the foremast head, by day, and by night, two lights, vertically, the upper light green and the lower red, to indicate a tank steamer carrying petroleum or oil of high flash point, or a cargo steamer carrying case oil (petroleum products).

“(c) A red flag, at least three feet square, at the foremast head, by day, and by night, two lights, vertically, the upper light red and the lower light green, to indicate a vessel carrying dangerous combustibles or volatile oils of low flash point.”

(See (13) Explosives, Special Publication N° 16, I. H. B.)

“ART. 36 — Vessels which are engaged in taking in, or discharging explosives, shall display, at the fore masthead, or yardarm, the International Code flag “B”.

(See International Code of Signals.)

“ART. 37. — When from any vessel, light vessel, lighthouse, signal station or lookout, a vessel is seen to be standing into danger, a gun or a rocket should be fired and repeated until observed by the vessel. By day, the International Code flag “U” should also be displayed, or the signal “J. D.” of the International Code hoisted, meaning “You are standing into danger”. The special Distant signal, consisting of a ball above a cone, with the point down, may be displayed instead of the flag signals.

(See International Code of Signals.)

“ART. 38. — When a light-vessel is driven from her proper position to one in which she ceases to be a guide to shipping, she shall display the following signals instead of those prescribed when on station, which latter she shall not show, viz. :

“By night, a fixed red light will be exhibited at each end of the vessel, at least 6 feet (1<sup>m</sup>8) above the hull, and a red flare shown every quarter of an hour.

“By day, a black ball will be shown at each end above the hull, at least 6 feet above the hull (1<sup>m</sup>8), and, in case of fog, the usual sound signals for vessels at anchor will be made in addition to the above signals.

“If, for any cause, a light vessel on station is unable to exhibit her prescribed lights, the regulation lights for a vessel at anchor shall be exhibited, but if exhibiting her prescribed lights, she shall, in addition, exhibit at a height of 6 feet (1<sup>m</sup>8) above the rail, a white light from sunset to sunrise, for the purpose of showing in which direction the vessel is riding when at her station.

(System in use in the British Isles.)

ART. 39. — *Should a shipping casualty occur near a signal or look-out station, or near a lighthouse or light vessel, and it desires to inform a lifeboat or passing vessel of its whereabouts, the following signals shall be displayed from the masthead, or yardarm, to give the necessary information :*

“ *A black flag at the masthead, indicates that the casualty has occurred in the immediate vicinity of the station.*

“ *A black flag at the yardarm indicates that a casualty has occurred in the direction of the yardarm at which it is displayed, but at some distance from the station.*

“ *Guns may be fired, or other explosive signals made every five minutes to attract attention.*

(Adapted from the French system.)

ART. 40. — *The following signals may be made from a signal or look-out station, or lighthouse or light-vessel, to indicate to lifeboat the course it should take to reach shipping casualty :*

“ *By day, a black flag with red pennant above it, and, by night, a green pyrotechnic or light of any character shall indicate that the wreck is to the right of the course being taken by the lifeboat.*

“ *By day, a black flag with red pennant below it, and, by night, a red pyrotechnic or other light shall indicate that the wreck is to the left of the course being taken by the lifeboat.*

“ *The above signals will remain flying until the lifeboat appears to be heading for the wreck, when the red pennant will be hauled down, leaving the black flag flying.*

(French system.)

ART. 41. — *The following signals, approved by the International Marine Conference at Washington, 1889, will be used by the Lifesaving Service in connection with stranded vessels and by the vessel communicating with the shore :*

“ *Upon the discovery of a wreck by night, the lifesaving force will burn a red pyrotechnic light or a red rocket to signify : “ You are seen ; assistance will be given as soon as possible.”*

“ *A red flag waved upon the shore by day, or a red light, red rocket or red Roman candle displayed by night, will signify : “ Haul away.”*

“ *A white flag waved on shore by day, or a white light slowly swung back and forth, or a white rocket or white Roman candle fired at night, will signify : “ Slack away.”*

“ *Two flags, a white and a red, waved at the same time on shore, by day, or two lights, a white and a red, swung slowly at the same time, or a blue pyrotechnic light burnt by night, will signify : “ Do not attempt to land in your own boats, it is impossible.”*

“ *A man on shore beckoning by day, or two torches burning near together by night, will signify : “ This is the best place to land.”*

“ *Any of these signals may be answered from the vessel as follows :*

“ *In the daytime, by waving a flag, a handkerchief, a hat, or even the hand ; at night, by firing a rocket, a blue light, or a gun, or by showing a light over the ship's gunwale for a short time, and then concealing it.”*

(See Proceedings of the International Maritime Conference, Washington. 1889.)

ART. 42. — *The following local visual storm warning signals, proposed by the International Meteorological Committee, shall be used to indicate a predicted change in the weather which might prove dangerous to shipping :*

“ (a) *By day : A single black cone, point upwards ;  
Gale commencing with wind in the N. W. quadrant.*

*A single black cone, point downwards :*

*Gale commencing with wind in the S. W. quadrant.*

*Two black cones, one above the other, both points upward :*

*Gale commencing with wind in the N. E. quadrant.*

*Two black cones, one above the other, both points downward :*

*Gale commencing with wind in the S. E. quadrant.*

*(The distance between the two cones hoisted in vertical line should be the same as the length of the slant side of the cones.)*

“(b) *By night :* *Two red lights, one above the other :*

*Gale commencing with wind in the N. W. quadrant.*

*Two white lights, one above the other :*

*Gale commencing with wind in the S. W. quadrant.*

*Two lights, one above the other, the upper red and the lower white :*

*Gale commencing with wind in the N. E. quadrant.*

*Two lights, one above the other, the upper white and the lower red :*

*Gale commencing with wind in the S. E. quadrant.*

“(c) *The above signals shall signify that the predicted force of the wind will be at least 8 on the Beaufort Scale, except in localities where a force of 7, for local reasons, is of a dangerous character, but nothing in these rules shall be understood to prevent the display of additional special signals to indicate a storm or hurricane (or storm of force 12 on the Beaufort Scale), nor the display of other local and non-local signals to give other indications as regards weather predictions.*

“(d) *By day :* *A black ball, and by night, a red light, shall indicate : “Atmospheric disturbance ; be alert and look out for further information.”*

“(e) *To indicate an anticipated change in the direction of the wind, rectangular flags of any suitable colour shall be used in the same hoist with the cones, one flag to indicate that the wind is expected to veer to the right, clockwise, and two flags to indicate that the wind is expected to back or haul to the left, anti-clockwise.”*

“ART. 43. — *When one or more submarine vessels are operating, submerged or otherwise, an anchored vessel attending, or an escorting vessel under way, shall fly a square red flag at the fore masthead, and each submarine shall herself carry, attached to her periscope or a flagstaff, a similar square red flag, so that, if it is operating partially submerged, it will give additional warning as to its whereabouts. This square red flag shall also be displayed by a vessel which is at anchor and has a diver doing submarine work over its side, but if not at anchor it shall fly the above flag at the yardarm, and, in addition, shall fly at the fore masthead, the International flag “H”, indicating vessel not under control.*

“ART. 44. — *Where experiments with explosives or blasting operations are being conducted either ashore or afloat which may be dangerous to shipping, or where men-of-war or auxiliary vessels are engaged in artillery practice, or are towing targets for such practice, or where land batteries are about to fire or are firing with guns, small arms or torpedoes, or vessels are laying mines or firing torpedoes, the International Code flag “B” shall be displayed by the firing or towing vessel, or from the flagstaff of the land battery or station.*

“ART. 45. — *When two vessels are operating for hydrographic purposes with a wire hawser between them to sweep for rocks or obstructions, or for exercise or for actual sweeping for mines, each ship shall carry the International Code flag “H” at the fore masthead, with a red*

ball at the yardarm, or where it can best be seen, on that side on which it is dangerous for vessels to pass on account of the wire, for under no circumstances must a vessel pass between two sweeping vessels.

“ART. 46. — A bucket or dipper dredger in position for operating, or a suction dredger under way and operating, in a channel or fairway, shall display, as distinguishing marks, the signals required by Art. 4. (a) of these Regulations, viz : for a vessel not under command or control, and, in addition, shall display or make the following signals by day, by night, or in foggy weather, to indicate to an approaching vessel the side on which the channel is clear, or, if obstructed, that the channel or fairway is temporarily occupied and obstructed by the dredger itself or by other object.

“ (a) Such dredger shall hoist at its yardarms or at a signal staff at either end, if the dredger is athwart the fairway, so that they can be clearly seen by a vessel approaching from up or down the fairway in which it is operating, the following signals :

“ (1) When the channel or fairway is clear on both sides, giving free passage either way, the dredger shall display, in a vertical line, by day, 2 green cones points downward, and, by night, 2 green lights at both yardarms, or, if athwart the channel, at the signal staffs at both ends of the dredger.

“ (2) When the channel or fairway is clear on both sides, but, nevertheless, it is preferable to pass on one particular side, the dredger shall display, in a vertical line, by day, 2 green cones, points downward, and, by night, 2 green lights on the side or end recommended, and shall display on the other side, by day, one green cone point downward, and by night, one green light at the other yardarm or end.

“ (3) When the channel or fairway is clear on only one side, the dredger shall display, in a vertical line, at the yardarm or signal staff on the side or the end which is clear, by day, 2 green cones points downward, and by night, 2 green lights, on that side, and shall display on the prohibited side or end, by day, one green cone point downward above a red ball, and, by night, one green light above a red light.

“ (4) When the channel is blocked and navigation prohibited on both sides of the dredger, the distinguishing marks required by Art. 4. (a) shall be so changed that, by day, the display at the masthead shall be 3 black balls, and, by night, 3 red lights in a vertical line.

“ (5) In fog, mist, falling snow or heavy rain storms, when signals are not clearly visible to an approaching vessel, the dredger, if in a fixed position, shall make the signals required by Art. 15. (d) of these Regulations, viz : at intervals of not more than one minute shall ring its bell repeatedly for about five seconds, and, after an interval of about five seconds, shall :

“ (a) Sound the Morse Sound Signal for the letter “A” with the dredger bell, viz :  
A short ring of about 1 1/2 seconds duration, followed by an interval of 1 1/2 seconds, and a long ring of about 4 seconds duration, to signify that the channel is clear on that side of the dredger on which the right, or starboard, hand side of the channel leads to the sea.

“ (b) Sound the Morse Sound Signal for the letter “N” with the dredger bell, viz :  
A long ring of about 4 seconds duration, followed after an interval of 1 1/2 seconds by a short ring of about 1 1/2 seconds duration, to signify that the channel is clear on that side of the dredger by which the right, or starboard, hand leads in from the sea.

“(c) Sound the Morse Sound Signal for the letter “R” with the dredger bell, viz :  
*A short ring of about 1 1/2 seconds duration, followed after an interval of about 1 1/2 seconds by a long ring of about 4 seconds duration, then an interval of about 1 1/2 seconds followed by a ring of 1 1/2 seconds duration, to signify that the channel is clear on both sides of the dredger.*

“(d) Sound the Morse Sound Signal for the letter “S” with the dredger bell, viz :  
*3 short rings each of about 1 1/2 seconds duration with interval between them of 1 1/2 seconds, to signify that the channel is blocked or obstructed until such time as the signals are changed.*

(Note. - The above fog sound signals are similar to those adopted by the States of the COMMONWEALTH OF AUSTRALIA, without the uncertainty or vagueness of designating that the dredger shall be passed on the “starboard” or “port hand” on entering or leaving the harbour, it not being clear whether such designation refers to the dredger or to the passing vessel. They give a clear indication which would be the same in every port of the world.)

“(6) A vessel approaching a dredger which is operating in a channel or fairway, shall, if in doubt as to which side of it to pass, indicate its uncertainty by giving several short and rapid blasts, not less than four, of its steam whistle or mechanically operated sound apparatus, as a signal to the dredger to display or make the necessary signals.

“ART. 47. — The following are the meanings of the displays of the single alphabetical flags of the International Code of Signals, hoisted without the code flag over them, together with their corresponding Morse Code significations, to be made at night, or in thick weather, either by long or short flashes of light, or by long and short blasts of a whistle, fog horn or mechanical apparatus, or during the day by hand flags of the Semaphore Code :

Sound or Flash.	Single Flag.	Meaning.
( - — )	A	(To be used when claiming right of way when on soundings). “ I am on full speed trial”, or “ I must remain in channel on account of deep draught”.
( — — — )	B	(To be used to indicate danger from explosives). “ I am taking in (or discharging) explosives”, or, “ I am towing targets, or engaged in firing practice”. (On shore indicates : “ Danger ! Target practice going on”).
( — — — — )	C	(In reply to a signal). “ Yes” or Affirmative.
( — — — )	D	(In reply to a signal). “ No” or Negative.
( — — — — )	F	(To be used when disabled). “ Am disabled ; communicate with me”.
( — — — — )	H	(To be used in accordance with “ Regulations for Preventing Collisions at Sea”, Art. 15, para. i). “ Vessel not under command, or control”.

Sound or Flash.	Single Flag.	Meaning.
(None used)	I	(To be used only in entering port or at anchor). "I have not a clean bill of health".
( - - - - )	J	"I have headway".
( - - - )	K	"I have sternway".
(None used)	L	(To be used only in entering port or at anchor).
(Hoist of lights)	L	"I have (or have had) a dangerous infectious disease on board".
( - - - - )	L	(To be used under way at sea only, in accordance with the "Convention for Safety of Life at Sea"). "Stop, (or heave to) I have something important to communicate".
( - - - - )	P	(To be used only when at anchor). "I am about to sail; all persons to report on board".
( - - - - )	P	(To be used under way at sea only, in accordance with the "Convention for Safety of Life at Sea"). "Your lights are out, or burning badly".
(None used)	Q	(To be used only on entering port or at anchor).
(Hoist of lights)	Q	"I have a clean bill of health but have not been granted pratique".
( - - - )	R	(To be used in accordance with "Regulations for Preventing Collisions at Sea", Art. 15). "The way is off my ship; you may feel your way past me".
( - - - )	S	"My engines are going full speed astern".
( - )	T	"Do not overtake me".
( - - - )	U	(To be used as a warning signal). "You are standing into danger".
( - - - - )	V	(To be used only at sea). "I want assistance; remain by me".
( - - - - )	W	(To be used when ship is stopped or at anchor). "All boats are to return to the ship".
( - - - - )	W	(To be used under way at sea, in accordance with the "Convention for Safety of Life at Sea"). "Have encountered ice".
( - - - - )	X	"I will pass ahead of you".
( - - - - )	Y	"I will pass astern of you".
( - - - - )	Z	(To be used to call a pilot). "I want a pilot".

(See Proposal 21, Special Publication N° 15, I.H.B., "Regulations for Safety of Navigation", Art. III, and the "Convention for the Safety of Life at Sea".

“The following Resolutions have been approved of by the Conference, and are recommended to the attention of the Powers represented thereat in an Appendix to Rules of the Road : —

“ 1. The power of all lights should be expressed by referring them all to one standard, by which the light issuing from the lantern should be measured.

“ 2. The minimum power only of each light should be definitely fixed, leaving it to the judgment of the parties responsible for fitting out the vessels with proper lanterns to employ lamps of this or greater power.

“ 3. The use of incandescent lamps should be permitted ; the use of arc lights, at present, should be excluded for all purposes other than signalling and searching.

“ 4. Each lantern should be so constructed that the minimum power of light can be found at every point where the light is to be visible after the lamp has been fitted with proper screens.

“ 5. The lanterns should be so constructed as to insure the light having, at least, the required minimum power in the ideal line connecting the lantern with the horizon, even though the vessel be heeled one way or the other 10 degrees.

“ 6. The colour of the glasses by which the colouring of the light is to be produced should be so chosen that, if possible, the red light shall have no admixture of green, nor the green light of red rays, and that both colours can be readily and unmistakeably distinguished.

“ 7. No detailed description should be internationally adopted for the construction of the lamp or lantern, so that a fair chance may be given to inventors to produce serviceable articles.

“ 8. The side-lights should be so screened as to prevent the most convergent rays of the light being seen across the bows more than half a point.

“ 9. The side-lights should be placed, in steam-vessels, not forward of the masthead light.

“ 10. To meet the number of complaints as to the absence of proper lights on sailing vessels, the attention of the Powers is called to the better enforcement of the Regulations in that behalf.

“ 11. All steam-whistles, sirens, fog-horns and bells should be thoroughly tested as to their efficiency, and should be capable of being heard at a stated minimum distance, and should be so regulated that the tones of whistles and sirens should be as distinct as possible from the sound of fog-horns.

“ 12. Steam-vessels should be provided, if possible, with means of blowing of surplus steam when the engines are stopped, in such a manner as to occasion as little noise as possible.

13. In clear weather at sea no vessel should attempt to cross the bows of the leaders of any squadron of three or more ships of war in regular formation, nor unnecessarily to pass through the lines of such squadron.

“ 14. In every case of collision between two vessels it should be the duty of the master or person in charge of each vessel, crew, and passengers (if any) to stay by the other vessel until he has ascertained that she has no need of further assistance, and

to render to the other vessel, her master, crew and passengers (if any), such assistance as may be practicable and as may be necessary in order to save them from any danger caused by the collision, and also to give to the master or person in charge of the other vessel the name of his own vessel, and her port of registry, or the port or place to which she belongs, and also the names of the ports and places from which and to which she is bound.

ART. 48. — *Laws should be passed in all maritime countries, requiring all masthead and side-lights to be tested by a Government Agency when newly installed, to verify the range, angular visibility of the light and the quality of the lenses, in compliance with the foregoing Regulations. All ships' magnetic compasses should likewise be compulsorily submitted to Government test before installation, and during subsequent intervals of one or more years, to determine their continued efficiency.*

*(To enforce the provisions of N<sup>o</sup> 1 - 10 above inclusive.)*

(No proposals or suggestions have been made as to the following : (1) Anchorage lights for submarines ; (2) Distinguishing marks and lights for sea-plane landing areas ; (3) Special lights or signals indicating a man-of-war entering or leaving a harbour ; (4) Right-of-way signals for a vessel engaged in hydrographic surveying ; (5) Day and night signals indicating that a port is closed or the entrance to the channel is obstructed : (6) Lock, bridge and sluice signals and (7) Safety lanes and danger zones in much frequented waters and in areas adjacent to nodal points.)

## RIGHT-OF-WAY SIGNALS.

In *Special Publication N<sup>o</sup> 16* of the I. H. B., entitled "*Summary of Data on Port Signals*", under II, "Entering and Leaving Signals", have been given "(8) Right-of-way Signals" for six different countries. The following right-of-way signals have appeared in the *Sailing Directions* recently, since the publication of the former.

### **RIGHT-OF-WAY SIGNALS. Portsmouth, England.**

#### **Vessels to keep clear of His Majesty's Vessels.**

When one of His Majesty's vessels or other vessel being either in charge of His Majesty's Officers or over 2,500 tons gross register intends to pass in or out of the Harbour she shall hoist the Red Ensign over "M" flag (International Code-alphabetical) by day, or hoist a red light by night at the foremast head, and all other of His Majesty's vessels present in the port shall hoist the Pilot Jack by day, or show position lights (two white lights vertical 8 feet apart, hoisted at the peak, or if no gaff, hoisted abreast of the maintop in the middle line of the ship or on the Ensign Staff) by night, as a general warning. The pilot Jack shall be hoisted by day, or position lights by night at the sub-signal station, King's Stairs, at Fort Blockhouse, and at "Vernon" Shore Establishment, and position lights shall also be shewn at the Horse Fort by night, for the same purpose, and all other vessels under way in the harbour shall keep out of the way of the



said vessel flying the Red Ensign over "M" flag by day, or showing the red light by night, at the foremast head, provided always that the said vessel shall be navigated with due care at a moderate speed.

When any of His Majesty's vessels are about to enter or leave any of the docks, basins, jetties, *etc.* at His Majesty's Dockyard at Portsmouth, the Pilot Jack will be hoisted at the Harbour Sheers, and while this flag is hoisted all merchant and other private steam-vessels shall keep out of the way of the vessel which is being moved and also the tugs which may be in attendance on her.

#### **Sailing and Small Craft to keep clear of Steamers.**

When any sea-going steam-ship, steam vessel towing, steam dredger or small hopper, within the limits of the Harbour, shall by reason of the crowded nature of the channel or anchorage or from other cause, find it unsafe or impracticable to keep out of the way of a sailing-vessel, or of a boat under oars or sail or steam or other mechanical power, it shall signify the same to the sailing vessel or boat by four short blasts of the steam whistle, blown in rapid succession, when the sailing vessel, or boat shall keep out of the way of the other vessel, provided always that the latter shall be navigated with due care and at a moderate speed.

#### **Harbour channel : When to keep clear.**

When it is specially necessary to keep the harbour channel clear, owing to a very large vessel or royal yacht entering or leaving harbour, a red oblong flag with a white diagonal bar from the outer upper corner will be hoisted by day, or 3 green lights vertical by night, at the sub-station, King's Stairs, Fort Blockhouse, "Vernon" Shore Establishment, and Horse Fort, and while this flag is flying or these green lights are being shown, no vessel is to enter the harbour from either end.

*Note.* - The master of every merchant or other private vessel to which the rules in this schedule relate must observe and cause to be observed the provisions of these rules as far as they relate to his vessel, and any such master by his wilful default infringing or causing any infringement of any of the provisions of these rules is guilty of a misdemeanour.

#### **Devonport, England.**

(By Order in Council dated 14<sup>th</sup> December, 1922, the following additional rule was made.)

20. No vessel shall pass another vessel in the narrow waters of Plymouth Sound. Steamers navigating with the tide shall have priority of passage through the narrow waters of the Sound over steamers navigating against the tide, and a steamer navigating against the tide shall ease her engines and wait until a steamer navigating with the tide has passed clear.

#### **Port of Portland, England.**

(By Order in Council, dated 6<sup>th</sup> February, 1925, the following rule has been added to the Second Schedule : -)

12. When it is specially necessary to keep clear any of the channels between the breakwaters because a large number of His Majesty's Ships, or a very large vessel, or a Royal Yacht is entering or leaving the harbour, a red oblong flag with a white diagonal

bar from the inner upper corner will be hoisted by day, or three red lights vertical by night at the flagstaff at "A" Head. By day, while this flag is flying on the northern arm of the flagstaff at "A" Head of the Northeastern breakwater, no vessel shall enter the North Ship channel, and while the flag is flying on the Southern arm no vessel shall enter the East Ship channel, and while it is flying at the masthead no vessel shall enter either channel. By night, while the three red vertical lights are showing at "A" Head no vessel shall enter either channel.

#### **RIGHT-OF-WAY. River and Firth of Clyde, Scotland.**

In the event of the channel being narrowed to such an extent that it is unsafe for two vessels to meet and pass abreast, the vessel proceeding against the tidal stream shall stop and hang about until the vessel, or vessels, running with the tidal stream are clear.

#### **VESSELS AGROUND.**

In the event of a vessel being aground or submerged, or otherwise not under control, or obstructing or endangering navigation, the following marks or lights shall be exhibited :

**BY NIGHT.** Two red lights in vertical line, not less than 6 feet (1<sup>m</sup>8) apart, and not less than 15 ft. (4<sup>m</sup>6) above the hull placed so as to show a uniform and unbroken light to vessels approaching, and two white lights placed where they can best be seen on the hull, one at each end of the vessel so as to indicate as nearly as possible the extent of the obstruction.

**BY DAY.** Two black balls, or shapes, in the same position as the two white lights.

In case the vessel is submerged, the lights, balls or shapes shall be displayed from boats or punts so placed as to indicate the extent of the obstruction.

When a steam vessel takes the ground or becomes an obstruction she shall, in addition, immediately sound 4 short blasts in quick succession on the whistle or siren, and shall continue to repeat such signal at short intervals when other vessels are approaching, or during fog or thick weather, and in the case of a vessel without steam she shall sound her hand fog signal or bell.

#### **Local Changes in "Regulations for Preventing Collisions at Sea."**

The Port of London has recently issued certain radical changes in "Regulations for Preventing Collisions at Sea" for the Thames River below London Bridge. In connection with these changes, which it is difficult to justify, it will be noted that Article II of the International Regulations prescribe that a vessel aground in or near a fairway shall carry the prescribed anchor light, or lights, and also the two red lights prescribed by 4 (a) as well as the two black balls for a vessel not under control, whereas the new Regulations of the Port of London for a vessel aground are very different, and are as follows : —

When a steam vessel under way takes the ground she shall immediately signify same by 5 or more short blasts on her steam whistle in rapid succession, and shall repeat each signal at short intervals until she shall have exhibited the lights or signals for a vessel aground in or near the fairway as follows :

A vessel of 150 feet or upwards in length, other than a lighter aground in or near the fairway of the River Thames, below London Bridge, shall, by night, exhibit, in addition to the after light required to be carried by a vessel at anchor, three lights in the forward part of such vessel, placed vertically, of which the centre one shall be red, and the other two white, and, by day, shall exhibit two black balls, or shapes, not less than 2 feet in diameter, which shall be placed vertically in the forward part of the vessel not less than 6 feet apart.

Regulations previously issued are still in force in the Port of London which differ from these of the new Port Regulations for a vessel aground, the signal being four short blasts of the steam whistle in rapid succession, if for any reason a vessel is not under command. There is also a further provision that "when a steam vessel underway is about to turn, she shall signify the same by 4 short blasts of the steam whistle in rapid succession, followed, after a short interval, if turning with her head to starboard, by one short blast and if turning with her head to port, by two short blasts. Whilst turning she shall repeat such signal to an approaching vessel, which latter shall take action to avoid collision".

A new set of Rules of the Road has just been put into effect on the west coast of England for the river Mersey, and the sea channels or approaches thereto. These include special lights for towing, for anchor lights and for vessels mooring at the Dingle Oil Jetty. One of the new anchorage distinguishing marks is as follows : —

"A steam vessel when at anchor shall, between sunrise and sunset, carry in the foreward part of the vessel, a black ball not less than 2 feet (0<sup>m</sup>6) in diameter, and, at or near the stern of the vessel, another such ball. The forward ball shall be carried at a height so as to be clear of the superstructure or other erections other than the funnel on the vessel, and so that it shall not be less than 20 feet (6<sup>m</sup>10) above the hull, and the stern, or aft ball shall be carried at a height of not less than 15 feet (4<sup>m</sup>57) lower than the forward ball."

Several other new provisions are as follows : —

"A sailing vessel, of not less than 40 tons gross tonnage, underway, propelled by machinery, whether under sail or not, is to be considered a steam vessel, and she shall, in all weathers, from sunset to sunrise, comply with the rules concerning lights; she shall carry in the daytime, at the main masthead, one black ball or shape, 2 feet in diameter.

"A vessel having on board any explosive, except ship's ammunition, shall, when at anchor, carry a red light in a globular lantern, not less than 10 feet (3<sup>m</sup>05) in diameter, 6 feet (1<sup>m</sup>8) above the forward white light.

“ A vessel aground, or beached in the River Mersey, south of an imaginary line drawn from the Rock lighthouse to the Seaforth battery, shall carry, where they can best be seen, on that part of the vessel which lies towards the fairway, the following distinguishing marks and lights :

BY DAY. 3 black balls or shapes, each 2 feet (0<sup>m</sup>6) in diameter, in a vertical line one over the other, not less than 3 feet (0<sup>m</sup>9) apart.

BY NIGHT. 3 lights in a vertical line, one over the other, not less than 3 feet apart, the higher of these lights shall be white, the middle and the lowest red, and shall be so constructed as to show a clear, uniform and unbroken light visible all around the horizon, for a distance of a least one mile. The lowest of the said balls or shapes and lights shall be not less than 10 feet (3<sup>m</sup>05) above the hull, or 10 feet (3<sup>m</sup>05) above the level of the highest high light.”

It would seem that Article 30 of the “ Regulations for Preventing Collisions at Sea”, which says “ Nothing in these Rules shall interfere with the operation of a special rule, duly made by Local authorities, relative to the navigation of any harbour, river or inland waters”, needs some qualification to forbid misuse of a signal assigned to mean one thing and changed to mean something else, otherwise the whole purpose of uniformity will be defeated. It is evident that special artificial bodies of water, such as the Suez Canal, Kiel Canal and Panama Canal, should be permitted to make any special regulations necessary for traffic. The Panama Canal has set an excellent example by using the International Code of Signals to the fullest extent practicable. On the other hand, the Port of London, as regards buoyage, traffic rules and distinguishing marks of vessels, is an exception to nearly all rules.

### LIFESAVING AT SEA.

Considering the question geographically, the following brief sketch gives an idea of the lifesaving arrangements on the coasts of the various countries of Europe. ALONG THE SHORES OF THE NORTH SEA, lifeboat and rocket stations are established at a number of places, chiefly at the Coastguard Stations and lighthouses. These stations are so numerous that it is scarcely possible any disaster can escape notice as most of the stations are connected with the nearest telegraph station either by telegraph or telephone, and some are signal stations with which vessels can communicate by telegraph with the nearest lifesaving station. In general terms it may be said that, in European countries, the location of lifeboats and lifesaving stations are only to be found on the plans of harbours and anchorages.

NORWAY has a system of sea-going lifesaving ketches, which are sailing vessels; they work all the winter in the open sea in the great arteries of shipping traffic moving from place to place from fishing ground to fishing ground according to the movements of the fishing fleet. In other words, the "Norsk Selskap til Skibbrudnes Redning" (Norwegian Society for the Rescue of Shipwrecked) instead of waiting for the shipwrecked mariner to be driven ashore, cruises at sea and effects a rescue of both the boat and the crew. At present there are 27 such ketches in service. These rescue vessels are kept cruising of the coast of Norway during certain periods of the year and in the undermentioned localities:—

Locality.	From	To
Mouth of Christiansand fiord . . . . .	1 <sup>st</sup> January.	16 <sup>th</sup> April.
	1 <sup>st</sup> October.	31 <sup>st</sup> December.
Between Christiansand fiord and Arendal . . . . .	1 <sup>st</sup> October.	31 <sup>st</sup> December.
Between Risör and Kragerö . . . . .	1 <sup>st</sup> January.	31 <sup>st</sup> March.
	1 <sup>st</sup> September.	31 <sup>st</sup> December.
In Langesund light. . . . .	1 <sup>st</sup> January.	30 <sup>th</sup> April.
	1 <sup>st</sup> October.	31 <sup>st</sup> December.
Naze, eastward to Bonden. . . . .	1 <sup>st</sup> January.	15 <sup>th</sup> February.
	1 <sup>st</sup> November.	31 <sup>st</sup> December.
Lister to Ekersund . . . . .	1 <sup>st</sup> October.	31 <sup>st</sup> December.
Tananger to Espevaer. . . . .	1 <sup>st</sup> January.	15 <sup>th</sup> March.
Stolmen to Fedie . . . . .	1 <sup>st</sup> January.	30 <sup>th</sup> April.
	1 <sup>st</sup> October.	31 <sup>st</sup> December.
Aslesund to Kristiansund . . . . .	1 <sup>st</sup> January.	30 <sup>th</sup> April.
	1 <sup>st</sup> October.	31 <sup>st</sup> December.
Titran to Nordöerne . . . . .	1 <sup>st</sup> January.	1 <sup>st</sup> June.
	15 <sup>th</sup> September.	31 <sup>st</sup> December.
Lofoten to Vesteraalen . . . . .	1 <sup>st</sup> January.	15 <sup>th</sup> April.
	1 <sup>st</sup> November.	31 <sup>st</sup> December.
Senjen . . . . .	1 <sup>st</sup> January.	1 <sup>st</sup> April.
Honningvaag to Vardö . . . . .	1 <sup>st</sup> January.	15 <sup>th</sup> June.
	15 <sup>th</sup> September.	31 <sup>st</sup> December.

In addition to these ketches there are lifesaving stations on shore which come under the jurisdiction of the lighthouse institution.

The coast of SWEDEN has an excellent lifesaving system, with stations provided with lifeboats and rockets, and some with motor lifeboats. Besides the Government Lifesaving stations the "Svenska Sällskapet för Räddning af Skeppsbrutne" (Swedish Society for the Saving of the Shipwrecked), has also stations on the coast.

FINLAND has a few stations. As for RUSSIA, there are no life-saving stations on the shore of the White Sea, and, in the Baltic, in addition to lifeboats, there are ice boats for use when lifeboats are not practicable.

There are numerous lifeboat and rocket stations along the coasts of ESTHONIA, LATVIA and LITHUANIA. POLAND has six lifesaving stations in her very short coast line.

The numerous lifesaving stations on the coast of GERMANY are equipped with rocket apparatus and lifeboats, and in many cases with motor lifeboats. Salvage vessels are stationed at the mouths of the Schelde, Elbe, Weiser, Jade and Ems River; also at Heligoland, Brunsbuttel and Holtenau in the Kaiser Wilhelm Canal. They are fitted with radio and can be obtained direct through the radio station at Cuxhaven. When engaged in salvage work these vessels display a red cylinder at the fore masthead, or yardarm, and, by night, three lights, white, red, white, vertically, one above the other 5 feet apart.

DENMARK and BELGIUM are the only two countries in Europe in which the Lifeboat Service is entirely under Government management and financial up-keep. In DENMARK lifesaving stations are under the Ministry of Marine, and are equipped with rocket apparatus, lifeboats and motorboats. BELGIUM has only seventy kilometers of coast line, but has very creditably, nine lifeboats of British pattern, two steam tugs, two motor tugs, a number of rocket apparatus and other appliances, together with 116 paid lifeboatmen. There are only six lifeboat stations so that several of the stations have two or three lifeboats each. (See List).

NETHERLANDS. There are two lifesaving Societies in Holland, *viz.* the "Noord-en-Zuid Hollandshe Redding Maatschappij" (North and South Holland Lifesaving Society) and the "Zuid Hollandsche Maatschappij tot Redding van Schepboenklingen" (South Holland Society for Saving the Shipwrecked), and they have established rocket signals at all stations which have not a lighthouse near them. There are no lifesaving stations in the Dutch colonies.

The following rocket signals are in force in both Denmark and the Netherlands, for vessels seen in distress during the night : —

1. Firing one rocket signifies that the signal of distress from the vessel has been seen, or, that the vessel in distress has itself been seen from the lighthouse.
2. Firing two rockets within one minute of each other signifies that, wind and weather permitting, assistance will be rendered the vessel.

These signals are made from lighthouses or the Government coast-guard stations, or by the stations of the Lifeboat Institutions.

FRENCH lifesaving stations are established on the most exposed parts of the French coast. The more important have lifeboats and the less important have line-throwing rifles and guns. These lifesaving stations are indicated only on plans of harbours or anchorages and not on general charts. French lifesaving stations have been organised by the "Société Centrale de Sauvetage des Naufrages", and, in addition, the Society "Les Hospitaliers Sauveteurs Bretons" have established relief posts at Havre, Cancale, Saint-Servan, Saint-Malo, Saint-Enogat, Saint-Cast, Saint-Géran, Plougrescant, Plouescat, Port-sall, Le Loc, Port Navalo, Piriac and La Rochelle. The latter stations are provided with unsinkable boats, non-capsizable dories with low deck houses, or motor boats. Further, the Merchant Marine has made a contract with the Society "L'Union Française Maritime" to render aid to vessels in distress. Four centres are included under this Service, *i. e.* at Brest, Saint-Nazaire, the mouth of the Gironde and at Marseilles, and at each centre there is a tug of 500 tons and 1,000 H. P. always under steam ready to proceed to sea.

FRENCH DISTRESS SIGNALS. — Should a shipping casualty occur near a signal or look-out station, the following signals will hoisted at the International Code signal mast : —

- A black flag at the masthead indicates that the casualty has occurred in the immediate vicinity of the station.
- A black flag at the yardarm indicates that the casualty has occurred to the right, looking to seaward from the station.
- A black flag at the gaff indicates that the casualty has occurred to the left, looking to seaward from the station.

Guns may also be fired every five minutes to attract attention. The following signals are made to indicate the course to be taken by the lifeboat : —

- A black flag with red pennant above and, by night, a green Coston light, indicates that the wreck is to the right of the course being taken by the lifeboat.
- A black flag with red pennant below and, by night, a red Coston light, indicates that the wreck is to the left of the course being taken by the lifeboat.
- The red pennant will remain flying until the lifeboat appears to be heading for the wreck, when it will be hauled down, leaving the black flag flying.

LIGHTHOUSE DANGER SIGNALS. — The undermentioned signals are made from La Hague, Grand Léjon, Héaux de Bréhat, Les Trigoz, Sept Iles,

La Jument, Kérèon, Les Pierres Noires, Le Four, Ar Men, La Vieille, Les Grands Cardinaux, Les Barges d'Olonne and Cardouan light-houses : —

A ball above a cone, point downwards, or above a pennant, indicates, "Wreck drifting or aground in one of the channels near the lighthouse."

(Note. - This violates the Distant Signals of the International Code.)

A cone, point downwards, or a pennant above 2 balls, indicates, "Drifting mine near the lighthouse."

(Note. - This use of the code violates the Storm Warning Code of Signals.)

**FRENCH WEATHER SIGNALS.**— The following signals are hoisted at signal stations and Port offices for half an hour in the morning and evening, and indicate the weather existing at sea : —

A flag of any colour :

Weather doubtful; barometer inclined to fall.

A broad pennant :

Appearance of bad weather, heavy sea; barometer falling.

A pennant :

Appearance of better weather; barometer rising.

A flag over a broad pennant :

Entry into the port is dangerous.

A broad pennant over a flag :

The lifeboat is going out.

No signal :

Fine settled weather.

#### **DISTRESS SIGNALS. Channel Islands Lighthouses.**

(This violates Art. 31 of the "Regulations for the Prevention of Collisions at Sea" and Art. 12 of the "Convention for Safety of Life at Sea".)

The following signals are made from Casquets, Alderney and Sark lighthouses to summon the lifeboat to the assistance of any vessel in distress or difficulties : —

BY DAY, an explosive rocket fired every ten minutes.

BY NIGHT, an explosive rocket followed after ten seconds by a rocket giving a white light. The signal will be repeated after ten minutes.

Reply : — Red flag by day; two red star rockets by night.

At Nanois lighthouse two explosive rockets at short intervals are fired both day and night in lieu of the above signals.

At Alderney lighthouse the above signals will only be given if the wreck is on the north side of the lighthouse; if on the south side, two explosive rockets will be fired in quick succession every five minutes, followed at night, after ten seconds, by two rockets giving a white light, fired simultaneously.



**GREAT BRITAIN.**

The two principal means of lifesaving established on the coasts of the United Kingdom are the rocket lifesaving apparatus, which are owned and managed by the Board of Trade, and the lifeboats which, with few exceptions, are maintained and managed by the Royal National Lifeboat Institution, which is sustained by voluntary contributions. The rocket apparatus and lifeboat stations in Ireland have been transferred to the Irish Free State.

In addition there are many stations interspersed where minor lifesaving appliances are available, chiefly belts and lines and cliff-ladders.

Lifesaving stations are only shown on plans of harbours and anchorages.

Of the 215 lifeboats, distributed between 191 stations in the British Isles, 60 are motor lifeboats.

Of the 271 lifesaving stations under the control of the Board of Trade, 263 are furnished with rocket apparatus, 5 with cliff-ladders and 3 with half-whip heaving lines.

Of the 294 Coastguard stations, equipped with lifebelts and life lines, the majority have also full rocket apparatus.

On 30<sup>th</sup> June, 1924, there were, in addition to the Coastguard, a total of 269 men employed in the Lifesaving Service, as members of four organised Brigades, and there were 4,254 enrolled volunteers, organised in 262 Lifesaving Companies.

The ROCKET APPARATUS wherever practicable is in charge of the coastguard, and is worked under instructions from the Board of Trade, by them, or by volunteer life-brigades; it can often be used with effect where a life-boat is not available; its success, however, depends largely upon an intelligent co-operation on the part of the crew of the stranded ship.

COASTGUARD. — Of the numerous coastguard stations that form a continuous chain of look-out posts along the shores of the English Channel, a large number are in direct communication with the telegraphic system of the country, and many are in telephonic communication with each other. Vessels in distress upon coast may therefore have reasonable expectation of being observed, and of receiving assistance if stranded.

**DISTRESS SIGNALS from English Light Vessels.**

*(These violate Art. 31 of the "Regulations for the Prevention of Collisions at Sea" and Art. 12 of the "Convention for Safety of Life at Sea".)*

To summon assistance to any vessel in distress or difficulties the following signals are made : —

BY DAY, signal DB is hoisted and two guns are fired with an interval between them of 5 minutes, and repeated every 15 minutes.

BY NIGHT, two guns are fired, as above, followed by a white rocket, except in the case of Seven Stones light-vessel, where red rockets are used.

The reply signals to be made by the coastguard or lifeboat authorities are, by day, a red flag, followed by one or more explosive sound signals.

By night, rockets throwing white stars on bursting, or one or more explosive sound signals throwing white or red stars on bursting.

Those signals are by no means uniform as certain light vessels on the East coast hoist at the gaff end a distress signal consisting of the International Code flag "P"; with a black ball underneath. Also the following special distress signals, which do not conform to the above uniform system, are made from the Owers light vessel, Nab Tower, Warner light vessel, and also from the South, East, and North Goodwin light vessels : —

SANDS.	Gun Signal.	Interval of firing.	To be repeated every.
	Nº	Seconds	Minutes
All shoals eastward of a line drawn 176° true from East Wittering . . . . .	2	15	5
All shoals westward of a line drawn 176° true from East Wittering and south of a line drawn from Selsea Bill through the Warner light vessel . . . . .	1	—	3
All shoals north of a line drawn from Selsea Bill through the Warner light vessel, including Noman's Land and Ryde Sands, and west of a line drawn 176° true from East Wittering . . . . .	1	—	7
Goodwin Sands, south part . . . . .	1	—	5
» » middle part . . . . .	2	30	5
» » north part . . . . .	1	—	3
» » northwest part and Brake . . . . .	2	15	3

In the event of the Nab tower itself being in distress when the telephone is broken down, one sound rocket every ten minutes will be fired; at night the sound rocket will be followed after ten seconds by a star rocket.

At night each discharge of the gun will be accompanied by one or more brilliant white star rockets, which make little sound.

The Owers light vessel does not repeat signals from other light vessels.

The Nab tower only repeats signals from the Owers light vessel during strong winds from N. W. to N. E.

The Warner light vessel repeats all signals from the Nab tower.

The East and North Goodwin light vessels, when firing distress signals by day, hoist a distance signal consisting of a flag (the Blue Peter, *i. e.* the letter P of the Commercial Code).

Care should be taken to fire warning guns at such irregular intervals that they cannot be mistaken for signals of distress.

SWINMIDDLE LIGHTSHIP, (EAST COAST OF ENGLAND).

Lat.  $51^{\circ}39'$  N. Long.  $1^{\circ}6'$  E.

When a distress signal is made by the lightship calling a lifeboat, the following are the signals used to indicate the position of the vessel in distress : —

- N. E. quadrant,  
One white ball.
- S. E. quadrant,  
Two white balls.
- S. W. quadrant,  
Three white balls.
- N. W. quadrant,  
Four white balls.

**DISTRESS SIGNALS, Light Vessels, Liverpool Bay.**

(These violate Art. 31 of the "Regulations for the Prevention of Collisions at Sea" and Art. 12 of the "Convention for Safety of Life at Sea").

The light vessels in Liverpool Bay, *viz.*, the Northwest Bar, Formby, and Crosby light vessels, are provided with rockets which show white stars, and with a square blue flag, called the lifeboat flag, as well as with flags of the International Code.

1. In the case of the light vessel being in distress the following signals are made : —

- BY DAY, (a) A "Sound Socket signal" to be fired at intervals of one minute until answered from the shore.
- (b) The ensign made up as a wheft or hoisted reversed at the dip where best seen.
- (c) The code distant signal, *viz.*, a square blue flag (lifeboat flag with a ball above or below, hoisted where best seen.

BY NIGHT, (a) Flames on the ship, as from an oil torch, burning barrel, *etc.*

- (b) A "Sound Socket Signal" followed by a rocket showing a red star, to be fired alternately at intervals of one minute until answered from the shore.

2. In case of any vessel or boat (other than a light vessel) being seen in distress, or likely to require the assistance of the lifeboats, whether showing distress signals or not, the following signals are to be made : —

BY DAY, (a) A “ Sound Socket signal ” to be fired at intervals of one minute until answered from the shore.

(b) The lifeboat flag to be hoisted and kept flying until assistance arrives and until all danger to life is over.

BY NIGHT, (a) A “ Sound Socket signal ” followed by a distress rocket to be fired alternately at intervals of one minute until answered from the shore.

The following general orders are to be carried out in all cases of vessels being in distress as mentioned in sections 1 and 2 : —

(a) To avoid mistakes no other signals are to be made except when absolutely necessary.

(b) When all danger to life is over, the ensign is to be hoisted and kept flying for about ten minutes.

(c) All distress signals are to be repeated by all the light vessels.

The following stations are provided with “ Sound Socket signals ”: Hoylake, Hilbre, Point of Air and New Brighton. Waterloo coastguard station is provided with common rockets.

The Distress Signals made from English lighthouses differ from those of light vessels.

The following signals are made from English lighthouses to summon the lifeboat to the assistance of any vessel : —

By day, an explosive rocket will be fired every 10 minutes.

By night, an explosive rocket followed after 10 seconds by a rocket giving a white light. The signal will be repeated after ten minutes.

Reply : The reply to be made by Coastguard or lifeboat authorities is the same as the reply given to light vessels.

The above uniform signals, to summon assistance to any vessel in distress or in difficulties, are made from Round Is., Longships, Needles, Caldy Is., Godrevy, Flatholm, Smalls, South Bishop, South Stack, Holyhead breakwater and Skerries lighthouses.

The uniform signals are also made from three lighthouses on the East coast of England, Longstone, Coquet and Chapman, whereas in the London, Harwich, Ramsgate and Yarmouth districts the light vessels, pile lighthouses and mainland lighthouses have signals which do not conform to the so-called uniform signals; in lieu whereof the following signals are used to indicate that a vessel on shore requires assistance on or near the following sands or localities : —

SANDS OR LOCALITY.	Gun Signal.	Interval of firing.	To be repeated every.	AT NIGHT.
	N <sup>o</sup>	Seconds	Minutes	
Leman and Ower . . . . .	2	15	10	Followed by : 1 white star rocket.
Haisbro' Sands, South of Middle Haisbro' Buoy. . . . .	2	60	5	1 red star rocket.
Haisbro' Sands, North of Middle Haisbro' Buoy. . . . .	1	—	5	1 green star rocket.
Smith's Knoll, Hammond's Knoll & Winterton Ridge. . . . .	1	—	10	1 white star rocket.
On Mainland between Caister and Gorleston or in distress in Yarmouth Roads . . . . .	1	—	3	1 white star rocket.
On Sands between line through Scroby Elbow Bell Buoy and the Middle Cross Sand Buoy to the southward, and a line drawn through the Cockle light vessel and the N. E. Cross Sand Buoy to the northward . . . . .	2	15	5	2 red star rockets.
Scroby Elbow Bell Buoy and the Middle Cross Sand Buoy to northward, and a line drawn through Corton Coastguard station and the Corton light vessel to the southward. . . . .	3	30	5	2 green star rockets.
Corton and Holm . . . . .	2	15	10	1 white star rocket.
Kentish Knock and N. E. Longsand.	1	—	10	- d <sup>o</sup> -
Shipwash, Whitting and Bawsdey .	1	—	5	- d <sup>o</sup> -
Cork, Cutler and West Rocks . . .	1	—	3	- d <sup>o</sup> -
North Sunk & Gunfleet . . . . .	2	60	5	- d <sup>o</sup> -
S. W. Sunk, Barrow, Buxey, Foulness, Middle Sand and Knock John . . . . .	2	15	5	- d <sup>o</sup> -
Sands west of line between Maplin and Girdler Lights . . . . .	1	—	5	- d <sup>o</sup> -
S. W. Longsand, Tongue, Girdler, Shingles and Margate. . . . .	2	60	5	- d <sup>o</sup> -
North part of Goodwin. . . . .	1	—	3	- d <sup>o</sup> -

The short interval between the firing of the guns will be adhered to as nearly as possible.

At night each discharge of the gun will be accompanied by one or more brilliant star rockets, as shown above, which make little sound.

The Maplin and Gunfleet lighthouses use explosive rockets in lieu of guns, and the Mouse and Girdler light vessels use socket signals.

THE ABOVE SIGNALS TO BE REPEATED IN ACCORDANCE WITH THE  
SUBJOINED TABLE.

Name of light vessel or lighthouse.	To repeat signals originating only from :
Haisbro . . . . .	Would and Smith's Knoll.
Would . . . . .	Smith's Knoll and Haisbro'.
Newarp . . . . .	Smith's Knoll and Would.
Smith's Knoll . . . . .	Nil.
Cockle . . . . .	Newarp and Cross Sand.
Cross Sand . . . . .	Nil.
St. Nicholas . . . . .	Cross Sand and Corton.
Corton . . . . .	Nil.
Outer Gabbard . . . . .	Nil.
Gallop . . . . .	Outer Gabbard.
Kentish Knock . . . . .	Outer Gabbard, Gallop and Longsand.
Longsand . . . . .	Kentish Knock Outer Gabbard & Gallop.
Shipwash . . . . .	Outer Gabbard.
Cork . . . . .	Kentish Knock, Longsand, Shipwash, Sunk, Outer Gabbard & Gallop.
Sunk . . . . .	Kentish Knock, Longsand, Gunflet and Outer Gabbard and Gallop.
Gunfleet . . . . .	Kentish Knock, Longsand, Sunk, Outer Gabbard and Gallop.
Maplin . . . . .	Swin Middle, Mouse and Barrow.
Swin Middle . . . . .	Maplin, Mouse and Barrow.
Mouse . . . . .	Maplin, Girdler, Barrow and Maplin.
Nore . . . . .	Mouse, Girdler, Barrow and Maplin.
Girdler . . . . .	Nil.
Barrow . . . . .	Nil.
Edinburgh . . . . .	Nil.
Tongue . . . . .	Kentish Knock, Longsand, Girdler and Edinburgh.

The following are additional exceptions for lighthouses which do not use the uniform system : —

From Bishop Rock lighthouse the signals made for the same purpose are : —

By day, 2 explosive rockets in quick succession ; fired every 5 minutes.

By night, 2 explosive rockets, fired every 5 minutes, followed after an interval of 10 seconds, by a rocket giving a white light.

From Eddystone lighthouse the signals made for the same purpose are : —

By day, 2 explosive rockets fired at short intervals.

By night, 2 explosive rockets, followed after an interval of 10 seconds, by a rocket giving a white light fired at short intervals.

The reply signals to be made by the Coastguard or Lifeboat Authorities are the same as those given in reply to Distress signals from Light vessels.

#### **SIGNALS FOR LIGHT VESSEL OUT OF POSITION.**

When a light vessel is driven from her proper position to one where she is of no use as a guide to shipping, the following signals will be made, *viz.* :

The usual lights are not exhibited, but a fixed red light will be exhibited at each end of the vessel, and a red flare shown every quarter of an hour ; in the case of fog the usual signals for vessels at anchor will be made.

By day, the balls, or other distinguishing masthead marks, (if any) are struck, and in light vessels under the jurisdiction of Trinity House, where no day-mark is carried, a black ball will be shown at each end of the vessel. If from any cause a light vessel is unable to exhibit her usual lights whilst at her station, the riding light only is shown.

#### **SIGNAL FOR VESSEL STANDING INTO DANGER.**

When from any light-ship or from a Trinity House lighthouse, a vessel is seen standing into danger, a gun or a rocket is fired and repeated until observed by the vessel ; also the signal J.D. of the Commercial code " You are standing into danger " is hoisted.

The NORTHERN LIGHTHOUSE COMMISSIONERS have instituted the following signals to summon the lifeboat to the assistance of any vessel in Scotland and the Isle of Man : —

By day, or night, two explosive rockets in quick succession every five minutes until answered by the nearest lifeboat station.

#### **NORTH AND EAST COASTS OF SCOTLAND.**

LIGHT VESSELS on the North and East Coasts of Scotland, (except Abertay light vessel) summon assistance to any vessel in distress or difficulties, or when a light vessel herself requires assistance, and make the same signals as English light vessels, with the addition that three rockets fired simultaneously every 15 minutes indicate that the tender or attending boat is required.

**SPECIAL DISTRESS SIGNALS. - Abertay light vessel.**

(Lat. 56° 27' N. Long. 2° 42' W.)

By day : If a vessel is seen in distress the signal D B will be hoisted.

By night : Two rockets and two blue lights will be fired in quick succession every 10 minutes until repeated from Buddon ness high lighthouse, after which they will be fired once.

If the vessel be upon the Gaasand side, one rocket and a red light will be fired.

Should the light vessel herself require assistance, three rockets will be fired in quick succession and three red lights sent up. This signal will be repeated at intervals of five minutes until answered from Buddon ness lighthouse, after which the signal will be repeated once.

SIGNALS are made from the lighthouses at Turnberry Point, Sands Is., Davarr Is. and Pladda Is. on the West coast of Scotland to life stations in their proximity when the services of lifeboats are required. The signal is, by day and by night, two explosive rockets in quick succession, every 5 minutes, until replied to by the nearest lifeboat station with the regulation reply.

In the territory of NORTHERN IRELAND there are coastguard and lifesaving stations, and in the IRISH FREE STATE a coast lifesaving service is maintained.

**DISTRESS SIGNALS - IRISH LIGHTHOUSES & LIGHT VESSELS.**

By day : Two cones, points downwards, placed vertically.

By night : Two reports, fired from gun or rocket, in quick succession every fifteen minutes, accompanied by a light from a tar barrel or other means. If not fitted with gun or rocket, the light alone will be used.

Reply : A red flag by day, and two red stars by night.

At Rockabill lighthouse three explosive signals are made in quick succession every seven and a half minutes in lieu of above signals.

The firing at intervals of twenty minutes of a gun, rocket, or explosive signal from a light vessel, indicates that the services of the attending boat are required at the light vessel; this signal is also used at Eeragh Island lighthouse, Galway Bay.

The signal D.B. will also be hoisted if no notice is taken of the distress signals.

The following special signals have been established on board the light vessels on the Irish coast for the purpose of summoning the lifeboat to the assistance of a vessel ashore or in distress within sight of the station : —



Three charges in quick succession, by : —

- x Kish bank light vessel every five minutes.
- Codling bank light vessel every ten minutes.
- Arklow light vessel every ten minutes.
- Blackwater bank light vessel every fifteen minutes.
- Lucifer bank light vessel every twenty minutes.
- Barrels rock light vessel every fifteen minutes.
- Coninbeg light vessel every ten minutes.
- x Daunt rock light vessel every three minutes.
- x Skulmartin light vessel every ten minutes.
- x South rock light vessel every three minutes.

Reply : Red flag by day, and two red star rockets by night.

At the light vessels marked x, during thick or foggy weather, while the fog signal is being worked, the mid-intervals between the firing of the fog signal will be used to discharge the rail rocket signals for summoning lifeboats.

#### **LIGHT VESSELS. - RIDING LIGHTS.**

From the forestay of each light vessel under the jurisdiction of the Commissioners of Irish lights, on the coast of Ireland, a white light is exhibited from sunset to sunrise, at a height of 6 feet (1<sup>m</sup>8) above the rail, for the purpose of showing in which direction the vessel is riding when at her station.

#### **OUT OF POSITION.**

When a light vessel is driven from her proper position to one where she is no use as a guide to shipping the following signals will be made, *viz* : the usual lights will not be exhibited, but a fixed red light will be exhibited at each end of the vessel, and a red flare shown every quarter of an hour. By day, the balls, or other distinguishing masthead marks will be struck. Also, if from any cause the light vessel be unable to exhibit her usual lights whilst at her station, the riding light only will be shown.

#### **WARNING GUN.**

When a vessel is observed from the light vessel standing into danger, a gun will be fired and repeated until observed by the vessel, and the two signal flags J. D. of the International Code, "You are standing into danger" will be hoisted and kept flying until answered.

The above information is taken from the Sailing Directions issued by the British Hydrographic Office.

The following signals, used in connection with the Lifesaving Service on coasts of Great Britain and Ireland, are given in the "Notices to Mariners" of July 16<sup>th</sup>, 1926, issued by the Mercantile Marine Department of the Board of Trade, London.

### I. ANSWERS TO DISTRESS SIGNALS.

" Distress signals made by vessels (including aircraft) in sight of the coast of Great Britain and Northern Ireland and signals made from Lighthouses and Light vessels to indicate that a vessel is in distress in the vicinity or that they themselves require assistance, will, when observed, be answered from the shore by one or more of the following signals :

- " N<sup>o</sup> 1 (x) Rocket throwing white stars on bursting, or
- " N<sup>o</sup> 2 (x) Bright white pyrotechnic light, signify : Signal seen and assistance summoned.
- " N<sup>o</sup> 3 (ø) Explosive sound signal showing bright white flash or white stars on bursting, signifies : Rocket apparatus company to assemble.
- " N<sup>o</sup> 4 (ø) Explosive sound signal or signals showing red stars on bursting, signifies : Lifeboat crew to assemble. (X)
- " During the day-time, flag signals are used in addition to the above as follows :
  - " Red flag (rectangular or swallow-tail), signifies : Rocket apparatus company to assemble.
  - " Red flag (triangular), signifies : Lifeboat crew to assemble.

" Notes : (x) Signals 1 & 2 will be employed where there is no rocket apparatus or lifeboat in the immediate vicinity, and they will also be used as an immediate reply to a distress signal if any interval is likely to occur between the time when the distress signal is seen from the shore and the time of the firing of the signal to assemble the crew to rocket apparatus or lifeboat.

(ø) Signals 3 & 4 are also used in the Irish Free State.

(X) the launching of the lifeboat will be notified by firing a green Very's light and on approaching the wreck a white handlight will be burnt by the lifeboat.

### " Signals to Assist Crew of a Wrecked Vessel to Land.

" In the event of a ship being wrecked on the coast of Great Britain or Northern Ireland, and in the event of the crew of the wrecked vessel taking to the boats in order to get ashore, the following signals will be made by the Coastguard or by a Life Saving Apparatus Company, if they are on the scene of action, with the object of indicating the most suitable spot at which an attempt to land should be made.

- " N<sup>o</sup> 1. By day, flag held upright overhead.  
By night, Coastguard light (white flare) held steady or stuck in ground, signifies : " You may attempt to land here. "
- " N<sup>o</sup> 2. By day, flag waved from side to side.  
By night, Coastguard light (white flare) waved from side to side, signifies : " Landing extremely dangerous. You are advised to lay off until lifeboat arrives. "

- “ N° 3. By day, flag waved to right or left and then pointed in direction.  
By night, Coastguard light (white flare) held steady and carried along shore to right or left : “ The best landing will be found in the direction in which flag is waved and pointed, or light carried. ”
- “ N° 4. By day, two flags held upright overhead, 50 yards apart, in the line of approach, if possible the innermost man being on higher ground than the other.  
By night, Coastguard lights held or stuck in ground as above, or two bonfires placed as above : “ You should attempt to land here and by this line of approach. This signal will be used when approach is dangerous except by a particular channel. ”

“ Notes : These signals have now been adopted in the Irish Free State. In the event of a ship being wrecked on the coast of the Irish Free State and the crew of the wrecked vessel taking to the boats in order to get ashore, the signals will be made by the Coast Lifesaving Company, if they are on the scene of action. ”

The following signals have been adopted in England for display by lifeboat stations and lifeboats when launching or when approaching and leaving a wreck : —

#### Lifeboat Signals.

- “ N° 1. By day, Red flag, followed by the usual signal for assembling the crew.  
By night, Two socket distress signals, or two red star rockets, followed by the usual signal for assembling the crew, signify : “ Danger (or signal for assistance) seen and lifeboat’s crew to assemble. ”
- “ N° 2. By day, Nil.  
By night, One green star rocket, or Green Very’s pistol cartridge : “ Lifeboat launched. ”
- “ N° 3. By day, Red flag hoisted and dipped continuously until answered from the boat by a red flag, or by change of course.  
By night, One or more white Very’s pistol cartridges in quick succession, to be answered by a green and light from the boat : “ Recall signal. ”
- “ N° 4. By day, Nil.  
By night, One green hand light, to be answered from the shore by a white light, signifying “ We are ready for you ”, or by a red light signifying “ Keep off ” : “ Am coming ashore. ”
- “ N° 5. By day, Red flag.  
By night, One or more red hand lights in quick succession, to be answered by two Red Very’s Pistol cartridges : “ More aid required. ”

“ Notes : N° 1 signal answers the double purpose of informing a vessel in distress, or and a Lightship that the danger is seen and that the lifeboat is about to be launched and of intimating to the crew of the endangered vessel that assistance is being sent to them.

“ N° 2 is invariably to be made when the boat is launched at night.

“ Signals 1, 2 & 3 are made from the Station, and N<sup>o</sup> 4 & 5 from the boat.

“ The boat will carry four white hand lights, which are to be used by the Coxswain in order that those on the wreck may be aware of his approach, or to enable him to discover the position of the wreck. These signals are not referred to in the Code, as they have no signification for the shore.

“ In the event of additional assistance being required, communication with the Windward Station by telephone, telegraph or by mounted messenger should at once be resorted to.

“ The boat will carry six red, four white, and two green hand lights.

“ If N<sup>o</sup> 5 signal is seen from a neighbouring station, it should be answered by two red star rockets; or by two socket distress signals.”

SPAIN AND PORTUGAL. — The lifesaving stations of Spain, equipped with lifeboats or rocket apparatus, are maintained by the “ Sociedad Espanola Salvamento de Naufragos ” (Spanish Society for the Saving of the Shipwrecked), and similar ones for Portugal are maintained by the “ Instituto de Socorros a Naufragos,” (Institute for Saving the Shipwrecked).

A rocket apparatus is maintained at GIBRALTER, and a lifeboat and rocket apparatus at CEUTA in Spanish Morocco. The coasts of MOROCCO, ALGIERS, and TUNISIA, as well as the Island of Corsica, all under French control, are well equipped with lifesaving stations. There are a few lifesaving stations in ITALY, also on the DALMATIAN coast and the coast of YUGO-SLAVIA. There are no lifesaving stations in GREECE.

The coast of TURKEY and the shores of the BLACK SEA in TURKISH, BULGARIAN, ROUMANIAN, RUSSIAN and GEORGIAN territories, as well as of ASIA MINOR, are well equipped with refuge houses and with lifesaving stations.

The MEDITERRANEAN shores of ASIA MINOR, PALESTINE and EGYPT are not equipped with lifesaving stations.

There are several lifesaving stations in the AZORES, MADEIRA and CAPE VERDE ISLANDS. The coast of the UNION OF SOUTH AFRICA is well equipped with lifesaving stations, but there are practically none on the East and West coasts of Africa and the islands of the Indian Ocean. At KARACHI, INDIA, there are two steam and three sailing lifeboats at Minorca Point, at the entrance to the harbour — the only lifesaving station between Aden and Japan, with the exception of those in Australia and New Zealand.

AUSTRALIA has over fifty well-equipped lifesaving stations, and NEW ZEALAND some sixteen. The following landing signals for boats are used in New Zealand, in the event of the crew of a wrecked

vessel taking to the boats in order to get ashore. The undermentioned signals are to be made by the lighthouse keepers, if they are on the scene, to indicate the most suitable spot at which the attempt to land should be made : —

By day, flag held upright over head, and by night, white flare held steady, signifies : “You may attempt to land here.”

By day, flag waved from side to side ; by night, white flare waved from side to side : — “Landing extreme dangerous. Do not attempt to land unless compelled to do so.”

By day, flag waved to right or left, and then pointed in the direction ; by night, white flare held steady and then carried to the right or left : — “The best landing will be found in direction in which flag is waved or pointed, or light carried.”

By day, two flags held upright overhead, 50 yards (15<sup>m</sup> 7) apart in the line of approach ; by night, white flare held as above : — “You should attempt to land here and by this line of approach.”

This last signal will be used when the approach is dangerous except by a particular channel.

JAPAN has 142 main lifesaving and branch lifesaving stations. The Teikoku Suinan Kinsaikai (Imperial Japanese Lifeboat Institution) equips and maintains many of these stations.

There are five lifeboats on the Pacific Coast of SIBERIA, but one in ALASKA. In BRITISH COLUMBIA there are numerous rescue stations or shelter sheds and notice boards for shipwrecked mariners, and also some five or six lifesaving stations, equipped with motor or other lifeboats.

In the UNITED STATES Lifesaving Service the 277 lifesaving stations on the Pacific, Atlantic, Great Lakes and Gulf Coasts are operated under the Treasury Department, by the National Coastguard of the United States, the entire expense being borne by the Government. Stations are furnished with lifeboats, mortars, and all other appliances for affording assistance in case of shipwreck. The stations crews are regularly employed men and patrol the beach from two to four miles each side of their station four times between sunset and sunrise, and, during foggy weather, throughout the day. Each man carries Coston signals. On discovering a vessel standing into danger he ignites one of them, which emits a brilliant red flame, to warn her off, or, should a vessel be ashore, to let her crew know that she is discovered and that assistance is at hand. If the vessel is not discovered by the patrol immediately after she has struck, rockets or flare-up lights should be burnt by her crew, or, if the weather be foggy, guns should be fired to attract attention.

Lifeboats are also maintained by the Massachusetts Humane Society at Annisquam, Rockport and Emerson's Point, Cape Anne, Boston, and other places on the Massachusetts coast.

There are lifesaving stations between Barnegat Inlet and Florida ; which are manned annually only from 1<sup>st</sup> August to 31<sup>st</sup> May, and they are furnished with lifeboats, wreck guns, beach apparatus, and others appliances for affording assistance in case of shipwreck. They are also provided with the International Code of Signals. Where there are telephone or telegraph facilities attached to the stations, messages, requesting services at ports will be received and promptly forwarded.

There are three stations in Florida, north of Cape Carnival, but they are only houses of refuge, with a keeper residing in each house, supplied with provisions, restoratives and boats, which latter, however, are not manned by crews. The keeper is to patrol the coast especially after every gale, with a view to ascertaining if a shipwreck has occurred and finding and succouring any persons which have been cast ashore.

### **International Lifesaving Signals.**

The following signals, approved by the International Marine Conference convened at Washington, in 1889, have been adopted by the U. S. Lifesaving Service, and will be used and recognised by the officers and employees as occasion may require :

- “Upon the discovery of a wreck by night, the lifesaving force will burn a red pyrotechnic light or a red rocket to signify : — “You are seen ; assistance will be given as soon as possible.”
- “A red flag waved upon the shore by day, or a red light, red rocket, or red Roman candle displayed by night, will signify : — “Haul away”.
- “A white flag waved on shore by day, or a white light slowly swung back and forth, or a white rocket or white Roman candle fired at night, will signify : — “Slack away.”
- “Two flags, a white and a red, waved at the same time on shore by day, or two lights, a white and a red, swung slowly at the same time, or a blue pyrotechnic light burnt by night, will signify : — “Do not attempt to land in your own boats, it is impossible.”
- “A man on shore beckoning, by day, or two torches burning near together by night, will signify : — “This is the best place to land.”
- “Any of these signals may be answered from the vessel as follows : In the daytime, by waving a flag, a handkerchief, a hat, or even the hand ; at night, by firing a rocket, a blue light, or a gun, or by showing a light over the ship's gunwale for a short time, and then concealing it.”

## U. S. of America - Recapitulation of Lifesaving Instructions.

Remain by the wreck until assistance arrives from the shore, unless your vessel shows signs of immediately breaking up.

If not discovered immediately by the patrol, burn rockets, flare-up or other lights ; or, if the weather be foggy, fire guns.

Take particular care that there are no turns of the whip-line around the hawser before making the hawser fast.

Send the women, children, helpless persons, and passengers ashore first. Make yourself thoroughly familiar with these instructions, and remember that on your coolness and strict attention to them will greatly depend the chance of success in bringing you and your people safely to land.

Mariners are particularly cautioned, if they should be driven ashore anywhere in the neighbourhood of the stations, especially on any of the sandy coasts, where there is not much danger of vessels breaking up immediately, to remain on board until assistance arrives ; and under no circumstances should they attempt to land through the surf in their own boats until the last hope of assistance from the shore has vanished. Often, when comparatively smooth at sea, a dangerous surf is running which is not perceptible at a quarter of a mile off-shore, and the surf, when viewed from a vessel, never appears as dangerous as it is. Many lives have been lost by the crews of stranded vessels being thus deceived and attempting to land in their own boats.

The difficulties of rescue by operation from the shore are greatly increased in cases where anchors have been let go after entering the breakers, and the chances of saving life correspondingly lessened.

For the efforts of a lifesaving crew to be successful, an intelligent co-operation between them and the crew of the stranded vessel is much to be desired.

There are several lifesaving stations in the Island of Porto Rico.

In SOUTH AMERICA there are a lifesaving brigade and two lifesaving motor-boats attached to the Naval Base at Valparaiso, Chile. They are employed in bad weather from the month of May to August. At Antafagasta there is a lifesaving corps, and at Talcahuano a salvage brigade is being organised. In ARGENTINA there is a refuge station and lifeboat at St. John's harbour, Staten Island (Cape Horn). There is also a refuge station for ship-wrecked seamen near the lighthouse at CAPE VIRGINS near the eastern entrance to the Straits of Magellan, and a lifeboat at PORTO DES MACEIO.

There are no lifesaving stations as such in BRAZIL, but there is a lifesaving service at the Naval Arsenal at Rio de Janeiro. At various other ports there are some forms of lifesaving services under the Captains of the Ports.

On the Atlantic coast in NEW BRUNSWICK, PRINCE EDWARD ISLAND, NOVA SCOTIA and the mainland of CANADA, there are a number of lifesaving stations.

“ The International Conference of the World’s Lifeboat Service ”, which met in London, in July 1924, with delegates from Great Britain, Norway, Sweden, Denmark, Netherlands, France, Spain, Japan and the U. S. of America, its as name implies, concerned itself largely with types of lifeboats and methods of launching. It was admitted at the Conference, by those who organised it, that they were not aware that Belgium had a lifeboat service. Among questions other than material there were discussed (1) lifeboat signals, (2) an International Lifeboat Organisation, as proposed by Count KOZO YOSHII, President of the Imperial Japanese Lifeboat Society, (3) the Value and Use of Heavy Oil in Broken Waters for Lifeboat Work, (4) Line-heaving Apparatus, (5) International Distinguishing Marks for Lifeboats, and (6) the question of Wages, Pensions, and Distribution of Money to lifesaving personnel.

In the discussion of lifeboat signals, it was admitted that it was not known what system other countries used, but there was set forth in full a system gotten up by the Board of Trade in the early part of 1924, when it took over the “ coast watching of Great Britain ”, to indicate to crews who have abandoned a wrecked vessel and taken to their boats, and also to lifeboats bringing ashore shipwrecked crews, suitable spots for landing.

The NETHERLANDS delegate stated “ We owe to the Board of Trade a very great debt of gratitude for drawing up a series of signals which we hope will become international ”. As a matter of fact, at the International Marine Conference in Washington, in 1889, the British and Netherlands delegates agreed to the adoption of an International Code for the same purpose, which is set forth in the proposed Article 41 (which see) of the “ Regulations for the prevention of Collisions at Sea ”. The Netherlands delegate also called attention to the similar system used in his own country, which equally violates this International Agreement of 1889. These facts are merely set forth to show that most international conferences add to international complications by adopting or approving new proposals which violate existing international ones. No progress can be made in international unification as long as conferences meet which are inadequately prepared with data. The superb provisions for lifesaving on the coasts of the British Isles are largely supported by voluntary contributions, as are those of all the other European Lifesaving Services, excepting those of Denmark and Belgium. The safety of the lives of seamen in case of stranding is therefore dependent, more or less, upon charity, and these organisations being voluntary, they are not bound to use life-



saving signals which have been adopted internationally. It would seem that seamen the world over should have only one code of signals in case of stranding to inform them as to what they may expect. The provision of lifesaving appliances may prove futile from lack of understanding of the signals. The tendency of countries to operate in watertight compartments on all questions ; constitutes a real peril to seamen, whose voices are seldom heard in international conferences, because they have no one to represent their side of the question. Port dues, the world over, are charged to shipping, nominally to cover the expenses of providing aids to make navigation safer, but which totally lack that uniformity as a sign language which would confer on the mariner the same blessings as a universal spoken and written language, and practically take the place of it. The wide latitude permitted by the various maritime governments of the world to the local Port Authorities who do not go or have ceased going to sea in the matter of providing port and coastal signals, constitutes rather a danger than an aid to navigation through the lack of consideration of any question of uniformity. This the real seafaring interests of the world should unite in remedying. The facts are here merely presented. This Bureau has in itself no initiative in the matter, but regards it as a fundamental principle that the "man on the bridge" who has all the responsibility for the safe navigation of his ship should have the principle voice in dictating the remedies.

It appears that the British, Danish, Dutch, French, German, Norwegian and Swedish Regulations for the Provision of Lifesaving Appliances are identical, and therefore there exists some good basis for an international agreement on the question.

It is here, however, at least proposed that the International Distinguishing Mark for Lifeboats should be a circular lifebuoy with a red cross in the centre, in order to indicate that the rescuers belong to an organisation and are not of a commercial character.

There is published separately Special Publication N° 18, entitled "List of Lifesaving Stations of the World, with their Equipment and Geographical Positions", giving the data as far as can be ascertained by this Bureau from Sailing Directions and other sources available to mariners. *It is published separately with the view and hope that any errors, additions or changes will be promptly notified to this Bureau for use in a corrected list, to be issued later for the benefit of the seamen of the whole world, whom it would seem are entitled to know what efforts are being made in their behalf.*