



**SUMMARY**  
**OF DATA ON PORT SIGNALS**  
**WITH PROPOSALS FOR THEIR UNIFICATION**

BY

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D I R E C T O R .

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HISTORY.

**T**HE International Hydrographic Conference, in London, in 1919, expressed the wish "that the Governments of all countries should aim at uniformity with respect to buoyage and port signals", and this Bureau, by Circular Letter N° 3-H of February 1<sup>st</sup>, 1924, ascertained from the majority of its States Members that they would be prepared to consider the adoption of a universal system of buoyage and port signals. In a reply to a letter from the DANISH Hydrographer as to what constituted Port Signals, the Directing Committee replied on February 28<sup>th</sup>, 1924, that they were held to include :—

1. Pilot and quarantine signals.
2. Tidal signals.
3. Traffic signals.
4. Any other local signals necessary for the conduct of the port.

The compilation of the data as to port signals undertaken by the writer after becoming a Member of the Directing Committee, in April, 1924, disclosed the fact that there is actually, in practice, a necessary distinction between coastal and port signals, and that while, at times, they merge somewhat into each other, a broad distinction should be made. The Bureau has prepared and issued Special Publication N° 15, entitled "Summary of Data on Coastal Signals, with Proposals for their Unification", together with a Tabulation of "Day

and Night Visual Coastal Signals of the Maritime Countries of the World", which tabulation was compiled by the writer from all available sources, and was printed gratuitously, in the form of three charts, by the U. S. Hydrographic Office, Washington, and issued by it as a supplement to the well known Pilot Charts. Both Special Publication N° 15 and the Coastal Signal charts contain the proposals of the Bureau for study by any international conference which may hereafter be called to consider the question of uniformity in coastal signals, and will also come before the International Hydrographic Conference in Monaco, in October-November, 1926, for such action as the States Members may consider advisable.

#### DEFINITION OF COASTAL SIGNALS.

Coastal signals are here assumed to comprise the following general classes of signals :— Pilot ; Lifesaving ; Danger ; Warning ; Distress and Assistance ; Searchlight interference ; Storm Warnings ; Entrance Obstructed or Prohibited ; 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 "Regulations for Preventing Collisions at Sea" and the "Convention for Safety of Life at Sea" ; Urgent and Important Signals of the International Code ; and Steering Commands.

#### THE DISTINCTION BETWEEN PORT AND COASTAL SIGNALS.

The difference between a coastal signal and one of similar purport but regarded as a port signal may be illustrated as follow :— 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 manoeuvres ; 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.

### GUIDING PRINCIPLES.

In any proposals for the adoption of a uniform system of port signals for all the maritime countries of the world the following guiding principles are important :—

(1) Night and fog signals should, as far as practicable, correspond with day signals (and *vice versa*) in number, colour and arrangement.

(2) Considering that the number of combinations for night signals utilising the colours *red*, *white* and *green* in one-lamp, two-lamp and three-lamp hoists, is definitely limited, it is necessary first of all to study the Coastal Signals, which are the first signals which a navigator encounters when coming from the open sea, and for which the most simple forms should be chosen; then decide upon the signals for the interior of the port, which, needing a smaller range of visibility, might be composed of characters and forms of a more complicated nature.

(3) As far as practicable the signification given to lights by night for railway traffic should hold for port traffic signals, *viz*: one *red* light or two *red* lights, horizontal or vertical, should indicate that a lock, sluice, fairway or drawbridge is "closed and traffic prohibited"; a *green* light, or two *green* lights, horizontal or vertical, that the same are "open and traffic is permitted"; a *red* and a *green* light together, horizontal or vertical, "open but traffic is not permitted"; two *white* lights together, horizontal or vertical, "open and traffic free both ways". In general, *red* is a danger signal, *green* a one-way safety signal but implying caution, and *white* a free passage signal, for both ways.

(4) By adding all international port signals to the signals already in the International Code book the necessity for nearly all existing visual port signals would disappear, and practical uniformity could more easily be secured.

(5) Port signals are not so liable to confusion with each other, or with Coastal signals, on account of the locality in which exhibited, the circumstances of their use, and the smaller range of visibility required. Where the same signal is used to mean more than one thing, as, for instance, storm warning signals duplicate certain port signals, the place where they are exhibited is such a definite and well known location, that there is not so much liability of confusion as might appear at first sight. There remains always the possibility of exhibiting port signals horizontally to avoid confusion with the same signal vertically.

(6) Where port signals are more or less uniform in the various ports but, nevertheless, conflict with international agreements, such as "Regulations for Pre-

venting Collisions at Sea" (1889), or the "Convention for the Safety of Life at Sea", (1914), they must necessarily be changed.

(7) It must be clearly recognised that the so-called International Code Book of Signals, as gotten up by the British Board of Trade, as translated into many languages and as issued by many countries, is, nevertheless, not really official since it has never been formally adopted by any international conference or body, and, moreover, the various national editions are not uniform and their provisions conflict in several important particulars with international agreements which have been officially adopted and have the force of law. While it is recognised that this Code Book is an invaluable one and should eventually be adopted internationally, this should not be done until it has been thoroughly brought up-to-date and standardised, and all conflicting provisions eliminated.

(8) The original International Code of Signals, first published by the British Board of Trade in April 1857, employed 18 flags, representing 18 consonants of the alphabet. In 1889, the Code was revised and the vowels were added, together with the letters X and Z, thereby completing the alphabet and giving 26 letters in all. With the adoption of the International Morse Code, the Two-arm Semaphore and the Code of Distant Signals with cones, balls and drums (or balls, square flags, pennants and whelks, or by the Three-arm Coast Semaphore), certain complications have arisen which still further demand readjustment of the International Code of Signals to clarify their meaning and avoid greater confusion.

(9) Where it is necessary to propose a new signal for adoption, unless there is some good reason to the contrary, one should be chosen which is now used by the maximum number of countries so as to obviate the making of changes by them in existing signals.

(10) It should be clearly understood that the proposals here made are meant to be considered hereafter by one or more competent Conferences especially convened to deal with the subjects of Coastal and other signals.

It will be well, therefore, to bear in mind the application of these principles in their minutest details and ramifications, when considering each of the following categories of port signals.

## DEFINITIONS OF PORT SIGNALS.

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.

#### GENERAL CONSIDERATIONS.

One of JAPAN's proposals to the International Hydrographic Conference, at Monaco, 1926, is that of "international uniformity in port signals and their inclusion in the International Code of Signals". That country has always shown great initiative in modernising its administrative methods, and, in the matter of port signals, has developed a system well in advance of many other maritime countries. In Special Publication N° 15, "Summary of Data on Coastal Signals" there is given in the very last paragraph of the book, Plate XX, the following :—

"This leaves for port signals, etc., using two lamps only, RG and GR, but the other two lamp signals may be displayed horizontally, and also leave the following three-lamp or three character signals; RRG; RRW; RGG; RWW; GRR; GRG; GGR; GGW; GWG; GWW; WRR; WGG; WGW and WWR".

There are not repeated here the "Necessary Reservations", given in the above Publication, which must also be made in port signals so as not to interfere with signals already set apart by international agreement or usage.

This Bureau is studying the question of Coastal and Port Signals in co-operation with the Technical Committee of the Sub Committee for Port and Maritime Navigation of the Advisory and Technical Committee for Communications and Transit of the League of Nations. As previously pointed out, the adoption of a uniform Storm Warning Signal Code and of Coastal Signals should precede that of a uniform system of Port Signals.

## NEED FOR CAREFUL REVISION OF ALL INTERNATIONAL CODES OF SIGNALS.

What is said, in part, in Special Publication N° 15 is here repeated. "It is the opinion of the Directing Committee that the International Signal Code book, together with its vocabulary and component signal codes, need systematic modernising, and the unification of all of its codes, for which purpose an international conference should ultimately be called". This Bureau is engaged in tabulating all of the data necessary to prevent duplication of signals and their conflict with those required by previous international agreements or by long-sanctioned usage. Similarly there are several port regulations which directly violate the international rules of the road, as shown in the tabulation, on which some future international conference must pass upon. In SOREL HARBOUR (Richelieu river), St. Lawrence river, CANADA, there is a special regulation that vessels entering or leaving must keep to the port side unless otherwise signalled. In the discussion of "VIII. Right-of-way Signals" which follows, this question is further examined. The special rules of the road for inland waters in western rivers of the U. S. OF AMERICA, and special rules in CANADA, and many other countries, should be studied as possible improvements and amendments of international rules which may be considered at some future conference.

### ANALYSIS OF PORT SIGNALS.

The following discussion will show what data already exist in the various ports of the world as bearing on the question of simplification and considerable unification.

#### I. APPROACH SIGNALS.

- (1) **Cautionary Signals.**
- (2) **Bar and Entrance Signals.**

It is difficult to make a very definite distinction between Cautionary and Bar and Entrance Signals, because most of the preliminary approach signals are by their nature somewhat cautionary. It is thought that an examination of port signals will disclose the fact that the above class of signals is no exception to the general

proposition that most of the present port signals can be made more efficaciously by the International Code of Signals, particularly if a system of night signals be adopted for the International Code, which is not an easy matter to carry through on account of the expense of installing the night signals apparatus in merchant ships. The adoption of such a system is not here advocated as the Morse Code must be made to answer all purposes.

### (1) Cautionary Signals.

There is a very definite class of signals by means of which, when a vessel is sighted approaching a port, her character is signalled to port authorities, or others, interested. Unfortunately, these signals usually consist of single flag displays of the International Code and thereby violate the Code, unless some qualifying signal is hoisted in connection with it. This, for instance, is done at PORT ADELAIDE, SOUTH AUSTRALIA, where vessels arriving are signalled from the mast-head by a *red* ball meaning "Ship is in sight" above the International Code flags as follows :— "B", ship or barque; "C", brig; "D", schooner; "F", steamer; "G", coasting steamer; "T", inter-colonial steamer; the House flag, ocean steamer; Union jack over "C" State Government vessel; Union Jack, British man-of-war; Square flag with red and white stripes, Foreign man-of-war.

The following Cautionary port signals are here proposed for international adoption, being practically the same as those proposed for coastal signals with certain additions or modifications to adapt them to the more detailed requirements of port signals.

- I. "Entrance to port prohibited or obstructed" :—  
 By day, three *red* balls, vertically.  
 By night, three *red* lights, vertically.
- II. "Vessels are prohibited from leaving the port" :—  
 By day, three *green* balls, or a horizontal arm with a *green* cone at the outer end, point downwards.  
 By night, three *green* lights vertically.
- III. "Vessels are prohibited from either entering or leaving the port" :—  
 By day, a *green* ball between two *red* balls, vertically, as in (I) with the addition of a horizontal arm with a *green* cone at the outer end, point downwards.  
 By night, a *green* light between two *red* lights, vertically.

IV. Modification of I, II or III, or exemption from their application, may be signalled by hoisting, on adjoining halliards, "N° 1", a *black* cone by day; or a single *white* light by night. Or "N° 2", a *black* ball by day, or a single *red* light by night, or these or any number made by the International Signal Code book, or by additional *black* balls by day, and by additional *red* or *white* lights by night, the meaning to be assigned in the Sailing Directions, in the Port Regulations and in the International Signal Code book. These signals may be given meanings to exempt from the provisions of the prohibitions certain vessels (or fishing craft) desiring to enter or leave, and they may be made applicable to certain sub-divisions of the port or some secondary channel which serves the port. No additional special visual flag or shape signals, other than the International Code book signals shall be used by any port.

Patrol vessel engaged in regulating port or coastal traffic should display, if necessary, at the yardarm or other conspicuous place, three *red* balls by day, or three *red* lights by night, as patrol distinguishing marks.

The following are some of the Cautionary, Bar and Entrance signals found in the International Signal Code book and in the various Sailing Directions of the world, from which the tabulation of port signals was taken. This enumeration of signals will prove useful in case of a revision of the International Signal Code book, whereby nearly all port signals may be provided for, and the present diversity automatically disappear as useless.

#### Cautionary Signals now in the International Code book.

DV	"Show your distinguishing mark."	DW	"Show your ensign."
FT	"Caution is required; take care."		
FU	"Channel or fairway is dangerous."		
FW	"Do not attempt to make the harbour."		
GK	"Wait until the weather moderates."		
GM	"You are clear of all danger."		
JD	"You are standing into danger."		
JE	"Beware of derelict; dangerous to navigation."		
MF	"Reduce speed."	MH	"Stand on."
		MN	"Stop instantly."
MJ	"Steer more to port."	MK	"Steer more to starboard."
OC	"What is your draft of water?"		
TE	"Wait for orders."		
ETO	"Do not approach too near."		
IGA	"Greatest caution is necessary."		
KLG	"No danger!"		

#### Other Types of Cautionary Signals.

The following signals have been taken at random from Sailing Directions, which, by their nature, are cautionary:—



(Azores Islands) " Put to sea with the least delay."

(Spain) " Vessels must remain at sea or put into some other port."

" Caution ! There are other ships in the harbour approaches ; proceed at slow speed."

" Vessel to stop in the river for orders."

" Vessel sighted approaching port."

There are many other Cautionary signals of general nature adapted to local conditions, for instance, "Roller" Signals, which warn vessel of a tidal wave or heavy roller, such as at ASCENSION ISLAND and SOUTH AFRICAN ports, signals warning fishing vessels of an approaching storm, and the whole class of Bar and Entrance Signals, a great many of which are cautionary.

#### **Bar Signals now in the International Code book.**

- FQ " Bar or entrance is dangerous." FR " Bar is impassable."  
 EQ " Bar is impassable for boats on the ebb tide."  
 LA " Bar is not dangerous."  
 VQ " What is the depth of water on the bar ?"  
 XM " When will be the best time for crossing the bar ?"  
 FVR " Bar cannot be crossed until." FVW " Bar passable."  
 FVY " Can I cross the bar ? Shall I be able to get over the bar ?"  
 FWD " When may the bar be attempted ?"

#### **(2) Other Types of Bar Signals.**

The following Signals are found in the Sailing Directions at the various river entrances where bars are formed but which are necessary to be crossed to enter the port.

- " Bar is practicable."  
 " Bar will be practicable, but there is not yet enough water."  
 " Bar is temporarily impassable."  
 " Open boats may cross and recross the bar."  
 " Bar is impassable for open boats."  
 " Bar is practicable, but difficult."  
 " Wait until flood tide."

#### **Bar Signals now in the International Code book.**

- FQ " Entrance is dangerous."  
 FWD " When may entrance be attempted ?"  
 JDT " You may enter the port."  
 MFO " Entrance is difficult."

**Other Types of Entrance Signals.**

- (Portugal) "Vessels may not enter owing to lack of room or for other reasons."
- (Latvia) "Closed to foreign men-of-war."
- (Latvia) "Closed to merchant vessels."
- (Pillau) "Entrance from Inner to Outer Harbour is permitted (or prohibited)."
- (Pillau) "Entrance from Outer to Inner Harbour is permitted (or prohibited)."
- (Denmark ) "Only passenger ships can enter."  
"Outer (or Inner) Harbour closed to traffic."
- (Netherlands) "Entrance to the Naval Port is forbidden."
- (Netherlands) "There is not enough water for entering."  
"Vessels may enter ; leaving is prohibited until this signal is lowered."  
"Vessels may leave ; entrance is prohibited until this signal is lowered."  
"Harbour closed to all but fishing craft, which may enter using all precautions."  
"Permission to enter."  
"Permission for vessel to leave."  
"Permission for approaching vessel to enter the harbour."  
"Port closed to fishing vessels."  
"Port entirely closed to traffic."  
"Channel is temporarily obstructed."  
"Remain in roads (outside) until another signal is made."  
"Entrance to the outer harbour is obstructed."  
"Incoming vessels can pass through the Sound."  
"Outgoing vessels can pass through the Sound."  
"Vessels cannot go out of the harbour, but passage into the harbour is clear."  
"Vessels cannot enter the harbour, but passage out of the harbour is clear."  
"All movement in the harbour is forbidden without permission of the harbour master."  
"Entrance to the outer harbour is obstructed."  
"The vessel whose pilot has received special written instructions from the port authority may enter the port."  
"Obstruction within (or without) the harbour, very dangerous to enter (or to leave)."  
"Entrance foul ; entrance or departure forbidden."  
"Port is closed for all boats except fishing vessels."  
"Entrance closed." "Exit closed." "Entrance and exit closed."  
"Vessel coming from the southward (or northward) cannot go through."  
"There is sufficient water for entering."  
"Passage forbidden, lock gates are open."  
"Passage not possible."  
"A vessel is leaving the harbour through the northern entrance."  
"A vessel is leaving the harbour through the southern entrance."

**(3) Local Ice Signals.**

The proposed series of signals for the Revised International Code book taken from the "Non-Local Ice Signals" given in "Special Publication N° 15", should be used, omitting reference to any square, they being then understood to apply to the local fairway. In conjunction with the four-flag geographical signals the series can be made to answer for ice conditions in any locality. This proposed series of Ice signals is as follows :—

" No information received as to ice conditions."

" No ice ; navigation unimpeded."

" Navigation closed on account of ice."

Drift ice or ice floes :—

" Difficult for low-powered vessels."

Drift ice and large ice floes :—

" Unsafe for low-powered vessels."

Field of drift ice or ice floes :—

" Impossible for low-powered steamers ; difficult for high powered."

Caked or frozen drift ice and ice floes :—

" Very difficult for high-powered steamers."

Pack ice and drift ice :—

" Possible only for highest powered steamers."

Thick ice :—

" Navigation possible only by using ice breakers."

By the "Convention for Safety of Life at Sea", London, (1914), the International Code flag "W" was assigned the meaning : "Have encountered ice".

Signals relating to change of position, or the withdrawal, of light-ships on account of ice, shall be included in the Light Lists, in the Sailing Directions and in the International Signal Code book.

**Ice Signals now in the International Signal Code book.**

PBG " A good deal of floating ice in . . ."

HEY " Can one break through the ice ?"

KYA " Detained by ice."

PBH " Do you think I could get through the ice ?"

PBL and PF to PQ " Have encountered ice . . ." (add date if necessary).

PBO " I have received information . . . (place indicated) is clear of ice."

PBQ " I have received information . . . (place indicated) is ice bound."

PBV " Ice breaker." PBW " Ice field or floe."

PCE " The harbour at . . . is free from ice."

PCI " You will find great difficulty in getting through ice at . . ."

#### (4) Local Tide or Depth Signals, with plane of Reference.

Tide signals have to do with the state of the tide as to flood, ebb or stand in reference to whether depths are increasing, decreasing or remaining stationary for the time being. As previously stated, the plane of reference in local depth signals may be that on the sill of a lock or a dock, or in the fairway, or on a bar, *etc.* As a general rule, no visual port signals indicate the tidal datum, or plane of reference, for that is given on practically all charts. The proposal made in "Special Publication N<sup>o</sup> 15" under "Non-Local Tide Signals" may be repeated here, as follows :—

"It is proposed, for the purpose of indicating the depth of water at the entrance of such port as a signal station or a light vessel may serve, that the International Code of Signals under the headings Depth and Tide be used as far as practicable in conjunction with the numeral table of that Code to indicate the height of the tide and the state of the tide as to flood, ebb or stand, or else that a mechanical clock or dial with arrow, illuminated at night, (or tide staff with pointer) be used as visual signal."

Visual electric clock gauges are a commercial article, but, owing to their expense, it is too much to expect that they will be used in any but the principal ports of the world to continuously record the depth.

To provide for port signals to indicate the state of the tide, the following signals are suggested to be incorporated in any future edition of the International Code book :—

(1) High Water Slack.

By day, a flag. By night, two *white* lights placed horizontally.

(2) Ebb or falling Tide.

By day, a flag over a pennant. By night, a *white* light over a *green* light.

(3) Low Water Slack.

By day a pennant. By night, two *green* lights placed horizontally.

(4) Flood or rising Tide.

By day, a pennant over a flag. By night, a *green* light over a *white* light.

To indicate the depth, for such countries as may consider it useful on account of special local conditions, the following propo-

sed system of signals may be exhibited from a frame, or by vertical halliards, which signals shall be read from left to right :—

5 units (or 5 metres)	:— By day, a <i>black</i> diamond. By night, one <i>white</i> light.
1 unit (or 1 metre)	:— By day, a <i>black</i> ball. By night, one <i>red</i> light.
1/4 unit (or 0.25 metre)	:— By day, cone or triangle, point down. By night, a <i>green</i> light.
Fraction of the preceding unit	:— By day a <i>black</i> cylinder. By night, a <i>violet</i> light.

The value of the unit and the plane of reference shall be stated in the Sailing Directions and in the Port Regulations.

#### Tide or Depth Signals now in the International Signal Code book.

##### (a) Tide Signals :—

LSN “ Ebb tide.”	WOX “ Spring tide.”
NFO “ Flood tide.”	XSI “ Tide has fallen . . . . units.”
OLN “ Half tide.”	XSJ “ Tide has risen . . . . units.”
XSD “ High tide.”	XSK “ Tide is falling.”
SFD “ Neap tide.”	XSL “ Tide is rising.”

##### (b) Depth Signals.

XE “ Asks precise time of high water and maximum depth at that time. Note :— Reply will be (1) by an hour signal ; (2) by a numeral signal denoting feet.”
KVE “ What is the depth at high water ? ”
KVF “ What is the depth at low water ? ”
VQ “ What is the depth of water on the bar ? ”
XF “ How is the tide ? What tide have we now ? ”
XSO “ Tide tables.”

#### (5) Local Current Signals.

The direction of the tidal current is in some ways more important in reference to the entrance of a port than for the coast, particularly where the mouth of the river is the entrance to a port, as a bar is always more dangerous on a flood tide than on the ebb. For this purpose the two signals “Tidal stream is running in”, and “Tidal stream is running out,” are very important. The Proposal under “Non-local Current Signals” in “Special Publication N° 15” applies equally to local current signals, as follows :—

“ It is proposed, for the purposes of indicating the direction and strength of the tidal current at the entrance of such port as the signal station or light-ship may serve, that the International Code of Signals, under the heading “ Current ”, be used as far as practicable in connection with the number and compass tables of that Code, to indicate the state and rate of drift of the tidal current, and that other elaborate methods be abolished in the interests of uniformity and simplicity.”

**Current Signals now in the International Signal Code book.**

- KFY “ Current runs . . . . miles per hour.”  
 KGE “ Tide or current sets to the . . . .”  
 KGJ “ What is the state and rate of the tidal current ?”

**(6) Local Pilot Signals.**

Distinguishing marks of pilot vessels and the signals necessary to call a pilot by day and night and in foggy weather, are given in “Special Publication N° 15” as coastal signals. There are several signals which should be added to the Pilot Signals in the International Code book, such as :—

- “ Pilot cannot be sent on board.”  
 “ Pilot will join you near . . . .”  
 “ No pilot available.”  
 “ Ship will be guided into the port by pilot indicator.”  
 “ Follow the pilot boat which will signal directions by hand semaphore (or hand flag).”  
 “ Weather too rough to send pilot on board.”  
 “ Pilot commands indicate direction ship’s head is to go.”

**Pilot Signals now in the International Signal Code book.**

- TI “ Dangerous without a pilot.”  
 TL “ Where can I get a pilot ?”  
 GUA “ Pilot boat (sailing).”  
 GUB “ Pilot boat (steam).”  
 JIS “ Am I compelled by law to have pilot ?”  
 NDK “ Pilot boat’s flag.”  
 TIZ “ Do you want a pilot ?”  
 TIU “ Pilot.”  
 TJA “ Have you a pilot on board ?”  
 TJG “ I will send you a pilot.”  
 TJL “ Pilot not necessary.”  
 TJO “ Pilotage is compulsory.”  
 TJP “ Pilot cannot get off.”  
 TJR “ Pilot is going to you.”  
 TJY “ You must take a pilot.”

## (7) Harbour Entrance Lights.

In approaching a harbour from seaward the following are the characteristics of harbour lights usually to be found on the ends of breakwaters forming the entrance to the harbour. These lights apply more especially to artificial harbours than to natural harbours or to entrances to rivers. They are, in fact, more a European necessity than for the other countries of the world. The following systems prevail, in approaching from seaward, as far as there are any :—

	<i>Starboard hand.</i>	<i>Port hand.</i>
NORWAY AND SWEDEN . . .	Show <i>white</i> lights with coloured sectors.	
GERMANY, DENMARK & NETHERLANDS.	<i>Green.</i>	<i>Red.</i>
BELGIUM . . . . .	<i>Green.</i>	<i>Red</i> , with one exception.
FRANCE . . . . .	<i>Green</i> usually.	<i>Red</i> , but many exceptions.
GREAT BRITAIN & IRELAND.	No rule.	No rule.
PORTUGAL . . . . .	<i>Green.</i>	<i>Red.</i>
SPAIN . . . . .	<i>Green</i> usually.	<i>Red</i> usually, but many exceptions.
GIBRALTAR . . . . .	<i>White</i> light or mixed colours.	
MONACO . . . . .	<i>Green.</i>	<i>Red.</i>
ITALY . . . . .	<i>Green</i> or <i>White.</i>	<i>Red</i> or <i>White.</i>
ALGERIA . . . . .	<i>Green</i> usually.	<i>Red.</i>
SOUTH AFRICA . . . . .	No rule, but the following are used.	
Simons Bay . . . . .	<i>Green.</i>	<i>Red.</i>
East London . . . . .	<i>Green.</i>	<i>White.</i>
Durban . . . . .	<i>Red.</i>	<i>White.</i>
Port Elisabeth . . . . .	<i>Green</i> and <i>White.</i>	<i>Red.</i>
CEYLON, Colombo . . . . .	Two entrances to harbours :—	
	1 <sup>st</sup> <i>Red.</i>	<i>Red</i> and <i>Green</i> sectors
	2 <sup>nd</sup> <i>Red.</i>	<i>Green.</i>
JAPAN . . . . .	<i>Red.</i>	<i>Green.</i>
SOUTH AMERICA		
BRAZIL . . . . .	<i>Red.</i>	<i>White.</i>
URUGUAY . . . . .	<i>Red.</i>	<i>Green.</i>
ARGENTINE . . . . .	<i>Red.</i>	Either <i>Green</i> or <i>White.</i>

There would seem to be no uniform system, but, in general, in EUROPE and AFRICA, the starboard hand light on entering is *green*, and the port hand *red*, (or very exceptionally *white*), whereas in ASIA and the WESTERN HEMISPHERE, the starboard hand is *red* and the port hand *green*, (or very exceptionally *white*). It will be observed that it is the port hand light that is generally exceptional. There would seem to be no very urgent reason for adopting a uniform system in this respect, nor to make harbour lights correspond with channel

buoyage lights, since the height and intensity of harbour lights differentiates them from the buoy lights which are nearer the water.

JAPAN has made the proposal to the International Hydrographic Conference, at Monaco, 1926, that international uniformity in the colouring of lights of breakwaters at entrances to ports shall be according to the Japanese system, *red* on the starboard hand entering, and *green* on the port hand.

## II. ENTERING AND LEAVING SIGNALS.

### (8) Right-of-Way Signals.

In certain channels or harbours the local signal giving certain ships the right-of-way suspends the usual rules of the road and in "Special Publication N° 15" the Bureau proposes that a vessel shall fly the International Code flag "A" at the foremast head, when on soundings, on full speed trial, or when claiming the right-of-way on account of not being able to leave the channel because of deep draft (the flag "A" meaning "I must remain in the channel on account of deep draft.").

The following Right-of-Ways signals are to be found in the under-mentioned countries :—

#### **Schelde River, Belgium.**

Vessels of great length and deep draft navigating the Schelde river, hoist at the foremast head, by day, a *black* cylinder and, at night, show a *red* light visible all around the horizon above the *white* masthead light (and a least 4 metres above it) to indicate that they have the right-of-way.

#### **Wester Schelde River, Netherlands.**

Ships proceeding up the Western Schelde river mouth, if more than 130 metres long and 8 metres draft, hoist at the foremast head a *black* cylinder and, at night, a *red* light, not less than 4 metres above the *white* masthead light, to show that they have the right-of-way.

#### **Weser River, Bremerhaven, Germany.**

Sea-going vessels, which, owing to their draft or length are obliged to keep in the deepest fairway, must, provided they are in charge of an official pilot, hoist the following signal :—



By day, the letter "B" of the International Code at the foremast head and, by night, a *red* light visible all around the horizon 1-8/10 metres (6 feet) above the *white* masthead light.

When being towed, only the vessel towed is to show these signals.

Vessels not in charge of an official pilot must not exhibit these signals.

Steamers intended for ice-breaking, or for laying out buoys in the Weser must, when so employed, always show the above mentioned signals, even when they are not in charge of a pilot.

#### **Surabaya, Java Island.**

Vessels entering or leaving the basin must have a pilot on board, and must either fly a *white* flag with a *blue* star from the foremast, or, in calm weather, hoist a *black* ball, and must not proceed under steam until a similar signal is hoisted on the flagstaff at the western end of the basin. Other vessels must give way to vessels flying this signal.

#### **Halifax, Nova Scotia.**

Whenever a Canadian or British man-of-war, or other vessel in charge of Canadian Authorities, is due to pass in or out of the harbour of Halifax, it will hoist the International Code flag "O" at the foremast head, and all other British or Canadian men-of-war present in the port shall hoist the pilot jack as a general warning, and the pilot jack will be hoisted on the flagstaff at the dockyard for the same purpose, *viz*: all other vessels, craft and boats of every description under way in the harbour shall keep out of the way of the said ship flying the International letter "O", which ship shall, however, be navigated with due care at a moderate speed and keep to the side of the fairway which lies on her starboard hand.

#### **Sorel Harbour, Canada.**

(Previously given; *page 70.*)

- (9) (a) **Dredger Signals.**
- (b) **Fairway Obstruction Signals.**

This is one of the most difficult problems in the question of Port Signals, not only because of the appalling variety of signals actually in use, but because the question is assumed to be a very simple

one, whereas it is very complicated. The following considerations are involved in a satisfactory solution :—

(1) There is a more modern form of dredger, of the suction type, which moves up and down a channel under its own power, but (a) not under complete control; and (b) claiming the right-of-way over other vessels.

(2) There is the ordinary type of bucket or dipper dredger, held in place by four or more anchors and chains, by means of which it shifts position at short intervals to follow up its work, slacking off on some chains and hauling in on others. The dredger is often not parallel to the axis of the channel and at times may even be athwart it, and this makes an additional complication in signalling to an approaching vessel as to which side it should pass, since it must, in this case, pass around either end.

(3) As stated in the Guiding Principles, in general, *red* is a danger signal; *green* a one-way safety signal, implying also caution; and *white* a free passage both ways signal. Therefore, as should always be the case, *red* implies obstruction, but it is important that colours used for dredger signals should not be confused as to having any connection in any way with the colours of channel buoys by day, or the colours of their lights by night; nor should signals (with the sole exception of fog signals) have a meaning to “Pass, or leave, the dredger on the starboard (or port) hand”, as that requires the passing vessel to have a special knowledge of the meaning of these signals, whereas what is required, in clear weather, is merely that it shall indicate that, on the side on which the signals are displayed, either (1) the channel is clear, or (2) the channel is obstructed, or (3) the channel is clear on both sides, or (4) the channel is obstructed on both sides. The use of “starboard hand” or “port hand” is an entirely unnecessary complication and should be avoided, *except for fog signals*.

(4) It is an excellent idea to indicate, at signal stations at some distance above or below the position of a dredger, that there is a dredger working in the channel, by hoisting a special flag signal, as in FRANCE, or the International Code signal “LNM” “Dredger”, as indicating this fact.

(5) Dredgers should display, both by day and night, a standard or international distinguishing mark, in addition to those for indicating whether the channel on each side of it is clear or obstructed.

(6) In some ports the dredger moves out of the channel to one side to permit vessels to pass, in which case there are special signals to indicate the intention to move, or "not possible to move".

It may be interesting to cite some of the dredger signals, good, bad and indifferent, which are in actual use in the various countries of the world, as indicating clearly the necessity of doing something about it.

The STATES OF AUSTRALIA have recently adopted a uniform system of dredger signals for the Commonwealth, in which a *red* cone at the yardarm of the dredger means "Passing vessels will leave the dredger on the starboard hand when entering a harbour, and on the port hand when leaving", and a *black* cylinder, or drum, at the other yardarm means that "Passing vessels must leave the dredger on the port hand when entering a harbour and on the starboard hand when leaving". This double system is an unnecessary complication since the *black* drum hoisted on the clear channel side would answer just as well for all the above and, besides all this, a *red* cone is primarily a danger signal. The Australian States have adopted also two vertical lights at night to correspond with the *red* cone and *black* cylinder by day. A *red* light over a *green* one corresponds in meaning to the *red* cone, and a green light above a *red* light, with the *black* drum, all of which should not be. When the channel is blocked the dredger exhibits three *black* balls, vertically, by day and three *red* lights, vertically, by night, which is, more or less, the general usage.

On the other hand, in GERMANY, two vertical *red* and *green* lights, at night, are also used but with quite different meanings from the above. The *green* above the *red* means "The channel is completely obstructed", and the *red* above the *green* "The dredger should be passed on the side on which the signal is exhibited." By day, a *black* ball and a *red* ball, respectively, correspond to the above night signals. According to our "Guiding Principles", GERMANY should have reversed the meanings of the above two sets of signals. A further objectionable feature is added to the German system in that signals to indicate the side of the dredger on which vessels may not pass, and the signals which are to be shown should a channel be completely blocked, are, in every case, to be decided by the local authorities.

In several ports of FRANCE a *green* flag is used to indicate the side of the channel which is clear, and, in several ports in ENGLAND, a *white* flag is similarly displayed.

At BRINDISI, ITALY, a *black* flag is similarly used. In many ports a *red* flag, by day, and a *red* light, by night, indicate the side of the channel on which the working chains of the dredger are obstructing the channel, and, on the other hand, for instance, at the port of HARRINGTON, ENGLAND, two *red* lights, placed vertically, six feet apart indicate the side on which vessels may pass, while in NEW ZEALAND a *red* light at night, and, in the UNITED STATES and CANADA, a *red* flag, by day, indicates the side on which the dredger should be passed. In PORT SAID, EGYPT, a *black* cylinder at the yardarm indicates the side which is clear : a *black* cylinder at both yardarms, that the passage is clear on both sides, and two *black* cylinders, one under the other, that the passage is not clear on that side.

At NEW PLYMOUTH, NEW ZEALAND, a dredger has two *black* balls by day, or two *red* lights by night, to indicate the side on which the dredger should be passed, whereas these signals are those prescribed by the "Regulations for Preventing Collisions at Sea" for "Vessel not under control", and should be the distinguishing marks for the dredger rather than to indicate the clear side of the channel.

At BOMBAY, a dredger at work displays, as distinguishing mark, by day and night, the signals displayed by a vessel "employed in laying or picking up a telegraph cable", and a *white* light at the yardarm to indicate the side on which it should be passed. In SUMATRA, a suction dredger, if anchored with suction pipe at the bottom, displays a shape in the form of an anchor at the yardarm on the side to be passed. The usual distinguishing mark of dredgers, when in position and operating, is that of a vessel not under the control, *viz*: by day, two *black* balls and by night, two *red* lights, which are, very properly, the usual distinguishing marks for dredgers in FRENCH waters. Similarly, a suction dredger, while under way, or stationary with suction pipe on the bottom, should also display these same signals, but they should be in addition to and have no relation to signals to show on which side of the dredger a vessel should pass. As examples of other than regulation distinguishing marks being used, the following may be cited : — (1) At WHITEHAVEN, ENGLAND, a *red* ball by day, and two *red* lights, horizontally, by night ; (2) at SUNDERLAND, ENGLAND, three *black* balls by day, and three

*red* lights by night; (3) in the RIVER FOYLE, IRELAND, a *red* flag by day; (4) in DURBAN, SOUTH AFRICA, three *black* balls in a triangle by day, and three *red* lights, vertically, by night, and in the PERSIAN GULF distinguishing marks are two *black* balls by day and three *white* lights in a triangle, by night, *viç*: one at the masthead and one at each yardarm.

As to what signals are used by dredgers in a fog or in thick weather, to indicate obstruction, or on which side the dredger is to be passed, the following examples may be cited: — (1) In the LISTER DEEP, between GERMANY and DENMARK, a dredger sounds a fog bell with a series of single strokes, to indicate that the dredger is to be left to starboard by vessels entering, and to port by vessels leaving, and a series of double strokes to indicate that the dredger is to be kept to port by vessels entering and to starboard by vessels leaving; and (2) in AUSTRALIA, when a dredger sounds the Morse Code signal for letter “A” on the dredger bell, *viç*: a short ring of about 1 1/2 seconds duration, followed, after an interval of 1 1/2 seconds, by a long ring of about 4 seconds duration, a passing vessel will keep the dredger on its own starboard hand when entering the harbour and on its own port hand when leaving. When the dredger sounds the Morse letter “N” with the dredger bell, *viç*: 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, a passing vessel will keep the dredger on its own port hand when entering a harbour, and on its own starboard hand when leaving. When a dredger sounds the Morse code letter “S” on its bell, *viç*: three short rings each of about 1 1/2 seconds duration with an interval between of about 1 1/2 seconds, it indicates that the channel is blocked and that the dredger must not be passed until the passing signals are actually exhibited.

As an indication of the practical use of the International Code of Signals, instead of shapes, the dredger signals for PORT LOUIS and for LORIENT, FRANCE, are as follows: — When a dredger is at work, it will show, by day, two *black* balls placed vertically. The dredger will not work during the night. Vessels whose draft does not permit them to navigate the pass whilst the dredger is working, will make the International Code signal “ITC” meaning “Clear to pass”, and proceed with caution. The dredger will then either move out of the way or make one of the following signals: — PFB “Impossible”, LMP “Pass the dredger on your starboard hand”, or LNO “Pass the dredger on your port hand”.

The following are examples of signals for a dredger to haul out to one side of the channel to permit an approaching vessel to pass, as is customary in several ports of the world : — (1) In KERTCH STRAIT, joining the Black Sea and the Sea of Azov, if the dredger is in such a position as to interfere with the passage of a vessel in the channel, it hoists two *black* balls by day, or exhibits a *white* light above a *red* light at night, sounds one prolonged blast on its whistle and then moves to one side of the channel. Should the dredger not be able to haul out of the channel, she will sound three prolonged blasts on her whistle to indicate that the passage is temporarily closed, and (2) in the ST-LAWRENCE river, between QUEBEC and MONTREAL, on the approach of a vessel, dredgers haul out of the channel, and show a *red* flag by day, or two *red* lights by night, on their channel side.

As an illustration of signals hoisted at a signal station to warn vessels that a dredger is operating in a channel, either above or below the station, the following examples may be cited : — (1) At ST-NAZAIRE, FRANCE, when dredgers are at work in the Avant Port, a *red* and *white* chequered flag is hoisted at the West pier head; (2) at RAMSGATE harbour, ENGLAND, a *white* ball is hoisted halfway up the flagstaff at the East pier Watch-house when a dredger is at work, or moored near the entrance to the harbour; and (3) at MONTEVIDEO, URUGUAY, the International Code flag “L” is hoisted at the eastern breakwater to indicate that the dredger is about to leave its position in the channel to proceed to the spoil ground to dump her dredgings.

(a) **Fairway Obstruction.**

The usual signal, and that which is now proposed for international adoption, for “Entrance to port is prohibited or obstructed” is three *red* balls, vertically, by day, and three *red* lights, vertically, by night. Where, however, a dredger is itself the cause of the temporary obstruction, it is not a matter of coastal or port signalling so much as a local matter, which may assume one of two phases : (1) Channel on only one side of the dredger obstructed, or (2) channel on both sides obstructed. If for all dredgers an international signal of a positive character is adopted, indicating simply that the channel is clear on that side (or end) of the dredger on which it is displayed (and consequently vessels may pass on that side) then there is no real necessity for a signal on the other side (or end) of the dredger to indicate that the channel on that side is obstructed. Moreover, a simple and positive signal, by a dredger, that “the channel is obstructed” would mean that the

channel on both sides of the dredger, *viz*: the whole channel, is obstructed.

If the obstruction is a sunken vessel, its proper marking is provided for in all countries by the buoyage regulations. In the WESER RIVER, GERMANY, a square *green* flag is displayed as a warning that such a wreck exists, and, in the LOWER ELBE, from HAMBURG to seaward, signals are similarly displayed by hoisting a *black* cylinder, by day, and three lights, vertically, by night, consisting of a *green* light between two *red* lights. At KOBE, JAPAN, by day, an obstruction is indicated by the International Code flag hoist ILF "channel or fairway obstructed", and by night, three lights, vertically, *red*, *white* and *green*. In the RIVER MERSEY, ENGLAND, a vessel aground in the channel displays three *black* balls, vertically, by day, and, by night, three lights vertically, *white*, *red*, *red*. This is in violation of British Orders in Council of October 13<sup>th</sup>, 1910, putting into effect the "Regulations for Preventing Collisions at Sea", as such vessels should, in conformity with Art. IV (a) and Art. II, display two *black* balls by day, and anchor lights and two *red* lights by night. Similarly, at PORT PHILLIP, VICTORIA, AUSTRALIA, a vessel aground in the approaches displays the signals required by Art. IV (a) (two *black* balls by day, and two *red* lights by night), but not those of Art. II (anchor lights by night). This Bureau considers that, in the interests of the mariner, attention should be invited to violations by Port Authorities of the revisions by law of the International Code Signals and of international usage as a preliminary to advocating a certain degree of international uniformity; for instance, in SALINAS CRUZ, MEXICO, a dredger very improperly displays two *black* balls to indicate "Channel obstructed", whereas both in ARGENTINA and AUSTRALIA the proper signals are shown, consisting of three *black* balls, vertically, by day, and three *red* lights, vertically, by night. The following are samples of fairway obstruction signals in various ports which should be provided for in any future revision of the International Signal Code book: —

- "Obstruction which can be passed without any special precaution."
- "Engine must be stopped while passing obstruction."
- "Vessel must reduce speed while passing obstruction."
- "Obstruction must be passed at as great a distance as possible."
- "Anchorage near the obstruction is prohibited."
- "Obstruction may be passed on either side."
- "Channel is blocked, obstruction cannot be passed."
- "Obstruction can be passed only on side on which signals are shown."
- "Obstruction must be left on port (or starboard) hand."
- "Obstruction may be passed on either side."
- "Sailing vessels and large steamers which do not steer well at slow speed must employ a tug to pass obstruction."
- "Vessels which have only . . . draft or less can pass obstruction."

**Proposals for Dredger and Fairway Obstruction Signals for International adoption.**

I. A dredger, in position or under way and operating in a channel or fairway, shall display the signals required by Art. 4 (a) of the "Regulations for Preventing Collisions at Sea" for a vessel not under command or control, *viz*: two *black* balls, vertically, by day, and two *red* lights, vertically, by night, and these signals shall be regarded as distinguishing marks as well as right-of-way signals, requiring, in addition, the separate and distinct signals as hereafter specified, with shall be used to indicate the side on which the channel is clear, or, if obstructed, that the channel is not clear on either side of the dredger, *viz*: that the channel or fairway is occupied and obstructed by the dredger itself.

II. A dredger shall, by day, hoist by means of halliards on a staff or at the yardarm, where it can be clearly seen by a vessel approaching from up or down the fairway in which it is operating, and on that side (or end, if the dredger is athwart the fairway) on which the channel is clear, a *green* cone, which signal shall indicate a "One-way safety signal, implying also Caution", *viz*: that the channel is clear on that side of the dredger, *but is obstructed on the other side*. By night, the signal shall be two *green* lights, vertically, instead of the *green* cone by day.

III. A dredger shall similarly display, on both sides, a *white* diamond shape when the channel on each side of the dredger is clear, implying "Free passage both ways". By night, the signal shall be two *white* lights vertically at each yardarm instead of the *white* cones, by day.

IV. When the channel is not clear on both sides of the dredger, it shall alter its distinguishing mark by day from two *black* balls to three *black* balls and, at night, from two *red* lights to three *red* lights, as a dredger signal implying that the "channel or fairway is obstructed" by the dredger

V. A vessel approaching a dredger which is operating in a channel, 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, on its steam whistle, as a signal to the dredger to display or make the necessary signals.

VI. 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 signal required by Art. 15 (d) of the "Regulations for Preventing Collisions at Sea", *viz* : at intervals of not more than one minute, shall ring the bell repeatedly for about five seconds, and, after an interval of about 5 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 confusion of leaving the dredger on the starboard or port hand on entering or leaving the harbour. They give a clear indication which would be the same in every port of the world).

### (10) Quarantine Signals.

The International Office of Public Hygiene, founded in Paris, in 1907, and having some forty States Members, deals with all questions relating to quarantine, and its Executive Committee is closely affiliated with the Committee of Hygiene of the League of Nations Committee. This Bureau has made to it the following proposals through the above Executive Committee :—

**Proposal N° 1.**

That the colour *yellow* be used exclusively for quarantine.

**Proposal N° 2.**

That the following International Code flags, when hoisted at the foremast head, shall be given the following signification :—

International Code flag “Q” :—

“ I have a clean bill of health but have not been granted pratique.”

International Code flag “I” :—

“ I have not a clean bill of health.”

International Code flag “L” :—

“ I have (or have had) a dangerous infectious disease on board.”

**Proposal N° 3.**

That the quarantine examining vessel shall fly on a flagstaff, in the bow, the International Code flag “Q” as a distinguishing mark.

**Proposal N° 4.**

That the night distinguishing mark of a vessel in quarantine (to take the place of the “Q” flag by day) shall be two lights, vertically, at the foremast head, not less than 3 feet (1 m.) apart, the upper one *red* and the lower *white*. If lights are used at night to take the place of the International Code flag “L” for dangerous infectious diseases, the display shall be three lights, vertically, not less than 3 feet (1 m.) apart, the upper of which shall be *red*, and the two lower ones *white*.

**Proposal N° 5.**

That the International Hydrographic Bureau be requested to propose such signals, in addition to those now in the International Signal Code book, as may be required by modern conditions of quarantine, to be inserted in a future edition of the International Code of Signals.

(For illness, sickness, or disease on board, *see* (24) MEDICAL OFFICER.)

**(11) Customs and Immigration Examination.****(a) Immigration Examination.**

In the UNION OF SOUTH AFRICA the International Code flag “I” is required to be hoisted, at the fore stay, by arriving vessels, during the time that passengers are being examined by representatives of the Immigration Office, as no one from shore is allowed on board at that time. The International Code flag “I” is ordinarily used to indicate that a vessel has not a clean bill of health, but the use of the flag as above, does not necessarily conflict, as no one is allowed on board, in either case, while this flag is flying.

There should be included in the International Signal Code book additional signals as to immigration examination, and, at the same time, it should be noted that a distinction should be made between immigration, or passengers coming into a country, and emigration, or those leaving a country, as a vessel must clear, as for customs, in this respect as well both entering and leaving a port.

**Signals now given in the International Signal Code book.**

- LXI " Emigration." " Emigrant."
- LXJ " Emigration or Immigration Office."
- LXK " Have you settled with Emigration Office ? "
- PDR " Immigration." " Immigrant."

(b) Customs Examination.

The same general remarks apply to customs examination. A vessel must submit to the Customs visit on arriving in a port, as well as enter and clear at the Customs House as regards her cargo. As a rule, customs, immigration, passport and medical examination take place at the same time, and, in general, no one is allowed on board from the shore until these formalities are completed. As the medical examination requires the quarantine flag to be hoisted until "pratique" is granted, this would seem to be a sufficient indication that no one from shore is allowed on board while it is flying, and, therefore, no other is required.

**Signals now in the International Signal Code book.**

- ITE " Cleared at the Customs-house."
- KGR " Customs."
- KGS " Clearing the Customs-house."
- KGT " Custom-house."
- KGU " Custom-house boat. Revenue boat."
- KGV " Custom-house duty."
- KGW " Customs Officer."
- KGX " Have you a Custom-house Officer on board ? "
- KGY " Have you cleared the Custom-house ? "
- KGZ " Is your ship entered at the Custom-house."
- KHA " Not cleared at Custom-house."
- KHB " Shall clear at Custom-house."
- ECH " Duties are altered."
- MPC " Export duties."
- PEO " Import duties."
- LQH " Is there any duty on ? "
- LQI " Without duty."

### III. TRAFFIC.

In general terms, traffic signals are those which regulate the movements of vessels in connection with anchoring, docking and berthing, and these, for convenience of discussion, are here classified and treated as follows :—

#### (12) Traffic Interrupted.

It is thought that the interruption of traffic may be best signalled to vessels entering or leaving a port by means of signals of the International Code, because Signals under (1) "Cautionary", (2) "Bar and entrance", and (9) "Dredger and fairway obstruction", regulate the question of entrance or exit prohibited, whereas the signals under "Traffic interrupted" are of a special nature due to some temporary emergency.

At SARAWAK, in BRITISH NORTH BORNEO, a *black* ball is hoisted to indicate that an in-coming vessel is in the channel and no vessel must proceed down the river until this signal is lowered. When no signal is hoisted the channel is clear. A *red* ball indicates that an in-coming vessel can leave for Kuching. A *black* ball above a shape in the form of an anchor means that in-coming vessels must anchor as an out-going vessel is in the channel.

In the UPPER YANGTSE, CHINA, signals are made at stations on the river as a warning to other vessels.

In JAPAN, in SHIMONOSEKI STRAIT, and in many other narrow waters, there is a standard system of signals to indicate the presence of other vessel in the fairway, as a warning to proceed with caution. The same standard system of signals is used at different stations, but different meanings are assigned.

At PORT ARTHUR, SIBERIA, signals are made with single International Code flags from the station at the summit of the hill when vessels over 50 tons burden are entering or leaving the port. If the vessel is over 1,000 tons the International flag "B" is hoisted as a warning for all vessels and boats to keep clear of the entrance.

At FREMANTLE, WESTERN AUSTRALIA, in order to avoid risk or danger from in-coming and out-going vessels meeting in the entrance channel, or in the inner harbour, signals are made from Arthur Head signal station as follows :— Two *blue* flags are a signal to an in coming vessel that she must wait in the road, clear of the mouth of the channel, until the flags are lowered ; a *single* blue flag is hoisted as a warning to any vessel about to move in the inner harbour that she is to remain in her berth until the in-coming vessel has entered and passed clear.

At BUENOS AIRES, ARGENTINE, a square *blue* flag at the southern yardarm of the flagstaff at the entrance of the Darsena Norte and Sud, respectively, indicate that a vessel is entering the dredged channel and that no vessel of more than 300 tons register may leave the port, while a *blue* flag at the masthead indicates that vessels may enter the channel, or those which have already done so must reduce speed. When a *blue* flag is hoisted both at the masthead and at the yardarm, it indicates that entry is prohibited.

The following are illustrations of actual port signals which give some indication of the character of such interruptions. These have been taken from various Sailing Directions as follows : —

- (*Sfax, Tunisia*) “ Go slowly as the vessel entering before you is not yet berthed.”  
 “ The vessel is secured, you may enter.”  
 “ The canal is clear, you may enter.”  
 “ Only passenger ships can enter.”
- (*Denmark*) “ The canal is occupied and vessels cannot pass through.”  
 “ Entrance to basin or inner harbour is interrupted.”  
 “ Channel is temporarily obstructed.”  
 “ Entrance to the outer (or inner) harbour is obstructed.”  
 “ All movement in the harbour is suspended to facilitate entrance into the port.”  
 “ All movement into the roads is prohibited.”  
 “ Large ship is coming in; traffic outwards is to cease while this signal is flying.”  
 “ Vessel may not enter the harbour owing to lack of room.”  
 “ Do not attempt to enter (or leave) until this signal is hauled down.”  
 “ Port is closed for all boats except fishing vessels.”  
 “ Slow speed.”

In “Special Publication N° 15” were given the proposed single flag displays of the International Code of Signals, to be used without the

code flag, and their corresponding Morse Code significations. Of these single flag displays "A", is to be used for "I must remain in channel on account of deep draft". A heavy draft ship proceeding in a channel may interrupt traffic if another deep draft ship is trying to go through in the opposite direction at the same time, or a vessel "F" — "Disabled", or "H" — "Not under command", may also have the effect of interrupting traffic.

It is, therefore, suggested that additional signals covering the interruption of traffic be introduced into the International Signal Code book when it is revised, as these International Code signals will answer all purposes regulating the movement of vessels in the various ports of the world. The only signal now in the International Signal Code book is XZP "Traffic interrupted by the snow", which is not a very useful signal.

### (13) Explosives.

A vessel entering a harbour and carrying explosives is usually required to anchor in a special part of the harbour. In EGYPT a tank steamer carrying petroleum oil, or petroleum products in bulk, is required to display at the fore, by day, a *red* flag between two *black* balls, and by night, three *red* lights, vertically, when the petroleum has a flash point below 73.4° Fahrenheit (26° C.), and a *red* flag over a *black* ball, or two *red* lights over a *white* light, when the flash point is 73.4° F. (26° C.) to 150.8° F. (66° C.); whereas, with explosives on board, a vessel displays a *red* flag with a *black* ball over it, and a *white* light over two *red* lights.

The following four examples are given of countries in which a vessel carrying explosives must display at the foremast head, by night, a *red* light, and at the foremast head, by day, different signals as follows: — UNION OF SOUTH AFRICA, *red* flag, 3 feet square; PHILIPPINE ISLANDS, rectangular *red* flag; KELUNG, FORMOSA, International Code flag "P"; and JAPAN, International Code flag "B". In QUEENSLAND, AUSTRALIA, a vessel having gunpowder on board must hoist the pilot jack at the main masthead.

At KOWLOON, CHINA, a vessel arriving with case oil on board, must fly a *red* flag at the fore and the International Code signal THE at the main, which signal means "Petroleum oil." As a variation of this, in all SIAMESE ports vessels carrying explosives or volatile oils shall display

a rectangular *red* flag at the fore by day, and, if a petroleum tank ship, shall, in addition, fly the International Code signal THE at the main, and at night, exhibit two *red* lights, horizontally, at a height of not less than six metres (20 feet) above the deck.

**Signals now in the International Signal Code book.**

B	" I am taking in (or, discharging) explosives."	
HO	" Have you any combustibles on board ? "	
HP	" I am loaded with combustibles."	
HQ	" I have no combustibles on board."	
HS	" Vessels with combustibles not allowed in."	
HZF	" Inflammable cargo."	HZJ " Cargo not inflammable."
HZL	" Petroleum cargo."	THE " Petroleum oil."

Any proposed uniform signals should distinguish between explosive cargoes of such combustibles as volatile oils and petroleum products of low flash point, and cargoes of crude petroleum or crude oil of high flash point. In the International Code of Signals the flag " B " displayed at the fore means " I am taking in (or discharging) explosives. " This is not quite what we are here considering and any proposals for international uniformity in indicating the dangerous character of the ship's cargo should be more flexible than the above, which merely indicates handling a cargo of explosives.

The following signals are, therefore, here proposed to distinguish between the various cargoes, but only to be displayed on entering or leaving a port, or actually while in a port whose regulations require that a signal be displayed to indicate such dangerous cargo : —

- (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, 2 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.

**(14) Anchorage Area Distinguishing Marks.**

**(15) Prohibited Anchorage Area Distinguish Marks.**

No proposals are here made as to uniformity in the matter of distinguishing marks for anchorage and prohibited anchorage areas.

Such areas are usually indicated on harbour charts and are always given in the port regulations. In quite a number of harbours special buoys mark the limits of such areas. At ALEXANDRIA, EGYPT, a prohibited anchorage area is marked by 5 *black* and *white* chequered buoys, and in the ST-LAWRENCE, at QUEBEC, such area is marked by sign boards by day, and *red* lights by night, on the opposite sides of the river.

On the west coast of AFRICA, at PONTA DE SAO SEBASTIAO, a boat carrying a *blue* flag with a *white* letter C in the centre indicates the point of anchorage for an arriving vessel, and a boat with a *white* light indicates the same at night.

An interesting special regulation at MONTREAL, CANADA, provides that a steam vessel shall, when at anchor between sunrise and sunset, carry in the forward part of the vessel, a *black* ball, not less than two feet in diameter, at least twenty feet above the hull and at or near the stern of the vessel, another such ball not less than fifteen feet lower than the forward ball. The above signals are to be reversed in the event of a vessel being anchored by the stern only.

In the DANUBE RIVER, ships that anchor, if more than 150 feet long, must hoist a *white* light near the stern.

#### LOCK, DOCK AND BERTHING SIGNALS.

The following explanation is given of the meanings here assigned to the above three classes of signals :—

In many ports where there is a great fall and rise of the tide, a gate is used to keep the water, in a closed basin, at high water level to facilitate the movement of shipping within the basin. Such closed basin is called a "Wet dock" and the words "Dock" and "Dock Signals" are used here in this sense.<sup>22</sup> As the gates cannot be opened except at high water, vessels can only enter and leave the dock at that time.

To facilitate entering and leaving such closed basins at any stage of the tide, especially in the case of large ports, locks similar to those of canals are used, especially where the port consists of more than one basin with several approaching channels, and with sub-divisions each requiring a separate lock. The words "Lock" and "Lock signals" are here used in this sense, but apply equally well to regular canal locks. In this connection it should be noted that there are also



sluice gates, which are occasionally opened to release surplus water, and the opening of these gates creates swift currents dangerous to small craft and to vessels tied up near by. Sluice gate signals are, therefore, included under "Locks", because locks are themselves often used either as sluices or locks.

Ships berth alongside piers, quays, jetties, wharves and "docks", and this last named use of the word to indicate a ship's berthing is objectionable as causing much confusion. Many of the berthing signals especially misuse the word in this way. The words pier, quay, jetty, wharf, "Berth" and "Berthing signals" are here used in their strict sense.

Finally, a dry dock is one which a vessel enters at high water, a gate or caisson closes the entrance, the water is pumped out, and the ship rests on keel blocks, being kept upright by shores. Signals for dry docks are here regarded as private affairs, and it is not necessary to provide for them in port signals.

### (16) Lock Signals.

There are no "Lock signals" in the International Signal Code book, but the following are some of the numerous varieties of such signals in use in the various ports of the world, which could be useful in any future revision of the International Code book :—

- " Lock closed, vessels to keep clear of entrance."
- " Outer lock gates open, vessels may enter lock."
- " Lock closed against vessels leaving the dock."
- " Lock available for vessels leaving the dock."
- " Vessels in lock must enter dock."
- " Vessels in lock may enter dock."
- " Vessels may enter lock."
- " Lock is open for ships drawing not more than . . . ."
- " Lock is open for in-coming ships."
- " Lock is open for out-going ships."
- " The locks are specially closed and written confirmation will be forwarded."
- " Ships may enter with a draft up to . . . ."
- " Do not approach the lock head."
- " Prepare to enter the lock."
- " Enter the lock."      " Steer for the lock."
- " Send for written instructions before approaching the lock."
- " The passage through the lock into the dock is open."
- " Vessels may enter the lock from the sea."
- " Vessels are about to pass through the lock out to sea."
- " The lock gates are not yet open."

- “ No vessel will be allowed to enter the lock or dock this tide.”  
 “ Locks ready.”      “ Locks not ready.”  
 “ Lock available for vessels leaving dock.”  
 “ We are preparing the lock.”      “ The lock is ready ; enter the lock.”  
 “ Anchor while waiting to enter the lock.”  
 “ Approaching the lock is prohibited as vessel cannot be locked. Anchor!”  
 “ Vessels in the river may enter the lock pit.”  
 “ Vessels may leave their berths and approach the lock entrance.”

The above signals are made in various ports by means of coloured shapes, flags, discs and lights, and, while it is not possible to make them with a few lights and shapes, nevertheless the essential signals are capable of being standardised for international use on the basis of those used by the railways. These consist of coloured discs at the end of bars or arms for day signalling, and of lights, by night, on a signal panel, so arranged as to always show two horizontal light abreast each other in the same display. Lights should be arranged in two parallel columns, and the upper display should be two *red* lights, meaning “The lock is closed and entrance is prohibited”. The next two lights should make a horizontal display of *red* and *green*, meaning “Lock gate is open, but entrance is prohibited; spilling”, indicating that water is being let in or out of the basin to regulate the level and not for traffic purposes. It is, in fact, the sluice gate signal and should be used as such. Two *green* lights, horizontally, should mean “The lock is open and entrance may be had one way only; caution”. The entrance, in this case, is only from the direction in which the display is made. Two *white* lights, horizontally, should mean “Lock open for free passage both ways for all vessels”. By day, discs of the same colours should be displayed horizontally in pairs to have the same meanings as the corresponding coloured lights.

### (17) Dock Signals.

As previously explained, these signals apply to a closed basin or to a wet dock constituting a sub-division of a port. It would, in fact, be much better if these signals were called “Basin” instead of using the generic name “Dock”.

#### Dock Signals now in International Signal Code book.

- TM    “ Wish to enter port or dock.”  
 KVH   “ What is the depth over the sill ?”  
 LJM   “ Tidal dock.”                      LJO   “ Wet dock.”

The following are some of the Dock Signals in use at various ports of the world, which may be useful in any future revision of the International Signal Code :—

- “ Gates of the wet dock are open, but entry and exit are forbidden.”
- “ Gates of the wet dock are open and vessels can enter or leave.”
- “ The canal is now clear, you may enter.”
- “ Entrance is clear but attention must be paid to the tide signals.”
- “ Vessels about to enter or leave Queens Dock (Glasgow) must fly the International Code flag “B” by day, and a *red* light, 6 feet above the masthead light, by night.”
- “ Vessels about to enter or leave Princes Dock (Glasgow) must show the International Code flag “N”, by day, and two *red* lights, 6 feet apart, placed 6 feet vertically above the masthead light, by night.”

At LIVERPOOL, ENGLAND, the main entrances to the dock gates are open from 1 to 2 hours before high water, and are closed at the turn of tide ; if a ball or shape is hoisted at the pierhead at the entrance to one of the docks while its gates are open, it indicates that the dock is full and no more vessels may enter. If no ball is shown it implies that the dock is open to all comers.

As an example of the so-called “ Dock-signals ”, at SOUTHAMPTON, ENGLAND, (as in so many other British ports, they are really Berthing signals), the so-called Empress Dock, Ocean Dock, and Inner and Outer Docks are tide level basins in which to manœuvre and berth ships, the word “dock” being a misnomer. They are not closed basins, but are open to the channel from the sea. For instance, two of the so-called dock signals are :—

- “ Departure (or entry) or any movement in the docks is forbidden in order to facilitate the entry (or departure) of a large steamer.”

The entry, in the above case, is merely for berthing, and there is another signal :—

- “ A vessel may enter or leave the dock with great caution.”

The proposals here put forward are (1) that Dock signals shall be made entirely by the International Code of Signals, (2) the Signal book should be revised to include them, and (3) night signals, if adopted, should not duplicate international signals.

### (18) Berthing Signals.

A great variety of signals are used in the various ports of the world to indicate the berth assigned to an arriving vessels, from chalking the number up on a large blackboard to using flag signals, shapes and lights. Some ports, unfortunately, use single flag displays of the International Code which are apt to lead to confusion on account of their international meanings. In the International Signal Code book the word "Berthing" is used to indicate an anchorage position, and the only signals in the book relating to berthing are as follows :—

#### Berthing Signals now in the International Signal Code book.

EAT	" Alongside the wharf jetty or pier."	OJW	" Gun wharf."
LCP	" Can I discharge at the pier?"	PVJ	" Jetty."
RIG	" Make fast to the pier."		
WEZ	" Quay."	ZCA	" Wharf."

The following are some of the characteristic signals used in berthing ships :—

" Remain in the roadstead until another signal is made."	
" No berth available."	" Berthing Officer wanted."
" There is deep water alongside the quay."	" Go alongside . . . side of . . ."
" Go alongside . . ."	" Go to berth No . . . at pier . . ."

The proposals are here made that (1) Berthing Signals shall be made by the International Code of Signals in conjunction with letters or numerals of that Code ; (2) the Signal book should be revised to include them, and (3) night signals, if adopted, shall not duplicate international signals.

### (19) Bridge Signals.

In practically all countries of the world a *red* lights indicates that a swing, lift or draw bridge is closed, and a *green* light that it is open. At the Tower Bridge, LONDON, in foggy weather, a gong is sounded every thirty seconds when the bridge is open. With a swing bridge at which there is a channel on each side of the pivot, there should be special signals to indicate that vessels may proceed either way through that channel which is on the starboard hand of the pivot, in the direction the vessel is approaching. In general,

Bridge Signal should correspond with those for railway traffic. In YUGO SLAVIA, the spans of a bridge under which ships may pass by the main channel are marked by a *red* and *green* light, one on each side of the span, the *red* on the port hand and the *green* on the starboard, to correspond to the colours of the ship's side lights at night. It is therefore, proposed that a *red* light, or two *red* lights, horizontally, should indicate "Movable bridge closed;" that one *green* light, or two *green* lights, horizontally, should indicate the "Bridge is open and vessels may proceed with caution through the channel on the side on which the signal is displayed;" and that one *white* light, or two *white* lights horizontally, should indicate "Free passage either way on either side of the pivot." In foggy weather, a loud bell, or gong, should be sounded continuously while the bridge is open. For bridges without lift or swing, the span on a navigable channel shall be marked with a *red* light at one end, and a *green* light at the other, corresponding to the *red* and *green* lights of the ship which is approaching from up or down the channel. This means that the lights on the span on one side are the reverse of the colours on the other side of the same span, or of different spans if there is more than one channel through which vessels may pass under the bridge.

#### IV. PORT SERVICE SIGNALS.

Most of these 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. For instance the PANAMA CANAL sets the excellent example of using, entirely and only, the signals now in the Code book for the all the "Service Signals" for ships. Where flag signals of the International Code are not suited for Service Signals special signals will be here proposed, but where flag signals can be used, additional signals will be suggested for inclusion in the future revision of the Code book.

##### (20) Public Holidays.

A list of Public Holidays of the various maritime countries of the world should be given in the Sailing Directions and also in the International Signal Code book to indicate non-working days in the country concerned, and they should also include a list of additional special

holidays, where there are any, for particular ports. Often cargo ships make a special effort to arrive at a port on a given day only to find it a non-working day. The Bureau is endeavouring to obtain these lists of national and port holidays for the maritime countries of the world, and has sent out a Circular-Letter to that effect.

### (21) Time Signals.

The service of radio time signals is now fairly generally available for ships, but the visual signals are still important and exist in many ports of the world to the great benefit of shipping. The usual type is the time ball dropped by electric signal to mark Greenwich Mean Time. Usually the local noon signal in some of the out-of-the-way ports of the world is quite unreliable for chronometer correction.

#### Time Signals now in the International Signal Code book.

- RS "Can I depend upon your time?"  
 FTH "Is there a time ball at . . . . ?"  
 FTI "Time ball." FTJ "Time ball drops at . . . . ."  
 FTK "When does the time ball drop?"

The following additional time signals are suggested for the future revision of the International Code book:—

- "Time signal just given was not correct."  
 "Time signal will be repeated on the next ten minutes G.M.T."  
 "Request that time signal be repeated on next ten minutes G.M.T."  
 "Time signal just given seems to be inaccurate."

### (22) Weather Signals.

The local weather signals, as distinguished from storm warnings, differ in each country, but local newspapers usually publish weather predictions, or they are posted conspicuously as well as broadcasted by radio at designated times. The visual local weather signals usually consist of flag hoists.

### (23) Mail Signals.

Many countries and many steamship lines have a special flag signal which they fly at the main masthead to indicate that they have mails on board for the port they are entering or about to enter. In the U.S.

of AMERICA a *blue* flag at the main with the letters "USM" in *white* indicates that mail is on board from that country to the immediate port of entry. The BRITISH mail flag is a *white* pennant with a *red* crown in the centre between the words "Royal" in *red* on one side of the crown, and "Mail" in *red* on the other side of it. At PORT SAID, vessels carrying mail are required to display by day, a *blue* flag with the letter "P" in *white* in the middle, and a *white* light at night.

**Mail Signals now in the International Signal Code book.**

QT	"When does the mail leave?"	RFB	"I have mails for . . . . ."
RFA	"Have you a mail?"	RFD	"Mail closes at . . . . ."
REX	"Am a mail boat."	RFK	"Mail steamer."

It is here proposed that, where there is no special mail flag used, several two-flag hoists of the International Code of Signals be provided to indicate the country of origin of the mails on board a vessel, or merely that there is a general mail on board for the port concerned.

**(24) Medical Officer.**

There are several different port officers, all of special importance on occasions, such as, Customs Officer, Immigration Officer, Berthing Officer, Harbour Master (or Captain of the Port), and Harbour Police, who, with the Port Medical Officer, are necessary for the service of the port. The Medical Officer has a double function (1) of Health, or Quarantine Officer, and (2) of answering emergency calls for medical services.

The following signals call a Medical Officer : —

**Signals for Medical Officer now in the International Signal Code book.**

AM	"Accident ; want a surgeon (or doctor)."		
WK	"Have you a surgeon (or, doctor?)"		
WL	"May I send sick person to see your surgeon?"		
WM	"No surgeon (or, doctor) available."		
WN	"Surgeon (or, doctor) will come immediately."		
WO	"Want a surgeon (or, doctor) ; send me one from the nearest place."		
WP	"Will your surgeon (or, doctor) come on board?"		
YL	"Want immediate medical assistance."		
FGL	"Medical assistance wanted ; want a surgeon."		
LJU	"Doctor."	LJV	"Doctor (or Surgeon) is away."
LJW	"Doctor (or Surgeon) shall be sent for."		
LJX	"No doctor (or Surgeon)."	ROJ	"Medical officer."
XFZ	"Surgeon."		

The use of single flags of the International Code to call a medical, or other port officer, is a misuse of a flag which has an important international meaning already assigned to it.

The following are the International Code signals which merely refer to other port officials but do not call for their services :—

HWS “ Harbour Master or Captain of the Port.”  
 KGW “ Customs Officer.”

There are no signals designating the Immigration Officer, the Emigration Officer or the Berthing Officer, and the above are not adequate for the requirements of port service. Many additional signals should be added to the revised edition of the International Signal Code book.

The call for the Quarantine or Health Officer is usually in connection with “pratique”, or where “pratique” has already been granted, in case of a dangerous disease appearing on board and jeopardising a ship’s “pratique” in the next port of call. The following signals show the scope of the services required :—

**Signals now in the International Signal Code book.**

FC “ I should wish to know the nature of the sickness, if any, before I send my boat (or communicate.) ”  
 VA “ Is the disease or sickness contagious ? ”  
 VB “ Disease or sickness is contagious.”  
 VC “ Sickness or disease is not contagious.”  
 VD “ What is the sickness, (or disease, or illness) ? ”  
 DUZ “ Fever and ague.”  
 EDY “ Ambulance required to convey a patient to the hospital.”  
 EDZ “ Prepare ambulance for . . . . . ”  
 EON “ Any cases of fever on board (or at . . . . . ) ? ”  
 EPO “ Any sick on board ? ”  
 GQX “ Several (or number indicated) sick on board.”  
 IDJ “ Case is for hospital.”  
 KLD “ How many have you seriously (or dangerously) ill ? ”  
 MFE “ Enteric fever.”                      MWN “ Intermittent fever.”  
 MWP “ Jungle fever.”                      MWQ “ Malarial fever.”  
 MWR “ Scarlet fever.”                      MWS “ Typhoid fever.”  
 MWT “ Yellow fever.”                      OYP “ Hospital.”  
 OYQ “ Can I send my sick to the hospital, (or sick quarters) ? ”  
 OYR “ Hospital case.”                      OYS “ Hospital ship (or vessel).”  
 OYT “ Hospital treatment.”                      OYU “ Require hospital treatment.”  
 OYV “ Send to the hospital.”                      OYW “ To (or at) the hospital.”  
 OYX “ Where is the hospital ? ”



PCX	“ Passengers or crew sick (or ill) with infectious complaint.”		
PCU	“ I have illness on board.”	PJV	“ Influenza.”
TLQ	“ Plague.”	UEF	“ Quarantine (or health) officer.”
YFS	“ Typhus fever.”	WBA	“ Have you any sickness on board.”
WBC	“ How many sick ?”	HEZ	“ When did sickness break out ?”

In cases of a big disaster, such as a boiler explosion or other calamity, the following signals show the scope of the information required :—

EQB	“ Is anyone hurt (or wounded) ?”		
FRL	“ Badly or severely hurt (or wounded) ?”		
QAP	“ Number of killed and wounded not yet known ?”		
RKN	“ Many wounded.”	SJF	“ None wounded.”
ZIN	“ How many wounded.”	ZIO	“ Killed or wounded.”

### (25) Customs Officer.

In many ports a single flag is used to call the Customs Officer, and this is objectionable as the flags already have an important international signification. The following are the only signals in the International Signal Code book referring to customs officer :—

KGW	“ Customs Officer.”
KGX	“ Have you a Customs Officer on board ?”

### (26) Death on Board.

A death on board ship is usually indicated by half-masting the ship's colours but, as the authorities require information at once, in such cases a signal should also be hoisted. This is particularly important in relation to quarantine regulations, and as affecting a clean bill of health of a ship prior to sailing.

#### Death Signals now in the International Signal Code book.

IHR	“ Certificate of death.”	KOE	“ Dead or died.”
KOM	“ How many deaths (or have died) ?”	KON	“ Who is dead ?”
KOW	“ Death.”	KOX	“ Last death on the . . . . (date follows).”
KOY	“ When was the last death ?”	KPE	“ Deceased.”
LQM	“ Dying.”	LQN	“ Dying at the rate of . . . . a day.”

It is evident that additional signals should be included in any future revision of the International Signal Code book.

**(27) Water Boat.**

Fresh water for ship's use is one of the great essentials, not only for the purpose of cooking and drinking, but modern boilers require fresh water as well. The maintenance of a fresh water supply is, therefore, one of the essential port services, and a good quality of potable water also differs somewhat in its requirements from that intended to be used in boilers.

**Water Supply Signals now in the International Signal Code book.**

NF	“ Want water. Dying of thirst.”
YR	“ Want water immediately.”
YZ	“ Are you in want of water ? ”
ZA	“ I have . . . . . days water.”
GUJ	“ Send water tank or boat.”
IDY	“ Cask of water.”
JKO	“ Complete with water.”
LAF	“ You will have great difficulty in obtaining fresh water.”
LHF	“ Distressed for want of water.”
LXZ	“ Water tank (or, boat) is empty.”
NRC	“ Fresh water.”
UDY	“ What quantity of water ? ”
VPY	“ Send for water.”
WAB	“ Short of water.”
XCU	“ Water enough. Sufficient water.”
YVD	“ Good water can be got at . . . . . ”
YVG	“ I am getting short of water and must get some.”
YVH	“ No water to be had.”
YVJ	“ Sending the water boat.”
YVM	“ Water barrel.”
YVN	“ Water cannot be obtained.”
YVS	“ Water is good.”
YVT	“ Water is not good.”

**(28) Ash Lighter.**

Ash lighter service for steam vessels, to remove the accumulation of ashes from their fire rooms, is usually required by port regulations to prevent the silting up of the harbour from dumping ashes and refuse over the ship's side, and is a local problem of great importance. There are some harbours where, owing to the depth of water and where the strength of the ebb tide is such that refuse is carried off to sea, an ash lighter service is not necessary. Of course, this saves much trouble

and expense to shipping, but ash lighter service is here meant to include also the removal of garbage and other refuse as a question not only of sanitation, but of harbour cleanliness and sightliness. The pollution of harbours by fuel-oil leakage and oil tank cleaning is one of the serious modern problems which confronts the world today. Not only does this oil locally kill or drive away all fish and other marine life and aquatic bird life, but it ruins bathing beaches, and has many other deleterious effects. Special and drastic harbour regulations are required to cope with this growing evil.

As a fair indication of the need of modernising the International Signal Code book, even the words "ashes, garbage and refuse" are not to be found in the latest edition.

### (29) Fuel Wanted.

The development of oil as a fuel has led to stringent regulations in ports as to its storage and handling. As a rule, oil storage tanks are required to be at a safe distance from congested population areas, on account of danger from fire due to lightning or other causes, and this requires either that vessels go alongside oil piers to fuel, or receive their fuel-oil from tank steamers or lighters, which go alongside the vessel and pump the oil on board. There are, moreover, several classes of fuel-oil of varying flash points, but all pollute the harbour waters if leakage occurs.

The International Code book makes no mention of fuel-oil, briquettes, or other modern forms of fuel. It merely gives the signal "TEC Patent fuel"; "THE Petroleum oil"; and "XKL Tank steamer". On the other hand, the following signals for coaling are to be found: —

#### Coaling Signals now in the International Signal Code book.

GW	"Are you in want of coal?"	GX	"Can coal be had at . . . . ?"
GY	"Can you spare me coal?"		
HA	"Coal can be got at . . . . (or, from . . . .)."		
HB	"In want of coal (amount to follow)."		
HC	"Indicate nearest place I can get coal."		
HD	"No coal to be got at . . . ."		
HF	"What quantity of coal have you left?"		
YI	"Want coal immediately."		
DQS	"After coaling."	IWO	"Coal hulk."
ENX	"Anthracite coal."	IWN	"Coal depot."
FQY	"Bad coal."	IWP	"Coal lighter."

GSL	“ Coal boat.”	IWT	“ Coal tip.”
HLZ	“ Bunker coal.”	IWX	“ Coaling station.”
HYW	“ Coal cargo.”	IWZ	“ Collier.”
IWK	“ Coaled; Coaling; To coal.”	IXH	“ Prepare to coal.”
IWL	“ Coal.”		
IXK	“ Tons of coal.”		
IXJ	“ Steam coal.”		
IXO	“ What quantity of coal remains in the collier (or, coal depôt, or hulk, or, lighter) ? ”		
IXQ	“ When will you have finished coaling ? ”		
JKN	“ Complete with coal finished coaling.”		
LHD	“ Distressed for want of coal.”		
NSJ	“ Fuel.”		
ODW	“ Good coal.”		

The following additional signals are suggested for future revision of the International Signal Code book.

- “ Will commence coaling at . . . . . ”
- “ Will discontinue coaling from . . . . . to . . . . . ”
- “ Will resume coaling at . . . . . ”
- “ Have coal lighters (or, barge) alongside at . . . . . ”
- “ Send off another lighter (or, barge) of coal.”
- “ Coal lighters (or, barges) are empty.”
- “ We are sending back empty lighters (or, barges).”
- “ Coal lighter (or, barge) is leaking badly ? ”
- “ Coal lighter (or, barge) is in sinking condition.”
- “ Weather too bad for coaling.”

The above list of signals is given as suggesting also the scope of certain additional ones in connection with oil or patent fuel instead of coal.

### (30) Tugs and Lighterage.

The growing size of modern vessels has created a demand for tugs to handle them in tide-ways and in the restricted waters of harbours. The growth of traffic in harbours has also increased the necessity for tug service. However, for many years past, tugs have been in demand for handling disabled vessels in emergencies and for towing sailing craft in and out and about harbours.

The use of single flag signals of the International Code for calling a tug, as is done in many parts, is objectionable as such flags have other important international meanings.

**Tug Signals now in the International Signal Code book.**

- YA "Tug is going to you."  
 YP "Want a tug (if more than one, number should follow)."  
 XZ "There are no tugs available."  
 LBY "Tug is disabled."  
 VQO "Shall I send you a tug?"  
 YDN "Do you want a tug?"  
 VDO "Is your tug engaged?"  
 YDQ "Sending for (or, have sent) tug."  
 YDS "Tug has not sufficient power."  
 YTR "Want another tug (indicate if more than one)."

Tugs have a large use also in connection with towing lighters to vessels, not only for the service of fuel and water, but also for taking on and discharging ballast, and for loading and unloading cargo. Generally tug and lighter service is operated as a joint business, but some large commercial shipping firms have their own tug and lighterage service.

**Lighterage Signals now in the International Signal Code book.**

- QZ "Lighter coming off." RA "Lighter is adrift."  
 RB "There are no lighters available."  
 RC "Will you send off lighters as fast as possible."  
 YM "Want a lighter (or, lighters) immediately (if more than one, number to follow)."  
 FTL "Ballast." FTO "Ballasted with . . . . ."  
 FTP "Can I obtain ballast at . . . . ." FTS "Must take in more ballast."  
 FTU "Pig iron ballast." FTV "Water ballast."  
 FWX "Barge," FWY "Bargeman."  
 IBD "Waiting for cargo."  
 IBJ "When do you commence discharging cargo?"  
 KJR "Must discharge cargo to repair damage."  
 QTA "How many lighters do you want?"  
 QTB "I want . . . . (number indicated)."  
 QTC "Lighter along side."  
 QTD "Lighter has left."  
 QTE "Want lighters to take more cargo."  
 OZV "Powder hoy (or lighter)."  
 RJO "Manifest of cargo."

**(31) Fire on Board.**

In many harbours fire tugs are available for the protection of shipping and to fight fires near the water front, which may endanger

shipping. Modern improvements in fire nozzles may convert any vessel having fair sized pumps into very good fire boats in case of need. There is hardly any large port in the UNITED STATES OF AMERICA that has not one or more fire boats so equipped. There are, however, no signals for such fire tugs, or fire boats, in the Signal book.

**Fire Signals now in the International Signal Code book.**

HR	“ No combustibles (or, explosives) near the fire.”		
NG	“ Fire gains rapidly ; take people off.”		
NH	“ Fire ; want immediate assistance.”		
NO	“ I am on fire ; send all available boats to save passengers and crew.”		
NY	“ With immediate assistance fire can be extinguished.”		
OM	“ Are you on fire ?”	ON	“ Fire can easily be got at.”
OP	“ Fire difficult to get at.”	OQ	“ Fire gaining.”
OR	“ Fire in hold amongst the cargo.”	OS	“ Is fire extinguished.”
OT	“ Vessel indicated is on fire.”	OU	“ Where is the fire ?”
MPS	“ Can extinguish fire.”	NAP	“ On fire.”

**(32) Harbour Police.**

Harbour Police are called in some ports “Water Police” and in other “River Police”. Sometimes their functions are to aid the Customs Service to prevent smuggling but sometimes they are under the control of the Harbour Master or Captain of the Port. Generally, however, they are connected with the City Police Force although, as River police, their duties are largely constabulary.

**Police Signals now in the International Signal Code book.**

YN	“ Want police.”	DGI	“ Accused of having murdered someone.”
DHT	“ Police authorities have acquitted.”		
FNB	“ Police authorities have interfered.”		
FNO	“ Police authorities.”	FNP	“ Police authorities have fined . . . .”
FRA	“ Bad conduct.”	IMA	“ Charged with desertion.”
IMB	“ Charged with drunkenness.”		
KDG	“ Police authorities have decided against the crew.”		
LHS	“ Disturbance on shore (or, at . . .).”		
MXU	“ Some squabble, (or, fight) on shore with crew.”		
TNW	“ Arrested by the police.”	TNX	“ Police station (or, court).”
XOZ	“ Theft. Thieving.”	YVX	“ Water, River or Harbour Police.”

**(33) Mutiny.**

This most serious of all troubles on board ship is now of rare occurrence under modern conditions. The signals now in the Inter-

national Code book seem to answer all requirements, especially when taken in connection with harbour police signals.

**Mutiny Signals now in the International Signal Code book.**

- YF " Mutiny ; want assistance."
- KCN " Crew disaffected ; will not work."
- KCO " Crew discontented ; will not work."
- KCQ " Crew have mutinied."
- KCU " Crew refuses to go on board.
- KDH " Police authorities have taken some of the crew out of the ship."

**(34) Warning Signals.**

Storm Warning signals are those of a general nature which are displayed both as coastal and port signals. In SOUTH AFRICA, at CAPE TOWN, PORT ALFRED, ALIWAL and EAST LONDON, signals are displayed consisting of the Union Jack in combination with a *black* ball, or some flag of the International Code, to warn vessels to "Prepare for bad weather", "Clear hawse and prepare to veer chain", "Slip and put to sea ; those who can get away do so" and "Attend to anchor lights during the night".

In COLOMBO harbour, CEYLON, a *red* ball, by day, and a *red* light, by night, displayed at the flag staffs of the pilot station and harbour master's office, indicate that vessels should run out extra lines to buoys and have a second anchor ready for letting go.

At PORT DES GALETS, REUNION ISLAND, at ASCENSION ISLAND and at several WEST AFRICAN ports, warning signals to traffic are displayed when "rollers" are coming.

At BRISBANE, QUEENSLAND, AUSTRALIA, when a freshet is expected in the Brisbane river, signals are displayed to indicate that there will be no flood tide, and that navigation in the river is dangerous.

In the UPPER YANGTSE, CHINA, at WUHU, a *red* and *white* square flag is hoisted at the British Consulate flagstaff to warn shipping to be ready to slip when large rafts are drifting down the river.

There are also port signals, in various ports, to indicate danger to traffic in special localities through gun, mine, artillery and rifle practice and through seaplanes about to land in the area set apart for them, or for blasting operations in connection with port enlargement, as well as warnings to fishing vessels off a port or about

to leave port, of an impending atmospheric disturbance likely to prove of danger to them.

### (35) Adjustment of Compasses.

There are three different systems available for compass adjustment, very few or any of which are, however, to be found in many of the ports of the world although it is a valuable port service :—

(1) A dolphin, or buoy, to swing around with other dolphins or buoys to which lines may be run to “swing ship”, and steady her on every point of the compass, while the bearing of a distant object is being taken.

(2) A buoy to swing around with the tide, the true bearing of many objects being given either in the Sailing Directions or in the Harbour Regulations.

(3) Marks on shore in the form of ranges on each side of the channel, the true bearings being given on the harbour charts, in the Sailing Directions or in the Harbour Regulations.

At LISBON, PORTUGAL, vessels adjusting compasses in the TAGUS river, fly the International Code signal JHD “Adjusting compass”.

In KALPE road, HUGLI river, INDIA, facilities are given for compass adjustment.

At various points on the BRISBANE river, QUEENSLAND, AUSTRALIA, there are marks and bearings thereof are given in the Sailing Directions, by which ships may adjust compasses, and there is a compass adjustment station in LAKE KING, VICTORIA, AUSTRALIA, whence the bearings of many visible distant objects are given in the Sailing Directions. At GEELONG, near PORT PHILLIP, VICTORIA, AUSTRALIA, and at several other points in the entrance to Port Phillip and Port Melbourne, there are buoys for the adjustment of compasses, and true bearings from each buoy of many distant objects are given in the Sailing Directions.

A dolphin and buoys for swinging ship to adjust compasses are laid down at EVANS BAY, NEW ZEALAND.

#### Compass Adjustment Signals now in the International Signal Code book.

GBM “What is the bearing by compass?”

JHD “Adjust; adjusted; adjusting compasses.”



JHE	“ Are your compasses adjusted ?”		
JHF	“ Compass bearing.”		
JHM	“ Compensation of compass.”		
JHN	“ Deviation of compass.”		
JHO	“ Deviation table.”		
JHT	“ I am using variation of . . . . degrees.”		
JHW	“ Is there any variation ?”		
JHX	“ Magnetic bearing.”		
JHY	“ Must be swung to adjust compass.”		
JIA	“ No variation.”	JIH	“ True bearing.”
JIK	“ Variation of the compass.”	JIN	“ What is the variation ?”
JIO	“ What is the deviation ?”	JIP	“ What variation do you allow ?”
JIQ	“ When, or Where, were your compasses last adjusted ?”		

### (36) Vessel Clearing or Sailing.

A vessel about to leave port has many local requirements with which to comply, including clearing at the Custom-house, getting a bill of health from the Medical authorities, satisfying the Emigration authorities and complying with consular regulation as to ship's papers, such as, manifests, crew lists, *etc.* A few hours before sailing she hoists at the fore the International Code flag “P”, first at half-mast, then at the dip, and finally at the masthead, to indicate “Am about to sail”.

#### Sailing Signals now in the International Code book.

TU	“ Have you a clean bill of health ?”	ZT	“ When do you sail ?”
GKC	“ Bill of health.”	ITE	“ Cleared at Custom-house.”
KGS	“ Clearing the Custom-house.”		
KHA	“ Not cleared at the Custom-house.”		
KLW	“ Date not known.”	KLY	“ Date of leaving.”
KTV	“ I cannot hasten my departure.”		
KTW	“ I must hasten my departure.”		
KYB	“ Detention by Emigration Officer.”		
POX	“ Intend, or purpose leaving.”	VEZ	“ Why do you not sail ?”

#### INTERNATIONAL MORSE CODE OF SIGNALS.

It will be noted that, while there is comparatively a large number of flag hoist signals in the International Code book for convenient use as port signals, there are no night signal systems except (a) the sound signals and (b) the flash lamp signals of the International Morse Code.

Where the Morse Code of Signals is transmitted by sound instead of visually, a dot is a short blast of one second ; a dash is a blast of

three second duration, and a prolonged blast is from four to six seconds duration. The interval between each sound is one second, between each letter is three seconds, and between each word is six seconds.

It would be easy enough to devise a system of electric night signals, consisting of vertical displays of *red* and *white* lights, to transmit the letters of the alphabet corresponding to the flag code and to the dot and dash of the Morse Code, but the expense of such installation on merchant ships would be prohibitive, and any attempt at international adoption would probably prove a failure. Hence, the Morse Code by flash lamp or by sound must remain practically the only night system. It has the further great advantage that it answers for fog as well as for night signalling, which an electric system of lamps would not do.

For Storm Warnings, and Coastal and Port signals, certain groups of *red*, *white* and *green* lights have been tentatively set apart for visual night displays having meanings corresponding to the day signals using flags and shapes. These are given in Special Publications Nos 8, 15 and 16 of the International Hydrographic Bureau, and, as pointed out in N° 15, the maximum number of combinations of one-lamp, two-lamp and three-lamp vertical signals, using any one or two only of the three colours, *red*, *white* and *green*, is twenty-eight. Of these there now remain the following eleven unassigned, or at least not proposed or suggested for assignment, *viz*: RRW, RRG, RGG, GRR, GRG, GGR, GGW, GWG, GWW, WGG, GWG.

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