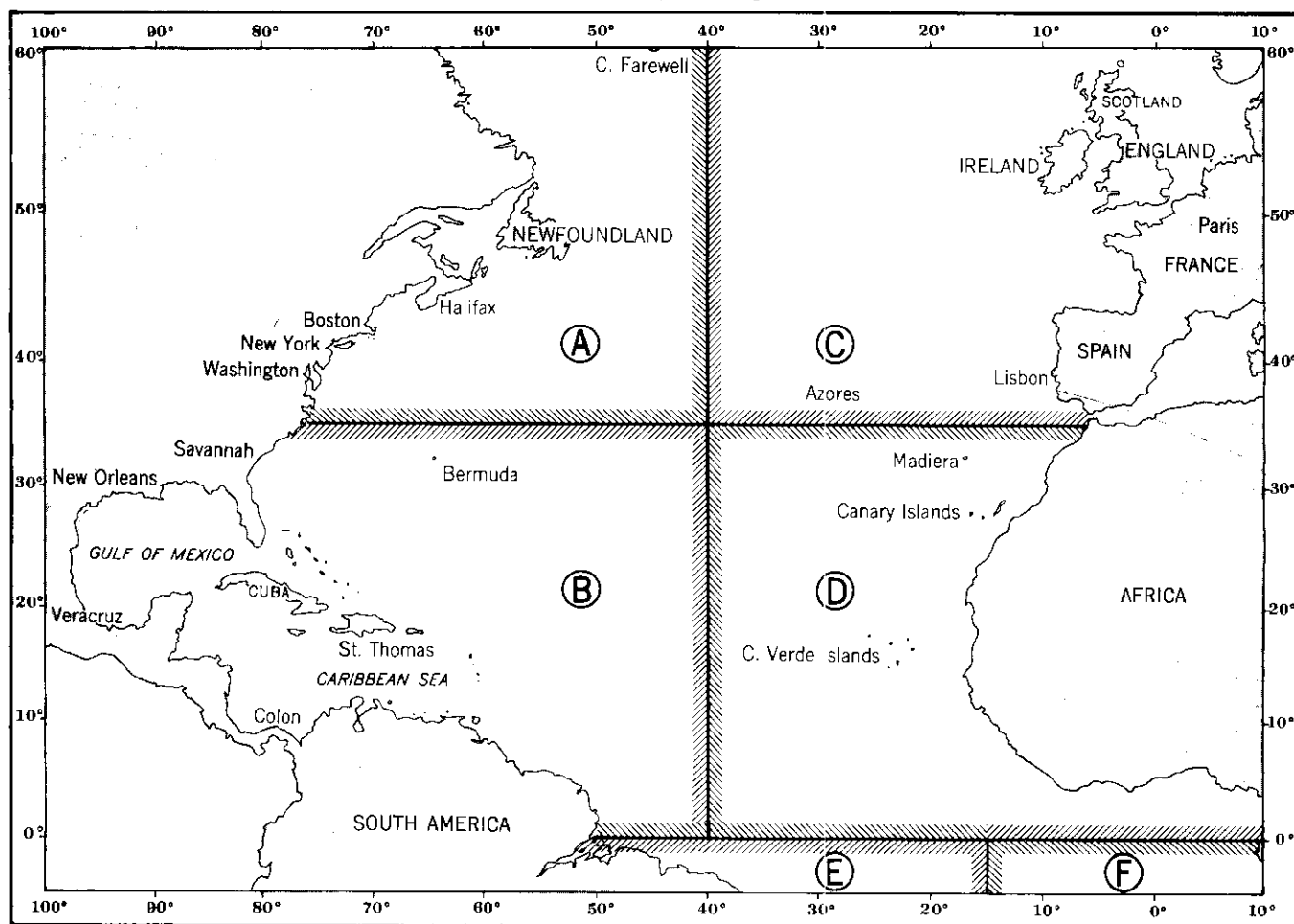


HYDROLANT AREAS



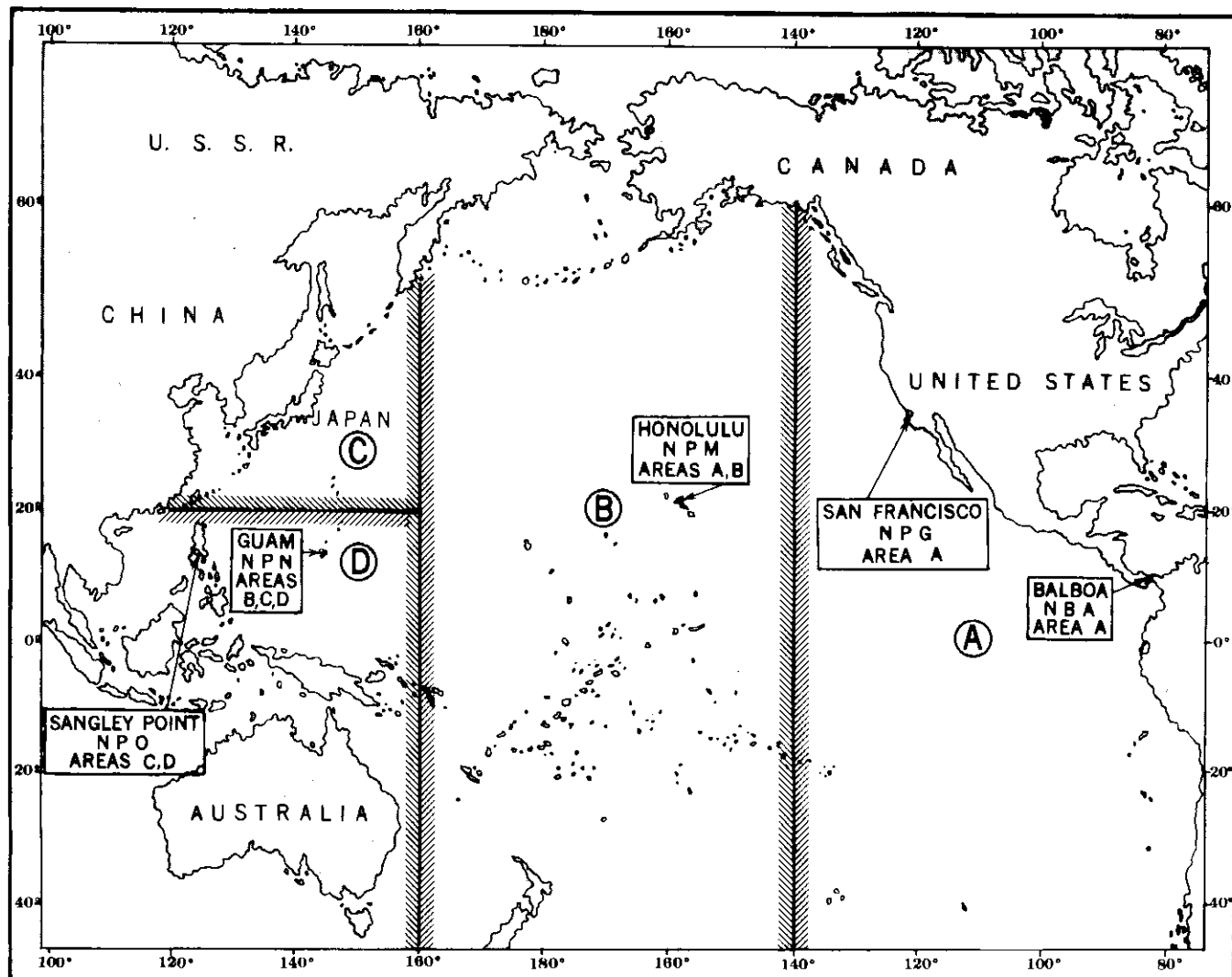
HYDROLANTS: Information relating to the Atlantic Ocean, broadcast from Washington (NSS) and other U.S. Navy and Coast Guard stations, in a numbered series.

The **HYDROLANT** areas are delimited as follows:

- Area A.—West of long. 40°00'W., and north of lat. 35°00'N.
- Area B.—West of long. 40°00'W., between the equator and 35°00'N.
- Area C.—East of long. 40°00'W., and north of lat. 35°00'N.
- Area D.—East of long. 40°00'W., between the Equator and 35°00'N.
- Area E.—West of long. 15°00'W., and south of the Equator.
- Area F.—East of long. 15°00'W., and south of the Equator.

The limits of the **HYDROLANT** areas are shown on the regular issues of the Pilot Charts for the North Atlantic Ocean.

HYDROPAC AREAS



HYDROPACS: Information relating to the Pacific Ocean which for convenience is divided into 4 Hydropac areas of reference, namely:

Area A.—From the Pacific coasts of North and South America westward to Longitude 140°W.

Area B.—From 140° W. westward to Longitude 160°E.

Area C.—From Longitude 160° E. westward to the coast of Asia (north of Latitude 20°N.).

Area D.—From Longitude 160 E. westward. (south of Latitude 20°N.)

HYDROPACS are broadcast in a numbered series from:

Honolulu (NPM) for Areas A and B.

San Francisco (NPG) for Area A.

Balboa (NBA) for Area A.

Guam (NPN) for Areas B, C, and D.

Manila (Sangley Point) (NPO) for Areas C and D.

The limits of the HYDROPAC Areas are shown on the regular issue of the Pilot Chart for the North Pacific Ocean.

400B. Ships Reporting Dangers to Navigation

BROADCASTS BY SHIPS: Ships becoming aware of imminent dangers to navigation should broadcast the information in compliance with sections 500C through 500E.

SIGHTING DANGEROUS ICE: Ships sighting dangerous ice should make an emergency broadcast for the benefit of other vessels in the vicinity and should inform the Ice Patrol (radio call NIDK or NIK) in compliance with section 500C and 500D.

Although any coastal station in the mobile service will handle without charge messages relative to dangers to navigation or defects in aids to navigation, it is requested that where practicable ships complying with sections 500C through 500E address their messages "Navoceano" and send them through the nearest of the stations listed below.

The following U.S. Navy and Coast Guard shore radio stations maintain watches on 500 kc/s (international distress and calling frequency), 2182 kc/s (international distress voice frequency), and 8364 kc/s (International Survival Craft frequency) as indicated. Certain U.S. naval shore radio stations which "cover" these frequencies as differentiated from "guard", maintain a continuous receiver watch with transmitter calibrated and available but not necessarily ready for immediate use. "Copy" means a continuous receiver watch maintaining a complete log, whereas a "listening watch" is a continuous receiver watch with complete log optional.

ACTIVITY	CALL	SERVICE	TYPE WATCH	FREQUENCIES	REMARKS
<i>North Atlantic Ocean</i>					
Argentia, Newfoundland - - - - -	NWP	Navy - - - - -	Cover - - - - -	8364 - - - - -	Continuous Loudspeaker.
Argentia, Newfoundland - - - - -	NIK	Coast Guard - - -	Guard - - - - -	*500 - - - - -	Continuous during ice patrol season.
			Listen - - - - -	8354-8374 - - -	Station transmits 8650.
Boston, Mass. - - - - -	NMF	Coast Guard - - -	Guard - - - - -	*500/2182 - - -	Continuous.
			Listen - - - - -	8354-8374 - - -	Station transmits 8734.
New York, N.Y. - - - - -	NMY	Coast Guard - - -	Guard - - - - -	*500/2182 - - -	Continuous.
			Listen - - - - -	8354-8374 - - -	Station transmits 8734.
Atlantic City, N.J. - - - - -	NBB	Navy - - - - -	Cover - - - - -	8364 - - - - -	Continuous Loudspeaker.
Norfolk, Va. - - - - -	NMN	Coast Guard - - -	Guard - - - - -	*500/2182 - - -	Continuous.
			Listen - - - - -	8354-8374 - - -	Station transmits 8734.
Charleston, S. C. - - - - -	NAO	Navy - - - - -	Cover - - - - -	500/8364 - - -	Continuous Loudspeaker.
Jacksonville Beach, Fla. - - - - -	NMV	Coast Guard - - -	Guard - - - - -	*500/2182 - - -	Continuous.
			Guard - - - - -	*500/2182 - - -	Continuous.
Miami, Fla. - - - - -	NMA	Coast Guard - - -	Listen - - - - -	8354-8374 - - -	Station transmits 8740.
Key West, Fla. - - - - -	NAR	Navy - - - - -	Cover - - - - -	500/8364 - - -	Continuous Loudspeaker.
Pensacola, Fla. - - - - -	NAS	Navy - - - - -	Cover - - - - -	500/8364 - - -	Continuous Loudspeaker.
			Guard - - - - -	*500/2182 - - -	Continuous.
New Orleans, La. - - - - -	NMG	Coast Guard - - -	Listen - - - - -	8354-8374 - - -	Station transmits 8740.
			Guard - - - - -	*500/2182 - - -	Continuous.
Galveston, Tex. - - - - -	NOY	Coast Guard - - -	Listen - - - - -	156.8 Mc/s - - -	
NAS, Corpus Christi, Tex. - - - - -	NGP	Navy - - - - -	Cover - - - - -	500/8364 - - -	Continuous Loudspeaker.
			Guard - - - - -	*500/2182 - - -	Continuous.
San Juan, P.R. - - - - -	NMR	Coast Guard - - -	Listen - - - - -	8354-8374 - - -	Station transmits 8740.
			Guard - - - - -	500 - - - - -	Continuous Loudspeaker.
			Cover - - - - -	8364 - - - - -	
Port Lyautey, Morocco - - - - -	NHY	Navy - - - - -	Guard - - - - -	500 - - - - -	Continuous Loudspeaker.
			Cover - - - - -	8364 - - - - -	
<i>Great Lakes</i>					
Cleveland, Ohio - - - - -	NMD	Coast Guard - - -	Guard - - - - -	*2182 - - - - -	Continuous.
Chicago, Ill. - - - - -	NMP	Coast Guard - - -	Guard - - - - -	*2182 - - - - -	Continuous.
Sault Ste. Marie, Mich. - - - - -	NOG	Coast Guard - - -	Guard - - - - -	*2182 - - - - -	Continuous.

H. O. PUB. NO. 117B
RADIO NAVIGATIONAL AIDS

RADIO
NAVIGATIONAL WARNINGS

ACTIVITY	CALL	SERVICE	TYPE WATCH	FREQUENCIES	REMARKS
<i>Pacific Ocean</i>					
Balboa, C.Z. - - - - -	NBA	Navy - - - - -	{ Guard - - - - -	500 - - - - -	Continuous Splitphone.
San Diego, Calif. - - - - -	NPL	Navy - - - - -	{ Cover - - - - -	8364 - - - - -	Continuous Loudspeaker. Continuous.
Long Beach, Calif. - - - - -	NMQ	Coast Guard - - -	{ Cover - - - - -	500 - - - - -	
			{ Guard - - - - -	*500/2182 - - -	
San Francisco, Calif. - - - - -	NMC	Coast Guard - - -	{ Listen - - - - -	8354-8374 - - -	Station transmits 8734. Continuous.
			{ Guard - - - - -	*500/2182 - - -	
Westport, Washington - - - - -	NMW	Coast Guard - - -	{ Listen - - - - -	8354-8374 - - -	Station transmits 8730. Continuous.
			{ Guard - - - - -	*500/2182 - - -	
Kodiak, Alaska - - - - -	NOJ	Coast Guard - - -	{ Listen - - - - -	8354-8374 - - -	Station transmits 8734. Continuous.
			{ Guard - - - - -	*500/2182 - - -	
Ketchikan, Alaska - - - - -	NMJ	Coast Guard - - -	{ Guard - - - - -	*500/2182 - - -	Continuous.
			{ Listen - - - - -	8354-8374 - - -	
Adak, Alaska - - - - -	NOX	Coast Guard - - -	{ Guard - - - - -	*500 - - - - -	Station transmits 8730. Continuous.
			{ Listen - - - - -	8354-8374 - - -	
Honolulu, Hawaii - - - - -	NMO	Coast Guard - - -	{ Guard - - - - -	*500/2182 - - -	Station transmits 8730. Continuous.
			{ Listen - - - - -	8354-8374 - - -	
Honolulu, Hawaii - - - - -	NPM	Navy - - - - -	Cover - - - - -	8364 - - - - -	Continuous Loudspeaker.
Midway Island - - - - -	NQM	Navy - - - - -	Cover - - - - -	500/8364 - - -	Continuous Loudspeaker. Continuous Loudspeaker.
			{ Cover - - - - -	500 - - - - -	
Kwajalein, Marshall Islands - - - - -	NDJ	Navy - - - - -	{ Listen - - - - -	8364 - - - - -	Continuous Splitphone.
			{ Guard - - - - -	500 - - - - -	
Guam, Marianas - - - - -	NPN	Navy - - - - -	{ Cover - - - - -	8364 - - - - -	
			{ Guard - - - - -	*500 - - - - -	Continuous.
Guam, Marianas - - - - -	NRV	Coast Guard - - -	{ Listen - - - - -	8354-8374 - - -	
			{ Guard - - - - -	500 - - - - -	Station transmits 8734. Continuous Loudspeaker.
Manila (Sangley Point), R.P. - - - - -	NPO	Navy - - - - -	{ Cover - - - - -	8364 - - - - -	
Sangley Point, R.P. - - - - -	NRX	Coast Guard - - -	{ Guard - - - - -	*500 - - - - -	Continuous Loudspeaker. Upon request or as re- quired. Continuous.
			{ Guard - - - - -	500/8364 - - -	
Yokosuka, Japan - - - - -	NDT	Navy - - - - -	{ Cover - - - - -	8364 - - - - -	

* Coast Guard shore radio stations guarding 500 kc/s, or 2182 kc/s, will answer on the frequency being guarded and then shift to a working frequency.

When impracticable to send navigational warning messages through government facilities, such messages should be sent through commercial facilities, observing the following instructions:

(a) Messages originating in the Pacific should be addressed "NAVOCEANO WASHDC," which will issue a HYDROPAC as necessary.

(b) Messages originating in the Atlantic, Caribbean, or Gulf of Mexico should be addressed "NAVOCEANO WASHDC," which will issue a HYDROLANT as necessary.

United States Government navigational warning messages should invariably be sent through United States radio stations, government or commercial.

REPORTING DERELICTS: Masters of vessels when sighting derelicts are requested to make a report by radio to the United States Naval Oceanographic Office, addressed "NAVOCEANO WASHDC." At the earliest opportunity after reporting by radio a written confirmation of the facts sent, with additional details, should be forwarded to the United States Naval Oceanographic Office.

Frequently essential data relating to the position and condition of the craft is omitted in the radio report. This data is necessary before a search can be commenced by a United States Coast Guard cutter. In consequence of this neglect, it often becomes necessary for the searching cutter to send radiograms in an effort to obtain the necessary information. To be complete, information concerning a derelict should state:

(a) The position by latitude and longitude confirmed by the approximate bearing and distance from a fixed point on land.

(b) The general condition of the vessel.

(c) Whether bottom up or awash.

(d) The trim of the vessel.

(e) Height of hull above water and any abnormal conditions as to buoyancy.

(f) As to whether masts are standing, sail set, or otherwise.

(g) Approximate heading of derelict.

(h) Force and direction of wind.

(i) Any observed current, its set and strength.

(j) The name of the vessel, if possible.

This information is necessary in order to determine roughly the direction and speed of drift of the derelict or vessel, and also to give an idea of the appearance of the object sought.

UNITED STATES—Atlantic and Pacific Coasts

405. Broadcasts from Naval and Coast Guard radio stations are compiled by the Oceanographic Office, Navy Department, and by the U.S. Coast Guard. Broadcasts frequently include warnings issued by both offices.

Broadcasts from naval radio stations on medium frequencies (those between 100 and 550 kc.) which are not urgent will be stopped 1 minute before the beginning of each silent period and resumed immediately thereafter. In case high or low frequency broadcasts are simultaneously transmitted with medium frequency broadcasts, those broadcasts will likewise be stopped during the silent periods. In the minute prior to the beginning of silent periods which require an interruption in hydrographic broadcasts, appropriate procedure signs will be made to indicate that there will be an interruption of 3 minutes.

MAJOR HYDROGRAPHIC BROADCASTS: These are sent daily from Washington, D. C. by (NSS), U.S. Navy. Normally the information broadcast affects only the Atlantic and Gulf coasts of the United States, although important Pacific coast and foreign notices are sometimes included. The broadcast consists of information received in Washington up to the time of the broadcast. The information contained in this broadcast is usually adequate for offshore navigation; however, it is recommended that before nearing the coast ships copy the local broadcast of the area which they are entering.

MAJOR HYDROGRAPHIC BROADCAST (PACIFIC COAST): This is sent out daily from San Francisco, Calif., by (NPG), U. S. Navy. The information broadcast affects the Pacific coast of the United States together with important Hydro-pacs. The broadcast consists of information received in San Francisco up to the time of the broadcast. The information contained in the broadcast is usually adequate for offshore navigation; however, it is recommended that before nearing the coast ships copy the local broadcast of the area which they are entering.

LOCAL BROADCASTS: In general, the information contained in a local broadcast affects only the area in which the broadcasting station is located and occasionally adjacent areas.

EMERGENCY BROADCASTS BY U.S. NAVAL RADIO STATIONS: Storm warnings and notices concerning the safety of navigation at sea of an urgent nature are broadcast by United States Naval Radio Stations in accordance with the urgency, as follows:

- (A) Notices of an urgent nature, such as tidal waves, hurricanes, typhoons, cyclones, etc., so imminent as to warrant immediate broadcasting:
 - (1) One transmission immediately on receipt.
 - (2) One transmission at the end of the first ensuing silent period.
 - (3) One transmission during the first ensuing "on watch" period for ships with one operator, in case both previous transmissions were made during the "off watch" period.
- (B) Storm warnings and notices of less urgency than those specified in (A) above and other than those normally included in scheduled hydrographic broadcasts:
 - (1) One transmission at the end of the first ensuing silent period.

- (2) One transmission during the "on watch" period for ships with one operator in case the previous transmission was made during an "off watch" period.

TRANSMISSION PROCEDURE:

- (A) Urgent messages as defined in (A) above:
The URGENT signal (XXX) is transmitted on 500 kc/s, followed by QSW--kc/s (directing a shift to the frequency specified) and an appropriate phrase such as "tidal wave." After shifting, the message is transmitted on the frequency specified.
- (B) Less URGENT messages as defined in (B) above:
The safety signal (TTT) is transmitted on 500 kc/s, followed by QSW--kc/s, and an appropriate phrase such as "storm warning." After shifting, the message is transmitted on the frequency specified.

EMERGENCY BROADCASTS BY U.S. COAST GUARD RADIO STATIONS: Storm and hurricane warnings, advisories, and other urgent marine information are broadcast by United States Coast Guard Radio Stations as follows:

- (A) By radiotelegraph (CW) on the stations medium frequency upon receipt of the message at the radio station and immediately following the first silent period after receipt (HH + 18 or HH + 48) preceded by an initial call on 500 kc/s. Whenever this transmission occurs outside the watch hours for single radio operator ships, the message will be repeated at the end of the next silent period falling within the radio watch hours for such vessel. If a station makes daily broadcasts of marine information, the message will also be included in its next scheduled transmission.
- (B) By radiotelephone, immediately following receipt of the message at the radio station on 2182 kc/s. If a station makes daily broadcasts of marine information the warning message will also be included in its next scheduled transmission on 2670 kc/s. See "Broadcast Schedule of U.S. Naval and Coast Guard Stations."

TRANSMISSION PROCEDURE:

- (A) Radiotelegraph transmission will follow the same procedure as outlined above for naval radio stations.
- (B) Radiotelephone transmissions will be preceded by a preliminary announcement on 2182 kc/s, containing the appropriate radiotelephone equivalents ("PAN" and/or "SECURITY") of the urgent and/or safety signals together with instructions to shift to certain designated frequencies. After shifting, the message is transmitted on the frequency specified.

REMARKS: The following notes are applicable to United States radiotelegraph and radiotelephone procedures: All radiotelegraph broadcasts will be preceded by appropriate announcement on 500 kc/s, with subsequent shift to indicated station working frequency. All radiotelephone broadcasts will be preceded by announcement on 2182 kc/s of broadcast to follow on the designated frequency. All radiotelephone broadcasts will be made only once through at good writing speed. Emergency information superseding that previously broadcast will be handled in the same manner as the original information and will extend the emergency broadcast an additional 6 hours.

CHILE

406. **BROADCASTS BY COASTAL STATIONS:** The following format is used by Chilean stations in broadcasting navigational notices:

The positions of shoals, wrecks, and other navigational dangers are given by bearings from three objects on the chart; if three are not available, two are used, or by bearing and distance when only one objective is available.

Bearings will be true and reckoned clockwise from 0° to 360°, and the figures denoting the bearing follow the name of the object selected. When a single object is used, the bearing and distances (meters) is given thus: "45 Morro Capiapo 1,500," meaning bearing 045° from Morro Capiapo, distance 1,500 meters. Bearing of lighthouses are given to the lighthouse.

Buoys and beacons will be described by name.

Depths and heights are given in meters. Depths not on the chart are reduced to ordinary datum and are preceded by the word "profundidad," thus: "Profundidad 145"; meaning depth, 145 meters. Heights are preceded by the word "altitud," thus: "Altitud 250," meaning height, 250 meters.

Latitude and longitude are given in degrees, minutes, and seconds, preceded by the letter "L" for latitude and "G" for longitude. Degrees, minutes, and seconds are represented by a 6-figure group, each two of which corresponds to degrees, minutes, and seconds, respectively, thus: "L330407; G754907," meaning lat. 33°04'07", long. 75°49'07".

Urgent Notices to Mariners are broadcast daily as long as necessary for a period of 30 days. Notices are preceded by the word "NURNAV" (Urgent Notices to Mariners). Cancellation of any notice will be notified by broadcast on 3 consecutive days. "No hay aviso a los navegantes" indicates there is nothing to transmit.

REPORTS BY SHIPS: Ships observing dangers to navigation and defects to aids to navigation should report same to the Office of Hydrography and Navigation of the Naval Base at Valparaiso. Messages should be addressed "Ofhidro," Valparaiso.

4065.	Santiago (CCS). TIMES: 0145	FREQ.: 2806.5, 6998, 11990, 18035 kc/s, A1.	NATURE OF BROADCAST: Navigational warnings in Spanish for the coast of Chile.
4070.	Las Salinas (Valparaiso) (CCV). TIMES: 0100 (after time signal)	FREQ.: 2841, 8205, 12960 kc/s, A1..	NATURE OF BROADCAST: Navigational warning in Spanish for the coast of Chile.
4072.	Valparaiso (CBV2). TIMES: 0000	FREQ.: 12714 kc/s, A1	NATURE OF BROADCAST: Navigational warnings in Spanish for the coast of Chile.
	0015	4422.2 kc/s, A3	Navigational warnings in Spanish for the Central Zone (Coquimbo to I. Mocha).
4078.	Magallanes (CBM). TIMES: 1400, 2200	FREQ.: 464.5 kc/s, A1	NATURE OF BROADCAST: Navigational warnings in Spanish for local area.
	0045, 1400	8694 kc/s, A1	
	0030, 1330	4390.2 kc/s, A3	
4080.	Punta Arenas (CCM). TIMES: 0230	FREQ.: 6632 kc/s, A1	NATURE OF BROADCAST: Navigational warnings in Spanish for local area.

PANAMA CANAL ZONE

4100.	Balboa (NBA), U. S. Navy.			
	TIMES:	FREQ.:	NATURE OF BROADCAST:	
	0200, 0800†, 1400, 2000†	147.85, 5448.5, 11080, 17697.5, 22515 kc/s, A1.	MERCAT.	
	0430-0455, 0930-0955,	do	Hydrographic information. Navigational warn-	
	1600-1630, 2200-2230	do	ings.	
	0530, 1030, 1700, 2230	do	Weather forecasts.	
	NOTE: †One operator ships.			

UNITED STATES
(See sec. 405)

4200 Long Beach, Calif. (NMQ), U. S. Coast Guard.

TIMES:

0420, 1720

0500, 1700

4210. San Francisco, Calif. (NPG), U.S. Navy.

TIMES:

0200

0600

0900

1400

1500

2200

0500

1700

0400

1100

1600

2300

0000

4220.

1200

1800

NOTE: †One operator ships.

FREQ.:

472 kc/s, A1

2670 kc/s, A3

FREQ.:

114.95, 4010, 6428.5, 9277.5, 12966,

17288, 22835 kcs. A1.

do

do

2716 kc., A3

NATURE OF BROADCAST:

Notices to mariners, hydrographic information,
weather and storm warnings.

NATURE OF BROADCAST:

MERCANT.

Hydrographic information .Notices to mariners

riners.

Weather forecasts.

Weather forecasts when available.

NAVOCEANO 28/67 ation,

0200, 1400

2670 kc/s, A3

Notices to mariners, hydrographic information,
and storm warnings.

Emergency broadcasts are made as described in section 405.

4230. Westport, Wash. (NMW), U. S. Coast Guard.

TIMES:

0430, 1700

0530, 1730

FREQ.:

440 kc/s, A1

2670 kc/s, A3

NATURE OF BROADCAST:

Notices to mariners, hydrographic information,
weather and storm warnings.

As above, for offshore waters of Oregon and
Washington and coastal waters from Tatoosh
to Oregon-California border.

Emergency broadcasts are made as described in section 405.

4240. Port Angeles, Wash. (NOW), U. S. Coast Guard.

TIMES:

0545, 1745

FREQ.:

2670 kc/s, A3

NATURE OF BROADCAST:

Notices to mariners, hydrographic information,
weather forecasts and storm warnings for
Strait of Juan de Fuca, San Juan Islands and
Puget Sound and vicinity.

Emergency broadcasts are made as described in section 405.

4250. Seattle, Wash. (NMW43), U. S. Coast Guard.

TIMES:

1715

FREQ.:

2670 kc/s, A3

NATURE OF BROADCAST:

Notices to mariners, hydrographic information,
weather forecasts and storm warnings for
Puget Sound and vicinity.

Emergency broadcasts are made as described in section 405.

CANADA

430.	Vancouver marine notices (V. M. N.) are broadcast by radiotelegraph and/or radiotelephone by the stations listed.		
4300.	Victoria (YAK). TIMES:	FREQ.:	NATURE OF BROADCAST:
	0400, 1250, 1900	1630 kc/s, A3, 161.9 Mc/s, F3.	Navigational warnings and weather forecasts for W. coast of Vancouver Island, Juan de Fuca, and Strait of Georgia.
4305.	Vancouver (CKN). NOTE: For times and frequencies of British Long Distance Navigational Warnings for Area 6, see Sec. 439B.		
4310.	Vancouver (YAI). TIMES:	FREQ.:	NATURE OF BROADCAST:
	0410, 1310, 1910	1630 kc/s, A3, 161.9 Mc/s, F3.	Navigational warnings and weather forecasts for Juan de Fuca and Strait of Georgia.
4320.	Comox (YAC). TIMES:	FREQ.:	NATURE OF BROADCAST:
	0430, 1430, 2030	1630 kc/s, A3	Navigational warnings and weather forecasts for Queen Charlotte Strait, Johnstone Strait, Juan de Fuca, and Strait of Georgia.
4325.	Alert Bay (YAF). TIMES:	FREQ.:	NATURE OF BROADCAST:
	0420, 1320, 1920	1630 kc/s, A3	Navigational warnings and weather forecasts for Queen Charlotte Strait and Sound, Johnstone Strait, and Strait of Georgia.
4330.	Bull Harbor (YAG). TIMES:	FREQ.:	NATURE OF BROADCAST:
	1620	484 kc/s, A1	Navigational warnings and weather forecasts for Queen Charlotte Strait and Sound, Johnstone Strait, W. Coast of Vancouver Island, and Hecate Strait; also local weather.
	0445, 1340, 1940	1630 kc/s, A3	
4335.	Tofino (YAE). TIMES:	FREQ.:	NATURE OF BROADCAST:
	0420, 1620, 2020	478 kc/s, A1	Navigational warnings and weather forecasts for Queen Charlotte Strait and Sound, W. coast of Vancouver Island, and Juan de Fuca.
	0350, 1330, 1930	1630 kc/s, A3	
4340.	Sandspit (YAH). TIMES:	FREQ.:	NATURE OF BROADCAST:
	0500, 1240, 1850	1630 kc/s, A3, 161.9 Mc/s, F3.	Navigational warnings and weather forecasts for Queen Charlotte Sound, Hecate Strait, Dixon Entrance, and W. coast of Queen Charlotte Islands.
4345.	Prince Rupert (YAJ). TIMES:	FREQ.:	NATURE OF BROADCAST:
	0430, 1630, 2030	420 kc/s, A1	Navigational warnings and weather forecasts for Queen Charlotte Sound, Hecate Strait, Dixon Entrance, and W. coast of Queen Charlotte Islands.
	0340, 1300, 1840	1630 kc/s, A3	Navigational warnings, local weather reports and area forecasts for Hecate Strait and Dixon Entrance.

ALASKA

(See sec. 405)

4350. Ketchikan (NMJ), U. S. Coast Guard.

TIMES:

0530, 1730 466 kc/s, A1.....
0600, 1430, 1800 2670 kc/s, A3.....

Emergency broadcasts are made as described in section 405.

FREQ.:

NATURE OF BROADCAST:

Notices to mariners, hydrographic information,
weather forecasts and storm warnings.

4355. Kodiak (NOJ), U. S. Coast Guard.

TIMES:

0700, 1900 2670 kc/s, A3.....

Emergency broadcasts are made as described in section 405.

FREQ.:

NATURE OF BROADCAST:

Notices to mariners and weather.

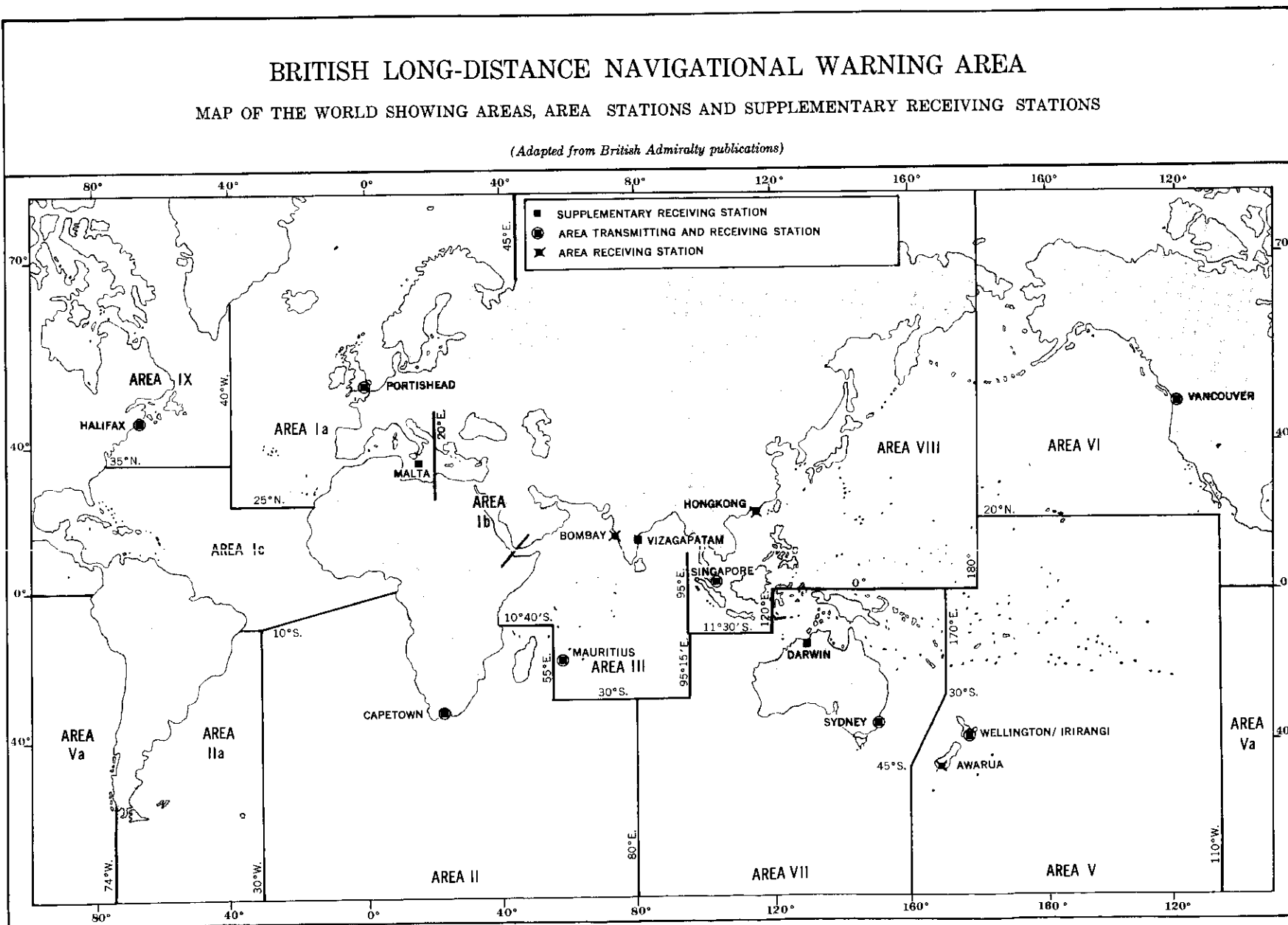
439 B. BRITISH LONG-DISTANCE NAVIGATIONAL WARNINGS

Area	Transmitting station	Area	Transmitting station
Area 1 (1A, 1B, and 1C) - - - - -	Portishead.	Area 6 - - - - -	Vancouver.
Area 2 and 2A - - - - -	Capetown.	Area 7 - - - - -	Sydney.
Area 3 - - - - -	Mauritius.	Area 8 - - - - -	Singapore.
Area 5 and 5A - - - - -	Wellington.	Area 9 - - - - -	Halifax.

Navigational warnings and weather messages, if on hand, will be broadcast by area transmitting stations from the beginning of the last half-hour of the scheduled 2-hour periods. If none is on hand, area stations will notify ships accordingly at this time.

G.M.T.

0130 - - - - -	} All area Stations.
0530 - - - - -	
0930 - - - - -	
1330 - - - - -	
1730 - - - - -	
2130 - - - - -	



439B. BRITISH LONG-DISTANCE NAVIGATIONAL WARNINGS—Continued

Guide to Call Signs and Frequencies Which May Be Employed

All frequencies used for transmissions (except Halifax and Vancouver) will be indicated by call signs only.

Area (1)	Call Sign (2)	Frequency (kc.) (3)	Call Sign (4)	Frequency (kc.) (5)	Call Sign (6)	Frequency (kc.) (7)
I. Portishead - - - - -	* GKU	129.95	GKN	8,546	GKT 6	16,954.4
	GRL	1,612	GKL	8,558	GKB 6	16,973.6
	GKC 2	4,256	GKB 4	8,569.6	GKJ	17,098.4
	GKA 2	4,267.9	GKA 4	8,581.6	GKS	17,112.8
	GKH	4,274	GKC 4	8,606.4	GKA 6	17,136.8
	GKM	4,286	GKD	12,714	GKC 6	17,151.2
	GKK	4,316	GKU 5	12,790	GKT 7	22,407
	GKW	6,369	GKF	12,822	GKA 7	22,431
	GKV	6,379.5	GKG	12,835.5	GKI	22,449
	GKA 3	6,397	GKA 5	12,858	GKO	22,467
	GKC 3	6,428.5	GKC 5	12,871.5	GKB 7	22,503
	GKU 3	6,470.8	GKB 5	13,006.5	GKU 7	22,527
	GKB 3	6,477.5	GKT 5	13,020	GKC 7	22,545
	ROLL CALLS and Warnings 0000-0800 GMT: any three of the following:— GKM 4,286, GKW 6,369, GKN 8,546, GKF 12,822, GKJ 17,098.4 kc/s.					
II. Capetown- - - - -	ZSL	119.15	ZSL 3	6,467	ZSL 5	12,722.5
	ZSL 2	3,741.5	ZSL 4	8,502	ZSL 6	17,228
III. Mauritius - - - - -					ZSL 7	22,455
	GZC	123	GZC 3	6,519.5	GZC 5	12,988.5
	GZC 2	4,295	GZC 4	8,726	GZC 6	16,978.4
V. Wellington - - - - -					GZC 7	22,587
	ZLW 4	8,702	ZLW 5	13,056	ZLW 6	17,170.4
VII. Sydney - - - - -	VIX	44	VIX 3	6,428.5	VIX 5	12,907.5
	VIX 2	4,286	VIX 4	8,478	VIX 6	17,256.8
					VIX 7	22,485
VIII. Singapore - - - - -	GYS	112.85	GYS 3	6,481	GYS 5	12,781.5
	GYS 2	4,334	GYS 4	8,630	GYS 6	17,266.4
					GYS 7	22,521
VI. Vancouver - - - - -	CKN	110.75	CKN	6,445.25	CKN	12,921
	CKN	3,287	CKN	8,614	CKN	17,228
	CKN	4,307			CKN	22,449
IX. Halifax - - - - -	CFH	115.3	CFH	6,449.5	CFH	12,984
	CFH	4,356.5	CFH	8,662	CFH	17,218.4

* GKU 129.95 kc. in abeyance until ordered or GBMS Organization is operative.

REPUBLIC OF SOUTH AFRICA

4500. **Capetown (ZSC) (ZSL) (ZSP).**

TIMES:

On receipt and 48 minutes past the
hour during the next single operator
watch period
0930, 1730 (after weather report)....
On receipt
1030, 1845 (after weather report)....

FREQ.:

(ZSC) 500 kc/s, A2
(ZSL) 119.15 kc/s, A1
(ZSP) 2182 kc/s, A3
(ZSP) 1665 kc/s, A3

NATURE OF BROADCAST:

Navigational warnings in English for South
African Coast from Cape Cross to Cape
Recife.

NOTE 1: These broadcasts are also made by (ZSL) on H/F at 0930 and 1730 (after weather report). For details of frequencies
in use at these times, see Sec. 439B.

NOTE 2: For times and frequencies of British Long Distance Navigational Warnings for Area 2, see Sec. 439B.

4502. **Port Elizabeth (ZSQ).**

TIMES:

0920, 1720 (after weather report and
on receipt).....
1020, 1820 and on receipt

FREQ.:

(ZSQ 4) 472 kc/s, A2
(ZSQ) 1665 kc/s, A3

NATURE OF BROADCAST:

Navigational warnings for South African coast
from Cape Point to Cap Natal.

4504. **Durban (ZSD).**

TIMES:

0950, 1705 (after weather report and
on receipt).....
1030, 1830 and on receipt

FREQ:

(ZSD 5) 432 kc/s, A2
(ZSD) 1665 kc/s, A3

NATURE OF BROADCAST:

Navigational warnings for South African coast
from Cape Recife to Point de Oro.

MOZAMBIQUE

4508. **Lourenco Marques (CRX).**

TIMES:

1045, 1545 (after weather report)....

FREQ.:

484, 4358, 6502,
13042.5 kc/s, A1.

NATURE OF BROADCAST:

Navigational warnings in Portuguese, repeated
in English.

MALAGASY REPUBLIC

4510. **Tulear (5RT).**

TIMES:

0440, 1640

FREQ.:

416 kc/s, A1, A2 (after call
on 500 kc/s.)

NATURE OF BROADCAST:

Navigational warnings in French for Madagas-
car and Indian Ocean.

4515. **Majunga (5RO).**

TIMES:

0500, 1630

FREQ.:

441, 461 kc/s, A1, A2 (after
call on 500 kc/s).

NATURE OF BROADCAST:

Navigational warnings in French for Madagas-
car and Indian Ocean.

4520. **Diego Suarez (5RL).**

TIMES:

0430, 1700

FREQ.:

447 kc/s, A1, A2 (after call
on 500 kc/s).

NATURE OF BROADCAST:

Navigational warnings in French for Madagas-
car and Indian Ocean.

4525. **Tamatave (5RS).**

TIMES:

0510, 0810, 1610

FREQ.:

476, 519 kc/s, A1, A2 (after
call on 500 kc/s).

NATURE OF BROADCAST:

Navigational warnings in French for Madagas-
car and Indian Ocean.

REUNION

4530. Saint-Denis, Reunion (FFD).

TIMES:

0500, 1300

FREQ.:

487 kc/s, A1, A2 (after call
on 500 kc/s).

NATURE OF BROADCAST:

Navigational warnings in French.

MAURITIUS

4532. Mauritius (GZC).

NOTE: For times and frequencies of British Long Distance Navigational Warnings for Area 3, see Sec. 439B.

SOMALI REPUBLIC

4535. Mogadiscio (60R).

TIMES:

0448, 0848, 1248, 1648 and on
receipt when urgent

FREQ.:

450 kc/s (after call on
500 kc/s).

NATURE OF BROADCAST:

Navigational warnings in Italian.

FRENCH SOMALILAND

4540. Djibouti (TXZ).

TIMES:

0830 (after weather report),
after next silent period

FREQ.:

464 kc/s (after call on 500
kc/s, A1).

NATURE OF BROADCAST:

Navigational warnings in French for coast of
French Somaliland.

0018, 0318, 0618, 0918, 1218, 1518,
1818, 2118

(TXZ 8) 8682 kc/s, A1
..... do

Navigational warnings in French for coast of
French Somaliland.

On receipt

500 kc/s

ETHIOPIA

4545. Asmara (NKA), U. S. Navy.

TIMES:

0300-0400
2245-2345†

FREQ.:

3220, 4515, 9060, 12817.5,
22760 kc/s, A1.

NATURE OF BROADCAST:

MERCAST.

0600-0700†
1045-1145 ..

9060, 12817.5, 17510,
22760 kc/s, A1.

MERCAST.

1445-1545†
1800-1900

4515, 9060, 12817.5, 17510,
22760 kc/s, A1.

MERCAST.

0500-0555

4515, 9060, 12817.5,
22760 kc/s, A1.

Hydrographic information.

1700-1755

9060, 12817.5, 17510,
22760 kc/s, A1.

Hydrographic information.

0230-0300

3220, 4515, 9060, 12817.5,
22760 kc/s, A1.

Weather broadcasts.

0700-0730
1300-1330

9060, 12817.5, 17510,
22760 kc/s, A1.

Weather broadcasts.

1930-2000

3220, 4515, 9060, 12817.5,
17510, 22760 kc/s, A1.

Weather broadcasts.

† One-operator ships.

SAUDI ARABIA

4550. **Ra's at Tannurah (HZY).**
TIMES:
0430
1630
FREQ.:
430,8480 kc/s
430,12730 kc/s (16960 kc/s
on request).
NATURE OF BROADCAST:
Navigational warnings.

BAHRAIN

4555. **Bahrain (GNY).**
TIMES:
0520,0920,1320,1720
FREQ.:
487 kc/s, A1, A2
NATURE OF BROADCAST:
Navigational warnings in English for Persian
Gulf.

IRAQ

4560. **Al Waziriyah (YIT).**
TIMES:
Continuous
FREQ.:
461.5 kc/s, A1, 200W.
NATURE OF BROADCAST:
Communicates with vessels anchored at Har-
thah (Harta) Pt. and wishing to proceed out-
wards, through Abadan Harbor.
Keeps watch for vessels desiring permission to
pass through Abadan Harbor at night.
REMARKS: This service is operated only in the service of the Port of Basra. Ships inside the area Nahr Umar-Rooka Buoy
should keep continuous watch on 461.5 kc/s.

4565. **Al Faw Control Station, Shatt al Arab (YIS).**
TIMES:
As necessary
FREQ.:
(YIS3) 461.5, (YIS4) 500
kc/s, A1, 200W.
NATURE OF BROADCAST:
Transmits channel control signals during low
visibility. Height of tide at inner bar is
transmitted on request.
REMARKS: Dredged and Western Channels: All vessels underway are required to keep continuous watch on 461.5 kc/s
for traffic-control messages issued by the control officer: (a) in case of inward-bound vessels continuous watch should be
kept from the time the pilot first boards at the pilot vessel until the vessel has passed Fao; (b) in case of outward-bound
vessels continuous watch should be kept from the time the vessel leaves or passes Kasba anchorage until the pilot finally
disembarks at the pilot vessel.
The station keeps watch and receives messages on 500 kc/s from shipping passing through channels or in the Gulf. Out-
ward bound vessels advise Control when clear of dredged channels.

4570. **Al Basrah (YIR4).**
TIMES:
As necessary
FREQ.:
500 kc/s, A1
NATURE OF BROADCAST:
Navigational warnings.

PAKISTAN—West Coast

4575. **Karachi (ASK).**
TIMES:
After weather reports at:
0830, 1630
0830
1630
FREQ.:
484 kc/s, A1
13024 kc/s, A1
8694 kc/s, A1
0030, 0430, 1230, 2030
On receipt
NATURE OF BROADCAST:
Navigational warnings in English.

INDIA

458. Navigational warnings are transmitted as W.I.G. (Warning: India, General) messages, originating from Bombay Naval Radio (VTG). All messages are rebroadcast by certain coastal radio stations.

PROCEDURE: At the commencement of each schedule, the following signal will be made:

(i) CT CQ CQ CQ de VTG VTG VTG QTC followed by the Date-Time-Group of the message.

(ii) If there is no message at hand for transmission, this will be signalled as follows:

CT CQ CQ CQ de VTG VTG VTG QRU AR.

4580. Bombay Naval Radio (VTG).

TIMES:

1000

1800

As required

FREQ.:

4268, 8634, 12808.5,

17276 kc/s, A1.

2072, 4268, 6467, 8634,

12808.5 kc/s, A1.

22629 kc/s, A1.

NATURE OF BROADCAST:

Navigational warnings in English for Indian coastal waters.

NOTE. —Warnings broadcast at 1000 will be repeated at 1800. No new warnings will be broadcast at 1800 unless very urgent.

4581. Kandla (VWK).

TIMES:

0418, 1618

FREQ:

440 kc/s, A1

NATURE OF BROADCAST:

Navigational warnings in English for Indian coastal waters; repeated for 5 days.

4582. Bombay (VWB).

TIMES:

0418, 1618

FREQ.:

476, 8514 kc/s, A1

NATURE OF BROADCAST:

Navigational warnings in English for Indian coastal waters; repeated for 5 days.

4583. Ratnagiri (VWZ).

TIMES:

0418, 1618

FREQ.:

420.5 kc/s, A1

NATURE OF BROADCAST:

Navigational warnings in English for Indian coastal waters; repeated for 5 days.

4584. Goa (VWG).

TIMES:

0418, 1618

FREQ.:

417.5 kc/s, A1

NATURE OF BROADCAST:

Navigational warnings in English for Indian coastal waters; repeated for 5 days.

4585. Karwar (VWY).

TIMES:

0418, 1618

FREQ.:

452 kc/s, A1

NATURE OF BROADCAST:

Navigational warnings in English for Indian coastal waters; repeated for 5 days.

4586. Mangalore (VWL).

TIMES:

0418, 1618

FREQ.:

438 kc/s, A1

NATURE OF BROADCAST:

Navigational warnings in English for Indian coastal waters; repeated for 5 days.

4587. Cochin (VWN).

TIMES:

0418, 1618

FREQ.:

474 kc/s, A1

NATURE OF BROADCAST:

Navigational warnings in English for Indian coastal waters; repeated for 5 days.

4588. Tuticorin (VWT).

TIMES:

0418, 1618

FREQ.:

487 kc/s, A1

NATURE OF BROADCAST:

Navigational warnings in English for Indian coastal waters; repeated for 5 days.

4589. Madras (VWM).

TIMES:

0418, 1618

FREQ.:

446, 8674, 4301 kc/s, A1....

NATURE OF BROADCAST:

Navigational warnings in English for Indian coastal waters; repeated for 5 days.

RADIO
NAVIGATIONAL WARNINGS

H.O. PUB. NO. 117B
RADIO NAVIGATIONAL AIDS

4590.	Vishakhapatnam (VWV). TIMES: 0418, 1618	FREQ.: 415.5 kc/s, A1	NATURE OF BROADCAST: Navigational warnings in English for Indian coastal waters; repeated for 5 days.
4592.	Calcutta (VWC). TIMES: 0418, 1618	FREQ.: 434, 4286, 12745 kc/s, A1 ..	NATURE OF BROADCAST: Navigational warnings in English for Indian coastal waters; repeated for 5 days.
4595.	Port Blair, Andaman Is. (VWP). TIMES: 0418, 1618	FREQ.: 442 kc/s, A1	NATURE OF BROADCAST: Navigational warnings in English for Indian coastal waters; repeated for 5 days.

CEYLON

4605.	Colombo (4PB). TIMES: 0600, 0900, 1330 After next silent period following receipt.....	FREQ.: 482 kc/s, A2, 8742 kc/s, A1 .. 500 kc/s	NATURE OF BROADCAST: Navigational warnings.
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PAKISTAN—East Coast

4610.	Chittagong (ASC). TIMES: 0850, 1650	FREQ.: 466 kc/s, A2	NATURE OF BROADCAST: Navigational warnings in English(after weather reports).
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BURMA

4615.	Rangoon (XYR). TIMES: 0500, 0900, 1700	FREQ.: 460 kc/s, A2, 500 kc/s, A1 ..	NATURE OF BROADCAST: Navigational warnings in English(after weather reports).
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FEDERATION OF MALAYSIA (MALAYA)

4635.	Penang (9MG). TIMES: 0148, 0548, 0948, 1348, 1748, 2148 ...	FREQ.: 522.5 kc/s, A1, A2	NATURE OF BROADCAST: Navigational warnings for China Sea, Straits of Malacca and Bay of Bengal.
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SINGAPORE

4640.	Singapore Naval Radio (GYS) (See sec. 439B). TIMES: 0130, 0530, 0930, 1330, 1730, 2130 ...	FREQ.: 112.85, 4334, 6481, 8630, 12781.5, 17266.4, 22521 kc/s.	NATURE OF BROADCAST: Navigational warnings.(WP messages).
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NOTE: For times and frequencies of British Long Distance Navigational Warnings for Area 8, see Sec. 439B.

4645.	Singapore (9VG). TIMES: 0118, 0518, 0918, 1318, 1718, 2118 ... 0145, 0405, 0805 1345	FREQ.: 516 kc/s, A1 2760, 8767.2 kc/s, A3 2760, 4371.1 kc/s, A3	NATURE OF BROADCAST: Navigational warnings for China Sea, Bay of Bengal and Straits of Malacca.
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VIETNAM

4650. Sai Gon (XVS).

TIMES:

0818, 1218, 1718, 2118
On request.....

FREQ.:

500 kc/s, A1
..... do

NATURE OF BROADCAST:

Navigational warnings in French for coasts of
Vietnam and Cambodia; sea area south of
17°N. from 102°E. to 112°E.

HONG KONG

4655. Tai Long Head (Cape d'Aguilar) (VPS) (ZEL).

TIMES:

On receipt and H+ 18

FREQ.:

0000-1200(VPS) 13020 kc/s, A1.
Continuous (VPS) 8539 kc/s, A1.
Continuous (VPS) 527.5 (after
call on 500) kc/s, A1

NATURE OF BROADCAST:

After weather report at:

0118

1318

(VPS 2) 435 kc/s, (ZEL 24)
12325 kc/s, A1
(VPS 2) 435 kc/s, (ZEL 22)
7658 kc/s, A1

Navigational warnings in English.

CHINA

4660. Shang-hai (XSG).

TIMES:

0305, 0905 (after weather report)

On receipt and on request.....

FREQ.:

458 kc/s, A1, A2, 6414.5,
8502, 12871.2 kc/s, A1....
500 kc/s, A2.....

NATURE OF BROADCAST:

Navigational warnings in English for the Shang-
hai coastal area.

KOREA

4665. Inch'on (HLC).

TIMES:

0018, 0418, 0818

FREQ.:

500 kc/s, A2

NATURE OF BROADCAST:

Navigational warnings in Korean and English.

4670. Mokp'o (HLM).

TIMES:

0018, 0418, 0818

FREQ.:

500 kc/s, A2.....

NATURE OF BROADCAST:

Navigational warnings in Korean and English.

4680. Kusan (HLN).

TIMES:

0018, 0418, 0818

FREQ.:

500 kc/s, A2.....

NATURE OF BROADCAST:

Navigational warnings in Korean and English.

4685. Kangnung (HLK).

TIMES:

0018, 0418, 0818

FREQ.:

500 kc/s, A2.....

NATURE OF BROADCAST:

Navigational warnings in Korean and English.

4690. Pusan (HLP).

TIMES:

0018, 0418, 0818

FREQ.:

500 kc/s, A2.....

NATURE OF BROADCAST:

Navigational warnings in Korean and English.

4695. Ulneung (HLU).

TIMES:

0018, 0418, 0818

FREQ.:

500 kc/s, A2.....

NATURE OF BROADCAST:

Navigational warnings in Korean and English.

U. S. S. R.

470. NAVIGATIONAL WARNINGS:

A Routine Navigational Warnings.

1. These messages are broadcast by all Russian coast radio stations on full power. For details of frequencies and times of broadcast, see under individual stations.
2. The broadcast is made at a speed of 80 characters per minute.
3. The form of the broadcast is as follows:—
 - (a) VVV VV (tuning signal for one minute)
 - (b) CQ CQ CQ CQ de (call sign—three times) NAVIM
 - (c) Repeat of (b).
 - (d) Office No./Notice No.
Number of words in notice.
Date (day & month) & time (Moscow time).
Text (in P/L Russian).
Notice No. and Authority.
EC (end of notice).
SK (end of work—sent after final notice).

Example of message:—

VVV CQ CQ CQ de UDB UDB UDB NAVIM CQ CQ
CQ de UDB UDB UDB NAVIM NR 306/28 40 21/7 1230
. . . . text of notice* 28 GO BF EC SK UDB.

(* NIL broadcast in message when no NAVIMS are to be issued).

4. Each NAVIM is normally broadcast once only by the stations in the area affected. The following stations, however, repeat their NAVIMS in the next schedule:—
Arkhangelsk, Kholmsk, Leningrad, Murmansk, Odessa, Tallin, Vladivostok, Zhdanov.

B. Urgent Navigational Warnings.

1. Broadcast first by coast radio stations in the area affected on one of their working frequencies, after a preliminary call on 500 kc/s:—

- (i) On receipt.
 - (ii) At the end of the next silent period.
 - (iii) After first silent period for single operator ships' watch.
2. Repeated by *one* of the following stations:—
Arkhangelsk, Kholmsk, Leningrad, Murmansk, Odessa, Tallin, Vladivostok, Zhdanov:—
 - (i) After the second silent period following the original broadcast.
 - (ii) After the first silent period of the next single operator watch.
 3. The form of the broadcast is as follows:—
 - (a) TTT TTT de (call sign—three times).
 - (b) Word describing type of hazard, e.g. mine (*mina*), ice (*lyed*), iceberg (*oblomke*), etc.
 - (c) QSW, followed by working frequency.
 - (d) Remaining part of message will be as para. 3(d) of Section A.

Example of message:—

TTT TTT TTT de UDB UDB UDB MINA QSW 484 610/
120 50 14/6 1630 text of notice 80 GO BF EC
SK UDB.

C. Ships' reports.

Ships encountering navigational dangers such as floating mines, derelicts, drifting buoys, gales, etc., should inform all ships in the vicinity, as well as the nearest coast radio station or other station with which communication can be made.

4700. Vladivostok (UIK) (UFL).

TIMES:	FREQ.:
0030, 0600, 1230, 1830	(UIK) 142.86 kc/s, A1
0030, 1230, 1830	(UFL) 3630 kc/s, A1
1230, 1830	(UFL) 6345 kc/s, A1
1230	(UFL) 8690 kc/s, A1
0030, 0600	(UFL) 12710 kc/s, A1

NATURE OF BROADCAST:
Navigational warnings and ice reports in Russian and English for Sea of Japan, Sea of Okhotsk, and Bering Sea.

4705. Kholmsk (UFO) (UQB).

TIMES:	FREQ.:
0030, 1330	(UFO) 416 kc/s, A1
1330	(UQB) 3890 kc/s, A1
0030	(UQB) 8680 kc/s, A1

NATURE OF BROADCAST:
Navigational warnings in Russian and English for Northern Sea of Japan.

4710. Nikolayevsk-na-Amure (ULL).

TIMES:	FREQ.:
0500, 2200	475 kc/s, A1

NATURE OF BROADCAST:
Navigation and ice warnings in Russian and English for Western Sea of Okhotsk, N. coast of Sakhalin and Tatarskiy Proliv.

JAPAN

472. Japanese coast stations transmit information concerning beacons, reefs, wrecks, ice buoys, lights, etc., and changes affecting navigational routes. This information is transmitted on 500 kc/s, A2 at 0018, 0818, on receipt, and at the end of the next silent period. Broadcasts will be made in English except that announcements of no interest to foreign ships may be made in Japanese. Time of broadcast on 500 kc/s may sometimes be retarded for a few seconds to avoid interference from nearby ships or stations. Broadcast procedure will be in the following order: (a) TTT, safety signal, 3 times; (b) DE once; (c) Call sign of the transmitting station 3 times; (d) Nature of notice (typhoon, derelict, etc.); (e) BT; (f) Body of notice; (g) VA. end of work. The text of certain messages may be repeated several times.

4720. Tokyo (JJC) (JMC).

TIMES:

0320
1020 (in English)
2120

FREQ.:

(JJC) 4316, 8736.5, 12745.5,
17069.6 kc/s, A1.

NATURE OF BROADCAST:

Navigational warnings.

0205
1125

(JMC) 91.15, 4298, 6397,
*8526, 12840 kc/s, A1.

Reports of special phenomena (earthquakes,
volcanic eruptions, etc.) in plain English or
code.

NOTE: *At 0205 only.

4724. Kushiro (JNX).

POWER: 250 watts.

4752. Kobe (JCK) (JGD).

POWER: 500 watts.

4726. Ochiishi (Nemuro) (JOC).

POWER: 500 watts.

4754. Oita (JIT) (JNU).

POWER: 500 watts.

4728. Shiogama (JNN).

POWER: 500 watts.

4756. Moji (JNR).

POWER: 500 watts.

4730. Hakodate (JHK) (JNI).

POWER: 500 watts.

4758. Kagoshima (JNJ).

POWER: 500 watts.

4732. Otaru (JJT) (JNL).

POWER: 500 watts.

4760. Nagasaki (JOS).

POWER: 500 watts.

4734. Wakkanai (JNW).

4762. Izuhara (JNQ).

POWER: 500 watts.

4736. Hachinohe (JNY).

POWER: 500 watts.

4764. Sasebo (JNK).

POWER: 500 watts.

4738. Choshi (JCS).

POWER: 500 watts.

4766. Shimonoseki (JCG).

POWER: 500 watts.

4740. Yokohama (JGC).

POWER: 500 watts.

4768. Maizuru (JMA) (JNC).

POWER: 500 watts.

4742. Nagoya (JNT).

POWER: 500 watts.

4770. Sakai (JNP).

POWER: 500 watts.

4744. Kochi (JNO).

POWER: 250 watts.

4772. Fushiki (JNZ).

POWER: 250 watts.

4746. Hiroshima (JNE).

POWER: 500 watts.

4774. Niigata (JCF) (JNV).

POWER: 500 watts.

4748. Kure (JNF).

POWER: 500 watts.

4776. Akita (JND).

POWER: 250 watts.

4750. Shiono Misaki (JSM).

POWER: 500 watts.

TAIWAN (FORMOSA)

4785. **Chi-lung (XSX).**
TIMES:
On receipt
On request
FREQ.:
420, 8714 kc/s, A1 (after
call on 500 kc/s).
(Answers on 420 kc/s)
NATURE OF BROADCAST:
Navigational warnings in English for Formosa
coastal area.
4790. **Kao-hsiung (XSW).**
TIMES:
On receipt
On request
FREQ.:
460, 8582 kc/s, A1 (after
call on 500 kc/s).
(Answers on 460 kc/s)
NATURE OF BROADCAST:
Navigational warnings in English for Formosa
coastal area.

REPUBLIC OF THE PHILIPPINES

4795. **Manila Broadcasting Stations.**
TIMES:
0030, 0330, 0630
0930, 1230 (Except Sunday)
0505 (Monday to Friday)
0230, 0800, 1440, 2100
2100
0830
0100
2100, 2300 (Monday to Friday)
0955, 2155 (Saturday, Sunday)
REMARKS: Times of broadcast to change.
FREQ.:
(DZS) 2580 kc/s, A1 (after call on 500 kc/s)
(DZS) 523 kc/s, A1 (after call on 500 kc/s)
(DZS) 5970 kc/s, A3
(DZS) 960 kc/s, A3
NATURE OF BROADCAST:
Navigational warnings.
4800. **Manila (Sangley Point) (XST).**
TIMES:
0530, 1100, 1200
0300
0215, 0430, 1930
NOTE: For operator ships.
FREQ.:
4445, 12200, 15925 kc/s, A1
do
do
NATURE OF BROADCAST:
MERCAST.
Hydrographic information, navigational warnings.
Weather.
4802. **Sangley Point (NRX), U.S. Coast Guard.**
TIMES:
No scheduled broadcast
Emergency broadcasts are made as described in section 405.
FREQ.:
450 kc/s, A1
NATURE OF BROADCAST:
Notices to mariners, hydrographic information,
storm warnings.

FEDERATION OF MALAYSIA (SARAWAK)

4805. **Miri (9WW21).**
TIMES:
0100, 0500, 0900, 1300
FREQ.:
485 kc/s, A1
NATURE OF BROADCAST:
Navigational warnings.
4810. **Kuching (9WW20).**
TIMES:
0000, 0400, 0800, 1200, 1600, 2000 ...
0300, 0700, 1100, 1500, 1900, 2300 ...
0100, 0500, 0900, 1300, 1700, 2100 ...
0200, 0600, 1000, 1400, 1800, 2200 ...
FREQ.:
485 kc/s, A1 (after call on
500 kc/s)
2130 kc/s, A3 (after call on
2182 kc/s)
4371.1 or 8767.2 kc/s, A3
(after call on 6204 kc/s).
8522 kc/s, A1
NATURE OF BROADCAST:
Navigational warnings.

INDONESIA (BORNEO)

4815. Balikpapan (PKN).

TIMES:

0000, 0400 (Friday and Saturday) . . .
0100, 0500 (Monday-Thursday)
0100 (Sunday and holidays)
0800 (Friday)

FREQ.:

448 kc/s, A1, A3 (after call
on 500 kc/s); 8706 kc/s, A1.
..... do
..... do

NATURE OF BROADCAST:
Navigational warnings in English commencing
NTM. (Following the traffic lists.)

INDONESIA (SUMATRA)

4816. Dumai (PKP).

TIMES:

0000, 0400, 0800, 1200

0030, 1300
0000, 2300
0130, 0330
0730

FREQ.:

448 kc/s, A1, A2, (after call
on 500 kc/s.)
8726 kc/s, A1
13101 kc/s, A1
17184 kc/s, A1
8799.2 kc/s, A3

NATURE OF BROADCAST:
Navigational warnings in English commencing
NTM. (Following the traffic lists.)

4817. Medan (PKB).

TIMES:

0000, 0400, 0800, 1200

0230, 0600, 1100
0730
0330, 1000

FREQ.:

474 kc/s, A1, A2 (after call
on 500 kc/s)
8730 kc/s, A1
13123.5 kc/s, A1
8754.4 kc/s, A3

NATURE OF BROADCAST:
Navigational warnings in English commencing
NTM. (Following the traffic lists.)

4819. Palembang (PKC).

TIMES:

0000, 0400, 0800, 1200

0100, 0500, 0900, 1300
0200, 0600, 1000

FREQ.:

448 kc/s, A1, A2 (after call
on 500 kc/s)
8706 kc/s, A1
8799.3 kc/s, A3

NATURE OF BROADCAST:
Navigational warnings in English commencing
NTM. (Following the traffic lists.)

INDONESIA (JAVA)

4820. Djakarta (PKI).

TIMES:

0018, 0418, 0818, 1218, 1618, 2018 . . .

0400, 1530
0700
0000, 0700

FREQ.:

470 kc/s, A1, A2 (after call
on 500 kc/s)
8542 kc/s, A1
12970.5 kc/s, A1
17199.2 kc/s, A1

NATURE OF BROADCAST:
Navigational warnings in English commencing
NTM. (Following the traffic lists.)

4822. Tandjungpriok (PKZ).

TIMES:

0200, 0400, 1000

FREQ.:

8754.4 kc/s, A3

NATURE OF BROADCAST:
Navigational warnings in English commencing
NTM. (Following the traffic lists.)

4824. Surabaya (PKD).

TIMES:

0300, 1000, 1300, 1600, 2000, 2300 . . .

0200, 0730, 1400
0130, 0630

FREQ.:

430 kc/s, A1, A2 (after call
on 500 kc/s)
8730 kc/s, A1
8754.4 kc/s, A3

NATURE OF BROADCAST:
Navigational warnings in English commencing
NTM. (Following the traffic lists.)

INDONESIA (CELEBES)

4830. Makasar (PKF).

TIMES:
0000, 0400, 0800, 1200
0200, 1100
0600, 1030

FREQ.:
465 kc/s, A1, A2 (after call
on 500 kc/s)
8686 kc/s, A1
8754.4 kc/s, A3

NATURE OF BROADCAST:
Navigational warnings in English commencing
NTM. (Following the traffic lists.)

INDONESIA (CERAM)

4836. Amboina (Ambon) (PKE).

TIMES:
0000, 0400, 2300
0200, 0330
0230

FREQ.:
470 kc/s, A1, A2 (after call
on 500 kc/s)
8742 kc/s, A1
8799.2 kc/s, A3

NATURE OF BROADCAST:
Navigational warnings in English commencing
NTM. (Following the traffic lists.)

4840. Sukarnopuro (PNK).

TIMES:
0100, 0900
0000, 0200, 0800, 1030, 2300,
(Monday-Saturday)
0000, 0200, 0800, 2300,
(Sunday and holidays)
0400 (Monday-Saturday)
0100, 0930 (Sundays and holidays) ...
0000, 0430, 0830, 1230, 2300,
(Monday-Saturday)
0000, 0830, 2300 (Sundays and holidays)

FREQ.:
456 kc/s, A1, A2 (after call
on 500 kc/s)
8694 kc/s, A1
..... do
13101 kc/s, A1
17074.4 kc/s, A1
8773.6 kc/s, A3
..... do

NATURE OF BROADCAST:
Navigational warnings in English commencing
NTM. (Following the traffic lists.)

PAPUA

4866. Port Moresby (VIG).

TIMES:
On receipt; repeated during watch
periods of single operator ships,
0000-0800 (Monday-Friday)
2100-2400 (Monday-Friday)
0000-0730, 2100-2400 (Saturday) ...
0000-0200, 2200-2400 (Sunday
and holidays)

FREQ.:
482 kc/s, A2 (after call on
500 kc/s)
..... do
..... do

NATURE OF BROADCAST:

Navigational warnings.

NORTHEAST NEW GUINEA

4868. Lae (VIL).

TIMES:
On receipt; repeated during watch
periods of single operator ships,
2200-1000 (Monday-Saturday)
2200-0200 (Sunday)

FREQ.:
445 kc/s, A1, A2 (after call
on 500 kc/s)

NATURE OF BROADCAST:

Navigational warnings.

AUSTRALIA

487. Navigational warnings are transmitted by the stations listed below:
The warnings will be preceded by the safety signal (TTT) repeated at short intervals on full power. Navigational warnings will be transmitted immediately following the weather bulletins or, if urgent, will be transmitted on the station's normal frequency on receipt and transmitted twice on the next regular weather broadcast.

If there are no navigational warning messages to be transmitted following the weather, the station will signal "VA."
Coast stations that do not broadcast weather reports will broadcast navigational warnings as ordered by the Director of Navigation or the Australian Naval Board.

Ships meeting with dangers to navigation or dangerous storms should comply with section 500C and upon arrival at the next port of call in Australia, lodge with the Superintendent of the Mercantile Marine Office at the port, or, if there is no superintendent, with the Subcollector of Customs, a report to the Deputy Director of Navigation for the State in form D.C.-A., copies of which are obtainable free from said offices.

4870.	Thursday Island (VII).		
	TIMES:	FREQ.:	NATURE OF BROADCAST:
	On receipt; repeated during watch periods of single operator ships ...	464 kc/s, A2	Navigational warnings.
4872.	Cairns (VIK).		
	TIMES:	FREQ.:	NATURE OF BROADCAST:
	On receipt; repeated during watch periods of single operator ships, 2000-0900	476 kc/s, A2	Navigational warnings.
4876.	Townsville (VIT).		
	TIMES:	FREQ.:	NATURE OF BROADCAST:
	0048, 1300	420.5 kc/s, A2	Navigational warnings.
4878.	Rockhampton (VIR).		
	TIMES:	FREQ.:	NATURE OF BROADCAST:
	On receipt; repeated during watch periods of single operator ships, 2200-0730 (Monday-Saturday) and 2300-0300, 0400-0700 (Sundays) ...	472 kc/s, A2	Navigational warnings.
4880.	Brisbane (VIB).		
	TIMES:	FREQ.:	NATURE OF BROADCAST:
	0118, 1248	435 kc/s, A2	Navigational warnings.
4882.	Sydney (VIS).		
	TIMES:	FREQ.:	NATURE OF BROADCAST:
	0100, 1300	476 kc/s, A2	Navigational warnings.
	0218, 0703, 2203	2201 kc/s, A3	
	NOTE: For call signs, times and frequencies of British Long Distance Navigational Warnings for Area 7, see Sec. 439B.		
4884.	Hobart, Tasmania (VIH).		
	TIMES:	FREQ.:	NATURE OF BROADCAST:
	On receipt; repeated during watch periods of single operator ships, 2100-1000	440 kc/s, A2	Navigational warnings.

RADIO
NAVIGATIONAL WARNINGS

H.O. PUB. NO. 117B
RADIO NAVIGATIONAL AIDS

4886.	Melbourne (VIM). TIMES: 0048, 1318	FREQ.: 430 kc/s, A2	NATURE OF BROADCAST: Navigational warnings.
4888.	Adelaide (VIA). TIMES: 0118, 1248	FREQ.: 472 kc/s, A2	NATURE OF BROADCAST: Navigational warnings.
4890.	Esperance (VIE). TIMES: On receipt; repeated during watch periods of single operator ships, 2300-1200	FREQ.: 435 kc/s, A2	NATURE OF BROADCAST: Navigational warnings.
4892.	Perth (VIP). TIMES: 0100, 1300	FREQ.: 484 kc/s, A2	NATURE OF BROADCAST: Navigational warnings.
4894.	Geraldton (VIN). TIMES: On receipt; repeated during watch periods of single operator ships, 2300-1200	FREQ.: 420.5 kc/s, A2	NATURE OF BROADCAST: Navigational warnings.
4896.	Broome (VIO). TIMES: 0118, 1248	FREQ.: 440 kc/s, A2	NATURE OF BROADCAST:
4898.	Wyndham (VIW). TIMES: On receipt; repeated during watch periods of single operator ships, 0100-0400 (Monday-Saturday), 0600-1000 (Monday-Friday). NOTE: Station closed on Sunday and holidays.	FREQ.: 464 kc/s, A2	NATURE OF BROADCAST: Navigational warnings.
4900.	Darwin (VID). TIMES: 0100, 1318	FREQ.: 445 kc/s, A2	NATURE OF BROADCAST: Navigational warnings.

NEW ZEALAND

4904.	Auckland (ZLD). TIMES: 0120, 0520, 0920, 1320, 2120 At the end of first silent period after receipt 0009, 0409, 0809, 1209, 1609, 2009 ...	FREQ.: 487.5 kc/s, A2 do 2206 kc/s, A3	NATURE OF BROADCAST: Navigational warnings, area north of a line from Port Taranaki to East Cape.
4906.	Wellington (ZLW). TIMES: 0110, 0510, 0910, 1310, 2110 At the end of first silent period after receipt 0006, 0406, 0806, 1206, 1606, 2006 ...	FREQ.: 417.5 kc/s, A2 do 2152 kc/s, A3	NATURE OF BROADCAST: Navigational warnings, area south of a line from Port Taranaki to East Cape.

NOTE: For times and frequencies of British Long Distance Navigational warnings for Area 5, see Sec. 439B.

4908. **Awara (ZLB).**

TIMES:

0100, 0500, 0900, 1300, 2100
At the end of first silent period
after receipt.
0003, 0403, 0803, 1203, 1603, 2003 ...

FREQ.:

515 kc/s, A2
..... do
2206 kc/s, A3

NATURE OF BROADCAST:
Navigational warnings, area south of a line
from Lyttelton to Greymouth.

GUAM

4912. **Guam (NPN), U. S. Navy.**

TIMES:

0330†, 0830†, 1330, 1830†, 2000
0100, 1430
0000, 0500, 1230, 1730

FREQ.:

484, 4955, 8150, 13530,
17530, 21760 kc/s, A1
..... do
..... do

NATURE OF BROADCAST:
MERCAT.

Hydrographic information.
Weather broadcast.

NOTE: †One-operator ships.

4913. **Guam (NRV), U. S. Coast Guard.**

TIMES:

No scheduled broadcast

FREQ.:

466 kc/s, A1

NATURE OF BROADCAST:
Notices to mariners, hydrographic information,
storm warnings.

Emergency broadcasts are made as described in section 405.

HAWAII

4915. **Honolulu, Oahu (NPM), U. S. Navy.**

TIMES:

0200†, 0700, 1030, 1200†, 1300,
2000, 2300
0500, 1700

FREQ.:

131.05, 4525, 9050, 13655,
16457.5, 20575, 22593 kc/s, A1
..... do

NATURE OF BROADCAST:
MERCAT.

Navigational warnings, Hydrographic information.
Weather forecasts.

0400, 1000, 1600, 2200
NOTE: †One operator ships.

4920. **Honolulu, Oahu (NMO), U. S. Coast Guard.**

TIMES:

0530, 2000
0630, 1800

FREQ.:

440 kc/s, A1
2670 kc/s, A3

NATURE OF BROADCAST:
Notices to mariners, hydrographic information,
and storm warnings.

Emergency broadcasts are made as described in section 405.

NEW BRITAIN

4935. **Rabaul (YJZ).**

TIMES:

On receipt; repeated during watch
periods of single operator ships,
0000-2400

FREQ.:

430 kc/s, A2 (after call on
500 kc/s)

NATURE OF BROADCAST:
Navigational warnings.

ADMIRALTY ISLANDS

4938.	Manus (VJV). TIMES: On receipt; repeated during watch periods of single operator ships, 2200-0130, 0300-0600 (Monday- Friday) 2200-0130 (Saturday, Sunday and holidays)	FREQ.: 435 kc/s, A2 (after call on 500 kc/s),	NATURE OF BROADCAST: Navigational warnings.
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NEW CALEDONIA

4940.	Noumea (FJP). TIMES: 0030, 0230, 0900, 1255, 2100	FREQ.: 500 kc/s, A1	NATURE OF BROADCAST: Navigational warnings in French for local waters.
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FIJI ISLANDS

4945.	Suva (VRP). TIMES: 0005, 0430, 0830, 2030	FREQ.: 518 kc/s, A1, A2	NATURE OF BROADCAST: Navigational warnings in English for Fiji Is- lands.
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SAMOA ISLANDS

4948.	Pago Pago (KUQ20). TIMES: 0800, 1200	FREQ.: 5475 kc/s, A1	NATURE OF BROADCAST: Special navigational warnings.
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SOCIETY ISLANDS

4950.	Mahina, Tahiti (FJA). TIMES: On receipt, at end of first silent period after receipt, during single operator watch keeping periods and on request	FREQ.: 432 kc/s, A1, A2 (after call on 500 kc/s) 2630 kc/s, A3 (after call on 2182 kc/s)	NATURE OF BROADCAST: Navigational warnings in French for French Polynesia.
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NEW BRITAIN

4935. Rabaul (VJZ).

TIMES:

On receipt; repeated during watch
periods of single operator ships,
2000-1400

FREQ.:

430 kc., A2

NATURE OF BROADCAST:

Navigational warnings.

NEW CALEDONIA

4940. Noumea (FJP).

TIMES:

0030
0230
0900
1255
2100

FREQ.:

500 kc., A1

NATURE OF BROADCAST:

Navigational warnings in French for local waters.

FIJI ISLANDS

4945. Suva (VRP).

TIMES:

0005
0430
0830
2030
On receipt, when urgent

FREQ.:

518 kc., A1, A2

NATURE OF BROADCAST:

Navigational warnings in English for Fiji Islands.

SAMOA ISLANDS

4948. Pago Pago (KUQ20).

TIMES:

0800
1200
0000
0400
1600
2000

FREQ.:

5475 kc., A1

NATURE OF BROADCAST:

Special navigational warnings.

8585 kc., A1

SOCIETY ISLANDS

4950. Mahina, Tahiti (FJA).

TIMES:

On receipt; repeated during watch
periods of single operator ships,
and on request
0030, 0230, 1800, 2100

FREQ.:

432 kc., A1, A2 (after call on
500 kc.)
2630 kc., A3 (after call on 2182 kc.)
8780 kc., A3

NATURE OF BROADCAST:

Navigational warnings in French.

Chapter 5 DISTRESS, EMERGENCY, AND SAFETY TRAFFIC

500. GENERAL

Regulations concerning distress, emergency, and safety traffic are contained in the Radio Regulations of the International Telecommunication Union, Geneva, 1959. Pertinent numbered extracts are quoted below.

Article 28—Conditions to be observed by Mobile Stations

SECTION II. SPECIAL PROVISIONS REGARDING SAFETY

965 § 9. (1) The International Convention for the Safety of Life at Sea prescribes which ships and which of their survival craft shall be fitted with radio equipment and which ships shall carry portable radio equipment for use in survival craft. It also prescribes the requirements which shall be complied with by such installations.

966 (2) The Annexes to the Convention on International Civil Aviation state which aircraft should be fitted with radio equipment and which aircraft should carry portable radio equipment for use in survival craft. They state also the requirements which should be complied with by such installations.

967 § 10. The applicable provisions of the present Regulations shall, however, be observed in the use of all such installations.

968 § 11. (1) Mobile stations of the maritime mobile service may communicate, for safety purposes, with stations of the aeronautical mobile service.

969 (2) For these purposes only, they may use the aeronautical emergency frequency 121.5 Mc/s using class A3 emissions. They shall then comply with any special arrangements between the governments concerned by which the aeronautical mobile service is regulated.

SECTION VI. SURVIVAL CRAFT STATIONS

994 § 23. Equipment provided for use in survival craft stations shall, if capable of operating on any frequency:

- 995 —in the bands between 405 and 535 kc/s, be able to transmit on 500 kc/s using class A2 emissions, but see No. 677, If a receiver is provided for any of these bands, it shall be able to receive class A2 emissions on 500 kc/s;
- 996 —in the bands between 1605 and 2850 kc/s, be able to transmit on 2182 kc/s using class A3 emissions. If a receiver is provided for any of these bands, it shall be able to receive class A3 emissions on 2182 kc/s;
- 997 —in the bands between 4000 and 27500 kc/s, be able to transmit on 8364 kc/s using class A2 emissions. If a receiver is provided for any of these bands, it shall be able to receive class A1 and A2 emissions throughout the band 8320 to 8745 kc/s;

998 —in the bands between 118 and 132 Mc/s, be able to transmit on 121.5 Mc/s, preferably using amplitude modulated emission. If a receiver is provided for any of these bands, it shall be able to receive class A3 emissions on 121.5 Mc/s;

999 —in the bands between 235 and 328.6 Mc/s, be able to transmit on the frequency 243 Mc/s.

Article 36—Distress Signal and Traffic. Alarm, Urgency and Safety Signals

SECTION I. GENERAL

1380 § 1. The procedure specified in this Article is obligatory in the maritime mobile service and for communications between aircraft stations and stations of the maritime mobile service. The provisions of this Article are also applicable to the aeronautical mobile service except in the case of special arrangements between the governments concerned.

1381 § 2. (1) No provision of these Regulations prevents the use by a mobile station in distress of any means at its disposal to attract attention, make known its position, and obtain help.

1382 (2) No provision of these Regulations prevents the use by a land station, in exceptional circumstances, of any means at its disposal to assist a mobile station in distress.

1383 § 3. The distress call and message shall be sent only on the authority of the master or person responsible for the ship, aircraft or other vehicle carrying the mobile station.

1384 § 4. In cases of distress, urgency or safety, transmissions:

- 1385 (a) by radiotelegraphy, shall not in general exceed a speed of sixteen words a minute;
- 1386 (b) by radiotelephony, shall be made slowly and distinctly, each word being clearly pronounced to facilitate transcription.

1387 § 5. (1) The characteristics of the radiotelegraph alarm signal are given in No. 1463.

1388 (2) The characteristics of the radiotelephone alarm signal are given in No. 1465.

SECTION II. DISTRESS SIGNAL

1389 § 6. (1) The radiotelegraph distress signal consists of the group **••• — — — •••** symbolized herein by **SOS**, transmitted as a single signal in which the dashes are emphasized so as to be distinguished clearly from the dots.

1390 (2) The radiotelephone distress signal consists of the word MAYDAY pronounced as the French expression "m'aider".

1391 (3) These distress signals indicate that a ship, aircraft or other vehicle is threatened by grave and imminent danger and requests immediate assistance.

SECTION III. DISTRESS CALL AND MESSAGE

1392 § 7. (1) The distress call sent by radiotelegraphy consists of:

- the distress signal SOS, sent three times;
- the word DE;
- the call sign of the mobile station in distress, sent three times.

1393 (2) The distress call sent by radiotelephony consists of:

- the distress signal MAYDAY, spoken three times;
- the words THIS IS;
- the call sign or other identification of the mobile station in distress, spoken three times.

1394 § 8. The distress call shall have absolute priority over all other transmissions. All stations which hear it shall immediately cease any transmission capable of interfering with the distress traffic and shall continue to listen on the frequency used for the emission of the distress call. This call shall not be addressed to a particular station and acknowledgment of receipt shall not be given before the distress message which follows it is sent.

1395 § 9. (1) The radiotelegraph distress message consists of:

- distress signal SOS,
- the name, or other identification, of the mobile station in distress;
- particulars of its position;
- the nature of the distress and the kind of assistance desired;
- any other information which might facilitate the rescue.

1396 (2) The radiotelephone distress message consists of:

- the distress signal MAYDAY;
- the name, or other identification, of the mobile station in distress;
- particulars of its position;
- the nature of the distress and the kind of assistance desired;
- any other information which might facilitate the rescue.

1397 § 10. (1) As a general rule, a ship shall signal its position in latitude and longitude (Greenwich), using figures for the degrees and minutes, together with one of the words NORTH or SOUTH and one of the words EAST or WEST. In radiotelegraphy, the signal ••••• shall be used to separate the degrees from the minutes. When practicable, the true bearing and distance in nautical miles from a known geographical position may be given.

1398 (2) As a general rule, and if time permits, an aircraft shall transmit in its distress message the following information:

- estimated position and time of the estimate;
- heading in degrees (state whether magnetic or true);
- indicated air speed;
- altitude;
- type of aircraft;
- nature of distress and type of assistance desired;
- any other information which might facilitate the rescue (including the intention of the person in command, such as forced alighting on the sea or crash landing).

1399 (3) As a general rule, an aircraft in flight shall signal its position either in radiotelephony or radiotelegraphy.

- by latitude and longitude (Greenwich) using figures for the degrees and minutes, together with one of the words NORTH or SOUTH and one of the words EAST or WEST; or
- by the name of the nearest place, and its approximate distance in relation thereto, together with one of the words NORTH, SOUTH, EAST or WEST, as the case may be, or when practicable, by words indicating intermediate directions.

1400 (4) However, in radiotelegraphy, the words NORTH or SOUTH and EAST or WEST, indicated in Nos. 1397 and 1399, may be replaced by the letters N or S and E or W.

SECTION IV. DISTRESS CALL AND MESSAGE TRANSMISSION PROCEDURE

A Radiotelegraphy

1401 § 11. (1) The radiotelegraph distress procedure shall consist of:

- 1402 -the alarm signal; followed in order by:
- 1403 -the distress call and an interval of two minutes;
- 1404 -the distress call;
- 1405 -the distress message;
- 1406 -two dashes of ten to fifteen seconds, duration each;
- 1407 -the call sign of the station in distress.

1408 (2) However, when time is vital, the second step of this procedure (No. 1403) or even the first and second steps (Nos. 1402 and 1403), may be omitted. These two steps of the distress procedure may also be omitted in circumstances where transmission of the alarm signal is considered unnecessary.

1409 § 12. (1) The distress message, preceded by the distress call, shall be repeated at intervals, especially during the periods of prescribed silence for radiotelegraphy, until an answer is received.

1410 (2) The intervals shall, however, be sufficiently long to allow time for stations preparing to reply to start their sending apparatus.

1411 (3) The alarm signal may also be repeated, if necessary.

1412 § 13. The transmissions under Nos. 1406 and 1407, which are to permit direction-finding stations to determine the position of the station in distress, may be repeated at frequent intervals if necessary.

1413 § 14. When the mobile station in distress receives no answer to a distress message sent on the distress frequency, the message may be repeated on any other available frequency on which attention might be attracted.

1414 § 15. Immediately before a crash landing or a forced landing (on land or sea) of an aircraft, as well as before total abandonment of a ship or an aircraft, the radio apparatus should be set for continuous emission, if considered necessary and circumstances permit.

B. Radiotelephony

1415 § 16. The radiotelephone distress procedure shall consist of:

- 1416 -the alarm signal (whenever possible) followed by:
- 1417 -the distress call;
- 1418 -the distress message.

1419 § 17. After the transmission by radiotelephony of its distress message, the mobile station may be requested to transmit suitable signals followed by its call sign or other identification, to permit direction-finding stations to determine its position. This request may be repeated at frequent intervals if necessary.

1420 § 18. (1) The distress message, preceded by the distress call, shall be repeated at intervals, especially during the periods of prescribed silence for radiotelephony, until an answer is received.

1421 (2) The intervals shall, however, be sufficiently long to allow time for stations preparing to reply to start their sending apparatus.

1422 (3) This repetition shall be preceded by the alarm signal whenever possible.

1423 § 19. When the mobile station in distress receives no answer to a distress message sent on the distress frequency, the message may be repeated on any other available frequency on which attention might be attracted.

1424 § 20. Immediately before a crash landing or a forced landing (on land or sea) of an aircraft, as well as before total abandonment of a ship or an aircraft, the radio apparatus should be set for continuous emission, if considered necessary and circumstances permit.

SECTION V. ACKNOWLEDGMENT OF RECEIPT OF A DISTRESS MESSAGE

1425 § 21. (1) Stations of the mobile service which receive a distress message from a mobile station which is, beyond any possible doubt, in their vicinity, shall immediately acknowledge receipt.

1426 (2) However, in areas where reliable communications with one or more coast stations are practicable, ship stations may defer this acknowledgment for a short interval so that a coast station may acknowledge receipt.

1427 (3) Stations of the mobile service which receive a distress message from a mobile station which, beyond any possible doubt, is not in their vicinity, shall allow a short interval of time to elapse before acknowledging receipt of the message, in order to permit stations nearer to the mobile station in distress to acknowledge receipt without interference.

1428 § 22. The acknowledgment of receipt of a distress message shall be given in the following form:

- 1429 (a) Radiotelegraphy:
 - the call sign of the station sending the distress message, sent three times;
 - the word DE;
 - the call sign of the station acknowledging receipt, sent three times;
 - the group RRR;
 - the distress signal.

- 1430 (b) Radiotelephony:
 - the call sign or other identification of the station sending the distress message, spoken three times;
 - the words THIS IS;
 - the call sign or other identification of the station acknowledging receipt, spoken three times;
 - the word RECEIVED;
 - the distress signal.

1431 § 23. (1) Every mobile station which acknowledges receipt of a distress message shall, on the order of the master or person responsible for the ship, aircraft or other vehicle, transmit as soon as possible, the following information in the order shown:

- its name;
- its position in the form prescribed in Nos. 1397, 1399 and 1400;
- the speed at which it is proceeding towards, and the approximate time it will take to reach, the mobile station in distress.

1432 (2) Before sending this message, the station shall ensure that it will not interfere with the emissions of other stations better situated to render immediate assistance to the station in distress.

SECTION VI. DISTRESS TRAFFIC

1433 § 24. Distress traffic consists of all messages relating to the immediate assistance required by the mobile station in distress.

1434 § 25. In distress traffic, the distress signal shall be sent before the call and at the beginning of the preamble of any radiotelegram.

1435 § 26. The control of distress traffic is the responsibility of the mobile station in distress or of the station which, by the application of the provisions of Section VII of the present Article, has sent the distress message. These stations may, however, delegate the control of the distress traffic to another station.

1436 § 27. The station in distress or the station in control of distress traffic may impose silence either on all stations of the mobile service in the area or on any station which interferes with the distress traffic. It shall address these instructions "to all stations" or to one station only, according to circumstances. In either case, it shall use:

1437 -in radiotelegraphy, the abbreviation QRT, followed by the distress signal SOS;

1437 -in radiotelephony, the signal SEELONCE MAYDAY, pronounced as the French expression "silence, m'aider".

1439 § 28. If it is believed to be essential, any station of the mobile service near the ship, aircraft or other vehicle in distress, may also impose silence. It shall use for this purpose:

1440 (a) in radiotelegraphy, the abbreviation QRT, followed by the word DISTRESS and its own call sign;

1441 (b) in radiotelephony, the word SEELONCE, pronounced as the French word "silence", followed by the word DISTRESS and its own call sign.

1442 § 29. (1) In radiotelegraphy, the use of the signal QRT SOS shall be reserved for the mobile station in distress and for the station controlling distress traffic.

1443 (2) In radiotelephony, the use of the signal SEELONCE MAYDAY shall be reserved for the mobile station in distress and for the station controlling distress traffic.

1444 § 30. (1) Any station of the mobile service which has knowledge of distress traffic and which cannot itself assist the station in distress shall nevertheless follow such traffic until it is evident that assistance is being provided.

1445 (2) Until they receive the message indicating that normal working may be resumed (see No. 1449) all stations which are aware of the distress traffic, and which are not taking part in it, are forbidden to transmit on the frequencies on which the distress traffic is taking place.

1446 § 31. A station of the mobile service which, while following distress traffic, is able to continue its normal service, may do so when the distress traffic is well established and on condition that it observes the provisions of No. 1445 and does not interfere with the distress traffic.

1447 § 32. In cases of exceptional importance and provided that no interference or delay is caused to the handling of distress traffic, urgency and safety messages may be announced during a lull in the distress traffic, preferably by coast stations, on the distress frequencies. This announcement shall include an indication of the working frequency on which the urgency or safety message will be transmitted. In this case, the signals provided for in Nos. 1477, 1478, 1488 and 1489 should only be sent once (e.g. XXX DE ABC QSW...).

1448 § 33. A land station receiving a distress message shall, without delay, take the necessary action to advise the appropriate authorities responsible for providing for the operation of rescue facilities.

1449 § 34. (1) When distress traffic has ceased, or when silence is no longer necessary on a frequency which has been used for distress traffic, the station which has controlled this traffic shall transmit on that frequency a message addressed "to all stations" indicating that normal working may be resumed.

1450 (2) In radiotelegraphy, this message consists of:

- the distress signal SOS;
- the call "to all stations" (CQ), sent three times;
- the word DE;
- the call sign of the station sending the message;
- the time of handing in of the message;
- the name and call sign of the mobile station which was in distress;
- the service abbreviation QUM.

1451 (3) In radiotelephony, this message consists of:

- the distress signal MAYDAY;
- the call "to all stations", spoken three times;
- the words THIS IS;
- the call sign or other identification of the station sending the message;
- the time of handing in of the message;
- the name and call sign of the mobile station which was in distress;
- the words SEELONCE FEENEE pronounced as the French words "silence fini".

SECTION VII. TRANSMISSION OF A DISTRESS MESSAGE BY A STATION NOT ITSELF IN DISTRESS

1452 § 35. A mobile station or a land station which learns that a mobile station is in distress shall transmit a distress message in any of the following cases:

1453 (a) when the station in distress is not itself in a position to transmit the distress message;

1454 (b) when the master or person responsible for the ship, aircraft or other vehicle not in distress, or the person responsible for the land station, considers that further help is necessary;

1455 (c) when, although not in a position to render assistance, it has heard a distress message which has not been acknowledged.

1456 § 36. (1) The transmission of a distress message under the conditions prescribed in Nos. 1453 to 1455 shall be made on either or both of the international distress frequencies (500 kc/s, 2182 kc/s), or on any other frequency that may be used in case of distress.

1457 (2) This transmission of the distress message shall always be preceded by the call indicated below, which shall itself be preceded whenever possible by the radiotelegraph or radiotelephone alarm signal.

1458 (3) This call consists of:

1459 (a) Radiotelegraphy:
—the signal DDD SOS SOS SOS DDD;
—the word DE;
—the call sign of the transmitting station, sent three times.

1460 (b) Radiotelephony:
—the signal MAYDAY RELAY pronounced as the French expression "m'aider relai", spoken three times;
—the words THIS IS;
—the call sign or other identification of the transmitting station, spoken three times.

1461 § 37. When the radiotelegraph alarm signal is used an interval of two minutes shall be allowed, whenever this is considered necessary, before the transmission of the call mentioned in No. 1459.

1462 § 38. When a station of the mobile service transmits a distress message under the conditions mentioned in No. 1455, it shall take all necessary steps to notify the authorities who may be able to render assistance.

SECTION VIII. RADIOTELEGRAPH AND RADIOTELEPHONE ALARM SIGNALS

1463 § 39. (1) The radiotelegraph alarm signal consists of a series of twelve dashes sent in one minute, the duration of each dash being four seconds and the duration of the interval between consecutive dashes one second. It may be transmitted by hand but its transmission by means of an automatic instrument is recommended.

1464 (2) Any ship station working in the bands between 405 and 535 kc/s, which is not provided with an automatic apparatus for the transmission of the radiotelegraph alarm signal shall be permanently equipped with a clock, clearly marking the seconds, preferably by means of a sweep hand completing one revolution per minute. This clock shall be placed at a point sufficiently visible from the operator's table so that the operator may, by keeping it in view, easily and correctly time the different elements of the alarm signal.

1465 § 40. (1) The radiotelephone alarm signal consists of two substantially sinusoidal audio frequency tones transmitted alternately. One tone shall have a frequency of 2200 cycles per second and the other a frequency of 1300 cycles per second, the duration of each tone being 250 milliseconds.

1466 (2) The radiotelephone alarm signal, when generated by automatic means, shall be sent continuously for a period of at least thirty seconds but not exceeding one minute; when generated by other means, the signal shall be sent as continuously as practicable over a period of approximately one minute.

1467 § 41. The purpose of these special signals is:

1468 (a) in radiotelegraphy, the actuation of automatic devices giving the alarm to attract the attention of the operator when there is no listening watch on the distress frequency;

1469 (b) in radiotelephony, to attract the attention of the person on watch or to actuate automatic devices giving the alarm.

1470 § 42. (1) These signals shall only be used to announce:

1471 (a) that a distress call or message is about to follow; or

1472 (b) the transmission of an urgent cyclone warning. In this case they may only be used only by coast stations duly authorized by their government; or

1473 (c) the loss of a person or persons overboard. In this case they may only be used when the assistance of other ships is required and cannot be satisfactorily obtained by the use of the urgency signal only, but the alarm signal shall not be repeated by other stations. The message shall be preceded by the urgency signal (see Nos. 1477 and 1478).

1474 (2) In cases described in Nos. 1472 and 1473, the transmission of the warning or message by radiotelegraphy shall not begin until two minutes after the end of the radiotelegraph alarm signal.

1475 § 43. Automatic devices intended for the reception of the radiotelegraph and radiotelephone alarm signals shall meet the requirements specified in Appendix 20 of I.T.U. Radio Regulations.

1476 § 44. Before any such automatic device is approved for use on ships, the administration having jurisdiction over those ships shall be satisfied by practical tests made under operating conditions equivalent to those obtaining in practice (including interference, vibration, etc.), that the apparatus complies with the provisions of these Regulations.

SECTION IX. URGENCY SIGNAL

1477 § 45. (1) In radiotelegraphy, the urgency signal consists of three repetitions of the group XXX, sent with the letters of each group and the successive groups clearly separated from each other. It shall be transmitted before the call.

1478 (2) In radiotelephony, the urgency signal consists of three repetitions of the word PAN pronounced as the French word "panne". It shall be transmitted before the call.

1479 § 46. (1) The urgency signal shall be sent only on the authority of the master or the person responsible for the ship, aircraft or other vehicle carrying the mobile station.

1480 (2) The urgency signal may be transmitted by a land station only with the approval of the responsible authority.

1481 § 47. (1) The urgency signal indicates that the calling station has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle, or the safety of a person.

1482 (2) The urgency signal and the message following it shall be sent on one of the international distress frequencies (500 kc/s or 2182 kc/s) or on one of the frequencies which may be used in case of distress.

1483 (3) The urgency signal shall have priority over all other communications, except distress. All mobile and land stations which hear it shall take care not to interfere with the transmission of the message which follows the urgency signal.

1484 § 48. Messages preceded by the urgency signal shall, as a general rule, be drawn up in plain language.

1485 § 49. (1) Mobile stations which hear the urgency signal shall continue to listen for at least three minutes. At the end of this period, if no urgency message has been heard, they may resume their normal service.

1486 (2) However, land and mobile stations which are in communications on frequencies other than those used for the transmissions of the urgency signal and of the call which follows it may continue their normal work without interruption provided the urgency message is not addressed "to all stations" (CQ).

1487 § 50. When the urgency signal has been sent before transmitting a message "to all stations" (CQ) and which calls for action by the stations receiving the message, the station responsible for its transmission shall cancel it as soon as it knows that action is no longer necessary. This message of cancellation shall likewise be addressed "to all stations" (CQ).

SECTION X. SAFETY SIGNAL

1488 § 51. (1) In radiotelegraphy, the safety signal consists of three repetitions of the group TTT, the individual

letters of each group, and the successive groups being clearly separated from each other. It shall be sent before the call.

1489 (2) In radiotelephony, the safety signal consists of the word SECURITE pronounced clearly as in French, spoken three times and transmitted before the call.

1490 § 52. (1) The safety signal indicates that the station is about to transmit a message concerning the safety of navigation or giving important meteorological warnings.

1491 (2) The safety signal and call shall be sent on the distress frequency or one of the frequencies which may be used in case of distress.

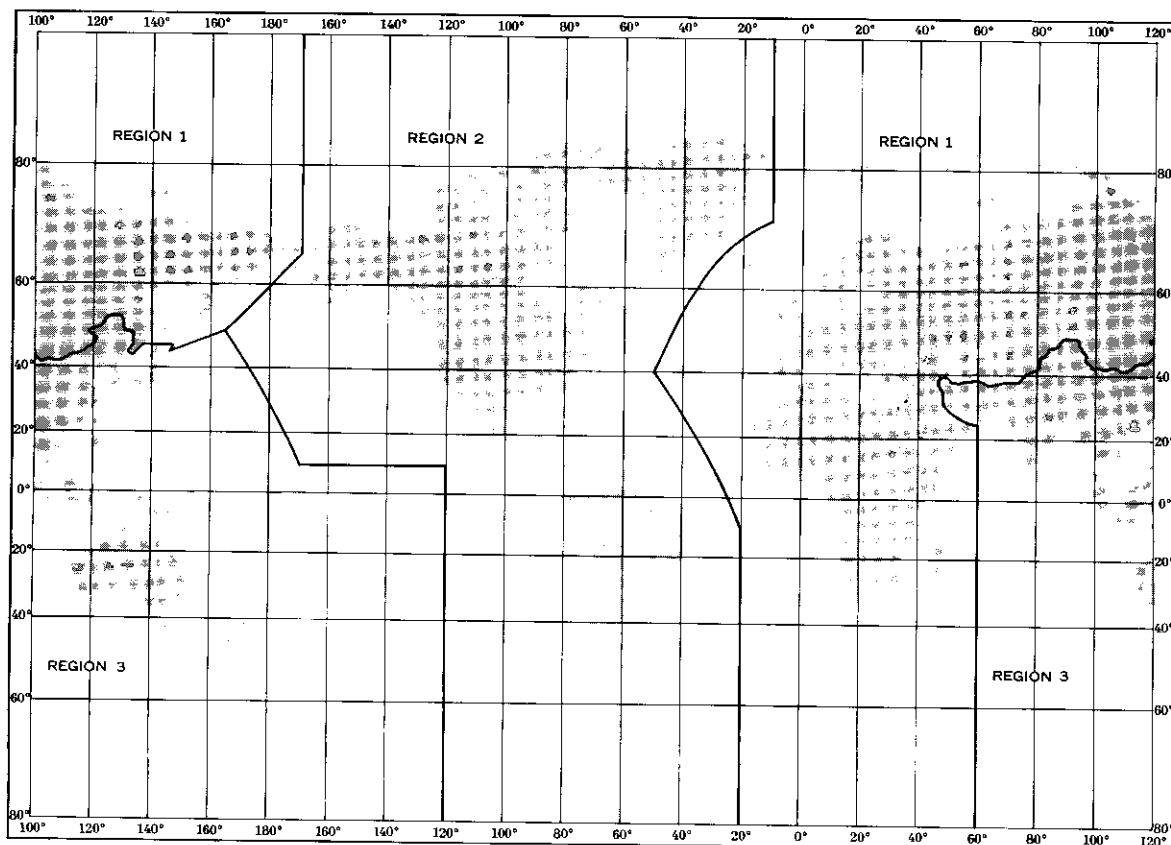
1492 (3) Where practicable, the safety message which follows should be sent on a working frequency, particularly in areas of heavy traffic, and a suitable announcement to this effect shall be made at the end of the call.

1493 § 53. (1) With the exception of messages transmitted at fixed times, the safety signal, when used in the maritime mobile service, shall be transmitted towards the end of the first available period of silence; the message shall be transmitted immediately after the period of silence.

1494 (2) In the case of special meteorological warning or dangers to navigation, the safety signal and the message which follows it shall be transmitted as soon as possible, and shall be repeated at the end of the first period of silence which follows.

1495 § 54. All stations hearing the safety signal shall listen to the safety message until they are satisfied that the message is of no concern to them. They shall not make any transmission likely to interfere with the message.

TELECOMMUNICATIONS: WORLD REGION CHART



500A DISTRESS, ALARM, URGENCY AND SAFETY FREQUENCIES

Article 35

Article 32

A. Distress

A. Distress

1107 § 6. (1) The frequency 500 kc/s is the international distress frequency for radiotelegraphy; it shall be used for this purpose by ship, aircraft and survival craft stations using frequencies in the bands between 405 and 535 kc/s when requesting assistance from the maritime services. It shall be used for the distress call and distress traffic, for the urgency signal and messages, and for the safety signal and, outside regions of heavy traffic, shore safety messages. When practicable, safety messages shall be transmitted on the working frequency after a preliminary announcement on 500 kc/s.

1108 (2) However, ship and aircraft stations which cannot transmit on 500 kc/s should use any other available frequency on which attention might be attracted.

1109 (3) In addition, 500 kc/s may be used only:

1110 (a) for call and reply;

1111 (b) by coast stations to announce the transmission of their traffic lists.

1112 (4) Apart from the transmissions authorized on 500 kc/s, all transmissions on the frequencies included between 490 and 510 kc/s are forbidden.

1113 (5) In order to facilitate the reception of distress calls, other transmissions on the frequency 500 kc/s shall be reduced to a minimum, and in any case shall not exceed three minutes.

D. Watch

1130 § 12. (1) In order to increase the safety of life at sea and over the sea, all stations of the maritime mobile service normally keeping watch on frequencies in the authorized bands between 405 and 535 kc/s shall, during their hours of service, take the necessary measures to ensure watch on the international distress frequency 500 kc/s for three minutes twice an hour beginning at x h. 15 and x h. 45 Greenwich Mean Time (G.M.T.) by an operator using headphones or a loud-speaker.

1131 (2) During the periods mentioned above, except for the emissions provided for in Article 36:

1132 (a) transmissions shall cease in the bands between 485 and 515 kc/s;

1133 (b) outside these bands, transmissions of stations of the mobile service may continue; stations of the maritime mobile service may listen to these transmissions on the express condition that they first ensure watch on the distress frequency as required by No. 1130.

1323 § 3. (1) The frequency 2182 kc/s is the international distress frequency for radiotelephony; it shall be used for this purpose by ship, aircraft and survival craft stations using frequencies in the authorized bands between 1605 and 4000 kc/s when requesting assistance from the maritime services. It is used for the distress call and distress traffic, for the urgency signal and urgency messages and for the safety signal. Safety messages shall be transmitted, where practicable, on a working frequency after a preliminary announcement on 2182 kc/s.

1324 (2) However, ship and aircraft stations which cannot transmit on 2182 kc/s should use any other available frequency on which attention might be attracted.

1325 (3) Except for transmissions authorized on 2182 kc/s, all transmissions on the frequencies between 2170 and 2194 kc/s are forbidden.

3. Call and Reply

1327 4. (1) The frequency 2182 kc/s may also be used:

1328 (a) for call and reply in accordance with the provisions of Article 33;

1329 (b) by coast stations to announce the transmission, on another frequency, of traffic lists.

1330 (2) In addition, an administration may assign to its stations other frequencies for call and reply.

1331 § 5. To facilitate the reception of distress calls, all transmissions on 2182 kc/s shall be kept to a minimum.

C. Watch

1332 § 6. (1) All coast stations which are open to public correspondence and which form an essential part of the coverage of the area for distress purposes shall, during their hours of service, maintain a watch on 2182 kc/s.

1334 (3) In addition, ship stations should keep the maximum watch practicable on 2182 kc/s for receiving by any appropriate means the radiotelephone alarm signal described in No. 1465, as well as distress, urgency and safety signals.

Note.—Ship stations equipped with radiotelegraph apparatus can receive distress calls made by radiotelephone, but cannot normally reply by radiotelephone.

500B. SPECIAL MESSAGES

METEOROLOGICAL MESSAGES

1610 § 4. (1) Meteorological messages specially intended for all ship stations shall in principle be sent in accordance with a definite timetable, and, as far as possible, at times when they can be received by ship stations with only one operator. In radiotelegraphy the transmission speed shall not exceed sixteen words a minute.

1611 (2) During the transmission "to all stations" of meteorological messages intended for stations of the maritime mobile service, all stations of this service whose transmissions might interfere with the reception of these messages, shall keep silent in order to permit all stations which desire to do so to receive these messages.

1612 (3) Meteorological warning messages for the maritime mobile service shall be transmitted without delay. They shall be repeated at the end of the first silence period which follows their receipt (see Nos. 1130 and 1349) as well as at the end of the first silence period which occurs in the working hours of a ship station having a single operator. They shall be preceded by the safety signal and sent on the appropriate frequencies (see No. 1491).

1613 (4) In addition to the regular information services contemplated in the preceding sub-paragraphs, administrations shall take the necessary steps to ensure that certain stations shall, upon request, communicate meteorological messages to stations in the maritime mobile service.

1614 (5) The provisions of Nos. 1610 to 1613 are applicable to the aeronautical mobile service, in so far as they are not contrary to more detailed special arrangements which ensure at least equal protection to air navigation.

1615 § 5. (1) Messages originating in mobile stations and containing information concerning the presence of cyclones shall be transmitted, with the least possible delay, to other mobile stations in the vicinity and to the appropriate authorities at the first point of the coast with which contact can be established. Their transmission shall be preceded by the safety signal.

1616 (2) Any mobile station may, for its own use, listen to messages containing meteorological observations sent out by other mobile stations, even those which are addressed to a nautical meteorological service.

1617 (3) Stations of the mobile services which transmit meteorological observations addressed to a national meteorological service are not required to repeat them to other stations. However, the exchange between mobile stations, on request, of information relating to the state of the weather is authorized.

NOTICES TO MARINERS

1618 § 6. The provisions of Nos. 1610 to 1614 shall apply to notices to mariners.

1619 § 7. Messages containing information concerning the presence of dangerous ice, dangerous wrecks, or any other imminent danger to marine navigation, shall be transmitted as soon as possible to other ship stations in the vicinity, and to the appropriate authorities at the first point of the coast with

which contact can be established. These transmissions shall be preceded by the safety signal.

NOTE.—See also section 500C.

500C. SHIPS TO REPORT DANGERS

The following section consists of pertinent extracts from the International Convention on Safety of Life at Sea, London, 1960. The numbering of the paragraphs has been altered to conform to the sequence in this book; a few captions in italics and in capitals have been added to facilitate ready reference.

Although compliance with this section is obligatory only with ships registered with countries which have ratified the convention, it is recommended that insofar as may be practicable, all shipmasters comply with it in the interest of safety of lives at sea.

SHIPS MEETING WITH NAVIGATIONAL DANGERS AND TROPICAL STORMS

The master of every ship which meets with dangerous ice, a dangerous derelict, or any other direct danger to navigation, or a tropical storm, or encounters sub-freezing air temperatures associated with gale force winds causing severe ice accretion on superstructures, or winds of force 10 or above on the Beaufort scale for which no storm warning has been received, is bound to communicate the information by all the means at his disposal to ships in the vicinity, and also to the competent authorities at the first point on the coast with which he can communicate.

TRANSMISSION OF INFORMATION

The transmission of information regarding ice, derelicts, tropical storms, or any other direct danger to navigation is obligatory. The form in which the information is sent is not obligatory. It may be transmitted either in plain language (preferably English) or by means of the International Code of Signals (wireless telegraphy section). It should be issued CQ to all ships, and should also be sent to the first point of the coast to which communication can be made with the request that it be transmitted to the appropriate authority.

SAFETY SIGNAL TO BE USED: All messages will be preceded by the safety signal TTT followed by an indication of the nature of the danger, thus: TTT ice; TTT derelict; TTT storm; TTT navigation.

INFORMATION REQUIRED

The following information is required, the time in all cases being Greenwich time (G.M.T.):

(a) ICE, DERELICTS, AND OTHER DIRECT DANGERS TO NAVIGATION:

- (1) The kind of ice, derelict, or danger observed.
- (2) The position of the ice, derelict, or danger when last observed.
- (3) The time and date when the observation was made.

(b) TROPICAL STORMS (hurricanes in the West Indies, typhoons in the China seas, cyclones in Indian waters, and storms of a similar nature in other regions):

- (1) *A statement that a Tropical Storm Has Been Encountered.*—This obligation should be interpreted in a broad spirit, and information transmitted whenever the Master has good reason to believe that a tropical storm exists in his neighborhood.

- (2) Time, date (Greenwich Mean Time) and position of ship when the observation was taken.
- (3) As much of the following information as is practicable should be included in the Message.
 - (a) Barometric pressure, preferably corrected (stating millibars), inches or millimeters, and whether corrected or uncorrected.
 - (b) Barometric tendency (the change in barometric pressure during the past three hours).
 - (c) True wind direction.
 - (d) Wind force (Beaufort scale).
 - (e) State of sea (smooth, moderate, rough, high).
 - (f) Swell (slight, moderate, heavy) and the true direction from which it comes. Period of length of swell (short, average, long) would also be of value.
 - (g) True course and speed of ship.
- (c) *Subsequent Observations.*—When a master has reported a tropical or other dangerous storm, it is desirable, but not obligatory, that other observations be made and transmitted hourly, if practicable, but in any case at intervals of not more than three hours, so long as the ship remains under the influence of the storm.
- (d) Winds of Force 10 or above on the Beaufort scale for which no storm warning has been received. This is intended to deal with storms other than the tropical storms referred to in paragraph (b); when such a storm is encountered, the message should contain similar information to that listed in paragraph (b) but excluding the details concerning sea and swell.
- (e) Sub-freezing air temperatures associated with gale force winds causing severe ice accretion on superstructures.
 - (1) Time and Date (Greenwich Mean Time).
 - (2) Air temperature.
 - (3) Sea temperature (if practicable).
 - (4) Wind force and direction.

500D. REPORTING INFORMATION PERTAINING TO SAFETY OF NAVIGATION

Shipmasters are requested to inform the cognizant U.S. Government bureau, as listed below, of information relative to ice, derelicts, wreckage, floating obstructions, changes or defects in aids to navigation, or abnormal weather phenomena.

Oceanographic Office: Shipmasters are requested to inform the Oceanographic Office immediately by radio of all navigational information, which includes reports on ice, derelicts, wreckage, mines, floating obstructions, and changes or defects in aids to navigation except those aids maintained by the U.S. Coast Guard (See "U.S. Coast Guard" below.)

These reports should be addressed as follows:

- (a) Messages originating in the Pacific to "NAVOCEANO WASHDC" which will issue a HYDROPAC as necessary.
- (b) Messages originating in the Atlantic, Caribbean, or Gulf of Mexico to "NAVOCEANO WASHDC" which will issue a HYDROLANT as necessary.

Whenever possible messages should be transmitted direct, however, if necessary they may be transmitted via the nearest Government radio station in section 400B. If impractical to use a Government station a commercial radio station may be utilized.

U.S. Government navigational warning messages should invariably be sent through U.S. radio stations, Government or commercial — never through foreign stations.

U.S. Coast Guard: A report by radio of any defects noted in the aids to navigation in the waters of the United States and its possessions should be addressed "Coast Guard" and transmitted direct to one of the Government radio shore stations listed in section 400B, for relay to the Commander of the nearest Coast Guard District.

Merchant ships may send messages relating to defects noted in aids to navigation through commercial facilities only when they are unable to contact a Government radio shore station. Charges for these messages will be paid by the U.S. Coast Guard.

Vessels reporting distress, potential distress, groundings, menaces to navigation, medicos, failures of navigational aids, etc., addressed to or requiring action by the U.S. Coast Guard, should not fail to include sufficient pertinent information in the initial report.

It is requested that vessels furnish the following information in their initial report of such matters in order to expedite action and obviate the need for messages to obtain amplifying data:

- (a) Particulars regarding the reporting vessel:
Name, position, course, speed, destination and estimated time of arrival.
- (b) Particulars concerning the vessel or object reported:
Name (if any), color, size, shape and other descriptive data.
- (c) Particulars concerning the case:
Nature of the case, conditions and action taken if any.

NOTE.—*Most of the value of a report is lost by the delay which occurs when it is wrongly addressed.*

500E. STATIONS KEEPING WATCH ON DISTRESS FREQUENCY

SHIPS IN DISTRESS: It is requested that approximately 10 minutes after the transmission of the original distress message, the ship in distress transmit slowly on the distress frequency "MO" and its own call signal for 3 minutes. This will enable ships and radio direction finder stations in the vicinity to take radio bearings and to plot accurately the position of the distressed ship.

SHIPS HEARING DISTRESS TRAFFIC: It is recommended that on hearing distress signals, ships so equipped, man their radio direction-finders in order to eliminate possible navigational errors in laying their courses to the distressed vessel.

If it is evident from the nature of the distress traffic that coastal radio stations are unaware of the disaster, it is requested that some ship which is not taking an active part in the distress traffic relay the distress message to the nearest government or commercial shore station in order that the proper United States officials may be notified, additional aid may be sent out from the coast, and preparations may be made to receive survivors. In sending this message, the greatest care must be taken not to interfere with the distress traffic; whenever possible, the message should be sent on other than the distress wave.

REQUESTS FOR ASSISTANCE: Radio-equipped vessels requiring assistance may obtain the services of the United States Coast Guard by transmitting a request on the international distress frequency, 500 kc. or 2182 kc.

URGENT SIGNAL: This may be used in accordance with section 500.

ADDRESS OF REQUEST: The request for assistance may be sent to the Coast Guard in either of the following ways:

(1) By making the radio call "NCU" on 500 kc., A1, A2 or by making the radio call ("any Coast Guard unit") on 2182 kc., A3.

(2) By sending the message to any government or commercial coastal radio station with the address "Coast Guard."

Such shore radio stations will forward to the Coast Guard all information regarding vessels requiring assistance unless such information is contained in a message specifically addressed elsewhere.

NOTE.—A list of U.S. Navy and Coast Guard stations maintaining a continuous guard on 500 kc. is given in sec. 400B.

INFORMATION DESIRED IN REQUESTS FOR ASSISTANCE: If the following information is included in the original request for assistance it will place the responsible Coast Guard officer in a position to determine immediately the types and number of vessels required to render adequate aid, thus greatly facilitating the work of the Coast Guard and avoiding any unnecessary delay in dispatching assistance.

1. Name, type, and nationality of vessel.
2. Position, course, and speed (including drift). Position should be given by latitude and longitude, or by the bearing and distance from a fixed point on land.
3. Nature of trouble and condition of vessel, sea, and wind.
4. Number of persons on board.
5. State whether or not Coast Guard assistance is requested.

500F. ADDITIONAL U.S. NAVAL DISTRESS FACILITIES

The following U.S. Naval Shore Communication Stations will establish a continuous guard on 500 and 8364 kc. upon receipt of an alert or request for a limited period of time or for an extended period of time with assistance from fleet units. (See also sec. 400B.)

NA	Activity	Call	Service	Type watch	Frequency (s)
Newport, R.I. - - - - -	NAF - -	Navy - -	Guard - -	500/8364 - -	
Jacksonville, Fla. - - - -	NAQ - -	Navy - -	Guard - -	500/8364 - -	
NAS, San Diego, Calif - -	NZY - -	Navy - -	Guard - -	8364 - - - -	

Regulations concerning distress, emergency, and safety traffic on 500 kc. and 2182 kc. are contained in the Radio Regulations of the International Telecommunication Union, Geneva, 1959.

The use of 8364 kc. by U.S. Stations in the mobile service including Government owned, leased or operated ships, is subject to the following restrictions:

- (a) In requesting help from the Maritime and Aeronautical Services the frequency 8364 kc. shall be used for distress purposes in addition to 500 kc. by ship stations and aircraft stations so fitted, and in lieu thereof where 500 kc. is not available. It may be used only for calls and replies as well as for distress traffic, urgent and safety messages and signals.
- (b) Transmissions on this frequency, with the exception of urgent and safety messages and signals, must cease twice each hour for three minutes, beginning at H+15 and at H+45 O'clock G.M.T.

U. S. S. R.—Siberian Coast

500G. The frequency 4220 kc. has been allocated to distress signals in addition to the frequency 500 kc.

Radio stations (including ships) in U.S.S.R. territory are forbidden to transmit within the frequency limits of 4235–4205 kc. for any purpose other than for the transmission of distress signals.

Distress messages should, in general, be transmitted in accordance with the International Regulations (see section 500, 500A, 500B), but the following regulations must also be observed:

Distress Signals, or signals liable to be mistaken for such, may not be used except in cases of serious or imminent danger.

The urgency signal should, if possible, be addressed to some specific radio station or ship, where the vessel making it is in imminent danger and wishes to indicate that it will be followed by a call for assistance.

When this signal is made in order to indicate that the vessel wishes to send a message concerning her safety, or that of some individual on board, or seen from on board, it should not be addressed to any specific radio station.

500H. DITCHING REPORTS FOR AIRCRAFT IN DISTRESS (Adopted by the International Civil Aviation Organization)

DITCHING REPORTS: Ditching reports should be transmitted to aircraft in plain language and should comprise the following elements in the order indicated:

- (a) Unless previously established, position of the ship in degrees and minutes of latitude and longitude, at the time the observation was taken;
- (b) sea level pressure (specified as "approximate" when the report is not made by an aeronautical meteorological station or by a station in the surface synoptic network);
- (c) surface wind direction in degrees true;
- (d) surface wind speed in knots;
- (e) swell—intensity (see Note i) and direction;
- (f) state of sea (see Note ii);
- (g) visibility;
- (h) amount and height above the sea of base of low cloud (both main layer and any scattered cloud below);
- (i) present weather;
- (j) remarks.

(Note i)—The intensity of the swell is, except when "none" or "confused" applies, indicated by two terms, the first indicating the length of the swell and the second the height of the swell.

One of the following terms is used to indicate the length:

	Metres	Feet (approximately)
Short	= 0-100	0-300
Average	= 100-200	300-600
Long	= over 200	over 600

One of the following terms is used to indicate the height:

	Metres	Feet (approximately)
Low	= 0-2	0-7
Moderate	= 2-4	7-13
Heavy	= over 4	over 13

When there is no swell, the term "none" is used; when the swell is such that the length and height of the swell waves cannot be determined, the term "confused" is used.

(Note ii)—The state of sea is specified by one of the following terms, selected according to the average wave height as obtained from the larger well-formed waves of the wave system being observed:

	<i>Metres</i>	<i>Feet (approximately)</i>
Glassy	0	0
Rippled	0-0.1	0-1/3
Smooth	0.1-0.5	1/3-1 2/3
Slight	0.5-1.25	1 2/3-4
Moderate	1.25-2.5	4-8
Rough	2.5-4	8-13
Very rough	4-6	13-20
High	6-9	20-30
Very high	9-14	30-45
Phenomenal	over 14	over 45

NOTE: See sec. 500.

500J. AUTOMATED MERCHANT VESSEL REPORT (AMVER) SYSTEM

Automated Merchant Vessel Report (AMVER) System, operated by the United States Coast Guard, is a maritime mutual assistance program which provides important aid to the development and coordination of search and rescue (SAR) efforts in many off-shore areas of the world. Merchant vessels of all nations making offshore voyages are encouraged to voluntarily send movement (sailing) reports and periodic position reports to the AMVER Center located at Coast Guard New York, via selected U.S. coastal, extra continental, or Ocean Station Vessel radio stations. Information from these reports is entered into an electronic computer which generates and maintains dead reckoning positions for participating vessels. Characteristics of vessels which are valuable for determining SAR capability are also entered into the computer from available sources of information. Appropriate information concerning the predicted location and SAR characteristics of each vessel known to be within the area of interest, is made available upon request to recognized SAR agencies of any nation, or person in distress, for use during an emergency. Predicted locations are only disclosed for reasons related to maritime safety.

Several formats are available for use in reporting pertinent data. These are identified as Type 1, 2, 3 or D. Type 1 is the initial report which includes sufficient movement data to initiate and maintain a plot of the vessel. It is desired upon departure of the vessel on a passage, upon entering the plotting area, or when adequate communications can be established. The type 2 report is a position report which is used to maintain an accurate plot. Type 2 reports are suggested at intervals of approximately 15 degrees of latitude or longitude whichever is the lesser distance. A type 3 report may be submitted upon arrival at the destination. A type D reports a deviation from intentions previously reported or when conditions have resulted in an actual position located more than 25 miles away from the DR position based upon last information reported to AMVER.

Detailed instructions are contained in AMVER Instructions which may be obtained by request to Commander, Eastern Area, U.S. Coast Guard, Custom House, New York, N.Y. 10004; Commander, Western Area, U.S. Coast Guard, U.S. Appraisers Bldg., 630 Sansome St., San Francisco, Calif. 94126; or Commandant, U.S. Coast Guard, Washington, D.C. 20226. The Instructions are furnished in the following languages: Danish, Dutch, English, French, German, Greek, Italian, Japanese, Norwegian, Portuguese, Spanish, Swedish and Russian.

GENERAL COMMUNICATION PROCEDURES

Complete communications procedures for submitting AMVER reports are contained in the AMVER INSTRUCTIONS folder which may be obtained as indicated above. AMVER reports are addressed to "COAST GUARD NEW YORK," and should be delivered directly from the merchant vessel to one of the below listed government radio stations. The message will then be forwarded to "COAST GUARD NEW YORK" over government landlines, and no charges will be involved.

RADIO STATIONS ACCEPTING AMVER MESSAGES (ATLANTIC)

BOSTON (NMF)	BALBOA (U.S. NAVY (NBA)
NEW YORK (NMY)	LAJES (CTE)
NORFOLK (NMN)	OCEAN STATION BRAVO (4YB)
JACKSONVILLE (NMV)	OCEAN STATION CHARLIE (4YC)
MIAMI (NMA)	OCEAN STATION DELTA (4YD)
NEW ORLEANS (NMG)	OCEAN STATION ECHO (4YE)
SAN JUAN (NMR)	

(PACIFIC)

LONG BEACH (NMQ)	GUAM (NRV)
SAN FRANCISCO (NMC)	BALBOA (U.S. NAVY (NBA)
WESTPORT (NMW)	NAVCOMRADSTA JAP (NDT)
KETCHIKAN (NMJ)	OCEAN STATION NOVEMBER (4YN)
KODIAK (NOJ)	OCEAN STATION VICTOR (4YV)
ADAK (NOX)	PAGO PAGO (KUQ)
MIDWAY (NQM)	MAHINA (FJA)
SANGLEY POINT (NRX)	SUVA, FIJI VRP/VRO
HONOLULU (NMO)	

The shore radio stations listed above guard one of the following maritime mobile calling bands: 4 msc, 8 mcs, 12 mcs, 16 mcs. Most stations guard 500 kcs. Bands guarded by specific radio stations and their working frequencies are included in the latest AMVER INSTRUCTIONS folder.

The Automated Merchant Vessel Report System (AMVER) includes the Canadian radio stations listed below. Reports from vessels will be relayed through Canadian marine radio stations and the RCAF6 Communications Unit (6CU) to the AMVER Center, New York, N.Y. No charges will be involved to shipping in connection with this handling of AMVER messages. If messages are relayed through Canadian Coast Guard ships no ship charge will be assessed. All east coast AMVER messages forwarded via Canadian coast stations should be addressed to "AMVER Halifax"; West coast AMVER messages forwarded via Canadian coast stations should be addressed to "AMVER Vancouver."

CANADIAN RADIO STATIONS AND CALLS

East Coast

West Coast

RESOLUTION ISLAND (VAW)	OCEAN STATION PAPA (4YP)
BELLE ISLE (VCM)	SANDSPIT, B.C. (VAH)
ST. JOHN, N.B. (VAR)	PRINCE RUPERT, B.C. (VAJ)
SEPT ILES (VCK)	BULL HARBOR, B.C. (VAG)
FOX RIVER (VCG)	ALERT BAY, B.C. (VAF)
GRINDSTONE (VCN)	TOFINO, B.C. (VAE)
SYDNEY (VCO)	VICTORIA, B.C. (VAK)
CANSO (VAX)	VANCOUVER, B.C. (VAI)
HALIFAX (VCS)	RCN RADSTA VANCOUVER,
YARMOUTH (VAU)	B.C. (CKN)
ST. JOHNS, NFLD. (VON)	
ST. LAWRENCE (VCP)	

**NEW ZEALAND RADIO STATIONS ACCEPTING
AMVER MESSAGES**

AUCKLAND (ZLD)	WELLINGTON (ZLW)
AWARUA (ZLB)	IRIRANGI (ZLO) for common- wealth ships only.

**JAPANESE RADIO STATIONS ACCEPTING
AMVER MESSAGES**

KUSHIRO (JNX)	KOBE (JGD)
SHIOGAMA (JNN)	MOJI (JNR)
YOKOHAMA (JGC)	KAGOSHIMA (JNJ)
NAGOYA (JNT)	

**500K. SHIPBOARD AIR SEA RESCUE PLAN "ALFA"
PACIFIC OCEAN**

SAR Plan ALFA provides an effective system for surface craft assistance to distressed aircraft operating in the Pacific. Under the plan, supervised by Commander Western Area, the U.S. Coast Guard Rescue Coordination Center at San Francisco originates a message at 1600Z daily containing the position, radio call sign, course, speed and SAR Plan ALFA class of vessels along the air routes between Honolulu and the mainland. This message is delivered to FAA International Flight Service Station, San Francisco, for relay to commercial airline dispatch offices in San Francisco and Los Angeles areas and to military air terminals. It is also forwarded to Honolulu, Seattle and Vancouver for distribution.

Other daily SAR ALFA ship plot messages are published as follows:

<i>Track (or Area)</i>	<i>Originated</i>
Honolulu—Midway; Honolulu—Wake; and Honolulu—Tokyo. (East of 180°E.)	Commander, 14th Coast Guard District (Honolulu)
Southeast Alaska	Commander, 17th Coast Guard District (Juneau)
Anchorage—Tokyo	Commanding Officer, Coast Guard Air Detachment (Kodiak)
Guam—Tokyo; Guam—Wake; Wake—Tokyo; and Guam—Manila	Commander, Naval Forces Marianas (Guam)

The ship plot information in the hands of the pilot of the distressed aircraft together with his estimate of his own position should be sufficient for an initial aircraft course to a selected vessel. The actual intercept of the vessel can then be effectively made using radio homing procedures. All major surface craft can transmit radio signals on the recognized Maritime Radio Navigation (Radio Direction Finding) frequency of 410 kc/s and all overseas aircraft have automatic direction finders operable on this frequency. Therefore, aircraft intercept of a vessel at sea through radio homing signal is possible; *IF* a suitable system is established and potential participants understand and follow the system. SAR Plan ALFA provides this system.

Messages between a disabled aircraft and a designated rescue vessel would initially be handled by the Rescue Coordination Center (RCC) through the normal radio traffic stations of the aircraft and vessel, (i.e., aircraft through ARINC (commercial) or AACS (military) and ship through MACKAY, GLOBE, RCA, Coast Guard or Naval Radio Station). When the disabled aircraft is intercepting a surface vessel for ditching and rescue purposes, it is highly desirable that direct voice communication be established between the ship and aircraft. This is possible between most ships and most aircraft under conditions which participants should recognize. The main conditions are:

(1) Overseas aircraft and major surface craft can now communicate on the International Voice Distress and Calling Frequency of 2182 kc/s if requested. Surface vessels do not normally maintain a continuous guard on 2182 kc/s but can activate the frequency upon request.

(2) When an aircraft becomes disabled it is essential that the pilot maintain his primary HF enroute communication for relay or information to the rescue services. Since not all aircraft can do this and simultaneously reply to a ship on 2182 kc/s, the initiative for establishing communications on 2182 kc/s must be taken by the aircraft. Shipboard alertness in promptly replying to the call is also essential.

(3) For SAR Plan ALFA the even 5 minute periods (0–5, 10–15, 20–25, etc.) of any hour are designated as beacon transmission periods and the odd 5 minute periods (5–10, 15–20, etc.) for listening and copying traffic on 2182 kc/s. Adherence to these periods is highly desirable because not all surface craft can transmit on 2182 kc/s and simultaneously transmit beacon signals.

The comparative rescue and communications capabilities of the different surface craft are matters of vital consideration by an aircraft pilot when selecting the best rescue vessel from the daily ship plot message. For this reason the daily ship plot message shows the classification of each vessel. Vessels are classified as follows:

(1) Class "A". Major vessels maintaining a continuous radio watch.

(2) Class "B". Smaller passenger vessels having a continuous radio watch.

(3) Class "C". Cargo vessels not maintaining a continuous radio watch but which can be alerted by a special radio alarm signal on 500 kc/s. (This alarm signal can only be used when the aircraft has declared an emergency).

(4) The suffix "Unable" appended to the vessel classification. Example: Class "A-Unable" indicates the vessel is unable to transmit on 2182 kc/s.

When an aircraft emergency occurs SAR Plan ALFA is initiated by the Rescue Coordination Center by the following message:
Text of message from RCC to vessel (or vessels along track)
"AIRCRAFT____DISABLED IN POSIT____AT____Z. DESIRES RENDEZVOUS AND DITCH ALONGSIDE YOU. REQUEST INITIATE SAR PLAN ALFA BY TRANSMITTING BEACON SIGNAL ON 410 KCS MCW DURING ALTERNATE FIVE MINUTE PERIODS COMMENCING____. BEACON SIGNAL TO BE SHIP CALL SIGN FOLLOWED BY TWO FULL 10 SECOND DASHES REPEATED THROUGHOUT PERIOD. GUARD 2182 KCS. ACKNOWLEDGE."

Upon receipt of this message the surface vessel acknowledges the message and commences SAR Plan ALFA.

Surface Vessel Action. On 410 kc/s MCW/A2 emission transmit homing signal "ship call sign (sent slowly) followed by two full 10 second dashes" repeated for five full minutes — alternate the 5 minute homing with a five minute period for reception and transmission on 2182 kc/s. (The even numbered 5 minute periods, 0-5, 10-15, —, 50-55, are beacon transmission periods; the odd number 5 minute periods, 5-10, 15-20, —, 55-60, are for guarding 2182 kc/s, passing wind and sea conditions, and determining the number of persons on board the aircraft, emergency exits, etc.)

Unless otherwise requested by aircraft, maintain your normal course and speed until aircraft is in sight apparently ready to ditch or has announced, via 2182 kc/s, or by other means, its imminent readiness to ditch, and then:

(1) Set ship's course parallel to the major swell crests and into the wind component. THE SEA IS THE AIRCRAFT'S BIGGEST PROBLEM AND PILOT WILL PROBABLY WANT TO DITCH PARALLEL TO THE CREST OF THE MAJOR SWELLS IN THE DIRECTION HAVING THE GREATEST AHEAD WIND COMPONENT.

(2) On request or in the event of a sudden loss of communications with the aircraft, run down the last known bearing of the aircraft. Actively guard 500 kc/s on your bridge RDF on the chance of hearing and obtaining a bearing on a "Gibson Girl" transmission from a life raft in the water. Also set guard on 8364 kc/s in radio room if practicable.

(3) Make frequent radio reports to the radio station which originally alerted you to the aircraft emergency. These reports should include progress of the aircraft, ditching, the status of rescue operations, etc.

Aircraft Action. Initiate communications with selected vessel on 2182 kc/s. Keep ARTC (via normal ground control radio station) fully advised of your situation, desires, and intentions. Promptly advise if it appears that you will overfly the vessel to head toward an airport and desire homing signal procedures by another vessel further along your track. A suggested ditching course (Honolulu-Mainland, Seattle-Kodiak, and Graham Island-Anchorage tracks only) will have been prepared and will be ready for you at your ground control radio station if you request it. Upon request, the Commanding Officer, U.S. Naval Station Adak, will prepare a suggested ditching course for Alaskan and Aleutian waters.

Rescue Coordination Center (RCC) Action.

The RCC will:

- (1) Relay messages for aircraft and surface vessels until communication on 2182 kc/s established.
- (2) Assist in establishing direct communications.
- (3) Divert other aircraft and surface vessels which may be nearby to assist as the situation warrants.
- (4) Plan and direct the search for survivors, if required.
- (5) Provide Search and Rescue aircraft and vessels to permit timely release of merchant vessels and aircraft.
- (6) Be responsible for terminating the distress or emergency.

500L. AIRCRAFT SIGNALS WITH SURFACE CRAFT (Annex 12 to the Convention on International Civil Aviation)

When it is necessary for an aircraft to direct a surface craft to the place where an aircraft or surface craft is in distress, the aircraft shall do so by transmitting precise instructions by any means at its disposal. If such precise instructions cannot be transmitted or when necessary for any other reason the instructions shall be given by the following procedures performed in sequence:

- (1) Circling the surface craft at least once.
- (2) Crossing the projected course of the vessel close ahead at a low altitude, opening and closing the throttle or changing the propeller pitch.
- (3) Heading in the direction in which the surface craft is to be directed.

Repetition of such procedures shall have the same meaning.

The following procedure performed by an aircraft shall mean that the assistance of the surface craft to which the signal is directed is no longer required:

- (1) Crossing the wake of the vessel close astern at a low altitude, opening and closing the throttle or changing the propeller pitch.

**500M. MERCHANT VESSEL PROCEDURES FOR ASSISTING
AN AIRCRAFT THAT MUST DITCH**

The following are recommended procedures for assisting an aircraft that desires to ditch alongside:

BY DAY:

1. Establish a radiotelephone watch on 2182 kcs. if equipped. Attempt to contact the aircraft on this frequency.
2. Maintain a radiotelegraphy watch on 500 kcs. The Rescue Coordination Center controlling the case will try to contact the ship on this frequency via a shore radio station. Communications with the aircraft may have to be relayed in this manner.
3. Be prepared to send homing signals for the aircraft on 410 kcs or 522 kcs.
4. Provide black smoke if possible to aid aircraft in sighting the ship.
5. Post extra lookouts.
6. Prepare to stop vessel or proceed towards plane according to circumstances.
7. Have two lifeboats and lifeboat crews ready. Include in each lifeboat two ring buoys with buoyant heaving lines, and fire extinguishers.
8. Have medicine chest, stretchers, blankets, hot drinks and food ready.
9. Have ship's hospital prepared to receive injured persons.
10. Rig Jacobs ladders. Rig cargo or rope mail sling on lee side amidships by cargo boom, to be used if necessary to heave up exhausted survivors. Injured persons should be left in the lifeboat to be hoisted aboard with it.
11. Be prepared to give aircraft information on weather and sea conditions. Aircraft will want to know wind direction and force; direction, height, and length of primary and secondary swell systems. If pilot selects ditch heading in sufficient time and conditions otherwise permit, lay foam path along ditching course.
12. When aircraft is in sight set course parallel to ditch heading that pilot has chosen. If not in communication with the aircraft by the time the plane is sighted and unable to obtain pilot's ditch heading, set course parallel to the main swell system and into the wind component, if any.
13. If on board, use a liferaft or buoyant apparatus in water as a landing platform at the Jacobs ladder.
14. Instruct coxswains to recover those survivors in the water or clinging to wreckage before recovering those in liferafts.
15. Keep the Rescue Coordination Center advised by radio, prior to, and subsequent to ditching.

BY NIGHT:

In addition to procedures recommended for daytime, the following are also recommended if the emergency occurs at night:

1. Lay a string of not less than 6 ring buoys with water lights approximately 500 feet apart in a single line along the ditch heading received from the pilot. Take station two-thirds down the lighted lane off to one side. The aircraft will attempt to land close to the lighted lane. Do not use carbide water lights because of the danger of gasoline on the water.
2. Light up the ship with all fixed deck lights and rig cargo lights on masts, king posts, top of decks, etc., if possible.
3. Use searchlights as visual beacons, shining one vertically and sweeping the sky at 15° off the horizon with the other. Do not shine lights toward the aircraft at any time, since this would blind the pilot.

Chapter 6 MEDICAL ADVICE AND QUARANTINE

600. MEDICAL ADVICE

Arrangements are made in various countries whereby mariners of all nationalities may obtain medical advice by radio.

In the list of stations which follows the hours of service of the stations are continuous unless otherwise noted.

URGENT MESSAGES: Requests for medical advice of an urgent nature should be preceded by the urgent signal (XXX XXX XXX) in order to give them priority over all other radio traffic except distress communications.

INTERNATIONAL CODE OF SIGNALS, 1931: Volume II of the International Code of Signals, 1931, contains a medical section. By use of this code in communicating with foreign stations difficulties of language may be avoided.

INFORMATION TO BE GIVEN IN THE REQUEST: The case-stating system in the medical section of volume II of the International Code of Signals 1931 (H.O. Pub. No. 103) gives the nature of the information which should be included in the request for medical advice. Whether the message is to be sent in code or plain language, it is recommended that the mariner read this section before preparing his message.

600A. QUARANTINE

By international agreement various countries have agreed on the standard forms which appear in the official International Code of Signals, for the purpose of granting pratique by radio.

A list of ports (by countries) subscribing to the use of the standard form follows:

Canada: Vancouver. Victoria.	Iraq: All Ports.	Australia: Adelaide. Brisbane. Canberra. Darwin. Launceston. Melbourne. Port Moresby. Nauru. Norfolk Island. Perth. Rabaul. Sydney. All other ports by name.
United Arab Republic: Port Said. Bur Tawfiq. Alexandria	Pakistan: All Ports	
Republic of South Africa: Capetown. Durban. Port Elizabeth.	India: All Ports.	
Tanganyika: All Ports.	Burma: Rangoon.	
Saudi Arabia: Az Zuhran	China: Shang-hai.	
Kuwait: Al Kuwayt.	Federation of Malaysia (Sarawak) Miri.	New Zealand: All Ports.
	Persian Gulf: Ras at Tannurah Mena al Ahmadi.	

PANAMA CANAL ZONE

601. **MEDICAL ADVICE:** Messages should be prefixed "DH MEDICO" and signed by the Master.

Messages received from masters of vessels concerning sick or injured persons aboard will be referred to the Naval medical authorities at the station. Treatment is determined and instructions transmitted to the vessel. There is no charge for this service.

6010. Balboa (NBA).

Lat. 8°22'12"N., Long. 79°21'00"W.
FREQ.: 500 kc/s, A1. Initial contact.
470 kc/s, A1 (shore working); 468 kc/s, A1 (ship working).

PANAMA

602. **MEDICAL ADVICE:** "DH MEDICO" messages handled both directions without charge.

6020. Puerto Armuelles, Panama (HPN).

Lat. 8°16'32"N., Long. 82°52'30"W.
FREQ.: 500 kc/s, A1, A2.
WATCH HOURS: 1230-1630, 1730-2230, 2330-0100 week-days; Sundays 1230-1700, 2330-0100.

UNITED STATES—Pacific Coast

603. **MEDICAL ADVICE:** The United States Public Health Service maintains stations from which free medical advice by radio may be obtained. This is made possible through the cooperation of governmental and commercial radio stations whose operators receive and relay messages from ships at sea to Public Health Service stations and then radio the medical advice back to the ships.

Code groups or plain language may be used; messages should be signed by the master and be prefixed: "DH MEDICO."

The radio shore stations listed maintain a continuous guard on 500 kc/s and are most accessible in point of radio connection with medical relief facilities of the Public Health Service.

(A list of United States Navy and Coast Guard stations guarding 500 and 8354-8374 kc/s is given in section 400B.)

6030. Long Beach, Calif. (NMQ).

6040. Los Angeles, Calif. (KOK).

6050. San Francisco, Calif. (NMC).

6060. San Francisco, Calif. (KFS).

6065. San Francisco, Calif. (KPH).

6070. Seattle, Wash. (KLB).

6080. Seattle, Wash. (NMW).

CANADA—Pacific Coast

610. **MEDICAL ADVICE:** Requests should be addressed "Radiomedical" and sent via the nearest coastal radio station, which will refer message to nearest medical authority of the Department of National Health and Welfare and transmit the reply to the ship. There is no charge for this service, except where landline charges are involved. In such cases the ship will be debited accordingly.

Messages requesting a doctor meet the ship on arrival do not fall within the category of "Radiomedical" and should be charged for at the full rate.

QUARANTINE: Quarantine messages are accepted by ports listed in section 600A. Vessels should address a message to "Quarantine (name of port)," giving the following information:

- (1) Name and nationality of vessel.
- (2) Ports of call during voyage.
- (3) Nature of cargo.
- (4) Number of Crew.
- (5) Number of passengers.
- (6) Destination.
- (7) Conditions of health of all on board, with details of any sickness or death occurring during the voyage, and any further information the Quarantine Officer may require.

Messages should arrive between 0900 and 1700 (local time) of the day preceding arrival. Messages are accepted only as fully paid traffic.

6110. Victoria (YAK).

Lat. 48°22'42"N., Long. 123°55'10"W.
FREQ.: 500 kc/s, A2; 2182 kc/s, A3; 156.8 Mc/s, F3.

6120. Tofino (YAE).

Lat. 49°02'54"N., Long. 125°42'16"W.
FREQ.: 500 kc/s, A2; 2182 kc/s, A3.

6130. Bull Harbor (YAG).

Lat. 50°55'30"N., Long. 127°56'55"W.
FREQ.: 500 kc/s, A2; 2182 kc/s, A3.

6140. Alert Bay (YAF).

Lat. 50°35'20"N., Long. 126°55'35"W.
FREQ.: 500 kc/s, A2; 2182 kc/s, A3.

6150. Comox (YAC).

Lat. 49°45'00"N., Long. 124°56'39"W.
FREQ.: 2182 kc/s, A3.

6160. Vancouver (VAI).

Lat. 49°10'30"N., Long. 123°07'15"W.
FREQ.: 500 kc/s, A2; 2182 kc/s, A3; 156.8 Mc/s, F3.

6170. Sandspit, (VAH).

Lat. 53°14'00"N., Long. 131°48'50"W.
FREQ.: 500 kc/s, A2; 2182 kc/s, A3; 156.8 Mc/s, F3.

6180. Prince Rupert (VAJ).

Lat. 54°18'00"N., Long. 130°25'09"W.
FREQ.: 500 kc/s, A2; 2182 kc/s, A3.

ALASKA
(See sec. 603)

620. MEDICAL ADVICE: Messages from Masters of vessels will be referred to U.S. Naval Medical authorities for diagnosis and reply. Services are free of charge.

6200. Ketchikan (NMJ).
Lat. 55°27'30"N., Long. 131°49'00"W.
FREQ.: 500 kc/s, A1, A2; 2182 kc/s, A3.

6210. Kodiak (NOJ).
Lat. 57°45'N., Long. 152°30'W.
FREQ.: 500 kc/s, A1, A2; 2182 kc/s, A3.

6220. Adak (NUD).
Lat. 51°52'00"N., Long. 176°38'00"W.
FREQ.: 500 kc/s, A1, A2.

OCEAN STATION VESSELS—Pacific Ocean

623. Certain U.S. Ocean Station Vessels have medical officers aboard and are prepared to give medical assistance. Continuous watch is maintained on 500 and 8364 kc/s (see Page 1-26). Generally it is preferable that the shore stations listed in section 603 be contacted to obtain medical advice by radio.

6230. Ocean Station Vessel Victor. United States (4YV).
Lat. 34°00'N., Long. 164°00'E.
FREQ.: 500, 8364 kc/s, A1.

6235. Ocean Station Vessel November. United States (4YN).
Lat. 30°00'N., Long. 140°00'W.
FREQ.: 500, 8364 kc/s, A1.

REPUBLIC OF SOUTH AFRICA

624. MEDICAL ADVICE: Free medical advice may be obtained through stations listed below. Messages should be addressed to "Porthealth (name of station)" and should be in the International Code. These services are entirely without charge.

QUARANTINE: A vessel from a foreign port approaching a port in the Republic of South Africa is required to send a "stand-ard quarantine message" to the Port Health Officer, address: PORTHEALTH at Capetown, Durban or Port Elizabeth.

6240. Capetown (ZSC).
Lat. 33°41'10"S., Long. 18°42'40"E.
FREQ.: 500 kc/s, A1, A2.

6245. Port Elizabeth (ZSQ).
Lat. 33°56'44"S., Long. 25°30'44"E.
FREQ.: 500 kc/s, A1, A2; 2182 kc/s, A3.

6250. Durban (ZSD) (ZSW).
Lat. 29°48'15"S., Long. 30°48'58"E.
FREQ.: 500 kc/s, A1, A2; 2182 kc/s, A3.

MALAGASY REPUBLIC

626. MEDICAL ADVICE: Consultations may be had through the coastal radio stations listed below. Messages should be addressed to: "Radiomedical (name of station)" and be prefixed XXX. Messages may be in French, English, or Malagasy.

6260. Majunga (SRO).
Lat. 15°42'55"S., Long. 46°18'09"E.
FREQ.: 441, 461, 500 kc/s, A1, A2.
WATCH HOURS: 0500-0900, 1300-1700, 2100-0100.

6270. Tamatave (SRS).
Lat. 18°08'02"S., Long. 49°24'33"E.
FREQ.: 476, 500, 519 kc/s, A1, A2.

TANZANIA

628. QUARANTINE: Messages should be addressed to "Healthport, Dar es Salaam," and sent from 3-14 hours prior to the arrival of the vessel.

6280. Dar es Salaam (SHA).
Lat. 6°50'15"S., Long. 39°17'30"E.
FREQ.: 500 kc/s, A1, A2.
WATCH HOURS: 0400-1500.

SAUDI ARABIA

6290. Az Zahrn (HZA).
Lat. 26°18'40"N., Long. 50°07'00"E.
FREQ.: 430, 500 kc/s, A1, A2.
REMARKS: Station is owned and operated by the Arabian American Oil Company and will accept medical messages without traffic charge. The current copy of the Quarantine Code is on file. All messages must be addressed "Aram-co."

KUWAIT

630. QUARANTINE: Messages must be sent at least 72 hours before vessel's expected arrival. Messages must be addressed "Marine" Kuoco Kuwait.

6300. Al Kuwayt (MBU).
Lat. 29°06'48"N., Long. 48°04'10"E.
FREQ.: 500 kc/s, A1, A2.
WATCH HOURS: 0400-1000, 1200-1900. At other times by request.

IRAQ

631. QUARANTINE: Masters of vessels approaching the Shatt al Arab are required to send to the Port Health Officer, Basrah (telegraphic address: Porthealth, Basra), either directly or through the vessel's agents, a message containing the items of information set forth in the International Code of Signals. Messages must reach the Port Health Officer from 8-12 hours prior to the arrival of the vessel at the Outer Bar of the Shatt al Arab.

6310. Al Basrah (YLR).
Lat. 30°33'20"N., Long. 47°47'29"E.
FREQ.: 500 kc/s, A1.

6320. Al Faw (YISA).
Lat. 29°58'18"N., Long. 48°28'58"E.
FREQ.: 500 kc/s, A1.

INDIA

633. **MEDICAL ADVICE:** Medical advice by radio may be obtained free from the stations listed below. Messages should be in English, addressed: "XXX MEDICO."

QUARANTINE: Indian ports accepting quarantine messages are listed in section 600A.

The masters of vessels approaching Madras, will send the Standard Quarantine message consisting of items I through IX, as explained in Part I, Quarantine, of H.O. No. 103, International Code of Signals (American Edition) Vol. II—Radio, 1931, in conjunction with the following plain language information:

- (a) No sand, earth, crew, passenger, poultry or pigs taken from between Port Sudan and Durban.
- (b) No abnormal mortality of rats or mice.
- (c) No monkeys on board.
- (d) Have not touched any port between Eritrea and Tanganyika, including Zanzibar or Yellow Fever areas within the last 30 days.

The complete message will be sent to the Port Health Officer, Madras, under the telegraphic address "QUARANTINE, MADRAS," not less than four nor more than twelve hours before arrival.

6330. Bombay (VWB).

Lat. 19°04'54"N., Long. 72°50'00"E.
FREQ.: 500 kc., A1, A2.

6335. Mormugao (VWG).

Lat. 15°27'34"N., Long. 73°51'00"E.
FREQ.: 500, 425 kc., A1, A2.
WATCH HOURS: 0300-1800.

6340. Madras (VWM).

Lat. 13°05'00"N., Long. 80°17'15"E.
FREQ.: 500 kc., A1, A2.

6350. Calcutta (YWC).

Lat. 22°33'37"N., Long. 88°23'07"E.
FREQ.: 500 kc., A1, A2.

CEYLON

636. **MEDICAL ADVICE:** Messages should be in English prefixed "Medical Service." A fixed charge of ten words is made; this includes inquiry and reply.

6360. Colombo (4PB).

Lat. 6°55'14"N., Long. 79°52'53"E.
FREQ.: 500 kc., A1, A2.

BURMA

637. **MEDICAL ADVICE:** Free medical advice may be obtained from the coastal radio station listed below. Messages should be in English, prefixed "Medical Service" and sent through Rangoon.

6370. Rangoon (XYR).

Lat. 16°45'54"N., Long. 96°11'42"E.
FREQ.: 500 kc., A1, A2.

FEDERATION OF MALAYSIA

638. **MEDICAL ADVICE:** Free medical advice may be obtained on request to "Radiomedical (name of station)."

6380. Kuantan (9MK).

Lat. 3°50.0'N., Long. 103°22.0'E.
FREQ.: 2182 kc., A3.

6382. Penang (9MG).

Lat. 5°22'33"N., Long. 100°18'30"E.
FREQ.: 500 kc., A1, A2.

SINGAPORE

638.5 **MEDICAL ADVICE:** Free medical advice may be obtained on request to "Medical (Name of Station)."

6387. Singapore (9VG).

Lat. 1°20'20"N., Long. 103°42'10"E.
FREQ.: 500 kc., A1, A2.

VIETNAM

639. **MEDICAL ADVICE:** Messages should be in French, prefixed XXX, and addressed to "Radiomedical (name of station)." Messages are charged for at normal rates.

6390. Sai Gon (XVS).

Lat. 10°46'39"N., Long. 106°39'48"E.
FREQ.: 500 kc., A1.

HONG KONG

639.5. **QUARANTINE:** Early information as to expected time of arrival requested by Port Health Office, Hong Kong. Inspection at Kowloon Bay to 2359 Local Time. Radio Pratique will not be granted.

Inspection and granting of pratique to ships after sunset will be subject to the provision of adequate lighting facilities and the absence of Infectious disease on board. Ships arriving after sunset should hoist the night quarantine signal—a red light over a white light.

CHINA

640. **QUARANTINE:** The following paragraph is extracted from Quarantine Regulations which have effect in Shanghai and other ports of China where the Health Services are under the control of the Chinese Maritime Customs:

The master of any vessel subject to quarantine inspection shall, whenever possible, notify the quarantine Officer by radio, at least 3 hours previous to arrival at the quarantine anchorage, of:

- (a) The name of the vessel and the expected date and hour of arrival;
- (b) 1. Number of passengers on the vessel;
2. Number of crew on the vessel;
3. Number of passengers landing at the port;
- (c) Name of oversea port of departure and name of last port of call;
- (d) Number of cases of infectious disease during last 15 days, or of deaths during voyage (stating names of diseases);
- (e) Number and nature of cases of noninfectious diseases;
- (f) Whether a ship's surgeon is carried;
- (g) The bearing of the vessel from the Training Wall Beacon if anchored in a fog awaiting inspection.

All messages should be transmitted through Shanghai coast radio station, call signal XSG.

NOTE: Information dated 1941.

6400. Shanghai (XSG).

Lat. 31°13'10"N., Long. 121°27'45"E.
FREQ.: 500 kc., A1, A2.

UNION OF SOVIET SOCIALIST REPUBLICS

Siberian Coast

641. QUARANTINE: Russian ports accepting quarantine messages are listed in section 600A.

Messages must be addressed to the Port Health Officer from 5 to 12 hours prior to the arrival of the vessel. They may be sent in the International Code.

6410. Vladivostok (UIK).

Lat. 43°07' 15"N., Long. 131°53' 15"E.
FREQ.: 500 kc., A1.

JAPAN

642. MEDICAL ADVICE: Free medical advice may be obtained from the following hospitals; Kobe, Nagoya, Osaka, Yokohama, Tobata, Moji, Nagasaki, Shigaama, and Otaru. Messages must be sent to "MDC NKEB (name of hospital)," or "MDC SHKB" for hospitals in Osaka, Tokyo or Yokohama. Messages should be sent to the nearest coast station listed below. Messages may be in Japanese, English, French or German plain language. Replies will be in same language as request.

6420. Ochiishi (Nemuro) (JOC).

Lat. 43°19' 32"N., Long. 145°36' 19"E.
FREQ.: 500 kc., A1, A2.

6430. Hakodate (JHK).

Lat. 41°48' 59"N., Long. 140°30' 00"E.
FREQ.: 500 kc., A1, A2.

6440. Otaru (JIT).

Lat. 43°06' 30"N., Long. 141°21' 56"E.
FREQ.: 500 kc., A1, A2.

6450. Choshi (JCS).

Lat. 35°45' 25"N., Long. 140°45' 18"E.
FREQ.: 500 kc., A1, A2.

6460. Nagoya (JHY).

Lat. 35°05' 19"N., Long. 136°53' 07"E.
FREQ.: 500 kc., A1, A2.

6470. Shiono Misaki (JSM).

Lat. 33°26' 06"N., Long. 135°45' 50"E.
FREQ.: 500 kc., A1, A2.

6480. Shimonoseki (JCG).

Lat. 34°09' 26"N., Long. 130°55' 23"E.
FREQ.: 500 kc., A1, A2.

6490. Maizuru (JMA).

Lat. 35°28' 47"N., Long. 135°26' 13"E.
FREQ.: 500 kc., A1, A2.

6500. Niigata (JCF).

Lat. 37°55' 57"N., Long. 139°06' 42"E.
FREQ.: 500 kc., A1, A2.

6510. Oita (JIT).

Lat. 33°14' 05"N., Long. 131°40' 18"E.
FREQ.: 500 kc., A1, A2.

6520. Nagasaki (JOS) (JOR).

Lat. 32°48' 05"N., Long. 130°09' 25"E.
FREQ.: 500 kc., A1, A2.

6522. Yokohama (JCY).

Lat. 35°14' 48"N., Long. 139°37' 52"E.
FREQ.: 500 kc.

6525. Shimizu (JGQ).

Lat. 34°59' 59"N., Long. 138°29' 40"E.
FREQ.: 500 kc.

6527. Kobe (JCK).

Lat. 34°31' 24"N., Long. 135°30' 53"E.
FREQ.: 500 kc.

FEDERATION OF MALAYSIA (SARAWAK)

653. MEDICAL ADVICE: Free medical advice may be obtained from Kuching (VQF). Messages should be addressed "DIRMED Kuching Radio."

QUARANTINE: Vessels making for Miri should notify their anticipated time of arrival during the preceeding afternoon and should give information relating to quarantine by including the appropriate code word: "MEDIH" or "MEFOF." This message should be sent direct to the Sarawak Oilfields Ltd. (Tel. Address: Saroilco), who will forward the same to the Port Health Officer, Miri. Inspection by the Port Health Officer will be necessary if an adverse report is received.

Noncompliance with the rule may cause considerable delay to vessels.

6530. Miri (9WW21).

Lat. 4°25' 30"N., Long. 114°00' 00"E.
FREQ.: 500 kc., A1.
WATCH HOURS: 0030-0100, 0430-0500, 0830-0900.

6540. Kuching (9WW20).

Lat. 1°33' 20"N., Long. 110°20' 30"E.
FREQ.: 500 kc., A1.
WATCH HOURS: 0030-0100, 0430-0500, 0830-0900.

PAPUA

656. MEDICAL ADVICE: Messages should be in English, addressed to: "Radiomedical (name of station)." The service is free of charge.

QUARANTINE: Australian ports accepting quarantine messages are listed in section 600A. Messages should be addressed to: "Quarantine (name of port)."

REMARKS: Contact with Coastal Radio Stations in the Australian Area should be made on 500 kc. The ship operator should change to the station working frequency only when instructed to do so by the Coastal Radio Station operator.

6570. Port Moresby (VIC).

Lat. 9°27' 32"S., Long. 147°11' 27"E.
FREQ.: 500 kc., A1, A2.
WATCH HOURS: 2100-0800 on Monday through Friday; 2100-0730 on Saturdays; 2200-0200 on Sundays and holidays.

AUSTRALIA

658. **MEDICAL ADVICE:** Messages should be in English, addressed to: "Radiomedical (name of station)." The service is free of charge.

QUARANTINE: Australian ports accepting quarantine messages are listed in section 600A. Messages should be addressed to: "Quarantine (name of port)."

REMARKS: Contact with Coastal Radio Stations in the Australian Area should be made on 500 kc. The ship operators should change to the station working frequency only when instructed to do so by the Coastal Radio Station operator.

6580. **Thursday Island (VII).**

Lat. 10°35'14"S., Long. 142°12'15"E.
FREQ.: 500 kc., A1, A2.

6590. **Cairns (VIK).**

Lat. 16°53'00"S., Long. 145°45'30"E.
FREQ.: 500 kc., A1, A2.
WATCH HOURS: 0000-0900, 2000-2400.

6600. **Townsville (VIT).**

Lat. 19°11'50"S., Long. 146°46'30"E.
FREQ.: 500 kc., A1, A2.

6610. **Rockhampton (VIR).**

Lat. 23°23'38"S., Long. 150°29'53"E.
FREQ.: 500 kc., A1, A2.
WATCH HOURS: 0000-0730, 2200-2400 weekdays, 0000-0300, 0400-0700, 2330-2400 Sundays.

6620. **Brisbane (VID).**

Lat. 27°04'11"S., Long. 153°03'29"E.
FREQ.: 500 kc., A1, A2.

6630. **Sydney (VIS).**

Lat. 33°47'00"S., Long. 150°51'30"E.
FREQ.: 500 kc., A1, A2.

6640. **Hobart (VIH).**

Lat. 42°51'40"S., Long. 147°19'30"E.
FREQ.: 500 kc., A1, A2.
WATCH HOURS: 0000-1000, 2100-2400.

6650. **Melbourne (VIM).**

Lat. 37°27'47"S., Long. 144°54'35"E.
FREQ.: 500 kc., A1, A2.

6660. **Adelaide (VIA).**

Lat. 34°51'14"S., Long. 138°31'45"E.
FREQ.: 500 kc., A1, A2.

6670. **Esperance (VIE).**

Lat. 33°52'44"S., Long. 121°53'32"E.
FREQ.: 500 kc., A1, A2.
WATCH HOURS: 0000-1200, 2300-2400.

6680. **Perth (VIP).**

Lat. 32°01'49"S., Long. 115°49'18"E.
FREQ.: 500 kc., A1, A2.

6690. **Geraldton (VIN).**

Lat. 28°46'28"S., Long. 114°35'57"E.
FREQ.: 500 kc., A1, A2.
WATCH HOURS: 0000-1200, 2300-2400.

6700. **Broome (VIO).**

Lat. 17°57'56"S., Long. 122°13'54"E.
FREQ.: 500 kc., A1, A2.

6710. **Wyndham (VIW).**

Lat. 15°30'49"S., Long. 128°09'29"E.
FREQ.: 500 kc., A1, A2.
WATCH HOURS: 0100-0400, 0600-1000, on Monday through Friday; 0100-0400 on Saturdays; closed on Sundays and holidays.

6720. **Darwin (VID).**

Lat. 12°26'08"S., Long. 130°52'23"E.
FREQ.: 500 kc., A1, A2.

NEW ZEALAND

673. **MEDICAL ADVICE:** Messages should be in English, addressed to: "Radiomedical (name of station)." The service is free of charge.

QUARANTINE: Messages must arrive 24 hours before entering any port. If a doctor is carried, the message may arrive not less than 6 hours before entry, stating either "Healthy" or that there is sickness on board.

6730. **Auckland (ZLD).**

Lat. 36°52'40"S., Long. 174°54'50"E.
FREQ.: 500 kc., A2.

6740. **Wellington (ZLW).**

Lat. 41°16'26"S., Long. 174°45'55"E.
FREQ.: 500 kc., A1, A2.

6750. **Awarua (ZLB).**

Lat. 46°30'28"S., Long. 168°22'21"E.
FREQ.: 500 kc., A1, A2.