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Maritime Communications and IMO SMCP 2001

(draft version)

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Contents

Supplements:

1. (Part 1) MARITIME COMMUNICATIONS – INTRODUCTION

Foreword

This draft manual is intended for nautical students at MET institutions of higher education (maritime academies, colleges, faculties, universities) and for the candidates preparing for STCW 1995 certification exams: Officer of the Watch (Deck) on ships of 500 GT or more, 1st Mate Certificate, and Master's Certificate on ships of 3000 GT and more.

The text predominantly deals with voice communications and is based on *IMO Standard Marine Communications Phrases* (SMCP 2001), *Canadian Coast Guard Restricted/General Operator's Certificate*, GMDSS course manuals, requirements of STCW 1995, *SEASPEAK Training Manual*, numerous websites, and author's own corpus of voice (VHF) maritime communications recorded worldwide.

Any comment, suggestion or criticism will be most appreciated.

1. 1 General

All seafarers using VHF, MF or HF radiotelephones, must hold a valid Operator's Certificate. These certificates are issued after the candidate passes an appropriate government exam. In the Republic of Croatia these exams are held by Ministry of Maritime Affairs, Transport and Communication, i.e. before authorized boars of examiners at the harbourmaster's offices in major ports.

Introduction

The material in this publication covers the scope of the Restricted Operator's Certificate examination. This publication will also be required by candidates wishing to obtain the General Operator's Certificate.

Croatia is a member of the International Telecommunication Union (ITU), an organization established to regulate the spectrum, providing basic standards for communication procedures and practices, frequency allocation and radio regulations on a worldwide basis. The ITU sets the minimum standards that candidates should meet for obtaining the various classes of radio operator's certificates. Croatia is also a member of the International Maritime Organization (IMO), which is responsible for marine equipment and operations, especially concerning safety at sea.

The Croatian Ministry of Maritime Affairs, Transport and Communications administers telecommunications in Croatia, based on both national and international acts, regulations and conventions. Marine operations in the world are generally regulated by the Coast Guard. The role of Coast Guard in Croatia is assumed by the Ministry of Maritime Affairs via harbourmaster's offices.

To bring the Croatian certificate in line with changes in the international requirements, the Ministry of Maritime Affairs has established several marine certificates. These certificates are listed below:

1. Restricted Operator's Certificate (RoC)
2. General Operator's Certificate (GoC), and
3. Radiocommunications General Maritime Certificate.
4. GMDSS Certificates
   4a. GMDSS 1st Class
   4b. GMDSS 2nd Class

Under the Ship Manning Regulations the Ministry requires that ships are compulsorily fitted with radio equipment. They shall also carry persons who hold the appropriate certificate for the type of voyage and the equipment fitted.

Ships fitted with VHF radiotelephones must carry persons who hold a Restricted Operator's Certificate, and ships that are fitted with MF or MH/HF radiotelephones, or ship earth stations, must carry persons who hold either a General Operator's Certificate or a Radiocommunications General Maritime Certificate.

The Global Maritime Distress and Safety System (GMDSS) in force since February 1, 1999 has a worldwide coverage and considerably enhances the assistance that can be given to ships in distress and urgency situations.

For additional information on this system, also refer to the various publications under such headings as "Distress Communications", "Urgency Communications" and "Safety communications" in SMCP 2001 or at various sites on the internet. Current information on the progress and availability of this system is available in the latest editions of the Radio Aids to Marine Navigation and the annual edition of Notices to Mariners.

<u>Knowledge required for the Examination (general provisions):</u>

The candidates will be required to satisfy the Board of Examiners that they:

1. are capable of operating modern VHF radiotelephone equipment,
2. possess a general knowledge of the radiotelephone operating procedures, international regulations applicable to radiotelephone communications between stations, as well as those specific regulations relating to safety of life, and
3. possess practical knowledge of the operation of Global Maritime Distress and Safety System equipment for vessels engaged on voyages within the range of VHF coast stations.
4. possess a working knowledge of relevant parts of IMO Standard Marine Communication Phrases (SMCP 2001)

<u>Radio Station Certificates / Licences</u>

Unless exempted under Section 6 of the General Radio Regulations, Part II (GR2), all radio stations in Croatia must be licensed by the Ministry of Maritime Affairs, Transport and Communications. The certificate or licence must be displayed in a conspicuous place near the radio equipment.

The radio station licence generally specifies the call sign assigned to the station, the frequencies to be used for transmitting, the type of radio equipment authorized, and any special conditions under which the station should be operated.

To be eligible for licensing in Croatia, radiotelephone equipment must be of the type approved or technically acceptable for licensing by the Ministry. Type approval number is a nine-digit number appearing on a label affixed to the radio and assures the purchaser or owner of the radio equipment that it meets Croatian and international technical standards.

1. 2 Technical Information

From: http://www.goals.com/ClassRm/SailSci/seacom.htm: Communication at Sea

Vessels on long voyages are often away from land for weeks or months at a time. Even on short voyages, a sailor on a boat is isolated from the land, and it is often difficult to know what is happening only a short distance away. Unless one is close enough to simply yell to people on shore or aboard other vessels, questions must often go unanswered until one returns home. It was natural, then, that early mariners would embrace technologies that allowed them to communicate across distances.

Written messages

One of the oldest methods of remote communication still exists today. One writes a message on a piece of paper and has it delivered to the recipient. For the sailor at sea, this meant receiving letters and important messages at ports where the vessel stopped or from friendly vessels encountered along the way. In some cases, it could take months or even years for a message to reach the addressee.

An even slower and less reliable way to deliver a written note was to seal it inside an empty bottle and throw it overboard, letting wind and current carry it where they would. With time and luck, some person might actually find and read the note. Flags, semaphores, and other systems

For centuries written correspondence remained the most reliable way to get messages across long distances. However, there were much faster ways for vessels to send simple messages while within sight of the shore or other vessels. Through the use of signal flags and semaphore , a message could be sent to anyone who could see it and understand it. Since these messages were visible to everyone nearby, elaborate codes were developed to identify the sender and recipient and to hide the meaning of the message. When Samuel F. B. Morse developed one of the first practical telegraph systems in 1837, he also designed a code for it

in which different combinations of dots and dashes represented letters of the alphabet. Although the telegraph, which required a continuous wire linking the sender and receiver, was useless to mariners, Morse Code was very useful: The heliograph was a bright lamp with a shutter that could be opened and closed to produce a sequence of long and short flashes corresponding to Morse's dots and dashes.

Radio

While early sailors relied only upon written messages, signal flags, semaphores, and a few other signaling techniques to communicate, the twentieth century brought major change to communication. In 1901 an Italian inventor named Marchese Guglielmo Marconi transmitted a radio signal across the Atlantic Ocean, and by 1910 the United States had passed a law requiring its passenger ships to have radio equipment on board. Radio made it possible, for the first time, for a vessel out of sight of land or other vessels to keep in touch with the rest of the world. Radio did not immediately eliminate the need for more traditional signaling systems, however, and many of them, including semaphore and heliograph, were in active use through World War II. Even today, signal flags are carried aboard most large vessels and many smaller ones. Still, radio had a profound impact on communication throughout the world, and particularly on the way sailors communicate. Today, it would be understandable if a lone sailor went to sea without a complete set of signal flags, without any knowledge of Morse Code beyond the familiar pattern for SOS (... - - - ...), and without any whistles, horns, drums, bells, or signaling canon. A sailor planning to set out without a radio, however, is likely to receive shocked and skeptical looks from others.

VHF

Today there are two basic kinds of radios found aboard ocean-going vessels. Marine VHF (very high frequency) radios require an uninterrupted line of sight between antennas. This limits their range, and they are usually used to communicate over distances of less than about [x] nautical miles. Most marine radio traffic occurs over VHF radio, since skippers are naturally most concerned about vessels, port facilities, and hazards in their immediate vicinity.

SSB

To communicate over very large distances, especially while a vessel is at sea, many pleasure craft and virtually all commercial and military vessels are equipped with Marine SSB (single side-band) radio. SSB has a much greater range than VHF because it does not require a line of sight between stations. Its signal "bounces" in the earth's atmosphere, enabling it to reach around the planet's curved surface for thousands of miles. Transmitting on SSB requires a great deal of electricity compared to VHF, however, since its signal must be strong enough to travel over great distances through a lot of atmosphere. Northwest Spirit is equipped with both Marine VHF and Marine SSB.

Satellite communication

Satellite communication is a relatively new alternative for long-distance communication. It features many advantages over conventional point-to-point radio. Instead of transmitting an analog signal directly from the vessel to a shore station, a digital signal is transmitted

upward to a satellite. The satellite then relays the signal to another satellite or to a receiver elsewhere on the surface of the earth.

Satellite communication is private. When you use conventional SSB or VHF, everybody with a receiver in range can monitor your conversation. Signals transmitted for satellite communication, however, are highly directional, making them much more difficult for the casual eavesdropper to pick up. In the case of digital signals, data can be encrypted, making it extremely secure against even a determined spy. Satellite communication allows direct access to the global communication infrastructure (telephone and computer networks). SSB or VHF, on the other hand, both require an intermediary--such as a ship-to-shore operator--to make the appropriate connections ashore.

Satellite communication is not greatly affected by atmospheric or meteorological conditions. The signal does not have to bounce since it only needs to reach an overhead satellite, which is always within line-of-sight. Because the signal is being transmitted primarily upward, it passes through a relatively thin layer of the Earth's atmosphere. SSB and VHF transmissions, however, must push their way through a great quantity of distortion-producing atmosphere as they travel across the surface of the Earth.

Geosynchronous satellites

Most communications satellites are in geosynchronous, or geostationary, orbits. This means that each satellite is at an altitude (22,300 miles or so) such that its speed around the earth matches the earth's rotation. Both the satellite and the surface of the Earth are rotating around the Earth's axis, but since they are rotating at the same rate, the satellite appears to stay in one place over the Equator. This simplifies signal transmission since once an antenna on the ground is directed toward the satellite, it does not have to be readjusted. The dish antennas used to receive satellite television are directed toward geosynchronous satellites. A vessel as sea, however, does not stay in one place. Even if it did, though, it would tend to provide an insufficiently stable surface for precise antenna alignment.

Inmarsat system

Northwest Spirit uses satellites in the Inmarsat system. Inmarsat, or International Maritime Satellite, is an international partnership of government and private entities representing 75 countries. Headquartered in London, its charter is to provide mobile satellite communication services to the world. Inmarsat was established in 1979 and began providing services in 1982. Currently, Inmarsat uses four of its own satellites and leases maritime communication capacity on several other satellites. All of the units in the Inmarsat system are in geosynchronous orbits.

Channel/Frequency Assignments[1]

The frequencies used in marine radiotelephone communication are established for use by specific services in specific locations. These frequencies should only be used for the type of communication for which they were intended.

Emissions
In VHF transmissions, the type of emission used is frequency modulation (FM).

International Distress, Calling and Answering Frequencies

These frequencies are set aside for the primary use of distress, urgency and safety communications. They may also be used to initiate a call to other stations or to receive their replies, in which case a mutually satisfactory working channel can be determined. Channel 16 (156.800 MHz) on VHF has been designated for this purpose.

Note: A **working channel** is a channel other than a pre-designated channel that is used for the passage of information or messages from one station to another. You should never send messages or information an the calling channel. This channel is used for contact only. When it is known that a station you want to communicate with is operating on a working frequency, it is not necessary to employ the calling frequency. It is permissible to wait until the communication terminates and then call the station with which you wish to communicate on the working frequency.

Watchkeeping

When at sea or in port, ships fitted with radiotelephone equipment should keep watch on the frequency 156.800 Mhz. (Channel 16 VHF).

When at sea, ships required by law to be fitted with VHF radiotelephone equipment (compulsorily fitted) must keep a continuous watch on the frequency 156.800 Mhz. (Channel 16 VHF) or other frequencies specifically designated on their licences, except when actually engaged in conducting communications on their working frequencies.

For compulsorily fitted vessels, the very high frequency (VHF) regulations state that watchkeeping on the VHF band must begin at least 15 minutes before the vessel leaves its dock or place of mooring. The regulations also state that this watch on Channel 16 (156.800 MHz.) shall not be terminated until the vessel is securely anchored or moored. There are precautions that must be observed when using radiotelephone equipment while a vessel is in port or navigating near coast stations. The regulations governing the use of the transceivers in and around ports and coast stations state that the

[1] Note: The rest of the text following in this chapter has been adapted from the Canadian Coast Guard web site: www.ccg-gcc.gc.ca (Restricted/General Radio Operator's Certificate)

VHF transceiver will be used in the 1-watt position.

Radio Logs

General

All compulsorily fitted radio stations using maritime mobile frequencies are required to keep a radio log. The activities of the station, as well as the nature of messages and signals transmitted, received or intercepted by the station, are to be recorded in chronological order. The log must be located at the main operating position of the station during the time the ship is on a voyage. The log is to be kept by the operator maintaining the listening watch, in accordance with the Ship Station Technical Regulations. Foreign-going or home-trade vessels of 50 tons, or over-registered tonnage, are also required to keep an official ship log, which contains some information on the radio installation and battery maintenance.

A radio log must contain entries recording the following particulars:

- the name, port of registration and official registration or license
- number of the vessel,
- the gross tonnage of the vessel,
- the frequency or frequencies guarded,
- the time, whether:

  a) the local time of the area in which the vessel is operating, or

  b) the Co-ordinated Universal Time (UTC) when the vessel is engaged in an international voyage, and
- the time and reasons for any radio communication interruption.

VHF Radiotelephone Installations

In conjunction with the general information outlined above, ship stations using equipment operating in the maritime mobile VHF band (156.0 MHz - 162.5 MHz) must record the following:

- the name(s) of the radio operator(s) on watch, as well as the times of going on and off watch,
- a detailed summary of all communications transmitted, received or intercepted relating to distress, urgency or safety traffic, recorded in chronological order,
- brief summaries of communications exchanged with other stations with frequency used for reception and transmission,
- the time of, and reason for, any discontinuance of the listening watch on frequency 156.800 MHz - Channel 16, and

- the times of departure from and arrival at port.

Note:

The VHF Radiotelephone Practices and Procedures Regulations (VRP) state that watch on Channel 16 (156.8 MHz) can be interrupted by ships in a Vessel Traffic Service (VTS) Zone when they are required to use a channel other than 16 for vessel traffic management purposes. This is because a continuous watch on Channel 16 is maintained for ships by the traffic centre, or by a coast station that is able to establish contact with the traffic centre without delay.

Frequencies

External communications - Intership Frequencies

A number of frequencies have been set aside specifically for communications between ships. Some of these intership frequencies have been designated as safety frequencies to be used when important messages are to be passed between ships (for example, safety messages).

Public Correspondence Frequencies

Coast Guard or coast radio stations are located at various points along the coasts and the coastal regions of any maritime state. They provide a safety service, including broadcasts of meteorological forecasts and aids to navigation information, as well as facilities for handling messages or telephone conversations between ships and shore. The ship-to-shore frequencies that have been set aside for communicating with coast stations are called public correspondence frequencies.

Vessel Traffic Services Frequencies

In order to promote navigational safety, the protection of the environment and the safe movement of marine traffic, vessel traffic services (VTS) zones have been established throughout Adriatic waters. Communications within these zones are conducted on dedicated frequencies.

Broadcast Frequencies

One of the many tasks of the Croatian Coast Guard is to pass information to vessels in the form of notices of danger to navigation or the marine weather forecast. These broadcasts are usually transmitted on Channel 24 or on Channel SSB ___ MHz. For the current list of frequencies in use refer to the Radio Aids to Marine Navigation.

Emergency Frequencies

Distress:

156.800 MHz (Channel 16) Voice

156.525 MHz (Channel 70) Digital Selective Calling (DSC)

Emergency Position Indicating Radio Beacons (EPIRBs):

156-800 MHz (Marine)

1.3 Voice Radiocommunications

1.3.1 General

Superfluous Communications and Interference

Unnecessary Transmissions
Communications should be restricted to those necessary for the safe and expeditious movement of vessels. Unnecessary transmissions are not permitted. Profane and obscene language is strictly prohibited.

False Distress Transmissions

False distress signals are strictly prohibited.

Penalty:
Any person who knowingly transmits or causes to be transmitted any false or fraudulent distress signal, call or message is guilty of an offence and is liable, on summary conviction, to a penalty or to imprisonment, or to both.

Interference

All radio stations shall be installed and operated so as not to interfere with or interrupt the working of another radio station.

The only situation under which you may interrupt or interfere with the normal working of another station is when you are required to transmit a higher priority call or message (for example, distress, urgency or safety calls or messages).

Secrecy of Communications

Radio operators and all persons who become acquainted with radiocommunications are bound to preserve the secrecy of correspondence.
The contents or even the existence of correspondence transmitted, received or intercepted by a radio station should not be divulged, except to the addressee of the message or his accredited agent, or the properly authorized officials of the Government of Croatia or a competent legal tribunal, or an operator of a telecommunications system as is necessary for the furtherance of delivery of the communications. The foregoing restrictions do not apply to a message of distress, urgency, safety or to messages addressed to ALL STATIONS, that is weather reports, storm warnings, etc.

1.3.2 Communications Priorities

The order of priority for radiocommunications:

1. distress communications,
2. urgency communications,
3. safety communications,
4. communications relative to direction-finding bearings,
5. communications relative to the navigation, movement and needs of aircraft engaged in search and rescue operations,
6. messages containing exclusively meteorological (weather)observations destined to an official meteorological office,
7. communications related to the application of the United Nations Charter,
8. service messages relative to the working of the radiocommunications service or to messages that have been previously transmitted,
9. all other communications.

1.4 Operating Procedures – Using IMO Standard Phrases (SMCP 2001)

1.4.1 General

The present chapter deals with the application of IMO Standard Marine Communication Phrases (SMCP 2001) in operating procedures used in maritime communication.

Microphone Techniques

The efficient use of radiotelephone depends to a large extent on the operator's method of speaking. As the distinctive sounds of consonants are apt to become blurred in the transmission of speech, words of similar length containing the same vowel sounds may sound alike. Special care is necessary in their pronunciation. Special care is also required in handling the microphone. Do not hold the microphone too close to your mouth because it may cause distortion or slurring of words and you may have to repeat your message to be understood. Speak all words plainly and end each word clearly in order to prevent the running together of consecutive words. The following points should be kept in mind when using a radiotelephone.

Speed and rhythm of speech

Keep the rate of speech constant, neither too fast nor too slow. Remember that the operator receiving your message may have to write it down.

Preserve the rhythm of ordinary conversation. Avoid the introduction of unnecessary sounds such as "ER and "um" between words.
If the communication link is unreliable, or the wording of the text complex or confusing, use the command WORDS TWICE or, upon request, repeat the message using the phonetic alphabet. This should ensure that the information within the text of the message is received correctly.

1.4.2 SMCP Message Markers

The message marker is the word pronounced before the message to signal and introduce the purpose and content of the message to be communicated. The following eight message markers are recommended:

PHRASE MARKER	Example:
QUESTION	*QUESTION:* *What is your course?* *What is your position?* *How many tugs are required?* *What is your ETA: Fairway Buoy?* *Is buoy Number 1-4 in the correct position?* *What are your intentions?*
ANSWER	*ANSWER:* *My course is 1-3-2 degrees true* *My position is: NE of Buoy Number 1.5* *I require two tugs* *My ETA Fairway Buoy is: time: 1-5-4-5 hours local* *Negative. Buoy Number 1-4 in not the correct position*
REQUEST	*REQUEST:* *Immediate tug assistance* *Please arrange for the berth on arrival* *Permission to enter the Fairway* *Please confirm your dwt* *Please send a doctor*
INFORMATION	*INFORMATION :* *Wind backing and increasing* *The tanker XEROX is next* *My ETA at Outer Pilot Station is …*
ADVICE (STRONGLY RECOMMENDED, at receiver's option)	*ADVICE:* *(Advise you) Stand by on channel 6 – 8* *Steer course: 2-53-3 degrees true* *Anchor in position: bearing: one-two-five degrees true, from Punta Stella, distance two miles*
INSTRUCTION (SAME AS ORDER, COMMAND OR PROHIBITION)	*INSTRUCTION:* *You must alter course* *Go to berth No. 15* *Stop your engine immediately* *Alter course to: new course 1-2-3 true* *Push on starboard bow*
WARNING	*WARNING:* *Vessel not under command in ...* *Obstruction in the fairway.* *Tanker aground in position …* *Gale force winds in area …* *Buoy number: one-five unlit / off position* *Pilotage services suspended*
INTENTION	*INTENTION:* *I intend to alter course to starboard and pass astern of you.* *I will reduce speed.* *I will pass astern of you* *I intend to be underway within period: two hours*

In response to the above moves / acts marked by the above phrase markers the responding station uses the following phrase markers:

QUESTION:	ANSWER:
REQUEST:	REQUEST RECEIVED:
INFORMATION:	INFORMATION RECEIVED:
ADVICE:	ADVICE RECEIVED:
INSTRUCTION:	INSTRUCTION RECEIVED:
WARNING:	WARNING RECEIVED:
INTENTION:	INTENTION RECEIVED:

Other high priority marker words:

DISTRESS	e.g. *MAYDAY* (See SECTION III, Distress, Urgency, Safety)
URGENCY	e:g: *PAN PAN*
SAFETY	e:g: *SECURITE*

1.4.3 Message Checks

In the course of VHF exchanges it is often necessary to check mutual understanding, i.e. if the other station follows the conversation, or when we have made a mistake during the transmission. This is done by the use of the following SMCP phrases:

UNDERSTOOD:
MISTAKE … CORRECTION
STAY ON
NOTHING MORE
SAY AGAIN
READ BACK

1.4.4 Some Useful Words and Phrases in Conducting VHF Communications

Standard phrases and words to be used in maritime safety communications are laid down in IMO Standard Marine Communication Phrases, London, 2001. While it is impractical to set down precise phraseology for all radiotelephone procedures, the following words and phrases should be used where applicable. Words and phrases such as OK, ROGER, REPEAT, TEN-FOUR, OVER AND OUT, BREAKER, COME IN PLEASE, … are not recommended.

Standard words and phrases:

WORD or PHRASE	MEANING
ACKNOWLEDGE	Let me know that you have received and understood this message
AFFIRMATIVE	Yes, or permission granted
ALL SHIPS IN … (AREA)	I request that all ships receiving this transmission (in the specified sea area) listen to what follows
BREAK	I must break (into) this conversation for urgent reasons
CALLING	I wish to speak to …
CHANNEL	Change to channel……. before proceeding.
CONFIRM	My version is _____. Is that correct?
CORRECTION	An error / mistake has been made in this transmission (message indicated). The correct version is ___.
FINAL CALL	i have finished my operation and wish to cease communicating
GO AHEAD	Proceed with your message.
HAVE A GOOD WATCH / VOYAGE	A polite form of ending the conversation, used before the word OUT.
HOW DO YOU READ?	How well are you receiving me? Do you receive me? I READ BAD / POOR / FAIR / GOOD/WELL / EXCELLENT/1…5.
INTERRUPTION	I am being interrupted. I will take action to deal with it.
I SAY AGAIN	Self-explanatory (use instead of “i repeat).
I AM COMING TO YOUR ASSITANCE	Used as a response to a initial distress message if your ship or station is able to render assistance.
MAYDAY	The spoken word for the distress signal.

MAYDAY RELAY	Is the spoken word for the distress relay signal.
MESSAGE FOR YOU	I have a message for you which I intend to read. Say if you are ready to receive it. - PASS ON YOUR MESSAGE
MISTAKE	There is a mistake in your transmission. The correct information should be … - CORRECTION: …
NEGATIVE	No, or that is not correct, or I do not agree.
NOTHING MORE	I have finished my message
ON CHANNEL ..	I am calling on channel …
OVER	My transmission is ended and I expect a response from you.
OUT	I am terminating my transmission. Conversation is ended and no response is expected,
PAN PAN	The spoken word for the urgency signal.
PLEASE ACKNOWLEDGE	Indicate that you have received what I have just said
PLEASE READ BACK	Read back to me the information that I have just given READING BACK: …
PLEASE SPEAK IN FULL / SLOWLY	Do not abbreviate your messages / speak slowly, I have difficulty in following or understanding
PLEASE SPELL …	Spell (e.g. your ship's name) using the phonetic alphabet - I SPELL … / I AM SPELLING …
PLEASE USE SMCP	Use SMCP i(former SMNV) during this conversation
PRUDONCE	During long distress situations, communications can resume on a restricted basis. Communication is to be restricted to ship's business or messages of a higher priority.
READBACK	Repeat all of this message back to me exactly as received after I have given OVER. (Do not use the word "repeat".)
ROGER	I have received all of your last transmission. (not recommended)
ROGER NUMBER	I have received your message number…. (not recommended)
ROGER STANDBY	I must pause for a few seconds or minutes, please wait.
SAY AGAIN	Self-explanatory. (Do not use the word "repeat".) I SAY AGAIN : …
SECURITE	Is the spoken word for the safety signal.
SEELONCE	Indicates that silence has been imposed on the Frequency due to a distress situation.
SEELONCE DISTRESS	Is the international expression to advise that a distress situation is in progress, This command comes from a vessel or coast station other than the station in distress.
SEELONCE FEENEE	Is the international expression for a distress cancellation.
SEELONCE MAYDAY	Is the international expression to advise that a distress situation is in progress. The command comes from the ship in distress.
SORRY	Polite statement of apology
STAND BY ON VHF CHANNEL …	Remain on VHF channel … STANDING BY ON CHANNEL …

STANDING BY on ..	I agree to keep watch on VHF channel …
STAY ON	Do not terminate this conversation or change the subject because I have more to say
STOP TRANSMITTING	Stop transmitting on this channel (a higher priority transmission going on or to be started)
SWITCH TO VHF CHANNEL …	I suggest that you switch / go / change to channel … AGREE VHF CHANNEL … / SWITCHING TO CHANNEL …
THAT IS CORRECT	Self-explanatory.
THANK YOU	Polite statement of gratitude
THIS IS …	Used to identify a station. My name (call sign) is …
UNDERSTOOD	I have received and understood the information and I shall read it back to you now. - (optional response: READBACK IS CORRECT)
UNKNOWN SHIP …	I wish to make contact with the ship described. I do not know its name or call sign (give relative position, type, colour, course, speed)
VERIFY	Check coding, check text with originator and send Correct version.
VHF channel … UNABLE	I cannot switch to channel …
VHF channels AVAILABLE	I can transmit on the following channels …
WAIT … MINUTES	Wait for … minutes and do not terminate
WHICH VHF CHANNEL?	Which channel do you suggest ? SWITCH TO VHF CHANNEL …
WORDS TWICE	(a) As a request: Communication is difficult, please send each word twice. (b) As information: Since communication is difficult, I will send each word twice

For the use of these phrases see also: *SEASPEAK*, Section 4

1.4.5 Phonetic Alphabet

The words of the International Telecommunication Union (ITU) phonetic alphabet should be learned thoroughly. Whenever isolated letters or groups of letters are pronounced separately, or when communication is difficult, the alphabet can be easily used. The phonetic alphabet should always be used when transmitting call signs.

When it is necessary to spell out call signs or words, the following table should be used. The syllables to be emphasized are shown in bold type.

Phonetic Alphabet and Figure Code

(See http://life.itu.ch/radioclub/rr/ap14.htm)

1. When it is necessary to spell out call signs, service abbreviations and words, the following letter spelling table shall be used:

Letter to be transmitted	Code word to be used	Spoken as *
A	Alfa	AL FAH
B	Bravo	BRAH VOH
C	Charlie	CHAR LEE or SHAR LEE
D	Delta	DELL TAH
E	Echo	ECK OH
F	Foxtrot	FOKS TROT
G	Golf	GOLF
H	Hotel	HOH TELL
I	India	IN DEE AH
J	Juliett	JEW LEE ETT
K	Kilo	KEY LOH
L	Lima	LEE MAH
M	Mike	MIKE
N	November	NO VEM BER
O	Oscar	OSS CAH
P	Papa	PAH PAH
Q	Quebec	KEH BECK
R	Romeo	ROW ME OH
S	Sierra	SEE AIR RAH
T	Tango	TANG GO
U	Uniform	YOU NEE FORM or OO NEE FORM
V	Victor	VIK TAH
W	Whiskey	WISS KEY
X	X-ray	ECKS RAY
Y	Yankee	YANG KEY
Z	Zulu	ZOO LOO

***** The syllables to be emphasized are underlined.

2. When it is necessary to spell out figures or marks, the following table shall be used:

Example:

If the vessel *MOLAT* H3211 is asked to spell its name and call sign phonetically it will do so as follows:

MIKE, OSCAR, LIMA, ALFA, TANGO, HOTEL three, two, one, one.

1.4.6 Numbers

Numbers are expressed in words as follows:

Letter to be transmitted	Code word to be used	Spoken as **
0	Nadazero	NAH-DAH-ZAY-ROH
1	Unaone	OO-NAH-WUN
2	Bissotwo	BEES-SOH-TOO
3	Terrathree	TAY-RAH-TREE
4	Kartefour	KAR-TAY-FOWER
5	Pantafive	PAN-TAH-FIVE
6	Soxisix	SOK-SEE-SIX
7	Setteseven	SAY-TAY-SEVEN
8	Oktoeight	OK-TOH-AIT
9	Novenine	NO-VAY-NINER
Decimal point	Decimal	DAY-SEE-MAL
Full stop	Stop	STOP

****** Each syllable should be equally emphasized.

All numbers except whole thousands should be transmitted by pronouncing each digit separately. Whole thousands should be transmitted by pronouncing each digit in the number of thousands followed by the word *THOUSAND* (pronounced /'tauzənd/).

30 becomes *THREE ZERO*

25 becomes *TWO FIVE*

100 becomes *ONE ZERO ZERO*

6,700 becomes *SIX SEVEN ZERO ZERO*

11,000 becomes *ONE ONE THOUSAND*

38,006 becomes *THREE EIGHT ZERO ZERO SIX*

Numbers continuing a decimal point should be transmitted as above, with the decimal point indicated by the word DECIMAL.

156.8 becomes *ONE FIVE SIX DECIMAL EIGHT*

1.4.7 DTG (date, time, UTC)

Time

The twenty-four hour clock system should be used in expressing time in the Maritime Mobile Service indicating whether UTC, zone time or local time is being used. It should be

expressed and transmitted by means of four figures, the first two denoting the hour past midnight and the last two the minutes past the hour. Some examples of time using the twenty-four hour clock system are shown below:

Some Times as Expressed by Radiotelephone

TIME	EXPRESS AS:	
12;45 a.m.	*0045*	*ZERO ZERO FOUR FIVE*
12:00 noon	*1200*	*ONE TWO ZERO ZERO*
12:45 p.m.	*1245*	*ONE TWO FOUR FIVE*
12:00 midnight	*0000*	*ZERO ZERO ZERO ZERO*
1:30 a.m,	*0130*	*ZERO ONE THREE ZERO*
1:46 p.m.	*1345*	*ONE THREE FOUR FIVE*
8:30 P.M.	*2030*	*TWO ZERO THREE ZERO*

Co-ordinated Universal Time (UTC) (previous known as Greenwich Mean Time GMT) is normally used in radiocommunications, and the letter Z is an accepted abbreviation for UTC, for example, 052OZ, 214OZ.

DTG = date, time, UTC

Date

Where the date, as well as the time of day, are required to be shown (as in the radio log or a message preamble), a six (6) figure group should be used. The first two figures indicate the day of the month, the following four figures indicate the time.

e.g. 120542 (= 12th day of the current month, time: 05 hours 42 minutes)

1.4.8 Position

(a) *Geographical position* (latitude and longitude) is to be expressed in degrees and minutes (plus decimals of a minute if necessary), north or south of the Equator and east and west of Greenwich.

e.g. : GP = 15.25 N, 31.20 W
POSITION: LATITUDE ONE - FIVE DEGREES TWO - FIVE MINUTES NORTH,

LONGITUDE ZERO - THREE - ONE DEGREES TWO – ZERO MINUTES WEST

e.g.: ***"WARNING. Dangerous wreck in position 15 degrees 34 minutes North 061 degrees 29 minutes West."***

(b) Bearing and distance: True bearings are to be given from an object followed by distance in NM or fractions of a mile. Use the words: BEARING and DISTANCE.

e.g. *POSITION: BEARING 0 - 9 - 5 DEGREES TRUE FROM CAPE MARCO, DISTANCE 2 DECIMAL 6 MILES*

Do not say:

POSITION: BEARING 0 - 9 - 5 DEGREES TRUE,
DISTANCE 2 DECIMAL 6 MILES FROM CAPE MARCO

e.g.: "Your position bearing 137 degrees from Big Head lighthouse distance 2.4 nautical miles."

(c) *Reference to a navigation mark*: The order direction . distance - progress - name of mark should be followed. Use points of the compass (*North, Southeast);* useful phrases: *NORTH OF, SOUTH OF; PASSING, APPROACHING, BETWEEN, NEAR, LEAVING*:

e.g. POSITION: SOUTHWEST OF KALIFRONT POINT
e:g: APPROACHING BUOY NUMBER: BRAVO 1 - 2

(d) Reporting points (hyperbolic navigation systems)
(e) Electronic position fixing (Loran C, Omega etc.)

<u>Bearings</u>

Use the 360 degrees notation from true north (except in the case of relative bearings). Bearings may be taken either for a ship or a navigational mark:

e.g. PILOT BOAT BEARING 2 - 1 - 5 DEGREES FROM YOU

Relative bearings: bearings relative to the vessel's head or bow (starboard or port bow): Relative bearings can be expressed in degrees relative to the vessel's head. More frequently this is in relation to the port or starboard bow.

e.g: "Buoy 030 degrees on your port bow."

Relative D/F bearings are more commonly expressed in the 360 degree notation.

e.g. BUOY CHARLIE 1 - 1- 0 DEGREES TO YOUR STARBOARD BOW

1.4.9 Courses, distances, speed

Courses

Courses are to be expressed in 390 degrees notation from true north. State whether the course is TO or FROM a mark.

Distances

Distances are expressed in nautical miles or cables (tenths of a mile), and less frequently in kilometres or metres. The unit o measurement should always be stated.

Speed

Speed must be expressed in knots (i.e. nautical miles per hour). Speed is normally understood as *speed through the water* but *ground speed* (over the ground) may be indicated if necessary.

1.4.10 **Ambiguous words** (SMCP 2001 – p. 18)

Some words in English have meanings depending on the context in which they appear. Misunderstandings frequently occur, especially in VTS communications, and have produced accidents. Such words are:

The conditionals "may", "might", "should" and "could"

MAY

Do not say: "May I enter the fairway?"
Say: "***QUESTION. Do I have permission to enter the fairway*?"**
Do not say: "You may enter the fairway."
Say: ***"ANSWER. You have permission to enter the fairway."***
Do not say: *May I leave the berth?*
Say: ***"QUESTION: Is it permitted to leave the berth?"***
Do not say: *You may enter the fairway.*
Say: ***ANSWER: It is permitted to enter the fairway.***

MIGHT:

Do not say: *I might drop the anchor.*
Say: ***INTENTION: I will drop the anchor.***
Do not say: "I might enter the fairway."
Say: ***"INTENTION. I will enter the fairway."***

SHOULD:

Do not say: *You should anchor east of buoy D 5*
Say: ***ADVICE. Anchor east of buoy D 5.***
Do not say: "You should anchor in anchorage B 3."
Say: ***"ADVICE. Anchor in anchorage B 3."***

COULD*:*

Do not say: *You could be running into danger*
Say: *WARNING: You are running into danger.*

Do not say: "You could be running into danger."
Say: "WARNING. You are running into danger."

CAN:

The word "can" describes either the possibility or the capability of doing something. In the IMO SMCP the situations where phrases using the word "can" appear make it clear whether a possibility is referred to. In an ambiguous context, however, say, for example:

e.g. 1:
Say: "QUESTION. Do I have permission to use the shallow draft fairway at this time?"
Do not say: "Can I use the shallow draft fairway at this time?"
if you are asking for a permission. (The same applies to the word "may").

e.g. 2:
Do not say: *Can I use the eastern port approach?*
(if not disambiguated by the context of situation)
Say: *Is it permitted to use the eastern port approach?*

Note: In all cases the radiotelephone procedures as set out in the ITU Radio Regulations have to be observed.

1.4.11 Standard organizational phrases:

When it is advisable to remain on a VHF Channel / frequency, say:
"Stand by on VHF Channel ... / frequency ... ."

When it is accepted to remain on the VHF channel / frequency indicated, say:
"Standing by on VHF Channel ... / frequency ... ."

When it is advisable to change to another VHF Channel / frequency, say:
"Advise (you) change to VHF Channel ... / frequency ... ."
"Advise(you) try VHF Channel .. / frequency... ."

When the changing of a VHF Channel / frequency is accepted, say:
"Changing to VHF Channel ... / frequency ... ."

Corrections

When a mistake is made in a message, say:
"Mistake ..." followed by the word:
"Correction ... " plus the corrected part of the message.

e.g.:
"My present speed is 14 knots - mistake.
Correction, my present speed is 1-2, one-two, knots."

Readiness

"I am/I am not ready to receive your message."

Repetition

If any part of the message is considered sufficiently important to need safeguarding, say: *"Repeat ... "* - followed by the corresponding part of the message.

e.g.:
*"My draft is 12.6 - **repeat** - one-two decimal 6 metres."*
"Do not overtake - repeat - do not overtake."

When a message is not properly heard, say:
"Say again (please)."

Readability code:

In checking the readability of reception use the phrase:

"How do you read (me)?"

This may be answered as follows:

I read you ...

bad/one	*with signal strength one*	*(i.e. barely perceptible)*
poor/two	*with signal strength two*	*(i.e. weak)*
fair/three	*with signal strength three*	*(i.e. fairly good)*
good/four	*with signal strength four*	*(i.e. good)*
excellent/five	*with signal strength five*	*(i.e. very good)*

1.5 LINGUISTIC STRUCTURE OF MARINE RADIOTELEPHONE CONVERSATIONS

1.5.1 Introduction

English is one of IMO official languages. Maritime English, a special sub-set or variety of English, is used as a recommended working language (and in some cases as an official language) in the maritime VHF and other voice marine communications throughout the world.

Procedures

There are two basic procedures or forms of maritime VHF communications, as far as the role of the participants is concerned:

1. **EXCHANGE** - conversation conducted in turns between two stations (see **I.5.2** and **II.**)
2. **BROADCAST** – transmission is conducted by one station while other stations are listening or standing by (see **II.6**)

Purpose

The above procedures are principally used for two purposes:

A. **DISTRESS, URGENCY, AND SAFETY COMMUNICATIONS** (see Section III) – normally starting with a broadcast and conducted subsequently by a series of exchanges and broadcasts, and

B. **ROUTINE COMMUNICATIONS** (see Section V), i.e. communications other than safety. These are mainly used for notifying ship's arrival at a port or fairway, asking for berthing arrangements, bunkering, repairs, information and instructions relating to cargo, legal or business operations of the ship, etc.

Stages

Any conversation at sea, i.e. a ship-to -ship, ship-to-shore or shore-to-ship exchange, consists of the following stages:

1. MAKING CONTACT	2. EXCHANGE OF MESSAGES	3. END PROCEDURE

1.5.2 EXCHANGE

Exchange procedures are most common in spoken maritime interactive communications. In many ways they resemble normal phone conversations between two speakers. However, in maritime VHF exchanges each speaker must wait for his turn. The two parties to communication are called: CALLING STATION (sender) and RESPONDING STATION (receiver). Both stations must strictly adhere to the rules of ITU radio regulations and IMO SMCP 2001.

The principal elements or units of a maritime conversation are:

- **exchange**
- **turn**
- **move**
- **act**

Exchange

The **exchange** is the smallest interactive unit in maritime conversation. In a maritime conversation by VHF or any other voice radio-communication two stations briefly discuss a topic, ask for information and respond to it, agree to a suggestion, etc. They can converse over a simple topic (e.g. how to avoid collision) or over a number of topics within a single conversation. Basically, an exchange is a conversation between two stations on a single topic (e.g. current position of the ship). It refers to a single **topic** and consists of two turns, one held by the controlling station (first speaker/ship/shore-based station) and the other by the responding station (second speaker/ship/shore-based station).

Two turns referring to a single topic (the subject of conversation) make a maritime **exchange**. A single exchange, or more usually, two or more exchanges on a single or a number of topics, make a maritime VHF **conversation**.

Turn

A turn is the time one station uses (or is allowed) to speak in order to say:

- what it intends to do or what it expects the other station to do,
- ask for information
- request or seek advice , etc.

A **turn** represents everything one speaker says or asks ‘at one go’, i.e. the time between his pressing and releasing the speaker key on the VHF radiotelephone. The turn-giving signal (*over*) is used to signal to the other station to take the turn. Any exchange must necessarily contain two turns: calling and responding. The speaker normally ends his turn by using the word ‘*over*’ as a signal indicating that he has finished his turn and that the turn is yielded or given to the hearer, who then takes the turn in the process called turn-taking.

Moves and **acts**

The most important part of a turn in the exchange is the **move** or **act**. It is the speaker’s contribution to the exchange and success of conversation. This may consist

of a word, phrase or a sentence which the speaker uses in his turn to express his intention or purpose of communication (**MAYDAY RECEIVED; WHAT ARE YOUR INTENTIONS?; WHAT ARE MY BERTHING INSTRUCTIONS?**, etc.).

e.g. 1: Station One: *'What are your intentions?*';
Station Two: *'Intention: I shall alter course to starboard*, new course 234 degrees.".

An **act** is any word, phrase, sentence or other expression of speech acts used as a marked means of asking for information, making a request, giving intention, expressing advice etc. represents the speaker's move, i.e. what s/he intends to say or ask.

The **primary acts** in any conversation are: **ACCEPT, ACKNOWLEDGE, AGREE, ANSWER, APOLOGY, CALL-OFF, CHECK, CONFIRM, DISAGREE, GREETING, EVALUATE, INFORM, INVITE, OBJECT, OFFER, OPPOSE, QUESTION, REACT, REJECT, REPLY, REQUEST, THANK.**

The **principal acts in maritime VHF** or other spoken **communications** are: **QUESTION, ANSWER, INFORMATION, INSTRUCTION, ADVICE, REQUEST, INTENTION, WARNING.** These are referred to in SMCP 2001 as MESSAGE MARKERS and introduce the speaker's intention or what he is going to say, ask, request, require, advise, command or prohibit.

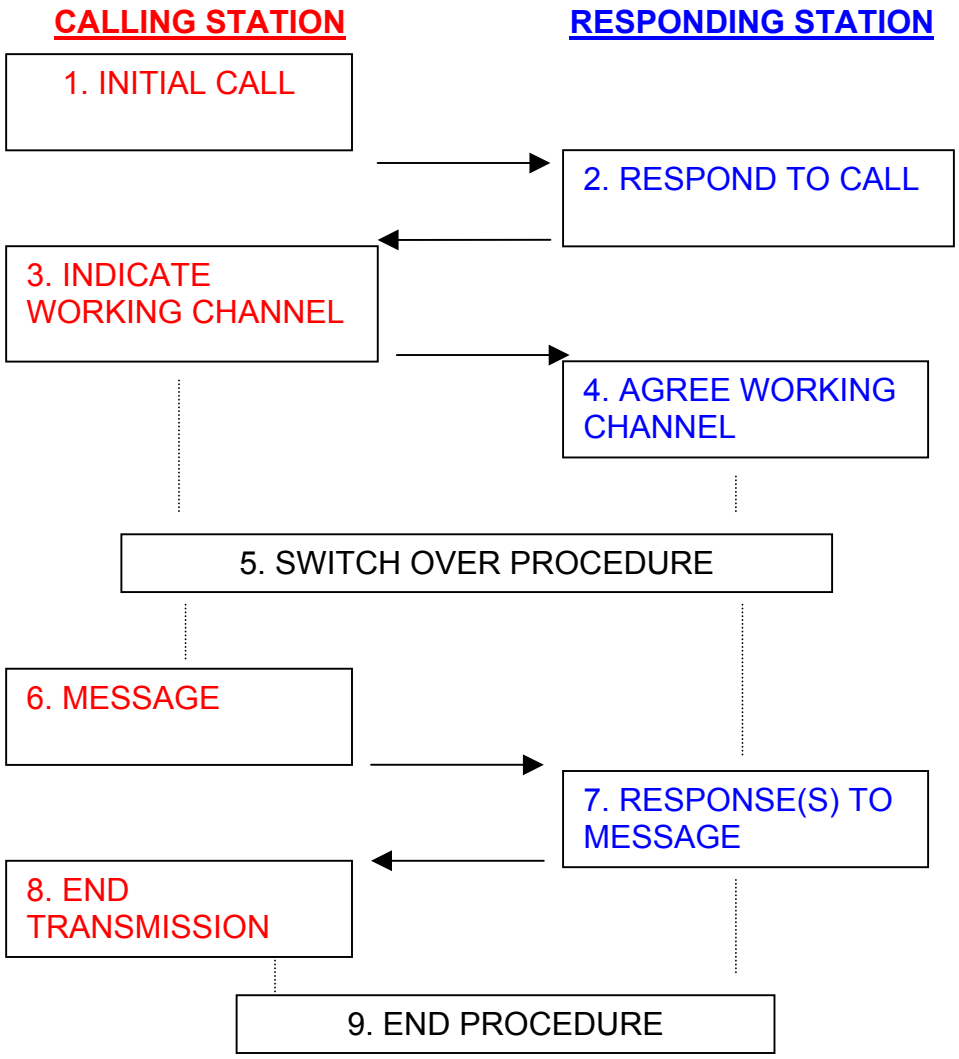
2. (PART 2) CONDUCT OF MARITIME RADIOTELEPHONE CONVERSATIONS

2.1 INTRODUCTION

As shown above a maritime VHF conversation consists of three obligatory exchanges:

I. MAKING CONTACT
II. EXCHANGE OF MESSAGES (central part of any VHF communication in which a station asks for or gives information, reaches agreement with another station, settles a request, etc.)
III. TERMINATION / END OF CONVERSATION

Here is a nine-step diagram showing a complete maritime conversation (cf. also SEASPEAK 1988):



Steps 1 – 5 represent the MAKING CONTACT stage of conversation,

Steps 6 – 7 are the central part of a VHF conversation, i.e. MESSAGE EXCHANGE, and Steps 8 – 9 are the final stage.

Here is an example of a complete standard maritime VHF communication:

Example:

Setting: Approaching pilot station – three miles from Elbe Lightvessel
Speakers: MV MARLIN, Elbe Pilot (EP)
Topic(s): Fourth notice of arrival – exchange with the pilot station;

CONTACT	**MARLIN**: Elbe Pilot, Elbe Pilot. Elbe Pilot. This is Marlin, Marlin. Good evening. Over. ***Elbe Pilot:*** *Marlin. This is Elbe Pilot. Switch to VHF Channel 2-2. Over.* **MARLIN**: Elbe Pilot. This is Marlin, Agree: Switching to VHF Channel 2- 2. Over …… switch-over procedure …..
MESSAGES	***Elbe Pilot:*** *Marlin. This is Elbe Pilot. Question: What is your position. Over.* **MARLIN:** Elbe Pilot, This Is Marlin. Answer: Position: Three miles from Elbe Lightvessel. ***Elbe Pilot:*** *Marlin. This Is Elbe Pilot. Understood. Your position: Three miles from Elbe Lightvessel. Instruction: Rig pilot ladder on the port side, one foot above the water. Information: my position is close to Buoy No. 1. Over.* **MARLIN:** Elbe Pilot. This is Marlin. Understood: I shall rig pilot ladder on the port side one foot above the water. Your position is close to Buoy No. 1. Thank you. Over.
END	***Elbe Pilot:*** *Thank you very much indeed, Captain. Stand by on channel 1-6. Over.* **MARLIN:** Elbe Pilot. Thank you. Standing by on VHF channel one - six. Out.

The above conversation is a combination of IMO SMCP recommended format, content and form of a VHF communication. Real conversation, however, may differ very much from the standard concerning their overall format, details of exchange, structure and wording used in the turns, wording of moves or acts, and sometimes even terminology. For transcripts of real VHF communications see end of Section II. (TRANSCRIPTS OF REAL VHF COMMUNICATIONS).

The above diagram therefore shows that a VHF conversation generally consist of three parts:

A. making contact (the call + reply + establishing contact on a working channel),
B. the message / exchange of messages (objective, purpose or focus of conversation)
C. termination or ending the conversation (with thanking)

A. MAKING CONTACT

Making a call (Calling)

Before transmitting, listen for a period long enough to ensure that harmful interference to transmissions already in progress is not likely to occur. If such interference seems likely, wait until the transmissions in progress are completed before making your call.

A station having a distress, urgency or safety message to transmit is entitled to interrupt a transmission of lower priority.

In making an initial call you may call:
- a single / specific ship or station (whose name and/or call sign you know) or
- a station whose name you do not know or when referring to all stations in a sea area.

Contact making includes the following steps:

1. initial call
2. response to initial call
3. indicating the working channel
4. agreeing/disagreeing with the working channel
5. switch-over procedure

Initial call consists of the following:
a) address the station you are calling (two or three times)
b) identify your own station
c) state the VHF channel on which you are calling
d) Turn-giving signal: *Over*.

Single Station Call

When establishing communications with a specific station, transmit the call sign of the station being called, followed by the call sign of the station making the call, as shown in the following example.

Example 1.: Single station call, name of the ship being called is *known*:

> RIJEKA RADIO, RIJEKA RADIO, RIJEKA RADIO
> THIS IS MARLIN, MARLIN, DL2352.
> (CALLING) ON CHANNEL 16
> OVER

Example 2.: the name and call sign of the ship/station is *known*:

> SEA BASS VC2234, SEA BASS VC2234, SEA BASS VC2234,
> THIS IS
> NEWHAVEN RADIO, NEWHAVEN RADIO,
> ON CHANNEL 16
> OVER

General Call (ALL SHIPS, ALL SHIPS, ALL SHIPS)

If the name of the station/ship is *unknown*:

When an operator wishes to establish communication with any station within range or in a certain area, the call should be made to ALL STATIONS or ALL SHIPS, using the same procedure as a single station call.

Example:

> ALL SHIPS, ALL SHIPS, ALL SHIPS
> or
> ALL STATIONS, ALL STATIONS, ALL STATIONS
> IN SEA AREA BAY OF RIJEKA
> THIS IS
> RIJEKA RADIO (repeated up to 3 times)
> OVER

Coastal Radio Traffic Lists

At scheduled times, coastal or coast guard radio stations broadcast a list of telegrams and telephone calls they have on hand. An announcement, made on the calling frequencies and addressed to all stations, states that the traffic list will follow on a working frequency. However, these radio stations will transmit ONLY when they have traffic on hand.

Example on Channel 16:

> ALL STATIONS, ALL STATIONS, ALL STATIONS
> THIS IS
> TOFINO COAST GUARD RADIO (repeated up to 3 times)
> FOR TRAFFIC LIST, LISTEN (SWITCH TO) CHANNEL 26
> TOFINO COAST GUARD RADIO
> OUT

Responding to initial call

When you hear a call directed to your station, reply as soon as possible. In your response you should (a) address the station, (b) identify your own station), and (c) finish your turn by saying OVER. You can advise the calling station to proceed with the message by means of the words GO AHEAD, or, if you are occupied, by saying STAND BY followed by the estimated number of minutes until your reply. Do not ignore the call. This may result in unnecessary calling, which uses up valuable air time in a crowded environment.

Example:

> MARLIN DL2352.
> THIS IS
> RIJEKA RADIO
> GO AHEAD
> OVER

Replying to Calls when Information Is Missing

When you hear a call, but are uncertain the call is intended for your station, do not reply until the call is repeated and understood.

When your station is called but the identity of the calling station is uncertain, you should reply immediately, using the words:

STATION CALLING (your station's identification)
SAY AGAIN
OVER

Switching to a Working Channel

Switching to a working channel is normally carried out under the guidance of the Controlling Station (coast station, pilot station, port control, VTS, etc.), which is also responsible for establishing contact on the working channel. It follows immediately after contact has been established on the calling channel 16 or any watchkeeping channel. The phrase recommended by IMO SMCP is:

SWITCH TO (VHF CHANNEL) …

Other phrases commonly used are:

CHANGE TO …
GO TO …

Examples:

Calling Station

PULA, HR5432.
THIS IS ALGECIRAS RADIO.
SWITCH TO (VHF CHANNEL) 2 - 5
OVER

Responding Station

ALGECIRAS RADIO.
THIS IS PULA, HR5432.
AGREE VHF CHANNEL 2 - 5
OVER

or

ALGECIRAS RADIO.
THIS IS PULA, HR5432.
AGREE: SWITCHING TO VHF CHANNEL 2 - 5
OVER

If the suggested channel is not available use the phrase:

VHF CHANNEL … UNABLE.

and then suggest another channel:

VHF CHANNELS AVAILABLE: …
or
VHF CHANNELS AVAILABLE: … THROUGH …

Example:

ALGECIRAS RADIO. *THIS IS PULA, HR5432.* VHF CHANNEL AVAILABLE: 2 – 4. OVER

or

ALGECIRAS RADIO. *THIS IS PULA, HR5432.* **VHF CHANNELS AVAILABLE: 2 – 4 THROUGH 2 - 8.** *OVER*

If the VHF channel has not been specified by the Controlling Station, the other station may ask the following:

QUESTION: WHICH VHF CHANNEL?

B. MESSAGE (EXCHANGE OF MESSAGES)

This is the central and most important part of any marine VHF communication or conversation. After establishing contact on the calling channel (16) and switching to and establishing contact on a working channel (indicated by the Controlling Station) the two stations (Calling Station and Responding Station) convey their communicative intention by exchanging their turns in one or more exchanges.
This may be any one or, more usually, a combination of the following:

- asking for information (e.g. on arrival at a port or VTS, strait, etc.)
- answering a question (e.g. on berthing arrangements)
- giving / providing information (e.g. on weather or traffic in a sea area)

- making a request (e.g. request for tugs)
- giving instructions and advice (e.g. where to anchor; keep clear)
- warning (e.g. heavy tow ahead)
- communicating intention (e.g. an intended manoeuvre)
- agreeing / disagreeing on a topic, etc. (e.g. on the number of tugs)

In the above cases ITU radio regulations and IMO SMCP recommend the use of message markers such as: QUESTION, ANSWER, INFORMATION, INSTRUCTION, ADVICE, REQUEST, INTENTION, WARNING. For more phrases consult Procedural (Standard) Words and Phrases above and examples of real (recorded) communication below.

In the message stage of the maritime VHF or and other radiotelephone conversation two stations (ship-to ship, ship-to-shore, shore-to-ship exchanges) ask for or give information, make requests, express intentions, give advice, give instructions, transmit warnings, etc. concerning the various topics, subjects and situations in navigation, navigation safety, manoeuvring, ship handling, avoiding collisions, environment protection, ship's business, port regulations such as:

- distress, urgency and safety
- search and rescue
- requesting medical assistance
- meteorological information
- navigational warnings
- environmental protection
- helicopter operations
- ice-breaker operations
- vessel traffic services (VTS)
    - traffic information
    - route information
    - navigational warnings
    - navigational assistance
    - vessel identification (+ position, course)
    - traffic organisation service
        - arrival, berthing and departure
        - pilotage,
        - towage
        - anchoring
        - port (inward/outward) clearance
    - avoiding dangerous situations
    - canal and lock operations, etc.
- cargo operations, etc.

For the phrases to be used in such situations see *SMCP* 2001, AI. EXTERNAL COMMUNICATIONS and *SEASPEAK*, Section V.

C. TERMINATION OF COMMUNICATIONS

When ending a conversation use the following format:

1. address
2. identify
3. respond to previous turn
4. expression of gratitude
5. Out.

To terminate communications, simply conclude your transmission with the command OUT (which means "conversation is ended and no response is expected).

Examples:

> CANSO LOCK
> THIS IS
> TAG-A-LONG VY4412
> RECEIVED CANSO LOCK CLEARANCE
> TAG-A-LONG VY4412
> (THANK YOU)
> OUT

or

> *NEWHAVEN RADIO*
> *THIS IS*
> *MARLIN,*
> **UNDERSTOOD (ROGER), STANDING BY**
> *OUT*

2.4 OTHER PHRASES IN CONDUCTING EXCHANGES

Corrections and Repetitions

Corrections and Repetitions during Transmission

When an error has been made in transmission, the word CORRECTION should be spoken, the last correct word or phrase repeated and the correct version transmitted.

Examples:

> *AT/IN POSITION SIX, ONE*
> **CORRECTION SIX, TWO DEGREES** *...*
> *PROCEED TO DOCK FOUR*
> *CORRECTION DOCK PM, ADVISE ETA.*

Repetitions after Completion

Transmissions or items of transmissions should not be repeated unless requested by the receiving operator.

Repetitions should be requested if reception is doubtful.

If the receiving operator desires a repetition of a message, the words SAY AGAIN should be transmitted. If repetition of only a portion of a message is required, the receiving operator should use the following appropriate phraseology:

SAY AGAIN ALL BEFORE ... (first word satisfactorily received),

SAY AGAIN ALL BETWEEN ... (last word correctly received prior to the missing segment) and ... (first word correctly received after the missing segment).

SAY AGAIN ALL AFTER ... (last word satisfactorily received).

Examples:

NEWHAVEN RADIO
THIS IS
NORTH WIND VY3844
SAY AGAIN ALL BEFORE "DOCK"
OVER

PRINCE RUPERT COAST GUARD RADIO
THIS IS
SEADOG VZI284
SAY AGAIN ALL BETWEEN "PROCEED" AND "TIME
OVER

COMOX COAST GUARD RADIO
THIS IS
M/V BOUNTY VC3312
SAY AGAIN ALL AFTER "LATITUDE"
OVER

Request for repetition of specific items of a message should be made by speaking the words SAY AGAIN followed by the identification of the message desired.

Examples:

SAY AGAIN OFFICE OF ORIGIN

SAY AGAIN POSITION

SAY AGAIN TIME

Control of Communications

As a general rule, except in cases of priority communications, the control of radiocommunications between a coast station and a ship station lies with the coast station (CS = **Controlling Station**).

In communications between coast stations and ship stations, the ship station shall comply with instructions given by the coast station in all matters relating to the order and time of transmission, to the choice of frequency and to the duration and suspension of work.

In communications between ship stations, normally the station called is the controlling station. If the station is in agreement with the calling station, it shall transmit an indication from that moment onwards that it will listen on the working frequency or channel announced by the calling station.

However, if the station called is not in agreement with the calling station on the working frequency or channel to be used, it shall transmit an indication of the working frequency or channel to be used.

Note: In cases of distress or urgency communications, the control of the communications lies with the station initiating the priority call.

Unsuccessful Call

When a station called does not reply to a call sent three times at intervals of two minutes, the calling station shall cease and not renew the call until after an interval of three minutes. Before renewing the call, the calling station shall attempt to ascertain that the station being called is not in communication with another station.

Examples:

Ship calling a coast station

(the coast station has control of radiocommunications)

PRINCE RUPERT COAST GUARD RADIO
THIS IS
SEA FOX VC4331
ON CHANNEL 16
OVER

Coast station replying to a ship

(the coast station has control of radiocommunications)

SEA FOX VC4331
THIS IS
PRINCE RUPERT COAST GUARD RADIO
GO AHEAD ON CHANNEL 26
OVER

One ship to another ship

(the ship being called has the control of radiocommunications)

SEA FOX VC4331
THIS IS
SANDPATCH VY1234
OVER

The called ship replies

(the ship being called has the control of radiocommunications)

SANDPATCH VY1234
THIS IS
SEA FOX VC4881
SWITCH TO CHANNEL 69
OUT

Signal Checks

It is sometimes necessary to verify that your transmitter and receiver are operational. This can be done by:

1. establishing contact with another ship or a coast station on Channel 16, and changing to a working channel,
2. establishing contact on the working channel and conducting your tests (the actual wording of the test is given in the example below), not exceeding ten seconds for signal checks,
3. using the readability scale listed below when giving the report, remembering that a readability of 3 to 5 indicates to the receiving station that it is being copied/received/heard 100 percent.

Readability Scale

1 = Bad (unreadable)

2 = Poor (readable now and then)

3 = Fair (readable with great difficulty)

4 = Good (readable with minor difficulty)

5 = Excellent (perfectly readable)

Examples:

Call

SPLIT RADIO
THIS IS
PACIFIC HIGH CY2632
ON CHANNEL 16
SIGNAL CHECK 1,2,3,4,5
HOW DO YOU READ?
OVER

Reply

PACIFIC HIGH CY2632
THIS IS
SPLIT RADIO
I READ YOU 5 (EXCELLENT)
OUT

or

PACIFIC HIGH CY2632
THIS IS
VANCOUVER COAST GUARD RADIO
READABILITY 4
OUT

2.5 Other examples of VHF exchanges:

2.5.1 *Call by vessel (Calling Station)*

NEWHAVEN RADIO, NEWHAVEN RADIO,
NEWHAVEN RADIO.
THIS IS
MARLIN, MARLIN, DL2352.
ON VHF CHANNEL 16
OVER

I.b *Reply by coast station (Responding Station)*

MARLIN, DL2352
THIS IS NEWHAVEN RADIO
GO AHEAD
OVER

2.5.2 *The message – Calling Station*

NEWHAVEN RADIO
THIS IS
MARLIN, DL2352.
REQUEST TELEPHONE CALL CONNECTION
OVER

II.b *The message – Responding (coast) station*

MARLIN, MARLIN, DL2352
THIS IS NEWHAVEN RADIO
GO AHEAD
STAND BY - 5 MINUTES
OVER

2. 6 **BROADCASTS*** (**under construction**)

For further information and more examples consult:

- Peter Kluijven: http://home.planet.nl/~kluijven/
- *SMCP Training Module, SMCP Language Training,* Marine Technology Based Training, MarineSoft, Rostock, Germany, www.marinesoft.de
- Weeks. F., Glover, A., Johnson, E., Strevens, P. (1988*) SEASPEAK, Training Manual. Essential English for Maritime Use*. Pergamon Press, Oxford
- Pritchard, B. (2000) *MARITIME ENGLISH*, Del Bianco Editore, Udine
- *STANDARD MARINE COMMUNICATION PHRASES*, 2001, IMO, London

2.7 TRANSCRIPTS OF REAL VHF COMMUNICATIONS

Real conversation, however, may differ very much from the standard concerning their overall format, details of exchange, structure and wording used in the turns, wording of moves or acts, and sometimes even terminology. For transcripts of real VHF communications see end of Section I. (TRANSCRIPTS OF REAL VHF COMMUNICATIONS).

For comparison purposes, transcripts of recorded versions of similar VHF conversations are shown below to study the difference between the ITU / IMO standards for marine communications and actual or real Maritime English used at sea. Study the differences in format, exchanges, turns and acts.

Note: Names of stations and other data are fictitious and bear no connection whatsoever to real names or data.

E.g. 1

Setting: Harbour approach channel / fairway
Speakers: MV MARLIN (non-native), Deutsche Bucht (DB) VTS (non-native)
Topic(s): **First notice of arrival**

MARLIN: C – 4 - X – N, C – 4 - X – N. Over
DB: *Marlin . Deutsche Bucht. Good afternoon.*
MARLIN: Ah. Good afternoon, Sir. I'm just passing Delta Bravo 13. Over
DB: *Yes. Your maximum draught?*
MARLIN: My maximum draught is 5.5 metres. Er…, last port Felixtowe. Destination Hamburg. Over
DB: *Yeah. And ETA Light (?=vessel) of Elbe?*
MARLIN: ETA Elbe 19.30. Over
DB: *OK, thank you. Please call me again abeam of Delta Bravo 17.*
MARLIN: Roger, Sir. I will give you a call back on Delta Bravo 17.
DB: *Thank you. Good voyage.*

E.g. 2

Setting: Harbour approach channel / fairway
Speakers: MV MARLIN, Deutsche Bucht VTS (DB)
Topic(s): **Second notice of arrival;**
Sub-topic: Question about a ship's name

MARLIN: Deutsche Bucht, Deutsche Bucht. Marlin, Marlin. Over
DB: *Marlin. Deutsche Bucht.*
MARLIN: I'm just now on Delta Bravo 17*. Over.
DB: *Yes, thank you Marlin. I have one question: Can you see the name of the vessel on your starboard side?*
MARLIN: Er… Just a moment, Sir. I am going to check if I can see his* name.
DB: *OK. Fine.*
MARLIN: Deusche Bucht, Marlin.
DB: *Yes, Marlin.*
MARLIN: The name of the ship is THITA IKAROS. But I cannot see port of registry. Can I spell you this name?
DB: *Oh. Yes, please.*
MARLIN: It's a name THEUTA. T–H -E–U–T–A. Second name: IKAROS, I-K-A-R-O-S. Over
DB: *Yeah. Marlin. OK. Thank for your help. And good voyage.*
MARLIN: Thank you, Sir. Good watch. Bye, bye.
DB: *Thank you. Bye, bye.*

E.g. 3

Setting: Approaching pilot station
Speakers: MV MARLIN, Elbe Pilot (EP)
Topic(s): **Third notice of arrival – exchange with the pilot station**;
Sub-topics: Shifting to related sub-topics:

- Topical development
- Interactional structure / strategies
- Features (interactional signals, turntakers, backchannel, exchange patterns)

MARLIN: Elbe Pilot. Elbe Pilot. Marlin, Marlin. Good evening. Over.
***EP**: Marlin. This is Elbe Pilot. Good evening to you.*
MARLIN: Good evening, Sir. Now I'm 14* miles from Elbe Lightvessel, and this mean* for* about one hour and 15 minutes I will be on Pilot Station. Over.
***EP:** Yes. 19.45 at the Pilot Station. Your gross tonnage and maximum draught, please.*
MARLIN: Roger, Sir. Gross tonnage is 4-8-3-9, maximum draught 5 point 5 metres. Over.
***EP:** Yes. And your gross tonnage, please. Repeat.*
MARLIN: I repeat: 4-8-3-9, four hundred and thirty nine. I repeat 4-8-3-9. Over
***EP:** Yes. And your port of destination, Marlin.*
MARLIN: Port of destination is Hamburg. Hamburg. Over.
***EP**: Yes. Hamburg. Thank you very much, Captain. And please call me back three miles before Elbe One Lightvessel. Thank you.*
MARLIN: Roger, Sir. I call* you back three miles before Elbe One Lightvesel. Thank you.
***EP:** Thank you, Captain.*

E.g. 4

Setting: Approaching pilot station – three miles from Elbe Lightvessel
Speakers: MV MARLIN, Elbe Pilot (EP)
Topic(s): **Fourth notice of arrival – exchanges with the pilot station**;

MARLIN: Elbe Pilot, Elbe Pilot. Marlin, Marlin. Good evening. Over.
***EP:** Marlin. Elbe Pilot.*
MARLIN: Er.. Sir. I am three miles from Elbe Lightvessel.
EP:** Three miles from Elbe Lightvessel. Yes. Pilot ladder port side, one foot above water. And, for information, my position is close to Buoy No. 1. Keep my vessel at first straight ahead, and when* a small vessel is coming a little to port to make a good lee.*
MARLIN: Roger, Sir. I have you on my screen. You are the big vessel 6 miles from us. Thank you.
***EP:** Yes, that is correct. And another question. Could you take one passenger pilot up to Brunnsmittel. Is it possible?*
MARLIN: Roger, Sir. I confirm: one passenger pilot.
***EP:** Thank you very much indeed, Captain. Stand by on channel 0-8.*
MARLIN: Roger, zero eight. Stand by.

E.g 5

Setting: Approaching the Gibraltar Strait
Speakers: MV SEA DOG (non-native), Lloyd's Signal Station (LSS, native)
Topic(s): **Checking on the passage through the strait**

SEA DOG: Lloyd's Signal Station. Lloyd's Signal Station. Motor vessel SEA DOG. SEA DOG on one - six. Come in, please.
--- interruptions by other traffic ---
SEA DOG: Lloyd's Signal Station. Lloyd's Signal Station. SEA DOG, Lloyd. SEA DOG.
LSS: *One – four, Sir. One – four.*
SEA DOG: OK. One – four.

LSS: Vessel calling Llloyd. Channel one four.

SEA DOG: Lloyd Signal Station. This is motor vessel SEA DOG, SEA DOG.
LSS*: Roger, Sir. Good afternoon. Could you spell me your vessel's name, please?*
SEA DOG: My vessel's name is SEA DOG, S-E-A- D-O-G.
LSS: *And your last port of call, please, Sir.*
SEA DOG: Last port of call was Cartagena. Cartagena. Spain.
LSS: *And your date and time of departure from Cartagena, pease,Sir.*
SEA DOG: Departure from Cartagena was eight morning. Over.
LSS: *Thank you, Sir. And your international call sign, please.*
SEA DOG: Call sign is N – 3 – L –Y. N – 3 – L –Y.
LSS: *And your flag, please, Sir.*
SEA DOG: Flag, Cyprus, Flag, Cyprus.
LSS: *And your next port of call, please, Sir.*
SEA DOG: Next port of call will be Hull. Hull. April 14 daybreak. Over.
LSS: *Thank you, Sir. And your travelling state. Are you stopping in Gibraltar at all, Sir?*
SEA DOG: Er.. we are going straight through. Over.
LSS: *Aren't you a container vessel? Is that correct?*
SEA DOG: Yes, container vessel.
LSS: *Roger, Sir. Thank you very much indeed for your co-operation. Pleasant journey to Hull. Lloyd's Service standing by on channel 1-6. Good watch. Good bye, Sir.*
SEA DOG: OK, Thank you very much.

E.g. 6

Setting: Open sea
Speakers: two unidentified ships (ship B: native, and ship A: non-native speaker)
Topic(s): **Collision avoidance**

A: Ship on may port side, three point three miles away, steering 2-3-6. Come in, please.
B: Yes, this is Yellow Stone. Come in.
A: Yes, you are steering 232.
B: Yes.
A: You are steering 232 and you are three point three miles fine on my port bow. Is that correct? Please pass on my starboard side. That means green-to-green.
B: *I will alter on my port side and I will pass on your stern. I will alter on my port side and I will pass on your stern.*
A: And, please, maintain your course.
B: *Yes, I will do, thank you. You don't have to alter your course if you keep and I keep the same course, we'll be green-to-green.*
A: Yes, but anyway, I'm not allowed any more on my port. I don't want getting close to you, I am closing the separation lane.
B: OK. I'm maintaining my course. Thank you very much. Over and out.

E.g. 7

Setting: Approach to port of Savannah, US
Speakers: A - master (non-native vessel), Savannah Pilot Station (native - US)
Topic(s): **Arrival notice - US**

A: Savannah Pilot, Savannah pilot. KEYBOARD. Savannah Pilot, Savannah pilot. KEYBOARD.
B: *Operator Savannah. KEYBOARD. Fourteen.*
A: Yes. Good evening. This is KEYBOARD I conform ETA Pilot Station 00.15, zero zero one five. Over.
B: *Roger, Captain. 00.15. Pilot Station. All right, Captain. We'll be standing by on the Pilot Station for you.*
A: Yes, roger. Pilot on arrival. Pilot ladder will be on starboard side. And maximum draught is …, will be 33.10 thirty-three ten feets* thirty-three feet ten inches fresh water, fresh water, please. Two metres above! the water..
B: *Very good, Sir. Very good, Sir. Starboard side, two metres from! the water. Thank you.*
A: Thank you, Sir. We'll be standing on channel sixteen.
B: *All right. Standing by, one-six!, thank you.*

E.g. 8

Setting: Approach to port of Savannah, US
Speakers: master (non-native vessel), Savannah Pilot Station (native - US)
Topic(s): Second Arrival notice
Channel: working, 14

A: KEYBOARD. Savannah Pilot.
B: Yes, Captain. Are you coming in from the north about five miles from the Sea Buoy?
A: Yes, we are about five miles from the Sea Buoy now. Over.
B: Roger. Captain. OK. We'll be standing by on channel 14. Ready to take the pilot on board?.
A: Oh. Very good. Pilot ladder is ready on the starboard side, and we are proceeding, for the moment, full ahead, and are going to slow down.
B: Very good, Captain. That sounds very good work. The pilot people are now on board, around a mile from Sea Buoy. You can keep coming in until you get close to the buoy. I'll call you back.
A: Do you know maybe the ship that is going out. What is her destination, going south or east?
A: I believe that ship's going south. Stand by one moment, Captain.
B: OK. We are standing by. One four, one four. Thank you.
B: Thanks very much.

E.g. 9

Broadcasts***

3. (Part 3) DISTRESS, URGENCY AND SAFETY PROCEDURES

3.1 INTRODUCTION

General

Distress communications should be conducted in accordance with the procedures outlined below. These procedures do not, however, prevent a station in distress from making use of any means at its disposal to attract attention to make known its position, and to obtain help.

Frequencies to Be Used

The first transmission of the distress call and message by a vessel should be on the distress, calling and answering frequency of Channel 16, 156.800 MHz (VHF). If no response is heard on this frequency, the use of any other available frequency in an effort to obtain assistance is permitted.

Control of Distress Traffic

The control of distress traffic is the responsibility of the vessel in distress or of the station that relays the distress message. These stations may, however, delegate the control of distress traffic to another station such as a Coast Guard Radio Station. During many distress situations, Coast Guard Radio Stations control distress traffic. Their powerful coastal transmitters can be readily heard by other ship and land stations over a wide area.

Distress Signal

Some years ago, the Canadian Coast Guard included "a person" when discussing the use of the MAYDAY signal in their film "IT'S GOOD FOR LIFE". Under the new ITU regulations for the Global Maritime Distress and Safety System (GMDSS) in the section entitled Distress Alert it states: "The transmission of a distress alert indicates that a mobile unit or a person is in distress and requires immediate assistance."

In radiotelephony, the spoken word for distress is MAYDAY. The distress signal indicates that the station sending the signal is:

1. threatened by **grave** and **imminent** danger and requires **immediate** assistance, or
2. aware that a ship, aircraft or other vehicle is threatened by grave and imminent danger and requires immediate assistance.

Distress Call

The distress call will only be sent on the authority of the person in command of the station. The distress call should comprise the following:

1. the distress signal MAYDAY spoken three times,
2. the words THIS IS,
3. the name and call sign of the vessel in distress spoken three times.

Example:

MAYDAY, MAYDAY, MAYDAY
THIS IS
SEAGULL HR1225, SEAGULL HR1225, SEAGULL HR1225

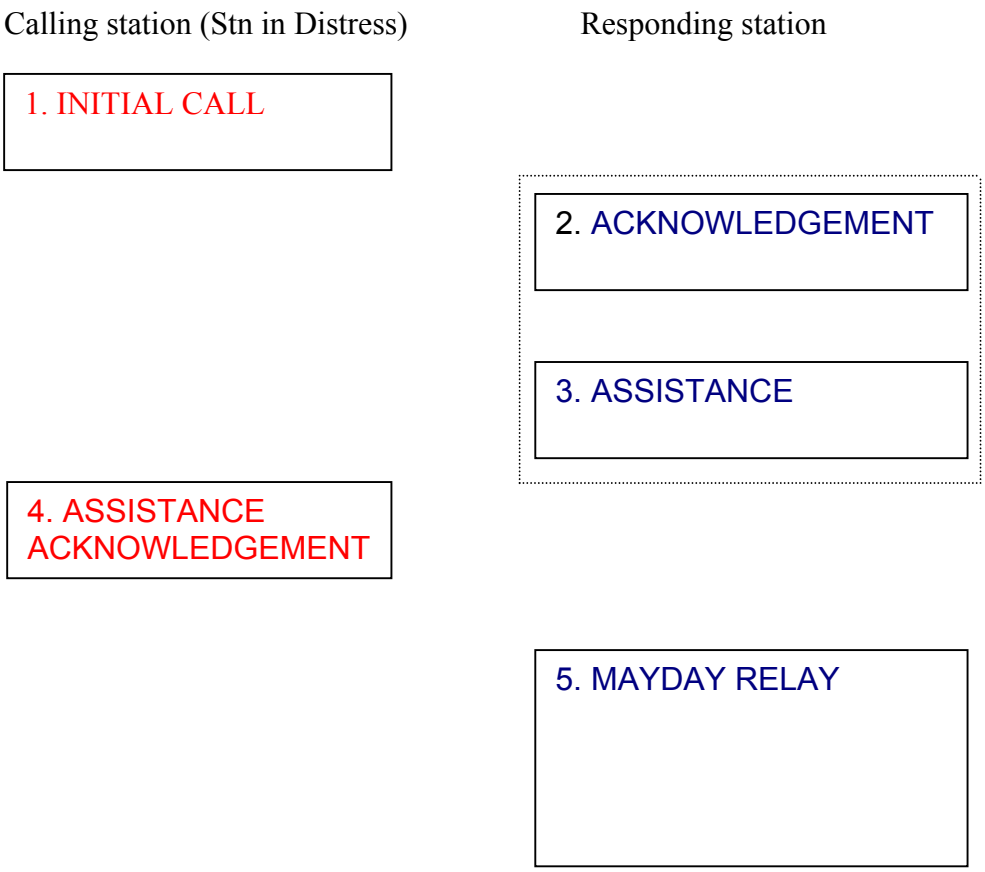
The distress call will not be addressed to a particular station and acknowledgement of receipt shall not be given before the distress message is completed.

Distress Priority

The distress call has absolute priority over all other transmissions. All stations that hear it shall immediately cease any transmission capable of interfering with distress traffic and shall continue to listen on the frequency used for the distress call.

3. 2 <u>DISTRESS PROCEDURE</u> (Highest priority comms.)

1. **INITIAL DISTRESS CALL**
2. **ACKNOWLEDGEMENT OF THE DISTRESS MESSAGE**
3. **ASSISTANCE MESSAGE**
4. **ASSISTANCE ACKNOWLEDGEMENT**
5. **MAYDAY RELAY**



3.2.1 Initial Distress Message (example):

The distress call/alarm/signal shall be followed as soon as possible by the voice or digital distress message. The initial distress message is the first message sent by the station (vessel) in distress and shall include the following:

1. the distress signal or marker word MAYDAY (3 times)
2. identification of the station in distress (the name and/or call sign of station in distress (once)
3. the marker word MAYDAY (repeated once to signal that there is distress communication under way)
4. name and call sign of the station in distress
5. position of the station in distress
6. nature of distress (reason, short indication of what has happened),
7. kind of assistance required
8. the number of persons on board and injuries (if applicable), any other information that might facilitate rescue
9. OVER.

Note: As a general rule, a ship will signal its position in latitude and longitude. When practicable, the bearing and distance in nautical miles from a known geographical position may be given.

Example:

1	MAYDAY MAYDAY MAYDAY
2	THIS IS SEAGULL SEAGULL, SEAGULL
3	MAYDAY
4	SEAGULL HR1225, SEAGULL HR1225, SEAGULL HR1225
5	POSITION*: LATITUDE 5-2 DEGREES 1-1 MINUTES NORTH, LONGITUDE 1-2-8 DEGREES 4-0 MINUTES WEST
6	*SHIP ON FIRE***
7	REQUIRE IMMEDIATE ASSISTANCE
8	19 PERSONS ON BOARD ABANDONING SHIP TO LIFE RAFTS
9	OVER

*** POSITION:**

BEARING: 180 DEGREES FROM PRICE ISLAND, MILBANK SOUND,

DISTANCE: 5 NAUTICAL MILES

**** NATURE OF DISTRESS, WHAT IS WRONG, REASON OF DISTRESS:**

- FIRE IN THE ENGINE ROOM / HOLD NO. / ACCOMMODATION / TANK
- ENGINE ROOM ON FIRE
- EXPLOSION IN TANK NO. … / ENGINE ROOM / BOILER ROOM
- I HAVE STRUCK A FLOATING MINE
- I HAVE A DANGEROUS / HEAVY LEAK / I HAVE SPRUNG A LEAK IN/ON
- … … DUE TO FLOODING / SHIFTING OF CARGO
- I AM / WENT AGROUND IN POS. …
- I AM MAKING WATER

- **DANGEROUS LIST TO PORT / STARBOARD SIDE OF … DEGREES**
- **I AM IN DANGER OF CAPSIZING**
- **I AM SINKING IN POS. … / AFTER GROUNDING / COLLISION /**
- **FLOODING / EXPLOSION**
- **COLISION WITH … / I HAVE COLLIDED WITH …; SINKING**
- **I AM NOT UNDER COMMAND IN POS. ..**
- **I AM ADRIFT / DRIFTING NEAR POS. …**
- **I AM / WAS UNDER ATTACK OF PIRATES**
- **I AM ABANDONING VESSEL AFTER COLLISION / FIRE / EXPLOSION**

Repetition of a Distress Message

The distress message shall be repeated at intervals by the vessel in distress until an answer is received or until it is no longer feasible to continue, The intervals between repetitions of the distress message shall be sufficiently long to allow time for stations, which have received the message, to reply.

When a vessel in distress receives no answer to its distress call sent on the distress frequency of 156,800 MHz(Channel 16), the distress call and message should be repeated on any other available frequency on which attention might be attracted.

Any station that is not in a position to render assistance but has heard a distress message that has not been immediately acknowledged, after acknowledging receipt, the station shall take all possible steps to attract the attention of other stations that are in a position to render assistance.
In addition, all necessary steps shall be taken to notify the Coast Guard or appropriate search and rescue authorities of the situation.

Action by Station in Distress

When a vessel is threatened by grave and imminent danger, and requires immediate assistance, the person in command should direct appropriate action as follows:

1. transmit the distress call,
2. transmit the distress message,
3. listen for acknowledgement of receipt,
4. exchange further distress traffic as applicable,
5. turn on automatic emergency equipment (Emergency Position Indicating Radio Beacon - EPIRB)

Action by Stations Other than the Station in Distress

A station becoming aware that a ship station is in distress should transmit the distress message when:

1. the station in distress is not in a position to transmit the message, or
2. the person in command of the station that intervenes believes that further help is necessary.

When a distress message is received and it is known that the vessel in distress is not in the immediate vicinity, sufficient time should be allowed before the distress message is acknowleged. This will permit stations nearer to the station in distress to reply.

3.2.2. Acknowledgement of Receipt of a Distress Message (+Assistance Message)

The acknowledgement of receipt of a distress message shall be given in the following form:

1. the distress signal MAYDAY,
2. the call sign of the station in distress (three times),
3. the words THIS IS,
4. the call sign of the station acknowledging receipt (three times),
5. RECEIVED MAYDAY,
6. MY POSITION IS...,
7. PROCEEDING TO RENDER ASSISTANCE,
8. estimated time of arrival,
9. OVER.

Acknowledgement of Receipt of a Distress Message (Example):

MAYDAY

SEAGULL HR1225, SEAGULL HR1225, SEAGULL HR1225

THIS IS

HAPPY PRINCE BS432, HAPPY PRINCE BS432, HAPPY PRINCE BS432

MAYDAY RECEIVED

OVER

3.2.3. Assistance Information Message

MAYDAY

SEAGULL HR1225, SEAGULL HR1225, SEAGULL HR1225

THIS IS

HAPPY PRINCE BS4321
POSITION: LATITUDE: 5-0 DEGREES 2-2 MINUTES NORTH; LONGITUDE: 0-3-9 DEGREES 1-5 MINUTES WEST

I AM PROCEEDING TO YOUR ASSISTANCE
SPEED: 2-1 KNOTS
ETA: 1-8 –3 0 UTC

OVER

OR:

WE ARE 2 TO 3 MILES AWAY FROM YOU

I AM COMING TO YOUR ASSISTANCE

I AM PROCEEDING TO YOUR CO-ORDINATES

WE SHOULD ARRIVE WITHIN A HALF HOUR

More usually, the Acknowledgement and Assistance messages will be merged into one if the ship acknowledging the Initial Distress Message is able to render assistance:

MAYDAY

SEAGULL HR1225, SEAGULL HR1225, SEAGULL HR1225

THIS IS

HAPPY PRINCE BS432

POSITION: LATITUDE: 5-0 DEGREES 2-2 MINUTES NORTH;
LONGITUDE: 0-3-9 DEGREES 1-5 MINUTES WEST

MAYDAY RECEIVED

I AM PROCEEDING TO YOUR ASSISTANCE
SPEED: 2-1 KNOTS
ETA: 1-8 –3 0 UTC

OVER

Action by Station Acknowledging Receipt of a Distress Message

1. Forward information immediately to the appropriate Coast Guard or search and rescue agencies or organizations.

2. Continue to guard the frequency on which the distress message was received and, if possible, any other frequency that may be used by the station in distress,

3. Notify any station with direction-finding or radar facilities which may be of assistance.

4. Cease all transmissions that may interfere with the distress traffic.

Action by Other Stations Hearing a Distress Message

1. Continue to guard the frequency on which the distress message was received and, if possible, establish a continuous watch on appropriate distress and emergency frequencies.

2. Notify any station with direction-finding or radar facilities and request assistance, unless it is known that this action has been or will be taken by the station acknowledging receipt of the distress message.

3. Cease all transmissions that may interfere with the distress traffic.

Distress Traffic

Distress traffic consists of all transmissions relative to the immediate assistance required by the station in distress.

Essentially, all transmissions made after the initial distress call are considered as distress traffic. In distress traffic, the distress signal MAYDAY, spoken once, shall precede all transmissions. This procedure is intended to alert stations unaware of the initial distress call, and now monitoring the distress channel, that traffic heard relates to a distress situation.

Any station in the Maritime Mobile Service that has knowledge of distress traffic and cannot itself assist the station in distress shall, nevertheless, follow such traffic until it is evident that assistance is being provided.

Until a message is received indicating that normal working may be resumed (there has been a cancellation of distress), all stations that are aware of distress traffic but are not taking part in it are forbidden to transmit on the frequencies being used for distress traffic.

3.2.4 Acknowledge Response

Message transmitted by the vessel in distress conforming the Assistance Information Message has been understood. (example);

MAYDAY

HAPPYPRINCE
THIS IS SEAGULL

UNDERSTOOD
YOU ARE COMING TO MY ASSISTANCE

YOUR POSITION: LATITUDE: 5-0 DEGREES 2-2 MINUTES NORTH; LONGITUDE: 0-3-9 DEGREES 1-5 MINUTES WEST
YOUR SPEED: 2-1 KNOTS, ETA: 1-8 –3 0 UTC
OVER

3.2.5 Relay of a Distress Message

A distress message repeated by a station other than the station in distress shall transmit a signal which includes the following:

1. the signal MAYDAY RELAY spoken three times,
2. the words THIS IS,
3. the name and call sign of the station relaying the message (three times),
4. the distress signal MAYDAY (once),
5. the particulars of the station in distress such as the distress station's identification, location, nature of distress, number of persons on board (repetition of the distress message as received),
6. the vessel name and call sign,
7. OVER.

Example (Relaying Initial Distress Message):

MAYDAY RELAY, MAYDAY RELAY, MAYDAY RELAY

THIS IS

HAPPY PRINCE BS432, HAPPY PRINCE BS432, HAPPY PRINCE BS432

MAYDAY

SEAGULL HR1225

FOLLOWING RECEIVED FROM:

SEAGULL
TIME: 2-2 3-5 UTC

'MAYDAY
POSITION: LATITUDE 52 Deg 11 Min. NORTH

LONGITUDE 128 Deg. 40 Min. WEST

SHIP ON FIRE

19 PERSONS ON BOARD

ABANDONING SHIP FOR LIFE RAFTS '

THIS IS HAPPY PRINCE BS432

OVER

3. 3 Imposition of Silence

The station in distress, or any station in the immediate vicinity, may impose silence on a particular station or stations in the area if interference is being caused to distress traffic.
The station in distress shall use the expression SILENCE MAYDAY or SEELONCE MAYDAY (the international expression).
Other stations imposing silence during a distress situation shall use the expression SILENCE DISTRESS or SEELONCE DISTRESS (the international expression).
If radio silence is imposed during a distress situation, all transmissions shall cease immediately except from those stations involved in distress traffic.

Examples

Imposition of silence on a specific station by the station in distress. (M/V Bounty VC3312 is causing interference to distress traffic.)

MAYDAY

M/V BOUNTY VC3312, M/V BOUNTY VC3312, M/V BOUNTY VC3312

THIS IS

MORGAN C1237, MORGAN C1237, MORGAN C1237

SILENCE MAYDAY

OUT

Imposition of silence on all stations by a station other than the station in distress.

MAYDAY

ALL STATIONS, ALL STATIONS, ALL STATIONS

THIS IS

HAPPY PRINCE BS432, HAPPY PRINCE BS432, HAPPY PRINCE BS432

SILENCE DISTRESS

OUT

3.4 Cancellation of Distress

When a station is no longer in distress, or when it is no longer necessary to observe radio silence (that is, rescue operation has concluded), the station that was in distress, the rescue vessel or the station that controlled distress traffic shall transmit a message addressed to ALL STATIONS on the distress frequency(ies) advising that the distress traffic has ended.

The proper procedure for cancelling a distress message is as follows:

1. the distress signal MAYDAY (once),
2. the words ALL STATIONS (three times),
3. the words THIS IS,
4. the name or call sign of the station transmitting the message, or both, (three times),

5. the filing time of the message,

6. the call sign of the station in distress (once),

7. the words SILENCE FINISHED or SEELONCE FEENEE (the international expression),

8. a short plain-language description of why the distress situation is being cancelled (that is, vessel clear and under tow),

9. the name and call sign of the station transmitting the message,

10. the word OUT.

Example:

MAYDAY

ALL STATIONS, ALL STATIONS, ALL STATIONS

THIS IS

NORTH WIND GT3344, NORTH WIND GT3344, NORTH WIND GT3344

ONE SIX ONE FIVE, EASTERN STANDARD TIME

SEAGULL HR1225

SILENCE FINISHED (SEELONCE FEENEE)

ALL PERSONS ARE SAFE ON BOARD THIS VESSEL. THE VESSEL SEAGULL SUNK.

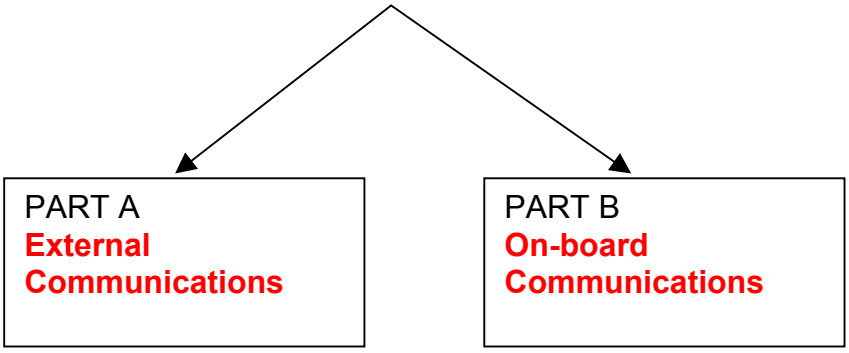
PORT OF DESTINATION NEWPORT

NORTH WIND GT3344

OUT

3. 5 IMO STANDARD MARINE COMMUNICATION PHRASES (SMCP 2001) USED IN DISTRESS COMMUNICATIONS

In SMCP 2001 distress communications (spoken or written, those conducted via VHF, MF, HF or GMDSS, etc.), are dealt with in:



3.5.1 IMO SMCP 2001 (extract):

PART A (External Communications) – chapters dealing with distress communications:

A1/1 Distress traffic

A1/1.1 Distress communications

.1 **Fire, explosion**
.2 **Flooding**
.3 **Collision**
.4 **Grounding**
.5 **List, danger of capsizing**
.6 **Sinking**
.7 **Disabled and adrift**
.8 **Armed attack / piracy**
.9 **Undesignated distress**
.10 **Abandoning vessel**
.11 **Person overboard**

A1/1.2 Search and Rescue communications
(see Section 4. Search and Rescue Communications)

.1 **SAR communications** (specifying or supplementary to A1/1.1)
.2 **Acknowledgement and / or relay of SAR messages**
.3 **Performing / co-ordinating SAR operations**
.4 **Finishing with SAR operations**

A1/6 Vessel Traffic Service (VTS) Standard Phrases

A1/6.1 Phrases for acquiring and providing data for a traffic image
.2 **Acquiring and providing distress traffic data**

Appendix to A1 – External Communication Phrases
Standard GMDSS Messages

1 Standard Distress Message
.1 **Structure**
.2 **Example**

PART B (On-board Communications Phrases) – chapters dealing with distress communications:

B2 Safety on board
B2/1 General activities
B2/1.1 Raising alarm
B2/1.2 Briefing crew and passengers

In GMDSS, a distress alert is defined as a radio signal from a distressed vessel automatically directed to an MRCC giving position, identification, course and speed of the vessel as well as the nature of distress.

3.5.2 (SMCP cont'd)

PART A (External Communications)

A1/1 Distress traffic

It should be noted that the use of Standard Phrases in vessels' external communications does not in any way exempt from application of the radiotelephone procedures as set out in the ITU Radio Regulations.

A1/1.1 Distress communications

Note: A distress traffic always has to commence with stating the position of the vessel in distress as specified in "GENERAL 11 Positions /13 Bearings" if it is not included in the DSC distress alert.

.1 **Fire, explosion**
- .1 I am (MV ... is) on fire (- after explosion).
- .2 Where is the fire?
- .2.1 *Fire is*
  - *~ on deck.*
  - *~ in engine-room.*
  - *~ in hold(s).*
  - *~ in superstructure / accommodation/... .*
- .3 Are dangerous goods on fire?
- .3.1 *Yes, dangerous goods are on fire.*
- .3.2 *No, dangerous goods are not on fire.*
- .4 Is there danger of explosion?
- .4.1 *Yes, danger of explosion.*
- .4.2 *No danger of explosion.*
- .5 I am (MV ... is) not under command. (an NUC vessel)
- .6 Is the fire under control?
- .6.1 *Yes, fire is under control.*
- .6.2 *No, fire is not under control.*
- .7 What kind of assistance is required?
- .7.1 *I do not (MV ... does not) require assistance.*
- .7.2 *I require (MV ... requires)*
  - *~ fire fighting assistance.*
  - *~ breathing apparatus - smoke is toxic.*
  - *~ foam extinguishers / CO_2 extinguishers.*
  - *~ fire pumps.*
  - *~ medical assistance/... .*
- .8 Report injured persons.
- .8.1 *No persons injured.*
- .8.2 *Number of injured persons / casualties: ... .*

.2 **Flooding**
- .1 I am (MV ... is) flooding below water line / in the engine room / in the hold(s).
- .2 I (MV ...) cannot control flooding.

.3 What kind of assistance is required?
.3.1 I require (MV ...) requires pumps / divers, ...
.3.2 I will send pumps / divers/... .
.3.3 I cannot send pumps / divers ... .
.4 I have (MV ... has) dangerous list to port side / starboard (… degrees).
.5 I am (MV ... is) in critical condition.
.6 Flooding is under control.
.7 I (MV ...) can proceed without assistance.
.8 I require (MV ... requires) escort / tug assistance/... .

.3 **Collision**
.1 I have (MV ... has) collided
~ with MV... .
~ with unknown vessel / object / ... .
~ with ...*(name)* light vessel.
~ with seamark ... *(charted name)*.
~ with iceberg / ... .
.2 Report damage.
.2.1 *I have (MV .. has) damage above / below water line.*
.2.2 *I am (MV ... is) not under command.*
.2.3 *I (MV ….) cannot establish damage.*
.2.4 *I (MV ….) cannot repair damage.*
.2.5 *I (MV ... .) can only proceed at slow speed.*
.3 What kind of assistance is required?
.3.1 *I require (MV ... requires) / escort / tug assistance /... .*

.4 **Grounding**
.1 I am (MV ... is) aground.
.2 I require (MV ... requires) tug assistance / pumps / ... .
.3 What part of your vessel is aground?
.3.1 *Aground forward / amidships / aft / full length.*
.3.2 *I cannot establish which part is aground.*
.4 Warning. Uncharted rocks in position ... .
.5 Risk of grounding at low water.
.6 I (MV ...) will jettison cargo to refloat.
.6.1 *Warning! Do not jettison IMO-Class cargo!*
.7 When do you (does MV ...) expect to refloat?
.7.1 *I expect (MV ... expects) to refloat*
~ at ... UTC.
~ when tide rises.
~ when weather improves.
~ when draft decreases.
~ with tug assistance / ... .
.8 Can you (can MV ...) beach?
.8.1 *I (MV ...) can / will beach in position ... .*
.8.2 *I (MV ...) cannot beach.*

.5 **List - danger of capsizing**
.1 I have (MV ... has) dangerous list to port / starboard.
.2 I (MV ...) will
~ transfer cargo / bunkers to stop listing.
~ jettison cargo to stop listing.
.3 I am (MV ...) in danger of capsizing (list increasing).

.6 **Sinking**
.1 I am (MV ... is) sinking after collision / grounding / flooding / explosion /.

.2 I require (MV ... requires) assistance.
.3 I am (MV ...) proceeding / coming to your assistance.
.4 ETA at distress position within ... hours / at ... UTC.

.7 **Disabled and adrift**
.1 I am (MV ... is)
~ not under command.
~ adrift.
~ drifting at ... knots to ... *(cardinal points).*
~ drifting into danger.
.2 I require (MV ... requires) tug assistance.

.8 **Armed attack / piracy**
.1 I am (MV ... is) under attack by pirates.
.1.1 I (MV ...) was under attack by pirates.
.2 I require (MV ... requires) assistance.
.3 What kind of assistance is required?
.3.1 I require (MV ... requires)
~ medical assistance.
~ navigational assistance.
~ military assistance.
~ tug assistance.
~ escort / ... .
.4 Report damage.
.4.1 I have (MV .. has)
~ no damage.
~ damage to navigational equipment / ... .
.4.2 I am (MV ... is) not under command.
.5 Can you / can MV ... proceed?
.5.1 Yes, I (MV ...) can proceed.
.5.2 No, I (MV ...) cannot proceed.

.9 **Undesignated distress**
.1 I have (MV ... has) problems with cargo / engine(s) / navigation / ... .
.2 I require (MV ... requires) ... .

.10 **Abandoning vessel**
.1 I (crew of MV ...) must abandon vessel ... after explosion / collision / grounding / flooding / piracy / armed attack / ... .

.11 **Person overboard**
. 1 I have (MV ... has) lost person(s) overboard in position ... .
. 2 Assist with search in vicinity of position ... .
. 3 All vessels in vicinity of position ... keep sharp lookout and report to ... .
. 4 I am (MV… is) proceeding for assistance. ETA at ... UTC / within ... hours.
. 5 Search in vicinity of position ... .
. 5.1 I am (MV ... is) searching in vicinity of position ... .
. 6 Aircraft ETA at ... UTC / within ... hours to assist in search.
. 7 Can you continue search?
. 7.1 Yes, I can continue search.
. 7.2 No, I cannot continue search.
. 8 Stop search.
. 8.1 Return to ... .
. 8.2 Proceed with your voyage.
.10 What is the result of search?
.10.1 The result of search is negative.

.11 I / MV ... located / picked up person(s) in position ... .
.12 Person picked up is crew/member / passenger of MV ... .
.13 What is condition of person(s)?
.13.1 Condition of person(s) bad / good.
.13.2 Person(s) dead.

PART A (External Communications), continued:

Appendix to A1 - External Communication Phrases

Standard GMDSS Messages

1 Standard distress message

.1 Structure

Upon receipt of a DSC Distress Alert acknowledgement the vessel in distress should commence the distress traffic on one of the international distress traffic frequencies such as VHF Channel 16 or frequency 2182 kHz (if not automatically controlled) as follows:

MAYDAY

THIS IS

- the 9-digit Maritime Mobile Service Identity code MMSI) plus name / call sign or other identification of the vessel calling
- the position of the vessel
- the nature of distress
- the assistance required
- any other information which might facilitate rescue.

Examples

> ***MAYDAY*** *(expressed only once)*
> ***THIS IS*** *TWO-ONE-ONE-TWO-THREE-NINE-SIX-EIGHT-ZERO,*
> *MOTOR VESSEL "BIRTE" CALL SIGN DELTA ALPHA MIKE KILO*
> ***POSITION*** *SIX TWO DEGREES ONE ONE DECIMAL EIGHT* MINUTES NORTH, ZERO ZERO SEVEN DEGREES FOUR FOUR MINUTES EAST
> ***I AM ON FIRE AFTER EXPLOSION***
> ***I REQUIRE*** *FIRE FIGHTING ASSISTANCE,*
> *SMOKE NOT TOXIC*
> ***OVER***

3.5.4 (SMCP cont'd)

PART B (On-board Communications):

B2/1.1 Raising alarm

.1 Operate the general emergency alarm.
.2 Inform the Master / Chief Engineer /... .
.3 Inform the ... coast radio station / vessels in vicinity (on radio).
.4 Request assistance (on radio) from ... and report.
.4.1 Assistance was
~ requested from ... .
~ offered by ... .
~ accepted from ... .
.5 Transmit a distress alert (MAYDAY) and report.
.5.1 A distress alert (MAYDAY) was transmitted.
.6 Was the distress alert / MAYDAY acknowledged?

.6.1 Yes, the distress alert / MAYDAY was acknowledged by ... coast radio station / MRCC / vessel(s) in vicinity.
.6.2 No, the distress alert was not acknowledged (yet).
.6.1.1 Repeat the distress alert.

B2/1.8 In-boat procedures (lifeboat or liferaft)

(See also: B4 " Passenger Care" 2.5 and 2.6.)

.1 Stand by engine / pumps / lookout / entrance and report.
.1.1 Engine/ pumps / lookout / entrance is / are standing by.
.2 Recover persons in water and report.
.2.1 Number of persons recovered is: ... .
.2.2 Keep lookout for further persons in water.
.2.3 Report the total number of persons in lifeboat(s) / liferaft(s).
.2.3.1 The total number of persons is now: ... .
.3 Report the number of injured persons.
.3.1 No persons injured.
.3.2 The number of injured persons is: ... .
.3.3 Provide first aid to injured persons .
.3.4 Secure injured / helpless persons.
.4 Let go sea anchor and report.
.4.1 Sea anchor is let go.
.5 Report the number of lifeboats / liferafts in sight.
.5.1 The number of lifeboats / liferafts in sight is: ... .
.6 Contact the lifeboat(s) / liferaft(s) on radio and report.
.6.1 Lifeboat(s) / liferaft(s) contacted.
.6.2 No contact possible.
.7 Give distress signals for identification.
.7.1 Fire rockets for identification.
.7.2 Use glasses / lamps / mirrors for identification.
.7.3 Give sound signals / ... signals for identification.

.8 Start the engine. and report.
.9 Set sail.
.10 Use oars.
.11 Join the other lifeboat(s) / liferaft(s).
.11.1 Connect the lifeboats / liferafts with lines and report.
.11.2 ... lifeboats / liferafts connected.

B2/6.2 Person-overboard activities

.1 Man overboard (on port side / starboard side / astern)!
.2 Drop lifebuoy(s).
.2.1 Sound "man overboard" alarm.
.3 Hoist flag signal "Oscar".
.4 Hard-a-port / hard-a-starboard the wheel.
.5 Is person in water / lifebuoy located ?
.5.1 Yes, person in water / lifebuoy located.
.5.2 Report direction and distance of person in water / lifebuoy.
.5.2.1 Direction at ... points port side / starboard side / ... degrees, distance ... metres.
.5.2.2 Maintain visual contact to person in water / lifebuoy.
.5.3 No, person in water / lifebuoy not located (yet).
.5.3.1 Look out for person in water / lifebuoy and report.
.5.4 Passenger / crew member missing (for ... hours / since ... UTC)
- search in vessel negative.
.5.4.1 Stop engine(s).
.5.4.2 Transmit alarm signal (distress alert) MAYDAY to radio coast station / Maritime Rescue Co-ordination Centre / vessels in vicinity and report.
.5.4.3 Alarm signal - PAN-PAN / distress alert - MAYDAY transmitted / acknowledged by ... / not acknowledged (yet)..

3.6 Urgency Communications

Signals

The urgency signal is PAN PAN spoken three times. It is sent before the call.
The urgency signal indicates that the station calling has a very urgent message to transmit concerning the safety of a ship, an aircraft, another vehicle or a person on board or within sight.
When used by a Maritime Mobile Station, the message, preceded by the urgency signal, may be addressed to all stations or to a specific station.
The urgency signal and message following it shall be sent on the distress, calling and answering Channel 16 (156.800 MHz).

Priority

The urgency signal has priority aver all other communications - except distress.
Stations that hear only the urgency signal shall continue to listen for at least three minutes on the frequency on which the signal is heard. After that, if no urgency message has been heard, stations may resume normal service.
All stations that hear the urgency signal must take care not to interfere with the urgency message which follows it. Stations that an in communication on frequencies other than those used for the transmission of the urgency message, may continue normal work without interruption, provided that the urgency message is not addressed to ALL STATIONS.

Urgency Call

The urgency call shall only be sent on the authority of the person in command of the station. The urgency call will comprise the following:

1. the urgency signal PAN PAN, PAN PAN, PAN PAN,
2. the words THIS IS,
3. the name and call sign of the vessel sending the urgency call spoken three times.

Urgency Message

The urgency signal and call shall be followed by a message giving further information of the incident that necessitated the use of the urgency signal. The message shall be in plain language. An urgency call can be directed to a specific station or to ALL STATIONS,
This would be included after the priority call of PAN PAN, PAN PAN, PAN PAN and preceding the identification of the calling station.
When the urgency message does not contain a specific address and is acknowledged by a ship station, that station will forward the information to the appropriate authorities (Coast Guard Radio Station or search and rescue organizations or both).

Example of Call and Message:

PAN PAN, PAN PAN, PAN PAN
ALL STATIONS, ALL STATIONS, ALL STATIONS
THIS IS
El NORTE 5421, El NORTE 5421, El NORTE 5421,
PAN PAN
POSITION: BEARING 134 DEGREES FROM NEWPORT SOUND, DISTANCE 3.6 NM.
ENGINE BREAKDOWN, I AM ADRIFT IN HEAVY SEAS.
REQUIRE A TOW.
OVER

or

PAN PAN, PAN PAN, PAN PAN

FISH BAY RADIO, FISH BAY RADIO, FISH BAY RADIO.

THIS IS

ESTELLA CD1234, ESTELLA CD1234, ESTELLA CD1234,

POSITION: TWO MILES SOUTH OF CAPE BLACK FAIRWAY BOUY.

ONE OF THE RESCUED PERSONS IN DEEP SHOCK,

REQUEST HELICOPTER AIR RECUE

OVER

Example of acknowledgement:

PAN PAN

ESTELLA CD1234, ESTELLA CD1234,

THIS IS

FISH BAY RADIO, FISH BAY RADIO

PAN PAN RECEIVED

HELICOPTER HAS BEEN DISPATCHED, ESTIMATED TIME OF ARRIVAL IS 1030Z

FISH BAY RADIO

OVER

Cancellation of Urgency Message

When the urgency signal has been used before a message addressed to ALL STATIONS, which calls for action by stations receiving the message, the station responsible for its transmission shall cancel it as soon as it knows that action is no longer necessary. The cancellation message shall be addressed to ALL STATIONS.

Example:

PAN PAN

ALL STATIONS, ALL STATIONS, AIL STATIONS

THIS IS

NORTH WIND VY3344, NORTH WIND VY3344, NORTH WIND VY3344

TIME: 134OZ

URGENCY ENDED

HELICOPTER HAS EVACUATED INJURED PERSON

ENROUTE TO VICTORIA, B.C.

THIS VESSEL NOW PROCEEDING NORMALLY TO VANCOUVER

NORTH WIND VY3344

OUT

3.6.1 SMCP 2001 – urgency

A1/1.3 **Requesting medical assistance**

. 1 I require (MV ... requires) medical assistance.
. 2 What kind of assistance is required?
. 2.1 I require / MV ... requires
~ boat for hospital transfer.
~ radio medical advice.
~ helicopter with doctor (to pick up person(s)).
. 3 I (MV) ... will
~ send boat.
~ send helicopter with doctor
~ send helicopter to pick up person(s).
~ arrange for radio medical advice on VHF Channel ... / frequency ... .
. 4 Boat / helicopter ETA at ... UTC / within ... hours.
. 5 Do you have doctor on board?
. 5.1 Yes, I have doctor on board.
. 5.2 No, I have no doctor on board.
. 6 Can you make rendezvous in position ... ?
. 6.1 Yes, I can make rendezvous in position at ... UTC / within ... hours.
. 6.2 No, I cannot make rendezvous.
. 7 I (MV ...) will send boat / helicopter to transfer doctor.
. 8 Transfer person(s) to my vessel / to MV ... by boat / helicopter.
. 9 Transfer of person(s) not possible.

A1/2 **Urgency traffic**

.1 **Technical failure**
. 1 I am (MV ...) not under command.
. 2 What problems do you have / does MV ... have?
. 2.1 I have / MV ... has problems with engine(s) / steering gear / propeller / ... . 3 I am (MV ...is) manoeuvring with difficulty.
. 4 Keep clear of me / MV ... .
. 5 Navigate with caution.
. 6 I require (MV ... requires) tug assistance / escort / ... .
. 7 I try (MV ... tries) to proceed without assistance.
. 8 Stand by on VHF Channel ... / frequency ... .
.8.1 Standing by on VHF Channel ... / frequency ... .

3.6.2

Appendix to A1 - External Communication Phrases
Standard GMDSS Messages

Standard urgency message

.1 **Structure**

.2 **Example**

PAN PAN
ALL STATIONS ALL STATIONS ALL STATIONS.
- THIS IS TWO-ONE-ONE-TWO-THREE-NINE-SIX-EIGHT-ZERO
MOTORVESSEL "BIRTE" CALL SIGN DELTA ALPHA MIKE KILO
- POSITION SIX TWO DEGREES ONE ONE DECIMAL EIGHT
ZERO ZERO SEVEN DEGREES FOUR FOUR MINUTES EAST
- I HAVE PROBLEMS WITH ENGINES
- I REQUIRE TUG ASSISTANCE
- OUT

The rest of the urgency traffic follows the same patterns as the distress traffic.

3.6.3 Safety Communications

Safety Signal

In radiotelephone, the safety signal is the word SECURITE spoken three times. It is sent before the call.
The safety signal indicates that the station calling is about to transmit a message containing an important navigational or meteorological warning or information.

Priority

The safety signal has priority over all other communications except distress and urgency. All stations hearing the safety signal shall continue to listen on the frequency on which the signal has been transmitted. They may stop listening when they are satisfied that the message is of no interest to them. All stations that hear the safety signal must take care not to interfere with the message which follows it. No transmission shall be made that may interfere with these messages.

Safety Call and Message Procedure

The safety signal call may be sent at any time on the international distress frequency of 156.800 MHz (Channel 16). It shall be sent only on the authority of the person in command of the station. The safety message that follows the call is sent on a suitable working frequency such as 156.300 MHz (Channel 6). A short announcement giving the working channel and the area affected is made at the end of the safety call.
In the Maritime Mobile Service, safety calls and messages are normally addressed to ALL STATIONS, In some cases, however, they may be addressed to a particular station, such as a Coast Guard radio station. If the message is addressed to a Coast Guard station, it would be sent on a Coast Guard or Coastal Radio working frequency.
Meteorological and navigational warning messages that contain information on imminent danger to marine navigation must be transmitted without delay,

Example:

SECURITE, SECURITE, SECURITE

ALL STATIONS, ALL STATIONS, ALL STATIONS

THIS IS

TUG CRUSADER VG2010, TUG CRUSADER VG2010, TUG CRUSADER VG2010

SAFETY MESSAGE CONCERNING THE TEXADA ISLAND AREA TO FOLLOW ON

CHANNEL ZERO SIX

TUG CRUSADER VG2010

OUT

Or:

SECURITE, SECURITE, SECURITE

ALL STATIONS, ALL STATIONS, ALL STATIONS

THIS IS

GENOA RADIO, GENOA RADIO, GENOA RADIO

FOR WEATHER INFORMATION (REPORT / FORECAST) SWITCH TO VHF CHANNEL TWO FOUR*

OUT

*Other phrases:

BUOY BRAVO 1-3 UNLIT

DIFFICULT TOW IN POSITION …

UNMARKED DERELICT IN POSITION …

FOR TRAFFIC INFORMATION (LIST) SWITCH TO CHANNEL … (etc.)

The safety message is then transmitted on the appropriate working channel.

Example:

SECURITE

ALL STATIONS, ALL STATIONS, ALL STATIONS

THIS IS

TUG CRUSADER VG2010, TUG CRUSADER VG2010, TUG CRUSADERVG2010

LOG BOOM ADRIFT AND BREAKING UP TWO MILES SOUTH OF TEXADA ISLAND

HAZARD TO NAVIGATION

TUG CRUSADER VG2010

OUT

Appendix to A1 - External Communication Phrases
Standard GMDSS Messages

Standard safety message

SÉCURITÉ SÉCURITÉ SÉCURITÉ
ALL SHIPS ALL SHIPS ALL SHIPS IN AREA PETER REEF
- THIS IS TWO-ONE-ONE-TWO-THREE-NINE-SIX-EIGHT-ZERO
MOTORVESSEL "BIRTE" CALL SIGN DELTA ALPHA MIKE KILO
- *DANGEROUS WRECK LOCATED IN POSITION TWO NAUTICAL MILES SOUTH OF PETER REEF**
- OVER

* or:

FOR HIGH SEAS WEATHER BULLETIN SWITCH TO VHF CHANNELL …
WARNING ON METAREA NO. …. ISSUED BY …
AMENDMENTS TO WEATHER BULLETING NO. …
WEATHER AND SEA BULLETIN NO. …
HIGH SEAS FORECAST FOR METAREA …
WEATHER SYNOPSIS AND FORECAST FOR SHIPPING
CORRECTION IN MARINE WEATHER BULLETIN NR. …
MET/WARN/FORE SAFETY CALL TO AREA …

LIGHT BUOY …. EXTINGUISHED / UNLIT
LIGHT BUOY OFF POSITION (OUT OF) POSITION
WEST CARDINAL BUOY … MISSING / OFF STATION
SHOAL LIGHT … UNLIT
… BUOY - RADAR INOPERATIVE / RADAR REFLECTOR OFF / DAY BEACON SUPPRESSED / LIGHT UNLIT
RED LIGHT BEACON IN POSITION … UNLIT
YELLOW CABLE BUOY WITH FLASIHNG LIGHT TEMPORARILY ESTABLISHED IN POS. ….
LIGHT REESTABLISHED
DERELICT LARGE YELLOW BUOY IN POS. … - CAUTION ADVISED
NAVAREA THREE 038/03 – GPS SATELLITE SYSTEM PRN 05 UNUSABLE FROM … TO …
SINGLE BUOY MOORING (SBM) ESTABLISHED IN OILFIELD …
SIX METRE TANK ADRIFT IN VICINITY OF …

PORT SAID APPROACHES – DRILLING RIGS REPORTED:
DRILLING RIG …. MOVED TO …
DRILLING PLATFORM … MOVED FROM POS. … TO POS. …
UNDERWATER OPERATION IN PROGRESS UNTIL FURTHER NOTICE
PLATFORM IN POS. … / NAVIGATION, ANCHORAGE AND FISHING ARE PROHIBITED 3 MILES AROUND THIS POSITION

HYDROGRAPHIC VESSEL … WITH RESTRICTED MANOEUVRABILITY – ACCOMPLISHING HYDROGRAPHIC SURVEY AMONG … - WIDE BERTH REQUESTED
CABLE OPERATIONS BY … FROM … TO … ON … IN AREA BOUNDED BY …
OCEANOGRAPHIC SURVEY OPERATIONS IN PROGRESS …
SUBMARINE WORKS BY MV … FROM … TO IN AREA BOUNDED BY …

MILITARY MANOEUVRE … DAY … FROM … TO … - AREA DANGEROUS TO NAVIGATION
FIRING EXERCISES ON … IN AREA … BOUNDED BY … …
MISSILE LAUNCHING EXERCISES IN AREA …

DIFFICULT TOW FROM … TO …
DRILL BEING TOWED BETWEEN POS. … AND … - WIDE BERTH REQUESTED

Examples of a Safety VHF Communication:

Example 1

> Securite, securite, securite. All stations, all stations, all stations. This Cherbourg Traffic for traffic information.
>
> A group of white boxes is reported in position about 7 miles SE of Echo Charlie two . Wide berth requested For all information please contact Cherbourg Traffic. Cherbourg Traffic watching on channel 16 and 11. From Cherbourg Traffic, Out.

Example 2

Securite, securite, securite. All ships, all ships, all ships. This is Jersey Radio, Jersey Radio. Weather forecast followed by two navigational warnings. The weather forecast for the channel in this area for the period fourteen hundred throughout two hundred GMT.

The weather : **Warning.** Mist and fog in the south at first. Otherwise fair with the risk of isolated showers. Visibility poor or very poor in the south at first. Otherwise moderate to good. Wind Ne force 4 to 5, increasing force 6 with gusts to 45 knots. Open sea becoming rather rough.
Further Outlook. 02 hundred to 14 hundred GMT of tomorrow. Weather fair, wind NE, force 6, increasing force 7, with gusts to 40 knots.
General situation at 0-9 hundred hours. High, one-zero-three-five mb to the west of Scotland, expected to drift NE and intensify, as low 1009 mb over Spain remains slow moving.
Observations taken at 12 hundred hours:

Jersey: north 2, three NM, haze, 1020 raising.
Albany: NE 5, one and a half NM, haze, no pressure, (… etc.)
That's the end of observations. I'll repeat the forecast for the period 14 hundred hours to 0-2 hundred GMT. *(Forecast repeated).*

That's the end of the weather bulletin. The next weather bulletin is at 18.45 GMT. 1-8-4-5 GM.

Now, here are two navigational warnings.

The first one: Jersey, south-west approaches to South Xavier – Black Rock beacon demolished. Temporary red buoy, flash red 1.5 seconds, established 1-6-0 degrees by 0.1 mile from Elisabeth Castle Breakwater head. Breakwater head. Date: 2-6-17-0-0 of February.
The second navigational warning is for Jersey south coast. Demie Depas lighthouse, that's D-E-M-I-E; D-E-P-A-S lighthouse, right on in operation. Time 231030 GMT of January.

That's the end of this broadcast, This is Jersey Radio listening on 2182 kHz, channel 16.

Example of MetWarn/Fore Safety Call: (printed in GMDSS or broadcast on a VHF working channel):

```
LES 121 - MSG 1423 - MetWarn/Fore Safety Call to Area: 2 - NoPos

LES21 FRANCE TELECOM 20819632005807 23-JAN-1999 08:54:45 722046SECURITE
MARINE WEATHER BULLETIN ON METAREA 2, ISSUED BY METEO FRANCE,
TOULOUSE, SATURDAY 23 JANUARY 1999 AT 0900UTC.

WIND SPEED IN BEAUFORT SCALE

PART 1: STORM WARNING: NR 48

PART 2: GENERAL SYNOPSIS, SATURDAY 23 JANUARY 1999 AT 0000UTC
THUNDERY LOW 1016 NEAR CAPE OF GIGRALTAR DRIFTING TOWARDS
NORTHEAST OF ALGERIA.
LOW 984 BETWEEN GREENLAND AND ICELAND STATIONNARY.
ASSOCIATED WAVING FRONTAL TROUGH FROM WEST OF IRELAND TO 30N50W
SLOWLY MOVING EASTWARDS WITH A LOW EXPECTED 999 BY 49N16W AT
24/12UTC.
HIGH 1032 SOUTH OF AZORES SLOWLY MOVING EAST AND WEAKENING.
ITCZ ALONG 03N01W 03N29W 05N44W 05N53W.

PART 3: AREA FORECASTS TO SUNDAY 24 JANUARY AT 12UTC

SMALL SOLE:
IN NORTHWEST : SOUTHWEST 6 OR 7, LOCALLY 8 IN FAR NORTHWEST
AT FIRST DECREASING 5 OR 6 AT SOON, BECOMING VARIABLE 3 OR 4
LATER, THEN SOUTHERLY 5 TO 7 AT THE END. ROUGH TO VERY ROUGH.
RAIN OR DRIZZLE BY TIMES. TEMPORARILY POOR VIS IN RAIN.
IN SOUTHEAST : SOUTH OR SOUTHWEST 4 TO 6 TEMPORARILLY 7 TOMORROW
MORNING. MODERATE BECOMING ROUGH. RAIN AND DRIZZLE TEMPORARILY
POOR VIS IN RAIN.

WEST PORTUGAL:
NORTHERLY 3 OR 4 GRADUALLY BECOMING VARIABLE 2 TO 4 BY NORTH AT
SOON, THEN SOUTHERLY LATER, INCREASING 4 OR 5 IN NORTH. ROUGH
OR MODERATE. RAIN AND DRIZZLE IN NORTH. LOCALLY POOR VIS IN RAIN.

GIBRALTAR:
IN NORTH: NORTHERLY 3 OR 4, BUT VARIABLE 2 OR 3 IN EAST,
GRADUALLY BECOMING EASTERLY OVERNIGHT. ROUGH WITH WESTERLY SWELL
ABATING. SHOWERS, THUNDERSQUALLS WITH GUSTS IN EAST SLOWLY
CLEARING. LOCALLY POOR VIS IN SQUALLS.
IN SOUTH: NORTHERLY 3 OR 4. ROUGH WITH WESTERLY SWELL ABATING.
SHOWERS. MODERATE VIS.

PART 4: FURTHER OUTLOOKS
SOUTHWEST NEAR GALE OR GALE IN BAY OF BISCAY, EXEPTED FAR
SOUTHEAST FROM SUNDAY EVENING.
ELSEWHERE, NO DANGEROUS PHENOMENON EXPECTED.
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4. (Part 4) SEARCH AND RESCUE COMMUNICATIONS

The language and phrases to be used in Search and Rescue communications are laid down in IMO SMCP 2001 on the basis of IAMSAR Manual issued by IMO (formerly MERSAR 1993).

The basic concepts and terms used in SAR can be studied from the text below (Source: Canadian Coastguard: www.ccg-gcc.gc.ca)

4.1

Rescue Co-ordination Centres and Maritime Rescue Sub-Centres

The Canadian Coast Guard jointly staffs three Rescue Coordination Centres (RCCs) with the Canadian Forces. The RCCs are located at Victoria, British Columbia, Trenton, Ontario, and Halifax, Nova Scotia. The Canadian Coast Guard also operates two Maritime Rescue Sub-Centres (MRSCs) at Quebec City, Quebec, and St. John's, Newfoundland. The function of a MRSC is to reduce the RCC's workload in areas of high marine activity. These centres are staffed by SAR Co-ordinators who operate 24 hours a day, seven days a week, year round. The marine area for which the Canadian RCCs/MRSCs are collectively responsible for is more than 5.3 million square kilometres.

The RCCs/MRSCs are responsible for the planning, co-ordination, conduct and control of SAR operations. RCCs/MRSCs have highly trained staff, detailed operational plans and an effective communications system. Once an RCC/MRSC is notified that a person(s) is in danger, the SAR Co-ordinator begins to organize the rescue. All available information about the person(s) in danger is gathered and recorded and the positions of potential assisting resources in the area of the incident are determined. SAR Co-ordinators are trained to evaluate various situations and send the most effective resources to deal with a particular incident. In complex and major incidents, many resources are often sent or tasked to assist.

On-Scene Co-ordinator

In large searches involving many resources, an On-Scene Co-ordinator (OSC) for the incident may be chosen by the SAR Co-ordinator. The OSC is the local contact for the SAR Co-ordinator. The OSC gives direction to the resources involved on where and how to search and regularly reports progress. The OSC is usually the Commanding Officer of a government vessel with an experienced crew.

Rescue Alerting, Detection and Communications

Visual, audible and electronic methods are used by vessels to indicate distress. Visual methods include items such as distress flares and international signal flags. Audible methods include whistles and horns. Electronic methods include radios and

beacons. The following are a few highlights.

Global Maritime Distress and Safety System

The Global Maritime Distress and Safety System (GMDSS) comes into effect on 1 February 1999. GMDSS is a digital electronic communications system which sends distress and safety information. It applies to vessels over 300 Gross Registered Tons and all international passenger vessels. GMDSS divides the world into four types of communications coverage (Sea Areas A1 to A4), which determine the appropriate terrestrial or satellite means of communication to use. Canada is currently determining what type of Sea Areas it will provide.

COSPAS/SARSAT

COSPAS/SARSAT is an international SAR satellite system used to detect and locate signals from distress beacons. Four founding nations, Canada, United States, France, and Russia (formerly USSR) created the COSPAS/SARSAT system. Since inception many other nations have joined. Satellites were first launched in 1982 and 1983, with the first three lives saved during experimental testing of the system. These three people were Canadians involved in an airplane crash in the Rocky Mountains of British Columbia. Since then thousands of lives have been saved using this system.

Beacons

Beacons use radios signals to indicate distress. Each unit has a built-in transmitter and batteries. Two main beacon types interest the Coast Guard: an Emergency Locator Transmitter (ELT), designed for aircraft and an Emergency Position Indicating Radio Beacon (EPIRB), designed for vessels. Both transmit a radio signal when activated. Unlike most ELTs, EPIRBs transmit a coded message that indicates the identity of the beacon in use. **The owner of an EPIRB is required to register the beacon with the Canadian Coast Guard.** Details such as the owner's name and a description of the vessel are recorded on a computer database. This allows the RCC/MRSC Co-ordinator to look up vital information contained in the EPIRB registry to assist in any rescue. Both ELTs and EPIRBs are detected by COSPAS/SARSAT satellites when activated. A third type of beacon, which operates through the satellites for use on land, is the Personal Locator Beacon class.

Marine Communications and Traffic Services

Marine Communications and Traffic Services (MCTS) is the Branch of the Canadian Coast Guard that provides communications and vessel traffic services to the sea-going public. MCTS monitors for distress radio signals; provides the communications link between vessels in distress and the RCC/MRSC; sends safety information; handles public communication; and, regulates the flow of vessel traffic in some areas. MCTS is an important link in the SAR system.

For any SAR incident, the standard VHF communications procedures (as set out in SMCP 2001) are followed. This includes Marine Information broadcasts, Maydays, and Mayday relays. Vessels are required to maintain a continuous radio watch on channel 16 oe any frequencies allotted b ythe controlling station (authority) during a search.

All communications with RCC or MRCC are recorded. These daily recordings are kept in secure storage in the event of any legal ramifications.

It is a good practice to log all radio transmissions to and from your station. Also, writing down messages before you send them ensures that all information gets transmitted correctly.

SITREPS:
The following information should be included in SITREPS to RCC(MRCC):

- **case number or description of case**
- **number of the situation report (e.g. first, second, seventh, etc.)**
- **current date and time**
- **present status – all details, including weather conditions**
- **actions taken: all search patterns and movements**
- **future action includes all items that will have impact on the future; any request for air support**
- **signature and vessel name**

DATUM
This term refers to the most probable location of the distressed vessel, corrected for drift over a given period of time. It may be a point, line or an area.

TRACK SPACING
Most search patterns consist of parallel tracks or sweeps covering a rectangular area. The distance between adjacent tracks ic called the track spacing.

SEARCH PATTERNS
The search pattern is decided by the RCC/MRCC in accordance with IAMSAR Manual, formerly MERSAR.
The following search patterns are recommended in IAMSAR Manual:

1. **expanding square search (SS)**
2. **sector search (VS)**
3. **track line search (TS)**
4. **parallel sweep search (PS)**
5. **contour search (OS)**
6. **co-ordinated vessel-aircraft search pattern**

MANOEUVRING INSTRUCTIONS: (IAMSAR p. 3-36/37)***

4.2

IMO SMCP 2001 – Recommended phrases for SAR operations:

A1/1.2 Search and Rescue communications

.1 **SAR communications** (specifying or supplementary to A1/1.1)
.2 **Acknowledgement and / or relay of SAR messages**
.3 **Performing / co-ordinating SAR operations**
.4 **Finishing with SAR operations**

B2/6.5 Rescue activities

GLOSSARY:

Search pattern — *A pattern according to which vessels and/or aircraft may conduct a co-ordinated search (the IMOSAR offers seven search patterns)*

A1/1.2 Search and Rescue communication

.1 **SAR communications** (specifying or supplementary to 1.1)

. 1 I require / MV ... requires assistance.
. 2 I am / MV ... proceeding to your assistance.
. 3 What is your MMSI number?
. 3.1 My MMSI number is …. .
. 4 What is your position?
. 4.1 My position ... .
. 5 What is your present course and speed?
. 5.1 My present course ... degrees, my speed ... knots.
. 6 Report number of persons on board.
. 6.1 Number of persons on board: ... .
. 7 Report injured persons.
. 7.1 No person injured
. 7.2 Number of injured persons / casualties: ... .
. 8 Will you abandon vessel?
. 8.1 I will not abandon vessel.
. 8.2 I will abandon vessel at ... UTC.
. 9 Is your EPIRB/SART transmitting?
. 9.1 Yes, my EPIRB/SART is transmitting.
. 9.2 Yes, my EPIRB/SART is transmitting by mistake.
.10 Did you transmit a DSC distress alert?
.10.1 Yes, I transmitted a DSC alert.
.10.2 Yes, I transmitted a DSC alert by mistake.
.11 How many lifeboats / liferafts (with how many persons) will you launch?
.11.1 I will launch ... lifeboats / liferafts (with ... persons).
.12 How many persons will stay on board?
.12.1 No person will stay on board.

.12.2 ... persons will stay on board.
.13 What is the weather situation in your position?
.13.1 Wind ...*(cardinal points)* force Beaufort ... .
.13.2 Visibility good/moderate/poor.
.13.3 Smooth/moderate/rough/high sea / slight/moderate/heavy swell …*(cardinal points)*.
.13.4 Current ... knots, to …*(cardinal points)*.
.14 Are there dangers to navigation?
.14.1 No dangers to navigation.
.14.2 Warning! Uncharted rocks / ice / abnormally low tides / mines / ... .

.2 Acknowledgement and / or relay of SAR messages

. 1 Received MAYDAY from MV ... at UTC on VHF Channel.../ frequency ....
. 2 Vessel in position ...
~ on fire
~ had explosion.
~ flooded.
~ in collision (with ..).
~ listing / in danger of capsizing.
~ sinking.
~ disabled and adrift.
~ abandoned / ... .
. 3 Vessel requires assistance.
. 4 Received your MAYDAY.
. 4.1 My position ... .
. 4.2 I / MV ... will proceed to your assistance.
. 4.3 ETA at distress position within ... hours / at ... UTC.

.3 **Performing / co-ordinating SAR operations**
The questions are normally asked and advice given by the On-scene Co-ordinator (OSC).
For further information see IAMSAR Manual, London/Montreal,1998.

. 1 I will act as On-scene Co-ordinator.
. 1.1 I will show following signals / lights: ... .
. 2 Can you proceed to distress position?
. 2.1 Yes, I can proceed to distress position.
. 2.2 No, I cannot proceed to distress position.
. 3 What is your ETA at distress position?
. 3.1 My ETA at distress position within ... hours / at ... UTC.
. 4 MAYDAY position is not correct.
. 4.1 Correct MAYDAY position is ... .
. 5 Vessels are advised to proceed to position ... to start rescue.

. 6 Carry out search pattern ... starting at ... UTC.
. 7 Initial course ... degrees, search speed ... knots.
. 8 Carry out radar search.
. 9 MV ... allocated track number ... .

.10 MV / MVs ... adjust interval between vessels to ...kilometres / nautical miles.
.11 Adjust track spacing to ...kilometres / nautical miles.
.12 Search speed now ... knots.
.13 Alter course
~ to ... degrees (- at ... UTC).
~ for next leg of track now / at ... UTC.
.14 We resume search in position ... .
.15 Crew has abandoned vessel / MV ... .
.16 Keep sharp lookout for lifeboats / liferafts / persons in water / ... .

.4 **Finishing with SAR operations**

.1 What is the result of search?
.1.1 The result of search is negative.
.2 Sighted
~ vessel in position ... .
~ lifeboats / life rafts in position ... .
~ persons in water / ... in position ... .
.3 Continue search in position ... .
.4 Can you pick up survivors?
.4.1 Yes, I can pick up survivors.
.4.2 No, I cannot pick up survivors.
.5 MV ... / I will proceed to pick up survivors.
.5.1 Stand by lifeboats / liferafts.
.6 Picked up
~ ... survivors in position ... .
~ ... lifeboats / liferafts (with ... persons / casualties) in position ... .
~ ... persons / casualties in lifejackets in position ... .
~ ... in position ... .
.7 Survivors in bad / good condition.
.8 Do you require medical assistance?
.8.1 Yes, I require medical assistance.
.8.2 No, I do not require medical assistance.
.9 Try to obtain information from survivors.
.10 There are
~ still ... lifeboats / liferafts with survivors.
~ no more lifeboats / liferafts.
.11 Total number of persons on board was ... .
.12 All persons / ... persons rescued.
.13 You / MV ... may stop search and proceed with voyage.
.14 There is no hope to rescue more persons.
.15 We finish with SAR operations.

B2/6 Search and rescue on-board activities

For details see also IAMSAR Manual, London/Montreal, 1998.

B2/6.1 Checking equipment status

.1 Check the lifebuoys and report.
.1.1 All lifebuoys are complete.
.1.2 Lifebuoy(s) at ... is / are damaged / missing.
.1.2.1 Replace the damaged / missing lifebuoy(s).
.2 When was the last man overboard drill ?
.2.1 Last man overboard drill was on ...*(date)* .
.3 Prepare a plan for man overboard drill.
.3.1 Prepare a plan for
~ an announced / not announced drill.
~ a daytime / nighttime drill.
~ a muster (at all stations).
~ a recovering manoeuvre (with dummy / buoy).
.4 Have a drill / manoeuvre / muster on ...*(date)* .

B2/6.2 Person-overboard activities

.1 Man overboard (on port side / starboard side / astern)!
.2 Drop lifebuoy(s).
.2.1 Sound "man overboard" alarm.
.3 Hoist flag signal "Oscar".
.4 Hard-a-port / hard-a-starboard the wheel.
.5 Is person in water / lifebuoy located ?
.5.1 Yes, person in water / lifebuoy located.
.5.2 Report direction and distance of person in water / lifebuoy.
.5.2.1 Direction at ... points port side / starboard side / ... degrees, distance ... metres.
.5.2.2 Maintain visual contact to person in water / lifebuoy.
.5.3 No, person in water / lifebuoy not located (yet).
.5.3.1 Look out for person in water / lifebuoy and report.
.5.4 Passenger / crew member missing (for ... hours / since ... UTC)
- search in vessel negative.
.5.4.1 Stop engine(s).
.5.4.2 Transmit alarm signal - PAN-PAN / distress alert - MAYDAY to radio coast station / Maritime Rescue Co-ordination Centre / vessels in vicinity and report.
.5.4.3 Alarm signal - PAN-PAN / distress alert - MAYDAY transmitted / acknowledged by ... / not acknowledged (yet)..
.6 Return manoeuvre ! Port / starboard, steer... degrees.
.7 Report position.
.7.1 Position ... .
.8 Report traffic situation.
.8.1 No vessel in vicinity.
.8.2 Following vessel(s) in vicinity ... .

.9 Report weather situation.
.9.1 Sea smooth/moderate/rough/high – swell slight/moderate/heavy from .. (cardinal points).
.9.2 Winds force Beaufort... from ... (cardinal points).
.9.3 Visibility good/moderate/poor.
.9.4 Current ... knots to ... (cardinal points).
.10 Have man overboard stations / lookouts at ... manned and report.
.10.1 Man overboard stations / lookouts at ... manned.
.11 Stand by for recovering from shipboard and report.
.11.1 Standing by for recovering from shipboard.
.12 Stand by boat / motor lifeboat no. ... for letting go and report.
.12.1 Rescue boat / motor lifeboat no. ... standing by for letting go.
.13 Let go rescue boat / motor lifeboat.
.14 Use VHF Channel ... / frequency ... for communication.
.14.1 Use light signals / flag signals / whistle for communication.
.15 What is retreat signal for rescue boat / motor lifeboat ?
.15.1 Retreat signal ... .
.16 Stand by one / two crew member(s) for rescue in water and report.
.16.1 One / two crew member(s) standing by for rescue in water.
.17 Person overboard rescued / recovered.
.18 Stand by boat / rescue litter / rescue net / rescue basket / rescue sling and report.
.18.1 Boat / rescue litter / rescue net / rescue basket / rescue sling standing by.
.19 Hoist person and report.
.20 Report condition of survivor.
.20.1 Survivor
~ is in good / bad condition.
~ has hypothermia.
~ is injured.
~ is suffering from shock.
.20.2 Person is dead.

B2/6.3 Rescue operation - reporting readiness for assistance

See also A1/1.2 "Search and rescue communications"

.1 Received an alarm signal / PAN-PAN / distress alert - MAYDAY at ... UTC on ... *(VHF Channel/frequency)*.
.2 Observed the following distress signal in ... degrees.
.3 Report the distress position.
.3.1 Distress position ... .
.4 Was the alarm signal / PAN-PAN / distress alert - MAYDAY acknowledged?
.4.1 The alarm signal / PAN-PAN / distress alert - MAYDAY was acknowledged by ... / not acknowledged (yet)..
.4.2.1 Acknowledge the PAN-PAN / distress alert - MAYDAY - RELAY.
.4.3 Transmit a MAYDAY - RELAY to ... *(radio station)*.
.5 Watch the radar.
.6 Have the lookouts manned and report.
.6.1 Lookouts are manned.

.7 Contact vessels in vicinity of the distress and report.
.7.1 We have contact to following vessel(s) in vicinity of the distress: .... .
.7.2 We have no contact (yet).
.8 Request information from the vessel in distress and report.
.8.1 We have following information from the vessel in distress: ... .
.8.2 We have no information (yet).
.9 Stand by lines / lifebuoys / nets / derricks / cranes / ... and report.
.9.1 Lines / lifeboats / nets / derricks / cranes / ... standing by.
.10 Stand by lifeboats / rescue boat and report.
.10.1 Lifeboats / rescue boat standing by.
.11 Stand by liferaft(s) as boarding station(s) and report.
.11.1 Liferaft(s) standing by as boarding station(s).
.11.2 Let go liferaft(s) as boarding station(s) with ... crew members (each).
.13 Stand by ... crew members for assisting survivors in water and report.
.13.1 ... crew members standing by for assisting survivors in water.
.14 Switch on the deck lighting / outboard lighting / search lights.
.15 Stand by line throwing apparatus and report.
.15.1 Line throwing apparatus standing by.

B2/6.4 Conducting search

.1 We / MV ... will act as On-scene Co-ordinator.
.1.2 Inform radio coast station(s) / MRCC/ vessels in vicinity.
.2 Stand by bridge team / lookouts for information / signals of On-scene Co-ordinator.
.2.1 Following information / signal received from On-scene Co-ordinator:
.3 We carry out search pattern ... / radar search.
.3.1 We start search pattern ... radar search at ... UTC.
.3.1.1 Inform the crew / lookouts / engine room.
.4 Bridge team / lookouts !
Keep sharp lookout for signals / sightings of the vessel in distress and report every ... minutes.
.4.1 Light signals / smoke signals / sound signals / ... signals in ... degrees.
.4.2 Objects / vessel in distress / lifeboat(s) / life raft(s) / person(s) in water in ... degrees
.5 Stand by rescue team / boat crews / engine room and report.
.5.1 Rescue team / boat crews / engine room standing by.
.6 Transmit the following information / signals to the searching vessel(s): ... .

B2/6.5 Rescue activities

See also B2/6.2 "Person-overboard activities"

.1 Rescue persons in following order:
- persons in water
- injured / helpless persons
- women and children
- passengers
- crew/members.

.2 Ask the survivor(s) the following information:
.2.1 What was the total number of persons on board the vessel in distress ?
.2.1.1 Total number of persons was: ... .
.2.2 What was the number of casualties ?
.2.2.1 Number of casualties was: ... .
.2.3 What was the number of lifeboats / liferafts launched ?
.2.3.1 Number of lifeboats / liferafts launched was: ... .
.2.4 What was the number of persons in lifeboats / liferafts ?
.2.4.1 Number of persons in lifeboats / liferafts was: ... .
.2.5 What was the number of persons in water ?
.2.5.1 Number of persons in water was: ... .
.3 Inform ... coast radio station about the name(s) / call sign(s) and destination of the vessel(s) with the survivors.
.3.1 Inform about the number of survivors on (each) vessel.
.3.2 Inform about the condition of the survivors.
.4 Inform ... coast radio station about the condition of the vessel in distress:

.4.1 The vessel in distress
~ capsized / sunk / adrift (near position ...) / drifting in ... degrees.
~ grounded (in position: ...).
~ on fire.
~ not under command.
.5 Transmit the following safety message / navigational warning:
Vessel in distress (in position ...) danger to navigation.

B2/6.6 Finishing with search and rescue operations

.1 Search and rescue finished at ... UTC.
.1.1 Inform the crew / lookouts / engine room.
.2 We resume on-board routine at ... UTC.
.3 Inform the coast radio station / searching vessels about the cancellation of search and rescue.
.4 We proceed with our voyage.

4.3
Examples of SAR communications:

VHF COMMUNICATIONS IN SAR OPERATIONS

Adapted from P. Trenkner: *Search and Rescue Operations*, Rostock 1989

Example 1: Preparing for SAR Operations

Vessel in distress: MV 'LIST'.

MV "ORADA" was on the way from Antwerp to New Orleans when a distress alert was released by the autoalarm. Several minutes later the watchkeeping officer received the following distress message on MF:

> ***Mayday, Mayday, Mayday. This is MV LIST/5LAC, MV LIST/5LAC. Mayday. Position 37.15 N 43.20 W. Explosion in hold No. 3. Ship developed a leak and is sinking. Have 2 lifeboats and 1 liferaft. Require immediate assistance. Over.***

M.v. "ORADA", which was in position 37.38 N 42.31 W, acknowledged the distress message, altered her course and proceeded at a speed of 18 knots to the distressed ship immediately. She expected to reach the vessel at 15.00 hrs UTC, two and a half hours after receiving the distress alert.
Three other vessels also acknowledged the distress alert from the sinking ship and altered their courses to proceed to the scene of distress.
Motor vessel "TUNA" had a speed of 16 knots. Her ETA was 16.00 hrs UTC.
Motor vessel "DOLPHIN" expected to reach the distressed ship at 16.30 hrs UTC. She had only a speed of 14 knots.
Steamship "BRANCIN" was the nearest to the scene of disaster but, having a speed of 12 knots, she expected to reach the distress position only by 16.45 hrs UTC.
These four ships picked up the next and the last distress message from the motor vessel "LIST" which read as follows:

> ***Mayday, Mayday, Mayday. This is LIST/5LAC. position 37.15 N 43.20 W. Mayday. I am sinking. 2 lifeboats and 1 liferaft lowered. Number of crew 25. Have portable emergency station available. Standing by on channel 1-6. Over.***

MV "ORADA" acknowledged this message as follows:

> ***Mayday. LIST/5LAC. This is MV ORADA TR6U. Mayday received. Advise you use drift anchor to keep position. I am taking over the duties of co-ordinator surface search according to IAMSAR. Over.***

Since this message was not acknowledged by "LIST", the motor vessel "ORADA" sends the following message:

Mayday relay, Mayday relay, Mayday relay. This is 'ORADA' TR6U.
Following received from MV LIST/5LAC: Time: 16.35 UTC:
Mayday. This is MV LIST/5LAC. Position 37.15 N 43.20 W.
Explosion in hold No. 3. Ship developed a leak and is sinking. Have 2 lifeboats and 1 liferaft. Require immediate assistance. Please acknowledge.
This is 'ORADA
Over

Three other vessels declared their readiness to take part in search and rescue and accepted the MV "ORADA" as Co-ordinator of Surface Search (or On-Scene Commander, OSC).
All necessary preparations for search and rescue were made.
Lifeboats were cleared for lowering, boat ladders, ropes and net slings were rigged and crew members kept a sharp lookout.
Continuous listening watch was kept but no further message was received neither from the wreck nor from the lifeboats or the raft.

Example 2: On-Scene SAR communication exchanges:
(adapted from P. Trenkner: ***Search and Rescue Operations*, Rostock 1989**

CSS Co-ordinator Surface Search (or OSC)
Ship in distress: sailing yacht SAGENA
Ships engaged on the scene of SAR operations:
MV "Manta Ray" (MR)
MV "Sushi" (SU)
MV "Hake" (HK)

CSS: Mayday. All ships in vicinity.
This is MV "Mullet"/PPAL, MV "Mullet"/PPAL, MV "Mullet"/PPAL.
I arrived at the position of distress.
No lifeboats or other appliances of sailing yacht "Sagena" sighted.
We start search according to pattern one IAMSAR Manual.
Datum is marked by a floating working raft with orange smoke buoy.
Wind force is 5 from NNW, sea is rough and a swell of force 3 is coming from W.
Listen please stand by on 2182 kHz for further information.
Over.

MR: Mayday "Mullet"/PPAL. This is MV. "Manta Ray"/6 AAK on channel 1-6.
Message understood. Over.

CSS: Mayday "Manta Ray"/6 AAK. This is m.v. "Mullet"/PPAL.
Assistance has been offered by two other ships.
These are MV "Hake"/FZAP and MV "Sushi"/TFFC.
I have assumed the duty of CSS. Over.

MR: Mayday "Mullet". This is "Manta Ray". Message received. I am
waiting for your instructions. Over.

CSS: Mayday to all ships engaged in SAR for sailing yacht "Sagena" This is MV "Mullet",
Co-ordinator Surface Search.
We will proceed according to Search Pattern 4 of IAMSAR.
We will begin at 1645 hours UTC.
Initial course will be 121 degrees, search speed 10 knots,
starting eight miles NNW of datum.
Your directions are as follows:

Hake:	Track 4, initial position 2614 N 3220 W
Sushi:	Track 1, initial position 2616 N 3227 W
Mullet:	Track 2, initial position 2618 N 3224 W
Manta Ray:	Track 3, initial position 2620 N 3221 W

Please switch to channel 1-9 and repeat starting time,
initial course, initial speed, track number and initial
position. Over.

SU Mayday CSS "Mullet". This is m.v. "Sushi". Repetition of
directions: Begin 1645 hours utc, course 121 degrees, speed
10 knots, I follow track no. 1, initial position 2616 N 3227 W -
over.

HK: Mayday. MV "Mullet". This is MV. "Hake". I repeat:
start 1745 hours, correction 1645 hours UTC. Course 121 degrees,
speed 10 knots. My track is no. 4, initial position 2614 N 3232 W. Over.

MR: Mayday CSS. This is MV "Manta Ray". I repeat your orders:
start at 1645 hours, course 121, speed 10 knots, track for me is
no. 3, starting position 2620 N 3221 W. Over.

HK: Mayday. CSS "Mullet". This is MV "Hake". I have sighted two life-rafts with
survivors on board, number unknown so far. Bearing 273 degrees, distance
approximately 3.5 miles. Over.

CSS: Mayday all SAR ships. This is CSS "Mullet".
M.V. "Hake" has sighted survivors.
Instruction: proceed to position 2607 N 3231W.
"Hake", please prepare to pick up survivors and report back within 30 minutes. Over.

HK: Mayday CSS "Mullet". This is "Hake". I will pick up all the seven survivors. Doctor or medical assistance is not required. Over.

CSS: Mayday all SAR ships. This is MV "Mullet". SAR for sailing yacht "Sagena" finished. All crew in on board MV "Hake" which is bound to Brest. France.
You may proceed, thanks for your assistance. Silence fini. Out.

4.4
Search and Rescue (SAR) in Canada

Rescue Co-ordination and Alerting

Rescue Co-ordination Centres and Maritime Rescue Sub-Centres

The Canadian Coast Guard jointly staffs three Rescue Coordination Centres (RCCs) with the Canadian Forces. The RCCs are located at Victoria, British Columbia, Trenton, Ontario, and Halifax, Nova Scotia. The Canadian Coast Guard also operates two Maritime Rescue Sub-Centres (MRSCs) at Quebec City, Quebec, and St. John's, Newfoundland. The function of a MRSC is to reduce the RCC's workload in areas of high marine activity. These centres are staffed by SAR Co-ordinators who operate 24 hours a day, seven days a week, year round. The maritime area for which the Canadian RCCs/MRSCs are collectively responsible for is more than 5.3 million square kilometres.

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On-Scene Co-ordinator

In large searches involving many resources, an On-Scene Co-ordinator (OSC) for the incident may be chosen by the SAR Co-ordinator. The OSC is the local contact for the SAR Co-ordinator. The OSC gives direction to the resources involved on where and how to search and regularly reports progress. The OSC is usually the Commanding Officer of a government vessel with an experienced crew.

Rescue Alerting, Detection and Communications

Visual, audible and electronic methods are used by vessels to indicate distress. Visual methods include items such as distress flares and international signal flags. Audible methods include whistles and horns. Electronic methods include radios and beacons. The following are a few highlights.

For IMO recommended communications see SMCP 2001 and ITU International Code of Signals (ICS).

The most useful www site can be found at: **IMLA INTERNATIONAL MARITIME ENGLISH CONFERENCE (IMEC), formerly WOME:** http://home.planet.nl/~kluijven/

LES 105 - MSG 2380 - SAR Distress Call to Area: 40 N 19 E 100 - NoPos FM MRCC ROME TO ALL SHIPS IN IONIAN SEA BT UNCLAS IN POSITION 39 34N - 018 37E HAS BEEN RESCUED SIX ALIVE CASTAWAYS AND SIX DEAD BODIES. OTHERS MISSING PERSONS ARE PRESUMED LOST AT SEA. SAR OPERATION UNDERWAY IN AREA. ALL SHIPS TRANSITING THE AREA ARE REQUESTED TO KEEP A SHARP LOOKOUT REPORTING ANY SIGHT TO MRCC ROME AT FOLLOWING NUMBER : PHONE 0039 06 5924145 - 5908409 - 59084527 FAX 0039 06 5922737 - 59084793 TELEX 43 611172 -.614156 BT ++++

5. (Part 5) ROUTINE COMMUNICATIONS

(under construction)

For routine voice (VHF) communications concerning ship handling operations, cargo operations, navigation, collision regulations, etc. see also relevant units in:

- *The Seafarers' Language Course*, Conrad Publ., 1985 (+ cassettes)
- Pritchard, B. (2000), *Maritime English*, Udine, Del Bianco Editore
- Kluijven, Peter: *IMLA-IMEC website for Maritime English*:
  http://home.planet.nl/~kluijven/

SUPPLEMENTS

(recommended reading from the internet websites):

1.

Universal Shipborne Automatic Identification System (AIS) Transponder

What is a Universal AIS?

Picture a shipboard radar display, with overlaid electronic chart data, that includes a mark for every ship of length 20m or greater (except, perhaps, commercial fishing vessels) within radio range, each as desired with a velocity vector (indicating speed and heading). Each ship "mark" could reflect the actual size of the ship, with position to GPS or differential GPS accuracy. By "clicking" on a ship mark, you could learn the ship name, classification, call sign, registration number, MMSI, and other vital information. Maneuvering information, closest point of approach (CPA), time to closest point of approach (TCPA) and other navigation information, more accurate and more timely than information available from an automatic radar plotting aid, could also be available. Display information previously available only to modern vessel traffic service operations centers would now be available to every AIS-equipped ship. With this information, you could call any ship over VHF radiotelephone by name, rather than by "ship off my port bow" or some other imprecise means. Or you could dial it up directly using GMDSS equipment.

The Universal AIS is a shipboard broadcast transponder system, operating in the VHF maritime band, that is capable of sending such ship information as identification, position, heading, ship length, beam, type, and draught, hazardous cargo information, to ships and to shore. It is capable of handling well over 2,000 reports per minute and updates as often as every two seconds. It uses Self-Organizing Time Division Multiple Access (SOTDMA) technology to meet this high broadcast rate and ensure reliable ship-to-ship operation. The system is backwards compatible with digital selective calling systems, allowing shore-based GMDSS systems to inexpensively establish AIS operating channels and identify and track AIS-equipped vessels, and is intended to fully replace existing DSC-based transponder systems.

How Does it Work?

Each AIS system consists of one VHF transmitter, two VHF TDMA receivers, one VHF DSC receiver, and a standard marine electronic communications link (IEC 61162/NMEA 0183/2000) to shipboard display and sensor systems. Position and timing information is normally derived from an integral or external global navigation satellite system (e.g. GPS) receiver, including a medium frequency differential GNSS receiver for precise position in coastal and inland waters. Other information, if available, broadcast by the AIS is electronically obtained from shipboard equipment through standard marine data connections. Heading information and course and speed over ground would normally be provided by all AIS-equipped ships. Other information, such as rate of turn, angle of heel, pitch and roll, and destination and ETA could also be provided.

The AIS transponder normally works in an autonomous and continuous mode, regardless of whether it is operating in the open seas or coastal or inland areas. Transmissions use 9.6 kb GMSK FM modulation over 25 or 12.5 kHz channels using HDLC packet protocols. Although only one radio channel is necessary, each station transmits and receives over two radio channels to avoid interference problems, and to allow channels to be shifted without communications loss from other ships. The system provides for automatic contention resolution between itself and other stations, and communications integrity is maintained even in overload situations.

Each station determines its own transmission schedule (slot), based upon data link traffic history and knowledge of future actions by other stations. A position report from one AIS station fits into one of 2250 time slots established every 60 seconds. AIS stations continuously synchronize themselves to each other, to avoid overlap of slot transmissions. Slot selection by an AIS station is randomized within a defined interval, and tagged with a random timeout of between 0 and 8 frames. When a station changes its slot assignment, it pre-announces both the new location and the timeout for that location. In this way new stations, including those stations which suddenly come within radio range close to other vessels, will always be received by those vessels.

The required ship reporting capacity according to the IMO performance standard amounts to a minimum of 2000 time slots per minute, though the system provides 4500 time slots per minute. The SOTDMA broadcast mode allows the system to be overloaded by 400 to 500% and still provide nearly 100% throughput for ships closer than 8 to 10 NM to each other in a ship to ship mode. In the event of system overload, only further away targets will be subject to drop-out, in order to give preference to nearer targets that are a primary concern ship operators. In practice, the capacity of the system is unlimited allowing for a great number of ships to be accommodated at the same time.

The system coverage range is similar to other VHF applications; i.e. quasi-optically depending on the height of the antenna. Its propagation is slightly better than that of radar, due to the longer wavelength, so it's possible to "see" around bends and behind islands if the land masses are not too high. A typical value to be expected at sea is nominally 20 nautical miles. With the help of repeater stations, the coverage for both ship and VTS stations can be improved considerably.

AIS Frequencies

The International Telecommunications Union World Radio Conference in 1997 designated two VHF radio frequencies: 161.975 MHz (channel 87B) and 162.025 MHz (channel 88B) for AIS. In the US, the first channel is owned by MariTEL, a public coast station operator, and the second by the federal government. The USCG is negotiating with both MariTEL and the National Telecommunications and Information Administration for the use of both those frequencies for AIS purposes.

IMO Carriage Requirement

The 72nd Session of the IMO's Maritime Safety Committee decided the following ships will be required to carry AIS equipment:

All ships of 300 gross tonnage and upwards engaged on international voyages and cargo ships of 500 gross tonnage and upwards not engaged on international voyages and passenger ships irrespective of size shall be fitted with AIS, as follows:

- ships constructed on or after 1 July 2002;
- ships engaged on international voyages constructed before 1 July 2002;
- in the case of passenger ships, not later than 1 July 2003;
- in the case of tankers, not later than the first "safety equipment survey" after 1 July 2003;
- in the case of ships, other than passenger ships and tankers, of 50,000 gross tonnage and upwards, not later than 1 July 2004;
- in the case of ships, other than passenger ships and tankers, of 10,000 gross tonnage and upwards but less than 50,000 gross tonnage, not later than 1 July 2005;
- in the case of ships, other than passenger ships and tankers, of 3,000 gross tonnage and upwards but less than 10,000 gross tonnage, not later than 1 July 2006; and
- in the case of ships, other than passenger ships and tankers, of 300 gross tonnage and upwards but less than 3,000 gross tonnage, not later than 1 July 2007.

Ships not engaged on international voyages, and many US ships subject to the Bridge-to-bridge Radiotelephone Act may also be required to carry AIS equipment.

For more AIS information:

USCG Office of VTS Reference Library (more AIS information)
USCG AIS Briefs
Ports and Waterways Safety System Homepage

2.

Digital Selective Calling

Digital Selective Calling Communications

The Coast Guard has begun offering a new MF/HF radiotelephone service to mariners as part of the new Global Maritime Distress and Safety System. This new service, called digital selective calling (DSC), will allow mariners to instantly send an automatically formatted distress alert to the Coast Guard or other rescue authority anywhere in the world. Digital selective calling will also allow mariners to initiate or receive distress, urgency, safety and routine radiotelephone calls to or from any similarly equipped vessel or shore station, without requiring either party to be near a radio loudspeaker. DSC acts like the dial and bell of a telephone, allowing you to "direct dial" and "ring" other radios, or allow others to "ring" you, without having to listen to a speaker. New VHF and HF radiotelephones have or soon will have DSC capability.

On February 1, 1999, the Safety of Life at Sea (SOLAS) Convention, a treaty document, will require all passenger ships and most other ships 300 grt and larger on international voyages, including all cargo ships, to carry DSC- equipped radios. Ships will be allowed to turn off their 2182 kHz radio listening watch on that date, and their VHF channel 16 listening watch on February 1, 2005.

It will not be possible to initiate radio Communications with these vessels outside the U.S. territorial limit without DSC-capable radios after these listening watches are suspended. These ships, however, will still be required to keep watch on the VHF bridge-to-bridge voice channel 13, and the U.S. Coast Guard plans to require these ships to continue their channel 16 watch within U.S. territorial waters, at least until VHF DSC facilities can be established on shore.

Because of the safety problems that lack of communications interoperability would cause between SOLAS-regulated vessels (mostly cargo ships) and other vessels (recreational boaters, commercial fishing vessels, etc.), the Coast Guard petitioned the Federal Communications Commission in 1992 to require all marine radios made or sold in the U.S. have a DSC capability. The Coast Guard also asked the Radio Technical Commission for Maritime Services (RTCM), a non-profit standards organization, to develop a standard which would allow incorporation of DSC in a marine radio without affecting the low-end market price of that radio. The FCC solicited comments on that petition in 1992 and 1993, and prepared a Notice of Proposed Rulemaking on that and other maritime radiocommunications matters in early 1994. The FCC requested comments concerning that rulemaking from May to November 1995. On 27 June 1997, the FCC adopted a Report and Order requiring radios type accepted on or after 17 June 1999 to include this minimum DSC capability.

USCG Response Policy

USCG Response Policy for MF/HF Digital Selective Calling *(Acrobat PDF)(22 Oct 99)* 

Distress Relays

The single largest operational problem of the U.S. Coast Guard concerning DSC is responding to the large number of MF/HF DSC distress relays being sent by ships. ITU regulations require each relay to be individually acknowledged. The Coast Guard treats each distress alert relay as if it were a separate distress. Worse, certain radios insert the identity of a ship sending a relay, rather than a ship sending a distress, into the menu of a relay message, and ship operators are transmitting this relay falsely identifying the ship in distress to Coast Guard rescue coordination centers. The USCG requests that vessels **not** relay any DSC distress message which has already been acknowledged. If you do relay a distress message, make sure the identity of the vessel in distress is correct, and send the relay to a USCG radio station using an identity such as 003669999, rather than sending it to all ships.

IMO Flowcharts

The International Maritime Organization Communications and Search & Rescue Subcommittee released COMSAR Circular 21 of 25 January 2000, which includes simplified flowcharts on the actions a person on a ship should perform on receipt of a distress alert using DSC-equipped radios. Documents are in Acrobat PDF format.

- Actions on receipt of a VHF DSC distress alert
- Actions on receipt of a MF/VHF DSC distress alert
- Actions on receipt of an HF DSC distress alert
- Complete COMSAR Circular

DSC Forum

As a result of delays and questions associated with the implementation of DSC, the US Coast Guard has agreed to host a web-based **Internet discussion forum on DSC** technical and operational issues. We are encouraging the technical experts around the world who helped design and who use DSC to participate in this forum, and we encourage those who have used the system to also participate. The forum is "threaded", which means that comments from different individuals on a given subject are grouped together, with replies connected to the message being replied to. The purpose of establishing this forum is to help identify and resolve problems associated with DSC discovered during its implementation.

By participating in the Forum, you agree to act in a courteous and professional manner. Do not post offensive or inappropriate material, or engage in personal attacks on other participants.

Vessel tracking and position fixing

The new Universal Shipborne Automatic Identification System will be backwards compatible to DSC, allowing countries having GMDSS A1 areas to establish AIS operating frequencies, and additionally identify and track vessels equipped with AIS.

Classes of Digital Selective Calling

The DSC protocol is defined by ITU-R (CCIR) Recommendation M.493-9, adopted and now available from the International Telecommunications Union in Geneva, Switzerland. DSC operation is defined by ITU-R Recommendation M.541-8.

Class A:

All DSC options provided. Required on MF/HF radios used by SOLAS-regulated ships. Class A includes polling and vessel tracking, data and telex connection in addition to voice, and optional means for canceling a distress alert.

Class B:

Required on VHF and MF radios used by SOLAS-regulated ships. Class B required capabilities include:

- Distress call
- All-ships call
- Individual station call
- Semi-automatic/automatic service call
- Use of distress, urgency, safety and routine priorities
- Nature of distress
- Distress coordinates
- Time for last (distress) position update
- Type of subsequent communications
- Distress relay
- Distress acknowledgment
- Test call (for MF/HF only)
- Radio frequency or channel
- Display
- Receive geographical area calls
- Alarm

- Optional means for canceling a distress alert

Optional expansion to DSC protocol..

- USCG Notice to Mariners MF/HF DSC Guidelines (pdf)
- DSC Operational Procedures for Ships
- How Digital Selective Calling Works
- Maritime Mobile Service Identities Explained
- Why Coast Guard Supports DSC on Marine Radios

3.

DSC Operational Procedures for Ships

Contents

Introduction - Where these procedures came from

The following procedures were adapted from the International Telecommunications Union, Radiocommunications Study Group Recommendation M.541, Operational Procedures for the use of Digital Selective-Calling (DSC) Equipment in the Maritime Mobile Service.

Operating procedures may vary somewhat among different radios, depending upon how the radio is designed, how the radio's software is configured, and how the DSC processor is connected to the radio transceiver.

Distress

Transmission of DSC distress alert

A distress alert should be transmitted if, in the opinion of the Master, the ship or a person is in distress and requires immediate assistance.

A DSC distress alert should as far as possible include the ship's last known position and the time (in UTC) when it was valid. The position and the time may be included automatically by the ship's navigational equipment or may be inserted manually.

The DSC distress alert is transmitted as follows:

4. tune the transmitter to the DSC distress channel (2 187.5 kHz on MF, channel 70 on VHF)

5. if time permits, key in or select on the DSC equipment keyboard

   - the nature of distress,
   - the ship's last known position (latitude and longitude),
   - the time (in UTC) the position was valid,
   - type of subsequent distress communication (telephony),

   in accordance with the DSC equipment manufacturer's instructions;

6. transmit the DSC distress alert

7. prepare for the subsequent distress traffic by tuning the transmitter and the radiotelephony receiver to the distress traffic channel in the same band, i.e. 2 182 kHz on MF, channel 16 on VHF, while waiting for the DSC distress acknowledgment.

NOTE - Some maritime MF radiotelephony transmitters shall be tuned to a frequency 1700 Hz lower than 2187.5 kHz, i.e. 2185.8 kHz, in order to transmit the DSC alert on 2187.5 kHz.

Actions on receipt of a distress alert

Ships receiving a DSC distress alert from another ship should normally not acknowledge the alert by DSC since acknowledgment of a DSC distress alert by use of DSC is normally made by coast stations only.

Only if no other station seems to have received the DSC distress alert, and the transmission of the DSC distress alert continues, the ship should acknowledge the DSC distress alert by use of DSC to terminate the call. The ship should then, in addition, inform a coast station or a coast earth station by any practicable means.

Ships receiving a DSC distress alert from another ship should also defer the acknowledgment of the distress alert by radiotelephony for a short interval, if the ship is within an area covered by one or more coast stations, in order to give the coast station time to acknowledge the DSC distress alert first.

Ships receiving a DSC distress alert from another ship shall:

8. watch for the reception of a distress acknowledgment on the distress channel (2187.5 kHz on MF and channel 70 on VHF);

9. prepare for receiving the subsequent distress communication by tuning the radiotelephony receiver to the distress traffic frequency in the same band in which the DSC distress alert was received, i.e. 2182 kHz on MF , channel 16 on VHF;

10. acknowledge the receipt of the distress alert by transmitting the following by radiotelephony on the distress traffic frequency in the same band in which the DSC distress alert was received, i.e. 2182 kHz on MF, channel 16 on VHF:

- "MAYDAY",
- the 9-digit identity of the ship in distress, repeated 3 times,
- "this is",
- the 9-digit identity or the call sign or other identification of own ship, repeated 3 times,
- "RECEIVED MAYDAY".

NOTE - Ships out of range of a distress event or not able to assist should only acknowledge if no other station appears to acknowledge the receipt of the DSC distress alert.

Distress traffic

On receipt of a DSC distress acknowledgment the ship in distress should commence the distress traffic by radiotelephony on the distress traffic frequency (2182 kHz on MF, channel 16 on VHF) as follows:

11. "MAYDAY",

12. "this is",
13. the 9-digit identity and the call sign or other identification of the ship,
14. the ship's position in latitude and longitude or other reference to a known geographical location,
15. the nature of distress and assistance wanted,
16. any other information which might facilitate the rescue.

Transmission of a DSC distress relay alert

A ship knowing that another ship is in distress shall transmit a DSC distress relay alert if

- the ship in distress is not itself able to transmit the distress alert,
- the Master of the ship considers that further help is necessary.

The DSC distress relay alert is transmitted as follows:

19. tune the transmitter to the DSC distress channel (2187.5 kHz on MF, channel 70 on VHF),
20. select the distress relay call format on the DSC equipment, key in or select on the DSC equipment keyboard:
    - All Ships Call or the 9-digit identity of the appropriate coast station,
    - the 9-digit identity of the ship in distress, if known,
    - the nature of distress,
    - the latest position of the ship in distress, if known,
    - the time (in UTC) the position was valid (if known),
    - type of subsequent distress communication (telephony);
    - transmit the DSC distress relay call,
21. prepare for the subsequent distress traffic by tuning the transmitter and the radiotelephony receiver to the distress traffic channel in the same band, i.e. 2182 kHz on MF and channel 16 on VHF, while waiting for the DSC distress acknowledgment.

Acknowledgment of a DSC distress relay alert received from a coast station

Coast stations, after having received and acknowledged a DSC distress alert, may if necessary, retransmit the information received as a DSC distress relay call, addressed to all ships, all ships in a specific geographical area, a group of ships or a specific ship.

Ships receiving a distress relay call transmitted by a coast station shall not use DSC to acknowledge the call, but should acknowledge the receipt of the call by radiotelephony on the distress traffic channel in the same band in which the relay call was received, i.e. 2182 kHz on MF, channel 16 on VHF.

Acknowledge the receipt of the distress alert by transmitting the following by radiotelephony on the distress traffic frequency in the same band in which the DSC distress relay alert was received:

22. "MAYDAY",
23. the 9-digit identity or the call sign or other identification of the calling coast station,
24. "this is",
25. the 9-digit identity or call sign or other identification of own ship,
26. "RECEIVED MAYDAY".

Acknowledgment of a DSC distress relay alert received from another ship

Ships receiving a distress relay alert from another ship shall follow the same procedure as for acknowledgment of a distress alert, given above.

Cancellation of an inadvertent distress alert (distress call)

A station transmitting an inadvertent distress alert shall cancel the distress alert using the following procedure:

27. Immediately transmit a DSC "distress acknowledgment" in accordance with Recommendation ITU-R M.493, 8.3.1 e.g. with own ship's MMSI inserted as identification of ship in distress. *(NOTE: This feature is not yet generally available on DSC-equipped radios)*
28. Cancel the distress alert aurally over the telephony distress traffic channel associated with each DSC channel on which the "distress call" was transmitted.
29. Monitor the telephony distress traffic channel associated with the DSC channel on which the distress was transmitted, and respond to any communications concerning that distress alert as appropriate.

Back to Contents

Urgency

Transmission of urgency messages

Transmission of urgency messages shall be carried out in two steps:

- announcement of the urgency message,
- transmission of the urgency message.

The announcement is carried out by transmission of a DSC urgency call on the DSC distress calling channel (2187.5 kHz on MF, channel 70 on VHF).

The urgency message is transmitted on the distress traffic channel (2182 kHz on MF, channel 16 on VHF).

The DSC urgency call may be addressed to all stations or to a specific station. The frequency on which the urgency message will be transmitted shall be included in the DSC urgency call.

The transmission of an urgency message is thus carried out as follows:

Announcement:

32. tune the transmitter to the DSC distress calling channel (2 187.5 kHz on MF, channel 70 on VHF);
33. key in or select on the DSC equipment keyboard:
    - All Ships Call or the 9-digit identity of the specific station,
    - the category of the call (urgency),
    - the frequency or channel on which the urgency message will be transmitted,
    - the type of communication in which the urgency message will be given *(e.g. radiotelephony)*, in accordance with the DSC equipment manufacturer's instructions;
34. transmit the DSC urgency call.

Transmission of the urgency message:

35. tune the transmitter to the frequency or channel indicated in the DSC urgency call;
36. transmit the urgency message as follows:
    - "PAN PAN", repeated 3 times,
    - "ALL STATIONS" or called station, repeated 3 times,
    - "this is",
    - the 9-digit identity and the call sign or other identification of own ship,
    - the text of the urgency message.

Reception of an urgency message

Ships receiving a DSC urgency call announcing an urgency message addressed to all ships shall NOT acknowledge the receipt of the DSC call, but should tune the radiotelephony receiver to the frequency indicated in the call and listen to the urgency message.

Back to Contents

Safety

Transmission of safety messages

Transmission of safety messages shall be carried out in two steps:

- announcement of the safety message,
- transmission of the safety message.

The announcement is carried out by transmission of a DSC safety call on the DSC distress calling channel (2187.5 kHz on MF, channel 70 on VHF).

The safety message is normally transmitted on the distress and safety traffic channel in the same band in which the DSC call was sent, i.e. 2182 kHz on MF, channel 16 on VHF.

The DSC safety call may be addressed to all ships, all ships in a specific geographical area or to a specific station.

The frequency on which the safety message will be transmitted shall be included in the DSC call.

The transmission of a safety message is thus carried out as follows: **Announcement:**

39. tune the transmitter to the DSC distress calling channel (2187.5 kHz on MF, channel 70 on VHF);
40. select the appropriate calling format on the DSC equipment (all. ships, area call or individual call);

41. key in or select on the DSC equipment keyboard:
    - specific area or 9-digit identity of specific station, if appropriate,
    - the category of the call (safety),
    - the frequency or channel on which the safety message will be transmitted,
    - the type of communication in which the safety message will be given *(e.g. radiotelephony)*,

    in accordance with the DSC equipment manufacturer's instructions;
42. transmit the DSC safety call.

Transmission of the safety message:

43. tune the transmitter to the frequency or channel indicated in the DSC safety call;
44. transmit the safety message as follows:
    - "SECURITE", repeated 3 times,
    - "ALL STATIONS" or called station, repeated 3 times,
    - "this is",
    - the 9-digit identity and the call sign or other identification of own ship,
    - the text of the safety message.

Reception of a safety message

Ships receiving a DSC safety call announcing a safety message addressed to all ships shall NOT acknowledge the receipt of the DSC safety call, but should tune the radiotelephony receiver to the frequency indicated in the call and listen to the safety message.

Back to Contents

Public correspondence

DSC channels for public correspondence

VHF

The VHF DSC channel 70 is used for DSC for distress and safety purposes as well as for DSC for public correspondence.

MF

International and national DSC channels separate from the DSC distress and safety calling channel 2187.5 kHz are used for digital selective-calling on MF for public correspondence.

Ships calling a coast station by DSC on MF for public correspondence should preferably use the coast station's national DSC channel.

The international DSC channel for public correspondence may as a general rule be used between ships and coast stations of different nationality. The ships transmitting frequency is 2189.5 kHz, and the receiving frequency is 2177 kHz.

The frequency 2177 kHz is also used for digital selective-calling between ships for general communication.

Transmission of a DSC call for public correspondence to a coast station or another ship

A DSC call for public correspondence to a coast station or another ship is transmitted as follows:

45. tune the transmitter to the relevant DSC channel;
46. select the format for calling a specific station on the DSC equipment;

47. key in or select on the DSC equipment keyboard:
    - the 9-digit identity of the station to be called,
    - the category of the call (routine),
    - the type of the subsequent communication (normally radiotelephony),
    - a proposed working channel if calling another ship.

      A proposal for a working channel should NOT be included in calls to a coast station; the coast station will in its DSC acknowledgment indicate a vacant working channel, in accordance with the DSC equipment manufacturer's instructions;
48. transmit the DSC call.

Repeating a call

A DSC call for public correspondence may be repeated on the same or another DSC channel, if no acknowledgment is received within 5 min.

Further call attempts should be delayed at least 15 min, if acknowledgment is still not received.

Acknowledgment of a received call and preparation for reception of the traffic

On receipt of a DSC call from a coast station or another ship, a DSC acknowledgment is transmitted as follows:

49. tune the transmitter to the transmit frequency of the DSC channel on which the call was received,
50. select the acknowledgment format on the DSC equipment,
51. transmit an acknowledgment indicating whether the ship is able to communicate as proposed in the call (type of. communication and working frequency),
52. if able to communicate as indicated, tune the transmitter and the radiotelephony receiver to the indicated working channel and prepare to receive the traffic.

Reception of acknowledgment and further actions

When receiving an acknowledgment indicating that the called station is able to receive the traffic, prepare to transmit the traffic as follows:

- tune the transmitter and receiver to the indicated working channel;
- commence the communication on the working channel by:
    - the 9-digit identity or call sign or other identification of the called station,
    - "this is",
    - the 9-digit identity or call sign or other identification of own ship.

It will normally rest with the ship to call again a little later in case the acknowledgment from the coast station indicates that the coast station is not able to receive the traffic immediately.

In case the ship, in response to a call to another ship, receives an acknowledgment indicating that the other ship is not able to receive the traffic immediately, it will normally rest with the called ship to transmit a call to the calling ship when ready to receive the traffic.

Back to Contents

Testing the equipment used for distress and safety

Testing on the exclusive DSC distress and safety calling frequency 2 187.5 kHz should be avoided as far as possible by using other methods.

No test transmission should be made on VHF DSC calling channel 70.

Test calls should be transmitted by the ship station and acknowledged by the called coast station. Normally there would be no further communication between the two stations involved.

A test call to a coast station is transmitted as follows:

4. tune the transmitter to the DSC distress and safety calling frequency 2187.5 kHz,
5. key in or select the format for the test call on the DSC equipment in accordance with the DSC equipment manufacturer's instructions,
6. key in the 9-digit identity of the coast station to be called,
7. transmit the DSC call after checking as far as possible that no calls are in progress on the frequency,
8. wait for acknowledgment.

Back to Contents

Special conditions and procedures for DSC communication on HF

General

The procedures for DSC communication on HF are - with some additions described below - equal to the corresponding procedures for DSC communications on MF/HF.

Distress

Transmission of DSC distress alert

DSC distress alert should be sent to coast stations - e.g. in A3 and A4 sea areas on HF - and on MF and/or VHF to other ships in the vicinity.

The DSC distress alert should as far as possible include the ship's last known position and the time (in UTC) it was valid. If the position and time is not inserted automatically from the ship's navigational equipment, it should be inserted manually.

Ship-to-shore distress alert

Choice of HF band

Propagation characteristics of HF radio waves for the actual season and time of the day should be taken into account when choosing HF bands for transmission of DSC distress alert.

As a general rule the DSC distress channel in the 8 MHZ maritime band (8414.5 kHz) may in many cases be an appropriate first choice.

Transmission of the DSC distress alert in more than one HF band will normally increase the probability of successful reception of the alert by coast stations.

DSC distress alert may be sent on a number of HF bands in two different ways:

a) either by transmitting the DSC distress alert on one HF band, and waiting a few minutes for receiving acknowledgment by a coast station;

if no acknowledgment is received within 3 min, the process is repeated by transmitting the DSC distress alert on another appropriate HF band etc.;

b) or by transmitting the DSC distress alert at a number of HF bands with no, or only very short, pauses between the calls, without waiting for acknowledgment between the calls.

It is recommended to follow procedure a) in all cases, where time permits to do so; this will make it easier to choose the appropriate HF band for commencement of the subsequent communication with the coast station on the corresponding distress traffic channel.

Transmitting the DSC alert;

9. tune the transmitter to the chosen HF DSC distress channel (4207.5, 6312, 8414.5, 12577, 16804.5 kHz);

10. follow the instructions for keying in or selection of relevant information on the DSC equipment keyboard as described earlier;

11. transmit the DSC distress alert.

NOTE - Ship-to-ship distress alert should normally be made on MF and/or VHF, using the procedures for transmission of DSC distress alert on MF/HF described earlier.

- Some maritime HF transmitters shall be tuned to a frequency 1700 Hz lower than the DSC frequencies given above in order to transmit the DSC alert on the correct frequency.

In special cases, for example in tropical zones, transmission of DSC distress alert on HF may, in addition to ship-to-shore alerting, also be useful for ship-to-ship alerting.

Preparation for the subsequent distress traffic

After having transmitted the DSC distress alert on appropriate DSC distress channels (HF, MF and/or VHF), prepare for the subsequent distress traffic by tuning the radiocommunication set(s) (HF, MF and/or VHF as appropriate) to the corresponding distress traffic channel(s).

If method b) described above has been used for transmission of DSC distress alert on a number of HF bands:

- take into account in which HF band(s) acknowledgment has been successfully received from a coast station;

- if acknowledgments have been received on more than one HF band, commence the transmission of distress traffic on one of these bands, but if no response is received from a coast station then the other bands should be used in turn.

The distress traffic frequencies are:

HF (kHz):

Telephony	4125	6215	8291	12290	16420
Telex	4177.5	6268	8376.5	12520	16695

MF (kHz):

Telephony	2182
Telex	2174.5

VHF: Channel 16 (156.800 MHZ).

Distress traffic

The procedures described earlier are used when the distress traffic on MF/HF is carried out by radiotelephony.

The following procedures shall be used in cases where" the distress traffic on MF/HF is carried out by radiotelex:

14. The forward error correcting (FEC) mode shall be used unless specifically requested to do otherwise;

15. all messages shall be preceded by:

    - at least one carriage return,

    - line feed,

    - one letter shift,

- the distress signal "MAYDAY";

16. The ship in distress should commence the distress telex traffic on the appropriate distress telex traffic channel as follows:

    - carriage return, line feed, letter shift, the distress signal "MAYDAY",
    - "this is",
    - the 9-digit identity and call sign or other identification of the ship,
    - the ship's position if not included in the DSC distress alert,
    - the nature of distress,
    - any other information which might facilitate the rescue.

Actions on reception of a DSC distress alert on HF from another ship

Ships receiving a DSC distress alert on HF from another ship shall not acknowledge the alert, but should:

17. watch for reception of a DSC distress acknowledgment from a coast station;

18. while waiting for reception of a DSC distress acknowledgment from a coast station:

    prepare for reception of the subsequent distress communication by tuning the HF radiocommunication set (transmitter and receiver) to the relevant distress traffic channel in the same HF band in which the DSC distress alert was received, observing the following conditions:

    - if radiotelephony mode was indicated in the DSC alert, the HF radiocommunication set should be tuned to the radiotelephony distress traffic channel in the HF band concerned;
    - if telex mode was indicated in the DSC alert, the HF radiocommunication set should be tuned to the radiotelex distress traffic channel in the HF band concerned. Ships able to do so should additionally watch the corresponding radiotelephony distress channel;
    - if the DSC distress alert was received on more than one HF band, the radiocommunication set should be tuned to the relevant distress traffic channel in the HF band considered to be the best one in the actual case. If the DSC distress alert was received successfully on the 8 MHZ band, this band may in many cases be an appropriate first choice;

19. if no distress traffic is received on the HF channel within 1 to 2 min, tune the HF radiocommunication set to the relevant distress traffic channel in another HF band deemed appropriate in the actual case;

20. if no DSC distress acknowledgment is received from a coast station within 3 min, and no distress communication is observed going on between a coast station and the ship in distress:

    - transmit a DSC distress relay alert,
    - inform a Rescue Coordination Center via appropriate radiocommunications means.

Transmission of DSC distress relay alert

In case it is considered appropriate to transmit a DSC distress relay alert:

21. considering the actual situation, decide in which frequency bands (MF, VHF, HF) DSC distress relay alert(s) should be transmitted, taking into account ship-to-ship alerting (MF, VHF) and ship-to-shore alerting;

22. tune the transmitter(s) to the relevant DSC distress channel, following the procedures described above;

23. follow the instructions for keying in or selection of call format and relevant information on the DSC equipment keyboard as described earlier;

24. transmit the DSC distress relay alert.

Acknowledgment of a HF DSC distress relay alert received from a coast station

Ships receiving a DSC distress relay alert from a coast station on HF, addressed to all ships within a specified area, should NOT acknowledge the receipt of the relay alert by DSC, but by radiotelephony on the telephony distress traffic channel in the same band(s) in which the DSC distress relay alert was received.

Urgency

Transmission of urgency messages on HF should normally be addressed:

- either to all ships within a specified geographical area,
- or to a specific coast station.

Announcement of the urgency message is carried out by transmission of a DSC call with category urgency on the appropriate DSC distress channel.

The transmission of the urgency message itself on HF is carried out by radiotelephony or radiotelex on the appropriate distress traffic channel in the same band in which the DSC announcement was transmitted.

Transmission of DSC announcement of an urgency message on HF

27. choose the HF band considered to be the most appropriate, taking into account propagation characteristics for HF radio waves at the actual season and time of the day; the 8 MHZ band may in many cases be an appropriate first choice;

28. tune the HF transmitter to the DSC distress channel in the chosen HF band;

29. key in or select call format for either geographical area call or individual call on the DSC equipment, as appropriate;

30. in case of area call, key in specification of the relevant geographical area;

31. follow the instructions for keying in or selection of relevant information on the DSC equipment keyboard as described earlier, including type of communication in which the urgency message will be transmitted (radiotelephony or radiotelex);

32. transmit the DSC call; and

33. if the DSC call is addressed to a specific coast station, wait for DSC acknowledgment from the coast station. If acknowledgment is not received within a few minutes, repeat the DSC call on another HF frequency deemed appropriate.

Transmission of the urgency message and subsequent action

34. tune the HF transmitter to the distress traffic channel (telephony or telex) indicated in the DSC announcement;

35. if the urgency message is to be transmitted using radiotelephony, follow the procedure described in 2. 1;

36. if the urgency message is to be transmitted by radiotelex, the following procedure shall be used:

37. use the forward error correcting (FEC) mode unless the message is addressed to a single station whose radiotelex identity number is known;

38. commence the telex message by:

    - at least one carriage return, line feed, one letter shift,

- the urgency signal "PAN PAN",
- "this is",
- the 9-digit identity of the ship and the call sign or other identification of the ship,
- the text of the urgency message.

Announcement and transmission of urgency messages addressed to all HF equipped ships within a specified area may be repeated on a number of HF bands as deemed appropriate in the actual situation.

Reception of an urgency message

Ships receiving a DSC urgency call announcing an urgency message shall NOT acknowledge the receipt of the DSC call, but should tune the radiocommunication receiver to the frequency and communication mode indicated in the DSC call for receiving the message.

Safety

The procedures for transmission of DSC safety announcement and for transmission of the safety message are the same as for urgency messages, described for Urgency, except that:

- in the DSC announcement, the category SAFETY shall be used,
- in the safety message, the safety signal "SECURITE" shall be used instead of the urgency signal "PAN PAN".

Public correspondence on HF

The procedures for DSC communication for public correspondence on HF are the same as for MF.

Propagation characteristics should be taken into account when making DSC communication on HF.

International and national HF DSC channels different from those used for DSC for distress and safety purposes are used for DSC for public correspondence.

Ships calling a HF coast station by DSC for public correspondence should preferably use the coast station's national DSC calling channel.

Testing the equipment used for distress and safety on HF

The procedure for testing the ship's equipment used for DSC distress, urgency and safety calls on HF by transmitting DSC test calls on HF DSC distress channels is the same as for testing on the MF DSC distress frequency 2187.5 Hz.

4.

Maritime Mobile Service Identity (MMSI)

The International Telecommunications Union

The International Telecommunications Union in Geneva, Switzerland, oversees the use and assignment of maritime mobile service identities. The information contained here is incomplete, adapted from regulations and recommendations of the ITU, and practices within the United States. For complete information, we recommend you obtain the relevant information directly from the ITU.

What MMSIs are

(Adapted from Appendix 43 of the International Telecommunications Union Radio Regulations)

Maritime Mobile Service Identities are formed of a series of nine digits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations, coast stations, coast earth stations, and group calls. These identities are formed in such a way that the identity or part thereof can be used by telephone and telex subscribers connected to the general telecommunications network principally to call ships automatically.

There are four kinds of maritime mobile service identities:

- Ship station identities,
- Group ship station identities,
- Coast station identities,
- Group coast station identities.

The First Digit of an MMSI

The first digit or two of an MMSI means something, and from it you can tell something about the identity:

```
First digit(s) Meaning


     0X                Ship Group identity
     00                Coast station, or Group of Coast Stations
     1                 Not used (the seven digit identity begining with "1"
                         is used by Inmarsat A)
     2                 These are valid MMSI's used by individual ships
     .                                  "
     .                                  "
     7                                  "
     8                 Assigned for Regional Use
     9                 Assigned for National Use
```

Maritime Identification Digits (MID)

A single MID has been allocated to each country. A second MID can be assigned once the MID first or subsequently allocated is more than 80% exhausted and the rate of assignments is such that 90% exhaustion is foreseen. A listing of MIDs assigned to each country is provided in table 1 to Appendix 43 of the ITU Radio Regulations.

A MID always starts with a digit from 2 to 7.

Ship Station Identities

The 9-digit code constituting a ship station identity is formed as follows:

MIDXXXXXX

wherein MID represent the Maritime Identification Digits and X is any figure from 0 to 9.

If the ship is fitted with an **Inmarsat B, C or M** ship earth station, or it is expected to be so equipped in the foreseeable future, then the identity should have three trailing zeros:

MIDXXX000

If the ship is fitted with an **Inmarsat C** ship earth station, or it is expected to be so equipped in the foreseeable future, then the identity could have one trailing zeros:

MIDXXXXX0

If the ship is fitted with an **Inmarsat A** ship earth station, or has satellite equipment other than Inmarsat, then the identity needs no trailing zero.

Group Ship Station Call Identities

Group ship station call identities for calling simultaneously more than one ship are formed as follows:

0MIDXXXXX

where the first figure is zero and X is any figure from 0 to 9. The particular MID represents only the country assigning the group ship station call identity and so does not prevent group calls to fleets containing more than one ship nationality.

Coast Station Identities

Coast station identities are formed as follows:

00MIDXXXX

where the first two figures are zeros and X is any figure from 0 to 9. The MID reflects the country in which the coast station or coast earth station is located.

Group Coast Station Call Identities

Group coast station call identities for calling simultaneously more than one coast station are formed as a subset of coast station identities, as follows:

00MIDXXXX

where the first two figures are zeros and X is any figure from 0 to 9.

5.

IAMSAR Manual: (extract from: http://rofficer.narod.ru/docs/iamsar_c.htm)

Communications

2.1 Distress Communications

2.27 SAR Operations Messages

2.27.1 SAR operations messages include situation reports (SITREPs), search action messages, rescue action messages, "all ships" broadcasts, aircraft alerting messages, and other SAR messages. These messages should be unclassified, in plain language, and require no key to interpret. RCCs should establish a standard sample message file, or computer templates and programs, to aid in quickly drafting and releasing the types of messages used regularly.

RCC-RCC Distress Alert Information Formats

2.27.2 When an RCC must pass distress alert information to another RCC, there is need for consistency of formats and styles, for all essential information to be provided, and for the information to be easily and clearly understandable. Model formats provided in Appendix B have been developed for relay of Inmarsat-C, Inmarsat-E, and DSC distress alerts between RCCs.

RCC Cospas-Sarsat Message Formats

2.27.3 Standard formats have been developed for RCCs to use in communicating with any MCC of the Cospas- Sarsat system when necessary, and for the transfer of information from the MCC to the RCC. Appendix B contains sample formats for these messages.

2.27.4 Whenever new communications sy§tems are being developed, or the alert messages of existing systems are being modifiedf the closer the messages can be made 10 conform to this standard, the better they will serve the SAR system.

Situation Report

2.27.5 The OSC uses a situation report (SITREP) to keep the SMC informed of on-scene mission progress and conditions, and normally addresses SITREPs only to the SMC unless otherwise directed. The SMC uses SITREPs to keep superiors, other RCCs and RSCs, and any other interested agencies informed of mission progress. For cases where pollution or threat of pollution exists as the result of the casualty, the appropriate agency tasked with environmental protection should be an information addressee on all SITREPs.

2.27.6 Often a short SITREP is used to provide the earliest notice of a casualty or to pass urgent details when using the SITREP to request assistance. A full SITREP is used to pass amplifying information during SAR operations, or to inform SAR authorities of the home State of the craft in distress.

2.27.7 Initial SITREPs should be transmitted as soon as details of an incident become clear enough to indicate SAR system involvement, and should not be delayed unnecessarily for confirmation of all details. Further SITREPs should be issued as soon as other relevant information is obtained. Information already passed should not be repeated. During prolonged operations, "no change" SITREPs should be issued at intervals of about three hours to reassure recipients that nothing has been missed. When the incident is concluded, a final SITREP should be issued as confirmation.

2.27.8 While SITREP format is usually established by agency directives, the standard format shown in Appendix I should be used along with standard codes as necessary for international communications between RCCs. Each SITREP concerning the same casualty should be numbered sequentially.

2.27.9 Regardless of format, SITREPs usually provide the following information:

Identification: usually in the subject line,
the SITREP number,
identification of the craft, and
one-or two-word description of the emergency.

The perceived phase of the emergency should be indicated. SITREPs should be numbered sequentially throughout the case. When an OSC is relieved on-scene, the new OSC should continue the SITREP numbering sequence.

(b) Situation: a description of the case, the conditions that affect the case, and any amplifying information that will clarify the problem. After the first SITREP, only changes to the original reported situation need be included.

(c) Action taken: a report of all action taken since the last report, including results of such action. When an unsuccessful search has been conducted, the report includes the areas searched, a measure of effort such as sorties flown or hours searched, and the coverage factor.

(d) Future plans: a description of actions planned for future execution, including any recommendations and, if necessary, a request for additional assistance. Status of case: this is used only on the final SITREP to indicate that the case is closed or that search is suspended pending further! developments.

2.27.10 The SMC should develop a search action plan and a rescue action plan as appropriate. In some situations these plans may be combined into one message.

Search Action Message

2.27.11 After a search action plan is developed as discussed in section 5.13, it is provided to the OSC and SAR facilities on-scene in a search action message. Potential parts of the message are given below. Appendix L contains an example.

2.27.12 The message should include a summary of the on-scene situation, including the nature of the emergency, the last known position, search target description, types of detection aids and survival equipment which survivors may have, present and forecast weather, and SAR facilities on-scene.

2.27.13 The message should include a listing of the search area(s) and sub-areas that can be searched by the SAR facilities in the allotted time.

2.27.14 The message should assign primary and secondary control channels, on-scene, monitor and press channels, and special radio procedures, schedules, or relevant communication factors.

2.27.15 It is better to release the message early. If a "first light" search is being planned, parent agencies providing SAR facilities should typically receive the message at least six hours before departure time. The message can always be expanded or amended later.

2.27.16 The message normally includes six parts:

(a) Situation: includes a brief description of the incident, position, and time; number of persons on board (POBs); primary and secondary search targets, including the amount and types of survival equipment; weather forecast and period of forecast; and SAR facilities on-scene.
(b) Search area(s): presented in column format with headings for area, size, corner points, other essential data.
(c) Execution: presented in column format with headings for area, SAR facility, parent agency, pattern, creep direction, commence search points, and altitude.
(d) Co-ordination: designates the SMC and OSC; SAR facilities on-scene times; track spacings and coverage factors desired; OSC instructions, e.g., on use of datum marker buoys; airspace reservations; temporary sea exclusion zones; aircraft safety instructions; SAR facility change of operational control information if pertinent; parent agency relief instructions; and authorisations for non-SAR aircraft in the area;
(e) Communications: prescribes control channels; on-scene channels; monitor channels; SAR vessel electronic identification; and press channels.
(f) Reports: requirements for 05C reports of on-scene weather, progress and other SITREP information; and for parent agencies to provide at the end of daily operations, e.g., sorties, hours flown, area(s) searched, and coverage factor(s).

Rescue Action Message

2.27.17 In conjunction with the search action plan, the SMC may then develop a rescue action plan. It is provided to the OSC and SAR facilities on-scene fn a rescue action message. Potential parts of the message, similar to those for a search action message, are noted below.

(a) Situation: includes a brief description of the incident; number of persons requiring rescue; extent of injuries; amount and type of survival) equipment; weather forecast and period for forecast; and SAR facilities on-scene.
(b) Rescue area: describes the position of the incident by proper name of the area and latitude and longitude, or by bearing from a known geographical point; and access routes to be followed by SAR facilities.
(c) Execution: gives SAR facilities assigned, including facility call sign and parent agencies providing the SAR facilities; rescue method to be attempted; aerial delivery of supplies or other supporting equipment to SAR facilities and SMC supportive arrangements.
(d) Co-ordination: designates the SMC and OSC; on-scene rendezvous time for SAR facilities; SAR facility change of operational control instructions; parent agency relief instructions; temporary flight restrictions; and authorisation for non-SAR aircraft in the area.
(e) Communications: prescribes control and on-scene channels; call signs of aircraft assigned high- altitude communications relay duties; and any other relevant communications information.
(f) Reports: discusses required OSC to SMC reports and parent activity reports.

2.27.18 The example search action message in Appendix L also generally shows how the rescue action message should be formatted for the information just discussed.

Communication Searches

2.27.19 SMCs conduct communication searches when facts are needed to supplement initially reported information. Efforts are continued to contact the craft, to find out more about a possible distress situation, and to prepare for or to avoid a search effort; Section 3.5 has more information on communication searches.

MEDICO Communications

2.27.20 The ITU List of Radiodetermination and Special Service Stations lists commercial and Government radio stations that provide free medical message service, to ships. These messages should be prefixed with "DH MEDICO!' These messages are normally delivered to RCCs, hospitals or other facilities with which the communications facility has made prior arrangements.

2.27.21 Since SAR services include provision of medical advice and medical evacuations, and since relayed requests for medical advice is an indicator of potential need for a medical evacuation, SAR services and communications facilities used for SAR should support and monitor such communications and offer these services free of charge.

2.27.22 SAR services may provide medical advice either with its own doctors or via arrangements with doctors outside the SAR organisation. (Such doctors should be trained regarding the inherent risks associated with medical emergencies at sea and with medical evacuations, so that these factors can be taken into account in recommendations for treatment or evacuation. However, the final decision about whether it is safe to conduct an evacuation rests with the person in command of the rescue facility tasked with conducting the evacuation.)

2.27.23 There are several enterprises in some States which provide subscription and pay-per-use medical advice to vessels at sea. However, perhaps the best known medical advisory service is Centro Internazionale Radio- Medico (CIRM) in Rome, Italy.

6.

COMSAR\CIRC\21

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INTERNATIONAL MARITIME ORGANIZATION
4 ALBERT EMBANKMENT
LONDON SE1 7SR
Telephone: 0171-735 7611
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E
Ref. T2/6.06 COMSAR/Circ.21
25 January 2000

PROCEDURE FOR RESPONDING TO DSC DISTRESS ALERTS BY SHIPS

1 Introduction

The Sub-Committee on Radiocommunications and Search and Rescue (COMSAR), at its fourth session (12 to 16 July 1999), decided that digital selective calling (DSC) relays of distress alerts on all shipborne DSC equipment should be reduced and prepared a procedure for responding to VHF, VHF/MF and HF distress alerts, given in annexes 1, 2 and 3, recommending that it be displayed on the ship's bridge as A4 size posters. It also prepared the following guidance.

2 Distress relays

2.1 Radio personnel serving on ships should be made aware of the consequences of transmitting a distress relay call and of routeing a DSC distress relay alert to other than coast stations (CS).

2.2 The number of unintended activations of DSC distress alerts and DSC distress relay alerts creates extra work load and confusion to (M)RCCs and also causing delay in the response-time. The original distress alert from a ship in distress should not be disrupted by other ships, by transmitting a DSC distress relay alert.

2.3 Recommendation ITU-R M.541-8 on Operational procedures for the use of DSC equipment in the Maritime Mobile Service identifies only two situations in which a ship would transmit a distress relay call (distress relay alert):

.1 on receiving a distress alert on a HF channel, which is not acknowledged by a coast station within 5 minutes. The distress relay call should be addressed to the appropriate coast station (Annex 1, paragraph 3.4.2 and Annex 3, paragraph 6.1.4); and

.2 on knowing that another ship in distress is not itself able to transmit the distress alert and the Master of the ship considers that further help is necessary. The distress relay call should be addressed to "all ships" or to the appropriate coast station (Annex 3, paragraph 1.4).

2.4 In no case is a ship permitted to transmit a DSC distress relay call on receipt of a DSC distress alert on either VHF or MF channels.

2.5 Distress relay calls on HF channels should be initiated manually.

2.6 Compliance with operational and technical provisions above would prevent transmission of inappropriate distress relay calls.

3 All coast stations call

3.1 Recommendation ITU-R M.493-9 on DSC systems for use in the Maritime Mobile Service provides for "group calls" an address consisting of the characters corresponding to the station's Maritime Mobile Service identity (MMSI) and a number of administrations have already assigned a "group call" MMSI to their coast stations in addition to the coast stations individual MMSI.

3.2 By multilateral agreements, a "group call" MMSI could be assigned to all coast stations of a specific region, e.g., an RCC area and could comply with IMO's requirement without need of introducing further modifications to GMDSS equipment.

3.3 An alternative method to implement an "all coast stations" call without the need to modify Recommendation ITU-R M.493-9 could be to define one MMSI world-wide as an address for all coast stations, in accordance with Nos. S19.100 to S19.126 of the ITU Radio Regulations. However, this solution would also require a modification of the setup at each coast station participating in the GMDSS.

4 Authorization

It should be noted that on ships, distress alerts, distress acknowledgements and distress relay calls can only be transmitted with permission of the Master of the ship.

5 Flow diagrams

5.1 The simplified flow diagrams* given in annexes 1, 2 and 3 describe actions to be taken aboard ships upon receipt of distress alerts from other ships. Administrations should give wide

distribution of these flow diagrams to ships and training institutions.
5.2 Member Governments are invited to bring the above guidance and the annexed flow diagrams to the attention of their shipowners, seafarers, coast stations, RCCs and all others concerned.

* Elements of flow diagrams are shadowed in different shades meaning different colours if printed on a colour printer.

ACTIONS BY SHIPS UPON RECEPTION OF VHF DSC DISTRESS ALERT

REMARKS:
Note1 : Appropriate or relevant RCC and/or Coast Station shall be informed accordingly. If further DSC alerts are received from the same source and the ship in distress is beyond doubt in the vicinity, a DSC acknowledgement may, after consultation with an RCC or Coast Station, be sent to terminate the call.
Note 2: In no case is a ship permitted to transmit a DSC distress relay call on receipt of a DSC distress alert on VHF channel 70.
CS = Coast Station RCC = Rescue Co-ordination Center

LISTEN ON VHF CH 16 FOR 5 MIN RESET SYSTEM INFORM CS ANDOR RCC.
IS THE ALERTACKNOWLEDGEDBY **CS** ANDOR **RCC?**
IS DISTRESS TRAFFIC IN PROGRESS?
IS THE DSC DISTRESS CALL CONTINUING?
IS OWN VESSEL ABLE TO ASSIST?
ACKNOWLEDGE THE ALERT BY **RADIOTELEPHONY** TO THE SHIP IN DISTRESS ON VHF CH 16
ENTER DETAILS IN LOG: *DSC DISTRESS ALERT IS RECEIVED*

ACTIONS BY SHIPS UPON RECEPTION OF VHF / MF DSC DISTRESS ALERT

REMARKS:
Note1 : Appropriate or relevant RCC and/or Coast Station shall be informed accordingly. If further DSC alerts are received from the same source and the
ship in distress is beyond doubt in the vicinity, a DSC acknowledgement may, after consultation with an RCC or Coast Station, be sent to terminate the call.
Note 2 : In no case is a ship permitted to transmit a DSC distress delay call on receipt of a DSC distress alert on either VHF or MF channels.
CS = Coast Station RCC = Rescue Co-ordination Center

LISTEN ON VHF CH 16 / 2182 kHz FOR 5 MIN
RESET SYSTEM, INFORM CS AND OR RCC
IS THE ALERT ACKNOWLEDGED BY **CS** AND OR **RCC?**
IS DISTRESS TRAFFIC IN PROGRESS?
IS THE DSC DISTRESS CALL CONTINUING?
IS OWN VESSEL ABLE TO ASSIST?
ACKNOWLEDGE THE ALERT BY **RADIOTELEPHONY** TO THE SHIP IN DISTRESS
ON VHF CH 16 / 2182 kHz
ENTER DETAILS IN LOG: DSC *DISTRESS ALERT IS RECEIVED*

ACTIONS BY SHIPS UPON RECEPTION OF HF DSC DISTRESS ALERT

NOTE 1 : If it is clear the ship or persons in distress are not in the vicinity and/or other crafts are better placed to assist, superflous communications which could
interfere with search and rescue activities are to be avoided. Details should be recorded in the appropriate logbook.
NOTE 2 : The ship should establish communications with the station controlling the distress as directed and render such assistance as required and appropriate.
NOTE 3 : Distress relay calls should be initiated manually.
CS = Coast Station RCC = Rescue Co-ordination Center

LISTEN ON ASSOCIATED RTF OR NBDP CHANNEL(S) FOR 5 MIN
IS THE ALERT ACKNOWLEDGED OR RELAYED BY CS AND OR RCC?
IS DISTRESS COMMUNICATION IN PROGRESS ON ASSOCIATED RTF CHANNELS?
IS OWN VESSELABLE TOASSIST?
CONTACT RCC VIA MOST EFFICIENT MEDIUM TO OFFER ASSISTANCE
RESET SYSTEM
ENTERDETAILSIN LOG: HF DSC DISTRESS ALERT IS RECEIVED
TRANSMIT DISTRESS RELAY ON HF TO COAST STATION AND INFORM RCC

7.

Ship Reporting Systems

See MAREP/POSREP at: http://home.planet.nl/~kluijven/vhf.html

- **MAREP**
- **POSREP**
- **POLREP**

Navigation in the Dover Strait
http://www.mcga.gov.uk/publications/SITE/safetyofnavigation/pdf/mgn128.htm

Note to Shipowners, Masters and all concerned with the Navigation of Seagoing Vessels
This note supersedes MGN 29 (M+F)

Summary

Introduction

1.) The Dover Strait and its approaches are among the busiest shipping lanes in the world and pose serious problems for the safety of navigation. The traffic separation scheme, its associated inshore traffic zones, the Channel Navigation Information Service (CNIS) and the mandatory reporting system (referred to as CALDOVREP) have been designed to assist seafarers to navigate these waters in safety. There is therefore a need for careful navigation in this area in accordance with the International Regulations for Preventing Collisions at Sea 1972 (as amended) and for use to be made of the CNIS and the CALDOVREP scheme. MGN 28 contains guidance on the observance of traffic separation schemes in general. Details of the CALDOVREP scheme and CNIS are contained in the Admiralty List of Radio Signals Vol. 6 Part 1 and the Mariner's Routeing Guide for the English Channel and Southern North Sea (BA Chart No.5500).The International Regulations for Preventing Collisions at Sea are to be found in Merchant Shipping Notice No. M1642/COLREG 1.

2.) The number of collisions in the Dover Strait and its approaches has declined since the introduction of the traffic separation scheme and its mandatory application for all ships in 1977. Nevertheless the risk of collision is ever present and heightened if vessels do not comply with the requirements of the scheme, and Rule 10 in particular.

3.) MANDATORY REPORTING SYSTEM

On 1 July 1999, a mandatory reporting system CALDOVREP was introduced, which replaced the existing system MAREP/POSREP.

All vessels over 300gt must report as follows:

i) NE-bound traffic to Gris Nez Traffic via VHF Ch 13 when abeam the Bassurelle lightbuoy (50°33'N;000°58'E).

ii) SW-bound traffic to Dover Coastguard via VHF Ch 11 not later than crossing a line drawn from North Foreland Light (51°23'N;001°27'E) to the Belgian and French borders (51°05'N;002°33'E).

iii) Vessels which are not under command, anchored in the traffic separation scheme, restricted in their ability to manoeuvre or with defective navaids are also required to report.

Inshore Traffic Zones

4.) The French Inshore traffic zone extends from Cap Gris Nez in the north to a line drawn due west near Le Touquet in the South. The English Inshore Traffic Zone (EITZ) extends

from a line drawn from the western end of the scheme to include Shoreham to a line drawn due South from South Foreland.

5.) A vessel of less than 20 metres in length, a sailing vessel and vessels engaged in fishing may, under all circumstances, use the English and the French inshore traffic zones. With respect to the application of Rule 10(d) to other vessels, it is the view of the MCA that, where such a vessel commences its voyage from a location beyond one limit of either zone and proceeds to a location beyond the further limit of that zone, it should use the appropriate lane. Exceptions to this are when a vessel is calling at a port, pilot station or destination or sheltered waters within that zone. In all other cases, vessels should use the appropriate lane of the traffic separation scheme if it is safe to do so, unless some abnormal circumstances exist in that lane. In this context reduced visibility in this area is not considered by the MCA as an abnormal circumstance warranting the use of the zone.

6.) Traffic surveys in the area show that, in general, the interest of safety are best served by excluding from the EITZ as many vessels, other than those with a clear need or right to use it, as possible. Accordingly, the MCA will consider legal action against vessels using the EITZ when they can safely use the appropriate traffic separation lane, (other than those exempted by Rule 10(d). NE-bound vessels voyaging to the Thames or East Coast ports are required to use the NE-bound lane of the scheme where they can safely do so. A ruling on whether in any particular case a Master of a NE-bound vessel is justified on safety grounds in choosing to use the EITZ rather than the NE-bound lane is for the Courts to decide in the light of individual circumstances.

It should be noted that neither CNIS, or HM Coastguard has authority to interpret the Collision Regulations or grant permission for vessels to use the EITZ in contravention of Rule 10(d). Masters deciding that circumstances warrant their use of the EITZ should report their decision to CNIS.

Passage Planning/Crossing Traffic Lanes

7.) Radar surveillance surveys show that many vessels proceeding from the NE Lane towards the Thames and East Coast ports use the MPC buoy as a turning point irrespective of the traffic present in the SW lane. Masters are reminded that crossing the lane in compliance with Rule 10(c) can be made anywhere approximately 5 miles to the NE or SW of the MPC Buoy. In selecting the crossing point regard should be given to traffic in the SW Lane and the need to avoid the development of risk of collision situations with such traffic. Surveillance surveys also indicate that risk of collision increases if cross channel traffic, leaving Dover or the Calais approach channel, shape courses without due regard to the traffic situation in the adjacent lane. Vessels proceeding along the traffic lanes, in meeting their obligations under Rules 15 and 16, are often observed making substantial course alterations and their actions are frequently complicated when traffic converges within a particular lane. Attention is therefore drawn to the need for cross channel traffic to take into account this possible situation arising when passage planning. Consideration should also be given to where the lane is to be crossed so that the collision risk situations can be anticipated and are not allowed to develop.

Regulations for Prevention of Collisions –General

8.) Use of the scheme in accordance with Rule 10 does not in any way alter the over-riding requirement for vessels to comply with the other Rules. In particular, vessels, other than those referred to in Rule 10(k) and Rule 10(l), do not by virtue of using the traffic lanes in accordance with Rule 10 enjoy any privilege or right of way that they would not have elsewhere. In addition, vessels using the traffic separation scheme are not relieved of the requirement to keep a proper look-out and of the requirement to proceed at a safe speed, especially in conditions of restricted visibility, or to make course and/or speed alterations in accordance with Rule 8.

Crossing Traffic

9.) Mariners are reminded that there is a concentration of crossing ferry traffic, including high speed craft, in the Strait. These vessels may make course alterations outside the lanes in order to cross them at right angles.

Rules 10(b)(ii) and 10(b)(iii)
10.) The MCA also wishes to draw attention to Rule 10(b)(iii) which requires vessels normally to join and leave a traffic lane at the termination of the lane. This rule does not preclude a vessel from joining a lane from the side at a small angle to the general direction of traffic flow. Consequently, vessels bound SW from location in the EITZ are advised to join the SW lane as soon as it is safe and practicable to do so.

All vessels are advised to keep clear of boundary separation lines or zones in accordance with Rule 10(b)(ii). Failure to observe this rule has resulted in repeated damage to the CS4 buoy. This buoy is protected by a charted "area to be avoided" (ABTA) by all vessels.

MSPP2D

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December 1999

[MCA File Ref: MNA 5/50/294]

7. 1 MAREP/POSREP

MANDATORY SHIP-REPORTING SYSTEM FOR THE DOVER STRAIT/PAS DE CALAIS

1. CATEGORIES OF SHIPS REQUIRED TO PARTICIPATE IN THE SYSTEM

Ships of 300GT and over are required to participate in the system. This threshold is the same as used in the existing voluntary MAREP scheme (IMO Document SN/Circ. 167, annex, page 4).

Within the coverage area, these arrangements replace the existing MAREP scheme for ships of 300GT and over. However, ships of less than 300GT should continue to make reports under the existing voluntary arrangements in circumstances where they:-

are "not under command" or at anchor in the TSS or its ITZs;

are "restricted in their ability to manoeuvre"; or,

have defective navigational aids.

The MAREP arrangements outside the coverage area of this system remain unchanged.

2. GEOGRAPHICAL COVERAGE OF THE SYSTEM AND THE NUMBER AND EDITION OF THE REFERENCE CHART USED FOR THE DELINEATION OF THE SYSTEM

The system covers a 65 mile stretch of the Dover Strait / Pas-de-Calais and is bounded by a line to the east drawn from North Foreland, through the F3 Light Vessel (at its assigned position of 51□‹23' .82N, 02□‹OO'.62E) to the border between France and Belgium; and by a line to the west drawn from the Royal Sovereign Light Tower, through the Bassurelle Light Buoy (at its assigned position of 50□‹32' .8N, 0□‹57.8E) to the coast of France.

The reference charts are British Admiralty Charts 2449 (1998 edition, scale 1:150,000) and 2451 (1991 edition, scale 1:150,000), and also chart 73 12 of the French Navy Hydrographic and Oceanographic Service (INT 1072) (1994 edition, scale I :375000). Also relevant is the British Admiralty Chart 5500 -Mariners' Routeing Guide English Channel and Southern North Sea.

The area of the reporting system is covered by modern hydrographic surveys and areas of unstable seabed are regularly resurveyed to ensure navigational safety.

3. FORMAT AND CONTENT OF REPORTS, TIMES AND GEOGRAPHICAL POSITIONS FOR SUBMITTING REPORTS, AUTHORITY TO WHOM REPORTS SHOULD BE SENT AND AVAILABLE SERVICES

The reports required from ships entering the area covered by the system are position reports similar to the existing MAREP/POSREP arrangements. The short title for the ship-report is CALDOVREP.

Reports should be made using VHF voice transmissions. However, when reporting to DOVER COASTGUARD, ships can fulfil the reporting requirements of a CALDOVREP through the use of automatic ship identification transponders using VHF/DSC on Channel 70, or equipment conforming to the standards adopted for the Universal AIS Transponder.

A ship may elect, for reasons of commercial confidentiality, to communicate that section of the report which provides information on cargo by non-verbal means prior to entering the system.

3.1 Format

The information given below is derived from the format-type given in paragraph 2 of the appendix to resolution A.85 1 (20).

SHIP REPORTING

Mandatory Ship Reporting Systems

[Federal Register: November 20, 2001 (Volume 66, Number 224)]

Table 169.140--Requirements for Ship Reports ---------- Telegraphy Function Information required ---------- Name of system..... System identifier Ship reporting system WHALESNORTH or WHALESSOUTH. M..... INMARSAT Number.. Vessel INMARSAT number
A..... Ship..... The name, call sign or ship station identity, IMO number, and flag of the vessel.
B..... Date and time of A 6-digit group event. giving day of month (first two digits), hours and minutes (last four digits).
E..... True course..... A 3-digit group indicating true course.
F..... Speed in knots A 3-digit group. and tenths of knots.
H..... Date, time and Entry time expressed point of entry as in (B) and entry into system. position expressed as-(1) a 4-digit group giving latitude in degrees and minutes suffixed with N(north) or S (south) and a 5- digit group giving longitude in degrees and minutes suffixed with E (east) or W (west); or (2) True bearing (first 3 digits) and distance (state distance) in nautical miles from a clearly identified landmark (state landmark)
I..... Destination and Name of port and expected time of date time group arrival. expressed as in (B)
L..... Route information Intended track. ----------

MANDATORY SHIP REPORTING SYSTEM IN THE STRAITS OF MALACCA AND SINGAPORE
(STRAITREP)

REPORTING CONTENT IN STRAITREP

DESIGNATOR	FUNCTION	INFORMATION REQUIRED
A	Ship	Name and call sign
C	Position	A 4-digit group giving latitudes in degrees and minutes suffixed with N (north) or S (south) and a 5-digit group giving longitudes in degrees and minutes suffixed with E (east) or W (west); or
D	Position	True bearing (first 3 digits) and dsitance given in nautical miles from a clearly identifiable point (state landmark)

E	True Course	A 3-digit group
F	Speed in knots and tenths of knots	A 3 digit group
P	Hazardous cargo on board	Indicate "Yes" or "No" to whether vessel is carrying hazardous cargo. If "Yes" the class if applicable.
Q	Defects/damage/defiencies/other limitations	Brief details of defects, deficiencies or other limitations.
R	Description of pollution or dangerous goods lost overboard	Brief details of type of pollution (oil, chemicals, (etc) or dangerous goods lost overboard; position expressed as in (C) or (D)

7. Orders etc.

7.1 Order on summoning of pilots etc.

In pursuance of Section 7 (4) and Section 23 (2) of the Danish Pilotage Act, cf. Consolidated Act no. 529 of 4 August 1989, the following provisions are laid down:
Section 1. Ordering a pilot at Danish pilot stations shall be to the relevant pilot station with the notice specified in Section 2. The order shall include information on:
1) the ship's name, call sign and IMO number,
2) the ship's GT, length, breadth and draught,
3) the ship's estimated time of arrival at the place from which pilotage is required,
4) the ship's speed, and
5) the place to which pilotage is required.

Section 2. For ships arriving from sea, the order shall be placed at least 6 hours before estimated arrival at the place from which pilotage is required, and confirmed or amended 1 hour before the estimated time of arrival, cf., however, Subsection 2.
Subsection 2. For transit pilotage through Route T from the waters around the Skaw to the waters around Bornholm or vice versa, the pilot shall, however, be ordered not less than 12 hours before the estimated time of arrival and confirmed or amended 3 hours before the estimated time of arrival.
Subsection. 3. For ships which must be piloted from harbour, berth or similar, the pilot shall be ordered not less than 4 hours before his services are required. Confirmation and any amendments shall be made not less than 1 hour before the estimated time of departure.
Section 3. The ship's master shall manoeuvre the ship so that the pilot can embark or disembark as quickly and safely as possible.
Subsection 2. If exceptional circumstances prevent the pilot from boarding, pilotage may be carried out from the pilot boat or from land.
Section 4. Unless prevented by exceptional circumstances, the ship's master shall take the pilot boat in tow during pilotage when the pilot so requests.
Section 5. During pilotage, the ship's master shall provide the pilot with all information of significance for the pilotage.
Section 6. Apart from the lights prescribed by international maritime regulations, a vessel carrying out pilotage shall fly a flag the top half of which is white and the bottom half is red. The vessel shall also fly its national flag.
Section 7. Violations of Sections 3-6 shall be punishable by fine.
Section 8. This order shall enter into force on 1 August 2002.
Subsection 2. Order no. 29 of 30 January 1985 on summoning of pilots etc. shall be repealed.
The Royal Danish Administration of Navigation and Hydrography, 4 July 2002

7.2 Order concerning Navigation through the East Bridge and the West Bridge in Storebælt (the Great Belt)

The Danish Maritime Authority, Order No. 55 of 28 January 1999
In pursuance of subsection (4) of section 5, and subsection (3) of section 6, of the promulgation of Safety of Navigation Act, Order No. 587 of 29th September, 1988, and after authorisation by Order No. 694 of 17th August, 1995, the following rules are laid down after consultation with the Ministry of Defence:
1. – This Order contains provisions for navigation, radio reporting, etc. in the area around the East Bridge and the West Bridge in Storebælt.

Chapter 1

Description of the Bridges

East Bridge spanning Østerrenden (the Eastern Channel)

2. – The East Bridge is a suspension bridge, which connects the Island of Sprogø and Sjælland.

The connection spans rest on two foundations on shore, two anchor blocks and 19 bridge piers, 12 towards Sjælland and 7 towards Sprogø. The bridge piers are numbered from 2 to 26 starting from Sjælland.
(2) In the navigation span between the two bridge towers (pylons), Nos. 16 and 17, a traffic separation scheme (Between Korsør and Sprogø) is established. The free vertical clearance is 65 metres at mean sea level. The entrance to the Northbound and the southbound traffic routes is marked with a racon.

West Bridge spanning Vesterrenden (the Western Channel)

3. – The West Bridge is a low-level bridge connecting the islands of Fyn and Sprogø. It rests on 62 bridge piers. The shafts are numbered from 2 to 63, starting from Sprogø.
(2) The eastern navigation span for northbound traffic is established between piers 34 and 35, and the western navigation span for southbound traffic is established between piers 37 and 38. The two navigation spans, which are marked by racons, are separated by two unmarked bridge spans. The navigation spans have a width of 104 metres. Over a width of 70 metres around the centre of the navigation spans the free vertical clearance is 18 metres at mean sea level. Outside this profile the vertical clearance decreases to 16 metres at the piers.
(3) The vertical clearance of the bridge spans on each side of the navigation spans gradually decreases to 5.5 metres in the span closest to Sprogø and to 7.5 metres in the span closest til Fyn.

Chapter 2

Navigation Rules and Regulations

Østerrenden - Eastern Channel

4. – Vessels of 20 metres or more in length shall use the traffic lanes in the traffic separation scheme between Korsør and Sprogø.
(2) Vessels of less than 20 metres in length and sailing vessels are recommended to avoid using the traffic lanes of the traffic separation scheme and instead to use the adjacent connection spans.
(3) Fishing is prohibited in the traffic lanes in the traffic separation scheme.

Vesterrenden - Western Channel

5. – Navigation through the West Bridge is only allowed for vessels of less than 1,000 tons deadweight. Vessels of 1,000 tons deadweight and upwards shall use the appropriate traffic lanes in the traffic separation scheme in the Eastern Channel.
(2) All vessels of 50 BT and upwards wishing to pass the West Bridge shall use the two marked navigation spans. Northbound vessels shall use the eastern navigation span and southbound vessels shall use the western navigation span.
(3) Anchoring and fishing is prohibited in the buoyed navigation lanes. This provision also applies to these lanes' extension of 500 metres on the opposite side of the bridge.
(4) Navigation at right angles to the general direction of traffic flow is prohibited off the navigation spans and within a distance of 500 metres from the bridge.
(5) Attention is drawn to the fact that the current in the Western Channel does not usually run parallel to the general direction of traffic flow in the navigation spans.

Regulations in General

6. – Making fast to and anchoring under either of the bridges is prohibited.

Chapter 3

Vessel Traffic Service (VTS)

7. – In order to assist vessels navigating in the Eastern and Western Channels and further to protect the fixed traffic link a VTS system with a mandatory ship reporting system has been established. The VTS system, which covers the central part of the Storebælt, is called "Great Belt Traffic", and hereafter referred to as “GBT”. GBT is based on and operated in accordance with the provisions of the International Maritime Organization’s (IMO) Resolution on "Guidelines for Vessel Traffic Services".

(2) The reporting system is adopted by IMO as a mandatory ship reporting system.

8. – The following lines limit the VTS area:

1) Northern limit

A line between Sjælland and Fyn following the latitude 55º35'N.

2) Southern limit

A line connecting the following points:

Stigsnæs:	55º12,0'N,	11º15,4'E	(Gulf’s Oil Pier);
Omø:	55º08,4'N,	11º09,0'E	(Ørespids, Omø);
Hov:	55º08,8'N,	10º57,3'E	(Hov Iso. Light);

and a line between the following points:

Langeland W:	55º00,0'N,	10º48,7'E	(South of Korsebølle Rev);
Thurø Rev:	55º01,2'N,	10º44,0'E	(Thurø Rev Light buoy).

See page 13 (Limits of VTS-Area in Storebælt).

9. – The call sign of the VTS system is "Great Belt Traffic" (GBT), and the communication with vessels will be carried out on VHF, channel 11, 10 and 16.

(2) The working period of the VTS system is 24 hours.

10. – The procedures for participating in the reporting system are as follows:

1) Categories of ships required to participate in the ship reporting system in the Great Belt Traffic (GBT) are:

(a) All ships with a gross tonnage equal to or exceeding 50 GT; and
(b) all ships with an air draught of 15 metres or more.

The ships shall report to GBT when entering the VTS area.

2) Preferably GBT shall be called on VHF, channel 11, and the report shall be transmitted on that channel or any other available channel, assigned by GBT.

3) The report shall contain the following information:

Ship’s name and call sign;
Position;
Course (N or S bound);
Speed;
Pilot embarked;
Ship’s route (Østerrenden or Vesterrenden),
Defects and deficiencies; and
Dead weight tonnage and air draft.

4) The report shall be drafted according to Annex.

5) Ships obliged to report to GBT shall do so before leaving a harbour situated within the VTS area.
6) A ship, which is not able to communicate on VHF, shall report to GBT via a Danish coastal radio station two hours prior to the passage of the bridge area. The report, which shall be sent as a telegram with the code word “GBT”, shall also contain information about other possible methods of communication with the ship. The transmission is free of charge.
7) GBT can give advice to ships, which due to their course, size (DWT), or air draught may constitute a risk to the West Bridge. Ships wishing to pass the East or West Bridge can, furthermore, on VHF channel 11 or any other available VHF-channel as assigned by GBT receive information about the present situation in the bridge area, e.g. about buoyage, lights, traffic, wind and current.
8) Information about specific situations concerning safety of navigation in the area will be broadcast by GBT on VHF, channel 11. The broadcast will be preceded by an announcement on channel 16. All ships sailing through the area shall listen to the announced broadcast.
9) The language used for communication shall be Danish or English.

Chapter 4

General Provisions

11. – Ships, which do not have updated navigational information about the area, are recommended to take a pilot before passing the bridge areas.
(2) Attention is called to IMO Resolution A. 620(15) on Navigation through the Entrances to the Baltic Sea. For navigating through Route T, the Resolution recommends i.a. the use of pilotage services for ships with a draft of 13 metres or more and for ships, irrespective of size or draught, when carrying a shipment of class 7 radioactive materials, as specified in paragraph 9.5.2 of the introduction to class 7 of the International Maritime Dangerous Goods Code (IMDG Code). Such ships should also participate in the radio reporting service (SHIPPOS).

Chapter 5

Penalties

12. – Offence committed under this Order shall be punishable by fine.

Annex

Drafting of Reports to Great Belt Traffic (GBT)

Designator	**Function**	**Information required**
System Identifier		**GBT**
A	Ship	Name and call sign
B	Time (UTC)	Only if report has been transmitted via coastal radio station
C	Position	Geographical position by two 4 digit groups, or

D	Position	True bearing and distance given in nautical miles from an identifiable point (state name)
E	Course	North or southbound
F	Speed	In knots (2 digit group)
J	Pilot	State whether a pilot is on board (e.g. PILOT EMBARKED)
L	Route information	State which channel the ship intends to pass (Eastern or Western Channel)
Q	Deficiencies	Brief details of defects, deficiencies or restrictions of manoeuvrability
U	Tonnage/air draft	State ship's deadweight tonnage and air draft (in metres)

7.3 Order on Radio Reporting for Ships with an Air Draught exceeding 35 m Navigating through the Dredged Channel at Drogden in the Sound

In pursuance of Section 1 (3), Section 6 and Section 32 (4) of the Act on Safety at Sea, cf. Consolidated Act no. 554 of 21 June 2000, as amended by Act no. 277 of 8 May 2002, the following provisions are laid down:
Section 1. To ensure the safety of navigation in Drogden and to reduce the risk of collision between an aircraft operating at Copenhagen Airport, Kastrup, and a ship or other floating equipment, a radio reporting system has been established.
Subsection 2. All ships and ships with a tow, with an air draught exceeding 35 m, shall, 30 minutes before passing the dredged channel at Drogden, report the passage to the airport control tower of Copenhagen Airport, Kastrup, on phone no. (+45) 32 47 82 83, via the Danish coast radio station Lyngby Radio, with the following information:
1) ship's name and international call sign,
2) position,
3) course,
4) speed,
5) estimated time of arrival at Drogden, and
6) air draught.
Subsection 3. Transmission of the report is free of charge (collect call).
Section 2. Violations of Section 1, subsection 2, shall be punishable by fine.
Section 3. This order shall enter into force on 5 August 2002.
Subsection 2. Order no. 512 of 22 June 1999 on Radio Reporting for Ships with an Air Draught exceeding 35 m Navigating through the Dredged Channel at Drogden shall be repealed.
The Danish Maritime Authority, 24 July 2002

Navigation through the Entrances to the Baltic Sea

Drafting of Reports to Great Belt Traffic (GBT)

Designator	Function	Information required
System Identifier		**GBT**
A	Ship	Name and call sign
B	Time (UTC)	Only if report has been transmitted via coastal radio station
C	Position	Geographical position by two 4 digit groups, or
D	Position	True bearing and distance given in nautical miles from an identifiable point (state name)
E	Course	North or southbound
F	Speed	In knots (2 digit group)
J	Pilot	State whether a pilot is on board (e.g. PILOT EMBARKED)
L	Route information	State which channel the ship intends to pass (Eastern or Western Channel)
Q	Deficiencies	Brief details of defects, deficiencies or restrictions of manoeuvrability
U	Tonnage/air draft	State ship's deadweight tonnage and air draft (in metres)

7.3 POLREP

5.3 EXAMPLES OF POLREP REPORTS
http://www.bonnagreement.org/eng/html/welcome.html

5.3.1 POLREP EXAMPLE NO. 1

Address	From DK To FRG and NL
Date time group	181100z June
Identification	POLREP BONN AGREEMENT
Serial number	DK 1/2 (DK 1/1 for FRG)
=	=
1 Date and time	1 181000z
2 Position	2 55°33' N - 07°00' E
3 Incident	3 Tanker collision
4 Outflow	4 Crude oil, estimated 3,000 tonnes
41 Position and/or extent of pollution on/above/in the sea	41 The oil is forming a slick 0.5 nautical miles to the South East. Width up to 0.3 nautical miles
42 Characteristics of pollution	42 Venezuela crude. Viscosity 3.780 Cs at 37.8°C. Rather viscous
43 Source and cause of pollution	43 Danish tanker ESSO BALTICA of Copenhagen 22,000 GRT call sign xxxx, in

	collision with Norwegian bulk carrier AGNEDAL of Stavanger, 30,000 GRT, call sign yyy Two tanks damaged in ESSO BALTICA. No damage to the AGNEDAL
44 Wind direction and speed	44 270 - 10m/sec
45 Current direction and speed and/or tide	45 180 - 0.3 knots
46 Sea state and visibility	46 Wave height 2m. 10 nautical miles
47 Drift of pollution	47 135 - 0.4 knots
48 Forecast of likely effect of pollution and zones affected	48 Could reach the island of Sylt, FRG or further south, NL on the 23rd of this month
49 Identity of observer/reporter. Identity of ships on scene	49 Agnedal, number 43 refers
50 Action taken	50 2 Danish strike-teams with high mechanical capacity on route to the area
51 Photographs or samples	51 Oil samples have been taken. Telex 64471 SOK DK
52 Names of other states and organisations informed	52 FRG
53 Spare	53 DENGER PLAN is activated
81 Request for assistance	81 FRG is requested for 2 strike teams with high mechanical pick-up capacity
82 Cost	82 FRG is requested for an approximate cost rate per day of assistance rendered
83 Pre-arrangements for the delivery of assistance	83 FRG units will be allowed to enter Danish territorial waters for combating purposes or Danish harbours for logistics informing SOSC beforehand
84 To where assistance should be rendered and how	84 Rendez-vous 57°30' N - 07°00' E. Report on VHF channels 16 and 67. SOSC, Lieutenant Commander Hansen in GUNNAR SEIDENFADEN, call sign OWAJ
99 ACKNOWLEDGE =	99 ACKNOWLEDGE =

APPENDIX 4

5.3.2 POLREP EXAMPLE No. 2

Address	From FRG To DK
Date time group	182230z June
Identification	POLREP BONN

	AGREEMENT
Serial number	Your DK 1/2 refers
=	=
80 Date and time	80 182020z
82 Cost	82 Total cost per day will be approx .....
84 To where assistance should be rendered and how	84 ETA FRG units at POLREP Bonn Agreement DK 1/2 will be 182100z
=	=

APPENDIX 4

5.3.3 POLREP EXAMPLE No. 3

Address	From DK To N
Date time group	21 0940z June
Identification	URGENT EXERCISE POLREP BONN AGREEMENT
Serial number	DK 1/1
=	=
1 Date and time	1 210830
2 Position	2 57°50' N - 10°00' E
3 Incident	3 Tanker collision
4 Outflow	4 Not yet
5 acknowledge	5 Acknowledge

8. Global Maritime Distress and Safety System (GMDSS)

(Source: CANADIAN COASTGUARD - www.ccg-gcc.gc.ca

What is GMDSS?:

The Global Maritime Distress and Safety System (GMDSS) is a new international system which uses improved terrestrial and satellite technology and ship-board radio-systems to ensure rapid alerting of shore based communication and rescue authorities, in addition to ships in the immediate vicinity, in the event of a marine distress.

This information package provides a brief overview of the Global Maritime Distress and Safety System and its effects on fishers and recreational boaters. The GMDSS is a major change to the international rules governing radio safety equipment on board large ships. At the present time most fishers and recreational boaters are not required to participate in GMDSS. Most mariners will find that some of the traditional maritime radio systems have been upgraded to provide for automated listening and calling. The global implementation of GMDSS services will become effective on February 1, 1999.

Marine VHF radio in the GMDSS:

This information package deals with the terrestrial radio portion of the GMDSS since it is the primary GMDSS system used by fishers and recreational boaters. General Radio Service (Citizen Band radio), and Cellular telephones are not part of GMDSS and the use of these systems will not be changing. The Canadian Coast Guard (CCG) does not recommend cellular telephones as a substitute for the marine radio distress and safety systems in the VHF maritime radio band. A VHF radio also helps ensure that storm warning and other urgent marine information broadcasts are received. The Canadian Coast Guard announces these broadcasts on VHF channel 16. Timely receipt of this information may save your vessel and your life. Additionally, your VHF radio can be used anywhere in North America and overseas.

The primary change in VHF radio is the addition of a feature known as Digital Selective Calling (DSC) which enables ships to maintain the required continuous listening watch on channel 70 (the DSC calling channel) with automatic equipment. Most fishers and recreational boaters are already carrying VHF marine radios, however they are not DSC compatible. A ship's DSC receiver will only respond to the ship's individual, Maritime Mobile Service Identity number, "MMSI" call or an " All Ships" DSC call. After establishing contact on channel 70, both parties will change to an agreed voice channel to communicate. Although fishers and recreational boaters are not currently required to fit DSC, voluntarily fitting DSC equipment is recommended. After GMDSS is fully implemented, vessels without DSC will have difficulty contacting ships which are monitoring the DSC calling channel only. This, however, would not be the case in a vessel traffic services zone where ships will still be required to maintain a listening watch on the appropriate MCTS Vessel Traffic sector frequency.

The Canadian Coast Guards Marine Communications and Traffic Services (MCTS) network of VHF sites will be upgraded to DSC, however the upgrade will not be completed by 1999. It is planned to be completed on the east and west coasts of Canada by 2002. Upon completion of the DSC network, the CCG plans to maintain a listening watch on VHF channel 16, the distress and calling channel, for the benefit of fishers and recreational boaters for the foreseeable future. It is anticipated that the manufacturing industry will gradually shift to producing new models of VHF radios with DSC capability. However, VHF radio without DSC which are presently "type approved", will probably continue to be manufactured. Portable handheld VHF radios will probably not be required to have DSC. Because the revised regulations are not finalized, few manufacturers are producing VHF radios with simplified DSC capability at this time.

Medium Frequency Radio Band:

The Canadian Coast Guard, after having consultations with the Canadian Marine Advisory Council (CMAC), has decided not to fit Medium Frequency DSC. The Canadian Coast Guard has requested input from the Canadian Marine Advisory Council's Working Group on GMDSS on what action we should be taking on the Medium Frequency, distress safety and calling frequency 2182 kHz. The Canadian Coast Guard will evaluate this input and determine the course of action to take. The MCTS system anticipates maintaining the listening watch on 2182 kHz until such time as there is a good supply of inexpensive GMDSS equipment on the market and smaller ships have been fitted with it. However, to say that we would continue a parallel watch on the old and new systems indefinitely would defeat the purpose of the GMDSS.

High Frequency Radio Band:

The Canadian Coast Guard, again in consultation with the Canadian Marine Advisory Council, has decided to equip Iqaluit and Resolute, in the Arctic, with HF/DSC on five bands (4207.5, 6212.0, 8414.5, 12577.0 and 16804.5 kHz). The MCTS Centre at Iqaluit will be upgraded to include narrow-band direct-printing (NBDP) capabilities to provide a Maritime Safety Information broadcast system in the Canadian Arctic.

<u>Maritime Mobile Service Identity (MMSI) Numbers:</u>

In the new DSC calling system the Maritime Mobile Service Identity (MMSI) number is assigned by Industry Canada to a vessel desiring or required to use DSC in the GMDSS. To obtain an MMSI number apply to Industry Canada for a radio station license. MMSI is the nine digit number that your vessel is identified by. The first three digits are the country code so all Canadian vessel numbers begin with 316 (Marine Identification Digits - MID). All Coast Stations numbers begin with 00. i.e. Coast Station - 00, Canadian Identifier - 316, individual station number NNNN, - 00 316 1234.

<u>Other GMDSS Radio Safety Systems:</u>

There are other components of the GMDSS which have proven benefits for maritime safety and which can be used by fishers and recreational boaters on a voluntary basis. The satellite based Emergency Position Indicating Radio Beacon (EPIRB) is a

valuable safety system for vessels. EPIRBs operate on 406 MHz. The 406 EPIRBs transmit a unique identification code which identifies the user. Be sure that you register the EPIRB in accordance with the manufacturers instructions to assist the Canadian Coast Guard in verifying 406 EPIRB alerts.

The Inmarsat -A, B, and C maritime satellite communications systems are acceptable in the GMDSS. The M System, while not approved in the GMDSS , would be suitable for larger recreational vessels. Regional satellite communication systems lack formal GMDSS certification but can be very useful as a safety system for vessels operating in the North American area of coverage, commonly called the satellites footprint.

There are also four systems that broadcast Maritime Safety Information (MSI) including distress alerts, weather warnings and forecasts, and Notices to Mariners:

- **The near shore system is the voice channel, Continuous Marine Broadcast (CMB) service provided by MCTS on VHF frequencies which provide coverage to approximately 40 nautical miles offshore.**

- **The intermediate range NAVTEX broadcast system, transmitted from selected MCTS stations on 518 kHz, provides coverage to about 200 nautical miles offshore. Scheduled NAVTEX broadcasts are received on a special receiver which prints out the broadcasts.**

- **The long range system, HF NBDP, will be providing MSI broadcasts in the Canadian Arctic.**

- **Near global coverage, Enhanced Group Call (EGC) is provided by High seas SafetyNET broadcasts transmitted on the Inmarsat-C system.**

A major concern for the marine community is the excessive number of false alerts that are being experienced in all the GMDSS systems, especially DSC and Inmarsat-C. Large GMDSS compliant vessels are required to carry certified GMDSS operators, however fishers and recreational boaters are permitted to use any GMDSS system appropriate for their area of operations with minimal operator qualification. Since the large percentage of false alerts is attributed to a lack of operator competence, it is especially important that fishers and recreational boaters receive instruction in the proper operation of GMDSS equipment. Instruction is currently available through various colleges and universities across Canada.

Determining an accurate position is a key element in Search and Rescue operations. If your vessel is equipped with a Global Positioning System (GPS) or Loran navigation receiver, you are encouraged to enhance your safety by connecting the navigation receiver to any radio capable of transmitting a pre-formatted distress alert which includes position.

Global Maritime Distress and Safety System

The Global Maritime Distress and Safety System (GMDSS) came into effect on 1 February 1999. GMDSS is a digital electronic communications system which sends distress and safety information. It applies to vessels over 300 Gross Registered Tons and

all international passenger vessels. GMDSS divides the world into four types of communications coverage (sea areas A1 to A4), which determine the appropriate terrestrial or satellite means of communication to use.
In Canada, as a result of consultations with the Canadian maritime industry, it has been decided to implement sea areas A1 on the east and west coasts. Outside of A1 will be an A3 sea area with an A4 sea area in the Arctic.

COSPAS/SARSAT
COSPAS/SARSAT is an international SAR satellite system used to detect and locate signals from distress beacons. Four founding nations, Canada, United States, France, and Russia (formerly USSR) created the COSPAS/SARSAT system. Since inception many other nations have joined. Satellites were first launched in 1982 and 1983, with the first three lives saved during experimental testing of the system. These three people were Canadians involved in an airplane crash in the Rocky Mountains of British Columbia. Since then thousands of lives have been saved using this system.

Beacons
Beacons use radios signals to indicate distress. Each unit has a built-in transmitter and batteries. Two main beacon types interest the Coast Guard: an Emergency Locator Transmitter (ELT), designed for aircraft and an Emergency Position Indicating Radio Beacon (EPIRB), designed for vessels. Both transmit a radio signal when activated. Unlike most ELTs, EPIRBs transmit a coded message that indicates the identity of the beacon in use. The owner of an EPIRB is required to register the beacon with the National Search and Rescue Secretariat. Details such as the owner's name and a description of the vessel are recorded on a computer database. This allows the RCC/MRSC Co-ordinator to look up vital information contained in the EPIRB registry to assist in any rescue. Both ELTs and EPIRBs are detected by COSPAS/SARSAT satellites when activated. A third type of beacon, which operates through the satellites for use on land, is the Personal Locator Beacon class.

Marine Communications and Traffic Services
Marine Communications and Traffic Services (MCTS) is the Branch of the Canadian Coast Guard that provides communications and vessel traffic services to the sea-going public. MCTS monitors for distress radio signals; provides the communications link between vessels in distress and the RCC/MRSC; sends safety information; handles public communication; and, regulates the flow of vessel traffic in some areas. MCTS is an important link in the SAR system.

9.

VTMIS Glossary of Terms & Abbreviations

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Term	Definition
4S	Ship to Shore and Ship to Ship
4S Transponder	Ship/ship and ship/shore radio TDMA transponder
ABM	Asynchronous Balanced Mode
ABR	Available Bit Rate
Accident	See marine accident
ADSL	Asymmetric Digital Subscriber Line
Advice	SMCP message marker, indicating that the following message implies the intention of the sender to influence others by recommendation. The decision whether to follow stays with the recipient [SMCP]
AIS	Automatic Identification System, a term for radio transponders which provide identification and additional data
Allied Services	Services actively involved in the safe and efficient passage of a vessel through a VTS area [IMO 857(20)]
An	Alpha – numeric
ANSI	American National Standards Institute
ANSI X12	An American Standard for the format of electronic messages (cf EDIFACT)
Answer	SMCP message marker, indicating that the following message is the reply to a previous question [SMCP]
API	Application Programming Interfaces
ARIS	Automatic Reporting and Identification System
ARM	Asynchronous Response Model
ARPA	Automatic Radar Plotting Aid [IMO]
ASC	Accredited Standards Committee
ASCII	American Standard Code for Information Interchange
ASP	Active Server Page
ASRS	Automatic Ship Reporting System

ATA	Actual Time of Arrival
ATC	Air Traffic Control
ATD	Actual Time of Departure
ATM	Asynchronous Transfer Mode
AtN	Aid(s) to Navigation
Availability	Probability that a system fulfils its objectives
BAFEGIS	BAltic FErry Guidance and Information System
BCPA	Bearing at Closest Point of Approach
BESYS	BeratungsSYstem Schiffssicherheit (ship's safety consultation system)
B-ISDN	Broadband Integrated Services Digital Network
BOA	Breadth overall
BOPCOM	Baltic Open Port Communications (EU Research Project)
Bps	Bits per second
BREPOS	Bremen Port Operations System
BSH	Bundesamt für Seeschiffahrt und Hydrographie (German hydrographic agency)
CAM	Collision Avoidance Manoeuvre
CBDS	Connectionless Broadband Data service
CBR	Constant Bit Rate
CCITT	Comite Consultatif International pour le Telegraphe et le Telephone
CDSL	Consumer Digital Subscriber Line
CHANGEREP	Change Report
Classification	• Location of a target including a detailed description of the type of vessel [COST 301] • Statistically: Assignment of a target to a certain class of vessels according to various criteria, e.g. type, size. • Also used for quality control by certain Classification Societies
Classification Societies	Societies which perform quality control of vessels according to commonly agreed ship building rules. Roof organisation: IACS (International Association of Classification Societies)

COG	Course Over Ground
Collision	Striking another ship, regardless of whether underway, anchored or moored, striking underwater recks
Competent Authority	Authority made responsible, in whole or in part, by the Government for the safety, including envronmental safety, and efficiency of vessel traffic and the protection of the environment [IMO 857(20)]
Concerted Action	Co-ordination of resarch projects and demonstrations in a particular sector, bringing together EU national administrations and interested parties • to summarize the knowledge on the state of art • to monitor the progress of the research actions • to prepare analyses, reports on certain issues and recommendations
Co-operation with Allied Services, Emergency Services, adjacent VTS	A supporting activity of a VTS involving data exchange and action agreement [IALA VTS Man.]
Co-operative System	- System where twoentities co-operate on a manual or automatic basis, e.g. location and possibly identification
- polling system based on special shipborne equipment	
CORBA	Common Object Request Broker Architecture (middleware)
CPA	Closest point of approach
Crossing Encounter	Encounter of two vessels neither being a head-on nor an overtaking encounter [COLREG Convention]
Dangerous Goods Report (DG)	Report to be sent when an incident takes place involving the loss or likely loss of packaged dangerous goods [IMO 648(16)]
DAT	Digital Audio Tape
DCE	Data Circuit-terminating Equipment
DCPA	Distance to Closest Point of Approach
DCS	Digital Cellular System
DDCMP	Digital Data Communications Message Protocol
DEFREP	Deficiency Report
Demonstrator	Activities to make research results visible,, to demonstrate technical feasibility, to indicate potential cost, to assess the resulting benefits
Detection	To discover the existence of an object. In case of radar systems: detection and location of a target without knowledge of its identity and characteristics

Deviation Report (DR)	Report to be sent when position varies from that predicted from previous reports, when changing reported route, or as decided by the master [IMO 648(16)]
DF	Radio Direction Finder
DFO	Deutsche Fährgesellschaft Ostsee mbH (ferry line)
DGPS	Differential Global Positioning System
DGPS	Differential Global Positioning System
DGVII	Directorate-General VII (Transport) EU
DGXXI	Directorate-General XXI (Customs) EU
Digital Site	Defined geographical area providing common telematic infrastructure and a critical mass of end-users committed to the validation of applications in real life situations
Domain	The area around a ship which the navigator attempts to keep clear of other ships or stationary / drifting objects
DSAP	Destination Service Access Point
DSC Transponder	A radio transponder making use of Digital Selective Calling, which may be a part of a shipborne GMDSS equipment
DSL	Digital Subscriber Line
DTE	Data Terminal Equipment
Duration	Time required to complete an activity
DWD	Deutscher Wetterdienst (German weather service)
EC	European Commission
ECC	Electronic Chart Centre at Stavanger, Norway
ECDIS	Electronic Chart Display and Information System
EDI	Electronic Data Interchange
EDIFACT	Electronic Data Interchange For Administration, Commerce and Transport
Effectiveness	• For traffic: cost effective, undelayed. • For aids to navigation with reference to shipping: availability under stated conditions in a particular locality to enable mariners safely to proceed along a predetermined track • For aids to navigation and VTS with respect to operation: Provision of a service complying with the safety requirements in a given area at minimum costs

EGC	Enhanced Group Call
EIES	European Information Exchange Services between harbours (EU Research Project)
ELAN	Emulated Local Area Network
Emergency Services	Services which become active in case of an incident or accident (SAR, Pollution Combating, Fire Fighting, Medical Service)
ENC	Electronic Navigation Chart
Encounter	Meeting of two vessels (in COST 301 restricted to the penetration of a ship into the domain of another ship or a fixed maritime structure)
Error Circle (Ellipse)	Circle (Ellipse) which contains a specified statistical amount of all possible measurements [COST 301]
ETA	Estimated Time of Arrival
ETD	Estimated time of departure
EU	European Union
EUROREP	European Vessel Reporting System
EWTIS	The European Waters Traffic Information System project (DG XIII)
FEP	Front End Processor
Final Report (FR)	Report to be sent on arrival at a destination and when leaving an area covered by a system [IMO 648(16)]
FTP	File Transfer Protocol
GEGIS	Gefahrgutinformationssystem
Generic VTS	Hypothetical VTS based on typical operation, providing a general frame of reference
GERM	Generic Entity Relationship Model
GFI	General Format Identifier
GHz	GigaHertz
GIS	Geographic Information System
GLONASS	GLObal Navigation Satellite System
GMDSS	Global Maritime Distress and Safety System
GNSS	Global Navigation Satellite System

GP&C	Global Positioning and Communication
GPRS	General Packet Radio Service
GPS	Global Positioning System
GRT	Gross Registered Tonnage
GSM	Global System for Mobile communications
GT	Gross Tonnage
GUI	Graphical User Interface
HAM	Hamburg
Harmful Substances Report (HS)	Report to be sent when an incident takes place involving discharge or probable discharge of oil or noxious liquid substances in bulk [IMO 648(16)]
Hazardous Cargoes	Summarizing term for the following goods: • goods classified in the IMDG Code • substances classified in chapt.17 of the IBC and chapt.19 of the IGC Code • oils as defined in MARPOL Annex I • noxious liquid substances as defined in MARPOL Annex II • harmful substances as defined in MARPOL Annex III • radioactive materials specified in the INF Code
HAZMAT	Hazardous Material
HDLC	High-level DataLink Control
HDSL	High-speed Digital Subscriber Line
Head-on encounter	An encounter where both ships are on reciprocal or nearly reciprocal courses [COLREG Convention, COST 301]
HMI	Human Machine Interface
HSC	High Speed Craft
HSCSD	High Speed Circuit Switch Data
HSD	High Speed Data service
HTML	Hyper Text Markup Language
HTTP	Hyper Text Transfer Protocol

IALA	International Association of Lighthouse Authorities
IBC Code	International Code for Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
ICMP	Internet Control Message Protocol
ICS	International Chamber of Shipping
Identification	Acquiring the identity of an unknown object on a known position [IALA]
IDL	Interface Definition Language
IEC	International Electro-technical Commission
IEEE	Institute of Electrical and Electronic Engineers
IGC Code	International Code for Construction and Equipment of Ships Carrying Liquefied Gases in Bulk
IHO	International Hydrographic Organisation
IIOP	Internet Inter-ORB Protocol
IMDG	International Maritime Dangerous Goods
IMDG Code	International Maritime Dangerous Goods Code
IMO	International Maritime Organization
IMO	International Maritime Organization
INF Code	International Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High Level Radioactive Wastes in Flasks on Board Ships
Information	SMCP message marker, indicating that the following message is restricted to observed facts. Consequences are up to the recipient.
Also used in a general meaning (involving a content)	
Information Broadcast	Broadcast of general information about the traffic and fairway situation by the Information Service of a VTS at fixed times or when deemed necessary
Information Service	A service of a VTS to ensure that essential information becomes available in time for on-board navigational decision making [IMO 857(20)]
INIS	Integrated Navigation In Shipping (Rostock University national project)
INMARSAT	International MARitime SATellite (organisation)
Instruction	SMCP message marker, indicating that the following message implies the intention of the sender to influence others by regulation. The recipient has to follow this legally binding message unless he reports contradictory safety reasons

	[SMCP]
Intention	SMCP message marker, indicating that the following message informs others about immediate navigational actions intended to be taken [SMCP]
INTRASTAT	Intra Comunity Trade Statistics
IP	Internet Protocol
IPX	Internet Packet Exchange (Novell)
ISDN	Integrated Services Digital Network
ISO	International Standards Organisation
ISSUS	Institut für Schiffsbetrieb, Seeverkehr und Simulation (Hamburg Polytechnic)
ITDMA	Incremental Time Division Multiple Access
ITU	International Telecommunication Union
ITU-RM	International Telecommunication Union – Radiocommunication Sector
ITU-TS	International Telecommunication Union - Telecom Standard
Kbits/s	kilobits per second
Kbps	Kilobytes per second
LAN	Local Area Network
LAP	Link Access Procedure
LAPB	Link Access Procedure Balanced
Lateral Distribution	Distribution of the paths of vessels on a route in a lateral direction
LCA	Local Competent Authority
LES	Land Earth Station
LL	Land Line
LLC	Logical Link Control
LOA	Length overall
LPP	Length between Perpendiculars
LRN	Lloyd’s Registered Number
MAN	Metropolitan Area Network
Marine Accident	Any incident to a ship in which the condition of the ship suffers adversely

Marine Pollutants Report (MP)	Report to be sent in case of loss or likely loss overboard of harmful substances in packaged form [IMO 648(16)]
Mark	All-embracing term for lighthouses, buoys, beacons, day marks etc. [COST 301]
MARPOL	International convention for the prevention of pollution from ships (1973/8 and as amended)
MARSIG	German engineering society for maritime safety technology and management Ltd.
Master	Captain of a vessel, whom decisions concerning the actual navigation and the manoeuvring of the vessel remain with [IMO 578(14)]
Mbit/s	Megabits per second
Mbps	Mebabytes per second
MCA	Maritime & Coastguard Agency
MER	Marine Event Recorder (Voyage Data Recorder)
Message Marker	Specified words introducing a message to make clear its status (information, warning, advice, instruction, request, intention, question, answer, SMCP)
MFAG	Medical First Aid Guide
MMs	Man-Months
MMSI	Maritime Mobile Service Identity
Most Probable Position	Best estimate of ship‘s position from all available data
MRCC	Maritime Rescue Co-ordination Centre
MSA	Marine Safety Agency
MSD	Maritime Statistics Directive
Navigational Assistance Service	A service of a VTS to assist the on-board navigational decision making and to monitor the effects, especially during difficult circumstances, with messages updated in appropriate intervals [IMO 857(20), IALA VTS Man.]
NAVTEX	NAVigation TEleX
NCA	National Competent Authority
Net Present Value	The aggregate of future income (benefits] and expenditure (capital investment, running costs) discounted back to the present at a given compound interest rate
NFS	Network File System
NL	Netherlands
NMGD	Norwegian National Geodata Demonstrator

Non-co-operative System	Location and possibly identification system not based on special shipborne co-operating equipment
NRM	Normal Response Mode
NRT	Net Registered Tonnage
OMG	Object Management Group
OOA	Object Oriented Analysis
ORB	Object Request Broker
OSI	Open Systems Interconnection
Overtaking Encounter	Encounter where the overtaking ship has a relative bearing between 112,5° and 247,5° measured from the ship considered [COLREG Convention]
PACE	Port of London Automated Cargo Environment
PCS	Port Community System
PEC	Pilotage Exemption Certificate
Pilotage	A voluntary or compulsory service to provide a master with assistance in manoeuvring his vessel, in communication ship/shore, based on local knowledge
Plot	Indication of the unfiltered (unsmoothed) central position of a detected object regarded as a target
POLREP	Pollution Report
Position Report (PR)	Report to be sent when passing certain positions to ensure effective operation of a system [IMO 648(16)]
POSREP	Position Report
PPP	Point-to-Point Protocol
Probability	Likelihood of a figure or event based on available statistical information and represented by a number lying between zero and one [COST 301]
PROSIT	PROmotion of Short sea shipping and Inland waterway Transport by use of modern telematics (EU Research Project)
PSC	Port State Control
PSDN	Packet Switching Data Network
PSTN	Public Switched Telephone Network
QCR	Quality Controll Record
QLLC	Qualified Logical Link Control

QoS	Quality of Service
Question	SMCP message marker, indicating that the following message is of interrogative character [SMCP]
Racon	Radar responder beacon to mark a position of navigational importance
RADAR	RAdio Detection And Ranging
Radar Transponder	Transponder which is interrogated by radar
Radio Transponder	Transponder which is interrogated or broadcasts by radio
Ramming	jargon, equivalent to collision
RCC	Rescue Co-ordination Centre Bremen
RCPA	Route segment at Closest Point of Approach
Recognition	Location including identity of a vessel
Region	A predetermined coherent area of land or sea which can be considered as a geographical unit and may consist of sub-regions
REMUS	Rechnergestὸ tztes Maritime UnfallmanagentSystem
RENC	Regional Electronic Chart Centre
Request	SMCP message marker, indicating that the following message is asking for action from others with respect to the ship. The recipient should confirm or answer in the negative [SMCP]
Resource	Means (personnel, equipment) required to carry out an activity
Resource Planning	Advance allocation of resources to satisfy given objectives
RO-RO	Roll On - Roll Off
ROT	Rate Of Turn
Route	Intended or chosen path between two points or ports
RSDL	Rate-adaptive Digital Subscriber Line
RTIS	The Regional Traffic Information System project (DG VII)
SAD	Single Administrative Document
Sailing Plan (SP)	Report to be sent before departure from a port within a system or when entering the area covered by a system [IMO 648(16)], normally including ETA or ETD, may be amplified at request of a VTS [IMO 857(20)]
SAP	Service Access Point

SAR	Search and Rescue [SAR Convention]
Scenario	An hypothetical set of conditions and sequence of events constructed for the purpose of analysing or training a problem
SDLC	Synchronous Data Link Control
SDSL	Symmetric Digital Subscriber Line
SeeSchStrO	SeeSchiffahrtsStraßenOrdnung (German collision regulations)
Service Craft	Vessels which provide services other than those specified in ship classes (e.g. tugs, dredgers, tenders, naval vessels
SGML	Standard Generalised Markup Language
S-HDSL	Single-pair High-speed Digital Subscriber Line
Ship Classes	Tankers, Gas Carriers, Bulk Carriers, Ferries, Passenger Vessels, Ro-Ro and Container Vessels, Car Carriers, General Cargo Ships, Supply Vessels, Fishing Vessels, Small Craft, Pleasure Craft
Ship Reporting System	System according to IMO Res. A.648(16) where ships make mandatory or voluntary reports (e.g. AMVER)
Shore Based Pilotage	Remote pilotage provided by a VTS Centre under specified conditions within Navigational Assistance Service
SIDABA	ShIp DAta Base
SISSY	Schiffsinformationssystem (Port of Hamburg)
SMA	Swedish Maritime Administration
SMCP	Standard Marine Communication Phrases of the IMO, a further development of the Standard Marine Navigational Vocabulary (SMNV)
SMDS	Switched Multimegabit Data Service
SME	Small and Medium Enterprise
SMNV	Standard Marine Navigational Vocabulary, see SMCP
SMTP	Simple Mail Transfer Protocol
SNA	Systems Network Architecture
SOG	Speed Over Ground
SOLAS	Safety of Life at Sea (Convention, IMO)
SOLAS	International convention for Safety Of Life At Sea (1960 and 1974)
SOTDMA	Self Organised Time Division Multiple Access

SPIN	Southampton Port Information Network
SPX	Sequenced Packet Exchange
SSAP	Source Service Access Point
Status of a Message	Degree of intensity of intended interaction, made clear by introducing message markers
StAUN M-V	Staatliches Amt für Umwelt und Natur Mecklenburg-Vorpommern (Environmental authorities)
STCW	Standards of Training, Certification and Watchkeeping for seafarers (IMO)
STDMA	Self-organising Time Division Multiple Access
STI	Strategic Traffic Image
Stranding	Any contact between a ship and the sea bottom
Strategical Level	Level involving general features of the mission of a vessel in terms of sailing plan, destination, cargo (long time period, decisions on route and schedule) [COST 301]
Swept Path	Path limited by the boundaries of the path of one or the superposition of paths of several vessels on a certain route
Symptomatic Event	Event which should initiate a corresponding decision of an operator
Tactical Level	Level involving actual features of the navigation of a vessel (short time period, decisions on position, course and speed) [COST 301]
TCP	Transmission Control Protocol
TCPA	Time to Closest Point of Approach
TDMA	Time Division Multiple Access
TDMA Transponder	Time division multiple access radio transponder, making efficient use of a radio channel based on a common time and fixed time slots
TDW	Total Dead Weight
Track	-VTS: successive Indication of the filtered (smoothed) central positions of a detected object regarded as a target, possibly including a speed vector and a label
- Navigation: chart course [DIN 13312]	
Traffic Flow	Number of ships on a route within a predetermined lane width
Traffic Image	Surface image of vessels and their movements in an area (fairway situation, traffic situation), resulting from data collection

Traffic Organization Service	A service of a VTS to prevent the development of dangerous maritime traffic situations and to provide for the safe and efficient movement of vessel traffic within the VTS area [IMO 648(16)]
Traffic Separation Scheme	A fixed space allocation as a passive measure to separate traffic flows [COST 301]
Transponder	Co-operative device capable to transmit autonomously (broadcast) or on interrogation certain data (identification, position, additional data) and possibly also to receive such data
Transverse Distribution	Distribution of the paths of vessels on a route in a transverse direction
TRIPCO	TRaffic Information and Permanent route Control
TSS	Traffic Separation Sceam
TT	Travemuende-Trelleborg line (ferry line)
Tx	Transmission
UBR	Unspecified Bit Rate
UDP	User Datagram Protocol
UHF	Ultra High Frequency (300 - 3,000 MHz)
UK	United Kingdom
UN	United Nations
UNLOCODE	United Nations Location Code
URL	Uniform Resource Location
UTC	Universal Time Co-ordinated
Value Added Information Service	Additional information services which result when several sources of information are interlinked in a common network
VBR	Variable Bit Rate
VDSL	Very high-speed Digital Subscriber Line
Vessel Traffic Management	Set of efforts (measures, provisions, services and related functions) which, within a given area and under specified circumstances, intend to minimize risks for safety and the environment, whilst maximizing the efficiency of waterborne transport
Vessel Traffic Management and Information Services	see VTMIS
VHF	Very High Frequency (30 - 300 MHz)

VHF	Very High Frequency
Voyage	A movement of a ship between the harbour of departure and the harbour of destination
VPL	Voyage PLanning
VPN	Virtual Private Network
VTIS	Vessel Traffic Information System, applied for certain VTS, no internationally standardized term.
VTM	Vessel Traffic Management
VTMIS	Vessel Traffic Management: the set of efforts (measures, provisions, services and related functions) which, within a given area and under specified circumstances, intend to minimize risks for safety and the environment, whilst maximizing the efficiency of waterborne and connecting modes of transport. Vessel Traffic Management and Information Services intend to respond to public and private demand for facilitating Vessel Traffic Management. Vessel Traffic Management and Information Services include services distributing in given areas (at regional, national or transnational level) the pertinent information to be used both in real time and in retrieval modes by actors involved. The implementation of or participation in a VTMIS in a given area does not presuppose the existence of any specific type of equipment as long as it is adequate for the tasks to be performed. However it implies that all services which are or will be implemented in the area, such as VTS, Allied Services and other information services, are interlinked and co-operate according to commonly harmonized procedures.
VTMIS-NET	Vessel Traffic Management and Information Services - NETwork
VTMS	Vessel Traffic Management System, applied for certain VTS, no internationally standardized term
VTS	Vessel Traffic Services, according to IMO Res.A.857(20) ,a service implemented by a Competent Authority, designed to improve the safety and efficiency of vessel traffic and to protect the environment. The service should have the capability to interact with the traffic and to respond to traffic situations developing in the VTS area‘
VTS Area	Delineated, formally declared service area of a VTS
VTS Authority	Authority responsible for the management, operations and co-ordination of the VTS, the interaction with participating vessels and the safe and effective provision of the service [IMO 857(20)]
VTS Centre	Centre from which a VTS is operated [IMO 857(20)]
VTS Communication	Link between VTS and VTS Users, can be verbal or non-verbal
VTS Elements	Elements required to perform the VTS tasks: The 3M: Man, machine, method (VTS operators, housing and instrumentation including software, operating procedures) [IALA VTS Man.]

VTS Functions	Fundamental VTS functions to be performed: Data collection, data evaluation, data dissemination [IALA VTS Man.]
VTS Operator	Appropriately qualified person performing one or more tasks contributing to the services of a VTS [IMO 857(20)]
VTS Publication for Users	Promulgation of local rules and regulations, services offered and area concerned by a VTS authority (e.g. World VTS Guide)
VTS Sailing Plan	Plan which is mutually agreed between a VTS Authority and the master of a Vessel concerning the movement of the vessel in a VTS area [IMO 857 (20)]
VTS Services	Services provided by a VTS centre, partly facilities (placed at the disposal of the mariner, optional), partly measures (adherence is mandatory): • Information Service • Navigational Assistance Service • Traffic Organization Service • Co-operation with allied services, emergency services [IALA VTS Man.]
VTS Users	Vessels using the VTS and other users (allied services, emergency services, adjacent VTS, other traffic related organizations)
VTSC	Vessel Traffic Services Centre
WAN	Wide Area Network
Warning	SMCP message marker, indicating that the following message implies the intention of the sender to inform others about danger. Consequences are up to the recipient [SMCP]
Way Point	A point where either the traffic flow changes its direction or a point related to the intended track of a vessel
WEND	World-wide Electronic Navigational Database
WG	Working Group
Work Package (WP)	A sub-division of a task, the execution of which commences and finishes at specified events
Workshop	Meeting to provide information, demonstration and discussion on a certain topic
WPxx	Work Package + number
WSA	Wasser- und Schiffahrtsamt (German Water and Shipping Authorities)
X25	Communications protocol (part of OSI)
X400	International standard for e-mail interchanges (part of OSI)
XML	eXtensible Markup Language

XTP	eXpress Transport Protocol
ZMK	Zentraler Meldekopf Cuxhaven (German Central Oil Fighting Co-ordination Centre)
ZMS	Zentrale Meldestelle

REFERENCES:

Recommended publications (by IMO, etc.):

- *IMO Standard Marine Communication Phrases (SMCP 2001),* IMO, London, 2001): http://www.pfri.hr, www.imo.org
- *International Aeronautical and Maritime Search and Rescue Manual, Vol. III – Mobile Facilities (IAMSAR)*, IMO, ICAO, London/Montreal, 1998, www.imo.org
- *ITU Radio Regulations*, Edition of 2001: http://www.itu.int/publications/cd-rom/rr.html

Maritime English textbooks and course books:

- Weeks, F. *Wavelength*, BBC English & Alhambra, 1981 (+ cassettes)
- Blakey, T.N. (1987) *English for Maritime Studies*, Prentice Hall
- Weeks, F. , Glover, A., Johnson, E., Strevens, P. (1998) *SEASPEAK Training Manual* (+cassette), Pergamon Press
- Trenkner et al. (+cassette)
- *The Seafarers' Language Course*, *Conrad Publ., 1985 (+ cassettes)
- Trenkner, P. (1089)*Search and Rescue Operations*, Rostock
- Nisbet, Kutz, Logie (1997) *Marlins Study Pack* 1, Edinburgh, Marlins (+ cassette)
- Logie, Vivers, Nisbet (1998) *Marlins Study Pack* 2, Edinburgh, Marlins (+ cassette)
- Pritchard, B. (2000), *Maritime English*, Udine, Del Bianco Editore

Video Courses:

- *ANGLOSEA I, English Channel*, Canadian Coast Guard
- *ANGLOSEA II*, *Inland Navigation: The St. Lawrence Seaway,* Canadian Coast Guard, 1991
- *Emergency Radio Procedures*, US Coast Guard, 1990
- *Understanding English On-Board Ship, Part 1*, Videotel
- *Understanding English On-Board Ship, Part 2*, Videotel
- *Bridge Resource Management, Part 1 & 2*, Videotel

Courses on CD and PC software:

- *Maritime English*, Maritime Education, Chalmers University of Technology, Sweden: www.chl.chalmers.se
- *Maritime Communications*, Maritime Education, Chalmers University of Technology, Sweden: www.chl.chalmers.se
- *SMCP Training Module, SMCP Language Training,* Marine Technology Based Training, MarineSoft, Rostock, Germany, www.marinesoft.de
- Kluijven, Peter: *IMLA-IMEC website for Maritime English*: http://home.planet.nl/~kluijven/

Useful WWW sites:

- **IMLA INTERNATIONAL MARITIME ENGLISH CONFERENCE (IMEC),** /formerly WOME/**:** http://home.planet.nl/~kluijven/
- Canadian Coast Guard: www.ccg-gcc.gc.ca
- US Coast Guard: http://www.uscg.mil/USCG.shtm
- World Maritime University, Malmo, Sweden: http://www.wmu.se
- Radio Officer, 2000 Edition, Russia: http://rofficer.narod.ru/docs/iamsar_c.htm
- any Maritime English teacher's personal site on the web sites of world leading maritime colleges, academies, faculties, universities and other MET institutions

Recommended reference manuals:

- *Admiralty Manual of Seamanship*, HMSO, London, 1995
- *American Practical Navigator*, 2002
- House, D. (1997) *Marine Survival and Rescue Systems*, London, Witherby & Co.
- *ITU Radio Manual*
- *ITU International Code of Signals (ICS)*
- *COLREGS,* IMO, London, 1972 as amended