

# Ships operational procedures for the GMDSS

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1. General
2. Transmission of DSC distress alerts
3. GMDSS operating guidance for ships in distress situation
4. Actions by ships upon reception of VHF/MF DSC distress alert
5. Actions by ships upon reception of HF DSC distress alert
6. Operational procedures for other GMDSS equipment
7. False distress alerts (cancellation procedures, avoidance)

# 1. General

Operational procedures for distress, safety, and urgency communications in the GMDSS are prescribed in the **Radio Regulations, Chapter VII** – Distress and safety communications :

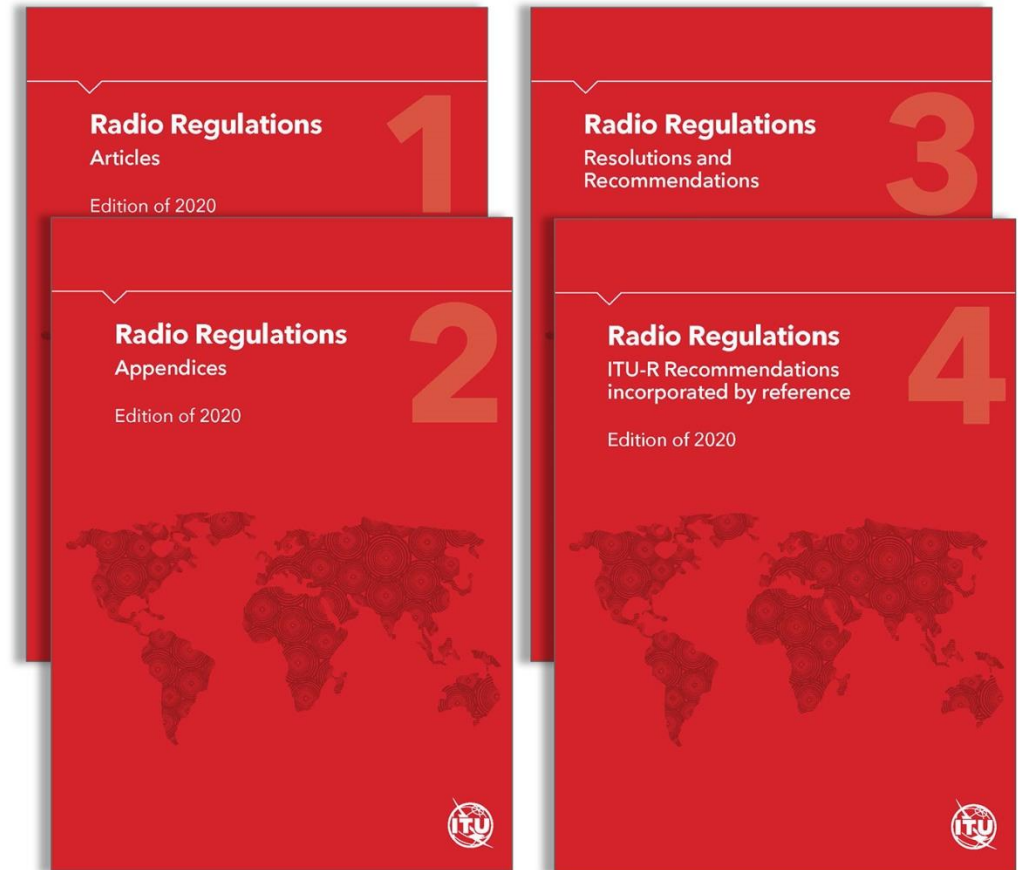
- **Articles 32 :**

Operational procedures for distress communications in the GMDSS system

- **Article 33 :**

Operational procedures for urgency and safety communications in the GMDSS system

	DSC	Radiotelephony
VHF	Channel 70	Channel 16
MF	2187,5 kHz	2182,0 kHz
HF 4	4207,5 kHz	4125,0 kHz
HF 6	6312,0 kHz	6215,0 kHz
HF 8	8414,5 kHz	8291,0 kHz
HF 12	12577,0 kHz	12290,0 kHz
HF 16	16804,5 kHz	16420,0 kHz



## Watch by Ship stations (Radio Regulations, Chapter VII - article 31)

**Ship stations**, where so equipped, and while at sea :

- Maintain an **automatic DSC watch on the appropriate distress and safety calling frequencies** in the frequency bands in which they are operating.
- Maintain watch on the appropriate frequencies for the automatic reception of transmissions of **meteorological and navigational warnings and other urgent information to ships**.
- **Where practicable**, maintain a watch on the frequency 156.8 MHz (**VHF channel 16**)

**Ship earth stations**, while at sea :

- Maintain watch except when communicating on a working channel



**The distress alert** is a digital selective call (DSC) using :

- a distress call format, in the bands used for terrestrial radiocommunication, or
- a distress message format, in which case it is relayed through space stations.

**The distress call** is the initial voice or text procedure.

**The distress message** is the subsequent voice or text procedure.

**The distress alert relay** is a DSC transmission on behalf of another station.

**The distress call relay** is the initial voice or text procedure for a station not itself in distress.

## 2. Transmission of DSC distress alerts (IMO circular MSC.1/Circ.1658)



VHF DSC

Possibility to select nature of distress :  
Fire, Flooding, Sinking, MOB, Capsize, Grounding, Piracy



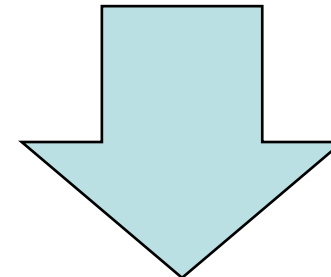
MF/HF DSC



← **LIFT COVER**

← **PRESS  
RED  
BUTTON**  
until acoustic and  
light-indication  
becomes steady  
(more than 3 seconds)

**DISTRESS  
ALERT is sent**



## The DSC distress alert

DSC distress alerts are received by all suitably equipped **ships and coast stations in range.**

DSC distress alert contains various informations, including **identity of the ship in distress, ship's position with time and nature of distress.** **Nature of distress** is automatically included in the DSC alert or entered manually by operator prior to transmission.



Nature of distress  
being selected

In order to increase the probability of the DSC distress alert to be received, it is **repeated several times to form a distress call attempt.** On MF and HF: up to six consecutive calls dispersed over any of the six frequencies. On VHF: only a single-frequency call attempt is used.

## Acknowledgement to a DSC distress alert

Distress alert **acknowledgements by DSC** are normally transmitted manually by coast stations on the **same frequency**. However a ship may acknowledge **if no coast station is likely able to do it**. In this case, the acknowledgement is initially made by radiotelephony on the associated frequency for radiotelephone distress and safety traffic.

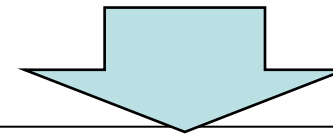
Acknowledgement  
from RCC POLAND



Without acknowledgement in response to the DSC distress alert transmission, ship may **repeat distress alert after a delay of between 3,5 and 4,5 minutes** from initial distress alert.



# Guidance on distress alerts (IMO circular MSC.1/Circ.1658) (cont.)




The word «MAYDAY» is the DISTRESS SIGNAL

DISTRESS CALL



DISTRESS MESSAGE



Use the HANDSET for voice calling

**MAYDAY-MAYDAY-MAYDAY**

THIS IS

**NAME – NAME – NAME**

**CALLSIGN**  
or other IDENTIFICATION


**MMSI**  
(if the initial alert is sent by DSC)

**OWN ID**

SHIP'S NAME: \_\_\_\_\_

CALL SIGN: \_\_\_\_\_

MMSI: \_\_\_\_\_



**MAYDAY**

**NAME** of the **VESSEL** in distress

**CALLSIGN** or other **IDENTIFICATION**

**MMSI**  
(if the initial alert is sent by DSC)

**POSITION**  
given as **latitude** and **longitude**  
or  
If latitude and longitude are not known  
or if time is insufficient,  
In relation to a known geographical location

**NATURE** of distress  
Kind of **ASSISTANCE** required  
Any other useful **INFORMATION**

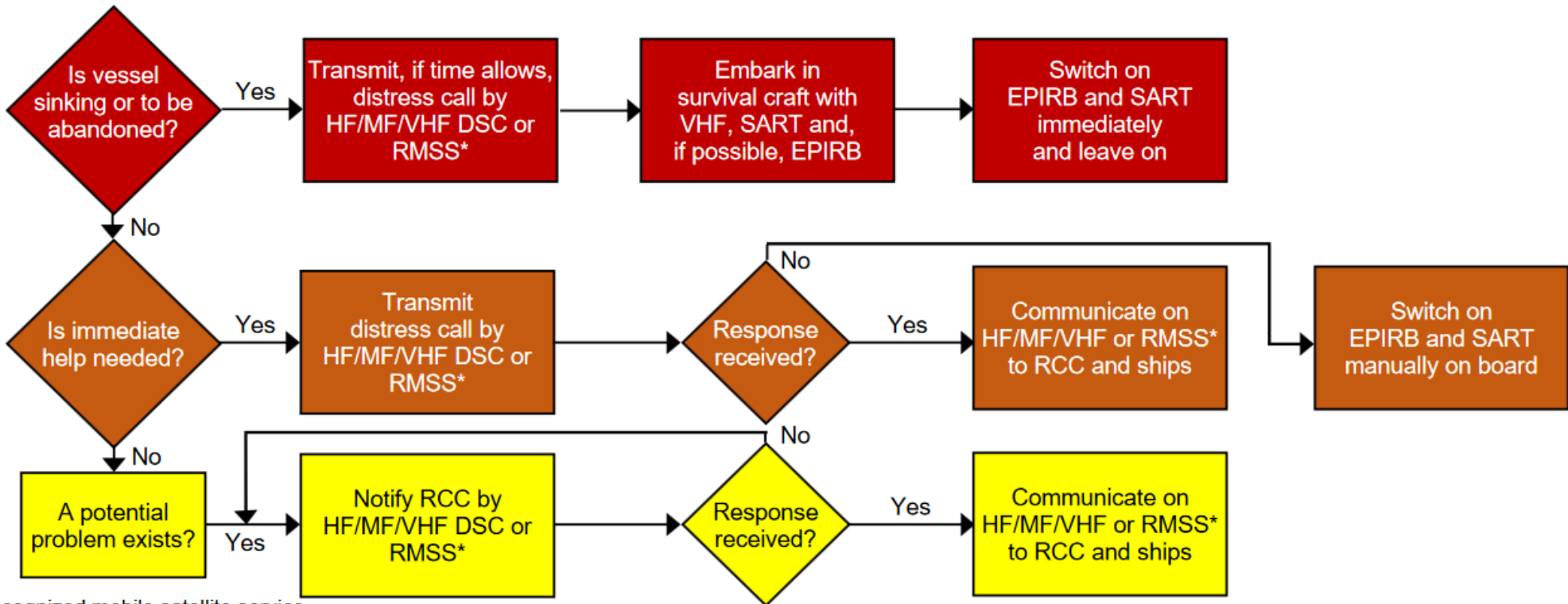
**DISTRESS and COMMUNICATION FREQUENCIES**

	DSC	Radiotelephony	NBDP
VHF	Channel 70	Channel 16	-----
MF	2187.5 kHz	2182 kHz	2174.5 kHz
HF4	4207.5 kHz	4125 kHz	4177.5 kHz
HF6	6312.0 kHz	6215 kHz	6268.0 kHz
HF8	8414.5 kHz	8291 kHz	8376.5 kHz
HF12	12577.0 kHz	12290 kHz	12520.0 kHz
HF16	16804.5 kHz	16420 kHz	16695.0 kHz

Remember to use the correct HF-procedures  
Don't forget your EPIRB is the secondary means of alerting

### 3. GMDSS operating guidance for ships in distress situation (IMO circular MSC.1/Circ.1656)

To be posted on the bridge as an A4 size poster

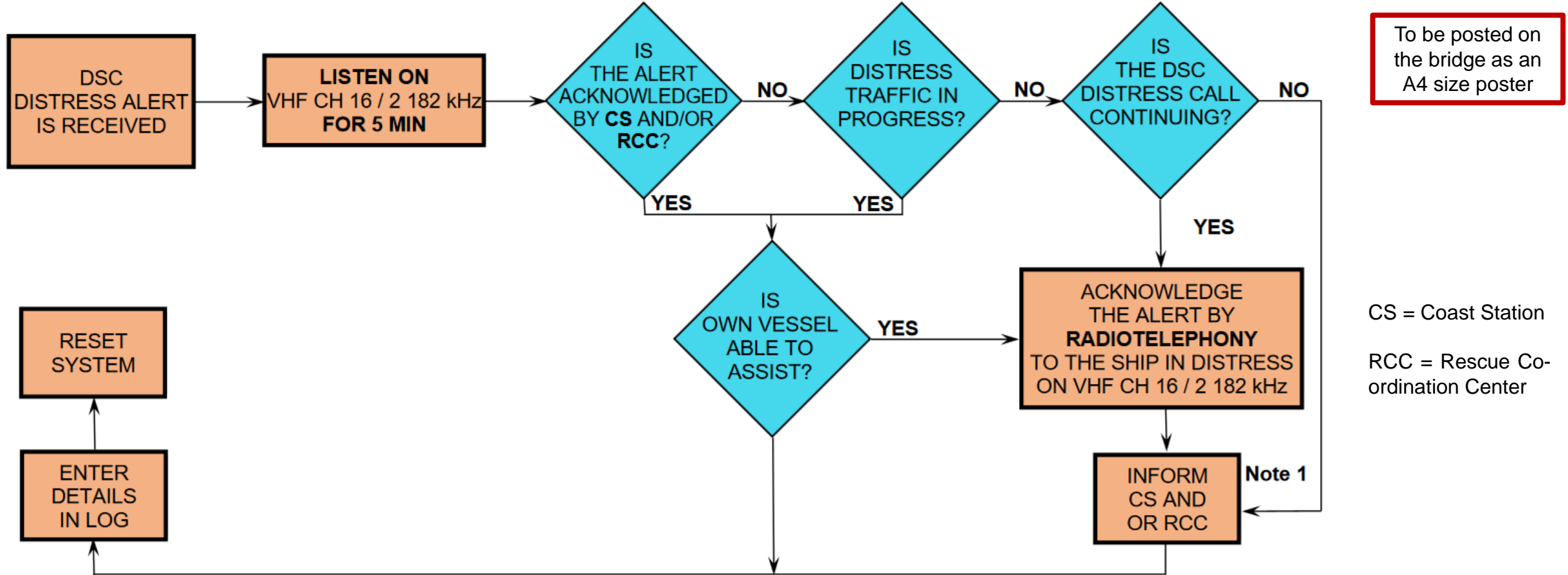


\* Recognized mobile satellite service

1. EPIRB should float free and activate automatically if it cannot be taken into survival craft.
2. Where necessary, ships should use any appropriate means to alert other ships.
3. Nothing above is intended to preclude the use of any and all available means of distress alerting, including those listed in COLREG 72, annex IV.

Frequencies for Distress Communications		
	Digital selective calling (DSC)	Radiotelephone
VHF	Channel 70	Channel 16
MF	2 187.5 kHz	2 182 kHz
HF4	4 207.5 kHz	4 125 kHz
HF6	6 312.0 kHz	6 215 kHz
HF8	8 414.5 kHz	8 291 kHz
HF12	12 577.0 kHz	12 290 kHz
HF16	16 804.5 kHz	16 420 kHz

## 4. Actions by ships upon reception of VHF/MF DSC distress alert ([IMO circular MSC.1/Circ.1657](#))



**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**

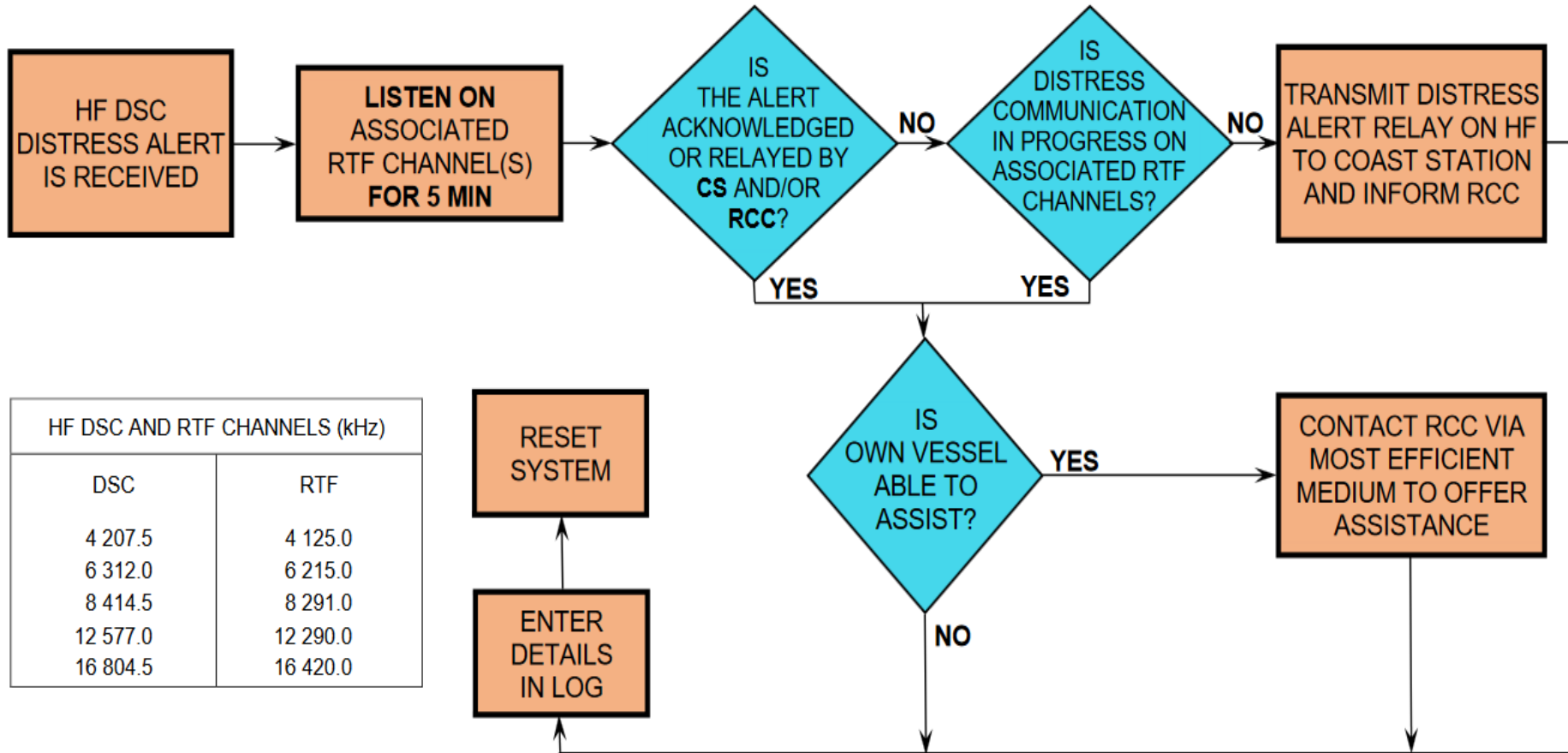
Note 1 : Appropriate or relevant RCC and/or Coast Station shall be informed accordingly. If further DSC alerts are received from the same source and the ship in distress is beyond doubt in the vicinity, a DSC acknowledgement may, after consultation with an RCC or Coast Station, be sent to terminate the 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 either VHF channel 70 or MF channel 2187.5 kHz

## 5. Actions by ships upon reception of HF DSC distress alert ([IMO circular MSC.1/Circ.1657](#))

- Distress relay calls on HF channels should be initiated manually

To be posted on the bridge as an A4 size poster



CS = Coast Station

RCC = Rescue Co-ordination Center

HF DSC AND RTF CHANNELS (kHz)	
DSC	RTF
4 207.5	4 125.0
6 312.0	6 215.0
8 414.5	8 291.0
12 577.0	12 290.0
16 804.5	16 420.0

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, superfluous 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.

## 6. Operational procedures for other GMDSS equipment

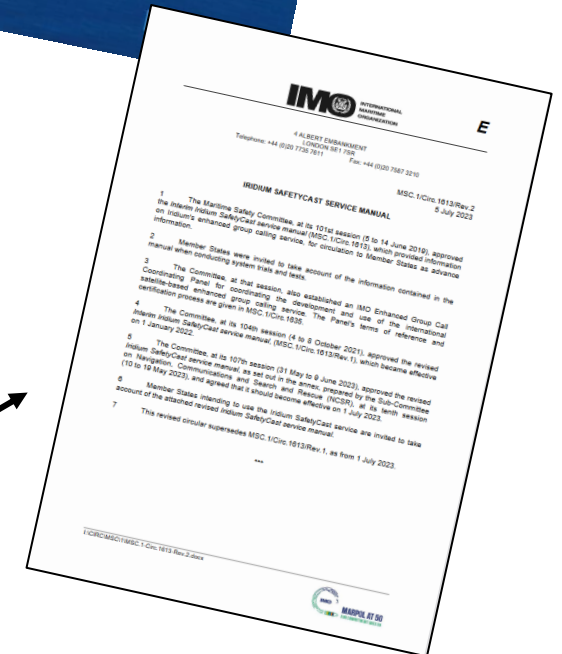
Operational procedures for SafetyNET :  
in the **International SafetyNET Services Manual**



Operational procedures for NAVTEX :  
in the **NAVTEX Manual**



Operational procedures for SafetyCast :  
in the **Iridium SafetyCast Service Manual**



## 7. False distress alerts

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False distress alerts :

- are an obstacle to the efficient operation of SAR services
- imposes a considerable and unnecessary burden on RCCs
- may have adverse effects on seafarer's confidence in the GMDSS
- could have a potentially serious impact on real distress situations and on safety of life at sea



No action will normally be taken against any ship or mariner for reporting and cancelling a false distress alert. However, in view of the serious consequences of false alerts, and the strict ban on their transmission, Governments may prosecute in cases of repeated violations.

Ships' crews must be aware of cancellation procedures as described hereafter. Note that ships may use any means available to them to inform the appropriate authorities that a false distress alert has been transmitted and should be cancelled.

## Cancellation of false distress alerts sent from DSC transmitters

	Action	Cancellation message
<b>False distress alert sent from VHF DSC</b>	<ol style="list-style-type: none"> <li>1. switch off transmitter immediately (if the false alert is detected during transmission);</li> <li>2. switch equipment on and set to Channel 16; and</li> <li>3. make broadcast to "All Stations" giving the ship's name, call sign and DSC number, and cancel the false distress alert</li> </ol>	<p>All Stations, All Stations, All Stations            This is NAME, CALL SIGN,            DSC NUMBER, POSITION.            Cancel my distress alert of DATE, TIME UTC.            = Master NAME, CALL SIGN,            DSC NUMBER, DATE, TIME UTC</p>
<b>False distress alert sent from MF DSC</b>	<ol style="list-style-type: none"> <li>1. switch off equipment immediately (if the false alert is detected during transmission);</li> <li>2. switch equipment on and tune for radiotelephony transmission on 2,182 kHz; and</li> <li>3. make broadcast to "All Stations" giving the ship's name, call sign and DSC number, and cancel the false distress alert.</li> </ol>	<p>All Stations, All Stations, All Stations            This is NAME, CALL SIGN,            DSC NUMBER, POSITION.            Cancel my distress alert of DATE, TIME UTC,            = Master NAME, CALL SIGN,            DSC NUMBER, DATE, TIME UTC</p>
<b>False distress alert sent from HF DSC</b>	<p>As for MF, but the alert <b>must be cancelled on all the frequency bands on which it was transmitted.</b> Hence, in stage 2.2 the transmitter should be tuned consecutively to the radiotelephony distress frequencies in the 4, 6, 8, 12 and 16 MHz bands, as necessary.</p>	<p>All Stations, All Stations, All Stations            This is NAME, CALL SIGN,            DSC NUMBER, POSITION.            Cancel my distress alert of DATE, TIME UTC,            = Master NAME, CALL SIGN,            DSC NUMBER, DATE, TIME UTC</p>

# Cancellation of false distress alerts sent with Inmarsat-C and EPIRB



Inmarsat « C »

Notify the appropriate RCC to cancel the alert by sending a distress priority message via the same CES through which the false distress alert was sent.

NAME, CALL SIGN, IDENTITY NUMBER, POSITION,  
Cancel my Inmarsat-C distress alert of DATE, TIME UTC  
= Master +



EPIRB

If for any reason an EPIRB is activated accidentally, the ship should contact the nearest coast station or an appropriate coast earth station or RCC and cancel the distress alert



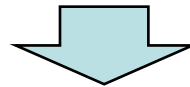
## Avoidance of false distress alerts

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False distress alerts :

- are an obstacle to the efficient operation of SAR services
- imposes a considerable and unnecessary burden on RCCs
- may have adverse effects on seafarer's confidence in the GMDSS
- could have a potentially serious impact on real distress situations and on safety of life at sea

Need to revise and update existing Guidelines resolution A.814(19)



**RESOLUTION MSC.514(105)**  
**(adopted on 28 April 2022)**

**GUIDELINES FOR THE AVOIDANCE OF FALSE DISTRESS ALERTS**

[Resolution MSC.514\(105\)](#) supersedes resolution A.814(19), as from 1 January 2024

# Avoidance of false distress alerts – Overview of Resolution MSC.514(105) provisions

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## **Guidelines for administrations**

- Registration of GMDSS equipment, availability to RCCS
- Enforcement measures in case of false alarm without proper cancellation
- Use the ITU violation reporting process for false distress alerts, or for failure to respond to a distress alert relayed from shore to ship
- Knowledge of procedures by relevant ship personnel and familiarity with operation of installed GMDSS equipment
- Investigations of cause if recurrent false alerts with a specific model of GMDSS equipment and liaison with manufacturer
- Information of surveyors and inspectors about GMDSS equipment to avoid false alerts
- GMDSS radio operators be appropriately certificated

## **Guidelines for manufacturers, suppliers and installers**

Design of equipment for distress alerting, design of test features, visual or acoustically indication of distress alert activation, advice to avoid unwanted activation of EPIRB, clarity and precision of operational instructions, ship personnel familiarization, knowledge by staff of GMDSS and consequences of false distress alerts.

## **Guidelines for trainers and educators**

Make education centres aware of false distress alert problems, use of examples of case histories, emphasize need to avoid false distress alerts, prevent inadvertent transmission of a false distress alert when training on GMDSS equipment

## **Guidelines for companies**

All GMDSS-certificated personnel instructed to the radio equipment, other relevant crew members instructed, beware of false distress alerts when testing, EPIRB properly registered and encoded, updated of equipment in case of change in information relating to the ship such as owner, name or flag, attention to EPIRB position in ship design, proper installation of free-float EPIRB, no activation if assistance immediately available, attempts to cancel false alerts, provisions for an EPIRB disposal.

Thank you for your  
attention