




The Navigation Leaders.

# GMDSS Modernization

New SOLAS Regulatory framework

Equipment	Previous Documents	New Documents
Navtex & HF NBDP	Res.MSC.148(77), Res.A.700(17)	Res.MSC.508(105)
Radar SART	Res.A.530(13), Res.A.802(19)	Res.MSC.510(105)
VHF Radio Installation	Res.A.803(19)	Res.MSC.511(105)
MF & MF/HF Radio Installation	Res.A.804(19), Res.A.806(19)	Res.MSC.512(105)
Inmarsat-C Ship Earth Station	Res.A.807(19)	Res.MSC.513(105)
Survival craft Portable 2way VHF radiotelephone apparatus	Res.MSC.149(77)	Res.MSC.515(105)
On-scene (aeronautical) portable and fixed 2way VHF radiotelephone apparatus	Res.MSC.80(70)	Res.MSC.80(70) Res.MSC.516(105)
Integrated Communications Systems (ICS)	Res.A.811(19)	Res.MSC.517(105)

**TERMS:**    **RMSS-SES:** Recognized Mobile Satellite Services – Ship Earth Station 

**MSI:** Maritime Safety Information

**SAR:** Search & Rescue

## **What are the key amendments to SOLAS Chapter IV related to radiocommunications effective from 1 January 2024?**

The amendments to SOLAS Chapter IV include the use of generalized terms for GMDSS technologies, consolidation of provisions for VHF radio telephone apparatus and SART (Search and Rescue Transponder), changes in sea area coverage, and the **removal of the NBDP** (Narrow Band Direct Printing) function for MF/HF radio installations.

## **How can ship owners/operators select the RMSS-SES (Recognized Mobile Satellite Service Ship Earth Station) (e.g., INMARSAT, IRIDIUM) to be installed on board, and what considerations should be taken into account?**

Ship owners/operators can select **RMSS-SES** based on coverage areas. Each RMSS system provides different communication coverage. The selected RMSS-SES **should be able to receive EGC** (Enhanced Group Call) **broadcasting** in the intended operational area, and **consideration should be given to MSI** (Maritime Safety Information), which includes Navtex messages, and **SAR** (Maritime Search and Rescue) information obtained by other onboard equipment. EGC broadcasting is operated by **SafetyNET**. However, the installation of RMSS-SES (i.e. IRIDIUM in lieu of INMARSAT) is subject to flag's policy and acceptance.

## What is International SafetyNET?

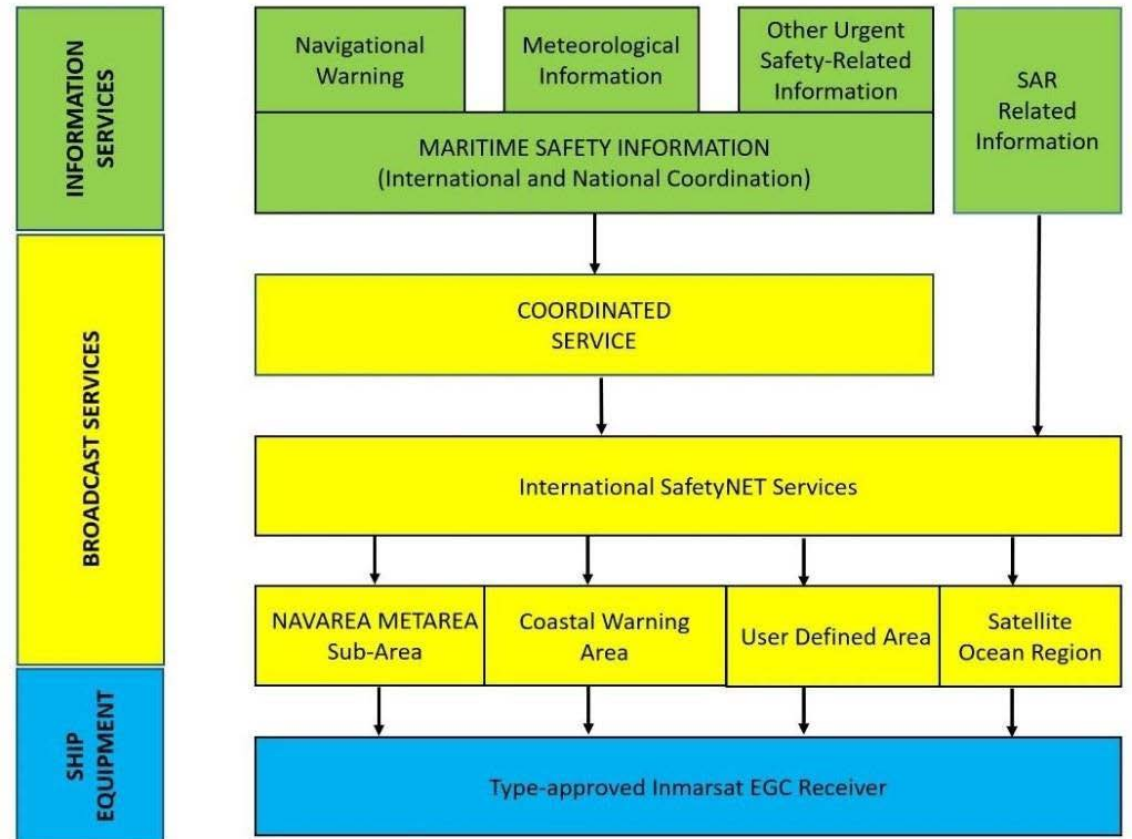
**International SafetyNET is a module of the IMP Global Maritime Distress & Safety System. SafetyNET is the service for broadcasting and automatic reception of Maritime Safety Information (MSI) via Enhanced Group Call (EGC) system.** Its receiving capability is part of the mandatory equipment to be carried by certain SOLAS compliant ships.

## What types of MSI can be received?

- All ships (general call – mainly used by Inmarsat to broadcast service announcements)
- NAVAREA/METAREA warning, MET forecast or Piracy warnings to NAVAREA or METAREA
- Navigational, Meteorological or Piracy warnings to an area
- Search and Rescue coordination to ships to an area
- Shore-to-ship distress alerts to an area

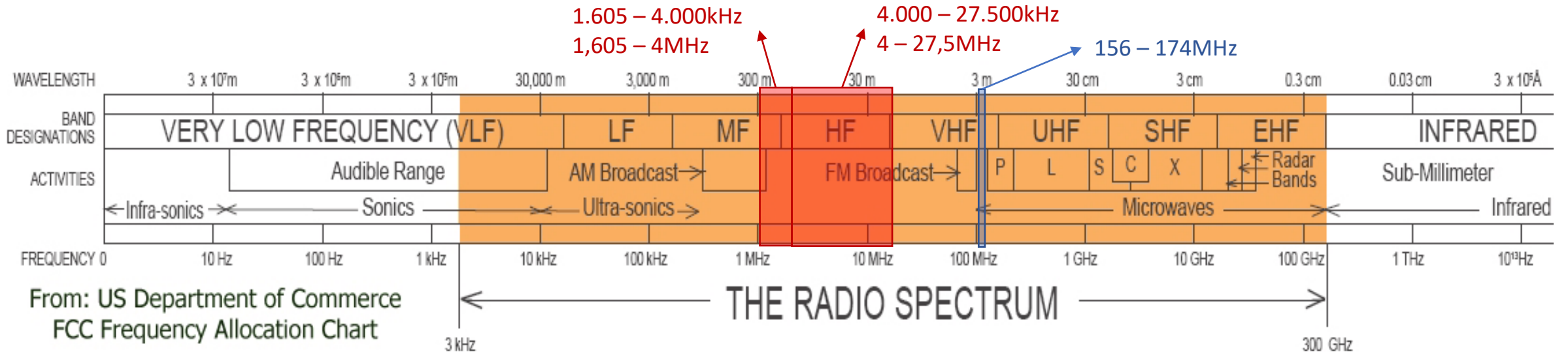
Coastal warnings include the following type of messages:

- Navigational warnings
  - Meteorological warnings
  - Ice reports
- Search and Rescue information, acts of piracy warnings, tsunami and other natural phenomena
  - Meteorological forecasts
  - Pilot and VTS service messages
  - AIS service messages (non navigational aid)
- LORAN system messages
- GNSS messages



## What is the significance of the deletion of the NBDP function for MF/HF radio installation?

The **NBDP function is no longer required on 1 January 2024**. The marking of the NBDP for MF/HF radio installation will be deleted on relevant statutory certificates issued or renewed after 1 January 2024. In addition, the alternative method of compliance for operation in Sea Area A3 using VHF + MF/HF (DSC + radiotelephony + NBDP) + Secondary means (EPIRB or SES) is no longer acceptable. Therefore, from 1 January 2024 existing ships operating in Sea Area 3 which have only MF/HF equipment and no SES, **at a minimum, will need to install one SES**. If the NBDP is voluntarily uninstalled before the date by the ship operator, the relevant certificate should be revised and re-issued.



**For those ships currently using direct printing telegraphy (NBDP) to fulfil the role of “duplication” for a single INM-C (in Sea Area A3), would this Radio Telex no longer be considered?**

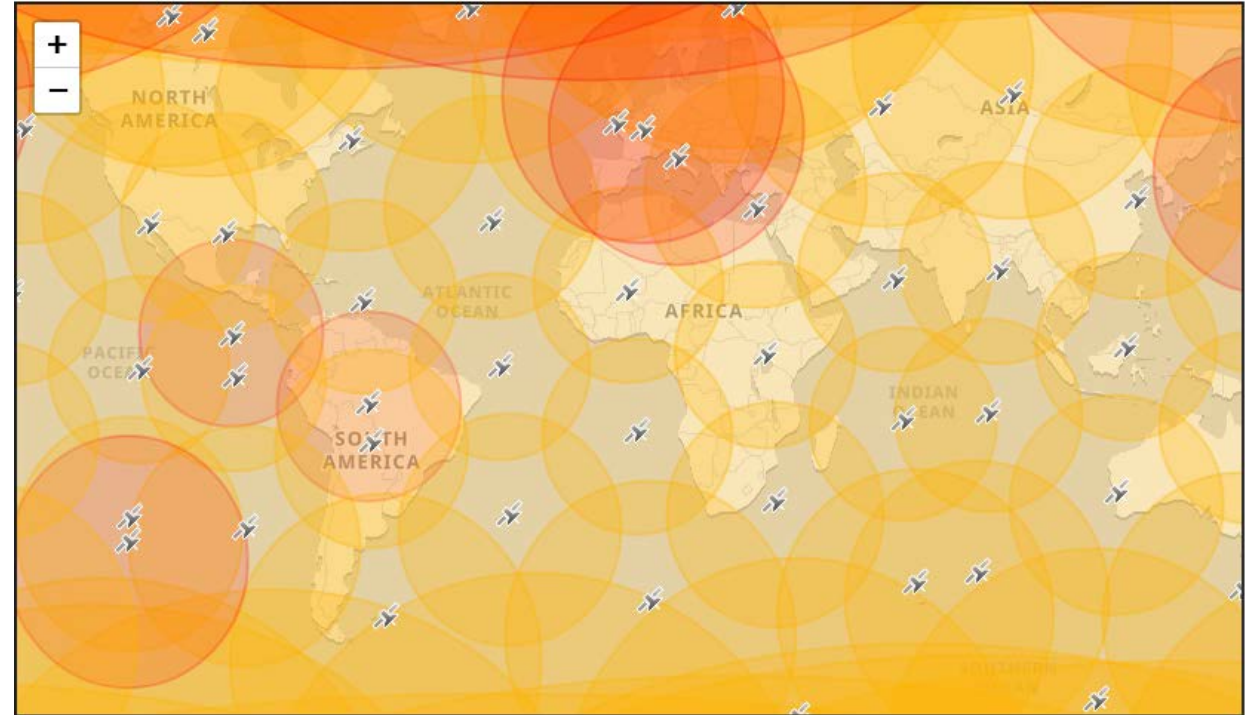
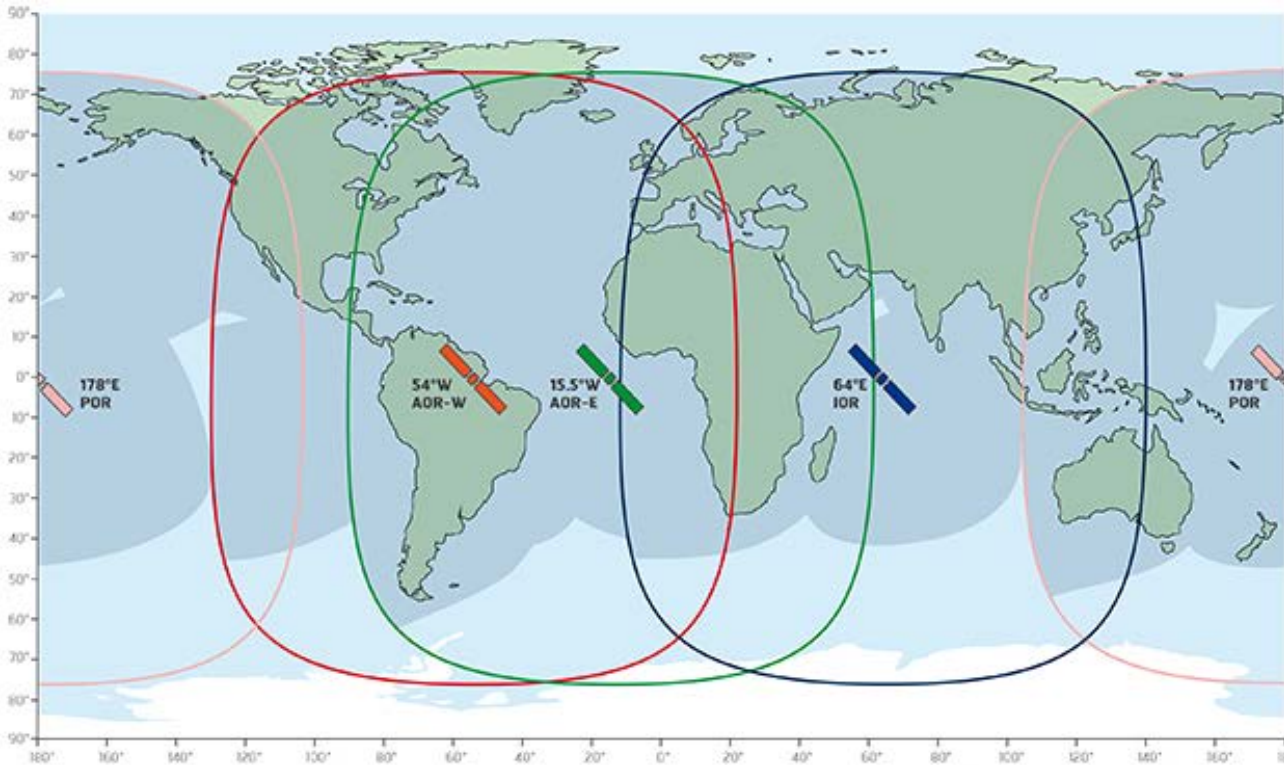
NBDP is being removed from the GMDSS regulations as of 1 January 2024, therefore transmitting and receiving distress and safety communications using direct-printing telegraphy (NBDP) do not form part of the GMDSS requirement and hence, need not be fitted on board as duplicate equipment.

**Can different types of RMSS-SES (Recognized Mobile Satellite Service Ship Earth Station) be installed as primary and duplicated systems on board, and are there any restrictions?**

Yes, but **the RMSS-SES to be installed on board should be able to receive EGC: MSI & SAR** broadcasting in the sea where the ship is intended to operate. **AND an RMSS-SES with lesser coverage should be designated as the primary system** to determine the coverage of sea area A3. The duplicated system's coverage should include that of the primary system, and RMSS-SES with no correlation with the primary system's communication range cannot be accepted as a duplicated system.

# Inmarsat vs Iridium Coverage Map

RMSS-SES with lesser coverage should be designated as the primary system



<https://www.bluesat.com/iridium-coverage-map>

- **Atlantic Ocean Region West (AOR-W)**, at 54 degrees West
- **Atlantic Ocean Region East (AOR-E)**, at 15.5 degrees West
- **Indian Ocean Region (IOR)**, at 64 degrees East
- **Pacific Ocean Region (POR)**, at 178 degrees East



## GMDSS Requirements – A1+A2+A3

<u>Option 1</u>		<u>Option 2</u>	
<b>PRIMARY EQUIPMENT</b>			
VHF DSC (Class A)	VHF DSC (Class A)	VHF DSC (Class A)	VHF DSC (Class A)
MF/HF DSC	MF DSC	MF DSC	MF DSC
NBDP	SES	INM-C	SES
<b>DUPLICATION EQUIPMENT</b>			
VHF DSC (Class A)	VHF DSC (Class A)	VHF DSC (Class A)	VHF DSC (Class A)
INM-C	MF/HF	INM-C	SES
<b>SAFETY EQUIPMENT</b>			
NAVTEX	<b>NO NAVTEX</b>	NAVTEX	<b>NO NAVTEX</b>
EPIRB Auto	AIS-EPIRB (FF)	EPIRB Auto	AIS-EPIRB (FF)
SART (X2)	Radar or AIS-SART (x2)	SART (X2)	Radar or AIS-SART (x2)
Portable VHF GMDSS (x3)		Portable VHF GMDSS (x3)	