ORGANIZACION DE LOS ESTADOS AMERICANOS
ORGANIZATION OF AMERICAN STATES

Comisión Interamericana de Telecomunicaciones
Inter-American Telecommunication Commission

**30 MEETING OF PERMANENT CONSULTATIVE COMMITTEE II: RADIOCOMMUNICATIONS**
**November 27 to December 1, 2017**
**Barranquilla, Colombia**

**OEA/Ser.L/XVII.4.2.30**
**CCP.II-RADIO/doc. 30-4358-1-8/17**
**29 November 2017**
**Original: English**

# AGENDA ITEM 1.8
# DRAFT INTER-AMERICAN PROPOSAL (DIAP) FOR WRC-19

**(Item on the Agenda: 3.1 (SGT2))**
**(Document submitted by the Coordinator)**

**SGT2A – Radiolocation, Amateurs, Maritime & Aeronautical**

**Coordinator: Michael Razi (CAN)**

**Alternate Coordinator: Thomas vonDeak (USA)**

**Rapporteur Agenda Item: Donald Jansky (USA)**

**Alternate Rapporteur Agenda Item: Christopher Casarrubias (MEX)**

**[Source 4391]**

**Agenda Item 1.8:** *to consider possible regulatory actions to support Global Maritime Distress and Safety Systems (GMDSS) modernization and to support the introduction of additional satellite systems into the GMDSS, in accordance with Resolution **359** (**Rev.WRC-15**)*

## INTRODUCTION

WRC-15 adopted agenda item 1.8 for WRC-19, which considers possible regulatory actions to support Global Maritime Distress and Safety Systems (GMDSS) modernization and to support the introduction of additional satellite systems into the GMDSS in accordance with Resolution **359 (Rev.WRC-15)**. This document addresses the *Resolves 2* of Resolution **359** (**Rev.WRC-15**) on the introduction of additional satellite systems into the GMDSS, proposing modifications to the *Radio Regulations* to support the introduction of additional satellite systems into the GMDSS.

## BACKGROUND

To date, only one mobile satellite system has been recognized by the International Maritime Organization (IMO) for use in the GMDSS "system of systems". Advances in communications technology, the maturity of commercial satellite operations have introduced competition into the satellite sector, and the deployment of non-geostationary satellite constellations have led the IMO to identify recognition of additional satellite systems to the GMDSS as an urgent work item. Consequently, the IMO is considering incorporation of additional satellite systems into the GMDSS**.** Recognizing the need for additional satellite resources capable of providing increased coverage and competition for provision of maritime services, the IMO has taken action to facilitate the introduction of an additional satellite system into the GMDSS.

IMO's Maritime Safety Committee (MSC) has considered the application of the HIBLEO-2 mobile-satellite system for recognition and use in the GMDSS. Noting no objections in principle, the MSC referred the matter to IMO's Sub-Committee on Navigation, Communications and Search and Rescue (NCSR) for evaluation.[1] Recognizing general support of the application among administrations, the NCSR suggested to MSC options for undertaking a detailed technical and operational assessment of the HIBLEO-2 application[2]. MSC subsequently directed that the International Mobile Satellite Organization (IMSO) should undertake the assessment of the HIBLEO-2 mobile satellite system and provide a report for consideration by the NCSR Sub Committee.[3]

IMSO has completed its report to the NCSR which, in turn, determined that the HIBLEO-2 mobile satellite system could be incorporated into the GMDSS subject to compliance with a list of conditions. The NCSR invited the MSC to endorse this view, with the understanding that it, based on evaluation reports from IMSO, would advise the Committee on final recognition.[4] The MSC subsequently endorsed the list of conditions to be complied with by the HIBLEO-2 mobile satellite system.[5] That action concluded a first stage review of this GMDSS application, with a statement that approval ("recognition")

[1] MSC 92-26, "Report of the Maritime Safety Committee at its Ninety-second Session", 30 June 2015, p 41-42.
[2] MSC 94-9-2, "Note by the Secretariat: Evaluation of the Iridium Mobile Satellite System", 3 September 2014.
[3] MSC 94-21, "Report of the MSC on its Ninety Fourth Session", 26 November 2014, p 36-37.
[4] NCSR 3-29, "Report to the Maritime Safety Committee", 22 March 2016, p 19-22.
5 MSC 96-25, "Report of the Maritime Safety Committee at its 96th Session", 31 May 2016, p 61.

of the introduction of the HIBLEO-2 mobile satellite system into the GMDSS can be made when the MSC-endorsed list of conditions identified below are satisfied.

- Integration of Iridium system with RCCs and MSI providers;
- ship earth station terminals made available for demonstration of ship-to-shore, shore-to-ship, and ship-to-ship GMDSS communications in compliance with the comprehensive list of outstanding items;
- Complete demonstration of compliance with all outstanding items of the comprehensive list

The IMO has also concluded an equipment performance standard applicable to new mobile satellite GMDSS services (resolution MSC 434(98) on *Performance standards for a ship earth station for use in the GMDSS*) and has agreed an amendment to its Safety of Life at Sea (SOLAS) Convention enabling new providers of mobile satellite GMDSS services.[6] A final stage of evaluation is planned and IMSO's findings will be reported to NCSR accordingly. It is expected that NCSR will recommend approval (recognition) of the system in 2018.[7]

The IMO actions described above are intended to facilitate the timely introduction of an additional MSS system into the GMDSS. This proposal will modify the Radio Regulations to recognize the availability of the relevant frequency band for providing GMDSS by mobile satellite systems.

It is important to note that identification of an additional GMDSS service provider would bring forward the following benefits to the maritime community:

- Covering the entire globe – including the critical Arctic and Antarctic (Polar) regions, which makes up Sea Area A4, where there is currently no GMDSS mobile satellite services available;

- Is an "always on" system as individual satellites pass overhead approximately every five to eight minutes depending on location. The movement of the satellites across the horizon provide the user with better look angles (i.e. ability to see the satellite) in rough seas, especially in northernmost and southernmost latitudes;

- Will enable both voice and data GMDSS communications in a single, small form factor maritime mobile terminal, at a low cost (currently two mobile satellite system terminals may be required to meet operational and regulatory needs of the vessel (voice and data) at much greater cost;

- Provide an opportunity for a redundant communications platform for the maritime community in the event there is a catastrophic outage which disables part, or all, of other satellite-based GMDSS services;

- Will provide for more efficient and comprehensive distress and safety communications by providing the Rescue Coordination Center with immediate voice communications capability, vessel identification, and a means to contact the vessel in distress;

6 MSC 98-23, "Report of the Maritime Safety Committee on its Ninety-Eighth Session", 28 June 2017.

7 It is anticipated that by February 2018 the Navigation, Communications Search and Rescue (NCSR) will conduct a second stage evaluation of the HIBLEO-2 application to assess compliance with remaining IMO requirements. The NCRS will inform the Maritime Safety Committee (MSC) of results of its findings by May 2018. Upon successful completion of compliance with the identified requirements, MSC will issue a resolution recognizing the HIBLEO-2 system a GMDSS service provider.

- Will provide, for the first time, vessel owners with a choice of satellite-based GMDSS services, including choice of equipment with the state-of-the-art technology, new service offerings, and competitive pricing; and

- May be integrated with vessel “digital bridge” systems consolidating equipment and displays for the crew to monitor, while eliminating clutter on the bridge.

**PROPOSAL**

**MOD** DIAP/1.8/1

Support:
Canada

Radio Regulations Volume 1

ARTICLE 5

**Frequency allocations**

**Section IV – Table of Frequency Allocations**

**1 610-1 660 MHz**

| **Allocation to services** | | |
|---|---|---|
| **Region 1** | **Region 2** | **Region 3** |
| **1 610-1 610.6**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>AERONAUTICAL RADIONAVIGATION<br><br>5.341 5.355 5.359 5.364 5.366 5.367 MOD 5.368 5.369 5.371 5.372 | **1 610-1 610.6**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>AERONAUTICAL RADIONAVIGATION<br>RADIODETERMINATION-SATELLITE (Earth-to-space)<br><br>5.341 5.364 5.366 5.367 MOD 5.368 5.370 5.372 | **1 610-1 610.6**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>AERONAUTICAL RADIONAVIGATION<br>Radiodetermination-satellite (Earth-to-space)<br><br>5.341 5.355 5.359 5.364 5.366 5.367 MOD 5.368 5.369 5.372 |
| **1 610.6-1 613.8**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>RADIO ASTRONOMY<br>AERONAUTICAL RADIONAVIGATION<br><br>5.149 5.341 5.355 5.359 5.364 5.366 5.367 MOD 5.368 5.369 5.371 5.372 | **1 610.6-1 613.8**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>RADIO ASTRONOMY<br>AERONAUTICAL RADIONAVIGATION<br>RADIODETERMINATION-SATELLITE (Earth-to-space)<br><br>5.149 5.341 5.364 5.366 5.367 MOD 5.368 5.370 5.372 | **1 610.6-1 613.8**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>RADIO ASTRONOMY<br>AERONAUTICAL RADIONAVIGATION<br>Radiodetermination-satellite (Earth-to-space)<br>5.149 5.341 5.355 5.359 5.364 5.366 5.367 MOD 5.368 5.369 5.372 |

| | | |
|---|---|---|
| **1 613.8-1 626.5**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>AERONAUTICAL RADIONAVIGATION<br>Mobile-satellite (space-to-Earth) 5.208B<br><br>5.341 5.355 5.359 MOD 5.364 5.365 5.366 5.367 MOD 5.368 5.369 5.371 5.372 | **1 613.8-1 626.5**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>AERONAUTICAL RADIONAVIGATION<br>RADIODETERMINATION-SATELLITE (Earth-to-space)<br>Mobile-satellite (space-to-Earth) 5.208B<br><br>5.341 MOD 5.364 5.365 5.366 5.367 MOD 5.368 5.370 5.372 | **1 613.8-1 626.5**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>AERONAUTICAL RADIONAVIGATION<br>Mobile-satellite (space-to-Earth) 5.208B<br>Radiodetermination-satellite (Earth-to-space)<br><br>5.341 5.355 5.359 MOD 5.364 5.365 5.366 5.367 MOD 5.368 5.369 5.372 |
| **1 626.5-1 660** MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.355 5.357A 5.359 5.362A 5.374 5.375 5.376 | | |

**Reason:** To reference proposed modification to 5.364 and 5.368 to support the introduction of an additional satellite system into the GMDSS in accordance with Resolution **359 (Rev.WRC-15)**.

**MOD** DIAP/1.8/2

[Source 4437]

Support:
United States of America

ARTICLE 5

**Frequency allocations**

**Section IV – Table of Frequency Allocations**

**1 610-1 660 MHz**

| **Allocation to services** | | |
|---|---|---|
| **Region 1** | **Region 2** | **Region 3** |
| **1 610-1 610.6**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>AERONAUTICAL RADIONAVIGATION<br><br>5.341 5.355 5.359 5.364 5.366 5.367 MOD 5.368 5.369 5.371 5.372 | **1 610-1 610.6**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>AERONAUTICAL RADIONAVIGATION<br>RADIODETERMINATION-SATELLITE (Earth-to-space)<br><br>5.341 5.364 5.366 5.367 MOD 5.368 5.370 5.372 | **1 610-1 610.6**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>AERONAUTICAL RADIONAVIGATION<br>Radiodetermination-satellite (Earth-to-space)<br><br>5.341 5.355 5.359 5.364 5.366 5.367 MOD 5.368 5.369 5.372 |

| | | |
|---|---|---|
| **1 610.6-1 613.8**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>RADIO ASTRONOMY<br>AERONAUTICAL RADIONAVIGATION<br><br>5.149 5.341 5.355 5.359 5.364 5.366 5.367<br>MOD 5.368 5.369 5.371 5.372 | **1 610.6-1 613.8**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>RADIO ASTRONOMY<br>AERONAUTICAL RADIONAVIGATION<br>RADIODETERMINATION-SATELLITE (Earth-to-space)<br><br>5.149 5.341 5.364 5.366 5.367 MOD 5.368 5.370 5.372 | **1 610.6-1 613.8**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>RADIO ASTRONOMY<br>AERONAUTICAL RADIONAVIGATION<br>Radiodetermination-satellite (Earth-to-space)<br><br>5.149 5.341 5.355 5.359 5.364 5.366 5.367<br>MOD 5.368 5.369 5.372 |
| **1 613.8-1 626.5**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>ADD 5.GMDSS<br>AERONAUTICAL RADIONAVIGATION<br>Mobile-satellite (space-to-Earth)<br>ADD 5.GMDSS<br>5.208B<br><br>5.341 5.355 5.359 5.364 5.365 5.366 5.367<br>MOD 5.368 5.369 5.371 5.372 | **1 613.8-1 626.5**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A ADD 5.GMDSS<br>AERONAUTICAL RADIONAVIGATION<br>RADIODETERMINATION-SATELLITE (Earth-to-space)<br>Mobile-satellite (space-to-Earth)<br>ADD 5.GMDSS<br>5.208B<br><br>5.341 5.364 5.365 5.366 5.367 MOD 5.368 5.370 5.372 | **1 613.8-1 626.5**<br>MOBILE-SATELLITE (Earth-to-space) 5.351A<br>ADD 5.GMDSS<br>AERONAUTICAL RADIONAVIGATION<br>Mobile-satellite (space-to-Earth)<br>ADD 5.GMDSS<br>5.208B<br>Radiodetermination-satellite (Earth-to-space)<br><br>5.341 5.355 5.359 5.364 5.365 5.366 5.367<br>MOD 5.368 5.369 5.372 |
| **1 626.5-1 660** | MOBILE-SATELLITE (Earth-to-space) 5.351A<br>5.341 5.351 5.353A 5.354 5.355 5.357A 5.359 5.362A 5.374 5.375 5.376 | |

**Reason:** To reference new No. 5.GMDSS identifying the 1616-1626.5 MHz band to support the introduction of an additional satellite system into the GMDSS in accordance with Resolution **359 (Rev.WRC-15)**.

**ADD** DIAP/1.8/3

[Source 4437]

Support:
United States of America

**5.GMDSS** The band 1616-1626.5 MHz may also be used for the provision of distress, urgency, and safety communications of the Global Maritime Distress and Safety System (GMDSS). (See Table **15-2** of Appendix **15**, No. **33.50** and No. **33.53** of Article **33**).

**Reason:** To identify the band 1616-1626.5 MHz as being available for the provision of GMDSS by mobile-satellite service systems.

**MOD** DIAP/1.8/4

[Source 4319]

Support:
Canada

**5.364** The use of the band 1 610-1 626.5 MHz by the mobile-satellite service (Earth-to-space) and by the radiodetermination-satellite service (Earth-to-space) is subject to coordination under No. **9.11A**. A mobile earth station operating in either of the services in this band shall not produce a peak e.i.r.p. density in excess of -15 dB(W/4 kHz) in the part of the band used by systems operating in accordance with the provisions of No. **5.366** (to which No. **4.10** applies), unless otherwise agreed by the affected administrations. In the part of the band where such systems are not operating, the mean e.i.r.p. density of a mobile earth station shall not exceed –3 dB(W/4 kHz). Except when used for distress and safety purposes in the band 1 616-1 626.5 MHz by satellite networks in the maritime mobile-satellite service using the same channel in the Earth-to-space and space-to-Earth directions, sStations of the mobile-satellite service shall not claim protection from stations in the aeronautical radionavigation service, stations operating in accordance with the provisions of No. **5.366** and stations in the fixed service operating in accordance with the provisions of No. **5.359**. Administrations responsible for the coordination of mobile-satellite networks shall make all practicable efforts to ensure protection of stations operating in accordance with the provisions of No. **5.366**. (WRC-19)

**Reason**: To provide adequate protection for GMDSS operations in this band.

**MOD** DIAP/1.8/5

Support:
Canada, United States of America

**5.368** With respect to the radiodetermination-satellite service and the mobile-satellite services the provisions of No. **4.10** do not apply in the band 1 610-1626.5 MHz MHz, with the exception of the aeronautical radionavigation-satellite service and aeronautical mobile-satellite (route) service in the band 1610-1626.5 MHz, and the Global Maritime Distress and Safety System in the band 1616-1626.5 MHz. (WRC-19)

**Reason:** To recognize that in the necessary parts of the frequency band 1 610-1 626.5 MHz the mobile-satellite service is used for the provision of aeronautical and maritime safety services. Consequently, No. 4.10 would apply to these safety services within the appropriate frequency bands.

**MOD** DIAP/1.8/6

Support:
Canada, United States of America

**33.50** § 26 Maritime safety information may be transmitted via satellite in the maritime mobile-satellite service using the bands 1 530-1 545 MHz and 1 616-1 626.5 MHz. (see Appendix **15**). (WRC-19)

**Reason:** To include the necessary parts of the frequency band 1 610-1 626.5 MHz as being available for transmitting maritime safety information via satellite.

**MOD** DIAP/1.8/7

Support:
Canada, United States of America

**33.53** § 28 Radiocommunications for safety purposes concerning ship reporting communications, communications relating to the navigation, movements and needs of ships and weather observation messages may be conducted on any appropriate communications frequency, including those used for public correspondence. In terrestrial systems, the bands 415-535 kHz (see Article **52**), 1 606.5-4 000 kHz (see Article **52**), 4 000-27 500 kHz (see Appendix **17**), and 156-174 MHz (see Appendix **18**) are used for this function. In the maritime mobile-satellite service, frequencies in the bands 1 530-1 544 MHz, 1616-1626.5 MHz, and 1 626.5-1 645.5 MHz are used for this function as well as for distress alerting purposes (see No. **32.2**). (WRC-~~07~~19)

**Reason:** To apply No. **33.53** to the necessary parts of the frequency band 1 610-1 626.5 MHz for use by mobile-satellite service systems approved by the International Maritime Organization to participate in the Global Maritime Distress and Safety System.

**MOD** DIAP/1.8/8

[Source 4437]

Support:
United States of America

APPENDIX 15 (REV.WRC-19)

**Frequencies for distress and safety communications for the Global Maritime Distress and Safety System (GMDSS)**

TABLE 15-2 (WRC-15)

**Frequencies above 30 MHz (VHF/UHF)**

| Frequency | Description | Notes |
|---|---|---|

| (MHz) | of usage | |
|---|---|---|
| *121.5 | AERO-SAR | The aeronautical emergency frequency 121.5 MHz is used for the purposes of distress and urgency for radiotelephony by stations of the aeronautical mobile service using frequencies in the frequency band between 117.975 MHz and 137 MHz. This frequency may also be used for these purposes by survival craft stations. Use of the frequency 121.5 MHz by emergency position-indicating radio beacons shall be in accordance with Recommendation ITU-R M.690-3.<br>Mobile stations of the maritime mobile service may communicate with stations of the aeronautical mobile service on the aeronautical emergency frequency 121.5 MHz for the purposes of distress and urgency only, and on the aeronautical auxiliary frequency 123.1 MHz for coordinated search and rescue operations, using class A3E emissions for both frequencies (see also Nos. **5.111** and **5.200**). They shall then comply with any special arrangement between governments concerned by which the aeronautical mobile service is regulated. |
| 123.1 | AERO-SAR | The aeronautical auxiliary frequency 123.1 MHz, which is auxiliary to the aeronautical emergency frequency 121.5 MHz, is for use by stations of the aeronautical mobile service and by other mobile and land stations engaged in coordinated search and rescue operations (see also No. **5.200**).<br>Mobile stations of the maritime mobile service may communicate with stations of the aeronautical mobile service on the aeronautical emergency frequency 121.5 MHz for the purposes of distress and urgency only, and on the aeronautical auxiliary frequency 123.1 MHz for coordinated search and rescue operations, using class A3E emissions for both frequencies (see also Nos. **5.111** and **5.200**). They shall then comply with any special arrangement between governments concerned by which the aeronautical mobile service is regulated. |
| 156.3 | VHF-CH06 | The frequency 156.3 MHz may be used for communication between ship stations and aircraft stations engaged in coordinated search and rescue operations. It may also be used by aircraft stations to communicate with ship stations for other safety purposes (see also Note *f* ) in Appendix **18**). |
| *156.525 | VHF-CH70 | The frequency 156.525 MHz is used in the maritime mobile service for distress and safety calls using digital selective calling (see also Nos. **4.9**, **5.227**, **30.2** and **30.3**). |
| 156.650 | VHF-CH13 | The frequency 156.650 MHz is used for ship-to-ship communications relating to the safety of navigation in accordance with Note *k*) in Appendix **18**. |
| *156.8 | VHF-CH16 | The frequency 156.8 MHz is used for distress and safety communications by radiotelephony. Additionally, the frequency 156.8 MHz may be used by aircraft stations for safety purposes only. |
| *161.975 | AIS-SART VHF CH AIS 1 | AIS 1 is used for AIS search and rescue transmitters (AIS-SART) for use in search and rescue operations. |
| *162.025 | AIS-SART VHF CH AIS 2 | AIS 2 is used for AIS search and rescue transmitters (AIS-SART) for use in search and rescue operations. |

TABLE 15-2 (*end*) (WRC-15)

| Frequency (MHz) | Description of usage | Notes |
|---|---|---|
| *406-406.1 | 406-EPIRB | This frequency band is used exclusively by satellite emergency position-indicating radio beacons in the Earth-to-space direction (see No. **5.266**). |
| 1 530-1 544 | SAT-COM | In addition to its availability for routine non-safety purposes, the band 1 530-1 544 MHz is used for distress and safety purposes in the space-to-Earth direction in the maritime mobile-satellite service. GMDSS distress, urgency and safety communications have priority in this band (see No. **5.353A**). |
| *1 544-1 545 | D&S-OPS | Use of the band 1 544-1 545 MHz (space-to-Earth) is limited to distress and safety operations (see No. **5.356**), including feeder links of satellites needed to relay the emissions of satellite emergency position-indicating radio beacons to earth stations and narrow-band (space-to-Earth) links from space stations to mobile stations. |
| 1616-1626.5 | SAT-COM | In addition to its availability for routine non-safety purposes, the band 1 616-1 626.5 MHz is used for distress and safety purposes in the Earth-to-space and space-to-Earth directions in the maritime mobile-satellite service. GMDSS distress, urgency and safety communications have priority over non-safety communications within a satellite system (see No. **5.GMDSS)**. |
| *1 645.5-1 646.5 | D&S-OPS | Use of the band 1 645.5-1 646.5 MHz (Earth-to-space) is limited to distress and safety operations (see No. **5.375**). |
| 9 200-9 500 | SARTS | This frequency band is used by radar transponders to facilitate search and rescue. |

**Legend**:

**AERO-SAR** These aeronautical carrier (reference) frequencies may be used for distress and safety purposes by mobile stations engaged in coordinated search and rescue operations.

**D&S-OPS** The use of these bands is limited to distress and safety operations of satellite emergency position-indicating radio beacons (EPIRBs).

**SAT-COM** These frequency bands are available for distress and safety purposes in the maritime mobile-satellite service (see Notes).

**VHF-CH#** These VHF frequencies are used for distress and safety purposes. The channel number (CH#) refers to the VHF channel as listed in Appendix **18**, which should also be consulted.

**AIS** These frequencies are used by automatic identification systems (AIS), which should operate in accordance with the most recent version of Recommendation ITU-R M.1371. (WRC-07)

* Except as provided in these Regulations, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the frequencies denoted by an asterisk (*) is prohibited. Any emission causing harmful interference to distress and safety communications on any of the discrete frequencies identified in this Appendix is prohibited. (WRC-07)

**Reason:** To add the band 1618.725-1626.5 MHz as being available for distress and safety communications for the Global Maritime Distress and Safety System (GMDSS).

**MOD** DIAP/1.8/9

[Source 4391]

Support:
Canada

APPENDIX 15 (REV.WRC-~~15~~19)

**Frequencies for distress and safety communications for the Global Maritime Distress and Safety System (GMDSS)**

TABLE 15-2 (WRC-~~15~~19)

**Frequencies above 30 MHz (VHF/UHF)**

| **Frequency (MHz)** | **Description of usage** | **Notes** |
|---|---|---|
| *121.5 | AERO-SAR | The aeronautical emergency frequency 121.5 MHz is used for the purposes of distress and urgency for radiotelephony by stations of the aeronautical mobile service using frequencies in the frequency band between 117.975 MHz and 137 MHz. This frequency may also be used for these purposes by survival craft stations. Use of the frequency 121.5 MHz by emergency position-indicating radio beacons shall be in accordance with Recommendation ITU-R M.690-3.<br>Mobile stations of the maritime mobile service may communicate with stations of the aeronautical mobile service on the aeronautical emergency frequency 121.5 MHz for the purposes of distress and urgency only, and on the aeronautical auxiliary frequency 123.1 MHz for coordinated search and rescue operations, using class A3E emissions for both frequencies (see also Nos. **5.111** and **5.200**). They shall then comply with any special arrangement between governments concerned by which the aeronautical mobile service is regulated. |

| | | |
|---|---|---|
| 123.1 | AERO-SAR | The aeronautical auxiliary frequency 123.1 MHz, which is auxiliary to the aeronautical emergency frequency 121.5 MHz, is for use by stations of the aeronautical mobile service and by other mobile and land stations engaged in coordinated search and rescue operations (see also No. **5.200**).<br>Mobile stations of the maritime mobile service may communicate with stations of the aeronautical mobile service on the aeronautical emergency frequency 121.5 MHz for the purposes of distress and urgency only, and on the aeronautical auxiliary frequency 123.1 MHz for coordinated search and rescue operations, using class A3E emissions for both frequencies (see also Nos. **5.111** and **5.200**). They shall then comply with any special arrangement between governments concerned by which the aeronautical mobile service is regulated. |
| 156.3 | VHF-CH06 | The frequency 156.3 MHz may be used for communication between ship stations and aircraft stations engaged in coordinated search and rescue operations. It may also be used by aircraft stations to communicate with ship stations for other safety purposes (see also Note *f* ) in Appendix **18**). |
| *156.525 | VHF-CH70 | The frequency 156.525 MHz is used in the maritime mobile service for distress and safety calls using digital selective calling (see also Nos. **4.9**, **5.227**, **30.2** and **30.3**). |
| 156.650 | VHF-CH13 | The frequency 156.650 MHz is used for ship-to-ship communications relating to the safety of navigation in accordance with Note *k*) in Appendix **18**. |
| *156.8 | VHF-CH16 | The frequency 156.8 MHz is used for distress and safety communications by radiotelephony. Additionally, the frequency 156.8 MHz may be used by aircraft stations for safety purposes only. |
| *161.975 | AIS-SART VHF CH AIS 1 | AIS 1 is used for AIS search and rescue transmitters (AIS-SART) for use in search and rescue operations. |
| *162.025 | AIS-SART VHF CH AIS 2 | AIS 2 is used for AIS search and rescue transmitters (AIS-SART) for use in search and rescue operations. |

TABLE 15-2 (*end*) (WRC-~~15~~19)

| **Frequency (MHz)** | **Description of usage** | **Notes** |
|---|---|---|
| *406-406.1 | 406-EPIRB | This frequency band is used exclusively by satellite emergency position-indicating radio beacons in the Earth-to-space direction (see No. **5.266**). |
| 1 530-1 544 | SAT-COM | In addition to its availability for routine non-safety purposes, the band 1 530-1 544 MHz is used for distress and safety purposes in the space-to-Earth |

| | | |
|---|---|---|
| | | direction in the maritime mobile-satellite service. GMDSS distress, urgency and safety communications have priority in this band (see No. **5.353A**). |
| *1 544-1 545 | D&S-OPS | Use of the band 1 544-1 545 MHz (space-to-Earth) is limited to distress and safety operations (see No. **5.356**), including feeder links of satellites needed to relay the emissions of satellite emergency position-indicating radio beacons to earth stations and narrow-band (space-to-Earth) links from space stations to mobile stations. |
| 1 616-1 626.5 | SAT-COM | In addition to its availability for routine non-safety purposes, the band 1 616-1 626.5 MHz is used for distress and safety purposes in the Earth-to-space and space-to-Earth directions in the maritime mobile-satellite service solely by satellite networks using the same channel in both directions. GMDSS distress, urgency and safety communications have priority over non-safety communications within a satellite system. |
| *1 645.5-1 646.5 | D&S-OPS | Use of the band 1 645.5-1 646.5 MHz (Earth-to-space) is limited to distress and safety operations (see No. **5.375**). |
| 9 200-9 500 | SARTS | This frequency band is used by radar transponders to facilitate search and rescue. |

---

**Legend**:

**AERO-SAR** These aeronautical carrier (reference) frequencies may be used for distress and safety purposes by mobile stations engaged in coordinated search and rescue operations.

**D&S-OPS** The use of these bands is limited to distress and safety operations of satellite emergency position-indicating radio beacons (EPIRBs).

**SAT-COM** These frequency bands are available for distress and safety purposes in the maritime mobile-satellite service (see Notes).

**VHF-CH#** These VHF frequencies are used for distress and safety purposes. The channel number (CH#) refers to the VHF channel as listed in Appendix **18**, which should also be consulted.

**AIS** These frequencies are used by automatic identification systems (AIS), which should operate in accordance with the most recent version of Recommendation ITU-R M.1371. (WRC-07)

* Except as provided in these Regulations, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the frequencies denoted by an asterisk (*) is prohibited. Any emission causing harmful interference to distress and safety communications on any of the discrete frequencies identified in this Appendix is prohibited. (WRC-07)

**Reason:** To add the necessary parts of the frequency band 1 610-1 626.5 MHz to Appendix **15** as being available for distress and safety communications for the Global Maritime Distress and Safety System (GMDSS).