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| World Radiocommunication Conference (WRC-19) Sharm el-Sheikh, Egypt, 28 October – 22 November 2019 |  |
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| European Common Proposals | |
| Proposals for the work of the conference | |
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| Agenda item 1.9.1 | |

1.9 to consider, based on the results of ITU-R studies:

1.9.1 regulatory actions within the frequency band 156-162.05 MHz for autonomous maritime radio devices to protect the GMDSS and automatic identifications system (AIS), in accordance with Resolution **362 (WRC-15)**;

Introduction

Applications with autonomous maritime radio devices (AMRD) reflect a new development in recent times. Due to the rapid technical progress and cost-effective production, more and more of such applications in the maritime environment are created and used.

The aim of this agenda item is to prevent unregulated operation of AMRD in order to enhance safety of navigation and to ensure the integrity of the global maritime distress and safety system (GMDSS) which is the only system for distress, urgency, safety and routine communication for general shipping. Furthermore the integrity of the collisions avoidance system AIS including the AIS VHF Data Link needs to be ensured.

The technical characteristics of AMRD are provided in Recommendation ITU-R M.[AMRD] “[Technical characteristics of Autonomous Maritime Radio Devices in the frequency bands 156-162.05 MHz]”. This Recommendation describes AMRD as follows:

An AMRD is a *mobile station*; operating at sea and transmitting independently of a ship station or a *coast station*. Two groups of AMRD are identified:

Group A: AMRD that enhance the safety of navigation,

Group B: AMRD that do not enhance the safety of navigation (AMRD which deliver signals or information which do not concern the vessel can distract or mislead the navigator and degrade the safety of navigation).

Group A, AMRD that enhance the safety of navigation, should use the frequencies of the current RR Appendix **18**. These frequencies have been allocated for the operation of vessels. The usage of these frequencies guarantees the integrity of GMDSS and AIS.

Concerning AMRD Group A, CEPT is of the view that only an addition in the Radio Regulations Appendix **18** footnote *f* is required to enable AMRD to operate AIS technology.

Information on identification (numbering) and AIS messages used by AMRD Group A are contained in Recommendation ITU-R M.585 (Assignment and use of identities in the maritime mobile service) and in Recommendation ITU-R M.1371 (Technical characteristics for an automatic identification system using time division multiple access in the VHF maritime mobile frequency band).

Group B, AMRD that do not enhance the safety of navigation, but also operating in the maritime environment should not be permitted to use the channel for digital selective calling (channel 70), the channel for distress, safety and calling (channel 16), the AIS channels (channels AIS 1 and AIS 2), and the channels for inter-ship, port operations and ship movement and public correspondence as listed in the current RR Appendix **18**.

For AMRD specified as Group B the following spectrum requirements have been identified:

* AIS-technology used by AMRD applications are sufficient operated on one 25 kHz channel only. There is a low antenna height and the transmission power will be restricted to 1 W. A huge amount of AMRD in a certain area cannot be expected. It is unlikely to overload this 25 kHz channel.
* AMRD applications using other technologies are sufficient operated on three 25 kHz channels. There is a low antenna height and the transmission power will be restricted to 1 W. If needed, channel sharing is necessary.

Proposals

**Autonomous maritime radio devices - Group A**

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APPENDIX 18 (REV.WRC‑19)

Table of transmitting frequencies in the  
VHF maritime mobile band

(See Article 52)

*…*

| **Channel designator** | **Notes** | **Transmitting frequencies  (MHz)** | | **Inter-ship** | **Port operations  and ship movement** | | **Public corres-pondence** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **From ship stations** | **From coast stations** | **Single frequency** | **Two frequency** |
| … | *…* | … | … | … | … | … | … |
| 2078 | *mm)* |  | 161.525 |  |  |  |  |
| 2019 | *mm)* |  | 161.550 |  |  |  |  |
| 2079 | *mm)* |  | 161.575 |  |  |  |  |
| … | *…* | … | … | … | … | … | … |

*…*

*Specific notes*

*…*

*f)* The frequencies 156.300 MHz (channel 06), 156.525 MHz (channel 70), 156.800 MHz (channel 16), 161.975 MHz (AIS 1) and 162.025 MHz (AIS 2) may also be used by aircraft stations for the purpose of search and rescue operations and other safety-related communication. The frequencies 156.525 MHz (channel 70), 161.975 MHz (AIS 1) and 162.025 MHz (AIS 2) may also be used by autonomous maritime radio devices Group A for digital selective calling and/or AIS-technology as described in the most recent version of Recommendation ITU R M.[AMRD].     (WRC‑19)

*…*

*r)* In the maritime mobile service, this frequency is reserved for usage of Autonomous maritime radio devices Group B using AIS-technology as described in the most recent version of Recommendation ITU-R M.[AMRD].     (WRC‑19)

*…*

*mm)* Transmission on these channels is limited to coast stations. If permitted by administrations and specified by national regulations, these channels may be used by ship stations for transmission. All precautions should be taken to avoid harmful interference to channels AIS 1, AIS 2, 2027\* and 2028\*. In addition channels [2078, 2019 and 2079] may also be used for AMRD group B for non-AIS technologies as described in the most recent version of Recommendation ITU-R M.[AMRD].     (WRC‑19)

\* From 1 January 2019, channel 2027 will be designated ASM 1 and channel 2028 will be designated ASM 2.

**Reasons:** Amendments in the table:

The channels 2078, 2019 and 2079 are not suitable port operation and ship movement service in simplex mode. In case of using these frequencies by ship stations the AIS on board the transmitting vessels will be discontinued. It is proposed to use these channels for AMRD Group B.

Note f:

AMRD Group A are identified to enhance the safety of navigation. Consequently AMRD Group A need to be operated on the ordinary frequencies for digital selective calling and AIS on order to enable vessels to detect it.

Note r:

It is proposed that for AMRD Group B for AIS technology one 25 kHz channel is sufficient. Channel 2006 (160.900 MHz) has already been identified for future applications or systems.

Note mm:

It is proposed that for AMRD Group B using other technologies than AIS technology three 25 kHz channels are sufficient to be operated. The channels 2078 (161.525 MHz), 2019 (161.550 MHz) and 2079 (161.575 MHz) are not usable on board vessels for simplex communication because of interference to AIS. [The risk of interference to coast stations operating the duplex cannels 78, 19 and 79 using the transmitting frequencies 161.525 MHz (Ch. 78), 161.550 MHz (Ch. 19) and 161.575 MHz (Ch. 79) is very low and acceptable, due to the restricted transmission power of 1 W, the maximum antenna height of 1 m and the restricted duty cycle to 10%.]

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RESOLUTION 362 (REV.WRC‑15)

**Autonomous maritime radio devices operating in   
the frequency band 156-162.05 MHz**

**Reasons:** It is proposed to suppress Resolution **362 (WRC-15)** since it will become superfluous after the studies are completed and the identification of frequencies in order to enhance maritime radiocommunication has been made by WRC-19.

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