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# Report of the World Radiocommunication Conference 2023 (WRC-23) 20th November to 15th December 2023

Note by the IALA representative Stefan Bober

**Outcome of the World Radiocommunication Conference 2023 (WRC-23)**

Int. Organization: International Telecommunication Union, Radiocommunication Sector  
World Radiocommunication Conference 2023 (WRC-23)

IALA interest: Maritime mobile service including Global Maritime Distress and Safety System (GMDSS) and radiodetermination service

Specific: Agenda item 1.11: Modernization of the Global Maritime Distress and Safety System and the implementation of e-navigation  
Agenda item 10: Agenda for the next world radiocommunication conference (WRC-27), and items for the preliminary agenda of future conferences

IALA participation Stefan Bober

1. **EXECUTIVE SUMARY**

Outcome of WRC-23 regarding the specific interest of IALA is:

- Modernization of the Global Maritime Distress and Safety System and the implementation of e  
 navigation (WRC-23 agenda item 1.11) was finalised, the appropriate amendments of the ITU radio  
 regulations were introduced.

- The proposed agenda items on digitalisation of VHF voice communication and on VDES R-Mode are  
 included in the preliminary agenda items for the World Radiocommunication Conference 2031  
 (WRC-31).

The outcome of WRC-23 is further detailed in following sections:

**2. INTRODUCTION**

The ITU World Radiocommunication Conference 2023 was held in Dubai, United Arab Emirates, from 20th November to 15th December 2023. The Conference was attended by more than 3900 delegates from 161 member states.

The main purpose of the conference was:

* to coordinate the world wide use of frequencies in the radio spectrum, to
* to address the global demand for spectrum for the growth and development of information and communication technologies
* to update ITU Radio Regulations (RR) which regulates the world wide use of the radio spectrum.

The results of the WRC-23 are documented in the Provisional Final Acts of the World Radiocommunication Conference 2023 (WRC-23), 20th November to 15th December 2023.

The specific interest of IALA at WRC-23 was the Modernization of the Global Maritime Distress and Safety System and the implementation of e-navigation as well as new agenda items on digitalisation of VHF voice communication and VDES R-Mode.

**3. Outcome of WRC-23 regarding agenda item 1.11: Modernization of the Global Maritime Distress and Safety System and the implementation of e-navigation**

WRC-23 agenda item 1.11 is to consider possible regulatory actions to support the modernization of the Global Maritime Distress and Safety System and the implementation of e-navigation in accordance with Resolution 361 (Rev.WRC-19). WRC-23 agenda item 1.11 was structured in

- Issue A - Global maritime distress and safety system (GMDSS) modernization

- Issue B – implementation of e-Navigation

- Issue C Introduction of additional satellite systems into the global maritime distress and safety system

**3.1 Issue A - Global maritime distress and safety system (GMDSS) modernization**

WRC-23 agenda item 1.11 issue A was successfully finalised by amending the radio Regulations (RR):

- Removal of narrow band direct printing (NBDP) for distress and safety communications from the  
 GMDSS (NBDP still being used for transmission of Maritime safety information);

- Introduction of the NAVDAT frequencies;

- Implementation of automatic connection system (ACS) for DSC in MF and HF bands;

- Implementation of automatic connection system (ACS) using DSC in MF and HF bands;

- Inclusion of AIS-SARTs as homing equipment for survival craft stations;

- Update operational procedures for urgency and safety communications in the global maritime   
 distress and safety system (GMDSS)

The 1.6 GHz satellite EPIRBs frequency, which is withdrawn from GMDSS by IMO, has been kept for GMDSS communications (not general maritime communications). The frequency band 1 645.5 - 1 646.5 MHz. is still protected for GMDSS in RR Annex 15.

However, there is an agenda item for WRC-27 on studies on potential new allocations to, and regulatory actions for, the mobile-satellite service in the frequency bands 1 427-1 432 MHz (space-to-Earth), 1645.5-1646.5 MHz (space-to-Earth) (Earth-to-space), 1 880-1 920 MHz (space-to-Earth) (Earth-to-space) and 2 010-2 025 MHz (space-to-Earth) (Earth-to-space) required for the future development of low-data-rate non geostationary mobile-satellite systems, RESOLUTION COM6/8 (WRC 23), WRC-27 AI 1.12 (resolution is still temporary number).

**3.2 Issue B – implementation of e-Navigation**

Previous WRCs have identified the frequency bands to be utilized for VDES and NAVDAT as well as for several satellite networks which support digital communication. Various existing satellite networks already support e-navigation. The VDES and NAVDAT systems support e navigation by means of enabling broadcasting (by NAVDAT) and exchange of digital files (via VDES).

From the point of view of frequency regulation, the requirements for e navigation are thus covered.

No change Radio Regulations for e-navigation were required

**3.3 Issue C - Introduction of additional satellite systems into the global maritime distress and safety system**

The conference provisionally recognized the BeiDou Satellite Messaging Service System for GMDSS use, subject to successful completion of coordination with the existing networks and elimination of interference.

With RESOLUTION COM4/5 (WRC-23) “Provisional application of the Radio Regulations for the introduction of new geostationary satellite networks into the global maritime distress and safety system” it was agreed that some frequencies of the BeiDou satellite will be treated as GMDSS, subject to frequency coordination with existing satellite systems. The effective date is at the first world radiocommunication conference following the completion of coordination according to the provisions of RESOLUTION 99 (REV.WRC-23). i.e. WRC-27 at the earliest.

**4 Outcome of WRC-23 RESOLUTION 655 (REV.WRC-23) Definition of time scale and dissemination of time signals via radiocommunication systems**

WRC-23 concluded the endorsement of the decision by the International Bureau of Weights and Measures (BIPM) to adopt Coordinated Universal Time (UTC) as the de facto time standard by 2035, with the possibility to extend the deadline to 2040 in cases where existing equipment cannot be replaced earlier. RESOLUTION 655 (REV.WRC-23) Definition of time scale and dissemination of time signals via radiocommunication systems.

**5. Outcome of WRC-23 regarding agenda item Agenda 10: Agenda for the next world radiocommunication conference (WRC-27), and items for the preliminary agenda of future conferences**

**5.1 WRC-23 agenda item 10 "Improving the utilization of the VHF maritime mobile band"**

The proposed WRC-27 agenda item to consider improving the utilization of the VHF maritime mobile band" has been revered to proposed agenda item for WRC-31 RESOLUTION 363 (REV.WRC-23). This proposed agenda items includes the digitalisation of VHF voice communication and VDES R-Mode.

However, the two new preliminary draft questions on VDES R-Mode and on Digital VHF voice will continue to be considered in the next WP 5B.

WRC-31 is invited:

- 1 to consider, based on the results of studies, and within the Radio Regulations, excluding   
 new allocations under Article 5, possible regulatory changes to advance digital voice and data   
 technologies in the MMS within the VHF maritime mobile band;

- 2 to consider, based on the results of studies, possible revisions to the Radio Regulations,  
 including new allocations under Article 5, limited to frequencies identified in Appendix 18 for   
 VDES, for implementation of R-Mode as a new maritime radionavigation service,

**5.2 WRC-23 agenda item 10 "Improving the utilization and channelization of maritime radiocom-munication in the MF and HF bands, including potential revisions to Article 52 and Appendix 17"**

The proposed WRC-27 agenda item to consider improving the utilization and channelization of maritime radiocommunication in the MF and HF bands, including potential revisions to Article 52 and Appendix 17" has been revered to proposed agenda item for WRC-31 " RESOLUTION COM6/18 (WRC-23) (this is a still temporary number).

WRC-31 is invited:

- to consider, based on the results of studies, possible revisions to the Article 52 and Appendix 17  
 channel plans in the maritime mobile MF and HF bands to improve use and efficiency.

**6. New agenda items for the World Radiocommunication Conference 2027 (WRC-27)**

WRC-23 has identified a number of agenda items for WRC-27 in RESOLUTION COM6/23 (WRC-23)

Agenda for the 2027 world radiocommunication conference.

**6.1 WRC-27 agenda item 1.9 consider appropriate regulatory actions to update Appendix 26 to the Radio Regulations in support of aeronautical mobile (OR) high frequency modernization**

This agenda item 1.9 WRC-27, in accordance with Resolution COM6/2 (WRC-23), focuses on Wide Band HF. Change in this band has the possibility to cause interference on the maritime HF band and thus might be of specific interest for the maritime community.

**6.2 WRC-27 agenda item 1.12 to consider, based on the results of studies, possible allocations to the mobile-satellite service and possible regulatory actions in the frequency bands … 1 645.5-1 646.5 MHz (space-to-Earth) (Earth-to-space), … required for the future development of low-data-rate non-geostationary mobile-satellite systems,**

The 1.6 GHz satellite EPIRBs frequency, which is withdrawn from GMDSS by IMO, has been kept for GMDSS communications (not general maritime communications). The frequency band 1 645.5 - 1 646.5 MHz. is still protected for GMDSS in RR Annex 15.

Agenda item 1.12 WRC-27, in accordance with Resolution COM6/8 (WRC-23), focuses among others on possible new allocation for frequency band 1 645.5 - 1 646.5 MHz.

WRC-23 invites the ITU-R Sector to complete in time for the 2027:

- 1 studies on spectrum requirements, technical and operational characteristics and conditions for   
 non-GSO low-data-rate MSS systems, including mitigation techniques, that allow coexistence of  
 these systems in the same frequency bands;

- 2 studies on sharing and compatibility between the non-GSO low-data-rate MSS systems and the  
 existing primary services operating in the frequency bands …, 1 645.5-1 646.5 MHz (space-to-Earth)  
 (Earth-to-space), … and in the relevant adjacent frequency bands, in order to ensure protection of  
 existing services

**7 Preliminary agenda items for the World Radiocommunication Conference 2031 (WRC-31)**

Two preliminary agenda items for WRC-31 according RESOLUTION COM6/25 (WRC-23) Preliminary

agenda for the 2031 world radiocommunication conference might be interest of IALA, as mentione before:

WRC-23 resolves to give the view that the following items should be included in the preliminary agenda for WRC-31:

…

- 2.7 to consider improving the utilization of VHF maritime radiocommunication, in accordance with  
 Resolution 363 (Rev.WRC-23);

- 2.8 to consider improving the utilization and channelization of maritime radiocommunication in the  
 MF and HF bands, including potential revisions of Article 52 and Appendix 17, in accordance with   
 Resolution COM6/18 (WRC-23);…

**8. Related documents**

International Telecommunication Union, Radiocommunication Sector,

World Radiocommunication Conference 2023 (WRC-23) Provisional Final Acts