INTERNATIONAL   **02.07.2024**

ITU

Report on ITU-R WP5B meeting 14th to 24th May 2024

Note by the IALA representative Stefan Bober

1. INTRODUCTION

ITU-R Working Party 5B (WP 5B) - Maritime mobile service including Global Maritime Distress and Safety System (GMDSS); aeronautical mobile service and radiodetermination service - held its meetings from 14th to 24th May 2024 as physical meeting in Geneva. This was the first meeting in the study cycle 2023 to 2027. Mr. Stefan Bober represented IALA.

IALA has a specific interest in the maritime mobile service including the Global Maritime Distress and Safety System (GMDSS) and the radiodetermination service, with particular emphasis on the development of VHF Data Exchange System (VDES), Automatic Identification System (AIS), Autonomous Maritime Radio Devices (AMRD), VHF digital voice, VDES R-Mode and e-Navigation.

The meeting of the WP5B-3 maritime focussed on the revision of ITU Recommendations and the introduction of two ITU study questions, namely study questions on "VHF digital voice" and on "VDES R-Mode". WP5B-3 maritime has no direct agenda item to prepare for WRC-27. However, WP5B-3 maritime is involved in several other agenda item at WRC-27, e.g. WRC-27 agenda item 1.12, current and future use of the 1645.5 -1646.5 MHz band.

2. ISSUES RELATED TO IALA WORK ADDRESSED DURING ITU-R WP 5B

2.1. Revision of Recommendation ITU-R M.1371-5 Automatic Identification System - AIS

WP 5B completed its review on the revision of Recommendation ITU-R M.1371-5. The group reviewed Input documents from China, USA and CIRM.

The summery of changes to Recommendation ITU-R M.1371-5 contains:

- Modification to the AIS-SART, MOB, and EPIRB-AIS to include new cancel and shut-down functions. Also, provisionally added 4 new characters at the end of Message 14 to address the limited resources with the free-form numbering as described in Recommendation ITU-R M.585-9.
- Updated the Reporting intervals for equipment other than Class A shipborne mobile equipment table for clarity and added Mobile AtoNs.
- Modified the physical layer to remove the requirement to support the full range of frequencies within RR Appendix 18. Only required to support AIS 1, AIS 2, and channels 75 and 76.
- Added a definition for "Silent Mode" as a fourth mode of operation.
- Removed the requirement for channel switching for AIS operation.
- Removed all requirements for supporting DSC, no DSC receiver required.
- Modified the Long Range operation to remove the physical interface to external equipment.
- Added a transmit power indicator to Messages 1, 2, 3, and 18.

- Updated the type of electronic position fixing devices to include BDS, integrated PNT, inertial navigation systems, and terrestrial radio navigation systems.
- Updated the AIS version to Recommendation ITU-R M.1371-6.
- Added the capability for a fixed AtoN to indicate a possible GNSS anomaly.
- Modified the Nature of AtoN table code 2 to be RACON or MAtoN.
- Update the content of the Message 28 single slot AtoN report and the associate Type of AtoN table.
- Updated the burst mode diagram to show how Message 14 is transmitted along Message 1.
- Provisionally added the VDES indicator to Message 24 part B.

WP 5B has sent a liaison statement to CIRM concerning the manufacturer IDs for devices using a freeform number identity. To resolve the issue of the limited availability of manufacturer IDs it is proposed to append four characters to the text of message 14 containing manufacturer suffix and the serial number.

WP 5B has sent a liaison statement to IMO and IALA to inform about the status of the work, which is almost finalised, and invite IMO and IALA to review this latest draft document and provide comments as appropriate.

->   IALA is invited to review this latest draft document and in particular to comment on the work on AtoN, especially the revised new Message 28 (single slot AtoN message).

2.2. Revision of Recommendation ITU-R M.585-9 Assignment and use of identities in the maritime mobile service

WP5B continued work on the Recommendation ITU-R M.585-9. Clarification were introduced on the assignment of identification to craft associated with a parent ship. First generation EPIRB on board craft associated with a parent ship should use the MMSI of the parent ship, second generation EPIRB should use the MMSI of the craft specified in Recommendation ITU-R M.585, i.e. "98MIDXXXX".

The use of the maritime identity of the EPIRB-AIS, i.e. "974XXYYYY" has been clarified. This identity is for the locating device function of the EPIRB-AIS, and is not the MMSI of the ship.

WG5B continued its work on the limited availability of manufacturer IDs for devices using a freeform number identity. An alternative manufacturer ID scheme is required to identify AIS-SART, MOB-AIS and EPIRB-AIS during burst transmission. CIRM proposed supplemental manufacturer ID information to resolve the issue. For AIS message 14 of burst transmission, a three alphanumeric characters MPP together with a space are appended to the end of the safety related text, where <m=manufacturer suffix> <pp=serial number prefix>. These new three characters MPP together with the remaining 9 numbers form a new device number $9_1 7_2 T_3 X_4 X_5 M_6 P_7 P_8 Y_9 Y_{10} Y_{11} Y_{12}$. This solution may also have an impact on the revision of Recommendation ITU-R M.1371-5. A liaison statement to CIRM on the issue was drafted. The proposal is still under consideration, further work is required including involvement of IMO.

2.3. New ITU study question "Coexistence of VHF data exchange system with a Ranging-Mode in the VHF data exchange system"

WG5B developed a draft new question on Coexistence of VHF data exchange system with a ranging-mode in the VHF data exchange system. Following questions should be studied:

- What are the technical characteristics and operational procedure of the ranging mode (R-mode) to be used in the VHF data exchange system (VDES)?

- How would the introduction of R-mode impact the communication capacity of VDES?

- What technical conditions are necessary for a radio navigation application, such as ranging mode (R-Mode) in the VDES to ensure their coexistence when using a common frequency band with VDES?

The draft new question on VDES R-Mode was forwarded to SG 5 for approval.

2.4. New ITU study question "Introduction of Digital Voice Communications in the VHF maritime frequency channels"

WG5B developed a draft new question on Introduction of Digital Voice Communications in the VHF maritime frequency channels. Following questions should be studied:

- What are the technical and operational characteristics and possibilities for expansion of the number of VHF maritime voice channels based on the implementation of digital technology?

- What are the most appropriate ways for more efficient use of current frequencies used by VHF maritime voice channels by using digital technology?

- What are the technical and operational criteria to establish the seamless migration or coexistence of current analogue voice channels VHF channels next to digital channels?

The draft new question on digital voice was forwarded to SG 5 for approval.

2.5. NEW REPORT ITU-R M. [VDES R-MODE] - Impact of the possible introduction of a range mode on the VHF data exchange system

WP 5B continued work on a new report on the impact of the possible introduction of a range mode on the VHF data exchange system. The aim of this report is to describe the impact of R-Mode VDES.

The document contains chapters on background information, a general description of VHF data exchange system ranging-mode including functional build of VDES R-Mode, Practical aspects and use cases and a Technical description of VHF data exchange system ranging-mode including ranging sequences and navigation message, Signal-to-Interference Analysis for Multiple VDES Stations and a chapter on Interoperability and resource sharing of VHF data exchange system ranging-mode and VHF data exchange system communication services.

->   IALA is invited to contribute to the development of this report.

2.6. Suppression of Recommendation ITU-R M.693-1 Technical characteristics of VHF emergency position-indicating radio beacons using digital selective calling

Recommendation ITU-R M.693-1 on technical characteristics of VHF emergency position-indicating radio beacons using digital selective calling was issued in 2012 and describes the technical characteristics of DSC VHF EPIRBs. Amendments to GMDSS that apply to radio equipment installed on ships no longer allows for the substitution of satellite EPIRBs with DSC VHF EPIRBs in Sea Area A1. Rule IV/8.3 of the 1974 SOLAS Convention has been deleted. The WP5B therefore agreed to the suppression of Recommendation ITU-R M.693-1.

3. RELATED DOCUMENTS

- Preliminary draft revision of Recommendation ITU-R M.1371-5 (AIS)
- New ITU study question VDES R-mode
- New ITU study question VHF digital voice
- WD towards new report on the impact of the possible introduction of a R-Mode on the VDES

4. IALA IS REQUESTED TO

➔ IALA is requested to note the report on ITU-R WP5B meeting and act accordingly.