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| **The 3rd Meeting of the APT Conference Preparatory Group for WRC-23 (APG23-3)** | **APG23-3/OUT-18** |
| 8 – 13 November 2021, Virtual/Online Meeting | 13 November 2021 |

Working Party 2

**PRELIMINARY VIEWs on WRC-23 agenda item 1.11**

**Agenda Item 1.11:**

*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)***

**1. Background**

**1.1 Introduction**

 Resolution **361 (Rev. WRC-19)** through the section *resolves to invite the 2023 World Radiocommunication Conference* identifies three topics which are studied and solved independently.

 WP 5B is the responsible group, together with contributing groups WP 4C and WP 7D, according to the CPM23-1 results (CA/215), to address the ITU-R preparatory work for
WRC-23. There are three issues assigned for study as follows:

**Issue A (*resolves 1*): GMDSS Modernization**

* This topic is the continuation of the agenda item 1.8, Issue A of WRC-19. The modernization of global maritime distress and safety system (GMDSS), for which the work is undertaken by IMO was not finalized at the time of WRC-19. That Conference has solely been able to take some preliminary decision regarding the NAVDAT in the MF and HF bands. In 2022, IMO has adopted amendments to the 1974 Safety of Life at Sea (SOLAS) Convention chapters III and IV, together with related and consequential amendments to existing instruments other than SOLAS. These amendments will enter into force in 2024 and concluded the IMO work on modernization of the GMDSS.

**Issue B (*resolves 2*): E-navigation**

* The e-navigation is a concept under study at IMO since 2005. The definition of
e-navigation is given by IMO:

 “E-navigation is the harmonized collection, integration, exchange, presentation and analysis of marine information on board and ashore by electronic means to enhance berth to berth navigation and related services for safety and security at sea and protection of the marine environment.”

**Issue C (*resolves 3*): Introduction of additional satellite systems into the GMDSS**

* Services of two satellite systems have been providing safety communication in the GMDSS. IMO is considering to introduce an additional GSO MSS system for GMDSS which may require new or modified regulatory provisions, based on the results of the ITU-R studies.

**1.2 ITU-R ongoing activities**

**1.2.1 ITU-R WP 5B**

* At the meeting held in May 2021, ITU-R WP 5B as the responsible group for *Resolves* *1* and *2* of this Agenda Item updated the draft CPM text. Two Methods for *Resolves 1* were presented as follows:
* Method A1: Removal of narrow band direct printing from the global maritime distress and safety system and introduction of an automatic connection system for MF and selected HF bands
* Method A2: Automatic identification system search and rescue transponder as homing Equipment for Survival craft station
* WP 5B prepared one liaison statement to invite IMO to make comments on GMDSS modernization regarding removal of narrow band direct printing (NBDP) from the GMDSS, introduction of an automatic connection system for MF and selected HF bands and implement AIS-SART as homing equipment for survival craft station and to provide information on desired radiocommunication systems to support e-Navigation. Another liaison statement was developed to WP 4C and WP 7D to inform the work progress in WP 5B. Additionally, the meeting updated the work plan accordingly.
* Recommendations ITU-R M.493 and ITU-R M.541 are under revision in order to allow the introduction of an automatic connection system (ACS) based on DSC for communication in the MF and HF bands.

**1.2.2 ITU-R WP 4C**

* ITU-R WP 4C is responsible for developing studies and draft CPM text on *Resolves 3* of this Agenda Itemand send this to WP 5B.WP 4C is developing the working document towards a preliminary draft new Report ITU-R M.[ADD\_GSO\_GMDSS] – Introduction of additional GSO MSS systems into the GMDSS.
* In the October 2021 meeting, WP 4C updated the draft CPM text for *Resolves 3*. Some Methods were presented, and they will be discussed at the next WP 4C meeting. WP 4C also reviewed the regulatory provisions in the frequency bands 1 610-1 626.5 MHz and 2 483.5-2 500 MHz and collected system characteristics and coordination status information relevant to the additional satellite network into the GMDSS.
* The draft CPM text for *Resolves 3* will be finalized at the next WP 4C meeting planned in May 2022 and will be sent to the WP 5B meeting planned in July 2022.

**1.3 List of relevant ITU-R Reports/Recommendations**

* Working Document towards a preliminary draft new Report ITU-R M.[ADD\_GSO\_GMDSS] - Introduction of additional GSO MSS systems into the GMDSS
* Report ITU-R M.2369-0: Use of non-geostationary orbit mobile satellite systems to enhance maritime safety
* Recommendation ITU-R M.476-5: Direct-printing telegraph equipment in the maritime mobile service
* Recommendation ITU-R M.492-6: Operational procedures for the use of direct-printing telegraph equipment in the maritime mobile service
* Recommendation ITU-R M.493-15: Digital selective-calling system for use in the maritime mobile service
* Recommendation ITU-R M.541-10: Operational procedures for the use of digital selective-calling equipment in the maritime mobile service
* Recommendation ITU-R M.625-4: Direct-printing telegraph equipment employing automatic identification in the maritime mobile service
* Recommendation ITU-R M.1184-3: Technical characteristics of mobile satellite
systems in the frequency bands below 3 GHz for use in developing criteria for
sharing between the mobile-satellite service and other services
* Recommendation ITU-R M.1188-1: Impact of propagation on the design of non-GSO mobile-satellite systems not employing satellite diversity which provide service to handheld equipment
* Recommendation ITU-R RA.769-2: Protection criteria used for radio astronomical measurements
* Recommendation ITU-R RA.1513-2: Levels of data loss to radio astronomy observations and percentage-of-time criteria resulting from degradation by interference for frequency bands allocated to the radio astronomy service on a primary basis

**2. Documents**

* Input Documents: APG23-3/INP-08 (AUS), APG23-3/INP-16 (INS), APG23-3/INP-21 (NZL), APG23-3/INP-25 (KOR), APG23-3/INP-29 (J), APG23-3/INP-47 (IRN), APG23-3/INP-52 (VTN)
* Information Documents: APG23-3/INF-15 (ICAO), APG23-3/INF-24 (DG Chairs), APG23-3/INF-37 (ASMG), APG23-3/INF-39 (ATU), APG23-3/INF-41 (CEPT)

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Australia** - **Document APG23-3/INP-08**

* Issue A/*resolves 1* – GMDSS modernisation

Australia supports regulatory action to progress the modernisation of the GMDSS, taking into consideration the decisions of IMO.

* Issue B/*resolves 2* – e-Navigation

Australia supports, taking into consideration the decisions of IMO, implementation of
e-navigation in the Radio Regulations.

* Issue C/*resolves 3* – new satellite systems

Australia supports regulatory action to enable the introduction of additional satellite systems into the GMDSS if:

* the results of ITU-R study ensure protection of services in the same and adjacent frequency bands;
* ITU-R coordination and notification with other systems is completed; and
* IMO (and IMSO) recognition is obtained prior to consideration by WRC-23.

**3.1.2 Indonesia (Republic of)** - **Document APG23-3/INP-16**

* Indonesia supports ITU-R studies under WRC-23 Agenda item 1.11 with a view to develop appropriate regulatory actions, to support GMDSS modernization and
e-navigation, and to develop possible regulatory provisions to support the introduction of additional satellite systems into the GMDSS in accordance with Resolution **361 (Rev.WRC-19)**.
* Further, Indonesia is of the view, that modernization of GMDSS such as the introduction of automatic connection system (ACS), and the implementation of e-navigation should be affordable and simple to operate, so that Non Convention Vessel could also benefit from it.

**3.1.3 New Zealand** - **Document APG23-3/INP-21**

* New Zealand supports ITU-R studies on the modernisation of the Global Maritime Distress and Safety System (GMDSS) and appropriate regulatory actions. Activities of IMO, as well as information and requirements provided should be considered.

**3.1.4 Korea (Republic of)** - **Document APG23-3/INP-25**

* ***(Issue A)*** The Republic of Korea supports possible introduction of automatic connection system (ACS) taking into consideration the activities of IMO for the modernization of GMDSS. The Republic of Korea is also of the view that introduction of new radiocommunication technologies should not impose undue constraints on the GMDSS functions.
* ***(Issue B)*** The Republic of Korea is of the view that ITU-R studies and associated regulatory actions for supporting implementation of e-navigation should take into consideration the relevant activities of IMO.
* ***(Issue C)*** The Republic of Korea supports introduction of additional satellite systems into the GMDSS taking into consideration the activities of IMO provided that the results of study on sharing and compatibility with other services in the same and adjacent frequency bands ensure protection of incumbent services.

**3.1.5 Japan** - **Document APG23-3/INP-29**

* Issue A: GMDSS Modernization
* Japan supports the introduction of automatic connection system (ACS) for MF and selected HF bands and international NAVDAT service for the modernization of GMDSS.
* Japan is of the view that ITU-R studies take into consideration the activities of IMO for GMDSS modernization, such as introduction of NAVDAT system and revised IMO performance standards of GMDSS equipment.
* Issue B: e-navigation

Japan supports the ITU-R studies and associated regulatory actions, taking into consideration the activities of IMO, for implementation of e-navigation.

* Issue C: Introduction of additional satellite systems into the GMDSS

Japan is of the view that the introduction of additional GSO satellite systems into the GMDSS are considered, provided that the results of study on sharing and compatibility with other services in the same and adjacent frequency bands ensure protection of services to which the bands are allocated.

**3.1.6 Iran (Islamic Republic of)** - **Document APG23-3/INP-47**

* Issue C: Regulatory action due to the introduction of additional satellite systems into the GMDSS by IMO

This Administration supports introduction of proposed GMDSS operations provided that it demonstrates compatibility with other radiocommunication services to which the band 1610-1626.5 MHz is currently allocated.

**3.1.7 Viet Nam (Socialist Republic of)** - **Document APG23-3/INP-52**

* ***Resolves 1: GMDSS Modernization***

Viet Nam supports the ITU-R studies and associated possible regulatory actions to facilitate the modernisation of GMDSS, including the introduction of automatic connection system (ACS) and international NAVDAT applications in the Radio Regulation, take into consideration the relevant activities of IMO, while ensuring no adverse effect on the allocation of the existing services and their future development in the same and adjacent frequency bands.

* ***Resolves 2: E-navigation***

Viet Nam supports the ITU-R studies and associated possible regulatory actions, taking into consideration the activities of IMO, as appropriate to introduce the e-navigation application, while ensuring no adverse effect on the allocation of the existing services and their future development in the same and adjacent frequency bands.

* ***Resolves 3: Introduction of additional satellite systems into the GMDSS***

Viet Nam supports the ITU-R studies and associated possible regulatory actions, taking into consideration the activities of IMO, as appropriate to introduce additional GSO satellite systems into the GMDSS, while ensuring no adverse effect on the allocation of the existing services and their future development in the same and adjacent frequency bands.

**3.1.8 China (People’s Republic of)** - **Document APG23-2/INP-45**

* Regarding ***Resolves 3***:

China supports ITU Radiocommunication Sector continuing studies, taking into consideration the activities of IMO and other relevant international organizations, in order to determine spectrum needs and regulatory actions to support the introduction of additional satellite systems into the GMDSS.

* 1. **Summary of issues raised during the meeting**

None.

**4. APT Preliminary Views**

**Issue A (*resolves 1*)*:* GMDSS Modernization**

* APT Members support ITU-R studies to progress the modernization of GMDSS, taking into consideration the activities of IMO, for GMDSS modernization, including introduction of NAVDAT system and revised IMO performance standards of GMDSS equipment.
* APT Members support possible introduction of the automatic connection system (ACS) for MF and selected HF bands and international NAVDAT service for the modernization of GMDSS, while ensuring no adverse effect on the allocation of the existing services and their future development in the same and adjacent frequency bands. APT Members are of the view that introduction of new radiocommunication technologies should not adversely affect the operation of the GMDSS.
* APT Members are also of the view that the modernization of GMDSS including the introduction of the automatic connection system (ACS) should be affordable and simple to operate, so that non-SOLAS/non-Convention vessels could also benefit from it.

**Issue B (*resolves 2*)*:* E-navigation**

* APT Members support ITU-R studies, taking into consideration the activities of IMO, for implementation of e-navigation, while ensuring no adverse effect on the operation of the existing services and their future development in the same and adjacent frequency bands.
* APT Members are also of the view that the implementation of e-navigation should be affordable and simple to operate, so that non-SOLAS/non-Convention vessels could also benefit from it.

**Issue C (*resolves 3*)*:* Introduction of additional satellite systems into the GMDSS**

* APT Members support the introduction of additional GSO satellite systems into the GMDSS, provided that the results of studies on sharing and compatibility with other radiocommunication services in the same and adjacent frequency bands ensure the protection of the services in the frequency bands under consideration by this agenda item.

**5. Other View(s) from APT Members**

None.

**6. Issues for Consideration at Next APG Meeting**

APT Members are encouraged to contribute their views, taking into account ITU-R studies and the APT preliminary views, and submit contributions to the next APG meeting (APG23-4).

**7. Views from Other Organisations** (as provided in the information documents to APG23-3)

**7.1 Regional Groups**

**7.1.1 CEPT** - **Document APG23-3/INF-41**

* **Issue A: Modernisation of GMDSS**

CEPT supports the possible regulatory actions needed to implement the GMDSS modernisation in the Radio Regulation based on decisions to be taken in IMO.

* **Issue B: e‐navigation**

CEPT supports, based on decisions to be taken in IMO, the possible regulatory actions in the Radio Regulation needed to support the implement of the e‐navigation, if appropriate.

* **Issue C: Regulatory action due to the introduction of additional satellite systems into the GMDSS by IMO**

CEPT supports regulatory actions to introduce an additional satellite system into the GMDSS, based on decisions to be taken in IMO. However, approval by IMO of any existing satellite system/network as complying with the requirements for GMDSS shall not lead to a change in the status of frequency assignments of this system/network and/or the allocation status of the corresponding service within which this system/network is notified.

**7.1.2 ASMG** - **Document APG23-3/INF-37**

* Support the possible regulatory procedures for updating the GMDSS system and implementing electronic navigation, and introducing a new GMDSS satellite system while ensuring the protection of other existing services and systems operating in the GMDSS system.

**7.1.3 ATU** - **Document APG23-3/INF-39**

* Support the development of possible regulatory procedures for GMDSS modernization, E-navigation implementation and introducing a new GMDSS satellite system while ensuring the protection of radio astronomy and other incumbent services as well as current GMDSS systems.

**7.2 International Organisations**

**7.2.1 WMO** - **Document APG23-3/INF-01**

* No position for this Agenda Item.

**7.2.2 ICAO** - **Document APG23-3/INF-15**

* To ensure that any change to the regulatory provisions and spectrum allocations resulting from this agenda item do not adversely impact on the capability of search and rescue aircraft, including helicopters, to effectively communicate with vessels during disaster relief operations.
* To ensure that any regulatory provisions in response to this agenda item do not adversely affect compliance of aeronautical mobile-satellite (route) service systems with international standards and recommended practices and procedures established in accordance with the Convention on International Civil Aviation.

**7.2.3 IARU** - **Document APG23-3/INF-17**

* No position for this Agenda Item.

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