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| **The 3rd Meeting of the APT Conference Preparatory Group for WRC-19 (APG19-3)** | **APG19-3/OUT-22** |
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Working Party 5

**PRELIMINARY VIEWs on WRC-19 agenda item 1.8**

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

**1. Background**

The Global Maritime Distress and Safety System (GMDSS) was adopted as part of the 1988 Amendments to the International Convention for the Safety of Life at Sea, 1974 (SOLAS). It was fully implemented in 1999. It has served the mariner and the maritime industry well since its inception, but some of the GMDSS technologies used have not reached their full potential, and some GMDSS functions could be performed by more modern technologies. The plan for modernization of the GMDSS was adopted by the Maritime Safety Committee of the IMO on June 2017. The GMDSS modernization plan consists of various components which could be part of the GMDSS, among them some items are identified in relation to the studies on Agenda Item 1.8 for the WRC-19, such as additional satellite service in GMDSS, VDES, NAVDAT and HF communications.

The Resolution 359 invites the WRC-19 to take necessary actions to support GMDSS modernization (***Resolves 1***) and to consider regulatory provisions related to the introduction of additional satellite system into the GMDSS while ensuring the protection of all incumbent services from harmful interferences (***Resolve 2***).

In relation to ***Resolves 1***, the NAVDAT on 500 kHz has been covered by WRC-12, however, the NAVDAT using HF which is described in the Recommendation ITU-R M.2058-0 has not yet been addressed.

In relation to ***Resolves 2****,* the IMO is considering incorporation of additional satellite systems into the GMDSS. For the recognition and inclusion of additional satellite service into the GMDSS, draft amendment to the SOLAS regulation was reviewed by the IMO on June 2017. The recognition of an additional GMDSS service provider is under consideration.

**1.1 Progress of ITU-R studies**

The WP 5B is the responsible group for Agenda Item 1.8, and the WP 4C and 7D are concerned group. The ***Resolves 1*** is under review in WP 5B, and the ***Resolves 2*** is under review in WP 4C.

For the Resolve 1, the WP 5B updated the preliminary draft CPM text and preparing preliminary draft revision to the Recommendation ITU-R M.2010-0on NAVDAT. In relation to ***Resolves 2***, the WP 4C initiated development of a preliminary draft CPM text and draft new reports on the introduction of additional mobile satellite services and on the unwanted emission from Iridium satellites. The existing relevant Recommendations and Reports for each issue are as follows:

**1.2 List of relevant ITU-R Recommendations and Reports**

1) ***Resolves 1***:

* Recommendation ITU-R M.2010-0: Characteristics of a digital system, named Navigational Data for broadcasting maritime safety and security related information from shore-to-ship in the 500kHz band; or the revised version;
* Recommendation ITU-R M.2058-0: Characteristics of a digital system, named navigational data for broadcasting maritime safety and security related information from shore-to-ship in the maritime HF frequency band; or the revised version;
* Report ITU-R M.2201: Utilization of the frequency band 495-505 kHz band by the maritime mobile service for the digital broadcasting of safety and security related information from shore-to-ships.

2) ***Resolves 2***:

* 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 (MSS) 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 M.1583-1: Interference calculations between non-geostationary mobile-satellite service or radionavigation-satellite service systems and radio astronomy telescope sites;
* Report ITU-R M.2369-0: Use of non-geostationary orbit mobile satellite systems to enhance maritime safety;
* Working document towards a preliminary draft new Report ITU-R M.[GMDSS‑SATREG] – Introduction of additional mobile-satellite service systems into the GMDSS;
* Working document towards a preliminary draft new Report ITU-R M.[RAS‑COMPAT] – Unwanted emissions in the RAS band from space-to-Earth transmissions from HIBLEO-2 satellites.

**2. Documents**

**2.1 Input Documents**

* + - Documents APG19-3/INP-25 (Korea)
    - Documents APG19-3/INP-38 (New Zealand)
    - Documents APG19-3/INP-45 (Australia)
    - Documents APG19-3/INP-53 (Japan)
    - Documents APG19-3/INP-63 (Thailand)
    - Documents APG19-3/INP-69 (Singapore)
    - Documents APG19-3/INP-80 (Indonesia)
    - Documents APG19-3/INP-85 (Viet Nam)
    - Documents APG19-3/INP-90 (China)

**2.2 Information Documents**

* Documents APG19-3/INF-06 (CEPT)
* Documents APG19-3/INF-08 (CITEL)

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Korea** - **Document APG19-3/INP-25**

The Republic of Korea proposes modifications to the APT Preliminary View adopted at the APG19-2, as stated below:

APT Members support the ITU-R studies on possible regulatory actions for GMDSS modernization to enhance maritime capabilities and the studies on sharing and compatibility with other services in the frequency bands and adjacent frequency bands under study and to ensure possible modification to the Radio Regulations to protect services to which the frequency bands are currently allocated without any constraints by additional GMDSS satellite systems, in accordance with Resolution **359 (Rev. WRC-15)**.

Regarding ***Resolves* 1**, APT Members support the incorporation of NAVDAT systems and NAVDAT frequencies by identification of 495-505 kHz band for international MF NAVDAT and modification of Appendix **17** for HF NAVDAT.

Regarding **R*esolves* 2**, APT Members support possible modifications to the provisions of the Radio Regulations to provide for additional satellite systems into the GMDSS, taking into consideration the activities of IMO, while ensuring no additional impact on the existing services, particularly RAS, within the frequency band and the adjacent bands under study.

**3.1.2 New Zealand** - **Document APG19-3/INP-38**

New Zealand supports the ITU-R studies undertaken in accordance with Resolution **359 (Rev. WRC-15)**.

For Issue A, New Zealand is of the view that it is appropriate to include MF NAVDAT and HF NAVDAT frequencies into Appendix **17**, while the recognition of these MF NAVDAT and HF NAVDAT frequencies as GMDSS for inclusion into RR Appendix **15** would be considered at a future WRC after IMO concludes its work on the modernisation of the GMDSS.

For Issue B, New Zealand could support the consideration of regulatory changes for an additional satellite system into the GMDSS, if this satellite system could meet all the necessary requirements as prescribed and approved by the IMO, in order to allow competition and diversity in the GMDSS satellite space.

**3.1.3 Australia** - **Document APG19-3/INP-45**

Australia supports development of possible regulatory requirements to facilitate ‘modernisation’ of the Global Maritime Distress Safety Systems (GMDSS) in accordance with Resolution **359 (Rev.WRC-15)** while ensuring compatibility and sharing with other services in the frequency bands and adjacent frequency bands.

For Issue A - Australia supports further studies to determine the requirements for the introduction of NAVDAT in the MF and HF bands.

For Issue B - any modifications to the Radio Regulations to provide for additional satellite systems for the GMDSS should not have any impact on the existing services within the frequency band and the adjacent bands under consideration of this agenda item.

**3.1.4 Japan** - **Document APG19-3/INP-53**

Japan supports the introduction of NAVDAT in the MF and HF bands. The frequency bands which are currently identified for NAVTEX for use by GMDSS need to be retained and protected. (***Resolves 1***).

Japan supports ITU-R studies for the introduction of additional satellite systems. (***Resolves 2***).

**3.1.5 Thailand** - **Document APG19-3/INP-63**

Issue A, Thailand supports modification of the Radio Regulations to allow NAVDAT system to use frequency band 495-505 kHz and the frequency bands described in the most recent version of Recommendation ITU-R M.2058.

**3.1.6 Singapore** - **Document APG19-3/INP-69**

There is a need to ensure the availability and robustness of maritime safety communications, and to support the work of other UN agencies such as the IMO. In view of ongoing studies and consideration of methods within WP 4C, Singapore supports a method to satisfy Agenda Item 1.8 that supports GMDSS as recognized by the IMO, consistent with its expected decisions in 2018.

This method should:

1. Ensure that the usage of any new frequency band for GMDSS is appropriately noted by a footnote to the allocation, as well as in Appendix 15 of the Radio Regulations;
2. Recognize that the allocations under consideration have been in place since WARC-1992, and have been in continuous use by mobile-satellite systems;
3. Recognize that the MSS allocations under study (1610-1626.5 MHz) include a primary allocation in the Earth-to-space direction (uplink) and a secondary allocation in the space-to-Earth direction (downlink), and consequently a solution in which GMDSS is provided in an uplink and downlink in the same frequency band may provide sufficient protection to the downlink without requiring changes to the allocation status of the frequencies considered; and

Ensure that there is no adverse impact on other in-band and adjacent-band services.

**3.1.7 Indonesia** - **Document APG19-3/INP-80**

In Indonesia, the frequency bands 415-495 kHz and 505-526.5 kHz are used by existing radiotelegraphy services, therefore Indonesia is of the view that any modernization of GMDSS should not limit the use of the bands 415-495 kHz and 505-526.5 kHz for radiotelegraphy service.

**3.1.8 Viet Nam** - **Document APG19-3/INP-85**

Viet Nam Administration supports the activities of ITU-R in related to the modernization of GMDSS and the introduction of additional satellite systems into the GMDSS.

In regarding the modification of the Radio Regulations under WRC-19 Agenda Item 1.8, this Administration is of the view that:

* Gaps/weakness in functioning of current GMDSS shall be clearly identified and filling up these gaps must be prioritized while considering GMDSS modernization,
* Existing allocations and systems should be protected.
* No need of deadline for NAVDAT and/or new satellite systems implementation.

***Regarding Issue A***

* Support to consider the incorporation of NAVDAT systems and NAVDAT frequencies, both MF and HF as described in M.2010 and M.2058, into GMDSS;
* Support to consider the frequency(ies) to be used for national MF NAVDAT;
* The existing frequencies used for NAVTEX should be retained and protected.

***Regarding Issue B***

* Satellite systems recognized by IMO for use in the GMDSS would be considered;
* The introduction of additional satellite systems must not impact existing services and systems.

**3.1.9 China** - **Document APG19-3/INP-90**

***Resolves 1***

China supports the regulatory and spectrum consideration on both the MF and HF NAVDAT as the potential applications in the GMDSS Modernization. The existing frequencies used for NAVTEX should be retained.

China supports **Method A** of the draft CPM text of Agenda Item 1.8.

***Resolves 2***

China support the ITU-R studies on possible regulatory actions for GMDSS modernization to enhance maritime capabilities and the studies on sharing and compatibility with other services in the frequency bands and adjacent frequency bands under study and to ensure possible modification to the Radio Regulations to protect services to which the frequency bands are currently allocated without any constraints by additional GMDSS satellite systems, in accordance with the Resolution **359 (Rev. WRC-15)**.

China supports **Method B3** of the draft CPM text of Agenda Item 1.8.

**3.2 Summary of issues raised during the meeting**

APT Members support the ITU-R studies on possible regulatory actions to provide additional satellite systems into the GMDSS while ensuring the protection of existing services, however some different views were expressed on the changes to the allocation status of the frequencies considered.

**4. APT Preliminary Views**

APT Members support the ITU-R studies on possible regulatory actions for GMDSS modernization to enhance maritime capabilities and the studies on sharing and compatibility with other services in the frequency bands and adjacent frequency bands under study and to ensure possible modification to the Radio Regulations to protect services to which the frequency bands are currently allocated without any constraints by additional GMDSS satellite systems, in accordance with the Resolution **359 (Rev. WRC-15)**.

Regarding ***Resolves 1***,

* APT Members support the incorporation of NAVDAT systems and NAVDAT frequencies, both MF and HF as described in Recommendation ITU-R M.2010 and ITU-R M.2058 into consideration for addressing this agenda item.
* The recognition of these MF NAVDAT and HF NAVDAT frequencies as GMDSS for inclusion into RR Appendix **15** would be considered at a future WRC after IMO concludes its work on the modernisation of the GMDSS.
* The existing frequencies used for NAVTEX should be retained and protected.

Regarding ***Resolves 2***,

- APT Members support possible modifications to the provisions of the Radio Regulations to provide for additional satellite systems into the GMDSS, taking into consideration the activities of IMO, while ensuring no additional impact on the existing services, particularly RAS, within the frequency band and the adjacent bands under study.

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

- Some APT members are of the view that any modernization of GMDSS should not limit the use of the bands 415-495 kHz and 505-526.5 kHz for radiotelegraphy service considering the frequency bands 415-495 kHz and 505-526.5 kHz are used by existing radiotelegraphy services.

- Some APT Members recognize that the MSS allocations under study (1610-1626.5 MHz) include a primary allocation in the Earth-to-space direction (uplink) and a secondary allocation in the space-to-Earth direction (downlink), and consequently a solution in which GMDSS is provided in an uplink and downlink in the same frequency band may provide sufficient protection to the downlink without requiring changes to the allocation status of the frequencies considered.

- Some APT Member proposed a method to maintain the current allocation but identify only the uplink for use by GMDSS.

- Some APT Members support to consider the frequency(ies) to be used for national MF NAVDAT.

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

APT Members are encouraged to contribute their views, taking into accounts the ITU-R studies and APT preliminary views and submit contributions to the next APG meeting (APG19-4).

**7. Views from Other Organisations**

**7.1 Regional Groups**

**7.1.1 ASMG - Documents APG19-2/INF-01**

Due to the need for modern communications systems in the field of global maritime distress and safety services (GMDSS) in accordance with Resolution 359 (REV.WRC 15), and due to its important contribution to maritime safety, ASMG supports:

* the consideration of possible regulatory actions to support the modernization of (GMDSS).
* the introduction of additional satellite systems in the GMDSS system while ensuring compatibility and interconnection among the new and the current systems.
* following-up studies to be undertaken by ITU-R on the protection of frequency bands being used in the future.

**7.1.2 ATU- Document APG19-2/INF-07**

No preliminary position on this agenda item yet.

**7.1.3 CEPT** - **Document APG19-3/INF-06**

Issue A: CEPT supports the introduction of the HF NAVDAT frequencies, defined in the Recommendation ITU-R M.2058-0, in RR Appendix 17.

• CEPT opposes of the introduction of the HF NAVDAT frequencies, defined in the Recommendation ITU-R M.2058-0, in RR Appendix 15for this WRC.

Issue B: CEPT can support regulatory actions to introduce an additional satellite system into the GMDSS only if:

• IMO decides that an additional satellite system is accepted to become part of the GMDSS

• [the frequency bands used are allocated to the maritime mobile satellite service (for both space to Earth and Earth to space) on a primary basis]

• regulatory provisions ensure that the protection of services operating in the frequency bands concerned and in adjacent frequency bands are maintained.

**7.1.4 CITEL** - **Document APG19-3/INF-08**

Preliminary proposals from a few countries to amend Article **5**, Table 15-2 of Appendix 15, No. **33.50** and No. **33.53** of Article **33** to enable the introduction of an additional GMDSS satellite system in the band 1 616-1 626.5MHz.

**7.1.5 RCC - Documents APG19-2/INF-05**

The RCC Administrations consider that the IMO position should be taken into account in regard to the GMDSS modernization, including the introduction of the IMO-recognized additional satellite systems, when developing relevant regulatory actions to support such modernization considering protection of existing services and systems.

**7.2 International Organisations**

**7.2.1 IARU**

No contribution covering this Agenda Item.

**7.2.2 ICAO - Documents APG19-2/INF-02**

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 to effectively communicate with vessels during disaster relief operations.

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