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| **The 3rd Meeting of the APT Conference Preparatory Group for WRC-23 (APG23-3)** | **APG23-3/OUT-31** |
| 8 – 13 November 2021, Virtual/Online Meeting | 13 November 2021 |

Working Party 4

**PRELIMINARY VIEWs on WRC-23 agenda item 1.18**

**Agenda Item 1.18:**

*to consider studies relating to spectrum needs and potential new allocations to the mobile-satellite service for future development of narrowband mobile-satellite systems, in accordance with Resolution* ***248******(WRC‑19)****;*

**1. Background**

WRC-23 Agenda item 1.18 calls for WRC-23 to implement the “*studies relating to spectrum needs and potential new allocations to the mobile satellite service in the frequency bands 1 695-1 710 MHz, 2 010-2 025 MHz, 3 300-3 315 MHz and 3 385-3 400 MHz for future development of narrowband mobile-satellite systems”*while ensuring the protection of existing primary services in those frequency bands and adjacent frequency bands. In accordance with the results of CPM23-1, ITU-R Working Party 4C (WP 4C) was assigned to be the responsible group for the Agenda Item 1.18.

According to the Resolution 248 (WRC-19), the candidate frequencies for agenda item 1.18 are as follows:

* 1 695-1 710 MHz in Region 2,
* 2 010-2 025 MHz in Region 1,
* 3 300-3 315 MHz, 3 385-3 400 MHz in Region 2;

ITU-R WP 4C which is a responsible group for this agenda item, focused its work on the review of the preliminary draft new Report ITU-R M.[NB.MSS] on Spectrum Requirements, Technical and Operational Requirements after APG23-2 meeting. During the discussion, the main difficulty of this agenda item would be attributed to the ambiguity of *recognizing c)* of Resolution **248 (WRC-19)** which reads “that the studies envisaged under *resolves to invite the ITU Radiocommunication Sector*in this Resolution are to be limited to those systems with space stations that have a maximum equivalent isotropically radiated power (e.i.r.p.) of 27 dBW or less, with a beamwidth of no more than 120 degrees”. The e.i.r.p. of 27 dBW could be understood as either per satellite basis or per system basis. WP 4C did not develop the representative NB-MSS system (LEO & MEO) parameters for sharing studies due to the reasons mentioned above

WP 4C decided that a couple of CG will be held before next WP 4C meeting (May, 2022) for further study of detailed technical analysis.

**2. Documents**

* Input Documents: APG23-3/INP-10 (AUS), INP-22 (NZL), INP-31 (JPN), INP-54 (VTN)
* Information Documents: APG23-3/INF-01(WMO), INF-17 (IARU), INF-20 (CEPT), INF-23 (DG Chair)

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Australia** - **Document APG23-3/INP-10**

Noting that this is a Region 1 and 2 issues, Australia supports sharing and compatibility studies with existing primary services to determine the suitability of new allocations to the mobile-satellite service (MSS), with a view to protecting the primary services, in the relevant frequency bands and adjacent frequency bands, without causing undue constraints on their further development.

**3.1.2 New Zealand** - **Document APG23-3/INP-22**

New Zealand notes that this is a Region 1 and 2 issue, Region 3 is not in scope. However, any allocation to the mobile satellite service on other Regions should not have an adverse impact on existing services in Region 3. It is noted that some countries are included in RR No **5.429** as having and additional allocation to the fixed and mobile service for the 3300 – 3400 MHz frequency band.

**3.1.3 Japan** - **Document APG23-3/INP-31**

Japan supports the studies at ITU-R for ensuring the protection of primary services including the protection for IMT systems deployed in the same and adjacent frequency bands for Region 3, noting that they are Regions 1 & 2 issues. In addition, these existing primary services can continue operations without additional regulatory or technical constraints imposed on these services, in any potential decisions made at WRC-23 regarding agenda item 1.18.

**3.1.4 Viet Nam** - **Document APG23-3/INP-54**

Viet Nam supports ITU-R studies on spectrum needs, coexistence with existing radiocommunication services and regulatory measures for possible new allocation to the mobile-satellite service for future development of narrowband mobile-satellite systems, in accordance with Resolution **248** **(WRC‑19),** while ensuring no adverse effect on the allocation of the existing services and their future development in the same and adjacent frequency bands which allocated for Region 3, in particular the Mobile service allocated in the same and adjacent frequency band.

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

APT members discuss the issue of interpretation of *recognizing c)* of Resolution **248 (WRC-19)** and whether the e.i.r.p. limits of 27 dBW contained in the Resolution apply on a system or a satellite basis.

It is noted that the representative NB-MSS system parameters should be developed for sharing studies with incumbent services in the ITU-R.

APT Members have a consensus on the protection of allocation of existing services in Region 3.

**4. APT Preliminary View(s)**

APT Members support sharing and compatibility studies with existing primary services to determine the suitability of new allocations to the mobile-satellite service (MSS), while ensuring no adverse effect on the allocation of the existing services including IMT and their future development in the same and adjacent frequency bands which allocated for Region 3. It is noted that some APT members are included in RR No **5.429** as having and additional allocations to the fixed and mobile service for the 3300 – 3400 MHz frequency band.

APT Members are of the view that any studies to be carried out by ITU-R under the agenda item 1.18 should be limited only for NB-MSS not a general MSS taking into account *considering a)* and *recognizing c)* described in Resolution **248 (WRC-19)**.

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

None

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

Consideration of the frequency sharing and compatibility studies as well as measures to protect existing primary services allocated in same and adjacent frequency bands which being considered under agenda item 1.18.

APT Members are encouraged to participate the discussion of this agenda item in the ITU-R WP 4C meeting.

**7. Views from Other Organisations**

**7.1 Regional Groups**

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

* The studies should ensure the protection for all ensure the protection of all existing and future services in these frequency bands and adjacent band defined in the resolution (248) ( WRC-19) from MSS, especially the frequency band ( 2010 -2025) MHz in Region 1 that identified for IMT.
* To ensure that the studies shall not impose any restrictions on all existing and future services in these frequency bands and adjacent band defined in the resolution (248) ( WRC-19).
* Follow-up the the coexistence and compatibility studies with all services within the frequency bands under this agenda in in order to determine the required frequency band BW.
* Follow-up the the coexistence and compatibility studies with all services within the frequency bands under this agenda in order to define the use of this service as primary or secondary.

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

* Support the ongoing studies at ITU-R on this agenda item with the view of ensuring the protection of primary services allocated in the frequency bands 1 695-1 710 MHz in R2, 2 010-2 025 MHz in R1, 3 300-3 315 MHz and 3 385-3 400 MHz in R2 especially the protection for IMT systems deployed or that may be deployed in the same and adjacent frequency band 2 010-2 025 MHz in R1 and to not adversely affecting the current use and future development of existing primary services in these frequency bands and adjacent frequency bands.

**7.1.3 CEPT** - **Document APG23-2/INF-35**

* CEPT is of the view that the spectrum needs of low data‐rate satellite applications currently presented in the preparatory work could be satisfied through possible new primary or secondary allocations to MSS within the bands considered in the framework of Resolution **248 (WRC‐19)**.
* CEPT is however of the view that before proceeding with any new allocations to MSS in these bands, in‐band and adjacent band coexistence of low date‐rate satellite applications with systems operated under existing allocations has to be demonstrated through sharing and compatibility studies, also considering to not causing undue constraints on their further development.
* CEPT is of the view that e.i.r.p. limits referred to in recognizing c) of Resolution 248 (WRC‐19) are applicable on a per satellite basis. CEPT is also of the view that applicable power limits to ensure the protection of incumbent services should be concluded from sharing and compatibility studies in accordance with Resolution **248 (WRC‐19)**.

**7.1.4 CITEL** - **Document APG23-2/INF-34**

* An administration supports studies to consider appropriate regulatory measures for the allocation of additional MSS spectrum in the following frequency bands or portions thereof: 1 695 - 1 710 MHz, 3 300 - 3 315 MHz, 3 385 - 3 400 MHz in Region 2, while providing protection to primary incumbent services in these frequency ranges and in adjacent frequency bands.
* An administration supports conducting studies to consider appropriate regulatory measures, if applicable, for the allocation of additional spectrum in the MSS in the frequency bands under consideration, while ensuring the protection of existing primary services in these frequency bands and adjacent frequency bands.
* An administration supports the sharing and compatibility studies to determine the suitability of new primary or secondary allocations for NGSO MSS in the frequency bands, or portions thereof, 1695 – 1710 MHz, 3 300 - 3 315 MHz, and 3 385 - 3 400 MHz in Region 2, as well as 2 010 - 2 025 MHz in Region 1, taking into account the need to ensure protection and to not impose any additional constraints on the current use and future development of existing primary services in these frequency ranges and adjacent frequency bands.

**7.1.5 RCC** - **Document APG23-2/INF-36**

* The RCC Administrations consider that additional MSS allocation is permissible only if technical and operational characteristics of narrow band mobile satellite systems are justified, аs well as regulatory conditions of their use, and allowing the exclusion of unacceptable interference towards existing and planned systems operated in the same and adjacent frequency bands in accordance with Article 5 RR.

**7.2 International Organisations**

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

* The IARU supports retention of the amateur secondary allocation of 3 300-3 400 MHz in Regions 2 and 3.

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

* WMO supports compatibility studies to ensure the protection of current and future MetSat operations in the band 1695-1710 MHz. This is important to ensure the protection of the downlink of the measured data as well as the global dissemination of the data directly to users.
* WMO requests the protection of the EESS/SOS in the adjacent band 2025-2110 MHz.

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