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|  | ASIA-PACIFIC TELECOMMUNITY | Document No: |
| **The 4th Meeting of the APT Conference Preparatory****Group for WRC-19 (APG19-4)** | **APG19-4/OUT-30** |
| 7 – 12 January 2019, Busan, Republic of Korea | 12 January 2019 |

Working Party 4

**PRELIMINARY VIEWs on WRC-19 agenda item 1.2**

**Agenda Item 1.2:**

*To consider in-band power limits for earth stations operating in the mobile-satellite service, meteorological-satellite service and Earth exploration-satellite service in the frequency bands 401-403 MHz and 399.9-400.05 MHz, in accordance with Resolution****765 (WRC‑15)****;*

**1. Background**

Earth exploration-satellite service (EESS), meteorological satellite service (MetSat) and mobile-satellite service (MSS) systems in the 401-403 MHz and 399.9-400.05 MHz frequency bands are currently used for data collection systems (DCS) that implement moderate/low power levels. In these bands, earth stations, also called platforms, are deployed and send specific information to dedicated satellites which collect the corresponding data when the platforms are in the satellite footprint.

However, a growing number of satellite systems are planned to use these frequency bands for telecommanding (Earth-to-space) non-EESS/MetSat satellites under the EESS, MetSat or MSS allocations. And these telecommand links would cause harmful interference to the receivers on board the DCS satellites.

WRC-15 adopted WRC-19 Agenda item 1.2 to consider the possibility of establishing in-band power limits for earth stations in the EESS and METSAT in the frequency bands 401-403 MHz and in the MSS frequency band 399.9-400.05 MHz taking into account ITU-R studies in accordance with Resolution **765** **(WRC-15)**.

WP 7B has developed a new Report ITU-R SA.2430-0 and this report provided technical studies for establishing in-band power limits for earth stations operating in the frequency ranges 399.9-400.05 MHz and 401 403 MHz within the MSS, EESS and MetSat services.

WP7B has also developed the draft CPM text, in which four different methods are proposed for the band 399.9-400.05 MHz (A, B, C and D), and two for the band 401-403 MHz (E and F). (See Section 4/1.2/4 of the CPM text).

The associated advantages and disadvantages with respect to the different Methods are also described in Section 4/1.2/4 of the CPM text.

**2. Documents**

* Input Documents APG19-4/INP-18 (AUS), APG19-4/INP-32 (THA), APG19-4/INP-56 (MLA), APG19-4/INP-62 (J), APG19-4/INP-78 (KOR), APG19-4/INP-97 (CHN)
* Information Documents APG19-4/INF-02 (WMO), APG19-4/INF-22 (CITEL), APG19-4/INF-23 (CEPT), APG19-4/INF-24 (RCC), relevant materials referenced in APG19-4/INP-09 Rev.1

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Australia – Document APG19-4/INP-18**

Australia supports the establishment of in-band power limits as described in the preliminary draft new Report ITU-R SA.[400 MHz-LIMITS] for MSS, MetSat and EESS earth stations operating in the 401 403 MHz and 399.9 400.05 MHz frequency bands (Earth-to-space).

Appropriate e.i.r.p. limits can be applied by adding a new footnote in the frequency bands 399.9-400.05 MHz and 401-403 MHz in the Table of Frequency Allocations in RR Article 5. Furthermore, specific transitional measures are to be agreed to accommodate, on a limited timeframe, operations of existing TT&C systems.

This view is consistent with Methods C and E in the Draft CPM Report.

**3.1.2 Thailand** - **Document APG19-4/INP-32**

Thailand supports establishing in-band power limits for earth stations in the EESS and MetSat in the frequency band 401-403 MHz and the MSS in the frequency band 399.9-400.05 MHz by adding a new footnote in the Table of Frequency Allocations in RR Article 5, in order to ensure the operation of existing and future systems that usually implement with low or moderate output powers for MSS, EESS and MetSat systems.

Thailand is of the view that transitional arrangements are needed to ensure that the existing telecommands for EESS, including those systems to be notified/brought into use before a certain date (e.g. the November 22, 2019), may continue to operate.

**3.1.3 Malaysia** - **Document APG19-4/INP-56**

In order to ensure the operation of existing and future systems that usually implement low or moderate output powers for MSS, EESS and MetSat systems, Malaysia supports the proposals to include in RR, the earth station maximum e.i.r.p. limits given in section 4/1.2/3.2 of the draft CPM text by adding a new footnote in the bands 399.9-400.05 MHz and 401-403 MHz in the Table of Frequency Allocations in RR Article 5.

Therefore, Malaysia supports Method C and E of the draft CPM text.

**3.1.4 Japan** - **Document APG19-4/INP-62**

Since the EESS (Earth-to-space) allocation in the frequency band 401-403 MHz is used for telecommanding EESS satellites, Japan supports Method E, which allows existing and additional satellite systems to operate until January 1, 2029 without additional constraints on the conditions that complete notification information on those systems has been received by the Radiocommunication Bureau before 22 November 2019 and they have been brought into use before 22 November 2019.

In addition, Japan does not support Method F, since it is uncertain whether e.i.r.p. density limits are effective for the frequency sharing with DCS.

**3.1.5 Korea, Republic of** - **Document APG19-4/INP-78**

APT Members support the ITU-R studies in accordance with Resolution 765 (WRC-15) to conduct and complete, in time for WRC-19, the necessary technical, operational and regulatory studies on the possibility of establishing in-band power limits for earth stations in the EESS and MetSat in the frequency band 401-403 MHz and the MSS in the frequency band 399.9-400.05 MHz, adding a new footnote. APT members are of the view that transitional arrangements are needed to ensure that the existing telecommands for EESS, including those systems to be notified/brought into use before a certain date (e.g. the November 22, 2019), may continue to operate.

**3.1.6 China** - **Document APG19-4/INP-97**

Based on the intention of Resolution 765 (WRC-15) and current results of ITU-R studies mentioned above, and in order to protect the operations of EESS, MetSat and MSS systems with low or moderate output power levels from harmful interference caused by the operation of the telecommand links with much higher output power levels, China supports Method E as described in draft CPM Report in the frequency band 401-403 MHz and does not object to method D in the frequency band 399.9-400.05 MHz.

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

During discussion, the meeting is of the conclusion that there is not a need to submit an APG proposal for modification of the Draft CPM Report on WRC-19 Agenda Item 1.2.

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

APT members support the ITU-R studies in accordance with Resolution **765 (WRC-15)** to conduct and complete, in time for WRC-19, the necessary technical, operational and regulatory studies on establishing in-band power limits for earth stations required to protect satellite system with lower or moderate power (e.g. DCS) from harmful interference from telecommand-link earth stations operating in the EESS and MetSat in the frequency band 401-403 MHz and the MSS in the frequency band 399.9-400.05 MHz.

**4.1 For the band 399.9-400.05 MHz**

APT members do not support Method A in the Draft CPM Report for this Agenda Item and support the e.i.r.p. limit indicated in Table 4/1.2/3-1of the Draft CPM Report. APT members are of the view that transitional arrangements are needed to ensure that the existing telecommands for EESS systems, including those systems to be notified before a certain date (e.g. November 22, 2019), may continue to operate [until TBD]

**4.2 For the band 401-403 MHz**

APT members support Method E in the Draft CPM Report for this Agenda Item. APT members are of the view that transitional arrangements are needed to ensure that the existing telecommands for EESS, including those systems to be notified before a certain date (e.g. November 22, 2019), may continue to operate until January 1, 2029.

**5. Other View(s)**

None.

**6. Issues for consideration at Next APG meeting**

Members are encouraged to actively participate the second session of the CPM and contribute to APG19-5 taking into account of the outcomes of the CPM.

**7. Views from Other Organisations**

**7.1 Regional Groups**

**7.1.1 ASMG - Document APG19-4/INP-09 Rev.1**

- Supporting the ongoing studies in order to establish in-band power limits for earth stations operating in Mobile satellite service (MSS), Meteorological satellite service (MetSat) and Earth exploration service in the frequency bands401-403MHzand399.9-400.05MHz, in order to ensure the protection of the existing services without imposing any additional constraints in these services due to the massive usage of the fixed and mobile services in these frequency bands in the countries.

- Follow up the ongoing studies in the ITU-R.

**7.1.2 ATU - Document APG19-4/ INP-09 Rev.1**

1. For the band 399.9 - 400.05 MHz:

To be developed.

1. For the band 401 - 403 MHz:

To be developed.

* + 1. **CEPT** - **Document APG19-4/INF-23**

In order to ensure long term continuity for the operation of satellite data collection systems, CEPT supports the establishment of in-band e.i.r.p. limits, as appropriate, for earth stations in the EESS and MetSat in the frequency band 401-403 MHz (for GSO and non-GSO) and the MSS in the frequency band 399.9-400.05 MHz, taking into account the result of studies. In addition, CEPT proposes specific provisions for both frequency bands until 22 November 2024 for existing and planned satellite systems exceeding these e.i.r.p. limits, for which complete notification information has been received by the Radiocommunication Bureau, and that have been brought into use before 22 November 2019.

CEPT is considering Method B of the draft CPM report on 399.9-400.05 MHz as a possible compromise solution to reach a reach a single method at CPM19-2.

**7.1.4 CITEL** - **Document APG19-4/INF-22**

One proposal supports Method D but focuses only on the 399.9-400.05 MHz band, and another proposal is based on a modified Method D for the lower band with no power limit in the 400.02-

400.05 MHz band and a transition period of 10 years for existing systems; and on a modified

Method F for the 401-403 MHz band.

**7.1.5 RCC - Document APG19-4/INF-24**

The RCC Administrations support establishing equivalent isotropic radiated power limits for earth stations in the mobile satellite service in the frequency band 399.9−400.05 MHz, as well as for earth stations in the meteorological-satellite service and the Earth exploration-satellite service in the frequency band 401−403 MHz, to avoid interference to data collection systems based on the results of studies provided in the Report ITU-R SA [400 MHz-LIMITS].

The RCC Administrations consider that specified limits shall not cover the frequency assignments to satellite systems registered in MIFR [before 22 November 2019] in frequency bands 399.9-400.05 MHz and 401-403 MHz until WRC-19.

**7.2 International Organisations**

**7.2.1 WMO** - **Document APG19-4/INF-02**

WMO supports the establishment of an appropriate set of in band e.i.r.p. limits for non-GSO and GSO satellite operating under the METSAT and EESS (Earth-to-space) allocation to ensure the protection of existing and future use of meteorological operations in the 401-403 MHz frequency band.

WMO supports that these limits be applied to new satellite systems filings effective on the last day of WRC-19.

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