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| **The 5th Meeting of the APT Conference Preparatory****Group for WRC-19 (APG19-5)** | **APG19-5/OUT-22** |
| 31 July – 6 August 2019, Tokyo, Japan | 5 August 2019 |

Working Party 3

**APT View and Preliminary APT Common Proposal on**

**WRC-19 Agenda Item 9.1 Issue 9.1.3**

**Agenda item 9.1 - Issue 9.1.3:**

*to study technical and operational issues and regulatory provisions for new* *non-geostationary-satellite orbit systems in the 3 700-4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz and 6 725-7 025 MHz frequency bands allocated to the fixed-satellite service, in accordance with Resolution* ***157 (WRC-15)****.*

**1. Background**

WRC-19 agenda item 9.1, issue 9.1.3, in accordance with Resolution **157 (WRC-15)**, invites ITU-R to study technical and operational issues and regulatory provisions for new circular-orbit non-geostationary-satellite orbit (non-GSO) systems in the 3 700-4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz, and 6 725-7 025 MHz frequency bands allocated to the fixed-satellite service (FSS), while ensuring protection of existing services.

The CPM Report to WRC-19 indicates that studies undertaken by ITU-Rlead to a conclusion that there is no need to review the values of the existing limits presented in RR Article **22** (epfd) and RR Article **21** (pfd) for the 3 700‑4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz and 6 725-7 025 MHz frequency bands.

One study indicates that circular orbit non-GSO FSS operations in the 6/4 GHz frequency band could result in large exceedances (up to 40 dB) of the GSO protection criteria and concludes that it would be very difficult to operate a non-GSO circular orbit system for the purposes of a global broadband network in the 6/4 GHz frequency bands. Therefore, there is no need to review the values of the existing limits presented in RR Article **22** (epfd) and RR Article **21** (pfd) for the 3 700‑4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz, and 6 725-7 025 MHz frequency bands.

Another study suggested to establish a coordination procedure in the frequency bands 3 700-4 200 MHz and 5 925‑6 425 MHz between non-GSO FSS systems under RR No. **9.12**. This study finds that there is no need to review the values of the existing limits presented in RR Article **22** (epfd) and RR Article **21** (pfd) for the 3 700‑4 200 MHz, 4 500-4 800 MHz, 5 925‑6 425 MHz, and 6 725-7 025 MHz frequency bands.

**2. Documents**

* Input Documents: APG19-5/INP-26 (BGD), APG19-5/INP-44R1 (AUS), APG19-5/INP-51 (INS), APG19-5/INP-67 (CHN), APG19-5/INP-81 (J), APG19-5/INP-108 (MLA, THA), APG19-5/INP-119 (VTN), APG19-5/INP-129 (KOR)
* Information Documents: APG19-5/INF-18 (CEPT) , APG19-5/INF-19 (ATU), APG19-5/INF-20 (CITEL), APG19-5/INF-22 (RCC)

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Bangladesh (People’s Republic of)-APG19-5/INP-26**

The CPM Report to WRC-19 indicates that it would be very difficult to operate a non-GSO circular orbit system for the purposes of a global broadband network in the 6/4 GHz frequency bands. Therefore, there is no need to review the values of the existing limits presented in RR Article **22** (epfd) and RR Article **21** (pfd) for the 3 700-4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz, and 6 725-7 025 MHz frequency bands.

It can be noted that 3300 – 4200 MHz band is the potential spectrum for the future generation mobile communications, and some countries already have assigned a portion of this band for 5G mobile networks. Among the frequency bands mentioned in this agenda item, 3700 – 4200 MHz spectrum is included in the potential band for 5G. Bangladesh would like to assign this band for mobile broadband networks. Therefore, Bangladesh is seeking protection from the possible interference of satellite services available in this band. Bangladesh is therefore of the view that No Change to the Radio Regulations is an appropriate proposal to WRC-19 on agenda item 9.1, issue 9.1.3.

**3.1.2 Australia**- **Document APG19-5/INP-44 Rev.1**

Australia supports no change to the Radio Regulations at WRC-19, as per the conclusions provided in the CPM Report, that there is no need to review the values of the existing limits presented in RR Article 22 (epfd) and RR Article 21 (pfd) for the 3 700 4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz and 6 725-7 025 MHz frequency bands.

Australia supports a Preliminary APT Common Proposal for NOC for this agenda item:



**3.1.3 Indonesia (Republic of)** - **Document APG19-5/INP-51**

Indonesia supports no change (NOC) to the Radio Regulations to satisfy agenda item 9.1, issue 9.1.3 based on study progress of ITU-R for new non-GSO systems in the 3 700-4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz and 6 725-7 025 MHz frequency bands under the terms of Resolution **157 (WRC-15)**.

**3.1.4 China (People’s Republic of)** - **Document APG19-5/INP-67**

China supports no change (NOC) to the Radio Regulations to satisfy agenda item 9.1, issue 9.1.3 based on study result of ITU-R for new non-GSO systems in the 3 700-4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz and 6 725-7 025 MHz frequency bands under the terms of Resolution **157 (WRC-15)**.

NOC

ARTICLE 21

**Terrestrial and space services sharing frequency bands above 1 GHz**

NOC

ARTICLE 22

**Space services**

SUP

**RESOLUTION 157 (WRC-15)**

**Study of technical and operational issues and regulatory provisions for new non-geostationary-satellite orbit systems in the 3 700-4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz and 6 725-7 025 MHz frequency bands allocated to the fixed-satellite service**

**Reasons:**  ITU-R studies show that it would be very difficult to operate a non-GSO circular-orbit system for the purposes of a global broadband network in the 6/4 GHz frequency bands. Therefore, China supports no revision to Article 21, Table 21-4 for non-GSO FSS satellites in the frequency band 3700-4200 MHz (space-to-Earth) and no modifications to Article 22 epfd limits applicable to non-GSO systems in the bands 3700-4200 MHz (space-to-Earth) and 5925-6425 MHz (Earth-to-Space). Similarly, China proposes no change to the bands 4500-4800 MHz (space-to-Earth) and 6725-7025 MHz (Earth-to-space).

**3.1.5** **Japan**- **Document APG19-5/INP-81**

Japan supports ITU-R studies that showed difficulties in coexistence between NGSO FSS and GSO FSS in the frequency bands 3 700-4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz and 6 725-7 025 MHz. Therefore, Japan supports no change to the RR.

**3.1.6** **Malaysia and Thailand** - **Document APG19-5/INP-108**

Malaysia and Thailand support the single method indicated on no change (NOC) to the Radio Regulations to satisfy agenda item 9.1, issue 9.1.3 based on CPM Report for the frequency bands 3 700 - 4 200 MHz, 4 500 - 4 800 MHz, 5 925 - 6 425 MHz and 6 725 – 7 025 MHz.

**3.1.7 Viet Nam** - **Document APG19-5/INP-119**

Because of large exceedances of the GSO protection criteria, Vietnam supports No change of Radio Regulations.

**3.1.8 Korea (Rep. of)** - **Document APG19-5/INP-129**

The Republic of Korea supports the ITU-R study results for this issue, which is no change of the values of the existing limits presented in Article **22** epfd and Article **21** pfd of the Radio Regulations for the 3 700-4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz, and 6 725-7 025 MHz frequency bands.

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

None.

**4. APT View(s)**

APT Members support no change (NOC) to the Radio Regulations to satisfy agenda item 9.1, issue 9.1.3 based on study results of ITU-R for new non-GSO systems in the 3 700-4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz and 6 725-7 025 MHz frequency bands under the terms of Resolution **157 (WRC-15)**.

**5. Preliminary APT Common Proposals**



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