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|  | ASIA-PACIFIC TELECOMMUNITY | **Document No:** |
| **The 5th Meeting of the APT Conference Preparatory**  **Group for WRC-19 (APG19-5)** | **APG19-5/OUT-32**  **(Rev.1)** |
| 31 July – 6 August 2019, Tokyo, Japan | 5 August 2019 |

Working Party 4

**APT VIEW AND PRELIMINARY APT COMMON PROPOSAL**

**on WRC-19 agenda item 1.3**

**Agenda Item 1.3:**

*To consider possible upgrading of the secondary allocation to the meteorological-satellite service (space-to-Earth) to primary status and a possible primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460-470 MHz, in accordance with Resolution****766 (WRC‑15)****;*

*Resolution* ***766 (WRC‑15)*** *– Consideration of possible upgrading of the secondary allocation to the meteorological-satellite service (space-to-Earth) to primary status and a primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460‑470 MHz*

**1. Background**

The use of the frequency band 460-470 MHz is already established due to the existence of a secondary allocation to MetSat. Meteorological satellites already transmit in this band to control and configure data collection platforms.

A primary allocation to the MetSat and EESS (space-to-Earth) in the frequency band 460 470 MHz would provide confidence to space and meteorological agencies deeply involved in satellite data collection programs and the public sectors funding the development and operation of such systems.

Space and meteorological agencies are also investing in the continuity of these programs providing subsequent satellites and payloads, and an allocation upgrade in the frequency band 460-470 MHz would provide the necessary long-term continuity for these programs of public interest. In addition, the power flux-density (pfd) limits will provide reliable protection to incumbent terrestrial services without imposing constraints.

The frequency band 460-470 MHz is currently allocated to the fixed and mobile services on a primary basis and is widely used by these services. Resolution 766 (WRC-15) states that there is a need to protect the fixed and mobile services in the frequency band 460-470 MHz and not to constrain their future development. Furthermore, RR No. 5.286AA identifies the frequency band 450-470 MHz for use by administrations wishing to implement International Mobile Telecommunications (IMT).

On the progress of ITU-R and APT ongoing studies, the Report ITU-R SA.2429 provides the studies related to WRC‑19 agenda item 1.3.

The following is a list of the CPM Methods to satisfy the agenda item:

4/1.3/4.1 Method A NOC

No changes are proposed to the RR.

A consequential suppression of Resolution 766 (WRC-15).

4/1.3/4.2 Method B

An upgrade of the MetSat (space-to-Earth) allocation from secondary to primary status and a primary EESS (space-to-Earth) allocation could be added in the frequency band 460 470 MHz provided that the priority of MetSat over EESS, as currently contained in the Radio Regulations, is retained and that the protection of primary services in the frequency band and in adjacent frequency bands is ensured.

In order to protect terrestrial services, pfd limits are proposed for both non-GSO and GSO MetSat/EESS satellites.

In addition, RR No. 5.290 is proposed to be suppressed since MetSat and EESS are primary services in the frequency band.

Finally, a new Resolution is proposed to provide the transitional measures for the existing MetSat/EESS frequency assignments.

Option 1

5.A13 In the frequency band 460-470 MHz, earth stations in the meteorological-satellite service (space-to-Earth) and Earth exploration-satellite service (space-to-Earth) shall not cause harmful interference to nor claim protection from stations of the fixed and mobile services, and shall not claim protection from broadcasting service in the adjacent bands. (WRC 19)

Option 2

5.A13 In the frequency band 460-470 MHz, earth stations in the meteorological-satellite service (space-to-Earth) and Earth exploration-satellite service (space-to-Earth) shall not claim protection from stations of the fixed and mobile services, and shall not claim protection from broadcasting service in the adjacent bands. (WRC 19)

4/1.3/4.3 Method C

An upgrade of the MetSat (space-to-Earth) allocation from secondary to primary status and a primary EESS (space-to-Earth) allocation could be added in the frequency band 460 470 MHz provided that the priority of MetSat over EESS, as currently contained in the Radio Regulations, is retained and that the protection of primary services in the frequency band and in adjacent frequency bands is ensured.

A new Resolution is proposed to protect existing terrestrial services in the band 460-470 MHz by introducing regulatory provisions, including pfd limits for both non GSO and GSO MetSat/EESS satellites and also grandfathering the existing MetSat/EESS frequency assignments.

In addition, RR No. 5.290 is proposed to be suppressed since MetSat and EESS are primary services in the frequency band.

**2. Documents**

***2.1 Input Documents:***

APG19-5/INP-38 (IRN), APG19-5/INP-45 (AUS), APG19-5/INP-52 (INS), APG19-5/INP-68 (CHN), APG19-5/INP-84 (J), APG19-5/INP-109 (MLA-THA), APG19-5/INP-135 (IND)

***2.2 Information Documents:***

APG19-5/INF-01 (WMO), APG19-5/INF-18 (CEPT), APG19-5/INF-19 (ATU),

APG19-5/INF-20 (CITEL)

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Iran - Document APG19-5/INP-38**

In Methods B and C , the proposed limits for protection of terrestrial services apply to all space stations in the meteorological-satellite service and Earth exploration-satellite service in the frequency band 460-470 MHz for which a complete notification information or coordination request was received by the Radiocommunication Bureau after the end of WRC‑19. However, in Method C, there is a distinct and important context that is not outlined in Method B.

In Method C, in the draft new Resolution [B13] (refer to section 4/1.3/5.3) in the instructs to the Director of the Radiocommunication Bureau, it is outlined that " for satellite systems of MetSat (space-to-Earth) and EESS (space-to-Earth), which space stations do not meet the pfd limits given in resolves 1, the Bureau shall propose the notifying administration to provide commitment that harmful interference would not be caused to the fixed and mobile service stations". It is further included that " in case of receiving such a commitment, relevant frequency assignments shall have primary status and be published by the Bureau in relevant parts of the BR IFIC with note that the relevant administration has provided commitment not to cause harmful interference to the fixed and mobile service stations " . Moreover, further details are included in this section if the notifying administration does not provide this commitment and request to operate under No. 4.4.

Considering the above, it seems that such procedure in Method C is some sort of relaxation or relief for those admirations who are not willing to or might not be able to observe the pfd limits for protection of terrestrial services in the frequency band 460-470 MHz.

Consequently, this administration prefers Method B (with option 2 for ADD 5.A13 and option 1 for ADD 5.B13). However, we may also consider method C, if there would be assurance that the commitment mentioned in the method is fully implemented.

**3.1.2 Australia** - **Document APG19-5/INP-45**

Australia supports the upgrading of the secondary MetSat (space-to-Earth) allocation to primary, and adding a primary EESS (space-to-Earth) allocation in the frequency band 460-470 MHz, while providing protection and not imposing any additional constraints on existing primary services to which the frequency band is already allocated and in the adjacent frequency bands, and maintaining the conditions contained in Radio Regulations No. 5.289, subject to appropriate ITU R sharing and compatibility studies.

Australia supports Method C in the CPM Report, while noting that *resolves* 5 in the associated Draft New Resolution [B13] requires further consideration as it may act to restrict future development of the MetSat service and EESS in the frequency band.

**3.1.3 Indonesia** - **Document APG19-5/INP-52**

In the APG 19-4 Indonesia supported APT views that:

Further ITU-R sharing and compatibility studies in accordance with Resolution 766 (WRC-15), to conduct and complete in time for WRC-19, the necessary technical, operational and regulatory studies on the possibility to upgrade the secondary allocation of the meteorological-satellite service (space-to-Earth) to primary status and a primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460-470 MHz.

The appropriate measures are necessary to be taken to ensure the protection of existing fixed, mobile, and broadcasting services and not to constraint their future developments in the frequency band 460-470 MHz and in the adjacent bands, and stations of the EESS and MetSat services shall not claim protection from the fixed, mobile, and broadcasting services. APT members also note that the priority of MetSat over EESS should be maintained.

APT Members note that further studies are required to address appropriate I/N protection criteria with regard to the PPDR systems. The decision on which Method to adopt will depend on the outcome of those studies.

Stations of the EESS and MetSat services shall not cause harmful interference to fixed, mobile, and broadcasting services in 460-470 MHz and adjacent bands. APT Members note that further studies are required to address appropriate pfd limits for GSO and non-GSO satellites to ensure this.

Therefore, Indonesia prefers to support Method C, which in essence is:

An upgrade of the MetSat (space-to-Earth) allocation from secondary to primary status and a primary EESS (space-to-Earth) allocation could be added in the frequency band 460‑470 MHz provided that the priority of MetSat over EESS, as currently contained in the Radio Regulations, is retained and that the protection of primary services in the frequency band and in adjacent frequency bands is ensured.

**3.1.4 China - Document APG19-5/INP-68**

Taking into account the results of studies conducted by ITU-R with regard to WRC-19 Agenda item 1.3 and APT Preliminary Views, China does not oppose Method C.

**3.1.5 Japan** - **Document APG19-5/INP-84**

Japan is of the view that the existing systems of the MetSat (space-to-Earth) and the EESS (space-to-Earth) in the frequency band 460 - 470 MHz should be ensured to operate continuously while protecting adequately the incumbent primary services in the band from new primary allocation to EESS (space-to-Earth) and upgrading allocation to the MetSat (space-to-Earth) to primary status. Taking into account this view, any Method in the CPM report for Agenda Item 1.3 is acceptable. In particular, under the condition that restrictions are not imposed on existing systems in operation under the MetSat (space-to-Earth) and the EESS (space-to-Earth), Japan supports the Method B or Method C.

**3.1.6 Malaysia-Thailand** - **Document APG19-5/INP-109**

Since the studies contained in the ITU-R Report SA.2429-0 has determined the pfd limits for both non-GSO and GSO MetSat and EESS satellites in the frequency band 460-470 MHz which will ensure the protection of incumbent primary allocated services in this band and adjacent bands, Malaysia and Thailand support the proposal to upgrade the allocation for MetSat (space-to-Earth) from secondary to primary status and addition of primary allocation for EESS (space-to-Earth) in the frequency band 460-470 MHz, provided that the priority of MetSat over EESS is retained as currently contained in the Radio Regulations. In addition, earth stations in the MetSat (space-to-Earth) and EESS (space-to-Earth) shall not claim protection from stations of the fixed and mobile services in the frequency band 460-470 MHz, and shall not claim protection from stations of the broadcasting service operating in the adjacent band. Finally, Malaysia and Thailand also support the introduction of a new Resolution to address all regulatory actions and procedures in order to simply the footnote in RR.

Therefore, Malaysia and Thailand support Method C of the CPM Report.

**3.1.4 India - Document APG19-5/INP-135**

In order to protect terrestrial services, pfd limits are to be revised for both non-GSO and GSO MetSat/EESS satellites. Hence, preliminary view proposed is as below.

**Method B (Option 2)**

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

The discussion about Method to satisfy the Agenda Item, and the comments on each Method are listed in the following table:

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|  | **Methods** | **APT members** |
| 1 | Method A | - |
| 2 | Method B | IND(+notes option 2, and in order to protect terrestrial services, pfd limits are to be revised for both non-GSO and GSO MetSat/EESS satellites. ) |
| 3 | Method C | IRN  AUS  INS  CHN  J  MLA-THA |

**4. APT View(s)**

Some APT Members support Method C while some other APT Members support Method B of the CPM Report.

Some APT Members are of the view that pfd limits are to be revised for both non-GSO and GSO MetSat/EESS satellites to give additional protection needed by mobile services that require higher protection based on further ITU-R studies.

**5. Preliminary APT Common Proposal(s)**

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