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| **The 5th Meeting of the APT Conference Preparatory****Group for WRC-19 (APG19-5)** | **APG19-5/OUT-49****(Rev.1)** |
| 31 July – 6 August 2019, Tokyo, Japan | 6 August 2019 |

Working Party 6

**APT VIEW AND PRELIMINARY APT COMMON PROPOSAL**

**on WRC-19 agenda item 10c**

**Agenda item 10:**

*to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, in accordance with Article 7 of the Convention.*

**1. Introduction**

DG10C of APG19-5 meeting has received four input documents and six information documents which cover seven proposals on New Items for WRC-23.

* To consider an AMS(R)S allocation for both the uplink and downlink of aeronautical VHF applications in the frequency band 117.975 – 137 MHz, while ensuring that any harmful interference is not caused or any additional constraints are not placed on incumbent services in the same and adjacent bands, especially the AM(R)S (117.975 – 137 MHz) and the ARNS (108 – 117.975 MHz).
* To study the technical and regulatory issues associated with a possible revision to footnote No. 5.522B to enable the use of the band 18.6-18.8 GHz (space-to-Earth) by FSS non-GSO systems with an apogee below 20,000 km.
* To study the satellite to satellite links (between non-GSO to non-GSO systems and between non-GSO to GSO systems) under FSS to develop the technical/regulatory measures to facilitate such services in the bands of 27.5-30 GHz (Earth-to-space direction) and 17.7-20.2 GHz (space-to-Earth direction).
* To consider an allocation of the frequency bands 1 525-1 559 MHz (from GSO to NGSO) and 1 626.5-1 660.5 MHz(from NGSO to GSO) to the mobile-satellite service (space-to-space) while ensuring the protection of incumbent services in the same and adjacent frequency bands.
* To harmonize the use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft communicating with geostationary space stations in the fixed-satellite service globally.
* To consider that further operational, technical and regulatory issues may need to be addressed, which require continuing studies, on the status of the station aboard suborbital vehicles and type of applications, and on the potential interference to be considered with regards to radiocommunication systems operating on suborbital vehicles.
* To consider improvement of efficiency in the use of the VHF maritime frequency bands 156.0125-157.4375 MHz and 160.6125-162.0375 MHz in the maritime mobile service.

**2. Documents**

* Input Documents: APG19-5/INP-61(SNG), 70 (CHN), 71 (PNG and SNG), 89 (Japan)
* Information Documents: APG19-5/INF-01 (WMO), 2 (ICAO), 16 (Facebook and OneWeb), 18 (CEPT), 19 (ATU), 20 (CITEL), 22 (RCC).

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Singapore -APG19-5/INP-61**

Singapore proposes a new agenda item for WRC-23 to consider an AMS(R)S allocation for both the uplink and downlink of aeronautical VHF applications, while preventing any undue constraints based on the results of studies with existing VHF systems operating in the AM(R)S.

Singapore proposes a new agenda item for WRC-23 to study the technical and regulatory issues associated with a possible revision to footnote No. 5.522B to enable the use of the band 18.6-18.8 GHz (space-to-Earth) by FSS non-GSO systems with an apogee below 20,000 km.

Singapore proposes a new agenda item for WRC-23 to study the satellite to satellite links (between non-GSO to non-GSO systems and between non-GSO to GSO systems) under FSS to develop the technical/regulatory measures to facilitate such services in the bands of 27.5-30 GHz (Earth-to-space direction) and 17.7-20.2 GHz (space-to-Earth direction).

Singapore proposes a new agenda item for WRC-23 to consider an allocation of the frequency bands 1525-1559 MHz, 1626.5-1660.5 MHz and 1668-1675 MHz to the mobile-satellite service (space-to-space).

**3.1.2 China-APG19-5/INP-70**

China proposes a new agenda item for WRC-23 to consider that further operational, technical and regulatory issues may need to be addressed, which require continuing studies, on the status of the station aboard suborbital vehicles and type of applications, and on the potential interference to be considered with regards to radiocommunication systems operating on suborbital vehicles.

China does not oppose a new agenda item to be established for space-based VHF voice communication services. China is of the view that Space-based VHF voice communication services shall not cause harmful interference to, or claim protection from VHF ARNS or AM(R)S (including ICAO and non-ICAO standardized), nor cause constraints to their use.

China is of the view that the existing EESS (passive) should be protected, and the revision of the footnote RR No. 5.522B to enable the use of the 18.6‑18.8 GHz band (space-to-Earth) by FSS non-GSO systems with an apogee below 20 000 km could aggravate the interference into the EESS (passive) sensors in the 18.6‑18.8 GHz band. Therefore, China does not support such revision to footnote RR No. 5.522B.

**3.1.3 Papua New Guinea and Singapore -APG19-5/INP-71**

An agenda item for WRC-23 is proposed by Papua New Guinea and Singapore for the harmonization on the use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft communicating with geostationary space stations in the fixed-satellite service globally.

**3.1.4 Japan -APG19-5/INP-89**

Japan proposes a new agenda item for WRC-23 to consider improvement of efficiency in the use of the VHF maritime frequency bands 156.0125-157.4375 MHz and 160.6125-162.0375 MHz in the maritime mobile service.

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

**3.2.1** The following two issues were not supported as new items for inclusion in the agendas of WRC-23:

a) to study the technical and regulatory issues associated with a possible revision to footnote No. 5.522B to enable the use of the band 18.6-18.8 GHz (space-to-Earth) by FSS non-GSO systems with an apogee below 20,000 km.

Some APT members support a new agenda item for WRC-23 to study the issues.

Some APT members were of the view that interference affecting spaceborne microwave radiometers in the 18.6-18.8 GHz band had been observed for several years and EESS operators had observed a trend of increasing interference. So the revision of the footnote RR No. **5.522B** could aggravate the interference into the EESS (passive) sensors in the 18.6‑18.8 GHz band.

Some APT members were also concerned with the proposal to revise the conditions relating to GSO FSS networks.

b) to study the satellite to satellite links (between non-GSO to non-GSO systems and between non-GSO to GSO systems) under FSS to develop the technical/regulatory measures to facilitate such services in the bands of 27.5-30 GHz (Earth-to-space direction) and 17.7-20.2 GHz (space-to-Earth direction)

Some APT members support a new agenda item for WRC-23 to study the issues.

Some APT members were of the view that the proposed satellite to satellite links (between non-GSO to non-GSO systems and between non-GSO to GSO systems) would cause potential harmful interference to current operating GSO and NGSO system in these bands, and it is very difficult to identify the source of this kind of interference.

**3.2.2** Although for each of the following two issues, a Draft PACP was prepared by Drafting Group, however no consensus were reached at the level of Working Party 6 for inclusion of these items in the agendas of WRC-23:

a) To consider an allocation of the frequency bands 1 525-1 559 MHz(from GSO to NGSO) and 1 626.5-1 660.5 MHz (from NGSO to GSO) to the mobile-satellite service (space-to-space)while ensuring the protection of incumbent services in the same frequency bands and the adjacent bands.

Some APT members were of the view that there would be potential interference coming from the mobile-satellite service (space-to-space) into the current application satellite systems in both co-frequency bands and adjacent bands.

b) to harmonize the use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft communicating with geostationary space stations in the fixed-satellite service globally.

Some APT members believe that there is a benefit to harmonize these bands for in flight communications and therefore there is a need to study the feasibility on the use of earth stations on aircraft communicating with GSO in FSS globally in the band 12.75 – 13.25 GHz (Earth-to-space) considering there is a detailed study already completed on this issue in one other regional group.

Other APT Members expressed their serious concerns on the above proposal due to the fact that the frequency band 12.75 -13.25 GHz is the uplink of Appendix 30B Ku band on which there are considerable number of applications some of them are in operation and some other already in the APP 30B List and considerable number under coordination within Article 6 of APP 30B. These administrations are also on the view that APP 30B is a worldwide plan included in the Radio Regulations as a treaty material and should not be put under any potential risk (interference which would be caused to the space station receiving of that Uplink and the risks that terrestrial services would be seriously affected). The latter administration also mentioned that there is no established coordination procedure to protect other space stations and terrestrial services from mobile satellite earth station intended to be used for that purpose. For these reasons these administrations strongly rejected to include such agenda item under future Agenda items.

**4. APT View(s)**

APT Members support the inclusion of the following items in the agenda of WRC-23:

1. to consider improvement of efficiency in the use of the VHF maritime frequency bands 156.0125-157.4375 MHz and 160.6125-162.0375 MHz in the maritime mobile service.
2. to consider an AMS(R)S allocation for both the uplink and downlink of aeronautical VHF applications in the frequency band 117.975 – 137 MHz, while ensuring that any harmful interference is not caused or any additional constraints are not placed on incumbent services in the same and adjacent bands, especially the AM(R)S (117.975 – 137 MHz) and the ARNS (108 – 117.975 MHz).
3. to consider that further operational, technical and regulatory issues may need to be addressed, which require continuing studies, on the status of the station aboard suborbital vehicles and type of applications, and on the potential interference to be considered with regards to radiocommunication systems operating on suborbital vehicles.

**5. Preliminary APT Common Proposals**

 

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