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|  | ASIA-PACIFIC TELECOMMUNITY | **Document No:** |
| **The 2nd Meeting of the APT Conference Preparatory**  **Group for WRC-23 (APG23-2)** | **APG23-2/OUT-33**  **(Rev.1)** |
| 19 – 23 April 2021, Virtual/Online Meeting | 23 April 2021 |

Working Party 4

**PRELIMINARY VIEWs on WRC-23 agenda item 7**

**Agenda Item 7:**

*to consider possible changes, in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference, on advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks, in accordance with Resolution* ***86 (Rev.WRC-07)****, in order to facilitate the rational, efficient and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit.*

# General

1. Background

* In the implementation of Resolution **86** (Rev. Marrakesh, 2002), WRC-23 is invited by Resolution **86** (Rev. WRC-07) to consider, under the standing Agenda Item 7, any proposals which deal with deficiencies and improvements in the Regulatory/Procedural matters for frequency assignments pertaining to space service, ensuring these procedures, and the related Appendices of the Radio Regulations support latest technologies and regulatory practices, as far as possible.
* At the February/March 2021 meeting of WP 4A the ITU-R *responsible* group for this agenda item,an understanding was established that some of the items presented need not be discussed further in WP 4A, others should be further pursued under the more traditional work of WP 4A, others require further discussion before deciding on their ultimate direction, and yet others could be agreed as a “Topic” under WRC-23 Agenda item 7 for further development. Document [4A/246](https://www.itu.int/md/R19-WP4A-C-0246/en) - Report on the meeting of Working Party 4A (22 February – 3 March 2021) and its associated annexes covers the current work on Agenda Item 7 in WP 4A. The agreed Topics under WRC-23 Agenda item 7 are:
* **Topic A (NGSO Orbital tolerances)**: Compiled document (working document towards a preliminary draft new Report) was carried forward, with proper embedded qualification, as Annex to Chairman’s Report for further discussion;
* **Topic B (Post-milestone reporting)**: Compiled working document was carried forward, with proper embedded qualification, as Annex to Chairman’s Report for further discussion;
* **Topic C (7/8 & 20/30 GHz GSO MSS protection)**: Compiled document (Working document towards a preliminary draft new ITU-R report) was carried forward, with proper embedded qualification, as Annex to Chairman’s Report for further discussion;
* **Topic D** **(Mod to App 1 to Annex 4 of AP30B)**: Working document for draft CPM text was carried forward for further development; and
* **Topic E (New Member States in AP30B)**: Working document was carried forward as Annex to Chairman’s Report for further discussion.

2. Documents

* Input Documents: APG23-2/[INP-27(AUS)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-27_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx)
* Information Documents: APG23-2/[INF-17](https://www.apt.int/sites/default/files/2021/03/APG23-2-INF-17_Briefing_on_AI7_Topics_A-E.TLGRV_.docx)(DG7), [[INF-25](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-25_ASMG.docx)(ASMG)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-25_ASMG.docx), [INF-26(ATU)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-26_State_of_ATU_WRC-23_Preparations.docx), [[[INF-34(CITEL)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx), [INF-35(CEPT)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-35_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.docx), [INF-36 (RCC)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-36_RCC_Preparation_to_the_World_Radio_Conference_and_Radio_Assembly_2023.docx)

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Australia** - **Document APG23-2/INP-27**

* Australia supports consideration of possible changes to improve advance publication, coordination, notification and recording procedures for space services in the Radio Regulations in accordance with Resolution **86 (Rev.WRC-07)**, provided that such changes do not result in modification of frequency allocations in Article 5 of the Radio Regulations.

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

* None.

4. APT Preliminary View(s)

* None.

5. Other View(s) from APT Members

* None.

6. Issues for Consideration at Next APG Meeting

* APT Members are invited to follow the progress of the ITU-R studies and are encouraged to submit their contributions for further considerations at the next meeting.

7. Views from Other Organisations

**7.1 Regional Groups**

**7.1.1 ASMG** – **Document APG23-2/INF-25**

* None.

**7.1.2 ATU – Document APG23-2/INF-26**

* None.
  + 1. **CEPT- Document APG23-2/INF-35**
* CEPT supports retaining the current process of continuing evolution at successive WRCs of the regime governing space services. CEPT also favours a stable and predictable regulatory framework for efficient use of spectrum and orbit resources. CEPT intends to develop specific positions susceptible to bring improvement to the regulatory process.
* CEPT favours the review of any RR provision which can bring accurate solutions to specific detected inconsistencies and develop new improved provisions with emphasis on solving the most urgent issues, i.e. well characterized issues whose improvement is urgent and impacting.

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

* None.

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

* None.

**7.2 International Organisations**

**7.2.1 IARU**

* None.

**7.2.2 ICAO**

* None.

# Topic A: Tolerances for Certain Orbital Characteristics of Non-GSO Space Stations in the FSS, BSS and MSS

1. Background

* Topic A stems from the Issue A of WRC-19 Agenda item 7, which dealt with the bringing into use (BIU) of frequency assignments to all non-geostationary satellite (non-GSO) systems, and consideration of a milestone-based approach for the deployment of non-GSO systems in specific frequency bands and services. During the discussion on this Issue A, WRC-19, as described in Section 10.5 of the Minutes of the 10th Plenary Meeting ([Doc 571 of WRC-19](https://www.itu.int/dms_pub/itu-r/md/16/wrc19/c/R16-WRC19-C-0571!!MSW-E.docx)), invited the ITU-R to study, as a matter of urgency, the tolerances for certain orbital characteristics of non-GSO space stations of the FSS, MSS or BSS, to account for potential differences between the notified and deployed orbital characteristics for:
* the inclination of the orbital plane,
* the altitude of the apogee of the space station,
* the altitude of the perigee of the space station, and
* the argument of the perigee of the orbital plane.
* Whilst the concept of orbital tolerances for a space station on board a GSO satellite already exists, there are no equivalent limits for tolerances in RR Appendix **4** for a space station on board a non-GSO satellite. This discrepancy was recognized during discussions at WRC-19 on Issue A and consequently the above mentioned four Appendix **4** data items were identified in the WRC-19 invitation for further studies.
* The purpose of this Topic A of WRC-23 Agenda item 7 is to determine the allowable differences, between the values recorded in the Master International Frequency Register (MIFR), for the specified orbital characteristics of non‑GSO space stations operating on notified frequency assignments, and those representative of the actual deployment of these non-GSO space stations.

**Information on on-going ITU-R Study**

* The first WP 4A virtual meeting (28-29 May 2020) established Correspondence Group 5 (CG #5) and developed the associated Terms of Reference (ToR) for this CG, in order to advance the work on this Topic by electronic means, in the periods between WP 4A meetings. 2 CG meetings were held in 2020.
* During the third WP 4A virtual meeting (22 February – 3 March 2021), the meeting considered 2 inputs from the US that were consolidated into the Working Document (WD) towards a Preliminary Draft New Report on WRC-23 Agenda Item 7, Topic A. This WD is a compilation of inputs received so far from Luxembourg, Canada, US, China, Russia and Norway. There was not much discussion nor progress on Topic A during this meeting and the content of this WD have not been agreed by WP 4A at this stage. This document will be carried forward, for the consideration by the CG and the next meeting of WP 4A, as appropriate. The WD is found in Annex 11 to the WP 4A Chairman’s Report ([Doc 4A/246 (Annex 11)](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0246!N11!MSW-E.docx)).

2. Documents

* Input Documents: APG23-2/[INP-27(AUS)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-27_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx), [INP-33Rev.1(KOR)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-33Rev.1_WP4_kor_REV1.docx), [INP-47Rev.1(CHN)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-47Rev.1_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx)
* Information Documents: APG23-2/[INF-17](https://www.apt.int/sites/default/files/2021/03/APG23-2-INF-17_Briefing_on_AI7_Topics_A-E.TLGRV_.docx)(DG7), [[INF-25](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-25_ASMG.docx)(ASMG)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-25_ASMG.docx), [INF-26(ATU)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-26_State_of_ATU_WRC-23_Preparations.docx), [[[INF-34(CITEL)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx), [INF-35(CEPT)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-35_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.docx), [INF-36 (RCC)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-36_RCC_Preparation_to_the_World_Radio_Conference_and_Radio_Assembly_2023.docx)

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Australia** – **Document APG23-2/INP-27**

* Australia supports studies. The scope of any studies should be limited to the differences between the notified and deployed non-GSO orbital characteristics for the inclination of the orbital plane, the altitude of the apogee of the space station, the altitude of the perigee of the space station and the argument of the perigee of the orbital plane.

**3.1.2 Korea (Republic of) – Document APG23-2/INP-33Rev.1**

* The Republic of Korea supports the development of the definition of tolerances of non-geostationary-satellite orbit (non-GSO) space stations in the fixed-satellite service (FSS), broadcasting-satellite service (BSS) and mobile-satellite service (MSS) to account for potential differences between the notified and deployed orbital characteristics for the inclination of the orbital plane, the altitude of the apogee of the space station, the altitude of the perigee of the space station and the argument of the perigee of the orbital plane.
* When developing regulatory measures based on the definition of tolerances for certain orbital characteristics of non-GSO space stations in the FSS, BSS and MSS, actual operational aspects of the non-GSO space stations need to be duly taken into consideration.

**3.1.3 China (People’s Republic of) – Document APG23-2/INP-47Rev.1**

* China supports the development of the definition of tolerances limited to the four orbital characteristics of non-GSO space stations in FSS, BSS and MSS.
* China is of the view that the development of tolerances under this topic for the orbital characteristics of non-GSO space stations should not outside those frequency assignments in FSS, BSS and MSS.
* China supports the development of appropriate regulatory consequences for frequency assignments to non-GSO space stations if it operates beyond the specified allowable tolerances.

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

* The development of the definition of tolerances of non-geostationary-satellite orbit (non-GSO) space stations in the FSS, BSS and MSS, should be limited to the inclination of the orbital plane, the altitude of the apogee of the space station, the altitude of the perigee of the space station and the argument of the perigee of the orbital plane, to account for potential differences between the notified and deployed orbital characteristics.
* Appropriate regulatory measures should be developed with due consideration of operational aspects, for non-GSO space stations in the FSS, BSS and MSS, if the operations are beyond the specified allowable tolerances.

4. APT Preliminary View(s)

* APT Members support the ongoing activities that are carried out by ITU-R WP 4A regarding Topic A namely the development of the definition of tolerances of non-geostationary-satellite orbit (non-GSO) space stations in the FSS, BSS and MSS, as well as appropriate regulatory consequences for operations beyond the specified allowable tolerances. See Section 3.2 above for further details.

5. Other View(s) from APT Members

* None.

6. Issues for Consideration at Next APG Meeting

* APT members are invited to follow the progress of the ITU-R studies and are encouraged to submit their contributions for further considerations at the next meeting.

7. Views from Other Organisations

**7.1 Regional Groups**

**7.1.1 ASMG – Document APG23-2/INF-25**

* Follow-up studies and take under consideration the effect of exceeding these tolerances and how it can be reflected in the satellite filing.
* Provide the necessary regulatory procedures for NGSO constellation in case exceeding the tolerance of the orbital plan.

**7.1.2 ATU** – **Document APG23-2/INF-26**

* None.

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

* CEPT supports the development of the definition of tolerances limited to the four orbital characteristics of non‐GSO space stations in FSS, BSS and MSS identifying a “notified orbital plane”.
* CEPT does not support the development of tolerances under this topic for the orbital characteristics of non‐GSO space stations whose frequency assignments belong to services other than the FSS, BSS and MSS.
* To avoid collision with another non‐GSO space station or to permit reorganization of satellites in an orbit‐plane after a launch of new non‐GSO space stations, CEPT supports specific regulatory measures to temporary exceed the defined tolerances if final tolerances definition could not address such operational requirements.
* CEPT supports the development of appropriate regulatory consequences for frequency assignments to non‐GSO space stations that do not maintain these to‐be‐developed orbital tolerances.

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

* With respect to Topic A (non-GSO tolerances), an administration is of the view that the study of tolerances for the characteristics of notified orbital planes for non-GSO systems should be limited to the four parameters identified in the minutes of plenary of WRC-19: inclination of the orbital plane, the altitude of the apogee of the space station, the altitude of the perigee of the space station and the argument of the perigee of the orbital plane. Based on the results of these studies, the allowable differences between the orbital characteristics of the notified orbital plane, as defined in No. 11.44C.1 or in the noting of Resolution **35 (WRC-19)**, and deployed orbital plane of a non-GSO space station can be determined.
* This administration is also of the view that only the above-mentioned four orbital parameters identified in the minutes of the plenary of WRC-19 could be subject to examination by the Bureau in application of Nos. 11.44C.2, 11.44D.2, 13.6 or any other relevant existing provisions of the Radio Regulations.

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

* Only fixed-satellite, mobile-satellite or broadcasting satellite services and only satellite systems with altitudes of apogee above 15000 km should be considered.
* Tolerance for the inclination of plane, the altitude of the apogee, the altitude of the perigee and the argument of the perigee of the orbital plane should depend on the type of the space station.

**7.2 International Organisations**

**7.2.1 IARU**

* None.

**7.2.2 ICAO**

* None.

# Topic B: Post-milestone reporting procedure for non-GSO systems

1. Background

* Similar to Topic A, Topic B also stems from the WRC-19 Issue A of Agenda item 7, which dealt with the BIU of frequency assignments to all non-GSO systems, and consideration of a milestone-based approach for the deployment of non-GSO systems in specific frequency bands and services.
* WRC-19, as described in Section 10.5 of the Minutes of the 10th Plenary Meeting ([Doc 571 of WRC-19](https://www.itu.int/dms_pub/itu-r/md/16/wrc19/c/R16-WRC19-C-0571!!MSW-E.docx)), invited the ITU-R to study, as a matter of urgency, possible development of a post-milestone procedure, taking into account the reporting defined in *resolves* 18 of the Resolution [7(A)-NGSO MILESTONES]. This *resolves* and Resolution are currently referred to as *resolves* 19 of Resolution 35 (WRC-19). This Resolution contains a detailed procedure to be followed by administrations and the Radiocommunication Bureau (BR) when recording and maintaining in the MIFR, frequency assignments for non-GSO systems to which the Resolution applies.
* *Resolves* 19 of Resolution 35 (WRC-19) requires administrations to inform the BR, for information purposes only, of the date when the number of capable satellites deployed falls below a specified threshold. Further, if appropriate and applicable, the same *resolves* states that the notifying administration should also inform the BR of the date on which the deployment of the total number of satellites was resumed. The BR is to publish all information received under resolves 19 on its website.
* The purpose of this WRC-23 Topic B of Agenda item 7 is to study the possible development of a post-milestone procedure, to address the case where a non-GSO system has completed the milestone process and subsequently experiences a reduction in the number of satellites deployed, taking into account *resolves* 19 of Resolution 35 (WRC-19).

**Information on on-going ITU-R Study**

* The first WP 4A virtual meeting (28-29 May 2020) established Correspondence Group 5 (CG #5) and developed the associated Terms of Reference (ToR) for this CG, in order to advance the work on this Topic by electronic means, in the periods between WP 4A meetings. 2 CG meetings were held in 2020.
* During the third WP 4A virtual meeting (22 February – 3 March 2021), the meeting considered 1 input from the US that was consolidated into the Working Document (WD) on Non-GSO System Post Milestone Reporting. This WD is a compilation of inputs received so far from Luxembourg and US. There was not much discussion nor progress on Topic B during this meeting and the content of this WD have not been agreed by WP 4A at this stage. This document will be carried forward, for the consideration by the CG and the next meeting of WP 4A, as appropriate. The WD is found in Annex 17 to the WP 4A Chairman’s Report ([Doc 4A/246 (Annex 17)](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0246!N17!MSW-E.docx)).

2. Documents

* Input Documents: APG23-2/[INP-27(AUS)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-27_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx), [INP-33Rev.1(KOR)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-33Rev.1_WP4_kor_REV1.docx), [INP-47Rev.1(CHN)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-47Rev.1_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx)
* Information Documents: APG23-2/[INF-17](https://www.apt.int/sites/default/files/2021/03/APG23-2-INF-17_Briefing_on_AI7_Topics_A-E.TLGRV_.docx)(DG7), [[INF-25](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-25_ASMG.docx)(ASMG)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-25_ASMG.docx), [INF-26(ATU)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-26_State_of_ATU_WRC-23_Preparations.docx), [[[INF-34(CITEL)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx), [INF-35(CEPT)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-35_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.docx), [INF-36 (RCC)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-36_RCC_Preparation_to_the_World_Radio_Conference_and_Radio_Assembly_2023.docx)

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Australia** – **Document APG23-2/INP-27**

* Australia supports the development of the final post-milestone procedures at WRC-23 to supplement what was considered the temporary post-milestone procedures as contained in resolves 19 of Resolution 35 (WRC-19).

**3.1.2 Korea (Republic of) – Document APG23-2/INP-33Rev.1**

* The Republic of Korea supports the development of post‐milestone procedures taking into account the reporting procedure contained in Resolution **35 (WRC-19)**.
* When developing the post-milestone procedures, some extent of operational flexibility in the maintenance of the non-GSO satellite system in the FSS, BSS and MSS needs to be duly taken into consideration.

**3.1.3 China (People’s Republic of) – Document APG23-2/INP-47Rev.1**

* China does not oppose the studies of developing post-milestone procedure taking into account the reporting defined in resolves 19 of Resolution **35 (WRC-19)**.

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

* The studies for developing final post-milestone procedures at WRC-23 need to take into account the reporting procedure defined in *resolves* 19 of Resolution **35 (WRC-19)**.
* When developing the post-milestone procedures, some operational flexibility which is necessary for the maintenance of the non-GSO system in the FSS, BSS and MSS, may need to be duly considered.

4. APT Preliminary View(s)

* APT Members support the ongoing activities that are carried out by ITU-R WP 4A regarding Topic B namely the development of the post-milestone procedures for NGSO satellite systems in FSS, BSS and MSS. See Section 3.2 above for further details.

5. Other View(s) from APT Members

* None.

6. Issues for Consideration at Next APG Meeting

* APT Members are invited to follow the progress of the ITU-R studies and are encouraged to submit their contributions for further considerations at the next meeting.

7. Views from Other Organisations

**7.1 Regional Groups**

**7.1.1 ASMG – Document APG23-2/INF-25**

* Support the studies to have NON-GSO system post milestone Report in order to ensure that the number of NON-GSO satellite system in the space reflected in the MIFER.

**7.1.2 ATU** – **Document APG23-2/INF-26**

* None.
  + 1. **CEPT – Document APG23-2/INF-35**
* CEPT supports the development of final Post‐milestone procedures at WRC‐23 to replace temporary Post‐milestone procedures contained in the Resolution **35 (WRC‐19)** in resolves 19.
* CEPT supports the development of new procedures which permit some temporary flexibilities on the real number of satellites deployed compared to the number of satellites contained in the Master Register.
* CEPT supports the development of appropriate regulatory consequences for frequency assignments to non‐GSO space stations that do not respect these to‐be‐developed post‐milestone procedures.

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

* None.

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

* The specificities of operation of non-GSO systems with a small number of satellites should still be taken into account.
* The post-milestone procedure should not impose additional constrains on the non-GSO satellite systems using highly elliptical orbit.

**7.2 International Organisations**

**7.2.1 IARU**

* None.

**7.2.2 ICAO**

* None.

# Topic C: 7/8 & 20/30 GHz GSO MSS protection

1. Background Information

* At WRC-19, the regulatory protection of geostationary-satellite orbit (GSO) mobile-satellite service (MSS) networks from interference caused by non-GSO systems and networks was identified to be considered under WRC-23agenda item (AI) 7 in the frequency bands:
  + 7 250-7 375 MHz (space-to-Earth),
  + 7 900-8 025 MHz (Earth-to-space),
  + 20.2-21.2 GHz (space-to-Earth) and
  + 30-31 GHz (Earth-to-space) was identified to be considered under AI 7.
* While the CEPT proposed under [WRC19/C-16 ADD24+C1](https://www.itu.int/dms_pub/itu-r/md/16/wrc19/c/R16-WRC19-C-0016!A24-C1!MSW-E.docx) specific frequency ranges (as above), the final wording of the 12th Plenary minutes from WRC-19 identified the frequency bands only in a generic manner as quoted below:

*to consider the protection of geostationary satellite networks in the MSS operating in 7/8 and 20/30 GHz from emissions of non-geostationary satellite systems operating in the same frequency bands and identical directions.*

* This WRC-23 AI 7 topic is to clarify RR No. **22.2** that states, non-geostationary satellite systems shall not cause unacceptable interference to and shall not claim protection from geostationary satellite networks in the fixed-satellite service and in the broadcasting-satellite service, but this provision does not apply to the mobile-satellite service. Considering the current and the growing number of non-geostationary satellite systems planning the use of the above mentioned bands, this WRC-23 AI 7 topic includes the verification of the effectiveness and identification of possible inconsistencies in the RR provisions applicable to these frequency bands. Further, regulatory solutions are to be developed to better clarify the protection requirements of the GSO MSS networks from the emissions of non-GSO systems and networks operating in the same bands.

**Information on on-going ITU-R Study**

* During the CG meetings during the period from the May 2020 and October/November 2020 meetings of by WP 4A, the Chairman of the CG, compiled two input contributions as Document [4A/C-80 Annex 4](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0080!P4!MSW-E.docx) to the CG Chairman’s Report to WP 4A, for further consideration by WP 4A.
* The October/November 2020 meeting of WP 4A agreed to carry forward a compilation document of the various input documents as Document [4A/C-155 Annex 5](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0155!N05!MSW-E.docx) to Chairman’s Report for further discussion.
* A document related to protection of GSO networks in the MSS operating in 7/8 and 20/30 GHz bands from emissions of non-GSO systems operating in the same frequency bands and identical directions was submitted to the CG meetings during the period from the October/November 2020 and February/March 2021 meetings of by WP 4A. While there was no real discussion of the document, the document was included as Document [4A/169 Annex 2](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0169!P02!MSW-E.docx) to the CG Chairman’s Report to WP 4A.
* The February/March 2021 meeting of WP 4A considered the compilation document, Document [4A/169 Annex 2](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0169!P02!MSW-E.docx) to the CG Chairman’s Report to WP 4A and one input contribution from Germany under Document [4A/C-181](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R19-WP4A-C-0181). The meeting agreed to carry forward a compilation document of the various input documents as Annex 12 to Chairman’s Report (Document [4A/246 Annex 12](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0246!N12!MSW-E.docx)) for further discussion. Its content is not agreed by WP 4A at this stage. The document is being carried forward for consideration by the CG and the next meeting of WP 4A, as appropriate.

2. Documents

* Input Documents APG23-2/[INP-27 (AUS)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-27_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx), [INP-33 (Rev.1) (KOR)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-33Rev.1_WP4_kor_REV1.docx), [INP-47 (Rev.1) (CHN)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-47Rev.1_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx)
* Information Documents APG23-2/[INF-17 (DG7),](https://www.apt.int/sites/default/files/2021/03/APG23-2-INF-17_Briefing_on_AI7_Topics_A-E.TLGRV_.docx) [INF-25 (ASMG)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-25_ASMG.docx), [INF-26 (ATU)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-26_State_of_ATU_WRC-23_Preparations.docx), [[[INF-34 (CITEL)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx), [INF-35 (CEPT)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-35_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.docx), [INF-36 (RCC)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-36_RCC_Preparation_to_the_World_Radio_Conference_and_Radio_Assembly_2023.docx)

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Australia - Document APG23-2/**[**INP-27**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-27_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx)

* Australia supports studies.

**3.1.2 Korea (Republic of) - Document APG23-2/**[**INP-33 (Rev.1**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-33Rev.1_WP4_kor_REV1.docx)**)**

* The Republic of Korea supports the development regulatory solutions to better clarify the protection requirements of the GSO satellite networks in the MSS in the bands 7/8 GHz and 20/30 GHz from interference caused by non‐GSO satellite networks or systems operating in the same bands and in identical directions.
* When developing the regulatory solutions, possible simple technical criteria need to be established in order to quantify the protection of GSO satellite networks operating in the MSS.
* For the band 20/30 GHz, application of concept of No. 22.2 may need to be considered.

**3.1.3 China (People’s Republic of)** - **Document APG23-2/**[**INP-47**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-47_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.16_1.17_1.18_1.19_AND_7.docx) **(Rev.1)**

* China supports to identify and investigate whether the existing regulations sufficiently fulfil the objective for the protection of geostationary-satellite networks in the mobile-satellite service operating in considering bands from emissions of non-geostationary-satellite networks. This is the basis for further studying.

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

* Any regulatory solutions to be developed should include technical criteria to quantify the protection of GSO satellite networks operating in the MSS in the bands 7/8 GHz and 20/30 GHz.
* Consideration of application of No. 22.2 of the Radio Regulations for MSS in the band 20/30 GHz should be pursued.

4. APT Preliminary View(s)

* APT Members are of the view that existing regulations and its effectiveness to sufficiently protect geostationary-satellite networks in the mobile-satellite service operating in the bands 7/8 GHz and 20/30 GHz from emissions of non-geostationary-satellite networks operating in the same bands and in same direction, need to be verified by ITU-R Working Party 4A. See Section 3.2 above for further details.

5. Other View(s) from APT Members

* None.

6. Issues for Consideration at Next APG Meeting

* APT Members are invited to follow the progress of the ITU-R studies and are encouraged to submit their contributions for further considerations at the next meeting.

7. Views from Other Organisations

**7.1 Regional Groups**

**7.1.1 ASMG** - **Document APG23-2/**[INF-25](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-25_ASMG.docx)

* Support the studies to protect the geostationary satellite networks in the MSS operating in 7/8 and 20/30 GHz from emissions of non-geostationary satellite systems operating in the same frequency bands and identical directions

**7.1.2 ATU** - **Document APG23-2/**[INF-26](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-26_State_of_ATU_WRC-23_Preparations.docx)

* None.

**7.1.3 CEPT - Document APG23-2/**[INF-35](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-35_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.docx)

* CEPT supports the identification and definition of criteria in order to quantify the protection of GSO networks operating in the MSS from interference caused by non‐GSO networks or systems operating in the same frequency bands 7 250‐7 375 MHz (space‐to‐Earth), 7 900‐8 025 MHz (Earth‐to‐space), 20.2‐21.2 GHz (space‐to‐Earth) and 30‐31 GHz (Earth‐to‐space).

**7.1.4 CITEL** - **Document APG23-2/**[INF-34](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal_0.docx)

* None.

**7.1.5 RCC - Document APG23-2/**[INF-36](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-36_RCC_Preparation_to_the_World_Radio_Conference_and_Radio_Assembly_2023.docx)

* Do not oppose developing technical and regulatory measures for the protection of GSO mobile-satellite systems operating in 7/8 and 20/30 GHz from emissions of non-geostationary satellite systems operating in the same frequency bands and identical directions.

**7.2 International Organisations**

**7.2.1 IARU - Document APG23-2/**[INF-23](https://www.apt.int/sites/default/files/2021/03/APG23-2-INF-23_IARU_Views.docx)

* None.

**7.2.2 ICAO**

* Not available.

# Topic D: Mod to App 1 to Annex 4 of AP30B

1. Background Information

* WRC-19 adopted modifications to §§ 1.1 and 1.2 of Annex 4 of RR Appendix**30B** by replacing 10 and 9 degrees stipulated for orbital separation by 7 and 6 degrees, respectively. However, in § 2 of Appendix 1 to Annex 4 of RR Appendix **30B**, there is still a reference to 10 and 9 degrees for the calculation of the aggregate C/I ratio at a given downlink test point. It appears important to align the values referred to in Appendix 1 to Annex 4 with those in Annex 4.

**Information on on-going ITU-R Study**

* The WP 4A meeting agreed this item as an AI 7 Topic and to carry the draft CPM text forward for further development as Annex 6 to the Chairman’s Report (Document [4A/C-155 Annex 6](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0155!N06!MSW-E.docx)).
* The February/March 2021 meeting of WP 4A considered the input contribution from Canada under Document [4A/C-189](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R19-WP4A-C-0189) that proposed changes to the draft CPM text relating to the modifications of Appendix 1 to Annex 4 of RR Appendix **30B**. These changes consist in the addition of text regarding an error in the equation provided in section 1 of Appendix 1 to Annex 4 of RR Appendix **30B** relative to the calculation of the overall carrier-to-interference ratio at a given test point due to a single interfering allotment or assignment.
* The meeting agreed to carry forward the current draft of CPM as Annex 28 to Chairman’s Report (Document [4A/246 Annex 28](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0246!N28!MSW-E.docx)) for further development.

2. Documents

* Input Documents APG23-2/[INP-27 (AUS)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-27_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx), [INP-33 (Rev.1) (KOR)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-33Rev.1_WP4_kor_REV1.docx), [INP-47 (Rev.1) (CHN)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-47Rev.1_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx)
* Information Documents APG23-2/[INF-17 (DG7),](https://www.apt.int/sites/default/files/2021/03/APG23-2-INF-17_Briefing_on_AI7_Topics_A-E.TLGRV_.docx) [INF-25 (ASMG)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-25_ASMG.docx), [INF-26 (ATU)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-26_State_of_ATU_WRC-23_Preparations.docx), [[[INF-34 (CITEL)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx), [INF-35 (CEPT)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-35_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.docx), [INF-36 (RCC)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-36_RCC_Preparation_to_the_World_Radio_Conference_and_Radio_Assembly_2023.docx)

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Australia - Document APG23-2/**[**INP-27**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-27_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx)

* Australia has not formed a view on this Topic.

**3.1.2 Korea (Republic of) - Document APG23-2/**[**INP-33 (Rev.1**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-33Rev.1_WP4_kor_REV1.docx)**)**

* The Republic of Korea supports modifications to Appendix 1 to Annex 4 of Appendix **30B** of the Radio Regulations (RR) to reflect the values of the minimum orbital separation as adopted by WRC-19 in §§ 1.1 and 1.2 of Annex 4 of RR Appendix **30B**.

**3.1.3 China (People’s Republic of)** - **Document APG23-2/**[**INP-47**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-47_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.16_1.17_1.18_1.19_AND_7.docx) **(Rev.1)**

* China supports to carry out the related study in order to improve the discrepancies in current regulations.

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

* APT Members noted that the error in the C/I equation is only in the English version of the 2020 edition of the RR and will be dealt with under WRC-23 Agenda Item 9.2.

4. APT Preliminary View(s)

* APT Members support on-going ITU-R studies on the modifications to Appendix 1 to Annex 4 of Appendix **30B** of the Radio Regulations (RR) to reflect the values of the minimum orbital separation as adopted by WRC-19 in §§ 1.1 and 1.2 of Annex 4 of RR Appendix **30B**.

5. Other View(s) from APT Members

* None.

6. Issues for Consideration at Next APG Meeting

* APT Members are invited to follow the progress of the ITU-R studies and are encouraged to submit their contributions for further considerations at the next meeting.

7. Views from Other Organisations

**7.1 Regional Groups**

**7.1.1 ASMG - Document APG23-2/**[**INF-25**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-25_ASMG.docx)

* Support the studies to modify Appendix 1 to Annex 4 of Appendix 30B in accordance of WRC-19 output

**7.1.2 ATU - Document APG23-2/**[**INF-26**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-26_State_of_ATU_WRC-23_Preparations.docx)

* None.

**7.1.3 CEPT - Document APG23-2/**[**INF-35**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-35_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.docx)

* None.

**7.1.4 CITEL - Document APG23-2/**[**INF-34**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal_0.docx)

* None.

**7.1.5 RCC - Document APG23-2/**[**INF-36**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-36_RCC_Preparation_to_the_World_Radio_Conference_and_Radio_Assembly_2023.docx)

* Support the modification of the value of the coordination arc in Appendix 1 to Annex 4 to Appendix **30B** of the RR to align it with the value of the coordination arc adopted at WRC-19 for Appendix **30B** of the RR.

**7.2 International Organisations**

**7.2.1 IARU - Document APG23-2/**[**INF-23**](https://www.apt.int/sites/default/files/2021/03/APG23-2-INF-23_IARU_Views.docx)

* None.

**7.2.2 ICAO**

* Not available.

# Topic E: Improved procedures under RR Appendix 30B for new ITU Member States

1. Background Information

* WRC-19 adopted Resolution **170 (WRC-19)** in which administrations, which do not have any assignments in the Appendix **30B** List, or under coordination, have a one-off chance to file for assignments in the List and have this filing processed ahead of regular filings waiting to be processed. Moreover, in determining coordination requirements for the filings under Resolution **170 (WRC-19)**, criteria more preferential to the filing administration are used.
* WRC-07 revised Article 7 of Appendix **30B**, which provides provisions for new ITU Member States to obtain allotments in the Plan. Like those of Resolution **170** **(WRC-19)**, these procedures prescribe that the filings under Article 7 (Rev.WRC-07) will be processed ahead of regular filings waiting to be processed. However, unlike Resolution **170** **(WRC-19)**, Article 7 (Rev.WRC-07) identifies coordination requirements using the regular criteria as contained in Annex 4 to Appendix **30B**. This would give rise to a larger number of coordination requirements being identified than if the criteria used in Resolution **170** **(WRC-19)** had been used.
* Moreover, while the procedure in Resolution **170 (WRC-19)** is available also to new ITU Member States, there is nothing in Article 7 (Rev.WRC-07) bringing this possibility to their attention. Given this discrepancy between the procedures for the addition of a new allotment to the Plan for a new Member State of the Union, and the procedures for converting allotments into assignments for those Member States which do not have any assignments in the Appendix **30B** List, or under coordination, and the similarities between these two cases for Member States, it is proposed to find a way to better align the procedures for these two cases.

**Information on on-going ITU-R Study**

* During the CG meetings during the period from the October/November 2020 and February March meetings of by WP 4A, the meeting noted a new item related to improved procedures under RR Appendix **30B** for new ITU Member States. This new item was included in Document [4A/C-169 Annex](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0169!P03!MSW-E.docx) 3 to the CG Chairman’s Report to WP 4A, for further consideration by WP 4A.
* The February/March 2021 meeting of WP 4A considered the CG document and agreed to carry forward the document as Annex 18 to Chairman’s Report (Document [4A/246 Annex 18](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0246!N18!MSW-E.docx)) for further discussion. Its content is not agreed by WP 4A at this stage. The document is being carried forward for consideration by the CG and the next meeting of WP 4A, as appropriate.
* This document recognizes the discrepancy between the procedures for the addition of a new allotment to the Plan for a new Member State of the Union, and the procedures for converting allotments into assignments for those Member States which do not have any assignments in the Appendix **30B** List, or under coordination. Recognizing the similarities between these two cases for Member States, it is proposed to find a way to better align the procedures for these two cases. The document proposes two initial ideas for improving the AP**30B** Article 7 procedures for new Members States.

2. Documents

* Input Documents APG23-2/[INP-27 (AUS)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-27_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx), [INP-33 (Rev.1) (KOR)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-33Rev.1_WP4_kor_REV1.docx), [INP-47 (Rev.1) (CHN)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-47Rev.1_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx)
* Information Documents APG23-2/[INF-17 (DG7),](https://www.apt.int/sites/default/files/2021/03/APG23-2-INF-17_Briefing_on_AI7_Topics_A-E.TLGRV_.docx) [INF-25 (ASMG)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-25_ASMG.docx), [INF-26 (ATU)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-26_State_of_ATU_WRC-23_Preparations.docx), [[[INF-34 (CITEL)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal.docx), [INF-35 (CEPT)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-35_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.docx), [INF-36 (RCC)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-36_RCC_Preparation_to_the_World_Radio_Conference_and_Radio_Assembly_2023.docx)

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Australia - Document APG23-2/**[**INP-27**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-27_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx)

* Australia has not formed a view on this Topic.

**3.1.2 Korea (Republic of) - Document APG23-2/**[**INP-33 (Rev.1**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-33Rev.1_WP4_kor_REV1.docx)**)**

* The Republic of Korea generally supports study on improved procedures under Appendix **30B** of the Radio Regulations for new ITU Member States, with due consideration for impact on the existing allotments or assignments under RR AP **30B**.

**3.1.3 China (People’s Republic of)** - **Document APG23-2/**[**INP-47**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-47_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.16_1.17_1.18_1.19_AND_7.docx) **(Rev.1)**

* China supports to improve procedure under Appendix **30B** for new ITU Member States in order to ensure equitable access to orbits and frequencies resources.

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

* None.

4. APT Preliminary View(s)

* APT Members support on-going ITU-R studies on improved procedures under Appendix **30B** of the Radio Regulations (RR) for new ITU Member States to ensure equitable access to orbits and frequencies resources.

5. Other View(s) from APT Members

* None.

6. Issues for Consideration at Next APG Meeting

* APT members are invited to follow the progress of the ITU-R studies and are encouraged to submit their contributions for further considerations at the next meeting.

7. Views from Other Organisations

**7.1 Regional Groups**

**7.1.1 ASMG - Document APG23-2/**[**INF-25**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-25_ASMG.docx)

* Follow-up the studies and ensure that the improvement procedures does not imposed any restrictions on the assignment / allotments for the administrations in AP30B

**7.1.2 ATU - Document APG23-2/**[**INF-26**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-26_State_of_ATU_WRC-23_Preparations.docx)

* None.

**7.1.3 CEPT - Document APG23-2/**[**INF-35**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-35_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.docx)

* None.

**7.1.4 CITEL - Document APG23-2/**[**INF-34**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-34_CITEL_Preparation_for_WRC23_april_2021_revfinal_0.docx)

* None.

**7.1.5 RCC - Document APG23-2/**[**INF-36**](https://www.apt.int/sites/default/files/2021/04/APG23-2-INF-36_RCC_Preparation_to_the_World_Radio_Conference_and_Radio_Assembly_2023.docx)

* Support efforts aimed at solving problems related to access to the radio frequency spectrum and satellite orbits for new Member States of the Union within the parameters of Appendix **30B**.

**7.2 International Organisations**

**7.2.1 IARU - Document APG23-2/**[**INF-23**](https://www.apt.int/sites/default/files/2021/03/APG23-2-INF-23_IARU_Views.docx)

* None.

**7.2.2 ICAO**

* Not available.

# Item [X]: Protection of GSO BSS against the Interference from Non-GSO FSS in the band 17.7-17.8 GHz and Non-GSO BSS in the band 21.4-22 GHz

1. Background

* There is no provisions for epfd (equivalent power flux density) is (inter satellite) limits in **RR Article 22, Table 22-3** for the Non-GSO FSS in the band 17.7-17.8GHz, which is the interference case from NGSO FSS space station to GSO BSS space station), or for epfd↓ (space to earth) limits in **RR Article 22** for the Non-GSO BSS in the band 21.4-22.0GHz, respectively. An example of Non-GSO BSS in the band 21.4-22.0 GHz is found in IFIC2936 / 22.12.2020, API/A/12675. In addition, there is no provisions in **RR Article 9** for GSO BSS to coordinate with Non-GSO satellites in these frequency band. Therefore, GSO BSS has to make comment based on **RR 9.3** and **RR 23.13** with respect to interference and exclusion of service area, as appropriate. However, the coordination based on **RR 9.3** is not official. Then it is needed to develop provisions applying to the band 17.7-17.8GHz (inter satellite) and 21.4-22.0GHz (space to earth).

2. Documents

* Input Documents: APG23-2/[INP-17(J)](https://www.apt.int/sites/default/files/2021/04/APG23-2-INP-17.docx)
* Information Documents: None

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Japan** – **Document APG23-2/INP-17**

* Japan proposes to include this item as a topic under the WRC-23 agenda item 7 and seeks support from the APT members on this topic. The possible methods to satisfy this topic would be (1) application of RR 9.12A and not 9.13, and (2) development of epfd is (inter satellite) in RR Table 22-3 for the band 17.7-17.8GHz and epfd↓ (space to earth) in RR 22 for the band 21.4-22.0GHz. The current corresponding provisions are as follows:

9.12A *g)* for a station in a satellite network using a non-geostationary-satellite orbit, for which the requirement to coordinate is included in a footnote to the Table of Frequency Allocations referring to this provision or to No. 9.11A, in respect of any other satellite network using the geostationary-satellite orbit, with the exception of coordination between earth stations operating in the opposite direction of transmission;     (WRC‑2000)

9.13 *h)* for a station in a satellite network using the geostationary-satellite orbit, for which the requirement to coordinate is included in a footnote to the Table of Frequency Allocations referring to this provision or to No. 9.11A, in respect of any other satellite network using a non-geostationary-satellite orbit, with the exception of coordination between earth stations operating in the opposite direction of transmission;     (WRC‑2000)

TABLE **22-3**     (WRC‑2000)

Limits to the epfdis radiated by non-geostationary-satellite systems in the fixed-  
satellite service in certain frequency bands[[1]](#footnote-1)19

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Frequency band (GHz) | epfdis (dB(W/m2)) | Percentage of time during which epfdis level may not be exceeded | Reference bandwidth (kHz) | Reference antenna beamwidth and reference radiation pattern[[2]](#footnote-2)20 |
| 10.7-11.7  (Region 1)  12.5-12.75  (Region 1)  12.7-12.75  (Region 2) | −160 | 100 | 40 | 4° Recommendation ITU‑R S.672-4, *Ls* = −20 |
| 17.8-18.4 | −160 | 100 | 40 | 4° Recommendation ITU‑R S.672-4, *Ls* = −20 |

* Japan proposes to develop the APT common proposal for Agenda Item 7 based on the principle mentioned in section 3 above.

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

* It was clarified during the meeting that the band 17.7-17.8 GHz is allocated to the FSS (Earth-to-space) limited to feeder link for the BSS in Region 3.
* One APT member proposed to:
* develop epfd limits (inter-satellite) or application of RR 9.12A but not RR 9.13 for the band 17.7-17.8 GHz
* develop epfd limits (space-to-Earth) or application of RR 9.12A but not RR 9.13 for the band 21.4-22 GHz.
* With respect to the proposals above, views were expressed that since existing provisions of the Radio Regulations including No.**22.2** ensure protection of the services related to the proposals above, there is no need to develop any additional regulatory provisions.
* The item may need to be submitted to the next WP 4A meeting by the Administration who proposed the item if it so wishes, so that the discussions at the APG can focus on the agreed Topics under Agenda Item 7.

4. APT Preliminary View(s)

* None.

5. Other View(s) from APT Members

* None.

6. Issues for Consideration at Next APG Meeting

* None.

7. Views from Other Organisations

**7.1 Regional Groups**

7.1.1 ASMG

* None.

**7.1.2 ATU**

* None.

**7.1.3 CEPT**

* None.

**7.1.4 CITEL**

* None.

**7.1.5 RCC**

* None.

**7.2 International Organisations**

**7.2.1 IARU**

* None.

**7.2.2 ICAO**

* None.

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1. 19 **22.5F.2** In meeting these limits, the administrations intending to develop such systems shall ensure that the assignments appearing in the feeder-link Plans of Appendix **30A** will be fully protected.      (WRC‑2000) [↑](#footnote-ref-1)
2. 20 **22.5F.3** In this Table, the reference pattern of Recommendation ITU‑R S.672-4 shall be used only for the calculation of interference from non-geostationary-satellite systems in the fixed-satellite service into geostationary-satellite systems in the fixed-satellite service. In applying the equations of Annex 1 to Recommendation ITU‑R S.672-4, the parabolic main beam equation shall start at zero.     (WRC‑2000) [↑](#footnote-ref-2)