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| **The 3rd Meeting of the APT Conference Preparatory Group for WRC-23 (APG23-3)** | **APG23-3/OUT-33** |
| 8 – 13 November 2021, Virtual/Online Meeting | 13 November 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 Aspect

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.
* As of the 2021 meeting of the WP 4A meeting,six Topics have been identified and are being studied. Document [4A/392](https://www.itu.int/md/R19-WP4A-C-0392/en) - Report on the meeting of WP 4A (14-28 July 2021) and its associated annexes covers the current work on Agenda Item 7 in WP 4A.
* The six agreed Topics under WRC-23 Agenda item 7 are:
* **Topic A:** Tolerances for certain orbital characteristics of non-GSO space stations in the FSS, BSS and MSS
* **Topic B:** Non-GSO system post milestone procedure
* **Topic C:** Protection of GSO MSS in the 7/8 and 20/30 GHz from non-GSO systems operating in the same frequency bands and identical directions
* **Topic D:** Modifications to Appendix 1 to Annex 4 of RR Appendix **30B**
* **Topic E:** Improved procedures under RR Appendix **30B** for new ITU Member States
* **Topic F:** Impact of excluding feeder-link/uplink service and coverage areas in the bands subject to RR Appendix **30A** and RR Appendix **30B**

2. Documents

* Input Documents APG23-3/[INP-10](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx) (AUS)
* Information Documents APG23-3/[INF-01](https://www.apt.int/sites/default/files/2021/10/APG23-3-INF-01_Preliminary_WMO_Position_on_WRC-23_Agenda.docx) (WMO), [INF-20](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-20_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.pdf) (CEPT), [INF-37](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-37_ASMG_Preparation_for_WRC-23.pdf) (ASMG)

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Australia** - **Document APG23-3/INP-10**

* 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)

APT Members support 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, except for the provisions in the footnotes of the Table of Frequency Allocations in Article **5** relating to advance publication, coordination, notification and recording procedures.

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 APG23-3/INF-37**

* None.

**7.1.2 ATU (as of September 2021)**

* None.
	+ 1. **CEPT- Document APG23-3/INF-20**
* 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 (as of April 2021)**

* None.

**7.1.5 RCC (as of April 2021)**

* The RCC Administrations consider it necessary to further improvements in the notification, coordination and recording procedures for frequency assignments to satellite networks in different services in order to ensure equitable access of ITU Member States to orbital and frequency resource.

**7.2 International Organisations**

**7.2.1 IARU - Document APG23-3/INF-17**

* None.

**7.2.2 ICAO - Document APG23-3/INF-15**

* None.

**7.2.3 IMO (as of April 2021)**

* None.

**7.2.4 WMO - Document APG23-3/INF-01**

* WMO does not support changes to the Radio Regulations that would impose unnecessary constraints on MetSat and EESS systems or that would overcomplicate the regulatory procedures for the corresponding ITU filings for the frequency bands that are used by these systems. WMO will follow the development of Agenda Item 7 issues as they are identified and studied.

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# 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%21%21MSW-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.
* During the fourth WP 4A virtual meeting (14 – 28 July 2021), there were inputs from US and Canada that were merged with the existing WD, but not discussed due to lack of time. The WD is found in Annex 13 to the WP 4A Chairman’s Report ([Doc 4A/392 (Annex 13](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0392%21N13%21MSW-E.docx))).
* During the fifth WP 4A virtual meeting (27 October – 4 November 2021), there were inputs from Canada and US that were merged into the existing WD, but there was no discussion on the WD due to lack of time. The merged WD is attached as Annex 22 to Chairman’s Report (Document [4A/522 Annex 22](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0522%21N22%21MSW-E.docx)).

2. Documents

* Input Documents: APG23-3/[INP-10](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx) (AUS), [INP-27(Rev.1)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-27Rev.1_WP4_Kor_1.15_1.16_1.17_7_rev1.docx) (KOR), [INP-31](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-31_J-4_WP4_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx) (J), [INP-38](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-38_SNG_WP4__AI1.15_1.16_1.17_7.docx) (SNG), [INP-44](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-44_China_WP4.docx) (CHN)
* Information Documents: APG23-3/[INF-20](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-20_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.pdf) (CEPT), [INF-37](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-37_ASMG_Preparation_for_WRC-23.pdf) (ASMG)

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Australia** – **Document APG23-3/INP-10**

* 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 APG23-3/INP-27Rev.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 and appropriate regulatory consequences for operations beyond the allowable tolerances to be specified need to be duly taken into consideration.

**3.1.3 Japan – Document APG23-3/INP-31**

* Japan generally supports the on-going ITU-R studies carried out by WP4A regarding Topic A.

**3.1.4 Singapore (Republic of) – Document APG23-3/INP-38**

* 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”.
* To avoid collision with another non-GSO space station or to permit reorganisation of satellites in an orbit-plane after a launch of new non-GSO space stations, supports specific regulatory measures to temporarily exceed the defined tolerances if final tolerances definition could not address such operational requirements.
* 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.

**3.1.5 China (People’s Republic of) – Document APG23-3/INP-44**

* 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**

 None.

4. APT Preliminary View(s)

* APT Members support the development of the definition of tolerances of non-geostationary-satellite orbit (non-GSO) space stations in the FSS, BSS and MSS.
* APT Members are of the view that 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.
* APT Members are also of the view that appropriate regulatory consequences/measures should be developed taking into account the operational aspects of the non-GSO space stations in the FSS, BSS and MSS, if the operations are beyond the specified allowable tolerances. These regulatory measures should not have retroactive application. Moreover, necessary transitional measures for application of the decision of WRC-23 may need to be developed.

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**

* + 1. **ASMG – Document APG23-3/INF-37**
* Follow-up studies and take under consideration the effect of exceeding these tolerance 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 and determine the impact if the operations are beyond the specified allowable tolerances mentioned in none-GEO constellation filing.
* Take the necessary regulatory procedures to specify the tolerance in order to prevent satellite crashes.

**7.1.2 ATU (as of September 2021)**

* Support studies on identifying acceptable tolerances for the following 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;
* Decide that specific regulatory measures for tolerances ought to be taken in order to avoid collision with another non-geostationary space station. Tolerances for the orbital characteristics should on one hand provide flexibility of satellite operators to maneuver their satellites without wasting too much fuel on the other hand provide no room for abuse to go out of the notified orbital characteristics;
* Decide that special cases in the orbiting phase should be taken into account. Regulatory procedures should clearly define this.
* Decide that appropriate regulatory provisions ought to be developed for frequency assignments to non-GSO space stations that do not maintain or exceed the orbital tolerances and the effects that will result from these exceedances on the file submitted to the ITU.

**7.1.3 CEPT – Document APG23-3/INF-20**

* 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.
* CEPT supports the development of these tolerances in the context of ITU regulatory procedures such as BIU and the milestone-based approach. In the absence of such tolerances it is unclear whether the requirements of Resolution **35 (WRC-19)** are met.
* To avoid collision with another non-GSO space station or to permit reorganisation 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** **(as of April 2021)**

* 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 the 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-35)**, 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 (as of April 2021)**

* The RCC Administrations consider that studying tolerances for certain orbital characteristics of non-GSO space stations should only be carried out with respect to systems in the fixed-satellite, mobile-satellite or broadcasting satellite services to which Resolution **35 (WRC-19)** applies. Tolerances 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 should depend on the space station orbit type. The specified tolerances should not be applied to the satellite systems with the altitude of the apogee exceeding 15000 km.

**7.2 International Organisations**

**7.2.1 IARU – Document APG23-3/INF-17**

* None.

**7.2.2 ICAO - Document APG23-3/INF-15**

* None.

**7.2.3 IMO (as of April 2021)**

* None.

**7.2.4 WMO – Document APG23-3/INF-01**

* None.

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# 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%21%21MSW-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.
* During the fourth WP 4A virtual meeting (14 – 28 July 2021), there were inputs from US, Russia and Canada that were merged with the existing WD, but not discussed due to lack of time. The WD is found in Annex 14 to the WP 4A Chairman’s Report ([Doc 4A/392 (Annex 14)](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0392%21N14%21MSW-E.docx)).
* the France/Luxembourg input contained preliminary draft CPM text which proposes to suppress resolves 19 for Resolution 35 (WRC-19) and to develop a new draft Resolution, based on the suspension provisions of No. 11.49. The WD towards draft CPM text is found in Annex 36 to the WP 4A Chairman’s Report [(Doc 4A/392 (Annex 36))](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0392%21N36%21MSW-E.docx).
* During the fifth WP 4A virtual meeting (27 October – 4 November 2021), there were inputs from Canada, Luxembourg and US that were merged into the existing WD on this Topic as well as the WD towards the draft CPM text, but there was no discussion on the WDs due to lack of time. The merged WD is attached as Annex 23 to Chairman’s Report (Document [4A/522 Annex 23](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0522%21N23%21MSW-E.docx)), while the merged WD towards draft CPM text is as attached below (docs 4A/TEMP-203, subject to be published as Annexes to the Chairman’s Report).



2. Documents

* Input Documents: APG23-3/[INP-10](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx) (AUS), [INP-27(Rev.1)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-27Rev.1_WP4_Kor_1.15_1.16_1.17_7_rev1.docx) (KOR), [INP-31](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-31_J-4_WP4_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx) (J), [INP-38](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-38_SNG_WP4__AI1.15_1.16_1.17_7.docx) (SNG), [INP-44](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-44_China_WP4.docx) (CHN)
* Information Documents: APG23-3/[INF-20](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-20_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.pdf) (CEPT), [INF-37](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-37_ASMG_Preparation_for_WRC-23.pdf) (ASMG)

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Australia** – **Document APG23-3/INP-10**

* 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 APG23-3/INP-27Rev.1**

* The Republic of Korea supports the development of post‐milestone procedures for the non-GSO satellite system subject to Resolution **35 (WRC-19)**,taking into account the reporting defined in resolves 19 of the Resolution **35 (WRC-19)** to ensure that the number of space stations recorded in the Master International Frequency Register (MIFR) for non-GSO systems closely aligns with what is actually deployed in space.

**3.1.3 Japan – Document APG23-3/INP-31**

* Japan generally supports the on-going ITU-R studies carried out by WP4A regarding Topic B.

**3.1.4 Singapore (Republic of) – Document APG23-3/INP-38**

* Support the development of final post-milestone procedures at WRC-23 to effectively replace the informational post-milestone procedures contained in the resolves 19 of Resolution **35 (WRC-19)**.
* Support developing post-milestone procedures in a new Resolution taking into account No. **11.49** and Resolution **35 (WRC-19)**.
* To not consider application of only No. **13.6** by the BR as an adequate solution for Topic B.
* Supports the development of appropriate regulatory consequences for frequency assignments to non-GSO space stations that do not respect the procedures in this new Resolution on post-milestone procedures.

**3.1.5 China (People’s Republic of) – Document APG23-3/INP-44**

* 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)**.
* China supports the development of appropriate regulatory consequences for frequency assignments to non-GSO space stations which cannot comply with the provisions contained in the developing post-milestone procedure.

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

* None.

4. APT Preliminary View(s)

* APT Members support the development of the post-milestone procedures for NGSO satellite systems in FSS, BSS and MSS.
* APT Members are of the view that 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)**.
* APT Members are also of the view that when developing the post-milestone procedures, some degree of operational flexibility which is necessary for the maintenance of non-GSO systems in the FSS, BSS and MSS, may need to be duly considered.
* APT Members also support the development of appropriate regulatory measures for frequency assignments to non-GSO space stations that do not comply with the post-milestone requirements/procedures.

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

* 1. **Regional Groups**
		1. **ASMG – Document APG23-3/INF-37**
* 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.
* When developing the post-milestone reporting procedures, some operational flexibility which is necessary for the maintenance of the non-GSO system need to be consider without allowing any abuse.

**7.1.2 ATU (as of September 2021)**

* Support the studies to have non-GSO system post milestone reporting procedure in order to ensure that the real number of deployed non-GSO satellite system in the space is reflected in the MIFR taking into consideration the complexity of the operation of NGSO systems.
* Consider when developing the post-milestone reporting 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 without allowing any abuse.
	+ 1. **CEPT – Document APG23-3/INF-20**
* 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 to develop a new Resolution to replace resolves 19 of Resolution **35 (WRC‐19)**, to suppress resolves 19 of Resolution **35 (WRC‐19)** and leave the rest of the Resolution **35 (WRC‐19)** as is otherwise.
* CEPT supports aligning the post milestone procedures in this new Resolution with No. 11.49 and Resolution **35 (WRC‐19)** targeting a procedure allowing a reduction of satellites deployed greater than [5]% of the number of satellites notified in the MIFR for a maximum period of 3 years without alignment of the number of satellite notified in the MIFR. The mentioned procedure also considers the process to duly notify the Bureau as in No. **11.49**.
* CEPT considers application of only No. **13.6** by the BR is not an adequate solution for Topic B.
* CEPT supports the development of new procedures which permit some temporary flexibilities on the real number of non‐GSO 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 (as of April 2021)**

* None.

**7.1.5 RCC (as of April 2021)**

* The RCC Administrations consider that when developing post-milestone procedure taking into account the reporting defined in *resolves* 19 of Resolution **35 (WRC-19**) operational features of non-GSO systems with a small number of satellites should continue to be taken into account. The post-milestone procedure developed should not impose additional constrains on the non-GSO satellite systems using highly-elliptical orbit.

**7.2 International Organisations**

**7.2.1 IARU - Document APG23-3/INF-17**

* None.

**7.2.2 ICAO - Document APG23-3/INF-15**

* None.

**7.2.3 IMO (as of April 2021)**

* None.

**7.2.4 WMO – Document APG23-3/INF-01**

* None.

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# 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) or maritime mobile-satellite service (MMSS) networks from interference caused by non-GSO systems and networks was identified to be considered under WRC-23agenda item (AI) 7, Topic C, in the frequency bands:
* 7 250-7 750 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%21A24-C1%21MSW-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 includes the verification of the effectiveness and identification of possible inconsistencies in the provisions of the Radio Regulations (RR) 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 operating in the same bands and identical directions.

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

* The July 2021 meeting of WP 4A considered two input documents towards the development of the Working Document towards on WRC-23 Agenda Item 7 Topic C. Due to lack of time, the meeting agreed to carry forward the merged document as Annex 15 to Chairman’s Report (Document [4A/392 Annex 15](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0392%21N15%21MSW-E.docx)) for consideration by the CG and the next meeting of WP 4A, as appropriate.
* There were three input contributions to the October / November meeting of WP 4A. Due to lack of time, the meeting agreed to carry forward the merged document as Annex 24 to Chairman’s Report (Document [4A/522 Annex 24](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0522%21N24%21MSW-E.docx)). This document will be considered by the CG and the next meeting of WP 4A, as appropriate.

2. Documents

* Input Documents: APG23-3/[[INP-10 (AUS)](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx)](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_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-27(Rev.1) (KOR)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-27Rev.1_WP4_Kor_1.15_1.16_1.17_7_rev1.docx), [INP-31 (J)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-31_J-4_WP4_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx), [INP-44 (CHN)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-44_China_WP4.docx)
* Information Documents: APG23-3/[INF-20 (CEPT)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-20_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.pdf)

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Australia - Document APG23-3/**[[**INP-10**](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx)](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_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 APG23-3/**[**INP-27(rev.1)**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-27Rev.1_WP4_Kor_1.15_1.16_1.17_7_rev1.docx)

* The Republic of Korea supports the development of regulatory solutions with the application of concept of No.**22.2** of the Radio Regulations (RR) to better clarify the protection requirements of the GSO satellite networks in the MSS from interference caused by non‐GSO satellite networks or systems operating in the same frequency bands 7 250-7 750 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).

**3.1.3 Japan - Document APG23-3/**[**INP-31**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-31_J-4_WP4_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx)

* Japan generally supports the on-going ITU-R studies carried out by WP4A.

**3.1.4 China (People’s Republic of) - Document APG23-3/**[**INP-44**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-44_China_WP4.docx)

* China supports to develop and clarify regulatory provisions for protection geostationary-satellite networks in the mobile-satellite service from interference caused by non-GSO networks or systems operating in 7/8 & 20/30 GHz, considering No. **22.2** or Article **5**.

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

* None.

4. APT Preliminary View(s)

* APT Members are of the view that existing regulations and their effectiveness to 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.
* APT Members support application of concept of No. **22.2** of the Radio Regulations for MSS in the band 20/30 GHz.

5. Other View(s) from APT Members

* Some APT Members support consideration of application of concept of RR No. **22.2** of the Radio Regulations for MSS in the band 7/8 GHz.
* Some other APT Members are of the view that provision RR No. **9.21** has procedure for effecting coordination for MSS in the band 7/8 GHz through RR No. **5.461**.

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 APG meeting.

7. Views from Other Organisations

**7.1 Regional Groups**

7.1.1 ASMG (as of Nov 2021 (APG23-3/[INF-37](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-37_ASMG_Preparation_for_WRC-23.pdf))

* 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 (as of September 2021)

* Support the studies on assessing the protection of GSO MSS operating in 7/8 and 20/30 GHz from emissions of non-geostationary satellite systems 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).

7.1.3 CEPT (as of Nov 2021 (APG23-3/[INF-20](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-20_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.pdf))

* CEPT supports the identification and definition of criteria, extensions and addition of provisions 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 7250‐7750 MHz (space‐to‐Earth), 7900‐8025 MHz (Earth‐to‐space),
20.2‐21.2 GHz (space‐to‐Earth) and 30‐31 GHz (Earth‐to‐space) and in identical directions.

7.1.4 CITEL (as of April 2021)

* None.

7.1.5 RCC (as of April 2021)

* The RCC Administrations 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 (as of Nov 2021 (APG23-3/INF-17))

* None.

7.2.2 ICAO (as of Nov 2021 (APG23-3/INF-15))

* None.

7.2.3 IMO (as of November 2021)

* Not available.

7.2.4 WMO (as of Nov 2021 (APG23-3/INF-01))

* None.

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# 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.
* WRC-23 agenda item 7, Topic D, considers this discrepancy and a method to align the values of orbital separation with those in sections 1.1 and 1.2 of the Annex adopted by WRC-19.

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

* The July 2021 meeting of WP 4A considered three input documents towards the development of the Working Document on Draft CPM text for WRC-23 Agenda Item 7 Topic D, particularly on the Executive Summary. Due to lack of time, the meeting agreed to carry forward the merged document as Annex 35 to Chairman’s Report (Document [4A/392 Annex 35](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0392%21N35%21MSW-E.docx)) for consideration by the CG and the next meeting of WP 4A, as appropriate.
* There was no new contribution to the October / November meeting of WP 4A. Hence, the merged document from the July 2021 meeting of WP 4A remains as the baseline working document.

2. Documents

* Input Documents: APG23-3/[[INP-10 (AUS)](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx)](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_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-27(Rev.1) (KOR)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-27Rev.1_WP4_Kor_1.15_1.16_1.17_7_rev1.docx), [INP-31 (J)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-31_J-4_WP4_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx), [INP-44 (CHN)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-44_China_WP4.docx)
* Information Documents: APG23-3/[INF-20 (CEPT)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-20_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.pdf)

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Australia - Document APG23-3/**[[**INP-10**](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx)](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_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 is monitoring developments on this Topic.

**3.1.2 Korea (Republic of) - Document APG23-3/**[**INP-27(rev.1)**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-27Rev.1_WP4_Kor_1.15_1.16_1.17_7_rev1.docx)

* The Republic of Korea supports modifications to Appendix 1 to Annex 4 of RR AP**30B** 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 AP**30B**.

**3.1.3 Japan - Document APG23-3/**[**INP-31**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-31_J-4_WP4_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx)

* Japan generally supports the on-going ITU-R studies carried out by WP4A.

**3.1.4 China (People’s Republic of) - Document APG23-3/**[**INP-44**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-44_China_WP4.docx)

* China supports on-going ITU-R studies on improved procedures.

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

* None.

4. APT Preliminary View(s)

* APT Members support the single method developed by ITU-R to modify Appendix **1** to Annex **4** of Appendix **30B** of the Radio Regulations 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 APG meeting.

7. Views from Other Organisations

**7.1 Regional Groups**

7.1.1 ASMG (as of Nov 2021 (APG23-3/[INF-37](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-37_ASMG_Preparation_for_WRC-23.pdf))

* Support the only method identified under this topic to align Appendix 1 to Annex 4 of RR Appendix 30B with the values of orbital separation in provisions 1.1 and 1.2 of Annex 4 of RR Appendix 30B with these modifications.

7.1.2 ATU (as of September 2021)

* Support the only method identified under this topic.

7.1.3 CEPT (as of Nov 2021 (APG23-3/[INF-20](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-20_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.pdf))

* CEPT supports correcting the values of the coordination arc in the aggregate C/I calculation in Appendix 1 to Annex 4 of RR Appendix 30B based on the coordination arc reductions decided at WRC‐19.

7.1.4 CITEL (as of April 2021)

* None.

7.1.5 RCC (as of April 2021)

* The RCC Administrations support changing the value of the coordination arc in Appendix 1 to Annex 4 to RR Appendix 30В, namely aligning it to one adopted at WRC-19 for RR Appendix 30В, while noting that this change complies with the previously approved Rule of Procedure.

**7.2 International Organisations**

7.2.1 IARU (as of Nov 2021 (APG23-3/INF-17))

* None.

7.2.2 ICAO (as of Nov 2021 (APG23-3/INF-15))

* None.

7.2.3 IMO (as of November 2021)

* Not available.

7.2.4 WMO (as of Nov 2021 (APG23-3/INF-01))

* None.

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# 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**

* The July 2021 meeting of WP 4A considered three input documents.
* Document [4A/272](https://www.itu.int/md/R19-WP4A-C-0272/en), from the BR Director, contained statistics of the orbital occupancy of the GSO arcs applicable to specific new ITU Member States in the frequency bands subject to RR Appendix **30B**, and Document [4A/318](https://www.itu.int/md/R19-WP4A-C-0318/en), also from the BR Director, contained updates to the statistics of the new notices of satellite networks submitted under § 6.1 of Article 6 of RR Appendix **30B**. Both of these documents were submitted in response to direct requests made of the BR from the last meeting of WP 4A.
* Document [4A/367](https://www.itu.int/md/R19-WP4A-C-0367/en), a multi-country contribution, contained an analysis of the coordination situation for specific new ITU Member States that have submitted requests in accordance with Article 7 of RR Appendix **30B** in order to obtain national allotments. This document also included a proposal to address the coordination difficulties being faced by these specific new ITU Member States.
* In discussing these documents, the following points were noted:
* The number of submissions for RR Appendix **30B** additional systems being received by the BR continues to increase.
* The current coordination situation for the specific new ITU Member States analyzed in Document 4A/367) is such that the maximum excess C/I in the downlink ranges from around 20-30 dB, and the maximum excess C/I in the uplink ranges from around 10‑30 dB. (see Document 4A/367)
* Much of this problem is tied to the global coverage of many of the new Appendix **30B** filings being submitted.
* The complete proposal contained in Document 4A/367 should be captured as a possible Method under Topic E to address the difficulties being faced by new ITU Member States. As the text of the current Working Document on this Topic (Annex 18 to Doc. [4A/246](https://www.itu.int/md/R19-WP4A-C-0246/en)) is based on a different method, this text will need to be revised going forward to incorporate this proposal.
* This is a very difficult situation, and more consideration is needed to determine if a general, or case-by-case, solution should be considered, and ways and means to address this Topic.
* The statistics in Document 4A/318 were in the form presented in Resolution **170 (WRC-19)** and the meeting requested that the BR continue to provide these updated statistics to future meetings.
* The meeting agreed to carry forward the current Working Document towards on WRC-23 Agenda Item 7 Topic E as Annex 20 to Chairman’s Report (Document [4A/392 Annex 20](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0392%21N20%21MSW-E.docx)) with the understanding that the points above should be considered in future revisions of the Working Document, by the CG and the next meeting of WP 4A, as appropriate.
* There were four input contributions to the October / November meeting of WP 4A. Due to lack of time, the meeting was not able to consider these documents. These document will be considered by the CG and the next meeting of WP 4A, as appropriate.

2. Documents

* Input Documents: APG23-3/[[INP-10 (AUS)](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx)](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_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-27(Rev.1) (KOR)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-27Rev.1_WP4_Kor_1.15_1.16_1.17_7_rev1.docx), [INP-31 (J)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-31_J-4_WP4_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx), [INP-38 (SNG)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-38_SNG_WP4__AI1.15_1.16_1.17_7.docx), [INP-44 (CHN)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-44_China_WP4.docx)
* Information Documents: APG23-3/[INF-20 (CEPT)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-20_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.pdf)

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Australia - Document APG23-3/**[[**INP-10**](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx)](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_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 is monitoring developments on this Topic.

**3.1.2 Korea (Republic of) - Document APG23-3/**[**INP-27 (Rev.1)**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-27Rev.1_WP4_Kor_1.15_1.16_1.17_7_rev1.docx)

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

**3.1.3 Japan - Document APG23-3/**[**INP-31**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-31_J-4_WP4_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx)

* Japan generally supports the on-going ITU-R studies carried out by WP4A.

**3.1.4 Singapore - Document APG23-3/**[**INP-38**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-38_SNG_WP4__AI1.15_1.16_1.17_7.docx)

* Support the possibility to grant new ITU Member States the same privilege as those granted to administrations having no assignments in the Appendix **30B** List, or under coordination, as adopted in Resolution **170 (WRC-19)**.
* Support additional technical analysis to establish a comprehensive understanding of the interference scenarios for new ITU Member States, while ensuring that the improvement procedures does not adversely impact the assignment/allotments for the administrations in Appendix **30B**.

**3.1.5 China (People’s Republic of) - Document APG23-3/**[**INP-44**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-44_China_WP4.docx)

* China supports studies 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 granting new ITU Member States the same right as those granted to other Member States in Appendix **30B**, based on principles stipulated in Article **44** of the Constitution, Resolution **2 (REV.WRC-03)** and those contained in Article **1** of Appendix **30B.**
* APT Members support ITU-R studies on improved procedures under Appendix **30B** of the Radio Regulations for new ITU Member States.

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 APG meeting, in particular any development on the long term protection of allotment in the Plan, assignments in the List for national coverage, submission from new countries under Article 7 of RR Appendix **30B**, and those related to implementation of Resolution **170** (WRC-19), which will be discussed by CG AI 7 as well as by next meeting of WP4A.

7. Views from Other Organisations

**7.1 Regional Groups**

7.1.1 ASMG (as of Nov 2021 (APG23-3/[INF-37](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-37_ASMG_Preparation_for_WRC-23.pdf))

* Support the studies and ensure that the improvement procedures under AP30B for the ITU Member States without imposing any restrictions on the assignment / allotments for the administrations in AP30B.

7.1.2 ATU (as of September 2021)

* Support the on-going studies to improve procedures under Appendix 30B of the Radio Regulations for new ITU Member States, in order to ensure equitable access to orbits and frequencies resources.
* Support ideas proposed in the option three that was submitted to the Fourth meeting of WP4A that took place in July 2021 by the Administrations concerned by Article 7 including South Sudan, while taking into account allotments and assignments arising from conversion of allotments into assignments with national service area with assistance from the BR.

7.1.3 CEPT (as of Nov 2021 (APG23-3/[INF-20](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-20_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.pdf))

* CEPT supports the possibility to grant new ITU Member States the same privilege as those granted to administrations having no assignments in the Appendix **30B** List, or under coordination, as adopted in Resolution **170 (WRC‐19)**.
* CEPT supports that a comprehensive understanding of the interference scenarios for new ITU Member States can be achieved through additional technical analysis.
* CEPT supports new ITU Member States encouraging them and the resulting affected Administrations to actively undertake and cooperate in coordination discussions to resolve any interference cases.

7.1.4 CITEL (as of April 2021)

* None.

3.5 RCC (as of April 2021)

* The RCC Administrations support the efforts aimed at resolving the challenges related to provision of access to radiofrequency spectrum and satellite orbits for new Member States of the Union within the parameters defined in RR Appendix 30В.

**7.2 International Organisations**

7.2.1 IARU (as of Nov 2021 (APG23-3/INF-17))

* None.

7.2.2 ICAO (as of Nov 2021 (APG23-3/INF-15))

* None.

7.2.3 IMO (as of November 2021)

* Not available.

7.2.4 WMO (as of Nov 2021 (APG23-3/INF-01))

* None.

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# Topic F: Exclusion of feeder-link/uplink service & coverage areas in AP30A/30B

1. Background Information

* The planned space services are for the principle of equitable access to the satellite orbit/frequency spectrum in accordance with Article 44 of the ITU Constitution. To this end, relevant provisions of RR Appendix **30/30A** and Appendix **30B** specifically aim at ensuring this principle.
* Provision 3.4 of Article 3 of RR Appendix **30A** stipulates that: “The Regions 1 and 3 feeder-link Plan is based on national coverage from the geostationary-satellite orbit. The associated procedures contained in this Appendix are intended to promote long-term flexibility of the Plan and to avoid monopolization of the planned bands and orbit by a country or a group of countries”.
* Provision 2.6bis of RR Appendix **30B** stipulates that: “When submitting additional system(s), administrations shall fully comply with the requirements stipulated in Article 44 of the ITU Constitution. In particular, these administrations shall limit the number of orbital positions and associated spectrum so that:

a) the orbital/spectrum natural resources are used rationally, efficiently and economically; and

b) the use of multiple orbital locations to cover the same service area is avoided. (WRC‑07)”.

* submissions of global uplink coverage area or the coverage area extended well beyond the service area in the planned bands pose obstacles for an Administration or a group of named Administrations to deploy its national system or their sub-regional systems, as appropriate.

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

* The fourth WP4A meeting (14 – 28 July 2021) considered the Japanese contribution [4A/369](https://www.itu.int/md/R19-WP4A-C-0369/en) and the multi-county contribution [4A/375](https://www.itu.int/md/R19-WP4A-C-0375/en)R1 on the related subjects of excluding the territory of an administration from the uplink service area in RR Appendix **30A** for Regions 1 and 3, and on implementing a regulatory solution for addressing the implications of this exclusion while extending this to RR Appendix **30B**. It was agreed that these two subjects are closely related and should be studied together as a new Topic F under AI 7.
* As Document 4A/375R1 included discussion of both aspects of the Topic it was agreed to carry that document forward as a placeholder WD for this new Topic, with the following possible solutions:
* Introduce a provision in RR Appendix **30A** that allows an Administration to request the exclusion of its national territory from the service area of satellite networks of other Administration.
* Require the notifying Administration of an interfered-with satellite network to shape the coverage of the satellite receiving antenna of the interfered-with satellite network outside its service area in order not to create an obstacle for the deployment of national or sub-regional satellite networks of other countries in both RR Appendix **30A** and Appendix **30B**.”
* The WD towards draft CPM text is found in Annex 21 to the WP 4A Chairman’s Report [(Doc 4A/392 (Annex 21))](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0392%21N21%21MSW-E.docx).
* During the fifth WP 4A virtual meeting (27 October – 4 November 2021), there were inputs from Japan, Luxembourg and a multi African country input that were not introduced during the meeting, due to lack of time.

2. Documents

* Input Documents: APG23-3/[INP-10](https://www.apt.int/sites/default/files/2021/10/APG23-3-INP-10_AUS_contribution_for_WP4_Preliminary_Views_on_WRC-23_Agenda_Items_1.15_1.16_1.17_1.18_1.19_and_7.docx) (AUS), [INP-27(Rev.1)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-27Rev.1_WP4_Kor_1.15_1.16_1.17_7_rev1.docx) (KOR), [INP-31](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-31_J-4_WP4_PRELIMINARY_VIEWS_ON_WRC-23_AGENDA_ITEMS_1.15_1.16_1.17_1.18_1.19_AND_7.docx) (J)
* Information Documents: APG23-3/[INF-20](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-20_Status_of_CEPT_Preparation_for_WRC-23_and_RA-23.pdf) (CEPT), [INF-37](https://www.apt.int/sites/default/files/2021/11/APG23-3-INF-37_ASMG_Preparation_for_WRC-23.pdf) (ASMG)

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Australia - Document APG23-3/INP-10**

* Australia is following developments on this Topic with a global focus related to the feeder-link/uplink coverage areas in RR Appendices **30A** and **30B**, recognizing the need to facilitate for an Administration or a group of named Administrations to coordinate the feeder-link/uplink just as there are such regulatory provisions with regards to the downlink. Australia supports the need to find an appropriate regulatory measure to facilitate equitable feeder-link/uplink spectrum access while taking into consideration existing assignment and allotments in RR Appendices **30A** and **30B**

**3.1.2 Korea (Republic of) - Document APG23-3/INP-27(Rev.1)**

* The Republic of Korea generally supports on-going ITU-R studies on the impact of excluding feeder-link/up-link service and coverage areas in the bands subject to RR AP **30A** and AP **30B**.

**3.1.3 Japan – Document APG23-3/INP-31**

* Japan generally supports the on-going ITU-R studies carried out by WP4A regarding Topic F.
* Japan supports the subjects of excluding the territory of an administration from the uplink service area and defining the coverage area to be the smallest area which encompasses the service area in RR Appendix **30A** for Regions 1 and 3, while Japan has no intention on extending the latter idea to RR Appendix **30B** at this moment.

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

* In case of RR Appendix **30A**, there are 2 issues to be addressed:

a) exclusion of territory of a country from the feeder link service area of a satellite of another country

b) adjustment of coverage area to the smallest to be aligned with the feeder link service area of a satellite.

* In case of RR Appendix **30B**, there is only one issue to be addressed and that is the adjustment of coverage area to the smallest to be aligned with the service area of the submissions made under the RR Appendix **30B**, due to the fact that there is no need to address the exclusion of territory of a country from the uplink service area, which is addressed in §**6.16** of Article **6** of RR Appendix **30B**.
* APT Members are encouraged to refer to Doc 4A/403 and Doc 4A/404 submitted by the BR to the October/November WP 4A meeting, which contained statistics on submissions for additional uses in the RR Appendices **30** and **30A**. These documents could facilitate the discussions on Topic F at the next APG23-4 meeting.

4. APT Preliminary View(s)

* APT Members support on-going ITU-R studies on the issue of excluding the territory of a country from the service area of the feeder link of Appendix **30A** and adjustment of coverage area of the feeder link to the smallest service area of that submission under RR Appendix **30A**, as well as adjustment of coverage area to the smallest to be aligned with the service area of the submissions under RR Appendix **30B**.
* APT Members support the exclusion of the territory of a country from the service area of feeder link of another country and the adjustment of coverage area to the smallest to be aligned with the service area of feeder link under RR Appendix **30A**.
* APT Members do not have any view yet on the adjustment of the coverage area to the smallest to be aligned with the service area of the RR Appendix **30B** submissions under consideration.

5. Other View(s) from APT Members

* None.

6. Issues for Consideration at Next APG Meeting

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

7. Views from Other Organisations

**7.1 Regional Groups**

**7.1.1 ASMG - Document APG23-3/INF- 37**

* Support to introduce provisions in Appendix 30A to the Radio Regulations allowing an

administration to request exclusion of its national territory from the service area of another administration's satellite network.

* The notifying administration of the interfering satellite network need to reconfigure the coverage of the receiving antenna outside its service area, in order to remove any obstacles to the deployment of national or regional satellite networks from other countries in each of Appendices 30A and 30B of the Radio Regulations

**7.1.2 ATU (as of September 2021)**

* Note that for the down-link, there are provisions that facilitate an Administration or a group of named Administrations to coordinate the downlink. Nevertheless, it has not yet been the case for the feeder-link/up-link.
* Propose considering the following for satisfying this Topic F:
* Introduce a provision in RR Appendix **30A** that allows an Administration to request the exclusion of its national territory from the service area of satellite networks of other Administration.
* Require the notifying Administration of an interfered-with satellite network to shape the coverage of the satellite receiving antenna of the interfered-with satellite network outside its service area in order not to create an obstacle for the deployment of national or sub-regional satellite networks of other countries in both RR Appendix **30A** and Appendix **30B**.

**7.1.3 CEPT - Document APG23-3/INF-20**

* CEPT supports developing specific measures to avoid creating obstacles to the establishment of space systems by other countries over their territories.
CEPT notes that further studies are required to define possible solutions.

**7.1.4 CITEL (as of April 2021)**

* None.

**7.1.5 RCC (as of April 2021)**

* None.

**7.2 International Organisations**

**7.2.1 IARU - Document APG23-3/INF-17**

* None.

**7.2.2 ICAO - Document APG23-3/INF-15**

* None.

**7.2.3 IMO (as of April 2021)**

* None.

**7.2.4 WMO – Document APG23-3/INF-01**

* None.

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# Item [X]: BIUing multiple orbital locations with one satellite

1. Background Information

* WRC-15 adopted Resolution **40 (WRC-15)** which entered into force on 28 November 2015 and deals with the use of one space station to bring frequency assignments to geostationary-satellite networks at different orbital locations into use within a short period of time.
* At the meeting of ITU-R Working Party (WP) 4A held in October/November 2020, there was an input document (Document [4A/99](https://www.itu.int/md/R19-WP4A-C-0099/en)) addressing using one space station to bring into use multiple satellite networks at several different orbital locations. After some discussion on this document, it was agreed that further information and discussion is needed before deciding on the future direction of this item.
* In response to a request made at the meeting of WP 4A held in February/March 2021, the Bureau submitted a document (Document [4A/281](https://www.itu.int/md/R19-WP4A-C-0281/en)) at this meeting to provide updated statistics regarding the data submitted under Resolution **40 (REV.WRC-19)** which entered into force on 28 November 2015 to the July 2021 meeting of WP 4A.
* Based on the statistics prepared by the Bureau in its document, it was noted that, there is a situation for the use of one space station to bring frequency assignments to geostationary-satellite networks at 9 different orbital positions into use within 3 years and most of the period the space station stayed in one orbital location was around 90 days only. While recognizing that there must be a certain legitimate reason to need to move a spacecraft from one orbital position to a new orbital position, the situation shows that the provisions of the Radio Regulations including Nos. **11.44B** and **11.49** and Resolution **40 (WRC-15)** might have been misused to reserve satellite orbit and spectrum resources and the situation would be against No. **196** of the Constitution. Even though this may not often be the case, it would be required to develop appropriate regulatory measures to prevent further cases of the misuse in the future and to ensure the rational, efficient and economical use of and equitable access to radio frequencies and the geostationary-satellite orbit.
* As indicated by the Bureau in its document, notifying administrations can keep satellite networks at two different orbital positions with only one physical satellite by simply suspending the satellite networks in sequence every three years. It may be necessary to review whether this situation is consistent with the principles of the Constitution and the Radio Regulations.

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

* There were three input contributions to the October / November meeting of WP 4A. Due to lack of time, the meeting was not able to consider these documents.
* The Bureau’s input contribution providing statistics of submissions under Resolution **40 (REV.WRC-19)** indicated that there is a case of a single satellite being used to bring into use (BIU), or bring back into use (BBIU), frequency assignments at twelve orbital locations, which were nine in the previous statistics. In addition, for more than 200 cases, a space station has been maintained at an orbital location for less than a year, and for about 100 of them, a space station has been maintained at an orbital location for less than 100 days.
* The meeting requested the Bureau “to submit to the next meeting of WP 4A containing an updated version of the Resolution **40 (REV.WRC-19)** statistics. These documents will be considered at the next meeting of WP 4A appropriate.

2. Documents

* Input Documents: APG23-3/[INP-27(Rev.1) (KOR)](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-27Rev.1_WP4_Kor_1.15_1.16_1.17_7_rev1.docx)
* Information Documents: None

3. Summary of discussions

**3.1 Summary of APT Members’ views**

**3.1.1 Korea (Republic of) - Document APG23-3/**[**INP-27(rev.1)**](https://www.apt.int/sites/default/files/2021/11/APG23-3-INP-27Rev.1_WP4_Kor_1.15_1.16_1.17_7_rev1.docx)

* The Republic of Korea proposes that taking into account the cases of excessive use of a single satellite to bring into use or bring back into use frequency assignments at different orbital locations for very short period, this item should be further studied as a Topic under WRC-23 agenda item 7.

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

* None.

4. APT Preliminary View(s)

* None.

5. Other View(s) from APT Members

* Some APT Members are of the view that it would be required to develop appropriate regulatory measures to prevent excessive use of a single satellite to bring into use (BIU) or bring back into use (BBIU) frequency assignments at different orbital locations, and therefore, this item should be studied as a Topic under WRC-23 agenda item 7 to ensure the rational, efficient and economical use of and equitable access to satellite network resources, considering that the case of excessive use, for example up to 12 times with the average staying period of less than 100 days based on the statistics provided by the Radiocommunication Bureau to the October / November 2021 meeting of WP 4A, of a single satellite to BIU or BBIU frequency assignments at different orbital locations for short period has been gradually increased and this will restrict the use of satellite network resources by other administrations.
* Some other APT members do not agree with the above conclusions based on discussions up to this point.
* Some other APT members are of the view that Items need to be adopted in the ITU-R as Topics prior to the formation of an APT Preliminary View.

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 APG meeting.

7. Views from Other Organisations

**7.1 Regional Groups**

7.1.1 ASMG (as of Nov 2021 (APG23-3/INF-37)

* None.

7.1.2 ATU (as of September 2021)

* None.

7.1.3 CEPT (as of Nov 2021 (APG23-3/INF-20)

* None.

7.1.4 CITEL (as of April 2021)

* None.

7.1.5 RCC (as of April 2021)

* None.

**7.2 International Organisations**

7.2.1 IARU (as of Nov 2021 (APG23-3/INF-17))

* None.

7.2.2 ICAO (as of Nov 2021 (APG23-3/INF-15))

* None.

7.2.3 IMO (as of November 2021)

* Not available.

7.2.4 WMO (as of Nov 2021 (APG23-3/INF-01))

* None.

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