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Satellite Regulatory Issues – WRC-23 agenda item 7 Topics A and B and possibly F and H

Jack Wengryniuk

Agenda Item 7 Topic A
Non-GSO Orbital tolerance

- *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;*
- WRC-19 considered the concept of "notified orbital plane" as it relates to bringing into use non-GSO systems and meeting Resolution 35 deployment milestones
  - The notified orbital plane is defined by the altitude of apogee and perigee, the inclination of the orbital plane, and argument of perigee
- In order to bring into use, bring back into use, or satisfy Resolution 35 milestones, non-GSO satellites must be deployed on notified orbital planes, but few non-GSO satellites are deployed precisely with the notified orbital parameters
- The question then becomes "What orbital tolerance would be considered acceptable when deploying and operating non-GSO systems?"

APT Views on WRC-23 Agenda Items: **AI** 7 (Topic A)

◆ Preliminary APT Common Proposal (PACP) :

APT Members support Method A2 Option A of the CPM Report to address this topic. In addition:

- APT Members support the development of the definition of tolerances of non-GSO space stations in the FSS, BSS and MSS with frequency assignments subject to Resolution 35 (WRC-19). APT Members support the development of these tolerances in the context of ITU regulatory procedures such as bringing into use (BIU), bringing back into use (BBIU) and the milestone-based approach.
- APT Members are of the view that the development of the definition of tolerances of 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 under Nos. 11.44C, 11.49.2 and 11.51, taking into account the operational aspects of the non-GSO space stations in the FSS, BSS and MSS with frequency assignments subject to Resolution 35 (WRC-19), if the operations are beyond the specified allowable tolerances. These regulatory measures should be implementable and not have any retroactive application. Moreover, necessary transitional measures for application of the decision of WRC-23 may need to be developed.
- APT Members do not support overregulation nor regulatory methods that are too stringent and inflexible, to allow the operation of existing and new satellites with the possibility to make adjustments, in order to comply with the established orbital tolerances.
- For frequency assignments of non-GSO systems in the FSS, BSS and MSS subject to Resolution 35 (WRC-19) notified prior to the entry into force of the Final Acts of WRC-23, APT Members support allowing an update to the notified orbital parameters within a reasonable range, based on the conditions of the new draft Resolution, in order to align with the actual deployed characteristics, without changing the date of receipt of the associated notice.

APT Views on WRC-23 Agenda Items: **AI** 7 (Topic A)

◆ Preliminary APT Common Proposal (PACP) :

- Method A2 Option A of CPM Report is supported but with some modifications as shown in table below
- In the Annex (on variation for the altitude and the inclination) to the draft New Resolution, under Option 1:
  - where X is a fixed value for allowed variation for altitude, there are Alternative 1: TBD e.g. 20/50 km Alternative 2: TBD.
  - where Z is a fixed value for allowed variation for inclination, Z is equal to TBD e.g. 2/3 deg

Provisions	Contents	Supported Options
resolves 1 of draft New Resolution	that, as of *the entry into force of the Final Acts of WRC-23* for space stations with an orbital eccentricity less than 0.5 notified as part of a NGSO FSS, BSS or MSS system subject to Resolution **35 (WRC-19)** with an apogee altitude less than 15 000 km shall not exceed allowed variation for altitude and inclination in Annex	Option A2A4
resolves 2 of draft New Resolution	any space station deployed as part of a NGSO FSS, BSS or MSS system subject to Resolution **35 (WRC-19)** that has received unfavourable finding under *resolve 1,* a) shall not cause unacceptable interference to and shall not claim protection from the other systems/networks, b) shall not be considered in the deployment information submitted under *Resolves 7* and *8* of Resolution **35 (WRC-19)** except if the tolerances referred to in *resolves 1* is not exceeded for a max of 30 /45 consecutive days,	MOD by APT to the draft New Res in CPM Report
resolves 3 of draft New Resolution	for NGSO to which resolves 1 apply and for which the latest notification information was received prior to 16 December 2023, the notifying administration could communicate to BR no later than [1 July 2024] a new notification according to its operational parameters	ADD by APT to the draft New Res in CPM Report
resolves 4 of draft New Resolution	upon receipt of the mods to the characteristics of the NGSO system as referred to in resolves 3: a) BR shall promptly make this information available "as received" on the ITU website; b) BR shall conduct an examination for compliance with Nos. 11.43A/11.43B, as appropriate; c) BR, for the purpose of No. 11.43B, shall retain the original dates of entry of the frequency assignments in the Master Register if specific conditions are met d) BR shall publish the information provided and its findings in the BR IFIC	ADD by APT to the draft New Res in CPM Report

APT Views on WRC-23 Agenda Items: **AI** 7 (Topic A)

◆ Issues for further discussion:

- Some APT Members consider together with Method A2 Option A, implementable and practical orbital tolerance values of 10 to 50 km or using formula based approach for orbital altitude and 2 to 3 degrees for orbital inclination.
- Some APT Members support tolerance values of 70 km. Such value would allow enough flexibility to ensure co-existence of multiple collaborative or non-collaborative systems at similar orbital altitudes, as per studies submitted to the WP 4A of June/July 2023.
- Some APT Members consider the tolerance of orbital characteristics of space stations of non-GSO FSS, BSS or MSS systems shall be regulated that is as narrow as possible currently achievable by real system.
- Some APT Members support fixed percentage of orbit altitude tolerances, and to use a fixed value for orbits above a particular height and a fixed percentage for orbits below that height.

DG Chair: Ms. Ting Ling Lee (SNG); AI 7 (Topics A, B, F, G, H)

ASMG Preliminary positions WRC 23 - WG4

7A) Tolerances for certain orbital characteristics of non-GSO space stations in the FSS, BSS, and MSS

- Emphasizing that the development of the definition of tolerances for non-geostationary (non-GSO) space stations in the fixed-satellite service, the broadcasting-satellite service and the mobile-satellite service should be limited to the inclination of the orbital plane, the height from the zenith of the space station, the perigee height of the space station and the size of the perigee to the orbital level, to account for possible differences between reported and published orbital properties.
- **Method A2**:
- Which aims to prepare a new draft decision regarding the implementation of tolerance values for some orbital characteristics of non-geostationary satellite systems, taking into account the following regulations:
- Support for determining tolerances for non-geostationary satellites operating in the fixed-satellite service, broadcasting-satellite service and mobile-satellite service **(option A)** listed in Resolution 35 (WRC-19) only taking eccentricity into account.
- Modifying **Alternative A2** to determine a specific value that does not exceed the value of orbital variations (not more than 100 km and not less than 50 km).
- Examination by the Radiocommunication Bureau of the orbital tolerances to be agreed upon at the conference

ATU Common Position
WRC-23 Agenda Item 7 Topic A

Part 1: Common position:

Support Method A2 Option A which proposes to apply tolerances, including temporary variation, for satellites of all non-GSO FSS, BSS or MSS systems (either with an eccentricity < 0.5/TBD or more broadly), or to non-GSO FSS, BSS or MSS systems subject to Resolution **35 (WRC-19)** (either with an eccentricity < 0.5/TBD or more broadly)

Part 2: Way forward

Request ATU administrations to:

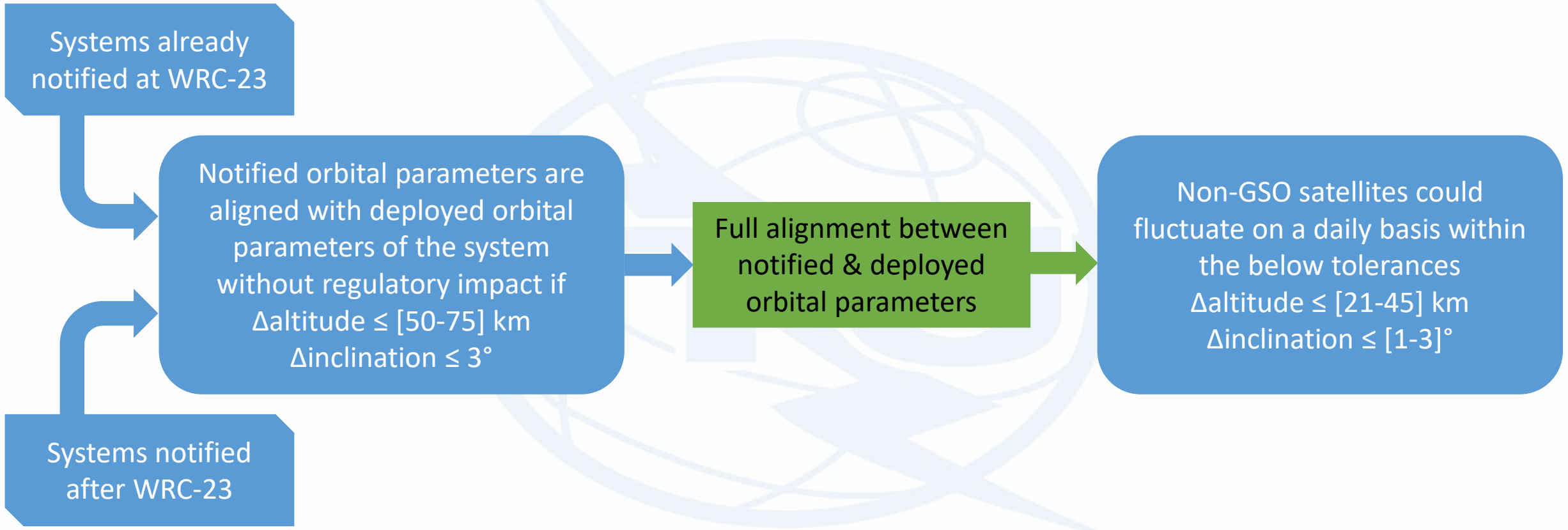
1) **Support the AfCP** on this Topic

2) **Continue** discussions towards defining the acceptable tolerances to be applied on Non-GSO systems;

Topic A - Overview

- CEPT considers that the tolerances definition should be restricted to space stations with an eccentricity less than 0.5 notified as part of a non-GSO FSS, BSS or MSS systems subject to Resolution **35** (**WRC-19**) with an apogee altitude less than 15 000 km (i.e., Option A2A4 of CPM text)
- Non-GSO satellites may exceed the tolerances for a maximum of 60 consecutive days, for example for manoeuvre purposes
- Non-GSO satellites operating outside the tolerances shall not cause unacceptable interference to and shall not claim protection from other systems & cannot be considered under Resolution **35** (**WRC-19**)
- To alleviate the problem of the Earth's non-sphericity, CEPT proposes to add a new Item in Appendix 4 to consider the distance between the centre of the Earth and the non-GSO satellite
- CEPT supports a two-steps approach to permit:
  - No impact on already deployed systems
  - Enough flexibility to ensure co-existence of multiple collaborative or non-collaborative systems at similar orbital altitudes
  - Long-term sustainability of non-GSO resources

Topic A – the two-steps approach



Topic A: Tolerances for certain characteristics of the notified orbital planes for non-GSO systems space stations of the FSS, BSS, and MSS. (1/3)

Inter-American Proposal (IAP)

CITEL supports the proposals below:

- Modifications to Article 11 to refer to a new WRC Resolution consisting in specifying tolerances.
- New WRC Resolution to be referred to in RR Article **11**:
  - Apply to space stations of non-GSO FSS, BSS or MSS systems subject to Resolution **35 (WRC-19)** with an eccentricity < 0.5 and an apogee altitude less than 15 000 km
  - For space stations with a notified altitude (apogee/perigee) **≤ 2000 km:**
    - If deployed at an altitude **≤ ±80 km** of the notified altitude and an inclination of the orbital plane **≤ ±2º** of the notified inclination, the notifying administration need to provide an explanation of why there is a change in the orbital characteristics of the space stations;
    - If deployed at an altitude **≥ ±80 km and ≤ ± 100 km** of the notified altitude and an inclination of the orbital plane **≤ ±2º** of the notified inclination, the notifying administration need to provide an explanation of why there is a change in the orbital characteristics of the space stations and a technical showing confirming does not result in any increased interference or protection requirements as compared to those requirements for operation at the notified altitude;
    - Otherwise, modifications of the recorded the characteristics of the recorded assignments are required;

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Topic A: Tolerances for certain characteristics of the notified orbital planes for non -GSO systems space stations of the FSS, BSS, and MSS. (2/3)

Inter-American Proposal (IAP)

- For space stations with a notified altitude (apogee/perigee) **≥ 2000 km**
  - If deployed at an altitude **≤ ±5%** of the notified altitude and an inclination of the orbital plane **≤ ±2º** of the notified inclination, the notifying administration need to provide an explanation of why there is a change in the orbital characteristics of the space stations;
  - If deployed at an altitude **≥ ±5% and ≤ ±10%** of the notified altitude and an inclination of the orbital plane **≤ ±2º** of the notified inclination, the notifying administration need to provide an explanation of why there is a change in the orbital characteristics of the space stations and a technical showing confirming does not result in any increased interference or protection requirements as compared to those requirements for operation at the notified altitude;
  - Otherwise, modifications of the recorded the characteristics of the recorded assignments are required ;

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7 - Satellite procedures

Improve regulatory procedures for GSO and non-GSO satellite systems


Natalia Stepanova


Olga Dashkevich


Agzam Tajibayev

Topic A – Tolerances for non-GSO space stations orbital characteristics

RCC position:

The study of tolerances for certain orbital characteristics of non-GSO space stations should only be carried out with respect to systems in the FSS, MSS and BSS subject to Resolution 35 (WRC-19). Tolerances should depend on the type of orbit of the space station and should not be applied to the satellite systems with the altitude of the apogee exceeding 15000 km.

The regulatory mechanisms for temporarily excess of the established tolerances should comply with the operational requirements of non-GSO systems, so it will provide the necessary flexibility in their design and operation.

RCC Common Proposal: **Method A2** of the CPM Report, **Option A2A4** proposed in draft new Resolution

Moderator Summary of Regional Solutions

Regional Group	Proposed Solution for AI 7 Topic A
APT	Method A2A4: orbital eccentricity less than [0.5/TBD], limited to Resolution **35 (WRC-19)** systems**,** apogee altitude less than 15 000 km: inclination tolerance of [2/3]°, altitude tolerance of [10-50]km/70 km/as narrow as practicable/% then fixed depending on altitude, allowable exceedance for [30/45] days
ASMG	Method A2A2: orbital eccentricity less than [0.5/TBD] notified as part of a non-GSO FSS, BSS or MSS system, apogee altitude less than 15 000 km: altitude tolerance of [>50 and <100]km
ATU	Method A2 Option A (i.e. A2A1-A2A4) TBD
CEPT	Method A2A4: orbital eccentricity less than 0.5, limited to Resolution **35 (WRC-19)** systems**,** apogee altitude less than 15 000 km: inclination tolerance of 3° for BIU then [1-3]° for operation, altitude tolerance of [50-75]km for BIU then [21-45]km for operation, allowable exceedance for 60 days
CITEL	Method A4 with 2° inclination tolerance and “trigger” values of 80 and 100 km for altitude <2000 km and 5% and 10% for altitude >2000 km
RCC	Method A2A4: limited to Resolution **35 (WRC-19)** systems**,** apogee altitude less than 15 000 km: eccentricity <0.3, inclination tolerance of 5°, altitude tolerance of $\Delta alt_{Allowed} = 30+0.02\times alt_a$ where alt_a is the space station at apogee in km, allowable exceedance for 90 days

Agenda Item 7 Topic B
Non-GSO Post Milestone Reporting

- WRC-19 developed Resolution 35 which established a milestone process for deployment of non-GSO systems in specific services and frequency bands
- This process established deployment milestones at 2, 5 and 7 years after the initial seven year regulatory lifetime of the satellite system filing
- The question raised at WRC-19 was “What happens if the number of satellites deployed changes over time after completion of the milestone process?”
- Resolution 35 includes *resolves* 19 that starts to address this question and Topic B looks more carefully at the question to see if something more needs to be done

APT Views on WRC-23 Agenda Items: **AI** 7 (Topic B)

◆ APT Views and Preliminary APT Common Proposal (PACP) :

APT Members support Method B2 with preference for Option B2b of the CPM Report (Add Alternative 5). In addition:

- APT Members support the development of the post-milestone procedures for non-GSO satellite systems in FSS, BSS and MSS subject to Resolution 35 (WRC-19).
- 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 support the adoption of a new Resolution to replace resolves 19 of Resolution 35 (WRC-19) at WRC-23, suppressing resolves 19 of Resolution 35 (WRC-19) and leaving the rest of the Resolution 35 (WRC-19) as is otherwise.
- APT Members are also of the view that when developing the post-milestone procedures, overregulation needs to be avoided and some degree of 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.
- 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.

◆ Topics for discussion:

- APT Members need further consideration on the appropriate set of equations to be supported under Method B2 Option B2b.

ASMG Preliminary positions WRC 23 – WG4

7B) NON-GSO system post milestone Reporting

Method B2:

1. Support the development of Resolution 35 (WRC-19) to replace Resolution 19 to ensure that the content of the Master International Frequency Register for non-geostationary-satellite systems closely aligns with what is already being deployed in space.
2. Support **Method B2 Option (B2B)** taking into account the following regulatory conditions:
   1.That the new resolution covers non-geostationary-satellite systems subject to Resolution 35 (WRC-19) only
   2.Taking into account the operational characteristics of non-GSO satellite systems with a small number of satellites.
   3.Defining regulatory procedures in case of delay in reporting a reduction in the number of deployed satellites from the number reported in the Master International Frequency Register (MIFR).
3. Develop appropriate regulatory measures for frequency assignments to non-geostationary satellites that do not comply with the procedures of the new resolution.
4. Not applying a fixed percentage to initiate regulatory procedures because it does not take into account the variation in the number of satellites in satellite systems. This is because the loss of one of the satellites may lead to a decrease in the number of deployed satellites below the minimum.
5. Determine the minimum as a variable percentage based on the number of satellites in the satellite system according to the following ratios:

   For $2 \leq N$ 50 $X = N * 75\% - 1$
   For $50 \leq N < 500$ $X = N * 85\% - 1$
   For $N \geq 500$ $X = N * 95\% - 1$
   Where N is the total number of satellites in the NGSO system.

1. The BR's application of Article 13.6 of the Radio Regulations is not a feasible solution to this issue.
2. Allowing the reduction of deployed satellites by a percentage of the number of satellites reported in the Master International Frequency Register for a specified period (initially not exceeding three years) without reducing the number of satellites reported in the MIFR, taking into account that this percentage depends on the number of satellites. college in the system
3. After the end of the three-year period, the notifying administration shall submit to the Radiocommunication Bureau the maximum number of satellites corresponding to the number of satellites deployed and capable of being modified in the frequency assignments recorded in the Master International Frequency Register (MIFR).

ATU Common Position
WRC-23 Agenda Item 7 Topic B

Part 1: Common position:

Consider the two methods being proposed by the Sub- Regional groups namely method B1 and B2 with the aim of developing an AfCP.

Part 2: Way forward

Request ATU Secretariat to: **Convene** meetings on this Issue with a view to developing AfCP.

Topic B (1/3)

- CEPT considers that the application of No. **13.6** by the BR is not an adequate solution for Topic B
- CEPT supports a Method based on the Method B2b of the CPM text with alternative numbers for small constellations (i.e., less than 50 satellites)
- CEPT supports the adoption of a new Resolution **at this WRC** to replace *resolves* 19 of Resolution **35 (WRC-19)**
- CEPT supports a regulatory solution aligning the post milestone procedures in this new Resolution with No. **11.49** and Resolution **35 (WRC-19)** allowing some operational flexibilities:
  - Possibility to operate a minimum 95% of the number of satellites notified in the MIFR without regulatory impact for constellations with more than 50 satellites for a period not more than 3 years
  - Proposed thresholds for small constellation (i.e., Nb_{Total} less than 50 satellites)

$0.9 \times Nb_{Total} + 50\ \%$	for $Nb_{Total} < 50$
$95\ \%$	for $Nb_{Total} \geq 50$

Topic B (2/3)

Threshold

$$0.9 \times Nb_{Total} + 50\ \% \quad \text{for } Nb_{Total} < 50$$
$$95\ \% \quad \text{for } Nb_{Total} \geq 50$$

Total Number of satellite indicated in the Master Register (Nb_{Sat})	Theoretical threshold	Minimum number of satellite required to reach the threshold "rounded down -1 satellite"	Real threshold
1	50.9%	0	-
5	54.5%	1	20%
10	59.0%	4	40%
25	72.5%	17	68%
49	94.1%	45	91.8%
50	95%	46	92%
51	95%	47	94%
100	95%	94	94%
500	95%	474	94.8%
5 000	95%	4749	94.98%

Topic B (3/3)

- CEPT supports a decision at this WRC providing administrations a more stable regulatory framework in time to adapt their launch strategies to these new rules after their 3rd Milestone, which will take place mainly from 2027 onwards
- More Resolution 35 data will not help to define the threshold:
  - Topic B targets to ensure that the number of satellites contained in the MIFR is sufficient to consider that deployed system is still representative of the MIFR parameters and at the same time is allowing some flexibility for day-to-day operations
  - 95% is an arbitrary number based on a compromise reached at WRC-19 that has not been challenged by the majority of the Regional organizations in this study cycle
  - There is no correlation between this threshold and the number of satellites deployed at each Milestone

Topic B: Non-GSO bringing into use post-milestone procedure.

Inter-American Proposal (IAP)

CITEL supports the proposal below:

- No Change to the RR, based on Method B1 of the CPM report Topic B. CITEL considers that the information-gathering under resolves 19 should be allowed to continue until such time when sufficient and meaningful operational data are collected before revisiting the question of a potential post-milestone mechanism to address intermediate- and long-term reductions in the number of space stations in non-GSO systems that have completed the milestone process under Resolution 35 (WRC-19).

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7 - Satellite procedures

Improve regulatory procedures for
GSO and non-GSO satellite systems



Natalia Stepanova Olga Dashkevich Agzam Tajibayev

Topic B – Non-GSO bringing into use post-milestone procedure

RCC position:

New Resolution should take into account the operational features of non-GSO systems with a small number of satellites. The reduction of the number of satellites deployed by a percentage of the number of satellites registered in the MIFR should be allowed without changing the MIFR entries, given that this percentage depends on the total number of satellites in the system.

The developed post-milestone procedure should not impose additional restrictions on non-GSO satellite systems using orbit with an apogee altitude greater than 15 000 km.

RCC Common Proposal: **Method B2b** of the CPM Report

Moderator Summary of Regional Solutions

Regional Group	Proposed Solution for AI 7 Topic B
APT	Method B2b – New Resolution to replace *resolves* 19 of Res 35. Need more time to define the equations to be used
ASMG	Method B2b – New Resolution to replace *resolves* 19 of Res 35 with : 2≤N<50 X=N*75%-1 50≤N<500 X=N*85%-1 N≥500 X=N*95%-1
ATU	TBD on Methods B1 and B2
CEPT	Method B2b - New Resolution to replace *resolves* 19 of Res 35 with : 0.9 x N +50% for N<50 95% for N≥50 Allow reduced number of satellites deployed for up to 3 years
CITEL	Method B1 – NOC
RCC	Method B2b – New Resolution to replace *resolves* 19 of Res 35 with: 2 ≤*N*< 50 *X* = *N**50% 50 ≤*N*< 100 *X* = *N**65% 100 ≤*N*< 550 *X* = *N**80% 550 ≤*N*< 5 000 *X* = *N* * 93% *N* ≥5000 *X* = *N**95%

Agenda Item 7 Topic F
Excluding Uplink Service Area in R1&3 AP30A and in AP30B

- In Regions 1 and 3 Appendix 30A there is no possibility for an administration to exclude its territory from the feeder-link service area of another administration's BSS network
- This can result in a BSS network with large uplink coverage/service area from one administration creating obstacles for another administration's BSS network filing
- The same situation can result for Appendix 30B, even though there is a provision for an administration to remove its territory from the service area of another administration's Appendix 30B network filing
- Topic F looks at ways to address the potential obstacles that can result from satellite network filings with large coverage/service areas for these cases

APT Views on WRC-23 Agenda Items: **AI** 7 (Topic F)

◆ APT Views:

- 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 AP 30A.
- APT Members support developing specific measures to avoid creating obstacles to those administrations wishing to establish satellite networks of RR AP 30B over their territories, taking into account the roll-off of the receiving beams of adjacent satellite networks. Further studies on the adjustment of the coverage area to the smallest to be aligned with the service area of the RR AP 30B submissions under consideration is required, since the alignment of the coverage area with the service area may not be always feasible, especially when the satellite network is already in operation.
- APT Members do not support Method F1 of the CPM Report.
- No PACP for this topic.

◆ Summary of Issues during APG23-6:

- Some APT Members are of the view that relevant elements of provision 6.16 of RR Appendix 30B should also be included in the final method of this Topic, allowing an administration that at any time before, during, or after the publication to request exclusion of its territory from the feeder-link service area of a satellite network of other administrations.

ASMG Preliminary positions WRC 23 - WG4

7F) Impact of excluding feeder-link/Up-link service and coverage areas in the bands subject to RR Appendix 30A and RR Appendix 30B

Method F3:

Support Adding new provisions in Appendix 30A AND 30B to the Radio Regulations to define regulatory and technical solutions that will allow administrations to use their own assignments and not create an obstacle to the deployment of national or subregional satellite networks from other countries in both APPENDIX 30A AND 30B) of the Radio Regulations, taking into account operating satellite networks and encouraging coordination procedures between countries, as the currently proposed solutions do not lead to solving the problem.

ATU Common Position
WRC-23 Agenda Item 7 Topic F

Part 1: Common position:

Support Method F2 which proposes the followings:

- A new provision under Article 4 of RR Appendix **30A** to allow an administration to request at any time the exclusion of its territory from the feeder-link service area of a satellite network of other administrations;
- A requirement for the notifying administration to align the coverage area to the associated up-to-date service area when submitting a Part A and/or Part B of an AP**30A**/AP**30B** notice to the Bureau. When it is not possible to do so as it relates to an operational satellite or a satellite soon to be launched, the notifying administration shall request the Bureau to update the coverage area in the List and Master Register when that satellite has been replaced by a new one without the need to restart the Article 4 / Article 6 procedures, as appropriate;
- Footnotes to the new provision of RR Appendix **30A** and § 6.16 of Article 6 of RR Appendix **30B** to request a notifying administration of a satellite network having high receiving sensitivity (relative satellite antenna gain of at least −20 dB) over territory of other administrations to accept feeder-link or uplink interference emanating from the territory of other administrations if so requested;
- Amend Article 9 of RR Appendix **30B** to remove the right to claim protection from harmful interference from additional systems which have not indicated their agreement to inclusion in the given service area;
- Amend Article 10 of RR Appendix **30A** to remove the right to claim protection from harmful interference from additional systems which have not indicated their agreement to inclusion in the given service area.

CEPT Coordinator:
Anna MARKLUND (S)

Coordination team:
Samuel BLONDEAU (LUX)

WRC-23 Agenda item 7, Topic F

*Excluding uplink service area in Appendix **30A** for Regions 1 & 3 and in Appendix **30B***

Preliminary CEPT position

Considering high level of completed coordination in Resolution **559 (WRC-19)** between administrations, CEPT supports bilateral coordination solutions or national licensing conditions to address potential encountered problems on a case-by-case basis.

CEPT considers that the current regulatory provisions are adequate to address this Topic and supports No Changes to the Radio Regulations.

CEPT notes that, as an example, aligning the coverage area with the service area is not always technically feasible.

CEPT encourages administrations involved in Resolution **559 (WRC-19)** coordinations to make utmost efforts to communicate with requesting administrations and to timely reply in order to complete coordination.

7 - Satellite procedures

Improve regulatory procedures for GSO and non-GSO satellite systems


Natalia Stepanova


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Topic F – Excluding uplink service area in RR Appendix 30A for Regions 1 and 3 and RR Appendix 30B

RCC position:

The RCC Administrations do not object to the new provisions:

- concerning the exclusion of the territory from the service area for the feeder link (uplink) of satellite networks in the frequency bands subject to RR Appendix 30A;
- aimed at bringing the coverage area of the satellite network in line with the actual service area of this satellite network in the frequency bands subject to RR Appendices 30A and 30B.

Moderator Summary of Regional Solutions

Regional Group	Proposed Solution for AI 7 Topic F
APT	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 AP 30A.. While there is no PACP for this Topic, APT Members do not support Method F1 (NOC)
ASMG	Support adding new provisions in AP30A and AP30B to define regulatory and technical solutions that will allow administrations to use their own assignments and not create an obstacle to the deployment of national or sub-regional systems
ATU	Support Method F2 to allow exclusion of territory under AP30A, a requirement to align coverage area with up-to-date service area where possible, allowing a request to a notifying administration to accept uplink interference, amendment to AP30A and AP30B to limit the right of administrations to claim protection from harmful interference
CEPT	Supports NOC based on high level of coordination agreements completed under Res 559, the fact that aligning coverage and service area is not always possible, and encourages utmost goodwill in coordination discussions
CITEL	No CITEL IAP
RCC	Do not object to provisions on excluding territory and aligning coverage and service area

Agenda Item 7 Topic H
Enhanced protection of RR AP30/30A in Regions 1 and 3 and RR AP30B

- The concept of “implicit agreement” in Regions 1&3 RR AP30/30A and in AP30B has resulted in a number of cases where BSS Plan assignments and FSS allotments become effectively unusable
- One aspect of Topic H is to consider possible removal of the implicit agreement concept in Regions 1&3 RR AP30/30A and in AP30B
- When the Regions 1&3 AP30/30A BSS Plan was revised at WRC-2000, the allowable EPM degradation was changed from 0.25 dB to 0.45 dB
- The second aspect of Topic H considers possibly reverting back to the 0.25 dB level of allowable EPM degradation for the Regions 1&3 AP30/30A BSS Plan

APT Views on WRC-23 Agenda Items: **AI** 7 (Topic H)

APT Views:

- APT Members support the possible removal of the concept of "implicit agreement" from the RR AP 30/30A and AP 30B. In this regard, APT Members support Methods H1B or H1C of the CPM Report.
- No PACP for this topic.

Summary of Issues during APG23-6:

- On the aspect of EPM degradation tolerance in RR AP 30/30A of Regions 1 and 3, some APT Members are of the view that there should be no change due to lack of technical studies supporting such modification. In this regard, some APT Members prefer Method H2A presented in the draft CPM Report.
- Some other APT Members are of the view that sufficient studies were done to arrive at 0.25 dB as a proper value for the EPM degradation.
- On the issue of implicit agreement, some APT Members are of the view that Method H1C is just retaining the possibility for special agreement between administrations which are already addressed in RR. Therefore, Method H1C will not be achieved to satisfy this topic which is removed the concept of implicit agreement and the regulatory consequence.
- Some APT Members do not support either of Methods H1C or H1D for general application as addressing the issue of removal of the implicit agreement due to the same reason, however, these APT Members support Method H1D over H1C if they want to choose one of these two Methods.
- Some APT Members do not support Method H1B Option 2 and Method H1D.

ATU Common Position
WRC-23 Agenda Item 7 Topic H

Part 1: Common position:

Support Method H1B option 1 with regard to the concept of implicit agreement

Support Method H2B with regard to EPM degradation tolerance

Note: Some administrations are of the view that the proposed methods could affect the systems that are already in operation of other African administrations. In addition, some of the proposed changes could increase the coordination requirements.

Part 2: Way forward

Request ATU administrations to:

Support the AfCP on this Topic**.**

To take into consideration the view expressed above by some Administrations .

CEPT Coordinator:
Anna MARKLUND (S)

Coordination team:
Kjersti THOMASSEN HAMBORGSTROM (NOR)

WRC-23 Agenda item 7, Topic H

*Enhanced protection of Appendices **30** and **30A** in Region 1 and 3 and Appendix **30B***

CEPT position

CEPT notes that there are several Planned bands initiatives to be discussed at WRC-23 and generally supports the continued protection of Appendices **30** and **30A** and Appendix **30B**.

CEPT does not support to change the current provisions with regards to implicit agreement at WRC-23 but CEPT is willing to consider studying the implications of suppressing provisions with regards to implicit agreement.

CEPT does not support to reduce the EPM degradation tolerance in Appendices **30** and **30A** without any valid technical studies supporting the reasoning behind such a modification.

7 - Satellite procedures

Improve regulatory procedures for GSO and non-GSO satellite systems


Natalia Stepanova


Olga Dashkevich


Agzam Tajibayev

Topic H – Enhanced protection of RR Appendices 30/30A in Regions 1 and 3 and RR Appendix 30B

RCC position: The concept of "implicit agreement" with regard to the affected national assignments of the BSS Plan and the allotments of the FSS Plan may lead to degradation of reference situation in RR Appendices 30/30A in Regions 1 and 3 and RR Appendix 30B. Support the proposal that the regulatory provisions for RR Appendices 30/30A in Regions 1 and 3 and RR Appendix 30B necessary need to be developed to eliminate the concept of "implicit agreement" with regard to the national assignments of the BSS Plan and allotments of the FSS Plan as well as assignments converted from allotments with no characteristics modifications.

RCC Common Proposal: **Method H1D** of the CPM Report with several amendments.

RCC position: Do not support the changes of tolerance of 0.25 dB instead of 0.45 dB with regard to the equivalent protection margin (EPM) for assignments in the BSS Plan for Regions 1 and 3 or assignments in the List, due to the difficulties of re-notifying additional systems after the end of the regulatory period (15 + 15 years) as specified in No. 4.1.24 of RR Appendices 30/30A.

RCC Common Proposal: **Method H2A** of the CPM Report

Moderator Summary of Regional Solutions

Regional Group	Proposed Solution for AI 7 Topic H
APT	While there is no PACP on this Topic, APT Members support possible removal of the concept of "implicit agreement" from the RR AP30/30A and AP30B (i.e. Methods H1B or H1C of the CPM Report). Mixed views on changing EPM degradation threshold
ASMG	No ASMG common view on this Topic
ATU	Support Method H1B option 1 (remove implicit agreement for assignment or allotments in the Plans, or those intending to enter those Plans). Support Method H2B (i.e change 0.45 to 0.25 degradation threshold)
CEPT	CEPT does not support changes to the current provisions but CEPT willing to consider studying the implications of suppressing provisions with regards to implicit agreement. CEPT does not support to reduce the EPM degradation tolerance in Appendices **30** and **30A** without any valid technical studies supporting the reasoning behind such a modification.
CITEL	No CITEL IAP on this Topic
RCC	Support Method H1D (removal of implicit agreement) with several amendments Support Method H2A (NOC to EPM degradation) due to difficulties of re-notifying additional systems after the 30 year regulatory period defined in No. 4.1.24