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|  | ASIA-PACIFIC TELECOMMUNITY | Document No: |
| **The 6th Meeting of the APT Conference Preparatory Group for WRC-23 (APG23-6)** | **APG23-6/OUT-42** |
| 14 – 19 August 2023, Brisbane, Australia | 19 August 2023 |

Working Party 4

**APT VIEW and Preliminary APT Common Proposal**

**on WRC-23 agenda item 7 (TOPIC B)**

**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.*

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

**1. Background**

* WRC-19 discussed at length and ultimately agreed on Resolution **35 (WRC-19)**, “A milestone-based approach for the implementation of frequency assignments to space stations in a non-geostationary-satellite system in specific frequency bands and services.” This Resolution contains a detailed procedure to be followed by administrations and the Radiocommunication Bureau (BR) when recording and maintaining in the Master International Frequency Register (MIFR) frequency assignments for non-geostationary satellite (non-GSO) systems to which the Resolution applies. One aspect raised but not addressed in a regulatory sense in the Resolution relates to the case where a non-GSO system has completed the milestone process and subsequently experiences an intermediate- or long-term reduction of the number of satellites deployed. To set the stage for potential future consideration of a procedure for such cases, and to generate data not now available to the BR, WRC-19 included *resolves* 19 in Resolution **35 (WRC-19)**, which requires administrations to inform the BR, for information purposes only, of the date when the number of satellites capable of transmitting or receiving the recorded frequency assignments 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.
* In arriving at an agreement on *resolves* 19, WRC-19 also agreed that certain related text should be included in the minutes of a WRC-19 Plenary session as follows: “in considering agenda item 7 Issue A, WRC-19 invites ITU-R to study, as a matter of urgency, possible development of a post‑milestone procedure taking into account the reporting defined in § 18 of the Resolution **35 (WRC-19)** (WRC‑19 Documents [500](https://www.itu.int/md/R16-WRC19-C-0500/en) and [571](https://www.itu.int/md/R16-WRC19-C-0571/en)).” Note that when the WRC Plenary minutes text was agreed, what is now *resolves* 19 in the Finals Acts version of Resolution **35 (WRC-19)** was actually *resolves* 18. The change occurred in going from the provisional version to the final version of the Final Acts, and renumbering the provisional *resolves* 3*bis* to 4 and the consequential renumbering of all later *resolves.*
* Based on the ITU-R studies, the proposed regulatory mechanism may cover the following points:

1) Specify the conditions to be met in order for the requirement to report the reduction in the number of satellites to apply; the idea here is that a certain level of reduction may be allowed.

2) Specify the timelines for:

a) reporting the reduction to the BR, and

b) reporting confirmation that the reduction has been successfully restored.

3) The consequences for a post-milestone system that has not been suspended under RR No. **11.49** but that fails to restore the number of space stations capable of using the frequency assignments within an agreed period, should not be cancellation of the entry in the MIFR. There are operational spacecraft to consider. Instead, the most suitable option would be to have the notifying administration modify the characteristics of the recorded frequency assignments to reduce the number of space stations per orbital plane (in the manner described in *resolves* 14 of Resolution **35 (WRC-19)**.

4) The consequences for a non-GSO network/system subject to Resolution **35 (WRC-19)** that does not comply with the new regulatory mechanism which means that a reduction in the number of space stations capable of using the frequency assignments below the threshold and the notifying administration neither report to the BR nor respond to the reminders sent from the BR.

* The ITU-R studies developed a working document on Topic B (Document [4A/856(Annex 21)](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0856!N21!MSW-E.docx)).
* There are 2 methods shown in Section 4/7/2.4 of the [final CPM Report](https://www.itu.int/dms_pub/itu-r/md/19/cpm23.2/r/R19-CPM23.2-R-0001!!MSW-E.docx):
* Method B1: No change to the Radio Regulations.
* Method B2: involves changes to Resolution **35 (WRC-19)** to remove *resolves* 19and adoption of changes to RR Article **11** and a new Resolution to capture the post-milestone procedure for systems subject to Resolution **35 (WRC-19)**. The new draft Resolution contains 2 options regarding the required threshold for decreases in the number of deployed satellites capable of transmitting/receiving the recorded frequency assignments to apply such Resolution:
  + Option B2a: involves a single percentage (95/P%) of the system’s satellites, without regard to the number of satellites in the NGSO system
  + Option B2b: proposes a different number X depending on the number of satellites in the NGSO system. There are 4 Alternatives under this option.

**2. Documents**

* Input Documents AP23-6/[INP-20(IND)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-20_India_WP4_PACP_WRC-23_Agenda_Items.docx), [INP-39(J)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-39_Japan_WP4_Views_WRC-23_Agenda_Item_7.docx), [INP-56(SNG)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-56_Singapore_WP4_PACP_WRC-23_Agenda_Items_0.docx), [INP-61(THA)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-61_Thailand_WP4_PACP_WRC-23_Agenda_Items.docx), [INP-68(IRN)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-68_Iran_WP4_Preliminary_Views_on_WRC-23_Agenda_Items.docx), [INP-83(AUS)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-83_Australia_WP4_PACP_WRC-23_Agenda_Items.docx), [INP-90(Rev.1)(KOR)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-90R1_KOR_WP4_PACP_WRC-23_Agenda_Items.docx), [INP-106(CHN)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-106_China_WP4_PACP_WRC-23_Agenda_Items.docx), [INP-112(MLA)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-112_Malaysia_WP4_PACP_WRC-23_Agenda_Items.docx), [INP-120(VTN)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-120_VietNam_WP4_PACP_WRC-23_Agenda_Items.docx)
* Information Documents APG23-6/[INF-35(Chairs of DG 7)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INF-35_Brief_on_AI_7.docx), [INF-45(RCC)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INF-45_Status_of_RCC_preparation_to_WRC-23.pdf), [INF-46(CEPT)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INF-46_Status_of_CEPT_preparation_for_WRC-23_and_RA-23.pdf), [INF-52(CITEL)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INF-52_CITEL_preparation_for_WRC-23.pdf)

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 India (Republic of) - Document APG23-6/INP-20**

* India is of the view that this issue may be postponed until WRC-27. This issue may be addressed after experience is gained with the Resolution 35 milestone process.
* As on date only four satellite systems, subject to Resolution 35 (WRC-19), have completed their deployment which may not be sufficient to arrive at any figure(s) for the threshold. Hence, to avoid over-regulation of the post milestone process, it is prudent to wait until WRC-27 to gain experiences from the systems subject to Resolution 35 (WRC-19) for developing post milestone procedures.

**3.1.2 Japan – Document APG23-6/INP-39**

* For **Topic B**, Japan supports the development of the post-milestone procedures for non-GSO satellite systems in FSS, BSS and MSS subject to Resolution **35 (WRC-19)**.

Method B2 can be supported, but Japan believes the option needs to be further taken into account.

**3.1.3 Singapore (Republic of) - Document APG23-6/INP-56**

* supports 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.
* 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 non-GSO constellations.
* Possibility to operate less than 95% of the number of satellites notified in the MIFR for a maximum period of 3 years without regulatory impact for non-GSO constellations.
* Considering the process to duly notify the Bureau based on similar regulatory mechanism as in No. **11.49**.
* supports a reduction in the number of satellites notified in the MIFR if the deployed number of satellites falls below 95% of that which was notified in the MIFR for a continuous period exceeding 3 years for non-GSO constellations.
* considers the application of only No. 13.6 by the BR insufficient as a solution for this Topic.
* supports Method B2 i.e. involves changes to Resolution 35 (WRC-19) to remove resolves 19 and adoption of changes to RR Article 11 and a new Resolution to capture the post-milestone procedure for systems subject to Resolution 35 (WRC-19).
* supports Option B2b proposing a different number depending on the number of satellites in the non-GSO system.
* supports to have clearly defined regulations developed at this Conference in order to give sufficient time to administrations to plan or adapt their launch/deployment strategies, although the post milestone procedure will take place mainly after WRC-27.

**3.1.4 Thailand (Kingdom of) – Document APG23-6/INP-61**

* Thailand prefers Method B2 in the CPM Report that involves changes to Resolution **35 (WRC-19)** to remove *resolves* 19and adoption of changes to RR Article **11** and a new resolution to capture the post-milestone procedure for systems subject to Resolution **35 (WRC-19)**.
  + 1. **Iran (Islamic Republic of) – Document APG23-6/INP-68**
* Islamic Republic of Iran is 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)**.
* I.R. of Iran supports 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
* I.R. of Iran is 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 taken into account considered.
* I.R. of Iran also supports the development of appropriate regulatory measures for frequency assignments to non-GSO space stations that do not comply with the post-milestone requirements/procedures.
* I.R. of is of the view that the application of No. **13.6** by the BR is not an adequate solution for Topic B.
* I.R. of Iran also is of the view that additional provisions similar to No. **11.49** (suspension) are required in the RR in order to provide time to non-GSO satellite operators not operating in accordance with the characteristics of their recorded frequency assignments to make the proper adjustments.
* Initially many countries supporting Method B2/Option B2a but as many other administrations proposing to adopt smaller thresholds for small systems (Such as: ATU, CHN, RUS, etc.), I.R. of Iran also propose to consider smaller threshold for small constellations and go to Method B2b with another alternative,
* Islamic Republic of Iran proposes a Preliminary APT Common Proposal (PACP) for this Topic:



**3.1.6 Australia – Document APG23-6/INP-83**

* Australia supports efforts to develop 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)**. Australia supports methods that are based on the size of the constellation. Large constellations that have claimed BIU should maintain a higher percentage of satellites per filing before notifying the BR on partial-suspensions. There are four alternative equations within Method B2 of the CPM Report describing thresholds that are dependent on constellation sizes. However, these four alternative equations still contain unjustified variations between the applicable equations triggered by the changes in the total number of satellites. Australia would support a set of equations that avoids artefacts that cause an uneven treatment between constellations of different sizes.
* Australia does not propose a Preliminary APT Common Proposal for this topic.

**3.1.7 Korea (Republic of) – Document APG23-6/INP-90(Rev.1)**

* As the Republic of Korea supports the development of the post-milestone procedures for non-GSO satellite systems in FSS, BSS and MSS subject to Resolution **35 (WRC-19)**, among the methods presented in the CPM Report, Method B2 is supported.

**3.1.8 China (People’s Republic of) – Document APG23-6/INP-106**

* China supports Method B2b which treats satellite constellations with different sizes differently, 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.
* 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.
* China proposes views mentioned above as APT common proposals.

**3.1.9 Malaysia – Document APG23-6/INP-112**

* Malaysia supports **Method B2** for the development of post‐milestone procedures to permit some operational flexibility in the maintenance of the non-GSO system while keeping reasonable alignment over time between the number of capable non-GSO system satellites deployed for a system, and the number notified in the MIFR.

**3.1.10 Viet Nam (Socialist Republic of) – Document APG23-6/INP-120**

* Vietnam supports method B2 which involves changes to Resolution **35 (WRC-19)** to remove *resolves* 19 and adoption of changes to RR Article **11** and a new resolution to capture the post-milestone procedure for systems subject to Resolution **35 (WRC-19).**
* Vietnam prefersoption B2a which involves a single percentage of the system’s satellites, without regard to the number of satellites in the NGSO system.

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

* Some APT Members are of the view that this issue may be postponed until WRC-27 and addressed after experience is gained with the Resolution **35 (WRC-19)** milestone process, to avoid over-regulation of the post milestone process. In their view, it is prudent to wait until WRC-27 to gain experiences from the systems subject to Resolution **35 (WRC-19)** for developing post milestone procedures.

**4. APT View(s)**

* 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.
* APT Members support Method B2 with preference for Option B2b of the CPM Report.

**5. Preliminary APT Common Proposal**



**6. Issues for Consideration at APG Coordination Meeting at WRC-23 (if any)**

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

**7. Views from Other Organisations**

**7.1 Regional Groups**

**7.1.1 ASMG – (as of February 2023)**

* Support developing Resolution 35 (WRC-19) to replace resolves 19 to ensure that the content of the MIFR for non-GSO systems closely aligns with what is actually deployed in space.
* Allow the deployed satellites to be reduced by a percentage of the number of satellites recorded in the MIFR for a specified period (to be determined) without affecting the MIFR entries, bearing in mind that this percentage depends on the total number of satellites in the system, taking into account that flexibility should be granted to allow operational requirements of Non-GSO systems when the mile-stone approach is duly established while no overruns allowed
* Support the developing regulatory provisions to handle frequency assignments of Non-GSO satellites that do not comply with these procedures to be developed under this topic.

**7.1.2 ATU – (as of February 2023)**

* Support changes to Resolution 35 (WRC-19) to remove resolves 19 and adoption of changes to RR Article 11 and a new resolution to capture the post-milestone procedure for systems subject to Resolution 35 (WRC-19) 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 Non-GSO systems.
* Support that the development of the post-milestone procedures for Non-GSO satellite to cover the mandate of the WRC-19 Plenary session was only limited to frequency assignments to non-GSO systems in specific bands and services(FSS/MSS/BSS) subject to Resolution 35 (WRC‑19).
* Encourage that the operational features of non-GSO systems with a small number of satellites need to be further taken into account.
* Support a regulatory solution aligning the post milestone procedures in this new Resolution with No. 11.49 and Resolution 35 (WRC-19).
* Consider the application of only No. 13.6 by the BR insufficient as a solution for this Topic.

**7.1.3 CEPT – Document APG23-6/INF-46**

* CEPT supports 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.
* CEPT supports a decision at this WRC to give administrations a more stable regulatory framework to adapt their launch strategies to these new rules after their 3rd Milestone, which will take place mainly from 2027 onwards.
* 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.
* Possibility to operate less than 95% of the number of satellites notified in the MIFR for a maximum period of 3 years without regulatory impact for constellations with more than 50 satellites. (A suspension process analogue to the GSO case is proposed.)
* Considering the process to duly notify the Bureau based on similar regulatory mechanism as in No. 11.49.
* CEPT supports a reduction in the number of satellites notified in the MIFR if the deployed number of satellites falls below 95% of that which was notified in the MIFR for a continuous period exceeding 3 years for constellations with more than 50 satellites.
* CEPT supports a threshold below 95% for constellations with less than or equal to 50 satellites.
* CEPT considers that the application of No. 13.6 by the BR is not an adequate solution for Topic B.

**7.1.4 CITEL – Document APG23-6/INF-52**

**Draft Inter-American Proposal (DIAP)**

* Some Administrations support No Change to the RR, based on Method B1 of the CPM report Topic B. These administrations consider 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).

**7.1.5 RCC – Document APG23-6/INF-45**

* The operational features of non-GSO systems with a small number of satellites need to be taken into account. The developed post-milestone procedure shall not impose additional restrictions on non-GSO satellite systems using highly elliptical orbit. Method B2

**7.2 International Organisations**

**7.2.1 IARU R3**

* None.

**7.2.2 ICAO**

* None.

**7.2.3 IMO**

* None.

**7.2.4 WMO**

* None.

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