|  |  |  |
| --- | --- | --- |
|  | ASIA-PACIFIC TELECOMMUNITY | Document No: |
| **The 6th Meeting of the APT Conference Preparatory Group for WRC-23 (APG23-6)** | **APG23-6/OUT-48** |
| 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 H)**

**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 H: Enhanced protection of RR Appendices 30/30A in R1&3 and RR Appendix 30B

**1. Background**

* Before WRC-15, in accordance with § 4.1.10 of Article 4 of Appendix 30/30A, an Administration that has not notified its comments either to the administration seeking agreement or to the Bureau within a period of four months following the date of its BR IFIC referred to in § 4.1.5 shall be deemed to have agreed to the proposed assignment. This concept of “implicit agreement” since WRC-2000 had led to a situation in which the reference situation (EPM – equivalent protection margin) of many assignments in the BSS Plans has severely been degraded.
* WRC-15 modified the above-mentioned § 4.1.10 indicating that an Administration that has not notified its agreement within a period of four months following the date of the BR IFIC referred to in § 4.1.5 shall be deemed to have not agreed to the proposed assignment unless the provisions of §§ 4.1.10a to 4.1.10d and § 4.1.21 are applied.
* However, if the provisions of §§ 4.1.10a to 4.1.10d and § 4.1.21 are applied, the use of the concept of “implicit agreement” would lead to the same situation in which the “reference situation” (EPM – equivalent protection margin) of many assignments in the BSS Plans would severely be degraded. It is worth mentioning that § 4.1.10d provides only 30 days to an Administration to react.
* Furthermore, as an assignment in the Plan is for future use and that it has higher status than an assignment in the List stemming from additional use, it is also proposed to apply a tolerance of 0.25 dB instead of 0.45 dB in respect of its the equivalent downlink protection margin.
* It is further recalled that the value of 0.45 dB was merely used to facilitate the revision of the Regions 1 and 3 Plan by WRC-2000.
* A situation similar to that above can also occur in Appendix **30B** when an administration intends to convert an allotment into an assignment or when an administration, or one acting on behalf of a group of named administrations, intends to introduce an additional system or modify the characteristics of assignments in the List that have been brought into use in accordance with the RR Appendix **30B.** In that case the administration shall submit to the Radiocommunication Bureau all required information as specified in RR Appendix **4**. Then, the Bureau determines administrations whose allotments in the Plan, or assignments in the List or pending assignments are considered as being affected by this assignment under § 6.5 of RR Appendix **30B**.
* Affected administrations have 4 months after the publication of the Special Section of this assignment to comment it (§ 6.10) plus an additional period of 1 month subject to application of § 6.13. If, after this period, despite several reminders sent by the Bureau (i.e., § 6.9, § 6.11, § 6.14, § 6.14*bis*), the affected administration has not given a decision, this administration is considered as given its implicit agreement to this assignment under § 6.15.
* On the aspect of implicit agreement in Appendices 30/30A/30B, there are 4 methods shown in Section 4/7/8.4.1 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):
  + - H1A: no change to the Radio Regulations
    - H1B: Option 1 - Remove implicit agreement for AP30/30A Plan assignment or AP30B allotment (or intending to enter those Plans). Option 2 - expands Option 1 to include removal of implicit agreement for R2 FSS potentially affecting R1&3 AP30/30A
    - H1C: Replace the implicit agreement with a new mechanism; administration of Plan assignment or allotment allows administration of the additional use or additional system to operate until the bringing into use of its national assignment/allotment. Commitment to respect some constraints as pfd levels in respect of the affected national assignment/allotment
    - H1D: is almost similar to Method H1C with additional elements that propose a) to remove the concept of implicit agreement whereby the affecting network is a non planned FSS from R2 and b) to update the characteristics of assignment in the List to reflect operational characteristics once the temporary agreement is terminated
* On the aspect of EPM degradation tolerance in Appendices 30/30A of Regions 1/3, there are 2 methods shown in Section 4/7/8.4.2 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):
  + - H2A: no change to the Radio Regulations
    - H2B: to apply EPM degradation tolerance of 0.25 dB instead of 0.45 dB for protection of an assignment in the RR Appendices **30/30A** Regions 1 and 3 Plans or assignments with national coverage from a submission of non-national coverage.

**2. Documents**

* Input Documents AP23-6/[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-40(J)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INP-40_Japan_Consideration_on_Topic_H_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-28(GSOA)](https://www.apt.int/sites/default/files/2023/08/APG23-6-INF-28_GSOA_Positions_on_WRC-23_Agenda_Items_0.docx), [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 Japan - Document APG23-6/INP-39, INP-40**

* For **Topic H**, Japan supports the revision of implicit agreement provisions, but does not support to reduce the EPM degradation tolerance from 0.45 dB to 0.25dB with the following reasons.

1) Historically, the EPM degradation tolerance was relaxed from 0.25 dB to 0.45 dB at WRC-2000. The reason for this relaxation was the adoption of digital modulation in the Regions 1 and 3 Plans which is more robust than analogue modulation. For the same reason, the protection ratio value for downlink co-channel signals was reduced to 21 dB from 23 dB (section 3.4 of Annex 5 to RR Appendix **30**), in addition to the relaxation of the EPM degradation tolerance.

2) Therefore, the modification of the EPM degradation tolerance, even if it applies to the Plan only, would create inconsistencies to the basis of the Plan in WRC-2000 and sharing criterion, since the Plan from WRC-2000 is based on the EPM degradation tolerance of 0.45 dB.

3) There are two criteria for the sharing BSS frequency for Regions 1 and 3 in Annex 1 to RR Appendix **30**, EPM degradation tolerance and pfd masks. By reducing the EPM degradation tolerance from 0.45 dB to 0.25 dB, the allowable interference becomes stricter by about 2.7 dB if the Ref. EPM is already below 0 dB. However, around the Ref. EPM of 0 dB the pfd criterion is applicable for low wanted e.i.r.p. like 51.5 dBW and the orbital separation above 1 deg since the allowable interference is less stringent than the EPM criterion. Therefore, the reduction of the EPM degradation tolerance from 0.45 dB to 0.25 dB does not work in this area except for e.i.r.p. of 57 dBW, which corresponds to normal Plan assignments. However, for such a high e.i.r.p., if both interfering and interfered-with satellites suffered from low EPM, both satellites would severely interfere with each other. One of the causes of this large degradation, for example 10 dB degradation of EPM, is due to the provisions of the implicit agreement, even though the Plan assignments were recognized as significantly affected by the result of examination using EPM criterion or pfd criterion, and therefore the reduction of the EPM degradation tolerance from 0.45 dB to 0.25 dB does not contribute to solve the problem for the Plan assignments. According to the comments issued during the CPM23-2 meeting that the orbital separation angles at 0 deg. and 9 deg., and the partial frequency overlapping should be investigated, Japan has studied these cases and the conclusions described above.

4) Calculation results on the mechanism of EPM degradation in BSS in Regions 1 and 3 showed that the cumulative EPM degradation resulted to be between −0.9 dB (−0.45 dB by one satellite network at +3 degrees and −0.45 dB by another satellite network at −3 deg.) and −2.7 dB depending on the surrounding beam shapes of six interfering satellite networks under the condition of the EPM degradation tolerance of 0.45 dB (See Doc.4A/545, 20 April 2022).

* Since the objective of this Topic to improve the protection of RR Appendices **30/30A** in R1&3 and RR Appendix **30B** within its intra service, the modification to non-Plan FSS in Region 2 is considered as “out of scope”. Therefore, Japan does not support Method H1B Option 2 and Method H1D.
* Japan supports Method H1B Option 1 and Method H2A in the CPM Report.
* In addition, Doc APG23-6/INP-40 provides the technical details on Topic H of WRC-23 Agenda Item 7, which support the conclusion that in order to prevent the Plan assignment suffering a very low EPM and becoming useless it is effective to revise the provisions of implicit agreement, but the situation can’t be avoided by the reduction of the EPM degradation tolerance.

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

* Supports to enhance the protection of Appendices 30/30A in Regions 1 & 3 and Appendix 30B for networks in the Plan and the List.
* Supports to replace the implicit agreement in case of no comments in due time of an affected Regions 1 and 3 BSS Plan assignments or Appendix 30B allotments from an additional use/system, by a new regulatory solution allowing the administration of the additional use/system to operate until the national assignment/allotment is brought into use.
* Supports to not consider mutual interference between Regions 1 and 3 BSS Plan assignments or Appendix 30B allotments and additional use/system networks using this new regulatory solution since they will not operate simultaneously the same frequency range over the same area.
* Does not support to reduce the EPM degradation tolerance in Appendices 30/30A without any technical studies supporting the reasoning behind such a modification.
* For the implicit agreement aspect, supports Method H1C which is to use a new mechanism to replace the implicit agreement whereby the administration of the additional use/system is allowed to operate (with commitment to respect certain conditions) until the bringing into use of the national assignment/allotment of the other administration.
* For the AP30/30A EPM degradation tolerance aspect in Regions 1 and 3, supports Method H2A which is no change to the Radio Regulations.

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

* On the issue of the implicit agreement, Thailand supports to use a new mechanism to replace the implicit agreement whereby the administration of the additional use/system is allowed to operate (with commitment to respect certain conditions) until the bringing into use of the national assignment/allotment of the other administration. Therefore, Thailand supports Method H1C in the CPM Report.
* On the issue of the AP30/30A EPM degradation tolerance, Thailand supports Method H2A in the CPM Report which proposes no change to the Radio Regulations.

****

**3.1.4 Iran(Islamic Republic of) – Document APG23-6/INP-68**

* Islamic Republic of Iran supports Method H1B option 2 for the issue of the “implicit agreement” and support Method H2B for the issue of the “EPM degradation tolerance” as contained in the draft CPM text (Document CPM23-2/1-E, dated 25 November 2022).
* Method H1B option 2 proposes to remove the implicit agreement applicable to the three following cases:
  + an assignment in the RR Appendices **30** and **30A** Regions 1 and 3 Plans or an assignment intended to enter in those Plans when the affecting network is an addition of “List” networks. For doing so, this method proposes modifications of Article 4 (provisions § 4.1.10 and other related provisions) and its Annex 1 of the RR Appendices **30** and **30A.**
  + an allotment in the RR Appendix **30B** Plan or an assignment intended to enter in that Plan. For doing so, this method proposes modifications of Article 6 (paragraph 6.15 of Appendix **30B**) and its Annex 1 of the RR Appendix **30B**;
  + an assignment in the RR Appendices **30** and **30A** Regions 1 and 3 Plans, an assignment intended to enter in those Plans, List or proposed new or modified assignments in the List, when the affecting network is a Region 2 FSS in the frequency band 11.7-12.2 GHz; For doing so, this method proposes modifications to Article 7 of the RR Appendices **30** and **30A.** Accordinglythe course of action described in §§ 9.60 to 9.62 of Article **9** does not apply to an assignment in the Appendix **30** Regions 1 and 3 Plan, an assignment intended to enter in this Plan, List or proposed new or modified assignments in the List, when the affecting network is a fixed-satellite service (space-to-Earth) in the band 11.7-12.2 GHz in Region 2.
* Method H2B proposes to apply EPM degradation tolerance of 0.25 dB instead of 0.45 dB for protection of an assignment in the RR Appendices **30/30A** Regions 1 and 3 Plans (Assignments with national coverage from a submission of supra national coverage).
* This administration is also of the view that Methods H1C and HID are addressing the consideration of Special Agreement among certain limited number of Administrations which sign the subject agreement allowing the operation of additional use during the lifetime period of the agreement and thus should not be considered as an alternative to Method H1B as it does not cover the general issue of removal of implicit agreement for all countries.
* In view of the explanation provided in regard with Methods H1C and H1D, APT does not support either of these Methods H1C and HID for general application as addressing the issue of removal of implicit agreement.
* Islamic Republic of Iran proposes a Preliminary APT Common Proposal for Method H1B option 2 for the issue of the “implicit agreement” and support Method H2B for the issue of the “EPM degradation tolerance” with some modifications are highlighted in yellow, as outlined in the draft CPM Report as follows:

****

* Moreover, APT Membersdoes not support either of these Methods H1C and HID for general application as addressing the issue of removal of implicit agreement.

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

* For sub-Topic H1, Australia supports development of procedures that will remove implicit agreement from the RR AP **30/30A** and AP **30B**, and the development of a special agreement that would enable use until the bringing into use of assignments in the national allotment. In this regard, Australia supports Method H1C as presented in the CPM Report.
* Australia proposes a Preliminary APT Common Proposal for this topic with changes as proposed in Method H1C of the CPM Report as follows:



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

* As the Republic of Korea supports the possible removal of the concept of the “implicit agreement” in the RR APs **30**, **30A** and **30B**, among the methods presented in the CPM Report, Methods H1B (preferring Option 1) or H1C can be supported.
* Regarding EPM degradation tolerance in RR APs **30**/**30A**, among the methods presented in the CPM Report, Method H2A is supported.

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

* China supports to enhance the protection of Appendices **30** and **30A** in Regions 1 & 3 and Appendix **30B** for networks in the Plan and the List.
* China supports the possible removal of the concept of the “implicit agreement” from the RR AP**30**/**30A** and AP**30B**. In this regard, China is considering Methods H1B and H1C presented in the CPM Report.
* Regarding EPM degradation tolerance in RR APs **30**/**30A**, among the methods presented in the CPM Report, China is in favor of Method H2A since technical studies supporting the reason behind such a modification are not sufficient.

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

* Malaysia supports the enhancement of the protection of Appendices **30/30A** in Regions 1 and 3 and Appendix **30B** for networks in the Plan and the List, through the removal of the concept of the “implicit agreement” in the RR Appendices **30**, **30A** and **30B**.

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

* Vietnam supports method H1B that includes removal of implicit agreement within the Appendices **30**, **30A** and **30B**:
* It is proposed to remove the implicit agreement applicable to:
* an assignment in the RR Appendices **30** and **30A** Regions 1 and 3 Plans or an assignment intended to enter in those Plans;
* an allotment in the RR Appendix **30B** Plan or an assignment intended to enter in that Plan

that would be identified by the Bureau as affected by an incoming network.

*Reason: Removal of the concept of “implicit agreement” from the RR AP* ***30****/****30A*** *and AP* ***30B*** *could enhance the protection of these RR Appendices.*

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

* 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.

**4. APT View(s)**

* 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.

**5. Preliminary APT Common Proposal**

None.

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

None.

**7. Views from Other Organisations**

**7.1 Regional Groups**

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

* Support studies related to this topic with aim to provide a reasonable solution to ensure the reference situation is not degraded due to the concept of “implicit agreement” in Appendices AP30/30A/30B, thus improving the status of allotments/assignments in the plans that are affected by the decline of the reference situation (EPM) so that These allotments/assignments are effectively usable by the concerned administrations wishing to access the AP30/30A/30B plans for the provision of the broadcasting-satellite service or the fixed-satellite service

**7.1.2 ATU – (as of February 2023)**

* Support the enhancement of the protection of Appendices 30/30A in Regions 1 and 3 and Appendix 30B for networks in the Plan and the List.
* Support studies on this topic to provide a fair solution that ensures that the reference situation (EPM - equivalent protection margin) is not degraded due to the concept of “implicit agreement” in Appendices (30), (30A) and (30B).
* Support the application of EPM degradation tolerance of 0.25 dB instead of 0.45 dB for protection of an assignment in the appendices 30, 30A in region 1 & 3 plans or assignments with national coverage from submission of a non-national coverage.
* Mandate WG4B to prepare the common African contribution proposing CPM text of the Topic to the next Working Party 4A.
  + 1. **CEPT – Document APG23-6/INF 46**
* 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.

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

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

* Some Administrations supports modifying Article 6 of Appendix 30B based on a modified version of Method H1C\*, to replace the “implicit agreement” in case of non-response within the 4-month comment period and the subsequent nonresponse to the BR attempt to obtain a decision from the affected administration by a new regulatory mechanism by which the affected administration allows the notifying administration to operate until the BIU of its national assignment. At that time, the notifying administration commits to respect some identified constraints so that the assignment of the affected administration won’t be considered affected anymore.

\* the DIAP does not addressed the modifications relating to Regions 1 and 3 Appendices 30/30A assignments

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

* Support that regulatory provisions for RR Appendices 30/30A in Regions 1 and 3 and RR Appendix 30B to eliminate the concept of “implicit agreement” as may lead to degradation of reference situation in RR Appendices 30/30A in Regions 1 and 3 and RR Appendix 30B.
* Support the **Method H1D** of the CPM Report as well as **Method H1C** of the CPM Report and do not support the changes of tolerance of 0.25 dB instead of 0.45 dB , 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 30/30А (Method H2A of the CPM Report).

**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.

---------------------------