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| **The 5th Meeting of the APT Conference Preparatory**  **Group for WRC-19 (APG19-5)** | **APG19-5/OUT-13** |
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Working Party 3

**APT VIEW AND PRELIMINARY APT COMMON PROPOSAL**

**on WRC-19 agenda item 7 (ISSUE G)**

**Agenda Item 7:**

*to consider possible changes, and other options, in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference, an 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 rational, efficient and economical use of radio frequencies and any associated orbits, including the geostationary‑satellite orbit.*

# Issue G – Updating the AP30/30A reference situation

1. Background

§§ 4.1.18-20 of Appendix **30** to the Radio Regulations describes the requirements and conditions for recording in the Regions 1 and 3 List of a network with outstanding coordination requirements.

§ 4.1.18 prescribes that in the case of recording in the List with outstanding coordination requirements, this recording shall be provisional, but that the entry shall be changed from provisional to definitive recording in the List if the Bureau is informed that the new assignment in the Regions 1 and 3 List has been in use, together with the assignment which was the basis for the disagreement, for at least four months without any complaint of harmful interference being made. In doing so, the practice of the Bureau is to update the reference situation of the interfered-with network when changing the recording of the new assignment from provisional to definitive, i.e. after four months without complaints about harmful interference.

There may be many reasons why harmful interference does not occur during the first four months of operation, e.g. during this period, the interfered-with network may not operate with its most sensitive characteristics among its assignments in the List (use of larger antennas, modulation/coding that is more robust, e.i.r.p.s higher than the minimum values, …) or the interfering network may not operate with its most interfering characteristics (lower e.i.r.p.s, transponders with no customers, steerable beams pointing in another direction, …).

However, at the end of this four-month period, the reference situation of the interfered-with network will be updated to incorporate the maximum interference (as contained in the submission to ITU, even if during the 4-month period actual operation may have been with parameters causing less interference) from the network to which it has not given its agreement. This could severely affect the reference situation and thereby the protection of the interfered-with network and later submissions could impose significantly more interference upon the interfered-with network before exceeding the relative degradation which triggers coordination. As a result, the interfered-with network may find itself with reduced protection due to a network which has not completed the required coordination with the interfered-with network and to which it has not given its agreement.

On the other hand, for other affected networks, not updating the reference situation could keep networks at a high reference situation where they would be required to accept higher levels of interference from late comers than if the reference situation had been updated. For these cases, the interfered-with network may find itself with reduced protection due to a network which has not completed the required coordination with the interfered-with network and to which it has not given its agreement if the reference situation is not updated.

Depending on the initial reference situation of the affected network and what would be the reference situation if taking into account the interference from the network for which the agreement has not been given, it can be seen that updating or not updating the reference situation can have different effects on its protection against later submissions.

In response to Issue G, three methods have been identified. Method G1, the administration with an interfered-with network, depending on the specific situation of its network, will determine whether or not the reference situation shall be updated. Method G2, quantification of when § 4.1.18 may be used, requirements for both existing and new network to operate exactly at notified parameters, and a Resolution which involves exchange of measurements and outlines how networks can be recorded under § 4.1.18. Method G3 is no change to the Radio Regulations.

**Relevant ITU-R Recommendations and Reports**

* [Annex 36 to Document 826](https://www.itu.int/dms_ties/itu-r/md/15/wp4a/c/R15-WP4A-C-0826!N36!MSW-E.docx) of the Working Party 4A Chairman Report, July 2018: Preliminary Draft CPM text for WRC-19 agenda item 7 – Issue G
* Chapter 3 in the [CPM Report](https://www.itu.int/md/R15-CPM19.02-R-0001/en) to WRC-19, February 2019: Report of the CPM on technical, operational and regulatory/procedural matters to be considered by the World Radiocommunication Conference 2019

2. Documents

* Input Documents: APG19-5/INP-[44 (Rev.1) (AUS)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-44-R1-AUS_Contribution_to_APG19-5_Chapter_3.docx), [51 (INS)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-51-INS_Views-WP3.docx), [58 (SNG)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-58-SNG_1.6_and_7.docx), [67 (CHN)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-67-CHN-WG3_PACP_1.4_1.5_1.6_7_9.1_ISSUE_9.1.2_9.1.3_9.1.9_rev3.doc), [81 (J)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-81-J-10_WP3_PACP_and_Viewsui1.41.679.1.29.1.3uj.docx), [91 (J)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-91-J-20_AI7_Issue_G_B-SAT_NHK_r2_woTC.docx), [100 (THA)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-100-THA_WP3_AI__1.6_7FG_and_9.1.9.docx), [113 (MLA)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-113-MLA_WP3__AI_1.5_1.6_and_7_G.docx), [129 (KOR)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-129-WP3_kor.doc)
* Information Documents: APG19-5/INF-[18 (CEPT)](https://www.apt.int/sites/default/files/2019/07/APG19-5_INF-18-CEPT.docx), [19 (ATU)](https://www.apt.int/sites/default/files/2019/07/APG19-5_INF-19-ATU.docx), [20 (CITEL)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INF-20-CITEL.docx), [22 (RCC)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INF-22-RCC.docx)

3. Summary of discussions

3.1 Summary of APT Members’ views

3.1.1 Australia – Document APG19-5/INP-[44 (Rev.1)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-44-R1-AUS_Contribution_to_APG19-5_Chapter_3.docx)

* Australia is of the view that when a network in Region 1 and 3 enters the List under § 4.1.18 of Appendix 30 or 30A, the reference situation of the interfered-with network shall only be updated if and when the Bureau is informed that the agreement has been obtained, or if there is still disagreement that the reference situation of the interfered-with network shall only be updated if and when the Bureau is informed by the affected administration to do so. Australia accordingly supports Method G1 in the CPM report text with modification of § 4.1.18.

3.1.2 Indonesia – Document APG19-5/INP-[51](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-51-INS_Views-WP3.docx)

* Indonesia is of the view to support Method G1 which prescribes that when a network has entered into the List using § 4.1.18, and when the recording of the associated assignment transitions from provisional to definitive while there is still disagreement, the reference situation of the interfered-with network should be updated in consultation with, and only with the agreement of, the affected administration.

3.1.3 Singapore – Document APG19-5/INP-[58](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-58-SNG_1.6_and_7.docx)

* Singapore supports Method G1 which proposes to modify § 4.1.18*bis* of RR Appendices **30** and **30A,** such that the reference situation of the interfered-with network is updated in consultation with, and only with the agreement of, the affected administration.

3.1.4 China – Document APG19-5/INP-[67](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-67-CHN-WG3_PACP_1.4_1.5_1.6_7_9.1_ISSUE_9.1.2_9.1.3_9.1.9_rev3.doc)

* Considering that no difficulty has been encountered by BR in applying § 4.1.18 and § 4.1.18bis of Appendices **30** and **30A**, China does not oppose Method G3 in CPM report.

3.1.5 Japan – Document APG19-5/INP-[81](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-81-J-10_WP3_PACP_and_Viewsui1.41.679.1.29.1.3uj.docx) & 91

*From Document APG19-5/INP-*[*81*](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-81-J-10_WP3_PACP_and_Viewsui1.41.679.1.29.1.3uj.docx)

* With respect to updating the reference situation for Regions 1 and 3 networks under RR Appendices 30 and 30A when provisionally recorded assignments are converted into definitive recorded assignments, Japan supports Method G3 to maintain EPM criteria (RR Appendix 30) appropriately and update the reference EPM properly, making a point to protect operation of the existing BSS Plan and List, to ensure smooth introduction of the future BSS and to contribute to the efficient use of the geostationary satellite orbit.
* By applying § 4.1.20 of AP30/30A, the harmful interference from the satellite which applied No. 4.1.18 of AP30/30A can be eliminated, and the reference EPM should be updated after the harmful interference has been eliminated.
* § 4.1.20 of AP30/30A may be modified, if necessary, in order to clarifying the update of EPM as a matter of consequential action after eliminating the harmful interference.

*From Document APG19-5/INP-91*

* With respect to updating the AP30/30A reference situation (Issue G), Japan supports to maintain EPM criterion (RR Appendix 30) and update the reference EPM properly, since the EPM criterion contributes to alleviate the problem of "sensitive satellite network" having very low transmitting power and contribute to the efficient use of the geostationary satellite orbit.
* Japan considers the modification of No. 4.1.18*bis* of RR Appendices 30 and 30A, where the reference situation of the interfered-with network should be updated in consultation with, and only with the agreement of, the affected administration, leads to the abolition of the EPM criterion in the future.
* Japan supports NOC (Method G3).
* Even though the EPM value of a senior satellite (Sat. L) becomes low due to the application of § 4.1.18 and § 4.1.18bis by a junior satellite (Sat. M) against Sat. L, Sat. L has a chance to recover its EPM by applying § 4.1.20 against Sat. M. If Sat. M does not emit the wave and the EPM of Sat .L degrades,, Sat. L can request the elimination of the virtual interference from Sat. M by applying RR AP30/30A § 4.1.20.
* § 4.1.20 of AP30/30A may be modified, if necessary. An example revision is given as shown in Section 3.2 Summary of Issues Raised During the Meeting below in order to reflect the actions of § 4.1.20 and update EPM properly as a matter of consequential action after eliminating the interference.

3.1.8 Thailand – Document APG19-5/INP-[100](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-100-THA_WP3_AI__1.6_7FG_and_9.1.9.docx)

* Thailand supports the modification and updating the current regulatory procedure for recording the assignment into the List for Regions 1 and 3 under RR Appendices 30 and 30A. Therefore, Thailand does not support Method G3 of the CPM Report.

3.1.9 Malaysia – Document APG19-5/INP-[113](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-113-MLA_WP3__AI_1.5_1.6_and_7_G.docx)

* Malaysia supports Method G1, which the reference situation of the interfered-with network should be updated in consultation with, and only with the agreement of the affected administration, with modification of § 4.1.18bis of Radio Regulations Appendices 30 and 30A.

3.1.10 Korea – Document APG19-5/INP-[129](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-129-WP3_kor.doc)

* The Republic of Korea supports Method G1 in the CPM Report to modify § 4.1.18*bis* of RR Appendices **30** and **30A** in such a way that when a network has entered into the List using § 4.1.18, and when the recording of the associated assignment transitions from provisional to definitive while there is still disagreement, the reference situation of the interfered-with network should be updated in consultation with, and only with the agreement of, the affected administration.

3.2 Summary of issues raised during the meeting

* Some APT Members support Method G1 in the CPM Report to modify § 4.1.18*bis* of RR Appendices **30** and **30A** such that, when a network has entered into the List using § 4.1.18, and when the recording of the associated assignment transitions from provisional to definitive while there is still disagreement, the reference situation of the interfered-with network should be updated in consultation with, and only with the agreement of the affected administration.
* Some APT Members support Method G3 in the CPM Report that is no change to the Radio Regulations.
* Under Method G3, to further clarify actions under of § 4.1.18 and § 4.1.18bis, some APT Members are of the view that § 4.1.20 of RR Appendices 30 and 30A could be modified. An example of revision is proposed as follows in order to reflect the actions of § 4.1.20 of RR Appendices 30 and 30A and update EPM properly as a matter of consequential action after eliminating the interference.

**AP30**

**MOD**

4.1.20 Should harmful interference be caused by an assignment included in the List under§ 4.1.18 to any assignment in the List which was the basis of the disagreement, the administration using the frequency assignment included in the List under § 4.1.18 shall, upon receipt of a report providing the particulars relating to the harmful interference[[1]](#footnote-1), immediately eliminate this harmful interference. (WRC-19)

**ADD**

4.1.20A In applying § 4.1.20 with respect to satellite networks, administrations involved shall cooperate in the elimination of harmful interference and may request the assistance of the Bureau, and shall exchange relevant technical and operational information required to resolve the issue. Within 30 days when the harmful interference has been eliminated, the administration responsible for the assignment included in the List under § 4.1.18 shall provide the Bureau with the modified characteristics to that effect. The Bureau shall update the characteristics of this assignment and publish it in a Special Section of its BR IFIC. The equivalent protection margin (EPM) shall be updated accordingly. (WRC-19)

4.1.20B Should any administration involved in the matter inform the Bureau that all efforts to resolve the harmful interference have failed, the Bureau shall immediately inform other involved administrations and prepare a report, together with all necessary supporting documents (including comments from the administrations involved), for the next meeting of the Board for its consideration and any required action (including the possible cancellation of the assignment recorded under § 4.1.18), as appropriate. The Bureau shall thereafter implement the decision of the Board and inform the administrations concerned. (WRC-19)

**AP30A**

**MOD**

4.1.20 Should harmful interference be caused by an assignment included in the feeder-link List under § 4.1.18 to any assignment in the List which was the basis of the disagreement, the administration using the frequency assignment included in the feeder-link List under § 4.1.18 shall, upon receipt of a report providing the particulars relating to the harmful interference[[2]](#footnote-2), immediately eliminate this harmful interference. (WRC-19)

**ADD**

4.1.20A In applying § 4.1.20 with respect to satellite networks, administrations involved shall cooperate in the elimination of harmful interference and may request the assistance of the Bureau, and shall exchange relevant technical and operational information required to resolve the issue. Within 30 days when the harmful interference has been eliminated, the administration responsible for the assignment included in the List under § 4.1.18 shall provide the Bureau with the modified characteristics to that effect. The Bureau shall update the characteristics of this assignment and publish it in a Special Section of its BR IFIC. The equivalent protection margin (EPM) shall be updated accordingly. (WRC-19)

4.1.20B Should any administration involved in the matter inform the Bureau that all efforts to resolve the harmful interference have failed, the Bureau shall immediately inform other involved administrations and prepare a report, together with all necessary supporting documents (including comments from the administrations involved), for the next meeting of the Board for its consideration and any required action (including the possible cancellation of the assignment recorded under § 4.1.18), as appropriate. The Bureau shall thereafter implement the decision of the Board and inform the administrations concerned. (WRC-19)

4. APT Views

* APT Members do not support Method G2 in the CPM Report.
* APT Members could not agree on a common view and decided not to develop Preliminary APT Common Proposal (PACP) for Agenda Item 7 Issue G.

5. Preliminary APT Common Proposal(s)

* None.

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1. 4.1.20.1 When providing the particulars relating to the harmful interference under § 4.1.20, administrations involved shall use, to the maximum extent possible, the format prescribed in Appendix **10** of the Radio Regulations. (WRC-19) [↑](#footnote-ref-1)
2. 4.1.20.1 When providing the particulars relating to the harmful interference under § 4.1.20, administrations involved shall use, to the maximum extent possible, the format prescribed in Appendix **10** of the Radio Regulations. (WRC-19) [↑](#footnote-ref-2)