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| **The 5th Meeting of the APT Conference Preparatory****Group for WRC-19 (APG19-5)** | **APG19-5/OUT-16** |
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Working Party 3

**APT VIEW AND PRELIMINARY APT COMMON PROPOSAL**

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

**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 J – Possible modification to Section 1 of Annex 1 of RR AP30 to allow a specified power flux-density to be exceeded

1. Background

In order to provide the advanced broadcasting-satellite services (BSS) like UHDTV (see Rec. [ITU‑R BT.2020](http://www.itu.int/rec/R-REC-BT.2020/en)), a modulation scheme with high spectrum efficiency (e.g. APSK) and high required *C/N* (carrier-to-noise ratio) is necessary (see Rec. [ITU-R BO.2098](http://www.itu.int/rec/R-REC-BO.2098/en) and Rep. [ITU-R BO.2397](http://www.itu.int/pub/R-REP-BO.2397)). In that situation, a pfd value exceeding the limit of −103.6 dB(W/(m2 · 27 MHz)) within the service area is required in order to achieve the same service availability as the conventional BSS.

The Rules of Procedure addresses implementation of the pfd limit referred to in the first paragraph of Section 1 of Annex 1 to Appendix **30** of the Radio Regulations as a hard limit that shall not be exceeded in order to protect BSS assignments from interference that may be caused by BSS networks located outside an arc of  9 around a wanted BSS network.

In the case that an administration applies the relevant provisions of RR Article 23 to request the exclusion of its territory from the service areas of BSS networks of other administrations, such BSS networks of other administrations are not entitled to be protected within the territory of the objecting administration (i.e. the notifying administration mentioned above). It should be also noted that coordination among BSS networks belonging to the same notifying administration is an internal matter of that administration.

If that limit is not exceeded outside the territory of the notifying administration, the BSS networks outside the coordination arc of other administrations are protected outside the territory of the notifying administration. For the BSS networks inside the coordination arc of other administrations, the current coordination procedure continues to be applied.

According to the idea above, the pfd limit of −103.6 dB(W/(m2 · 27 MHz)) may be exceeded only within the national territory of the notifying administration provided that, on the border areas and other territory of other country, this pfd limit is not exceeded, under the condition that the assignment does not overlap with the Regions 1 and 3 guardbands as defined in § 3.9 of Annex 5 to RR Appendix **30** in order to ensure the protection of services in adjacent bands.

Two methods are provided. Method J1 proposes modifications to Section 1, Annex 1 of RR Appendix 30 and Method J2 proposes no changes to the Radio Regulations.

**Relevant ITU-R Recommendations and Reports**

* [Annex 39 to Document 826](https://www.itu.int/dms_ties/itu-r/md/15/wp4a/c/R15-WP4A-C-0826%21N39%21MSW-E.docx) of the Working Party 4A Chairman Report, July 2018: Preliminary Draft CPM text for WRC-19 agenda item 7 – Issue J
* 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), [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), [73 (J & AUS)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-73-J-2_AI7_Issue_JB-SAT.docx), [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), [108 (MLA & THA)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-108-MLA_THA_WP3_AI_7_A-C_E_H-K_9.1.2_and_9.1.3.docx), [129 (KOR)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-129-WP3_kor.doc)
* Information Documents: APG19-5/INF-[05 (ABU)](https://www.apt.int/sites/default/files/2019/07/APG19-5-INF-05-ABU-Contribution-on-Agenda-7-Issue-J.docx), [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](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-44-R1-AUS_Contribution_to_APG19-5_Chapter_3.docx) (Rev.1)

* Australia will consider support for Method J1 but requires further information on the magnitude of exceedance of the pfd limit, and technical measures to contain exceedance to particular territory.

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 J2 which propose no change to Radio Regulations.

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)

* China does not support modification of a hard pfd limit (−103.6 dB(W/(m2· 27 MHz) which is included in Annex **1** to RR Appendix **30** and is in favor of Method J2.

3.1.4 Japan and Australia – Document APG19-5/INP-[73](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-73-J-2_AI7_Issue_JB-SAT.docx)

* Japan and Australia support Method J1.

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)

* Japan supports Method J1 to modify the RR AP30 and allow exceedance the pfd limit of -103.6 dB(W/(m2 · 27 MHz)) only within the territory under the jurisdiction of the notifying Administration and in the assignment frequency not overlapping with the Regions 1 and 3 guardbands, making a point to ensure smooth introduction of the future BSS.

3.1.8 Malaysia and Thailand – Document APG19-5/INP-[108](https://www.apt.int/sites/default/files/2019/07/APG19-5-INP-108-MLA_THA_WP3_AI_7_A-C_E_H-K_9.1.2_and_9.1.3.docx)

* Taking into account of the flexibility of BSS services, Malaysia and Thailand support the pfd limits given in Appendix **30** List assignment to be exceeded only within the national territory of the notifying administration provided that the assignment does not overlap with the guardbands as defined in Appendix **30** and also under the condition that, this pfd limit is not exceeded on the border areas and other territory of another country.
* Therefore, Malaysia and Thailand support Method J1 of the CPM report.

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 the Method J2 in the CPM Report, which is no change to the Radio Regulations regarding this issue, because it would be impossible, technically in practice, to comply with the pfd limit referred to in the first paragraph of Section 1 of Annex 1 to RR Appendix **30** on the territory of other administrations that is geographically close to that of the notifying administration whenexceedance of the limit is allowed within its national territory.

3.2 Summary of issues raised during the meeting

* Some APT Members supports Method J1 to modify Section 1, Annex 1 of RR Appendix **30** in order to allow List assignments to exceed the pfd limit given in Section 1 of Annex 1 to RR Appendix **30** only within the national territory of the notifying administration under the condition that the assignment does not overlap with the Regions 1 and 3 guardbands as defined in § 3.9 of Annex 5 to RR Appendix **30** and also under the condition that, on the border areas and other territory of another country, this pfd limit is not exceeded.
* Some other APT Members supports Method J2 in the CPM Report that is no changes to the Radio Regulations.

4. APT View(s)

* APT Members could not agree on a common view and decided not to develop Preliminary APT Common Proposal (PACP) for Agenda Item 7 Issue J.

5. Preliminary APT Common Proposal(s)

* None.

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