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| **The 2nd Meeting of the APT Conference Preparatory Group for WRC-19 (APG19-2)** | **APG19-2/OUT-06** |
| 17 – 21 July 2017, Bali, Republic of Indonesia | **21 July 2017** |

Working Party 3

**PRELIMINARY VIEWs on WRC-19 Agenda Item 7**

**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.*

# General

## 1. Background

The advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks are the regulatory foundation for space services. In application of these procedures, a number of issues were observed by various administrations. Administrations and the Bureau have been contributing to the improvement of the satellite network procedures, eliminating the deficiencies thereof and transforming the provisions in the Rules of Procedures into the Radio Regulations (RR).

In the implementation of Resolution **86** (Rev. Marrakesh, 2002), WRC-19 is invited by Resolution **86** (Rev. WRC-07) to consider, under the standing Agenda Item 7, any proposals which deal with deficiencies and improvements in the Regulatory/Procedural matters for frequency assignments pertaining to space service, ensuring these procedures, and the related Appendices of the Radio Regulations support latest technologies and regulatory practices, as far as possible.

As of the May 2017 meeting of WP 4A the ITU-R *responsible* group for this agenda item,eight sub-issues have been identified and are being studied. Document [4A/364](https://www.itu.int/md/R15-WP4A-C-0364/en) - *Report on the* meeting *of Working Party 4A 3-12 May 2017* and its associated annexes covers the current work on Agenda Item 7 in WP 4A.

## 2. Documents

Input Documents:

* APG19-2/INP-30 (AUS), APG19-2/INP-51 (CHN)

Information Documents:

* APG19-2/INF-01 (Chairman, APG19), APG19-2/INF-02 (ICOA), APG19-2/INF-05 (RCC), APG19-2/INF-07 (ATU), APG19-2/INF-10 (APG19 WP3), APG19-2/INF-14 (CEPT)

## 3. Summary of Discussions

## 3.1 Summary of Members’ View

**3.1.1 Australia**

Australia supports consideration of possible changes to improve advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks on the basis that activity under this agenda item is not used to make changes to allocations in Article **5** of the Radio Regulations.

**3.1.2 China**

China supports to continue possible improvements of the advance publication, coordination, notification and recording procedures of satellite networks subject to this Agenda Item in accordance with Resolution 86 (Rev. WRC-07), on the basis that activity under this Agenda Item would not be used to make any change to the Table of Frequency Allocations of Article 5 RR and associated footnotes of that Article. This should be done by careful consideration of each issue under this Agenda Item respectively taking into account rational and efficient use of orbit/spectrum resources.

##  Key points raised during the meeting

None.

## 4. APT Preliminary View(s)

APT Members support consideration of possible improvements of the advance publication, coordination, notification and recording procedures of satellite networks subject to this Agenda Item in accordance with Resolution 86 (Rev. WRC-07), on the basis that activity under this agenda item is not used to make changes to allocations in Article **5** of the Radio Regulations and associated footnotes of that Article.

## 5. Other views

None.

## 6. Views from Other Organisations

**6.1 ATU**

No preliminary position on this agenda item yet.

**6.2 CEPT**

CEPT is studying possible improvements of the coordination and notification procedures for space services. CEPT supports retaining the current process of continuing evolution at successive WRCs of the regime governing space services. CEPT intends to develop specific positions susceptible to bring improvement to the regulatory process.

CEPT favours the review of any RR provision which can bring accurate solutions to specific detected inconsistencies and develop new improved provisions with emphasis on solving the most urgent issues, i.e. well characterized issues whose improvement is urgent and impacting.

CEPT also favours a stable and predictable regulatory framework for efficient and economical use of spectrum and orbit resources.

**6.3 RCC**

The RCC Administrations consider it necessary further improvements in the notification, coordination and recording procedures for frequency assignments to satellite networks in different services in order to ensure equitable access of ITU Member States to orbital and frequency resource.

**6.4 ICAO**

No impact on aeronautical services has been identified from WRC-19 Agenda Item 7.

## 7. Issues for Consideration at Next APG Meeting

APT Members are invited to follow the progress of ITU-R studies, and are encouraged to submit their contributions for further considerations at the next meeting.

# Issue A: NGSO BIU

## 1. Background

WARC-92 created allocations and associated regulations for coordination among non-GSO MSS constellations comprising multiple satellites. The coordination provisions of Section II of
RR Article **9** have been extended by subsequent WRCs to some other services and specific bands where non-GSO systems operate (e.g., the FSS (including non-GSO MSS feeder links), and the radionavigation-satellite service (space-to-Earth and space-to-space)). There are also allocations to FSS, MSS, RNSS and other satellite services used by or available for non-GSO use that are not subject to Section II of RR Article **9**.

The Radio Regulation that applies to the bringing into use of frequency assignments for all satellite networks/systems, including non-geostationary satellite systems, is RR No. **11.44**. As modified at WRC-15, the provision states that:

 “*The notified date24, 25, 26 of bringing into use of any frequency assignment to a space station of a satellite network shall be not later than seven years following the date of receipt by the Bureau of the relevant complete information under No. 9.1 or 9.2 in the case of satellite networks or systems not subject to Section II of Article* ***9*** *or under No. 9.1A in the case of satellite networks or systems subject to Section II of Article* ***9****. Any frequency assignment not brought into use within the required period shall be cancelled by the Bureau after having informed the administration at least three months before the expiry of this period.*”

Historically, and to this day, the Bureau considers that a frequency assignment to any non-GSO system has been brought into use when one satellite from a planned system in a particular frequency band has been placed into service – irrespective of the number of satellites or of the number of orbital planes indicated in the notification information provided under RR No. **11.2**. According to RR No. **13.12A**, this practice is reflected in the Rules of Procedure for RR No. **11.44** (*see* Rule of Procedure for RR No. **11.44**, Section 2 (MOD RRB16/58)).

WRC-12 and WRC-15 adopted into the Radio Regulations a series of specific provisions – including RR No. **11.44B** – that clarified the BIU requirements and bringing back into use requirements for frequency assignments to a space station in a GSO network. However, there are no specific provisions for the BIU for frequency assignments to a space station in a non-GSO satellite systems. The inclusion of the Rule of Procedure for No. **11.44** in the Radio Regulations is one option for addressing this BIU issue and there are other possible alternatives, which are described and analysed in Annex -06 to the W 4A Chairman’s Report(4A/364).

## 2. Documents

Input Documents:

* APG19-2/INP-10(KOR), INP-30(AUS), INP-41(INS), INP-51(CHN) & INP-57(J).

Information Documents:

* Information Documents APG19-2/INF-1, APG19-2/INF-4, APG19-2/INF-5, APG19-2/INF-10 & APG19-2/INF-14.

## 3. Summary of Discussions

## 3.1 Summary of Members’ view

**3.1.1 Korea (the Republic of)**

The Republic of Korea supports the ITU-R studies related to the regulatory provisions and procedures for bringing into use (BIU) of the frequency assignments of non-GSO FSS system.

**3.1.2 Australia**

Australia supports consideration of possible changes to improve advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks on the basis that activity under this agenda item is not used to make changes to allocations in Article **5** of the Radio Regulations.

**3.1.3 Indonesia**

Indonesia is of the view that the current practice for bringing non-GSO FSS frequency assignment into use does not reflect the spirit of utilizing satellite spectrum and orbit efficiently since a non-GSO frequency assignment for the entire constellation can be considered brought into use by using at least one non‑GSO satellite. In addition, this non-GSO current practice could lead to discrepancy between the planned satellite constellation, as it is filled, and the real satellite constellation in operation. It may be used as an access for paper satellite and may limit others which has intention to implement real satellite system into operation.

Indonesia supports study which conduct by ITU-R WP 4A to define the BIU requirement for non GSO systems/networks while ensuring rational, efficient and economical use of satellite spectrum and orbit.

**3.1.4 China**

Firstly, the studies should focus on special procedure for bringing into use (BIU) of frequency assignments of non-GSO systems in fixed-satellite, mobile-satellite and broadcasting-satellite services with a large number of satellites. Secondly, elements linked to a minimum number of satellites to be deployed and a phased approach regarding BIU may be taken into account. Finally, the method to address this issue should seek a balance between the need to prevent spectrum warehousing, the proper functioning of coordination mechanisms and the operational requirements related to the deployment of a non-geostationary satellite system.

**3.1.5 Japan**

Japan supports regulatory studies in ITU-R on the bringing into use of frequency assignments to non-GSO satellite systems.

It should be recognized that BR practice on the BIU of the frequency assignments of non-GSO satellite systems before WRC-15 has been successfully applied without having actual problem of spectrum warehousing. It is worthwhile to investigate a milestone-based deployment approach for non-GSO FSS satellite systems in certain bands.

The following points should be considered and investigated further within ITU-R;

* The duration of the period of continuous operation for BIU requirement of non-GSO satellite should be carefully studied taking into account all the possible operational cases including back-up satellites operation, although a new BR’s procedure for the BIU of non-GSO satellite of 90 days continuous operation (refer to 11.44 of Rules of Procedure (RoP)) is just introduced after WRC-15..
* Since normally more than 7 years will be required until full operation capability is achieved for non-GSO satellite system with multiple satellites, it should be avoided to make any regulatory decision about BIU of whole non-GSO satellite system at the stage of 7 years regulatory period in No. 11.44 of the RR.
* It should be taken into account in any milestone approach that many kinds of non-GSO satellite system requires back-up satellites and such back-up satellites are not in operation in all time. From this point of view, “BIU factor” could be worth considering to avoid jeopardizing the operation of such back-up satellites.

## 3.2 Key points raised during the meeting

None.

## 4. APT Preliminary View(s)

The APT Members support the ITU-R studies related to the regulatory provisions and procedures for bringing into use (BIU) of the frequency assignments of non-GSO FSS System(s).

## 5. Other Views

None.

## 6. Views from Other Organisations

**6.1 ASMG Position**

* Initial support for explicit provisions of the Radio Regulations regarding the status of non-geostationary systems along the lines of the regulatory status of geostationary systems.
* Follow-up of the results of the studies of the options presented and the achievement of the following basic objectives:
	+ - To achieve the appropriate equivalence between optimal utilization and equitable access to spectrum and orbital resources for non-geostationary satellite networks and other satellite networks
		- Not to create opportunities for misuse of notification procedures for the operation of the geostationary constellation and without complicated regulatory procedures that are difficult to achieve or implemented.
* Consult with Bureau for consideration of the question of providing tools for querying and reporting on the operation of the non-geostationary satellite network for various options under consideration.
* Support the decision of the Radio Regulations Board regarding the designation of interim procedures for the development of satellite networks in the BIU service, but that such procedures should be modified in accordance with the results of the 2019 Conference.

**6.2. Preliminary CEPT Position**

CEPT supports the fact that the studies should be focused on bringing into use (BIU) procedures for the frequency assignments to FSS and MSS non-GSO systems. Elements linked to a minimum number of satellites to be deployed and a phased approach regarding BIU may be taken into account. In assessing possible solutions to this Issue, CEPT will seek a balance between the need to prevent spectrum warehousing, the proper functioning of coordination mechanisms and the operational requirements related to the deployment of a non-geostationary satellite system.

CEPT notes that the recently adopted RRB RoP on the BIU of non-GSO systems is considered an essential interim measure to be readdressed at the WRC-19 in light of the solutions to this AI 7 Issue A and that the networks subject to the RoP will be reassessed based on the finding of the AI 7 Issue A. CEPT believes that the solution to this issue should give regulatory certainty to networks and give recognition that constellations of non-GSO satellites may generally take time to be fully deployed. CEPT seeks a balance between the initial filed requirements at the early stage of system design with that required to operate an initial basic service within the 7-year regulatory period, while recognising that constellations may expand to fulfil their full potential in a period that may exceed the 7 year period.

CEPT is also of the view that adequate provisions should be developed so as to avoid that the same space station may be used to gain undue advantage in the deployment of the constellation by bringing into use multiple filings.

**6.3. Preliminary CITEL View**

**CAN**

Canada is of the view that the current seven-year period may not be enough to deploy a mega” non-GSO constellation. In trying to address this issue, it is important to adopt a balanced approach, taking into account the financial, technological and planning challenges posed by the multiple launches required to deploy this type of constellation but also the need to prevent any abuse that may lead to spectrum reservation. In this context, a milestone approach appears to be an appropriate solution.

**6.4. Preliminary RCC View**

The RCC Administrations consider that special procedure for bringing into use of frequency assignments of non-GSO systems/networks shall be developed only for systems/networks in the fixed-satellite and mobile-satellite services. The issue of applicability of the above mentioned regulatory provisions for other satellite services should be further studied.

The RCC Administrations consider that the special procedure shall not be applied to frequency assignments of non-GSO systems/networks in the frequency bands identified by the Radio Regulations for safety of human life.

The RCC Administrations consider that the Rules of Procedure on bringing into use of non-GSO systems/networks, approved by the 73-rd RRB meeting, should be taken into account in the studies on Issue A.

## 7. Issues for Consideration at Next APG Meeting

In view of difficulties of the issue A, further studies and consideration are required. APT Members are therefore invited to carry out necessary studies in this regard and submit their contributions for further considerations at the next APG meeting.

# Issue B: Ka-band coordination arc - FSS vs other services

## 1. Background

This issue considers the introduction of the coordination arc criteria as the coordination trigger between fixed-satellite service (FSS) & mobile-satellite service (MSS) geostationary satellite networks and between MSS geostationary satellite networks in the Ka band.

Based on the current regulatory situation, the bands 29.9-30 GHz (Earth-to-space)/20.1-20.2 GHz (space-to-Earth) are allocated to the MSS and FSS both on a primary basis in all 3 Regions. The bands 29.5-29.9 GHz (Earth-to-space)/19.7-20.1 GHz (space-to-Earth) are also allocated to the MSS and FSS on a primary basis, but only in Region 2. To determine whether coordination under RR No. **9.7** is required, the following criteria are applied:

* FSS vs FSS: Coordination arc of 8º
* FSS vs MSS: ΔT/T > 6%
* MSS vs MSS: Δ*T/T* > 6%

In addition, in the FSS vs FSS coordination, Administrations can request application of RR No. **9.41** to include additional satellite networks that would be affected taking into account the Δ*T/T* > 6% criteria.

Considering that some characteristics of MSS earth stations are similar to those used by the FSS earth stations in the frequency bands 29.9-30 GHz (Earth-to-space)/20.1-20.2 GHz (space-to-Earth) in all 3 Regions and 29.5-29.9 GHz (Earth-to-space)/19.7-20.1 GHz (space-to-Earth) in Region 2, this issue studies the possibility of introducing the coordination arc concept to determine the coordination requirements between MSS and FSS geostationary satellite networks and between MSS geostationary satellite networks. Currently there are 2 options being considered:

**OPTION A**

To consider the introduction of the coordination arc as coordination trigger between FSS & MSS systems and MSS & MSS systems in the frequency bands 29.9-30 GHz (Earth-to-space)/20.1-20.2 GHz (space-to-Earth) in all 3 Regions and 29.5-29.9 GHz (Earth-to-space)/19.7-20.1 GHz(space-to-Earth) in Region 2 where both FSS and MSS are on a primary basis, respectively.

**OPTION B**

To consider the introduction of the coordination arc as coordination trigger between FSS & MSS systems and MSS & MSS systems in the frequency bands 29.5-30 GHz (Earth-to-space)/19.7-20.2 GHz (space-to-Earth), in all 3 Regions. Under this option, coordination arc will be applied independent of the status of MSS allocation - in the frequency band 29.5-29.9 GHz/19.7-20.1 GHz, MSS has primary status in Region 2 but secondary status in Regions 1& 3.

In both options, administrations can always request application of RR No. **9.41** to include additional satellite networks that would be affected taking into account the Δ*T/T* > 6% criteria.

At the last meeting of WP4A, this topic was identified as “Issue B” under WRC-19 Agenda Item 7. A liaison statement was sent by WP4A to WP4C to inform about the establishment of Issue B under Agenda Item 7. WP 4C will be initiating the studies on the feasibility of applying the coordination arc for FSS&MSS and MSS& MSS in the frequency bands 29.5-30 GHz (Earth-to-space)/19.7-20.2 GHz (space-to-Earth) in all 3 Regions and will be included as one of the contributing groups in Agenda Item 7.

## 2. Documents

Input Documents:

* APG19-2/INP-10 (KOR), APG19-2/INP-19 (SNG), APG19-2/INP-41 (INS), APG19-2/INP-46 (VTN), APG19-2/INP-51 (CHN)

Information Documents:

* APG19-2/INF-01 (Chairman, APG19), APG19-2/INF-05 (RCC), APG19-2/INF-10 (APG19 WP3), APG19-2/INF-14 (CEPT)

Working Party 4A Documents:

* Document 4A/364 (WP4A Chairman)
* Annex 22 to Document 4A/364 (WP4A Chairman)

## 3. Summary of Discussions

## 3.1 Summary of Members’ View

**3.1.1 Korea (the Republic of)**

Korea (the Republic of) supports the ITU-R studies on the possibility of introducing the coordination arc concept to determine coordination requirements between the GSO FSS and GSO MSS satellite networks and between GSO MSS satellite networks in the portions of the Ka-band where both services are allocated on primary services.

**3.1.2 Singapore**

Singapore supports studies with the aim to introduce the coordination arc mechanism to determine the coordination requirements between FSS & MSS systems and between MSS systems in the Ka band, as it could help to facilitate and improve the coordination procedures. Further consideration is required on the option to be supported under this Issue B.

**3.1.4 Indonesia**

Indonesia supports study for introducing the coordination arc concept to determine the coordination requirements between the mobile-satellite service (MSS) and fixed-satellite service (FSS) geostationary satellite networks and between MSS geostationary satellite networks, in the portions of the Ka band.

**3.1.5 Viet Nam**

Due to complexity of this issue, Viet Nam supports further study to address the application of coordination arc in the Ka-band, to determine coordination requirements between the FSS and other satellite services

**3.1.6 China**

In order to make more efficient the coordination procedures, China supports to study and analyze the introduction of the coordination arc mechanism to determine the coordination requirements between mobile-satellite service and fixed-satellite service (FSS vs MSS) geostationary satellite networks and between MSS geostationary satellite networks (MSS vs MSS), in the portions of the Ka-band where FSS and MSS are simultaneously allocated, while keeping the possibility for administrations to request ΔT/T criteria under No. **9.41**.

##  Key points raised during the meeting

None.

## 4. APT Preliminary View(s)

APT Members supports the ITU-R studies on the possibility of introducing the coordination arc concept to determine coordination requirements between the GSO FSS and GSO MSS satellite networks and between GSO MSS satellite networks in the portions of the Ka-band where both services are allocated on primary basis, while keeping the possibility for administrations to apply ΔT/T criteria under No. **9.41**, provided that the results of the studies does not impact the operations of satellite networks in particular those used for safety of life aspects. Moreover, the studies should indicate that use of such concept (coordination arc) would deliver similar results if ΔT/T were used.

## 5. Other View

None

## 6. Views from Other Organisations

**6.1 CEPT**

СEPT supports to study and analyse the introduction of the coordination arc mechanism to determine the coordination requirements between mobile-satellite service and fixed-satellite service (FSS vs MSS) geostationary satellite networks and between MSS geostationary satellite networks (MSS vs MSS), in the portions of the Ka-band where both services, FSS and MSS, are allocated. Coordination arc criteria would substitute the ΔT/T>6% criteria that currently applies, improving and making more efficient the coordination procedures, while keeping the possibility for Administrations to request ΔT/T criteria under RR No. **9.41**. Consideration should be given to whether this approach would apply only to MSS and FSS frequency assignments on primary status (Option A) or even to MSS secondary frequency assignments without modifying the current conditions related to the category of allocation applicable to assignments to be taken into account in coordination (Option B).

CEPT considers that this matter should be studied as an issue of WRC-19 Agenda Item 7.

**6.2 RCC**

The RCC Administrations support the study on the possibility of introducing the coordination arc mechanism in the frequency bands 29.5-30 GHz/19.7-20.2 GHz to identify the need in the coordination between geostationary satellite networks in the mobile-satellite service (MSS) and the fixed-satellite service (FSS) as well as between MSS geostationary satellite networks.

The RCC Administrations consider that applying the coordination arc criterion would increase the efficiency of coordination procedure while maintaining the possibility to apply the RR No. **9.41**.

## 7. Issues for Consideration at Next APG Meeting

APT Members are invited to follow the progress of ITU-R studies, and are encouraged to submit their contributions for further considerations at the next meeting.

# Issue C – Issues for which consensus was readily achieved in ITU-R

## 1. Background

Issue C is a collection of several different topics that are viewed as being straightforward and for which consensus was readily achieved within ITU-R. The issues address such things as resolving inconsistencies in regulatory provisions, clarifying certain existing practices, or increasing transparency in the regulatory process. The issues are separately numbered in the following sections.

## 1.1 Background for Issue C1

Further review of the provisions dealing with any changes to the characteristics of an assignment submitted under provisions of RR No. **11.43A** of RR Article **11**, and that submitted under paragraph 8.13 of Article 8 of RR Appendix **30B** and confirmed as having been brought into use, reveals that there is a regulatory inconsistency between the objectives of the two provisions/paragraph as follows:

 *“8.13 A notice of a change in the characteristics of an assignment already recorded, as specified in Appendix****4****, shall be examined by the Bureau under § 8.8 and § 8.9, as appropriate. Any changes to the characteristics of an assignment that has been notified and confirmed as having been brought into use shall be brought into use within eight years from the date of the notification of the modification. Any changes to the characteristics of an assignment that has been notified but not yet brought into use shall be brought into use within the period provided for in §§ 6.1, 6.31 or 6.31bis of Article 6.    (WRC‑12)”*

 *“11.43A A notice of a change in the characteristics of an assignment already recorded, as specified in Appendix 4, shall be examined by the Bureau under Nos. 11.31 to 11.34, as appropriate. Any change to the characteristics of an assignment that has been recorded and confirmed as having been brought into use shall be brought into use within five years from the date of the notification of the modification. Any change to the characteristics of an assignment that has been recorded but not yet brought into use shall be brought into use within the period provided for in No. 11.44.    (WRC‑07)”*

It is to be emphasized that the concept of the text of paragraph 8.13 of Article 8 of RR Appendix **30B** was borrowed/taken from provisions of RR No. **11.43A** of RR Article **11**. However, in so doing an important element as contained in RR No. **11.43A** which referred to any change to the characteristics of an assignment that has been *recorded* and confirmed as having been brought into use was changed to *notified* and confirmed as having been brought into use*,* which is quite different.

An assignment may be notified but due to one or other reasons not yet recorded in the MIFR, but the notifying administration might have brought that assignment into use and its date of bringing it to use might have been confirmed.

It is also worth mentioning that an assignment may be notified but being returned to its notifying administration on relevant regulatory grounds. That assignment shall not be benefited as being recorded.

## 1.2 Background for Issue C2

RR Appendix **30B** consists of two blocks/sub-bands of 250 MHz each in 10-11 GHz frequency range, i.e. 10.70-10.95 GHz and 11.2-11.45 GHz. Submission from administrations when applying Article 6 of RR Appendix **30B** for additional use usually covers both blocks/sub-bands of 250 MHz mentioned above or may only submit either of the two blocks for additional use either 10.70-10.95 GHz or, 11.2-11.45 GHz or while successfully applying Article 6 for the two blocks/sub‑bands, when applying Article 8, only bring into use one block/sub-band of the 10-11 GHz.

There is no provision in the Appendix prohibiting, strictly speaking, to allow Administration to submit an application for one of the blocks/sub-bands in an explicit submission of one of the blocks/sub-bands under RR Appendix **30B**. This concept is analogous to that stipulated in footnote 4 associated with paragraph 6.1 of Article 6 of the Appendix. However, there is no specific provision authorizing that application when submitting RR Appendix **4** for either of two sub-bands.

The Rules were established during 90th in order that a dispute between two administrations relating the use of the entire bands (two blocks/sub-bands) on a given orbital position be satisfactorily resolved. The adoption of the Rules mentioned above permitted each of these two administrations using one of the two blocks/sub-bands, each of 250 MHz be used at two closely orbital positions.

## 1.3 Background for Issue C3

According to RR Appendix **30B**, Administrations may submit their new frequency assignment(s) whether to convert their national allotment to assignment or to introduce some additional use.

The majority of the additional uses either have:

1) a global service Area or in some case regional or;

2) a sub-regional service area with global coverage.

In 1) above, pursuant to application of paragraph 6.6 of Article 6 of RR Appendix **30B** and in conduction with paragraphs 6.13 to 6.15 of the same Article, agreement may reached or not succeeded.

Cases may arise that for a given satellite network, say covering the globe, out of some double or triple figure of countries, many fall under the application of 6.16. It might happen that the countries disagreed spread over the globe in an irregular manner, i.e. the disagreed countries are not contiguous territories.

To explain how territories of the disagreed countries will be protected in the future via a vis their existing networks from operational view points since the satellite continues to cover those countries even if the test points of the networks were eliminated from the territories of those objecting countries, it is worth noting that actually there are two categories to get agreement from affected administrations:

1. The first category is based on interference calculation (PFD and C/I, see § 6.3 and § 6.5 § 6.19c) and §§ 6.21, 6.22 of Appendix**30B**), irrespective of the territory of an administration to be in or out of the service area of the new network. The purpose of these examinations is to ensure that the allotment, the assignments and radio communication services of other Administrations are fully protected.

 Any services of an administration would be considered to be affected and agreement would be required when the potential interference from a newly proposed network exceeds the corresponding criteria in Annex 3 and Annex 4 of Appendix**30B** as well as in RR Articles **21** and **22**.

 If not identified in the examination, national allotment in the Plan as well as other services would be considered protected. If identified, it would be the obligation of the notifying administration of the new network to seek required agreement.

2. The second category is the examination under §6.6 of Appendix**30B**. Without agreement from a country, its territory will be excluded from service area of the proposed new network when the notifying administration will request to include the network in the List. The other characteristics of the network, including the coverage, can be kept without modification. Therefore, it could find in BR Publications some networks with global coverage but a very small service area (in some cases, only some tiny isolated territories). This examination does not give any consideration to interference issue.

In summary, according to current Radio Regulations, the protection of the radio communication services are implemented through the first category of examinations and the corresponding coordination/agreement-seeking procedures, not through the examination under § 6.6 or the application of § 6.16 of Appendix**30B**. It would be noted that § 6.13 to § 6.15 of Appendix**30B** does not apply to the agreement requested under § 6.6 of Appendix**30B**.

## 1.4 Background for Issue C4

This issue studies the possible amendments to RR Appendices 30 and 3**0**A to allow submission of one RR Appendix **4** data set to be treated both in respect of entry into the List (§ **4.1.12**) and Notification (§ **5.1.1** and **5.1.2** of RR Appendices **30** and **30A** respectively).

Typically, at the end of the coordination process for Regions 1 and 3 under Article 4 of RR Appendices **30** and **30A** and when a network is about to be implemented, systems are submitted for entry into the List under § **4.1.12** and for Notification under §§ **5.1.1** and **5.1.2** of RR Appendices **30** and **30A**, respectively at the same time. This is logical since both these two provisions refer to actions following the completion of the coordination process and since they are both required to implement the network.

It would therefore reduce the workload of both administrations and the Bureau if one physical submission could be treated as, and examined in respect of both these provisions. In respect of RR Appendix **30A**, it would seem that this would be in particular of value for notification of receiving space stations and typical earth stations while specific earth stations probably in many cases would be subject to separate notices as the requirements change with time.

Looking at the RR Appendix **4** information required for submission under § **4.1.12,** § **5.1.1** and § **5.1.2**, these would seem to be identical for entry into the List and notification. The data requirements of RR Appendix **4** therefore should not create any practical difficulties in achieving this goal.

At the last meeting of WP4A, it was recognized that this issue is straightforward. Hence, WP4A meeting decided to group this issue with other straightforward issues under Issue C, for which consensus was easily reached and for which a single “method” was proposed, as sub-topic Issue C4.

## 1.5 Background for Issue C5

Pursuant to RR No. **11.46**, the Bureau allows Notifying Administrations six months to resubmit their notified frequency assignments which were returned due to an unfavourable finding with respect to RR Nos. **11.32**, **11.32A** or **11.33**. Any notification resubmitted beyond six months is considered as a new notification with a new date of receipt and would be subject to cost recovery fees. However, neither RR No. **11.46** nor any other provision in the Radio Regulations requires the Bureau to send a reminder to the Notifying Administration at any point during the six month period. If the Notifying administration resubmits the notice to the Bureau beyond the required six month period, the Bureau assigns a new date of receipt and reviews whether the notice complies with the period in RR No. **11.44.1** or RR No. **11.43A** and takes the appropriate action. In the case that a notice resubmitted beyond the six month deadline is receivable, cost recovery fees would be required for the resubmitted assignments. Addressing this lack of a reminder would be beneficial to Administrations who may have experienced difficulties receiving or addressing the Bureau’s return of notice and the need to ensure that frequency assignments that are in use are properly recorded in the Master Register.

## 1.6 Background for Issue C6

Normally, at the end of the coordination process under Article 6 of RR Appendix **30B** and when a network is about to be implemented, systems are submitted for entry into the List under § 6.17 and for Notification under § 8.1 at the same time. This is logical since both these two provisions refer to actions following the completion of the coordination process and since they are both required to implement the network.

Enabling, as an option, administrations to submit one notice and request in a letter to the Bureau that it should be treated both in respect of entry into the List and Notification would simplify the processing and reduce the workload of the Bureau and administrations. However, this is not possible under the current provisions of RR Appendix **30B** (§ 6.17).

## 2. Documents

Input Documents:

* APG19-2/INP-10 (KOR), INP-19 (SNG), INP-30 (AUS), INP-36 (IRN), INP-41 (INS), APG19-2/INP-46 (VTN), APG19-2/INP-51 (CHN)

Information Documents:

* APG19-2/INF-01 (Chairman, APG19), INF-04 (CITEL), INF-05 (RCC), INF-10 (APG WP3), INF-14 (CEPT)

Working Party 4A Documents:

* Document 4A/364 (WP4A Chairman)
* Annex 36 to Document 4A/364 (WP4A Chairman)

## 3. Summary of Discussions

## 3.1 Summary of Members’ View

## 3.1.1 View on Issue C1

**Korea (the Republic of)**

The Republic of Korea supports resolving regulatory inconsistency through alignment of the wordings between the paragraph 8.13 of Article 8 of RR Appendix **30B** and RR No. **11.43A** while ensuring that this alignment should not impact on any other regulatory practice at present.

**Singapore**

Singapore supports the single method identified to address this issue by aligning the text of paragraph 8.13 of Article 8 of RR Appendix 30B with that of RR No. 11.43A of RR Article 11.

**Iran**

I.R. of Iran is in favor of single method has been identified to address this issue and may agree with the above mentioned MOD to the provision 8.13(See section 4 above) to be as a potential candidate for the Preliminary APT Common Proposal (PACP) for the WRC-19 Conference.

Based on the ongoing activities in the ITU-R and studies being carried out, the above preliminary views may be updated, modified as well as amended.

**Viet Nam**

Viet Nam supports a single method to align the text of paragraph 8.13 of Article 8 of RR Appendix **30B** with that of RR No. **11.43A** of RR Article **11** on dealing with any changes to the characteristics of an assignment and confirmed as having been brought into use.

**China**

China supports a single method to address these sub-topics under Issue C for improvements of RR.

## 3.1.2 View on Issue C2

**Korea (the Republic of)**

The Republic of Korea supports consideration of regulatory provisions which can allow Administration to submit an application for one of the blocks/sub-bands in 10-11 GHz frequency range in an explicit submission of one of the blocks/sub-bands under RR Appendix **30B**.

**Iran**

I.R. of Iran is in favor of single method has been identified to address this issue and may agree with addition provision to paragraph 6.1 of Article 6 (See section 4 above) to be as a potential candidate for the Preliminary APT Common Proposal (PACP) for the WRC-19 Conference.

Based on the ongoing activities in the ITU-R and studies being carried out, the above preliminary views may be updated, modified as well as amended.

**Viet Nam**

Viet Nam supports a single method which adds a new provision to allow Administration to submit an application for one of the blocks/sub-bands in an explicit submission of one of the blocks/sub-bands under RR Appendix **30B**.

**China**

China supports a single method to address these sub-topics under Issue C for improvements of RR.

## 3.1.3 Views on Issue C3

**Korea (the Republic of)**

The Republic of Korea supports consideration of modifications to §6.10 of Article 6 of RR Appendix **30B**. However, the Republic of Korean is of the view that careful consideration of potential impact on any other current regulatory practice would be required for the modifications to RR Appendix **30B**.

**Viet Nam**

Viet Nam supports a single method which modifies the paragraph 6.10 of RR Appendix **30B.** In which, it would be noted that § 6.13 to § 6.15 of Appendix**30B** does not apply to the agreement requested under § 6.6 of Appendix**30B.**

**China**

China supports a single method to address these sub-topics under Issue C for improvements of RR.

## 3.1.4 Views on Issue C4

**Korea (the Republic of)**

Korea (the Republic of) is of the view that a single submission of RR Appendix **4** information for entry into the List under § **4.1.12** and for notification under §§ **5.1.1** and **5.1.2** of RR Appendices **30** and **30A** could reduce workload of both administration and the Bureau.

**Indonesia**

Indonesia supports study conducted by ITU-R WP4A for creating single AP4 notice for List and Notification assignment while taking due account simplifying the processing Appendix 4 information required for submission under § **4.1.12,**  § **5.1.1** and § **5.1.2**, and reducing the workload of the Bureau and administrations.

**Vietnam**

Viet Nam supports a single method for which, administration may request the Bureau to examine the submissions for entry into the List under § **4.1.12** and for Notification under §§ **5.1.1** and **5.1.2** of RR Appendices **30** and **30A,** respectively at the same time.

**China**

China supports a single method to address these sub-topics under Issue C for improvements of RR.

## 3.1.5 Views on Issue C5

**Korea (Republic of)**

The Republic of Korea is of the view that it would be necessary to have a certain regulatory provision to instruct the Bureau to send a reminder to the notifying administration at any point during the six month period associated with resubmission of notification pursuant to RR No.**11.46**.

**Singapore**

Singapore supports the proposal of a reminder being sent by the Bureau to the notifying administration during the six-month period, under RR No. 11.46.

**Australia**

Australia supports consideration of possible changes to improve advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks on the basis that activity under this agenda item is not used to make changes to allocations in Article **5** of the Radio Regulations.

**Indonesia**

Indonesia has a preliminary view as follows:

* the requirement for Bureau to send a reminder to the Notifying Administration at any point during the six month period is very important, due to there are some Administrations who may have experienced difficulties receiving or addressing the Bureau’s return of notice and the need to ensure that frequency assignments that are in use are properly recorded in the Master Register
* the notice which is resubmitted to the Bureau beyond the required six month but still in the regulatory period 7 years, should not have a new date of receipt and additional cost recovery fees
* support further study in ITU-R WP 4A

**Vietnam**

Viet Nam supports to study on method addressing the lack of a reminder when Bureau allows notifying administrations six months to resubmit their frequency assignments under RR **No. 11.46.**

**China**

For Issues C5, China supports a single method to address this sub-topic under Issue C for improvements of RR.

## 3.1.4 Views on Issue C6

**Korea (the Republic of)**

The Republic of Korea is of the view that one notice and request in a letter to the Bureau for entry into the List under §6.17 and for notification under §8.1 of RR Appendix**30B** could reduce workload of both administration and the Bureau.

**Indonesia**

Indonesia supports study conducted by ITU-R WP4A for creating single AP4 notice for List and Notification assignment while taking due account simplifying the processing Appendix 4 information required for submission under § 6.17 and § 8.1 and reducing the workload of the Bureau and administrations.

**Viet Nam**

Viet Nam supports a single method for which, administration may request the Bureau treat both in respect of entry into the List under § 6.17 and Notification under § 8.1 at the same time in order to simplify the processing and reduce the workload of the Bureau and administrations.

**China**

China supports a single method to address these sub-topics under Issue C for improvements of RR.

## 3.2 Keypoints raised during the meeting

None.

## 4. APT Preliminary View(s)

## 4.1 APT Preliminary Views on issue C1

APT members support a single method to address this issue by aligning the text of paragraph 8.13 of Article 8 of RR Appendix **30B** with that of RR No. **11.43A** of RR Article **11** while ensuring that this alignment should not impact on any other regulatory practice at present.

## 4.2 APT Preliminary Views on issue C2

APT members support a single method which can allow Administration to submit an application for one of the blocks/sub-bands in 10-11 GHz frequency range in an explicit submission of one of the blocks/sub-bands under RR Appendix **30B.**

## 4.3 APT Preliminary Views on issue C3

APT members support a single method as described in Annex 36 to Document 4A/364-E

## 4.4 APT Preliminary Views on issue C4

APT Members support studies conducted by ITU-R WP4A for creating single AP4 notice for List and Notification assignment while taking due account simplifying the processing Appendix 4 information required for submission under § **4.1.12,**  § **5.1.1** and § **5.1.2**, and reducing the workload of the Bureau and administrations.

## 4.5 APT Preliminary Views on issue C5

APT Members support to study on a single method addressing the lack of a reminder when Bureau allows notifying administrations six months to resubmit their frequency assignments under RR **No. 11.46.**

## 4.6 APT Preliminary Views on issue C6

APT members support a single method as described in Annex 36 to Document 4A/364-E.

APT members is of the view that one notice and request in a letter to the Bureau for entry into the List under §6.17 and for notification under §8.1 of RR Appendix **30B** could reduce workload of both administration and the Bureau

## 5. Other Views

## 5.1 Views on issue C1

None.

## 5.2 Views on issue C2

None.

## 5.3 Views on issue C3

None.

## 5.4 Views on issue C4

Some APT Members support the single method for which, administration may request the Bureau to examine the submissions for entry into the List under § **4.1.12** and for Notification under §§ **5.1.1** and **5.1.2** of RR Appendices **30** and **30A,** respectively at the same time.

## 5.5 Views on issue C5

None.

## 5.6 APT Preliminary Views on issue C6

None.

## 6. Views from Other Organisations

The RCC Administrations consider that the existing discrepancy between provisions of Articles in RR Appendices **30**, **30А** and **30В** and the terminology of RR Article **11** provisions do not lead to complications when applying the relevant provisions of the Radio Regulations.

## 6.1 Views on issue C4

**ASMG**

Follow-up on ongoing studies.

**CEPT**

CEPT supports a possible modification of certain specific characteristics (i.e., reduction of service areas, frequencies or polarization usage) of an assignment after it has been successfully recorded in the RR Appendices **30**, **30A** Regions 1 & 3 List, with the purpose to better reflect the actual situation and thus increase the efficiency of spectrum use. In addition to the characteristics mentioned above, CEPT also supports studies towards a possible modification (reduction) of additional specific characteristics.

## 6.2 Views on issue C5

**ASMG**

Follow-up studies under this issue.

## 7. Issues for Consideration at Next APG Meeting

APT Members are invited to follow the progress of ITU-R studies, and are encouraged to submit their contributions for further considerations at the next meeting.

# Issue D – Identification of those specific satellite networks and systems with which coordination needs to be effected under RR Nos. 9.12, 9.12A and 9.13 [or 9.21]

## 1. Background

The 2012 World Radiocommunication Conference (WRC-12) decided to modify RR No. **9.36.2** to Article **9** of the Radio Regulations. Following this provision, the Bureau now publishes a “definitive list” of those networks, systems and earth stations with which coordination under RR Nos. **9.7**, **9.7A** and **9.7B** needs to be effected once a coordination request for a new network or system is processed. Such a list is published in the relevant Special Section of the BR International Frequency Information Circular (BR IFIC).

The abovementioned provision (RR No. **9.36.2**) is very useful, because, in the cases of coordination under RR Nos. **9.7**, **9.7A** and **9.7B**, it reduces the administrative workload of identifying the names of specific satellite networks, systems and earth stations with which a new satellite network or system needs to effect coordination.

However, in the cases of coordination under RR Nos. **9.12**, **9.12A** or **9.13**, the Bureau does not publish a list of the satellite networks or systems potentially affected to complement the list of administrations potentially affected by incoming satellite networks or systems that they do provide.

## 2. Documents

Input Documents:

* APG19-2/INP-10) KOR), INP-19(SNG), INP-30(AUS), INP-46(VTN) & INP-51(CHN).

Information Documents:

* APG19-2/INF-1, APG19-2/INF-4, APG19-2/INF-5, APG19-2/INF-10 & APG19-2/INF-14

## 3. Summary of Discussions

## 3.1 Summary of Members’ view

**3.1.1 Korea (Republic of)**

The Republic of Korea believes that RR No.**9.36.2** significantly decreased the workload of administrations with respect to the identification of the satellite networks, systems and earth stations with which coordination needs to be effected under RR Nos. **9.7**, **9.7A** and **9.7B**.

Therefore, the Republic of Korea supports identification and publication of definitive lists of those specific GSO satellite networks or non-GSO satellite systems with which coordination needs to be effected under RR Nos. **9.12**, **9.12A** and **9.13**, as appropriate, by the Bureau, through adequate modifications to the Radio Regulations.

In addition to current consideration under Issue D, the Republic of Korea has a view that if the Bureau would identify and confirm specific frequency ranges for satellite networks with which coordination needs to be effected under RR Nos. **9.7**, **9.7A** and **9.7 B** in accordance with RR No. **9.36**, as shown below, it would further decrease the workload of administrations.

Example (identified frequency ranges are indicated ‘x’ in additional columns)

| A1f1 Notifying adm. | A1f3 Inter. sat.org. | A1a Sat. Network | A4a1 Orbital long. | BR3b Category of notif. | BR25 A/T | BR6a Id. no. | BR26/BR27/BR28  | 1677 – 1698 MHz [E] | 2037.14 – 2106.546 MHz [R] | 2224.78 – 2287.609 MHz [E] | 7450 - 7550 MHz [E] | 8025 - 8400 MHz [E] | 8175 - 8215 MHz [R] | 18100 - 21200 MHz [E] | 25500 - 27000 MHz [E] | 27500 - 31000 MHz [R] |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

**3.1.2 Singapore**

Singapore supports Method D2 which reduces the administrative workload related to the identification of potentially affected satellite networks and/or systems with which a new satellite network or system needs to effect coordination.

**3.1.3 Australia**

Australia supports consideration of possible changes to improve advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks on the basis that activity under this agenda item is not used to make changes to allocations in Article **5** of the Radio Regulations.

**3.1.4 Vietnam**

Due to complexity of this issue, Viet Nam supports further study on this issue to reduce the administrative workload of identifying the names of specific satellite networks, systems and earth stations with which a new satellite network or system needs to effect coordination.

**3.1.5 China**

China supports the study on identification of those specific satellite networks and systems with which coordination needs to be effected under Nos. 9.11A, 9.12, 9.12A and 9.13 [or 9.21], while bearing in mind that the list of administrations identified by Bureau under Nos. 9.11 to 9.14 and 9.21 is only for information purposes according to RR No. **9.36.1**.

## 3.2 Key points raised during the meeting

From technical and regulatory viewpoints, identification of administrations and their  GSO satellite networks  under provisions Nos**. 9.7, 9.7A and 9.7B** , on definitive basis , would facilitate the tasks of administrations due to the fact that there are coordination criteria to identify administrations and their satellite networks which are likely be affected by any incoming satellite network .However, , identification of administrations and their  NGSO satellite networks under provisions Nos. **9.11A, 9.12** and **9.13**  on definitive basis , would not  facilitate the tasks of administrations due to the fact that there are  no coordination criteria , apart from frequency overleapt identify administrations and their NGSO satellite  system which are likely be affected by any incoming  NGSO satellite system .On the other hand, such identification as information may be desired by some, if not all administration.

## 4. APT Preliminary View(s)

APT Members support the study on identification of those specific satellite networks and systems with which coordination needs to be effected under Nos. 9.12, 9.12A and 9.13.

## 5. Other Views

None.

## 6. Views from Other Organisations

**6.1. ASMG Position**

* Follow-up studies under this issue.
* Support No change to the Radio Regulations as the amendments proposed of the CR/C and CR / D Special Sections could be implemented without further amendments to the Radio Regulations.
* Initial endorsement of method D1, taking into account the facilitation of the operative provisions of the Radio Regulations.

**6.2. Preliminary CEPT Position**

СEPT proposes that the Bureau publish in the CR/D special section the “definitive lists”of those specific GSO networks or non-GSO systems, as appropriate, with which coordination under Nos. 9.11A, 9.12, 9.12A or 9.13 needs to be effected, similarly to what is currently done under the provisions of No. 9.36.2.

CEPT understands that, once the relevant software currently used by the Bureau will be amended as needed, such an approach would not significantly increase the daily workload of the Bureau for producing such lists. In fact, the Bureau carries out a similar analysis to produce the list of Administrations currently published in the BR IFIC under the provisions of No. 9.36.1; the proposed changes would just modify the details published in the BR IFIC, together with simplifying the administrative burden currently born by many Administrations.

CEPT supports adequate amendments to the Radio Regulations to implement the proposal above.

**6.3. Preliminary RCC View**

The RCC Administrations support the identification of specific GSO or non-GSO satellite networks which need coordination only according to RR Nos. 9.11А, 9.12, 9.12А or 9.13 as well as modification of relevant RR provisions.

The RCC Administrations oppose identification of specific GSO or non-GSO satellite networks which need coordination under RR No. 9.21.

## 7. Issues for Consideration at Next APG Meeting

Further studies and consideration on this issue are required. APT Members are therefore invited to carry out necessary studies in this regard and submit their contributions for further considerations at the next APG meeting.

# Issue E – Harmonization of RR Appendix 30B with RR Appendices 30 and 30A

## 1. Background

Reference Conferences and associated Resolutions:

1 Resolution **2 (Rev.WRC-03)**

2 WARC-77

3 RARC Sat-83

4 WARC Orb-85 and WARC Orb-88

5 WRC‑2000, WRC-03,WRC-07, WRC-12 and WRC-15

**1.1 Harmonization of RR Appendix 30B with RR Appendices 30 and 30A for Regions 1 and 3**

Proposal 1:

In view of the above, it is proposed to add equivalent paragraphs to this effect in RR Appendix **30B** with appropriate adjustment.

Proposal 1.1:

ADD

6.15*bis* No assignment in the List emanating from application of §6.1 relating to additional system shall have a period of operation exceeding 15 years, counted from the date of bringing into use. Upon request by the responsible administration received by the Bureau at the latest three years before the expiry of this period, this period may be extended by up to another 15 years, on condition that all the characteristics of the assignment remain unchanged.

Proposal 1.2:

ADD

6.33*bis* Where an administration already having included in the List assignments emanating from application of §6.1 relating to additional system (not including those systems notified on behalf of a group of named administrations and included in the List by WRC-07), has applied the procedure of Article 6 with a view to include in the List a new assignment in the same service area, it shall apply the following in respect of another administration which does not have any assignment in the List and wishes to convert its National Allotment into assignments with changes that are beyond the envelope of the initial allotment with a view to include them in the List to cover its National Territory:

a) if the agreement of the former administration is required following the application of Article 6 by the latter administration, in order to protect the new assignment proposed by the former administration from interference caused by the latter administration, both administrations shall have the obligation to make utmost efforts to resolve the difficulties by means of mutually acceptable adjustments to their networks;

b) in case of continuing disagreement, and if the former administration has not communicated to the Bureau the information specified in Annex 2 to Resolution **49 (Rev.WRC-2000)**[[1]](#footnote-1)\*, this administration shall be deemed to have given its agreement to inclusion in the List of the assignment of the latter administration.

1.2 Harmonization of RR Appendix 30B and Appendices 30 and 30Afor Regions 1 and 3 with Appendices 30 and 30A for Region 2

Taking into account that the possibility of obtaining agreement from affected administrations for a specified period would considerably facilitate the tasks of those administrations applying Article 4 of RR Appendices **30** and**30A** as well as Article 6 of RR Appendix **30B**, it is proposed to amend RR Appendix **30B** to be harmonized with Appendices**30**and**30A** for Regions 1 and 3 and that for Region 2.

Proposal 2:

**Proposal 2.1:** Harmonization of RR Appendix **30B** with Appendices **30** and **30A**for Region 2.

ADD

6.15*bis* The agreement of the administrations affected may also be obtained in accordance with this Article, for a specified period. When this specific period of agreement expires for an assignment in the Allotment Plan, the assignment in question shall be maintained in the List until the end of the period referred to in § 6.1 above. After that date this assignment in theList shall lapse unless the agreement of the administrations affected is renewed.

## 2. Documents

Input Documents:

* APG19-2/INP-10 (KOR), INP-30 (AUS), INP-36 (IRN), INP-41 (INS), APG19-2/INP-46 (VTN), APG19-2/INP-51 (CHN)

Information Documents:

* APG19-2/INF-04 (CITEL), APG19-2/INF-05 (RCC)

## 3. Summary of Discussions

## 3.1 Summary of Members’ View

**3.1.1 View of Korea**

The Republic of Korea generally supports harmonization of RR Appendix **30B** with RR Appendices **30** and **30A**, if administrations or the Bureau faces any difficulties in applying current RR Appendix **30B**.

However, the Republic of Korean is of the view that careful consideration of potential impact on any other current regulatory practice would be required for the any proposals to modifications to RR Appendix **30B**.

**3.1.2 View of Iran**

In view of the above, I.R. of Iran do believe and may agree that above mentioned additional equivalent paragraphs with appropriate adjustment, needs to be applied**,** as the amendments to RR Appendix **30B** in order to harmonize with Appendices**30**and**30A.**

Based on the ongoing activities in the ITU-R and studies being carried out, the above preliminary views may be updated, modified as well as amended.

**3.1.3 View of Indonesia**

Indonesia supports study conducted by ITU-R WP4A under this issue.

Indonesia considers that the issue of harmonization of Appendix 30В and Appendices 30/30А should be studied based on the practical difficulties of Administrations applying existing procedures of the Appendix 30В revised by WRC-07.

Indonesia also considers that any modification of the Appendix 30В shall not result in the complication of the regulatory procedures.

**3.1.4 View of Viet Nam**

**View on Proposal 1.1:**

Viet Nam is of the view that Proposal 1.1 needs further study with respect to implementation of satellite network having spent 15 or 30 years developing an established business at a given orbital location.

**View on Proposal 1.2:**

Viet Nam is of the view that proposal 1.2 provision essentially mirrors that in No. **4.1.25** of Article **4** in AP**30**/**30A**. This administration supports further study on this issue.

**3.1.5 View of China**

China supports to split this issue into three separate issues under WRC-19 Agenda Item 7, and further study on each specific issue is still required.

## 3.2 Keypoints raised during the meeting

None.

## 4. APT Preliminary View(s)

APT members generally support to study required harmonization of RR Appendix **30B** with RR Appendices **30** and **30A**.

APT members support to split this issue into three separate issues under WRC-19 Agenda Item 7.

## 5. Other Views

None.

## 6. Views from Other Organisations

The RCC Administrations consider that the issue of harmonization of Appendix 30В and Appendices 30/30А should be studied based on the practical difficulties of Administrations applying existing procedures of the Appendix 30В revised by WRC-07.

The RCC Administrations consider that any modification of the Appendix 30В shall not result in the complication of the regulatory procedures and shall ensure protection of existing networks.

The RCC Administrations do not support the proposal to limit the period of validity of frequency assignments to satellite network by 15 years in the Appendix 30B with the possibility of single extension for another 15 years (harmonization of Appendix 30В with § 4.1.24 of Appendices 30 and 30A for Regions 1 and 3).

The RCC Administrations do not support the proposal to include provisions in the Appendix 30В related to the modification of the coordination procedure between the Administration which proposes inclusion of its new assignment in the List, and the Administration which has already included several assignments in the List (inclusion in the Appendix 30B of the provisions similar to § 4.1.25 of the Appendices 30 and 30A for Regions 1 and 3).

With regard to the harmonization of the Appendix 30B with § 4.1.13 of the Appendices 30 and 30A for Regions 1 and 3 and § 4.2.17 for Region 2, the RCC Administrations consider that existing provisions of the Radio Regulations allow Administrations establishing agreements for the specific period of time with the affected Administrations.

## 7. Issues for Consideration at Next APG Meeting

Update the country positions and APT preliminary views based on the progress of studies.

# Issue F: Concerns with the lack of implementation of certain provisions of the Radio Regulations that can lead to difficulties during the process of entering an assignment into the RR Appendix 30B List

## 1. Background

Concerns with the implications of the current lack of implementation of certain provisions of the Radio Regulations, specifically Appendix **4** data element B.3.b.1 and AP**30B**Article 2 No. 2.6*bis*b) were raised in Working party 4A. There are cases of many satellite networks being submitted under AP**30B** that are not respecting these provisions, and the result of this situation is that AP**30B** submissions from other administrations become much harder to implement, as they will find their AP**30B** satellite networks placed behind the large number AP**30B** submissions previously received by the Bureau.

In reviewing the large number of AP**30B** additional systems submitted since 1 November 2012, it can be seen that many of these networks include steerable beams that cover the entire visible Earth, but the service area of these networks is considerably less than the visible Earth. This can create difficulties for later filed AP**30B** networks to be implemented.

Again, in reviewing the large number of AP**30B** additional systems submitted since 1 November 2012 it can be seen that there are cases of administrations submitting multiple AP**30B** additional systems with overlapping service areas. This again can create difficulties for later filed AP**30B** networks to be implemented.

It is proposed that in order to alleviate the problem raised above, for an administration having difficulty to implement its national allotment due to, among others, economic viability and intends to provide service to its own national territory:

a) administrations that have submitted one or more orbital positions covering the same service area or with a service area smaller than the coverage area should follow the course of action outlined in Appendix **30**paragraph 4.1.25 and its subparagraph *a)*with necessary adjustments so as to allow the new comer having one submission as additional use with national service and the administrations with multiple orbital positions and supranational service area having global coverage to resolve difficulties in terms of compatibilities by means of mutually acceptable adjustments to their networks.

b) in case of continuing disagreement, if the former administration has not submitted Resolution **49 (Rev.WRC-15)\***information, this administration shall be deemed to have given its agreement to include the assignments of the latter administration in the List.

The above course of action would be applied only once for any given administration to submit an additional use to cover its national territory.

## 2. Documents

Input Documents:

* APG19-2/INP-10 (KOR), INP-30 (AUS), INP-36 (IRN), APG19-2/INP-46 (VTN), APG19-2/INP-51 (CHN)

Information Documents:

* APG19-2/INF-04 (CITEL), APG19-2/INF-05 (RCC)

## 3. Summary of Discussions

## 3.1 Summary of Members’ View

**3.1.1 View of Korea**

The Republic of Korean is of the view that careful consideration of potential impact on any other current regulatory practice would be required for the any proposals to modifications to RR Appendix **30B**.

**3.1.2 View of Iran**

There is a need to add additional provisions either in Article 2 or Article 6 of Appendix **30B** to address such unprecedented and supper excessive of application of Article 6, in particular use of relatively small service area but global coverage, by Administration to maintain the very objectives and purposes based on which Appendix **30B** was established otherwise, the continuation of the current situation would soon result in a totally unmanageable and chaotic situation totally disabling new comers, especially those from developing countries wishing to just either change the initial characteristics of their national allotment to take advantage of advanced technology or slightly extending the service area initially national to make their intended project economically viable.

Such courses of actions are currently being studied and would be subject to a new submission to WP4A and regional organization subsequent meetings.

Based on the ongoing activities in the ITU-R and studies being carried out, the above preliminary views may be updated, modified as well as amended.

**3.1.3 View of Viet Nam**

Viet Nam is of the view that:

* Support to study to find solution to concerns with the lack of implementation of certain provisions of the Radio Regulations that can lead to difficulties during the process of
entering an assignment into the RR Appendix 30B List

**3.1.4 View of China**

Further study on this issue is needed to address the relevant concerns of some administrations.

## 3.2 Keypoints raised during the meeting

None.

## 4. APT Preliminary View(s)

APT members support further study to address the relevant concerns with the lack of implementation of certain provisions of the Radio Regulations that can lead to difficulties during the process of entering an assignment into the RR Appendix **30B** List

## 5. Other Views

None.

## 6. Views from Other Organisations

The RCC Administrations consider that the improvement of Appendix 30В should be based on the study of practical difficulties of Administrations applying existing procedures of the Appendix 30В revised by WRC-07.

The RCC Administrations consider that some Appendix 30B modifications proposed in the Issues E and F affect Appendix 30B basic principles specified by WRC-07, therefore such proposals should be considered within the separate agenda item.

## 7. Issues for Consideration at Next APG Meeting

Update the country positions and APT preliminary views based on the progress of studies.

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

## 1. Background

In respect of Appendix **30B**, the reference situation is updated when changing the recording from provisional to definitive, i.e. after agreement is reached according to the corresponding provisions (§§ **6.25-6.29**). However, in respect of Appendices **30** and **30A**, the reference situation of the “victim” network is updated when changing the recording from provisional to definitive, i.e. after four months without complaints about harmful interference.

§ **4.1.18** of Appendices **30** and **30A** of the RR 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.

When the provisional recording becomes definitive, the reference situation of the interfered-with network will be updated. Similar provisions are found in respect of Region 2 in § **4.2.21A**. This could severely affect the reference situation of the interfered-with network.

There may be many reasons why harmful interference does not occur during the first four months of operation, e.g. during this period, the “victim” network may not operate with its most sensitive characteristics (use of larger antennas, modulation/coding that is more robust, *e.i.r.p.*s higher than the minimum values, etc) 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, etc). At the end of this four-month period, the reference situation of the “victim” network will be updated to incorporate the full interference from the network to which it has not given its agreement. This could severely affect the reference situation of the “victim” network and other later filings could impose significantly more interference upon the “victim” network before exceeding the relative degradation which triggers coordination. As a result, even though not having given its agreement, the “victim” network may find itself with reduced protection due to a network to which it has not given its agreement.

At the last meeting of WP4A, 3 methods have been proposed based on contributions to the meeting. The methods are as follows.

**Method A** (for Regions 1 and 3)

To avoid administrations receiving a reduced reference situation due to a network to which they have not given their agreement, this method prescribes that the reference situation of the interfered-with network should be updated only after the agreement has been given. To this effect, this method proposes to modify §**4.1.18** of Appendices **30** and **30A** to use the wording of § **6.25** of RR Appendix **30B.**

**Method B** (for Regions 1 and 3)

Definitive inclusion in the List offers protection to the new or modified assignment, in case others want to enter the List at a later stage as well. A trial period would increase spectral efficiency, because this trial might prove that spectrum can be used more intensively, even though earlier studies shown the opposite. Under this method, two possible options are identified and could offer adequate protection to both existing and new assignments:

1 At the moment there seems to be no clear description of what should happen during the four month period of time as mentioned in § **4.1.18**. The way how tests should be performed in those 4 months should be properly defined and could be described in a new Resolution.

2 The calculation for the equivalent protection margin should be amended in such way, that it takes into account the aggregated power spectral density of all possible interferers and should calculate whether the aggregated power could result in harmful interference to the ‘interfered-with network.

**Method C** (for all 3 Regions)

Under this method, the current situation would be kept unchanged.

## 2. Documents

Input Documents:

* APG19-2/INP-10 (KOR), APG19-2/INP-41 (INS), APG19-2/INP-46 (VTN), APG19-2/INP-51 (CHN), APG19-2/INP-62Rev.1 (J)

Information Documents:

* APG19-2/INF-01 (Chairman, APG19), APG19-2/INF-05 (RCC), APG19-2/INF-07 (ATU), APG19-2/INF-14 (CEPT)

Working Party 4A Documents:

* Document 4A/364 (WP4A Chairman)
* Annex 39 to Document 4A/364 (WP4A Chairman)

## 3. Summary of Discussions

## 3.1 Summary of Members’ View

**3.1.1 Korea (the Republic of)**

Korea (the Republic of) is of the view that when a network enters the List under §4.1.18 of RR Appendix **30** or **30A**, the reference situation of the interfered-with network should be changed from provisional to definitive recording in the List only after the agreements have been obtained, through adequate modifications to §4.1.18 of RR Appendices **30** and **30A**.

**3.1.2 Indonesia**

Indonesia supports study conducted by ITU-R WP 4A for modifying No. 4.1.18 of RR Appendices 30 and 30A where taking due account the implication to the assignments that are already in the Regions 1 and 3 List while updating the reference situation.

**3.1.3 Vietnam**

Due to complexity of this issue, Viet Nam support furthers study in order to avoid administrations receiving a reduced reference situation due to a network to which they have not given their agreement.

**3.1.4 China**

Further study on this issue is still required with an aim to find the solution to address concerns raised by some administrations.

**3.1.5 Japan**

Japan supports the idea that the provisional recording assignments should not be taken into account for the updating the reference EPM (Equivalent Protection Margin) (RR AP30 Annex 5 Section 3.4). Japan recognizes that the conditions to convert the assignments from “provisional” to “definitive” are different among the Methods A, B and C described in Doc.4A/364, Annex 39, WP4A Chairman, (22 May 2017). Japan submits its views on this issue, especially for Method A, as follows.

1. For an assignment in the Regions 1 and 3 List which has a high reference EPM (e.g. 15dB), it allows relatively high interference caused by the new comer up to such a level corresponding to the *EPM* of -0.45dB for an existing assignment in the List, which corresponds to a C/Inew of 20.7dB. The assignment should have been protected from the further late comer by the EPM criteria of -0.45dB, however, if the reference EPM is not updated, the existing assignment in the List continues allowing this high interference level.
2. Table 1 below shows the allowable interference in terms of C/I (Carrier to Interference ratio, C/Inew) and interference power (Inew) with respect to EPM criteria. When the carrier level is constant (e.i.r.p. of 59dBW), the allowable interference is almost constant for high Ref. EPM (above 5 dB). However, the allowable interference increases drastically for low Ref. EPM (below 0 dB).

**Table 1 Relation between reference (*Ref.*) *EPM* and the allowable interference with respect to EPM criteria**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *C e.i.r.p.* (dBW) | 59.0  | 59.0  | 59.0  | 59.0  | 59.0  | 59.0  | 59.0  | 51.0  |
| *PR* (dB) | 21.0  | 21.0  | 21.0  | 21.0  | 21.0  | 21.0  | 21.0  | 21.0  |
| *C/Iaggr* (dB) | **36.0**  | **31.0**  | **26.0**  | **21.0**  | **16.0**  | **11.0**  | **6.0**  | **2.0**  |
| *Iaggr* (dBW) | **23.0**  | **28.0**  | **33.0**  | **38.0**  | **43.0**  | **48.0**  | **53.0**  | **49.0**  |
| *Ref. EPM* (dB) | **15.0**  | **10.0**  | **5.0**  | **0.0**  | **-5.0**  | **-10.0**  | **-15.0**  | **-19.0**  |
| *C/Inew* (dB) | **20.7**  | **21.0**  | **22.0**  | **30.6**  | **25.6**  | **20.6**  | **15.6**  | **11.6**  |
| *Inew* (dBW) | **38.3**  | **38.0**  | **37.0**  | **28.4**  | **33.4**  | **38.4**  | **43.4**  | **39.4**  |
| *C*/(*Iaggr*+*Inew*) (dB) | 20.5  | 20.6  | 20.5  | 20.5  | 15.5  | 10.6  | 5.5  | 1.5  |
| *EPM* (*Iaggr*+*Inew*) (dB) | **-0.45**  | **-0.45**  | **-0.45**  | -0.45  | -5.45  | -10.45  | -15.45  | -19.45  |
| Degradation in *EPM* (dB) | -15.45  | -10.45  | -5.45  | **-0.45**  | **-0.45**  | **-0.45**  | **-0.45**  | **-0.45**  |

*PR* : Protection Ratio. It is 21dB for co-channel signals adopted in WRC-2000 Plan (RR AP30 Annex 5 Section 3.4)

1. Note that the last column in Table 1 shows a network with low e.i.r.p. of 51BW. In this case, compared to a network with nominal *e.i.r.p.* of 59BW, the wanted carrier is 8 dB low and the interference is 8dB high. As a result, *C/Iaggr* is 16dB less than the *nominal* network (*e.i.r.p.* of 59dBW). In Table 1, another interference from the opposite side satellite is considered, then another 3 dB degradation occurs and results in the *Ref. EPM* of -19 dB. The allowable interference power is 39.4 dBW, which corresponds to the *Ref. EPM* of -10 dB for the network with nominal *e.i.r.p.* of 59BW.
2. On the contrary, for an assignment in the Regions 1 and 3 List which has a low reference EPM below 0 dB, although the reference EPM would be kept unchanged under Method A above, the further late comer would enter into the List with no coordination through the 4.1.18 procedure. In this situation, keeping the EPM value unchanged does not contribute to the protection of the assignment in the Regions 1 and 3 List.
3. Keeping the reference EPM unchanged until all required agreements have been obtained (Method A) is same as losing the advantage of EPM concept. The EPM criteria contribute to alleviate the problem of "sensitive satellite network", which has a low transmitting power and permits a very low interference power. However, a satellite network with a low transmitting power suffers from a low EPM. Then such a sensitive satellite has to allow a high interference power as seen in the last column of Table 1, and has no chance to block others. As a result, it becomes easier for a new comer to enter the List.
4. According to Method A, an assignment in the List which applied §4.1.18 remains at "provisional recording", and never changes to "definitive recording" until all required agreements have been obtained. One of the problems in the current rule of 4.1.18 is that there is no merit or advantage or incentive to become the definitive recording. One possible solution for this problem may be that a provisional recording should not be protected from the later comer.
5. Despite § 4.1.20, Japan also believes that the List with definitive recording and space operation functions under Article 2A recorded in the MIFR under RR 11.37 or RR 11.38 shall be fully protected. Japan believes that the space operation functions are important as same as Plan.

##  Key points raised during the meeting

None.

## 4. APT Preliminary View(s)

APT Members support study conducted by ITU-R WP 4A for modifying No. 4.1.18 of RR Appendices 30 and 30A where taking due account the implication to the assignments that are already in the Regions 1 and 3 List while updating the reference situation.

## 5. Other Views

One APT Member supports Method A under Issue G, that the reference situation of the interfered-with network should be changed from provisional to definitive recording in the List only after the agreements have been obtained, through adequate modifications to §4.1.18 of RR Appendices **30** and **30A**.

## 6. Views from Other Organisations

**6.1 ASMG**

* Follow-up on ongoing studies.
* Study the implications of the proposals submitted.
* Consider the possibility of modifying (extend-reduce-delete) the period of time of provisional recording towards definitive recording, which allows operators to ensure that the utilizing frequency assignments.

**6.2 CEPT**

CEPT supports that when a network enters the List under § **4.1.18** RR Appendix **30** or **30A**, the reference situation of the “victim” network shall only be updated if and when the Bureau is informed that the agreement has been obtained. CEPT suggests to modify § **4.1.18** to reflect this view.

**6.3 RCC**

The RCC Administrations consider it unreasonable to modify No. **4.1.18** of RR Appendices **30** and **30A**, where the reference situation of the victim satellite network would be updated only after the agreement between the Administration notifying the network and the Administration notifying interfering new network.

## 7. Issues for Consideration at Next APG Meeting

APT Members are invited to follow the progress of ITU-R studies, and are encouraged to submit their contributions for further considerations at the next meeting.

# Issue H: Modifications to RR Appendix 4 data elements to be provided for non-GSO satellite networks/systems

## 1. Background

RR Appendix **4** data elements provide technical characteristics of the frequency assignments to a space station to eventually be notified and brought into use. In absence of any alternative reliable/official source of information, these technical characteristics provided in the Advance Publication information (API) or the Coordination Request (CR/C) are typically used by administrations to assess the potential for interference to their respective radiocommunication systems. The relevance/quality of the assessment depends on the ability to properly model the position of the satellites under consideration. For a satellite in a geostationary (GSO) network, the only real information required is the nominal orbital location of the satellite. However, a meaningful modeling of satellites in a non-geostationary (NGSO) network/ system requires significantly more information than a GSO satellite.

The objectives of this contribution are two-fold:

* to examine whether the current RR Appendix 4 data elements relating to the orbits are sufficient to model NGSO satellite networks/systems, and
* to propose potential modifications to RR Appendix **4**, as appropriate.

## 2. Documents

Input Documents

* APG19-2/INP-10) KOR), INP-30(AUS), INP-46(VTN) & INP-51(CHN).

Information Documents:

* APG19-2/INF-1, APG19-2/INF-4, APG19-2/INF-5, APG19-2/INF-10 & APG19-2/INF-14.

## 3. Summary of Discussions

## 3.1 Summary of Members’ view

**3.1.1 Korea (Republic of)**

The Republic of Korea supports the study to address the requirement to provide additional RR Appendix **4** data elements to enhance the capability of administrations to model non-GSO satellite systems based on the information provided in the API and CR/C publication for non-GSO system.

**3.1.2 Australia**

Australia supports consideration of possible changes to improve advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks on the basis that activity under this agenda item is not used to make changes to allocations in Article **5** of the Radio Regulations.

**3.1.3 Viet Nam**

To address the issue H, Viet Nam is of the view that:

* The RR Appendix 4 data elements should be provided additional information to enhance the capability of administrations to model NGSO satellite networks or systems based on the information provided in the API and CR/C publication for NGSO systems.

**3.1.4 China**

Further study is needed on whether modifications to RR Appendix 4 data elements for non-GSO satellite networks/systems is necessary.

## 4. APT Preliminary View(s)

APT Members support the study to determine whether additional RR Appendix **4** data elements are required to enhance the capability of administrations to model non-GSO satellite systems based on the information provided in the API and CR/C publication for non-GSO system.

## 5. Other Views

None.

## 6. Views from Other Organisations

None.

## 7. Issues for Consideration at Next APG Meeting

Further study is needed on whether modifications to RR Appendix 4 data elements for non-GSO satellite networks/systems is necessary. APT Members are therefore invited to carry out necessary studies in this regard and submit their contributions for further considerations at the next APG meeting.

# Issue X: Concerns with the lack of implementation of certain provisions of the Radio Regulations that can lead to difficulties during the process of entering an assignment into the RR Appendix 30B List, specifically AP30B Article 2 No. 2.6bis.

## 1. Background

Reference Conferences and associated Resolutions:

1 Resolution **2 (Rev.WRC-03)**

2 WARC Orb-85 and WARCOrb-88

3 WRC‑2000, WRC-03, WRC-07, WRC-12 andWRC-15

Being conscious of Resolution **2 (Rev.WRC-03)** on “Equitable use, by all countries, with equal rights, of the geostationary-satellite and other satellite orbits and of frequency bands for space radiocommunication services” in its *considering*, *taking into account* and *resolves* 1 stipulates that:

***Quote***

considering

*that all countries have equal rights in the use of both the radio frequencies allocated to various space radiocommunication services and the geostationary-satellite orbit and other satellite orbits for these services,*

taking into account

*that the radio-frequency spectrum and the geostationary-satellite orbit and other satellite orbits are limited natural resources and should be most effectively and economically used,*

resolves

1. *that the registration with the Radiocommunication Bureau of frequency assignments for space radiocommunication services and their use do not provide any permanent priority for any individual country or groups of countries and do not create an obstacle to the establishment of space systems by other countries;*
2. *that, accordingly, a country or a group of countries having registered with the Bureau frequencies for their space radiocommunication services need to take all practicable measures to facilitate the use of new space systems by other countries or groups of countries, in particular those of developing countries and least developed countries, so desiring;*
3. *that resolves 1 and 2 of this Resolution shall be taken into account by the administrations and the Bureau.*

***Unquote***

Having taken into account the above references and citation, it is proposed to enhance the certain regulatory provisions of RR Appendix **30B**.

AP**30B** Article 2 No. 2.6bis stipulates as the follows:

***Quote***

*2.6bis when submitting additional system(s), administrations shall fully comply with the requirements stipulated in Article 44 of the ITU Constitution. In particular, these administrations shall limit the number of orbital positions and associated spectrum so that:*

*a) the orbital/spectrum natural resources are used rationally, efficiently and economically; and*

*b) the use of multiple orbital locations to cover the same service area is avoided.     (WRC‑07)*

***Unquote***

In reviewing the large number of AP**30B** additional systems submitted since 1 November 2012 it can be seen that there are cases of administrations submitting multiple AP**30B** additional systems with overlapping service areas. This again can create difficulties for later filed AP**30B** networks to be implemented.

## 2. Documents

Input Document:

* APG19-2/INP-36

## 3. Summary of Discussions

## 3.1 Summary of Members’ View

**3.1.1 View of Iran**

**Methods to satisfy Issue X**

As a result of the discussion of Document 4A/302, (This reference will be modified at later stage) the method has been identified to address this issue in order to remedy the above obstacle for administrations wishing to convert their allotments, as amendment of Article 2 of RR Appendix **30B**in the following section 3/7/X.4*.*

**Regulatory and procedural considerations**

**MOD**

*“2.6bis When submitting additional system(s), administrations shall fully comply with the requirements stipulated in Article 44 of the ITU Constitution. In particular, these administrations shall limit the number of orbital positions and associated spectrum so that:*

*a) the orbital/spectrum natural resources are used rationally, efficiently and economically; and*

*b) the use of multiple orbital locations to cover the same service area is avoided.     (WRC-07)”*

*c)* The Bureau shall continuously examine the submissions received under Article 6 of this Appendix to ensure that the objectives of the above provisions 2.6bis a) and 2.6bis b) are fully met in word and in spirit.

## 3.2 Keypoints raised during the meeting

Strict application of provision of paragraph 2.6bis a) and b) of AP30B as adopted by previous WRCs are fundamental and mandatory otherwise it may lead to difficulties and problems for administration intending to use Appendix 30B.

## 4. APT Preliminary View(s)

None.

## 5. Other Views

None.

# Issue Y – Concerns with the lack of implementation of certain provisions of the Radio Regulations that can lead to difficulties during the process of entering an assignment into the RR Appendix 30B List, specifically Appendix 4 data element B.3.b.1.

## 1. Background

Reference Conferences and associated Resolutions:

1 Resolution **2 (Rev.WRC-03)**

2 WARC Orb-85 and WARCOrb-88

3 WRC‑2000, WRC-03, WRC-07, WRC-12 andWRC-15

Being conscious of Resolution **2 (Rev.WRC-03)** on “Equitable use, by all countries, with equal rights, of the geostationary-satellite and other satellite orbits and of frequency bands for space radiocommunication services” in its *considering*, *taking into account* and *resolves* 1 stipulates that:

***Quote***

considering

*that all countries have equal rights in the use of both the radio frequencies allocated to various space radiocommunication services and the geostationary-satellite orbit and other satellite orbits for these services,*

taking into account

*that the radio-frequency spectrum and the geostationary-satellite orbit and other satellite orbits are limited natural resources and should be most effectively and economically used,*

resolves

1. *that the registration with the Radiocommunication Bureau of frequency assignments for space radiocommunication services and their use do not provide any permanent priority for any individual country or groups of countries and do not create an obstacle to the establishment of space systems by other countries;*
2. *that, accordingly, a country or a group of countries having registered with the Bureau frequencies for their space radiocommunication services need to take all practicable measures to facilitate the use of new space systems by other countries or groups of countries, in particular those of developing countries and least developed countries, so desiring;*
3. *that resolves 1 and 2 of this Resolution shall be taken into account by the administrations and the Bureau.*

***Unquote***

Having taken into account the above references and citation, it is proposed to enhance the certain regulatory provisions of RR Appendix 30B.

## 2. Documents

Input Document:

* APG19-2/INP-36

## 3. Summary of Discussions

## 3.1 Summary of Members’ View

**3.1.1 View of Iran**

## Methods to satisfy Issue Y

As a result of the discussion of Document 4A/302, (this reference will be modified at later stage), the method has been identified to address this issue in order to remedy the above obstacle for administrations wishing to convert their allotments, as amendment of Appendix 4, as mentioned in the following section 3/7/Y.6.

## Regulatory and procedural considerations

**MOD**

Note to data item B.3.b.1.

*Note* – Taking due account of available and applicable technical facilities and allowing some reasonable degree of flexibility for satellite operationsofother administrations,in particular, modifications/changes submitted by an administration which intends to convert its National Allotment into assignments in an economically viable manner by modifying the initial characteristics of its National allotments, taking into account the latest available development and advancement in technology. administration when submitting data elements as contained in Appendix 4 to the RR in application of Article 6 of Appendix **30B**shallendeavour, totheas maximum extent, align coverage area of their satellite networks with their objectives service area.

## 3.2 Keypoints raised during the meeting

Application of Note to paragraph B3b1 of Appendix 4 to Radio Regulations as adopted by previous WRCs need to be reviewed in order to achieve its initial objectives due to fact that its application as it was initially intending to be applied fundamental and mandatory otherwise it may lead to difficulties and problems for administration intending to apply the relevant Part of Radio Regulations including those of Appendix 30B.

## 4. APT Preliminary View(s)

None.

## 5. Other Views

None.

# Issue [XX]: Modification of Section 1, Annex 1 of RR Appendix 30

## 1. Background

RR Appendix **30**, § **5.2.1 d)** stipulates that the limit of −103.6 dB(W/(m2 · 27 MHz)) could be exceeded under some conditions.

*“– in the case of the notification of Plan assignments, use of an e.i.r.p. which produces a pfd that exceeds the limit of −103.6 dB(W/(m2 · 27 MHz)) given in Section 1 of Annex 1 to Appendix 30 on the territory of the notifying administration under the condition that the calculated pfd at test points of any Plan assignment, List assignment or proposed assignment submitted under Article 4 are equal to or below that of the original Plan assignments in the same channel of the administration applying this section.”*

RR No. **21.17** allows to exceed the pfd limits if the administration has so agreed.

*“ 2) The limits given in Table 21-4 may be exceeded on the territory of any country whose administration has so agreed.”*

In order to provide broadcasting satellite services like UHDTV (Rec. ITU-R 2020), a modulation scheme with high spectrum efficiency (e.g. APSK) and high required Carrier/Noise is necessary (Rec. ITU-R **BO.2098**, Rep. ITU-R **BO.2397**). In that situation, a pfd (power flux density) value exceeding the limit of −103.6 dB(W/(m2 · 27 MHz)) is required.

WRC-2000 assigned for each Region 1 Administration 10 channels and 12 channels in case of Region 3 Administration in the Regions 1 and 3 Plan, of which the capacity may not be enough to meet the national requirement in terms of spectrum for UHDTV or any future generation of HDTV.

## 2. Documents

Input Document:

* APG19-2/INP-61Rev.1 (Japan)

Working Party 4A Documents:

* Input Document 4A/246 (J)
* Annex 24 to Document 4A/364 (WP4A Chairman)

## 3. Summary of Discussions

## 3.1 Summary of Members’ View

**3.1.1 Japan**

In reflecting the discussion in the last meeting of WP4A, Japan proposes to modify Section **1**, Annex **1** of RR Appendix **30** under WRC-19 Agenda Item 7 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 conditions that the assignment does not overlap with the Regions 1 and 3 guardbands as defined in § **3.9** of Annex **5** to Appendix **30**.

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.

Within the national territory of the notifying Administration, as Administration can at any time apply relevant provisions of RR23 to request the exclusion of its territory from the BSS service areas of other Administrations, 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.

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. Therefore, this pfd exceedance should not be allowed for networks submitted by an international satellite organization or an Administration that acts on behalf of a group of named Administrations.

From the view point of spectrum, the frequency assignment should not overlap with the guardbands in order to ensure the protection of services in adjacent bands.

Based on the above, Japan proposes to include this issue under the WRC-19 Agenda Item 7. The specific proposal for the modification is as follows.

MOD

APPENDIX 30 (REV.WRC‑19)[[2]](#footnote-2)\*

ANNEX 1     (REV.WRC‑19)

**1 Limits for the interference into frequency assignments in conformity with the Regions 1 and 3 Plan or with the Regions 1 and 3 List or into new or modified assignments in the Regions 1 and 3 List**

Under assumed free-space propagation conditions, the power flux-density of a proposed new or modified assignment in the List shall not exceed the value of −103.6 dB(W/(m2 · 27 MHz)) 26.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

26 The limit of −103.6 dB(W/(m2 · 27 MHz)) may be exceeded only within the national territory of the notifying Administration, under the condition that the assignment frequency does not overlap with the Regions 1 and 3 guardbands. This pfd exceedance is limited to assignments submitted by an administration acting on its own behalf. (WRC-19)

##  Key points raised during the meeting

The meeting noted that the proposal to increase the pfd limit is only within the national territory of the notifying Administration.

Some APT Members proposed that the issue could be submitted to Working Party 4A meeting by an Administration if it so wishes.

## *4. APT Preliminary View(s)*

None.

## 5. Other Views

None.

## 6. Issues for Consideration at Next APG Meeting

APT Members are invited to follow the progress of ITU-R studies, and are encouraged to submit their contributions for further considerations at the next meeting.

\_\_\_\_\_\_\_\_\_\_\_\_

1. \* *Note by the Secretariat:* This Resolution was revised by WRC-03, WRC-07 and WRC-12. [↑](#footnote-ref-1)
2. \* The expression "frequency assignment to a space station", wherever it appears in this Appendix, shall be understood to refer to a frequency assignment associated with a given orbital position. See also Annex 7 for the orbital limitations. (WRC-2000) [↑](#footnote-ref-2)