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| **The 4th Meeting of the APT Conference Preparatory Group for WRC-19 (APG19-4)** | **APG19-4/INP-17** |
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Australia

**preliminary views on WRC-19 agenda items 1.4, 1.5, 1.6, 7, 9.1.2, 9.1.3, 9.1.9**

**Agenda Item 1.4:**

*to consider the results of studies in accordance with Resolution****557 (WRC‑15)****, and review, and revise if necessary, the limitations mentioned in Annex 7 to Appendix****30 (Rev.WRC‑12)****, while ensuring the protection of, and without imposing additional constraints on, assignments in the Plan and the List and the future development of the broadcasting-satellite service within the Plan, and existing and planned fixed-satellite service networks*

**1. Background**

Appendix **30 (Rev.WRC-12)** details a complex regulatory arrangement to provide equitable access to orbital resources for broadcasting-satellite service (BSS). Annex 7 (WRC-03) contains limits for various BSS uses as outlined below:

* Limits to orbital locations for BSS satellites serving Region 1 (must be within 37.2 W - 146 E).
* Limits to orbital locations for BSS satellites serving Region 2 (must be within 175.2 W - 44 W).
* Limits to orbital locations for additional uses (List) for Regions 1 and 3 (subsets or orbital arc restricted or prevented between 37.2W and 10 E).

**Recent ITU-R developments**

At the Working Party 4A meetings of October 2017, February 2018 and July 2018 significant work continued on the sharing studies document and the draft CPM text. The draft CPM Text was finalised, reducing the number of Methods to three.

**2. Preliminary Views**

Australia has considered the proposed revision of some of the limitations in Annex 7 of Radio Regulations Appendix **30** in the context of its compatibility with Australia’s current and future FSS/BSS usage in the 11.7-12.75 GHz frequency band.

Australia does not have a view on the relaxation of orbital restrictions where Australia will not be visible.

Australia can support any of the three Methods in the Draft CPM Report (Document CPM19-2/1) but prefers Method A or Method C**.**

**Agenda Item 1.5:**

*to consider the use of the frequency bands 17.7-19.7 GHz (space-to-Earth) and 27.5‑29.5 GHz (Earth-to-space) by earth stations in motion communicating with geostationary space stations in the fixed-satellite service and take appropriate action, in accordance with Resolution****158 (WRC‑15)***

**1. Background**

ESIM serves a wide range of applications on-board aircraft, ships and stations on land. ESIM‑delivered services are utilised by many administrations for government, maritime, media and communications that often operate in remote regions. ESIM-type services facilitate in-flight connectivity, where ESIM are installed on an increasing number of aircraft in order to provide air travellers enhanced on-demand entertainment and business facilities.

In response to increasing communications on the move, including the availability of global broadband satellite services, a WRC-19 agenda item was established to consider the operation of ESIM in the frequency bands 27.5-29.5 GHz (Earth-to-space) and 17.7-19.7 GHz (space-to-Earth) FSS with geostationary (GSO) space stations. In addition to being adjacent to the frequency bands where FSS ESIM operations are allowed, it is also recognised that GSO FSS satellites are operating in these bands and in some cases are already communicating with ESIM or plan to expand their use to include such operations. Presently, under footnote No. **5.527A** and Resolution **156 (WRC‑15)** the Radio Regulations allow ESIM to operate with GSO FSS space stations in the frequency bands 19.7-20.2 GHz and 29.5-30.0 GHz.

**Recent ITU-R developments**

June/July 2018 WP 4A meeting:

At this meeting work continued on the draft CPM text, with no deviation from previous meetings that sought to develop two methods (Method A is a no change Method and Method B is a Method facilitating ESIM).

The majority of the meeting was spent trying to reach agreed text in the draft Resolution, This Resolution will form a significant part of Method B (see Annex 28 of the [Chairman’s Report)](https://www.itu.int/md/R15-WP4A-C-0826/en).

The draft Resolution text changed significantly in the meeting, but still contains many key elements from last meeting:

* Protections for other GSO space services
* Protection of NGSO in some uplink bands (with no agreement on the list of bands) and no protection from NGSO downlinks under certain conditions
* Publication of technical information relevant to the earth stations
* Commitments to complying with the Resolution (though less than following the last meeting)
* Protection of terrestrial stations, including limits for land, maritime and aeronautical ESIM use.

Elements of the draft resolution text that differ from previous meetings include:

* The ESIM components won’t actually be part of the network, but some adjunct to it. There is no direct way to publish information relating to ESIM use in a new satellite network
* Options that ESIM use cannot be published until technically-identical non-ESIM parts of a network are filed, coordinated, the network is brought into use, notified and possibly[[1]](#footnote-1) recorded in the MIFR

**2. Preliminary Views**

Australia supports development of appropriate technical and operational requirements for earth stations in motion (ESIM) that operate or plan to operate in the frequency bands 17.7-19.7 GHz and 27.5-29.5 GHz, taking into account studies under Resolution **158** **(WRC-15)** while ensuring protection of, and not imposing undue constraints on, services already allocated in the frequency bands.

ITU-R Working Party 4A has developed a draft example WRC Resolution as a means to address the agenda item (see Document CPM19-2/1). A similar approach was used at WRC-15 in the FSS 29.5-30 GHz and 19.7-20.2 GHz frequency bands included in Resolution **156** **(WRC-15)**.

Australia supports the approach of a new WRC Resolution to address the agenda item noting the protection requirements stated above and included in Resolution **158 (WRC-15)**. Also noting that the new WRC Resolution was preliminarily agreed but with options wherever consensus could not be reached at the July 2018’s WP 4A meeting. Australia is actively engaged in further developing this Resolution and has proposed modification to the Chapter 3 of the Draft CPM Report for administrations’ consideration at APG 19-4 (APG19-4/INP-XX).

Australia supports Method B of the Draft CPM Report (Document CPM19-2/1), subject to the conditions mentioned above.

Australia supports the APT Preliminary View of WRC-19 agenda item 1.5 from the APG19-3 meeting.

**Agenda Item 1.6:**

*to consider the development of a regulatory frame work for non-GSO FSS satellite systems that may operate in the frequency bands 37.5-39.5 GHz (space-to-Earth), 39.5-42.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space), in accordance with Resolution****159 (WRC‑15)***

**1. Background**

FSS systems based on the use of new technologies above 30 GHz and associated with both geostationary (GSO) and non-geostationary (non-GSO) satellite constellations are capable of providing high capacity and low cost means of communication even to isolated regions. There are GSO satellite networks and non-GSO satellite systems operating and/or planned for near-term operation in the frequency bands allocated to the FSS in the range 37.5-51.4 GHz.

Article **22** of the Radio Regulations contains provisions to ensure compatibility of non-GSO FSS operations with GSO FSS and BSS networks. Among these provisions are uplink and downlink equivalent power flux density (epfd↑ and epfd↓) limits to protect GSO FSS and BSS networks in the 14/11 GHz and 30/20 GHz frequency bands from unacceptable interference pursuant to RR No. **22.2**. In the 50/40 GHz band RR No. **22.2** applies but there are currently no technical measures and regulatory framework for sharing between non-GSO systems and GSO networks.

WRC-19 agenda item 1.6 was established to solve this issue.

**2. Preliminary Views**

Australia supports establishment of regulatory and procedural conditions to accommodate non-GSO FSS satellite systems in the frequency bands 37.5-39.5 GHz (space-to-Earth), 39.5-42.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space), in accordance with Resolution **159 (WRC-15)**. This issubject to protection to GSO satellite networks in FSS, MSS and BSS, and also to stations of other existing services in the same and adjacent frequency bands.

In relation to the protection of GSO networks, Australia notes the results of the ITU-R studies, in particular the conclusion that implementation of epfd limits may result in spectrum inefficiencies, and that regulation aimed at limiting the aggregate impact from NGSO systems to a maximum allowable capacity and availability loss might be a better approach for achieving the required protection of GSO networks. Further studies may be required to determine an optimum outcome based on the capacity and availability loss approach.

In relation to the protection of EESS (Passive) in the adjacent band, Australia notes the conclusion of the ITU-R studies indicating that the current limits in Resolution **750 (Rev.WRC-15)** are insufficient, and supports a strengthening of those limits but only to the extent deemed essential for protection of the Passive Service. In relation to the protection of RAS Australia notes the information now contained in a Draft New Report R S.[50/40 GHz ADJACENT BAND STUDIES].

Australia does not support the modification of Article **21** in relation to this agenda item.

**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)*** *to facilitate rational, efficient, and economical use of radio frequencies and any associated orbits, including the geostationary‑satellite orbit*

**1. Background**

This is an agenda item that has been addressed at each WRC since its inception at ITU Plenipotentiary 1998.

The scope of this agenda item is to consider deficiencies and improvements in the advance publication, coordination, notification and recording procedures for frequency assignments to space services (satellite systems) and to ensure the procedures, and the related Appendices of the Radio Regulations reflect the latest technologies, as far as possible.

**Issue A**. *Bringing into use of frequency assignments to all non-GSO satellite systems, and consideration of a milestone-based approach for the deployment of non-GSO satellites systems in specific bands and services.*

The deployment of Non-Geostationary (NGSO) satellite constellations providing universal broadband and telecommunications access is planned for the near term. ITU-R radio regulations have lagged behind this development. Issue A attempts to address international regulation of these deployments by determining a milestone approach to new and existing NGSO filings, requiring constellation rollouts to adhere to set milestones and imposing restrictions on constellation size after missed milestones, while also allowing equitable access to spectrum and orbital resources. Issue A addresses three points: Bringing-into-Use arrangements; Milestones, and Transitional arrangements.

**Issue B***. Application of coordination arc in the Ka-band, to determine coordination requirements between the FSS and other satellite services*

Currently the Mobile Satellite Service (MSS) shares the commercial portion of the Ka Band (29.5 – 30 GHz (Earth-to-space), and 19.7 – 20.2 GHz (space-to-Earth)) with the Fixed Satellite Service (FSS). In Australia and ITU-R Region 3, the FSS has primary status in the majority of these band segments and takes precedence over the MSS which has secondary status.

Introduction of an 8-degree coordination arc has the potential to simplify coordination of MSS services with the FSS, allowing new services outside the 8 degree arc to be enabled without coordination effort unless the proposed MSS service is shown to exceed a ΔT/T of 6% interference threshold.

**Issue C**. Describes *sub-issues for which consensus has been reached at the ITU-R.*

Issue C was originally raised to align the terminology between RR Article **11** and Appendices **30**/**30A**/**30B**. This issue is a collection of several different topics that are viewed as being straightforward and for which consensus was readily achieved within ITU-R. As such there is a single method in the Draft CPM report to resolve each sub-issue. The topics address such things as resolving inconsistencies in regulatory provisions, clarifying certain existing practices, or increasing transparency in the regulatory process.

**Issue C1**. Relates to an inconsistency in the RR where various provisions stipulate that changes in characteristics should be BIU within a specified period. Clarified to differentiate provisions for Notification to the BR vs. being Recorded in the MIFR.

**Issue C2**. RR Appendix 30B consists of two blocks/sub-bands of 250 MHz each within the 11-13 GHz Planned bands, *i.e.* 10.70‑10.95 GHz, 11.2-11.45 GHz for downlink and 12.75-13.0 GHz, 13.0-13.25 GHz for uplink. It is proposed that the Rules of Procedure be clarified to allow two Administrations to simultaneously use one or other block at adjacent orbital locations while avoiding interference, rather than both blocks being allocated to one or both Administrations.

**Issue C3**. Clarifies the position whereby, upon non-response within the 4-month period of publication in IFIC, an affected Administration’s territory can be automatically included by the BR when the Administration was identified under App. 30B (6.5), using (6.13 to 6.15); however when the affected administration is identified under App. 30B (6.6), the non-responding Administration’s territory cannot be included without express permission of that affected Administration.

**Issue C4.** Allows for systems to be submitted for entry into the List for Notification, using only one submission rather than the two concurrent submissions currently required under App. 30 and App. 30A.

**Issue C5**. Enhances the procedure for the BR notifying an Administration that is has not responded to an unfavourable finding related to a filing, within 6 months of that finding – resulting in cancellation and a requirement for a new filing with a later priority date, at additional cost to the Administration.

**Issue C6.** This is a proposal to simplify the process of notification that a network has transitioned into service. The current provisions of RR Appendix 30B (§ 6.17) do not allow this as two separate notifications are required. In addition, the data items required for the submission under § 6.17 and for notification under § 8.1 are not the same.

**Issue C7.** In order to implement the possibility of obtaining agreement from affected administrations for a specified period to 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 Appendices 30A and 30B to be harmonized among RR Appendices 30,30A and 30B.

**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***

This issue aims to clarify and introduce rigour into the coordination process, when NGSO systems are to be introduced. The BR intends to identify individual networks for coordination (*i.e.* provide a Definitive List) under RR Nos. 9.12, 9.12A and 9.13**,** via the IFIC processin the same way geostationary networks are currently identified under RR No.9.7, 9.7A, and 9.7B, rather than advising Administrations that unspecified networks in their jurisdiction may be affected.

This approach will potentially increase the administrative burden on the ITU, consequently increasing service and satellite filing costs for participating national administrations. However the administrative burden on Administrations will decrease. BR advises that no special tools will be required to identify networks of NGSO systems while the coordination trigger continues to be identified by frequency overlap.

**Issue E**.

 *a) to consider any proposals which deal with deficiencies and improvements in the advance publication, coordination, notification and recording procedures of the Radio Regulations for frequency assignments pertaining to space services which have either been identified by the Board and included in the Rules of Procedure or which have been identified by administrations or by the Radiocommunication Bureau, as appropriate;*

*b) to ensure that these procedures, and the related appendices of the Radio Regulations reflect the latest technologies, as far as possible,*

Proposes an enhancement to the RR to facilitate equitable and timely access to spectrum/orbital resources for administrations wishing to facilitate the processing of their submission in RR Appendix **30B**. This is to take account of the difficulties encountered when an administration wishes to convert its national allotment in RR Appendix **30B** to assignments with characteristics beyond those of the initial allotment, due to advances in technology, or wishes to introduce a new network.

**Issue F.** *Measures to facilitate entering new assignments into the RR Appendix 30B List*

An administration wishing to convert its national allotment in RR Appendix 30B to assignments with characteristics beyond those of the initial allotment or wishing to introduce a new network will be faced with several difficulties. Two of these are:

– due to the conservative criteria used in RR Appendix 30B, a large number of coordination requirements will be identified;

– networks can be designed with combinations of characteristics, possibly unrealistic, to obtain a high sensitivity to interference from later submissions.

In response to this issue, methods as outlined in sections 3/7/6.4 and 3/7/6.5 have been developed.

**Issue G.** *Updating the reference situation for Regions 1 and 3 networks under RR Appendices 30 and 30A when provisionally recorded assignments are converted into definitive recorded assignments*

The protection criteria in the Regions 1 and 3 RR Appendices 30 and 30A bands are based upon a reference situation which takes into account the aggregation of interference from all other networks in the Plan and the List and prescribes a protection based upon an equivalent protection margin (EPM).

Results of studies since WRC-15 show that networks would have the best protection when the reference situation is about ±5 dB around zero and will be lower for both higher and lower EPMs. This issue attempts to resolve interference issues that may arise for sensitive systems that can be affected by subsequent filings.

**Issue H.** *Modifications to RR Appendix 4 items to be provided for non-geostationary satellite systems not subject to the procedures of Section II of RR Article 9*

Issue H relates to the need to ensure that enough orbital characteristics are provided in the advance publication information (API) for frequency assignments to non-geostationary (non-GSO) satellite systems in bands not subject to coordination under Section II of RR Article **9** which would allow potentially affected administrations to model a non-GSO satellite system as soon as the API is published.

Satellites operating under the amateur satellite service, either for traditional amateur communications purposes, or for more educational purposes have characteristics that are different to commercial non-GSO satellite systems due to following factors:

* Amateur satellite operators are very open to different launch possibilities and flexible in both orbit altitude and inclination.
* Most, if not all, amateur satellites are launched as piggyback to other satellites so the orbital elements are not known until late in the satellite system design process.
* Because of the opportunistic launch availabilities, last minute changes to launch times frequently occur.
* Nanosatellites and picosatellites in the amateur-satellite service often have no or limited manoeuvring capabilities, therefore these satellites may not be able to hold their exact orbital position.
* Amateur satellites mostly operate as individual satellites however constellations of a small number of satellites have been proposed for joint amateur-educational use and one system of five satellites is believed to operational following a recent launch, but such systems are likely to be rare because of limited launch opportunities.

For these reasons the amateur service is not in favour of supplying additional orbital parameters which are likely to be inaccurate, subject to significant uncertainty or not available until after the satellite is launched. Furthermore the additional parameters would add unnecessary administrative burden to the coordination process for amateur satellites. It should be noted that the frequencies used by amateur satellite systems are a subset of the amateur bands listed in RR article **5** and the frequencies allocated to individual satellites are coordinated by the International Amateur Radio Union.

**Issue I** – *Additional RR Appendix 4 data items to be provided for non-geostationary satellite systems with multiple orbital planes*

Issue I relates to the need to include specific RR Appendix 4 data items to clarify whether the advance publication information or the coordination request submitted by administrations represents a single non-geostationary (non-GSO) satellite system or multiple, mutually exclusive configurations of a non-GSO satellite system. It was identified that if more technical information about the frequency assignments of a non-GSO satellite system is given in the submission of advance publication information (API) or coordination request (CR/C), as appropriate, it would increase the capability of the administrations to model a non-GSO satellite system in such a way that they will be able to formulate comments to the notifying administration and the Radiocommunication Bureau under RR Nos. **9.3** or **9.52**. A more complete filing would also reduce the Bureau’s necessity to request additional information from the notifying administration.

**Issue J** – *Pfd limit in Section 1, Annex 1 of RR Appendix 30*

Issue J deals with the possibility of the power flux-density (pfd) exceeding the limit of −103.6 dB(W/(m2 · 27 MHz)) for the broadcasting satellite networks in the List. This proposal specifies that the PFD limit may be exceeded only within the national territory of the notifying administration providing that, on the border areas and other territory of other country, the limit is not exceeded.

**Issue K** – *Difficulties for Part B examinations under § 4.1.12 or 4.2.16 of RR Appendices 30 and 30A and § 6.21 c) of RR Appendix 30B*

To address the difficulties encountered by the notifying administration in the Part B examination of its junior network, it is proposed to add one more examination under of RR Appendix **30.** Should any remaining affected networks whose assignments have been entered in the List or Plan, before the submission under RR Appendix **30B**, the Bureau shall further examine if the remaining corresponding assignments in the List or Plan are still considered as being affected.

**Issue L** *– Update to RR Appendix 4 data elements required for RR Article 22 epfd verification after revision of Recommendation ITU-R S.1503*

Additional parameters, such as satellite tracking duration, minimum elevation angle variation per location, definition of sub-constellation by orbital plane, definition of system operating parameters by frequency band.

**Issue M** – *Simplified regulatory regime for non-GSO satellite systems with short duration missions*

It is the view of some Administrations that the successful and timely development and operation of non-GSO satellite systems with short duration missions requires regulatory procedures that take account of the nature and timing for deployment of these systems. A draft new WRC Resolution, together with an associated regulatory regime for non-GSO satellite systems with short duration missions, has been proposed to address this issue.

**2. Preliminary Views**

Australia supports consideration of possible changes to improve advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks/systems on the basis that activity under this agenda item is not used to make changes to allocations in Article **5** of the Radio Regulations. On specific WRC-19 agenda item 7 Issues, Australia has the following views:

**Issue A**: Australia supports a BIU requirement based on a milestone-based approach inclusive of a deployment factor for non-GSO systems, providing regulatory certainty to networks and recognition that constellations of non-GSO satellites may generally take time to be fully deployed. Australia is also of the view that any changes should not disadvantage existing and future GSO satellite systems and smaller non-GSO constellations. On specific draft CPM report text on Issue A, Australia has the following views:

Table 3/7/1.3.1 – Bring into use

Australia supports Option A, the 90-day requirement to bring into use the filing commences within the 7-year regulatory limit, as it aligns with current regulatory requirement for the GSO networks.

Table 3/7/1.3.2.1 – Milestones

Australia proposes a first milestone one or two years after the current 7-year regulatory period expiry, together with intermediate milestones that would serve as checkpoints to encourage a reasonable rate of deployment of planned systems.

Australia prefers Option F as the regulatory solution as it represents a good balance between flexibility and the requirement to use the radio frequency resource and associated satellite orbits in a rational, efficient and economic manner, and furthermore would be practical to apply for a wide range of already filed and anticipated non-GSO constellations. Australia opposes Option G on the basis of a lack of flexibility and achievability in satellite deployment (a higher proportion of satellites required at the first milestone); and its complexity when compared with other options.

Table 3/7/1.3.2.2 –Transitional measures

Australia supports Option 1, for its simplicity in the treatment of a temporary situation created by the transition to the new regulations. Australia supports a commencement date of 01 January 2021 as it is consistent with the typical ITU-R Method for determining the date of entry into force (as per RR Article **59**). Australia is also open to other commencement dates, noting that the WP4A Chairman Report on the draft CPM text points out that the specifics of transitional measures depend also on the characteristics of the milestone-based approach methodology adopted by WRC-19 (i.e. the number of milestones, the required levels of deployment, the bands and systems subject to the methodology, etc.) and can only be resolved once this is well known, and its impact on filings can be assessed.

Table 3/7/1.5.2.3 – Relevant frequency bands and services (for milestone approach)

Australia is of the view that the milestone approach should include all frequency bands under 1000 MHz for the MSS. Australia also supports the application of the milestone approach to non-GSO systems operating in the FSS, BSS and MSS and oppose the inclusion of the RNSS. Furthermore, Australia does not agree to the application of the milestone approach to the following frequency bands (GHz) referred to in the draft CPM report text:



Applicability of tolerance concept for orbital characteristic values:

Australia is of the view that a tolerance concept for Appendix **4** orbital data elements requires further studies as there may be unintended consequences. Therefore, Australia opposes the application of tolerance values under any Agenda Item in this WRC cycle but is open to consideration of it in a future WRC cycle.

**Issue B**: Australia supports the application of coordination triggers in the Ka-band to MSS networks, for coordination between MSS-MSS and MSS-FSS networks. Noting that any procedures should not compromise the protection of a primary service from a secondary service. Australia supports Method B2 and neutral on Method B1 of the draft CPM Report text.

**Issue C** (sub-issues C1, C2, C3, C4, C5, C6, C7): Australia supports efforts to resolve inconsistencies in regulatory provisions, clarify certain existing practices, or increase transparency in the regulatory process. Australia supports the single Method of the draft CPM Report text for these Issues.

**Issue D**: Australia supports the identification of potentially affected networks for which coordination is be effected under RR Nos. **9.12, 9.12A** and **9.13**. Therefore, Australia prefers Method D2, Method D3 as an alternative and opposes Method D1.

**Issue** **E**: Australia supports the single Method of the draft CPM Report text for this Issue.

**Issue** **F**: Australia Supports Method F1 as it is of the view that it would help to alleviate the difficulties faced by administrations in attempting to enter assignments into the Appendix **30B** List and to facilitate coordination of networks.

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

**Issue** **H**: Australia supports the inclusion of missing Appendix **4** data for modelling of non‑GSO elements for systems not subject to coordination.

**Issue** **I**: Australia supports the inclusion of additional Appendix **4** data elements for multiple plane orbits.

**Issue** **J**: Australia will consider support for Method J1.

**Issue** **K**: Australia supports the single Method of the draft CPM Report text.

**Issue L**: Australia supports updating the required Appendix **4** data elements for RR Article **22** epfd verification as a consequence of ITU-R Recommendation S.1503-3 approval.

**Issue M**: Australia supports the establishment of new regulations for non-GSO satellites with short duration missions, provided that the applicability is optional and does not create unreasonable obligations for operators of existing satellite services. Australia also supports the retention of the typical 4 month commenting period from the date of BR IFIC containing information published under No. **9.2B**.

Australia retains the view that no new WRC-19 agenda item 7 Issues should be raised after the February/March 2018 meeting of WP 4A so as to enable due consideration of Issues by Administrations in preparation for WRC-19.

**Agenda Item 9.1.2:**

*Resolution****761 (WRC‑15)*** *Compatibility of International Mobile Telecommunications and broadcasting-satellite service (sound) in the frequency band 1 452-1 492 MHz in Regions 1 and 3*

**1. Background**

The frequency band 1 452-1 492 MHz was identified for use by administrations wishing to implement IMT in accordance with Resolution **223 (Rev.WRC-15),** Resolution **761 (WRC-15)**,and RR Nos. **5.346**, **5.341B**, **5.346A** and **5.341A**. Pursuant to Resolution **528 (Rev.WRC-03)**, BSS systems may only be introduced within the upper 25 MHz of this frequency band. Therefore, there is potential for interference between BSS (sound) and IMT applications. Currently, the coordination procedures RR Nos. **9.11** and **9.19** shall be applied in order to reach the required sharing and compatibility conditions. Appropriate regulatory and technical studies are being carried out in ITU-R in order to meet the WRC‑19 agenda item 9.1, issue 9.1.2.

WP 4A and WP 5D have also jointly developed a working document toward a draft new Report ITU-R M [IMT&BSS COMPATIBILITY] on compatibility studies between IMT systems and BSS (sound) systems in the band 1 452-1 492 MHz in different countries in Regions 1 and 3.

**2. Preliminary Views**

Australia will monitor debate on this agenda item. The 1 452-1 492 MHz frequency band was globally identified by WRC-15 for use by administrations wishing to implement International Mobile Telecommunications in accordance with Resolution **223 (Rev. WRC-15)**.

Australia supports the APT Preliminary view on this Issue from APG19-3.

**Agenda Item 9.1.3:**

*Resolution****157 (WRC‑15)*** *Study of technical and operational issues and regulatory provisions for new non-geostationary-satellite orbit systems in the 3 700-4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz and 6 725-7 025 MHz frequency bands allocated to the fixed-satellite service*

**1. Background**

Resolution **157 (WRC-15)** invites the ITU-R to study technical and operational issues and regulatory provisions for new non-geostationary-satellite orbit (non-GSO) systems in a number of frequency bands between 3 700 MHz and 7 025 MHz allocated to the fixed-satellite service, while ensuring that existing services are protected.

**Recent ITU-R developments**

At the most recent WP 4A meeting in July 2018, no change was made to the conclusion that ‘it would be very difficult to operate non-GSO circular-orbit systems that would adequately protect incumbent GSO FSS systems in the target frequency bands.’

**2. Preliminary Views**

Australia notes that the draft CPM19-2 Report indicates that studies undertaken by ITU-R, in accordance with Resolution **157 (WRC-15)**, lead to a conclusion that there is no need to review the values of the existing limits presented in RR Article **22** (epfd) and RR Article **21** (pfd) for the 3 700‑4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz and 6 725-7 025 MHz frequency bands. Australia fully supports this conclusion.

Australia also notes, and agrees with, the APT Preliminary View on this agenda item from the APG19-3 meeting of 16 March, 2018.

Australia is therefore of the view that No Change to the Radio Regulations is an appropriate conclusion to be recommended to the Director of the ITU Radiocommunication Bureau for inclusion in his report to WRC-19 on agenda item 9.1, issue 9.1.3.

**Agenda Item 9.1.9:**

*Resolution****162******(WRC‑15)***

*Studies relating to spectrum needs and possible allocation of the frequency band 51.4-52.4 GHz to the fixed-satellite service (Earth-to-space)*

**1. Background**

WRC-19 agenda item 9.1, issue 9.1.9 invites ‘Studies relating to spectrum needs and possible allocation of the frequency band 51.4−52.4 GHz to the fixed-satellite service (Earth-to-space)’.

**ITU-R developments to date**

A preliminary draft new Report on ‘Spectrum Needs’ has been developed and indicates a requirement for an additional 1 GHz of forward uplink spectrum for the fixed-satellite service.

A second document, preliminary draft new Report on *Sharing with Incumbent Services in the 51.4‑52.4 GHz Band and Adjacent and Nearby Bands* indicates compatibility with co-frequency and adjacent bands services is achievable, with the only outstanding matter being the definition of conditions required to protect adjacent band EESS (passive) services.

At the July 2018 meeting of Working Party 4A, studies concluded and satisfactorily addressed protection of all co-frequency and adjacent band services identified in Resolution **162 (WRC-15)**.

**2. Preliminary Views**

Australia supports the possibility of an allocation to the fixed-satellite service (Earth-to-space) in the frequency band 51.4-52.4 GHz in accordance with Resolution **162 (WRC-15)**.

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1. [↑](#footnote-ref-1)