

Connectivity



OneWeb

OneWeb WRC-23
Views on AI 7

Feb 2023



22 October 2022 – Launch 14 – ISRO LVM3

Space is the future for communications on Earth.

- OneWeb is building an unparalleled end-to-end system that will supply broadband-style data speeds to every part of the world.
- Our LEO satellite network is in its final phase of deployment to meet this truly global connectivity challenge.
- Full global coverage expected in 2023.



Agenda Item 7

Improvements to satellite procedures – Res. 86 (WRC-07)

Agenda Item 7: to consider possible changes, in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference, on advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks, in accordance with Resolution 86 (Rev.WRC-07), in order to facilitate the rational, efficient and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit.

Background

This is a standing Agenda Item. The following items have been identified to study:

- A. Tolerances for certain orbital characteristics of NGSO space stations in the FSS, MSS and BSS
- B. NGSO post-milestone procedure.
- C. Protection of GSO networks in the MSS in 7/8 and 20/30 GHz from NGSO.
- D. Modifications to Appendix 1 to Annex 4 of Appendix 30B
- E. Improved procedures under RR Appendix 30B for new ITU Member States
- F. Excluding uplink service areas in AP30A (Regions 1& 3) and AP30B bands
- G. Amendments to Resolution 770 (WRC-19)
- H. Enhanced protection of RR Appendices 30/30A in Regions 1 and 3 and RR Appendix 30B
- I. Special agreements under RR Appendix 30B
- J. Modifications to Resolution 76 (Rev. WRC-15)
- K. Modifications to Resolution 553 (Rev. WRC-15)

General position

Improvements to international regulatory procedures enable efficiency for notifying administrations of satellite networks and systems to increase transparency and ease regulatory burden, administration would support studies on the above issues at this point of the WRC process

Topic A, Tolerances for Certain Orbital Characteristics of Non-GSO Space Stations in the FSS, BSS and MSS

Background

- WRC-19 invited the ITU-R to study “as a matter of urgency, tolerances for certain orbital characteristics of non-GSO space stations of the fixed-satellite, mobile-satellite or broadcasting satellite services to account for potential differences between the notified and deployed orbital characteristics for
 - i) the inclination of the orbital plane,
 - ii) the altitude of the apogee of the space station,
 - iii) the altitude of the perigee of the space station and
 - iv) the argument of the perigee of the orbital plane.”

OneWeb View

- Restricting altitude deviations may prevent accommodation of other systems if severe penalties apply for operating outside ITU filing
- Unrealistic to determine final altitude within small % tolerance at the time of the coordination request
 - Many variables cannot be predicted 7 years in advance
 - Which other systems will be brought into use
 - Final design of the system in question
 - Licensing requirements
- Administrations can require smaller operational tolerances
- OneWeb supports Method A2 with sufficiently flexible tolerance, with a combination Option A + Option B Resolution + Option 2 for inclination of the Draft of the CPM text.

Topic B, Post-milestone reporting procedure for non-GSO systems

Background

- WRC-19 discussed at length and ultimately agreed on Resolution **35 (WRC-19)**, “A milestone-based approach for the implementation of frequency assignments to space stations in a non-geostationary-satellite system in specific frequency bands and services.”.
- Resolves 19 of Resolution **35 (WRC-19)** requires administrations to inform the BR, for information purposes only, of the date when the number of capable satellites deployed falls below a specified threshold.
- This topic B is to study the possible development of a post-milestone procedure, to address the case where a non-GSO system has completed the milestone process and subsequently experiences a reduction in the number of satellites deployed, taking into account *resolves* 19 of Resolution **35 (WRC-19)**.

OneWeb View

- WRC-27 will occur prior to the earliest NGSO FSS systems completing their milestones (on 1 February 2028 per resolves 8c) of Resolution 35)
- **OneWeb supports** addressing this issue at WRC-27 after more experience has been gained with the Resolution 35 milestone process and the actual deployment of NGSO systems

Topics D2 and D3

Topic D2 – Inclusion of new Appendix 4 Parameters from S.1503 updates

Background

Recommendation ITU-R S.1503 defines an algorithm that can be used to determine whether a non GSO FSS network meets the equivalent power flux-density (epfd) limits in Article 22 of the Radio Regulations (RR).

to develop the proposed modifications to RR Appendix 4 describing the data elements required by the revision to Recommendation ITU-R S.1503

OneWeb's views:

- S.1503 updates will allow for better modeling of NGSO systems and give the Bureau the change to implement many changes that have full agreement within WP 4A ; full support is necessary at WP 4A in July 2022 to allow improvements to S.1503
- Modification of Appendix 4 under Topic D2 will allow gathering of additional information on NGSO FSS systems to support this improved modeling
- **OneWeb supports** the draft CPM text Method

Topic D3 – BR reminders for BIU/BBIU

Background

To assist administrations in managing their ITU satellite system filings under the Radio Regulations, WRCs, RRB and the Radiocommunication Bureau (BR) have, over time, included in the RR or Rules of Procedures reminders for most of the provisions with strict time-limits for submission of mandatory information.

OneWeb's views:

- Bureau provides many useful reminders aiding the satellite operator's and administration's efforts to comply with regulatory deadlines
- The final item where no reminder is supplied is for the confirmation of bringing into use or bringing back into use of frequency assignments
- **OneWeb supports** the draft CPM text Method

Agenda item 7, Topic J, Resolution 76

Background

Resolution **76 (Rev.WRC-15)** calls for the development of Recommendations on accurate modelling of interference as well as the procedures to be used amongst administrations to ensure that the aggregate equivalent power flux-density (epfd) limits are not exceeded.

This topic calls for consideration of modifications to Resolution 76 (Rev.WRC-15) to facilitate the development of a consultation process to ensure that operating non-GSO FSS systems do not exceed the aggregate epfd limits in Resolution 76 (Rev.WRC-15).

OneWeb supports the following:

- Systems with a minimum number of operational satellites identified under Resolution 35 should be taken into account in determining aggregate EPFD & addressed in consultation meetings
- NGSO systems submitted under multiple ITU filings should be treated as a single system for purposes of Resolution 76; additional provisions may be required to manage such situations & epfd compliance
- An accurate aggregate calculation method is needed before holding consultation meetings



Agenda Item 10: new agenda items for future WRC-27

Agenda Item 10

Background

- WRC-23 will decide the Agenda of WRC-27
- WRC-19 adopted preliminary Agenda Items for WRC-27. Member states can make additional proposal

OneWeb View

- NGSO Gateways 51.4-52.4 GHz (Earth-to-Space)
 - **OneWeb supports** this new agenda item and the possibility of 2 GHz of contiguous spectrum for NGSO systems from 50.4-52.4 GHz
- NGSO Gateways 13.75-14.0 GHz (Earth-to-Space)
 - **OneWeb supports** reviewing the current restrictions on FSS operations in this band, for both NGSO and GSO



Connectivity



Thank you

