

ITUEvents

# 3<sup>rd</sup> ITU Inter-regional Workshop on WRC-19 Preparation

4-6 September 2019  
Geneva, Switzerland

[www.itu.int/go/ITU-R/wrc-19-irwsp-19](http://www.itu.int/go/ITU-R/wrc-19-irwsp-19)



**3<sup>rd</sup> ITU INTER-REGIONAL WORKSHOP  
ON WRC-19 PREPARATION  
(Geneva, 4-6 September 2019)**

**Panel Session 8  
Satellite Regulatory  
Issues  
WRC-19 agenda items  
7 (Issues A, I, others),  
9.1.7, 9.3**

***Jack Wengryniuk  
Chairman WP 4A***



Organized by:





# Agenda Item 7

- **AI 7** - *to consider possible changes, and other options, 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 rational, efficient and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit*
- Issues:
  - Issues A through K have been included in the CPM Report
  - As is usually the case, some issues are more straightforward, and others are more complicated or controversial
  - Focus today is on two issues that could be most impactful to the satellite industry, i.e. Issues A and I



# Agenda Item 7 - Issue A

*WRC-15 invited ITU-R to examine, under AI 7, the possible development of regulatory provisions requiring additional milestones beyond those under RR Nos. **11.25** and **11.44** for non-GSO FSS/MSS systems. This study may also consider the implications of the application of such milestones to non-GSO FSS/MSS systems brought into use after WRC-15.*

➤ **Two main elements to this issue:**

- Bringing into use for non-GSO systems
- Implementation of milestones after BIU

➤ **CPM Report contains only one Method for this Issue**

➤ **Bringing into use for non-GSO systems**

- ❖ Four possibilities included in CPM Report
  - ❖ Single satellite into a notified orbital plane for 90 days
  - ❖ Single satellite into a notified orbital plane for < 90 days
  - ❖ No fixed period required for non-GSO BIU
  - ❖ Fixed period required only for Section II of Article 9 systems
- ❖ For all cases, a single satellite must be deployed within 7 years



# Agenda Item 7 – Issue A

## ➤ **Implementation of non-GSO milestones after BIU**







### ❖ Several sub-issues associated with this implementation

- Which frequency bands and services to include?
  - Consensus and non-consensus tables included in CPM Report
- Number, timing and percentages associated with milestones
  - Agreement on three milestones
  - Multiple options for timing and deployment percentage for each milestone included in CPM Report
  - Maximum system deployment time varies from 12 to 15 years
- Consequence for failing to meet a milestone
- Transition issues for systems filed before WRC-19
  - Apply same milestones/deployment factors or something else?

### ❖ All of these issues are addressed in a draft new WRC-19 Resolution in the single method of the CPM Report

# Agenda Item 7 – Issue A

## Regional Positions

	 <b>APT</b>	 <b>ASMG</b>	 <b>ATU</b>	 <b>CEPT</b>	 <b>CITEL</b>	 <b>RCC</b>
<b>Non-GSO-BIU period</b>	90 days for FSS/MSS/BSS No fixed period for other Services	90 days for NGSO with Earth as ref body	90 days for NGSO with Earth as ref body	90 days for NGSO with Earth as ref body	90 days for NGSO with Earth as ref body	No fixed period
<b>Frequency bands/services</b>	Consensus+ some non-consensus bands/services	Consensus bands/services	No fixed position	Consensus+ some non-consensus bands/services	Consensus bands/services	Consensus bands/services
<b>Timing (years) and % for milestones</b>	[2-3]/[4-5]/7 10/[30-50]/ [90-95/100]	1/3/6 10/33/100	No fixed position	2/4/7 10/30/100	3/5/7 10/50/100	2/4/7 10/30/90
<b>Implementation date</b>	1/1/2021	1/1/2021	1/1/2021	TBD	1/1/2021	1/1/2021



# Agenda Item 7 – Issue I

*WRC-15 decided that a proposal for a new agenda item for WRC-19 “to consider modifications to the regulatory procedures for notifying satellite networks to accommodate nanosatellite and picosatellite missions” could best be dealt with by the ITU-R under the standing WRC agenda item 7*

- ❖ An increasing number of academic institutions, amateur satellite organizations and government agencies have been developing non-GSO satellite systems with short duration missions using nano- and pico-satellites
- ❖ Difficulties have been encountered for the notifying administrations to follow all of the required RR procedures in some cases, due to the rapid development and deployment time for such systems
- ❖ This issue was studied to determine how to best accommodate within the RR non-GSO satellite systems with short duration missions
- ❖ CPM Report includes two Methods: I1 (NOC) and I2 (RR changes + WRC-19 Resolution)



# Agenda Item 7 – Issue I

- ❖ CPM Report Method I2 includes specific changes to application of RR Articles **9** and **11**, both directly and via a draft new WRC-19 Resolution, to accommodate short duration mission systems
- ❖ These changes include such aspects as:
  - Reducing time for BR to publish API for systems not subject to coordination from three months to two months
  - Allowing notification information to be submitted only after launch for short duration mission systems
  - Specifying a maximum period of validity of 3 years for frequency assignments for short duration mission system
  - Specifying maximum number of satellites allowed in a short duration mission system
  - Defining bringing into use date as launch date of the short duration mission system

# Agenda Item 7 – Issue I

## Regional Positions

	 <b>APT</b>	 <b>ASMG</b>	 <b>ATU</b>	 <b>CEPT</b>	 <b>CITEL</b>	 <b>RCC</b>
Method I1 (NOC to RR)						
Method I2 RR changes + WRC Res.	Support	Support	Support	Support	Support	Support











# Agenda Item 7 – Remaining Issues

Issue	CPM Method
<b>Issue B:</b> Ka-band coordination arc - MSS vs other services	Single method – Adopt coordination arc
<b>Issue C1-C7:</b> Issues for which agreement was readily achieved	Single method for each issue
<b>Issue D</b> - BR identification of coordination requirements for Nos. <b>9.12, 9.12A</b> and <b>9.13</b>	Method D1: Identify definitively Method D2: Identify for information only
<b>Issue E</b> – Resolution Appendix <b>30B</b>	Single method – New WRC Resolution
<b>Issue F</b> – Measures to facilitate entering AP <b>30B</b>	Four methods: F1, F2 and F3 are closely related. Method F4 is NOC
<b>Issue G</b> - Updating the AP <b>30/30A</b> reference situation when going from provisional to definitive recording	Three methods: G1 – Admin. decides to have ref. sit. updated G2 – Quantification of No. <b>4.1.18</b> G3 - NOC
<b>Issue H</b> - NGSO AP <b>4</b> data elements for systems not subject to Section II of Art. <b>9</b> , for systems with multiple orbital planes, and as a consequence of revising Rec ITU-R S.1503	Single method – Multiple new, and changes to existing, Appendix <b>4</b> data elements
<b>Issue J</b> - MOD to Section 1 of Annex 1 of AP <b>30</b>	Two methods: J1 – allow pfd exceedance in certain cases, J2 - NOC
<b>Issue K</b> – AP <b>30/30A/30B</b> Part B examinations	Single method - add an examination under § <b>4.1.12</b> and § <b>4.2.16</b> of RR AP <b>30/30A</b> and § <b>6.21 c)</b> of RR AP <b>30B</b>



# Agenda Item 7 – Remaining Issues

## Regional Positions

Issue	 <b>APT</b>	 <b>ASMG</b>	 <b>ATU</b>	 <b>CEPT</b>	 <b>CITEL</b>	 <b>RCC</b>
B: Ka MSS coord. arc	Support	Support	Support	Support	Support	Support
C1-C7: Agmt readily achieved	Support	No objection	Support	Support	Support	Support or not oppose
D: coord. reqmts for Nos. <b>9.12, 9.12A</b> and <b>9.13</b>	Support D1	Support D1	Support D1	Support D1	Support D1	Support D1
E: Res AP <b>30B</b>	Support with MOD	Support	Support with MOD	Support	No IAP at this time	Support
F: Facilitate entering AP <b>30B</b>	Further study required	Support F1	Support F1	Support F1 in principle	No IAP at this time	Support F2+F3
G: AP <b>30/30A</b> ref. sit	Do not support G2	Support G1	Support G1	Support G1	NOC for R2	Support G3
H: AP <b>4</b> mods	Support	Support	Support	Support	Support	Support
J: MOD to § 1 of Annex 1 of AP <b>30</b>	No PACP at this time	Support J2	Support J2	Support J2	Support J2	Support J2
K: AP <b>30/30A/30B</b> Part B examinations	Support	Support	Support	Support	Support	Support



# Agenda Item 9.1 – Issue 9.1.7

*Urgent studies required in preparation for the WRC-19 to examine:*

*2a) whether there is a need for possible additional measures in order to limit uplink transmissions of terminals to those authorized terminals in accordance with No. **18.1**;*

*2b) the possible methods that will assist administrations in managing the unauthorized operation of earth station terminals deployed within its territory, as a tool to guide their national spectrum management program, in accordance with Resolution ITU-R 64 (RA-15).*

- ❖ Ubiquitously deployed earth stations employing small antennas have been found to operate in some cases without proper authorization, thereby violating RR No. **18.1**
- ❖ The capability to monitor if there is an unauthorized uplink transmission from an earth station in a territory may not exist
- ❖ If an unauthorized uplink transmission is discovered, the capability to geolocate the earth station may not exist
- ❖ If the location of such an earth station is identified, assistance may be needed to resolve any issues of interference with others









# Agenda Item 9.1 – Issue 9.1.7

- ❖ ITU conducted its work in three main areas
  - Questionnaire on admin. experience with unauthorized operation
  - Questions to the BR on assistance provided under RR No. **18.1**
  - Uplink monitoring capabilities
- ❖ Four main issues were identified from this work
  - Lack of monitoring capability makes it difficult to detect unauthorized transmissions, and if detected, lack of geolocation capability makes it difficult to locate
  - Cooperation among admins. is key to addressing unauthorized use
  - Lack of understanding of national regulations can contribute to the problem
- ❖ For Issue 2a, two options developed
  - Option 1: NOC to RR
  - Option 2: New WRC Resolution
- ❖ For Issue 2b, single option
  - ITU work to develop guidelines, Reports, Handbooks on managing unauthorized transmissions



# Agenda Item 9.1 – Issue 9.1.7

## Regional Positions

	 <b>APT</b>	 <b>ASMG</b>	 <b>ATU</b>	 <b>CEPT</b>	 <b>CITEL</b>	 <b>RCC</b>
Issue 2a – Option 1 (NOC to RR)	Support			Support	Support	
Issue 2a - Option 2 New WRC Res.		Support	Support			Support
Issue 2b – Single option ITU Guidance and Support	Support	Support	Support	Support	Support	Support



# Agenda Item 9.3

## 9.3 *on action in response to Resolution 80 (Rev.WRC-07);*

- ❖ Resolution 80, “*Due Diligence in Applying the Principles Embodied in the Constitution*”, was first adopted by WRC-97 and subsequently revised by WRC-2000 and WRC-07
- ❖ The Resolution *resolves*, in part, *to instruct the Radio Regulations Board (RRB) to report to each future World Radiocommunication Conference with regard to this Resolution;*
- ❖ The RRB has developed and made available its Report on Resolution **80 (Rev.WRC-07)** for WRC-19 (see <https://www.itu.int/md/R16-WRC19-C/en>)
- ❖ The report addresses a number of different issues, e.g. suspension/resumption of use, regulatory time limit extensions, RR No. **13.6**, CS Article 48
- ❖ In some cases the Board is reporting on things that are working well, whereas in others they are inviting WRC-19 to confirm current RRB practice or consider some type of action
- ❖ Regional proposals do not appear to be publicly available at this time