

ITUEvents

3rd ITU Inter-regional Workshop on WRC-19 Preparation

4-6 September 2019
Geneva, Switzerland

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

Status of CITEI's Preparations for WRC-19

*Inter-American
Telecommunication
Commission (CITEI)*



Organized by:



Status of CITELE's Preparations for WRC-19

Inter-American Telecommunication Commission (CITELE)
Permanent Consultative Committee II
As of 12 – 16 August, 2019 Meeting



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Working Group within PCC.II

Chair

- Carmelo Rivera, **United States**
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Vice-Chairs

- Victor Martinez, **Mexico**
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- Carol Andrea Sosa, **Colombia**
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WRC Working Group Structure

SGT1

- **Mobile & Fixed** (1.11, 1.12, 1.13, 1.14, 1.15, 1.16, 9.1 (9.1.1, 9.1.2, 9.1.5, 9.1.6, 9.1.8)) - **Coordinators:** Luciana CAMARGOS (**Brazil**) and Jose COSTA (**Canada**)

SGT2

- **2A: Amateur, Maritime & Aeronautical** (1.1, 1.8, 1.9, 1.10, 9.1.4)) - **Coordinator:** Michael RAZI (**Canada**)
- **2B: Space Science** (1.2, 1.3 and 1.7) - **Coordinator:** Corali ROURA (**USA**)

SGT3

- **Satellite Regulatory** (1.4, 1.5, 1.6, 7, 9.1 (9.1.3, 9.1.7, 9.1.9), 9.2 (satellite), 9.3) - **Coordinators:** Brandon MITCHELL (**USA**) and Chantal BEAUMIER (**Canada**)

SGT4

- **General Regulatory, Future Work & Other** (2, 4, 8, 9.2 (non-satellite), 10) - **Coordinators:** Victor MARTINEZ (**Mexico**) and Carol Andrea SOSA (**Colombia**)



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Inter – American Proposals : Definitions



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DRAFT INTER-AMERICAN PROPOSAL (DIAP): PP that has been supported by at least one other Member State.



INTER-AMERICAN PROPOSAL (IAP): DIAP supported by at least six Members States and not opposed by more than 50% of the number of supports obtained.



Meeting Schedule

Dates/Location	WRC-19 CITEL WG Action Plan
August 12-16, 2019 Ottawa, Canada	<ul style="list-style-type: none">- Final meeting to gain support for preliminary proposals- Only DIAPs of future agenda items and IAPs are circulated to all Member States
October 27, 2019 Sharm-El Sheik, Egypt	<ul style="list-style-type: none">- Final meeting to verify attendance and assign spokespersons

Overall Status of Preparations



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Eight meetings to date

- Discussed all 24 agenda items and 30 sub-issues

Ended discussion and agreed to forward the following agenda item IAPs to the ITU:

- **IAPs on virtually all agenda items**
- **Considering all ADDs, MODs and SUPs total of 276 proposals forwarded**



Session 1 – IMT Related Issues

Agenda Item 1.13 (24.25-27.5 GHz)

- MOD Art 5 to add a primary allocation to Mobile Service in 24.25-25.25GHz (except aeronautical mobile)
- Identification for IMT in the 24.25-27.5 GHz frequency range
- MOD to No. 5.338A to protect passive services in 23.6-24 GHz
- MOD Res. 750 to include:
 - -28 dBW in any 200 MHz of the EESS (passive) band for IMT base stations
 - -28 dBW in any 200 MHz of the EESS (passive) band for IMT mobile stations
 - Active service band 24.25-24.75 GHz



Session 2 – AI 1.13 (other bands) plus AIs 9.1.1, 9.1.2 and 9.1.8

- AI 1.13 Other Bands:

Identification for IMT	NOC
37 - 43.5 GHz (w/WRC Resolution)	31.8 – 33.4 GHz
47.2 – 48.2 GHz (w/o regulatory constraints)	45.5 – 47 GHz
	48.2 – 50.2 GHz
	66 – 71 GHz
	71 – 76 & 81 – 86 GHz

No position on 50.4-52.6 GHz

- 9.1.1 NOC to Articles and Appendices. MOD to Res. 212, View 2 (non regulatory updates)
- 9.1.2 NOC to Region 2. Region 1 and 3 issue.
- 9.1.8 NOC no need to identify specific spectrum

Session 3



High Altitude Platforms (HAPS)

Frequency Band	Identification
21.4-22 GHz Method B2 (R2 only)	MOD Art 5 allowing HAPS to operate primary in the fixed service allocation ADD 5.B114 adding footnote to allow HAPS ADD Res. B114 allowing HAPS in Region 2
24.25-27.5 GHz Method B2 (R2 only)	ADD a primary fixed service allocation to the 24.25-25.25 GHz band and identify HAPS in the band in Region 2 MOD Art 5 to add a footnote to the 25.25-27.5 GHz band in Region 2 ADD Res. C114 allowing HAPS in Region 2
38-39.5 GHz Method B2	MOD Art 5 to add footnote to the 38-39.5 GHz band allowing HAPS to operate in the fixed service ADD Res. G114 allowing HAPS to operate in the fixed service allocation in 38-39.5 GHz on a worldwide basis
47.2-47.5 / 47.9-48.2 GHz Method B2	MOD Art 5 to identify HAPS on a global level in the 47.2-47.5 GHz and 47.9-48.2 GHz MOD Res. 122 to ensure protection of incumbent services

Session 4



WAS/RLAN related issues, AI 1.16

Frequency Band	MOD	NOC
5150-5250 MHz	IAP to modify Res 229 based on Method A2 to permit outdoor RLAN use in the band with associated power limits and elevation angle mask	
5250-5350 MHz		IAP Method B NOC (Only Method)
5350-5470 MHz		IAP Method C NOC (Only Method)
5725-5850 MHz		IAP Method D1 NOC
5850-5925 MHz		IAP Method E NOC (Only Method)



Session 4 (Cont'd)

Plus information on AIs 1.11, 1.12, 1.15 and 9.1.5

- **1.11 NOC IAP**–Regional and global harmonization can be satisfied through ITU-R Recs and Reports
- **1.12 NOC IAP** –Regional and global harmonization can be satisfied through ITU-R Recs and Reports
- **1.15 IAP MOD** – Art. 5 in portions of the 275-450 GHz band for land mobile and fixed service applications
- **9.1.5 IAP Approach B MOD Art. 5 (5250-5350 MHz) Revise Nos. 5.447F and 5.450A (5470-5725 MHz)** to remove recommendations incorporated by reference while maintaining the current methods of providing co-existence between RLANS and the radiolocation service



Session 5 – Maritime related issues, AIs 1.8, 1.9.1, 1.9.2

- **1.8A IAP Method A2; MOD Art. 5 to allow use of NAVDAT system in 415-495 kHz and 505-526.6 kHz**
 - **ADD footnote to identify the 495-505 kHz band for NAVDAT system**
- **1.8B IAP MOD Art. 5, Table 15-2 of Appendix 15, No. 33.50 and No. 33.53 of Article 33 to enable the introduction of an additional GMDSS satellite system in the band 1616-1626.5 MHz based on Method B1**
- **1.9.1 Group A IAP Method A1; MOD Appendix 18 for Group A permitting operation on AIS1, AIS2 and Ch 70 in Appendix 18. Group B IAP Method B1; identify Channel 2006 for AMRD Group B in Appendix 18 with power limit and antenna height restrictions.**
- **1.9.2 IAP Method B option 2; MOD Art. 5 for a primary MMSS allocation in the 156.8375 – 161.7875 MHz band for VDES-SAT MMSS uplink and downlink**



Session 5 – Cont'd

Plus information on AIs 1.1, 1.10, and 9.1.4

- **1.1 IAP NOC for Region 2. It is a Region 1 issue**
- **1.10 IAP NOC There is no requirement for additional spectrum allocations for GADSS**
- **9.1.4 IAP NOC and SUP Res 763 Studies have shown that further consideration is needed with regards to the definition of a sub-orbital vehicle in the Radio Regulations and under which radiocommunications service(s) they should operate**



Session 6 Science related issues, AIs 1.2, 1.3 and 1.7

- **1.2 IAP ADD in-band e.i.r.p. limits in the frequency bands 399.9-399.99 MHz (MSS) and 401-403 MHz (MetSat/EESS) with a transition date of 2029.**
- **1.3 IAP MOD Art. 5 MetSat/EESS (downlink) upgrade to a primary allocation subject to a not claiming protection provision and a mandatory pfd limit to protect terrestrial services.**
- **1.7 IAP NOC Art .5 (Method A) and SUP Res 659**
 - **400.15-420 MHz; 137-138 MHz and 148-149.9 MHz - studies show that sharing between incumbent services and NGSO short duration missions is not feasible.**



Session 7 ESIM (AI 1.5) & NGSO FSS (AI 1.6) related issues

- **1.5 IAP MOD Art. 5 in the 17.7-19.7 GHz and 27.5-29.5 GHz bands, or portions thereof, to provide the conditions in a WRC Resolution for the operation of ESIMs. WRC Resolution contains:**
 - **Addresses protection of the NGSO MSS feeder-links in 29.1-29.5 GHz by including specific provisions in a new Annex 1bis**
 - **Extends non-GSO FSS protections to the 27.5-29.1 GHz, and not just to 28.6 GHz.**
 - **Includes regulatory protections of terrestrial services in 27.5 -29.5 GHz from aeronautical and maritime ESIM.**
- **1.6 IAP MOD Art. 22 technical regulatory provisions to enable the introduction of non-GSO satellite systems that will protect GSO networks and provide maximum spectral efficiency**
 - **Issue 1 – Modified Method A with new Resolutions that contain both the calculation procedures and GSO reference links for sharing between NGSO systems and GSO networks**
 - **Issue 2 – Option B MOD Res 750 to revise both NGSO and GSO limits**



Session 7 – AI's 1.4, 9.1.3, 9.1.9

- **1.4 IAP ADD provisions to Art. 59 and Appendix 30 for BSS operating in 11.7-12.5 GHz in Region 1, 12.2-12.7 GHz in Region 2 and 11.7-12.2 GHz in Region 3**
- **9.1.3 IAP NOC to Art. 21 and Art. 22. ITU-R studies show that it would be very difficult to operate a non-GSO circular-orbit system for the purposes of a global broadband network in the 6/4 GHz frequency bands.**
- **9.1.9 IAP MOD Art. 5 allocation to the FSS in 51.4-52.4 GHz and 52.4-52.6 GHz**



Session 8 Satellite regulatory issues, AIs 7 relevant issues (e.g. issues A, I)

- **7A MOD Art. 11**
 - Option A – Continuous 90 day period for confirming BIU
 - Milestone-based approach to determine BIU of non-GSO satellites in specific bands and services
 - Timing and percentages that apply in regular and transitional arrangements (10%/50%/100% ; 3/5/7 years)
 - Commencement date of 1 January 2021
 - BR to report on any difficulties in implementing the Resolution to WRC-23
- **7B MOD Appendix 5 to extend the application of the coordination arc approach based on ± 8 orbital separation to MSS frequency assignments to a GSO space station in the 29.5-30/19.7-30 GHz bands.**



Session 8 Satellite regulatory issues, AIs 7 relevant issues (e.g. issues A, I)

- **7C1 MOD Art. 11 Proposing a milestone-based approach to determine BIU of non-GSO satellites in specific bands and services**
- **7C2 MOD Appendix 5 to extend the application of the coordination arc approach based on ± 8 orbital separation to MSS frequency assignments to a GSO space station in the 29.5-30/19.7-30 GHz bands.**
- **7C3 MOD Appendix 30B Modifications are required to clearly indicate that an administration identified under § 6.6 of Appendix 30B is not subject to § 6.13 to § 6.15 of Appendix 30B.**
- **7C4 MOD Appendix 4 to ensure that the information about the date of bringing into use is provided in any simultaneous submission for entering the List for Regions 1 and 3/modifying the Region 2 Plans and the notification under Appendices 30 and 30A**
- **7C5 MOD Art. 11 To include a reference to a footnote provision requiring the Bureau to send a reminder 2 months prior to the end of the six-month period referred to in No. 11.46.**
- **7C6 MOD Appendix 4 Notes to Tables A, B, C, and D amending paragraph 6.17 of Article 6 of Appendix 30B of the RR and Appendix 4 of the RR to make it possible to deal with both provisions on the basis of one single submittal.**
- **7C7 MODs to add a new provision 6.15bis to Article 6 and a new provision § 8.16bis to Article 8 of RR Appendix 30B in order to recognize the possibility of obtaining agreement from affected administrations for a specified period.**



Session 8 Satellite regulatory issues, AIs 7 relevant issues (e.g. issues A, I); AI 9.1.7

- 7G NOC to Appendix 30 in Region 2
- 7D MOD Art. 9 for the publication of a definitive list of satellite networks and systems
- 7H MOD to Appendix 4 Annex 2 Tables A, B, C and D allows Administrations to have enough information to identify potential interference scenarios, taking into account the flexibility that may be required for non-GSO satellites with short duration missions and satellites for scientific or experimental purposes.
- 7I MOD Art. 9 to add a reference to draft new Resolution [A7(I)-NGSO SHORT DURATION] (WRC 19).
- 7J NOC to Appendix 30 in Region 2. 7J is a Region 1 issue
- 7K MOD Appendix 30 Art. 4 This method adds one more examination under § 4.2.16 of RR Appendix 30 such that should any remaining affected networks in the Plan before the submission under § 4.2.16 of RR Appendix 30, the Bureau shall further examine if the remaining corresponding assignments in the Plan are still considered as being affected.
- AI 9.1.7 – NOC – can be addressed at the national level under spectrum licensing and enforcement regimes; possible methods found in ITU-R 64 (RA-15)



Session 9 Future WRC agenda items, AI 10 IAPs

- **UPDATING APPENDIX 27 IN SUPPORT OF AERONAUTICAL WIDEBAND HF MODERNIZATION**
- **USE OF HIGH-ALTITUDE IMT BASE STATIONS IN CERTAIN BANDS BELOW 2.7 GHZ REGIONALLY HARMONIZED FOR IMT**
- **PROTECTION OF RADIO SPECTRUM-RELIANT SPACE WEATHER SENSORS USED FOR GLOBAL PREDICTION AND WARNINGS (WRC-27)**
- **GMDSS AND e-NAVIGATION**
- **NON GEOSTATIONARY SYSTEMS IN THE FSS COEXISTING WITH GEOSTATIONARY**
- **SUB-ORBITAL VEHICLES**



Session 9 Future WRC agenda items, AI 10 IAPs

Plus information on the other AIs

- **TECHNICAL SHARING STUDIES BETWEEN ESIM COMMUNICATING WITH NGSO SPACE STATIONS IN THE FSS AND SYSTEMS OF OTHER PRIMARY SERVICES IN THE FREQUENCY BANDS 17.7-20.2 GHZ, 27.5-29.1 GHZ, AND 29.5-30.0 GHZ**
- **STUDIES OF TECHNICAL, OPERATIONAL ISSUES AND REGULATORY PROVISIONS FOR NGSO FSS FEEDER LINKS IN THE FREQUENCY BANDS 71-76 GHZ (SPACE-TO-EARTH AND PROPOSED NEW EARTH-TO-SPACE) AND 81-86 GHZ (EARTH-TO-SPACE)**
- **45 MHZ SPACEBORNE RADAR SOUNDERS**
- **REVIEW AND POSSIBLE REVISION OF RESOLUTION 155 (WRC-15) AND RR NO. 5.484B IN THE FREQUENCY BANDS TO WHICH THEY APPLY TO ACCOMMODATE THE USE OF FSS NETWORKS BY CONTROL AND NON-PAYLOAD COMMUNICATIONS OF UNMANNED AIRCRAFT SYSTEMS**



Session 9 Future WRC agenda items, AI 10 IAPs

Plus information on the other AIs

- **OPERATION OF AERONAUTICAL AND MARITIME ESIMs COMMUNICATING WITH GSO FSS IN THE FREQUENCY BANDS 10.7-10.95 GHZ (SPACE-TO-EARTH), 11.2-11.45 GHZ (SPACE-TO-EARTH), AND 12.75-13.25 GHZ (EARTH-TO-SPACE)**
- **PRIMARY ALLOCATION TO THE FIXED SATELLITE SERVICE IN THE SPACE-TO-EARTH DIRECTION IN THE 17.3-17.7 GHZ BAND IN REGION 2**
- **POTENTIAL OF AN AMS(R)S ALLOCATION IN THE 118 TO 137 MHZ FREQUENCY BAND**
- **ADDITIONAL FREQUENCY BANDS FOR THE TERRESTRIAL COMPONENT OF IMT BETWEEN 3 300 MHZ AND 15.35 GHZ**



Session 9 Future WRC agenda items, AI 10 IAPs

Plus information on the other AIs

- **POTENTIAL ALLOCATIONS TO THE MOBILE-SATELLITE SERVICE AND BETWEEN 1.6 GHz AND 5 GHz AND POTENTIAL SHARING BETWEEN GSO AND NON-GSO IN EXISTING MOBILE-SATELLITE SERVICE FREQUENCY BANDS BETWEEN 1.5 GHz AND 2.7 GHz)**
- **INTER-SATELLITE LINKS (ISL)**
- **SUP RESOLUTION 161 (WRC 15) - STUDIES RELATING TO SPECTRUM NEEDS AND POSSIBLE ALLOCATION OF THE FREQUENCY BAND 37.5-39.5 GHz TO THE FIXED-SATELLITE SERVICE**
- **STUDIES ON POSSIBLE ALLOCATIONS TO THE MOBILE SERVICE IN THE BAND 1300-1350 MHz FOR THE FUTURE DEVELOPMENT OF TERRESTRIAL MOBILE BROADBAND APPLICATIONS**
- **STUDIES RELATING TO SPECTRUM NEEDS AND POSSIBLE ALLOCATION OF THE FREQUENCY BAND 43.5-45.5 GHz TO THE FIXED-SATELLITE SERVICE**



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Additional Information and Proposal Details at:

[https://www.citel.oas.org/en/Pages/PCCII/
WRC.aspx](https://www.citel.oas.org/en/Pages/PCCII/WRC.aspx) (publicly available)

[https://www.citel.oas.org/en/Pages/PCCII/
default.aspx](https://www.citel.oas.org/en/Pages/PCCII/default.aspx) (requires account)



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Thank you very much for your attention

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