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|  | ASIA-PACIFIC TELECOMMUNITY | Document No: |
| **The 2ndMeeting of the APT Conference Preparatory Group for WRC-23 (APG23-2)** | **APG23-2/INF-32** |
| 19 – 23April2021, Virtual/Online Meeting | 14 April 2021 |

Chairman, DG on AI 1.15

**brief on wrc-23 agenda item 1.15**

(Note: *This brief was developed for information purpose only. It does not necessarily express the view of APG-23*)

**Agenda Item 1.15:**

*1.15 to harmonize the use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service globally, in accordance with Resolution* ***172******(WRC‑19)***

**Relevant Resolutions and Responsible/Contributing ITU-R Groups**

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| Resolution**172  (WRC‑19)**  Operation of earth stations on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service in the frequency band  12.75-13.25 GHz (Earth-to-space) | resolves to invite ITU‑R  1 to study the technical and operational characteristics and user requirements of earth stations on aircraft and vessels that communicate or plan to communicate with GSO space stations in the FSS in the frequency band 12.75-13.25 GHz (Earth-to-space) under the envelope of Appendix **30B** Article 6 recorded in the List or MIFR with favourable finding only and examination of related existing regulatory provisions, subject to *recognizing a)*;  2 to study the sharing and compatibility issues between earth stations on aircraftand vessels communicating with GSO space stations in the FSS and current and planned stations of existing services in *considering* *a)* as well as services in bands adjacent to those, to ensure protection of, and not impose undue constraints on, those services and their future development, taking into account the provisions of Appendix **30B**;  3 to study the responsibility of the entities involved in the operation of the earth stations on aircraftand vessels in this Resolution;  3*bis* to develop the criteria to ensure that earth stations on aircraft and vessels as a new application of FSS in this frequency band shall not claim more protection or cause more interference than filed earth stations in Appendix **30B**;  4 to develop the technical conditions and regulatory provisions for the harmonized operation of earth stations on aircraft and vessels communicating with GSO space stations in the FSS operating in the frequency band 12.75-13.25 GHz (Earth-to-space), considering the results of the studies outlined in *resolves to invite ITU‑R*1 and 2, and in particular without affecting the Appendix **30B** Plan;  5 to ensure that the operation of earth stations on aircraft and vessels in the frequency band 12.75-13.25 GHz under Appendix **30B** shall not adversely affect the criteria in *recognizing j)*, including the cumulative effect of multiple earth stations on aircraft and vessels;  6 to ensure that the use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels shall not limit the access of other administrations to their national resources in Appendix **30B** as well as implementation of Resolution **170(WRC‑19)**;  7 to ensure that the use of earth stations on aircraft and vessels in this Resolution would not result in any additional status than the GSO network with which these stations communicate;  8 to ensure that the results of ITU‑R studies are agreed by Member States by consensus;  9 to complete studies in time for WRC‑23,  further resolves  that earth stations on aircraft and vessels addressed by this Resolution:  *a)* shall not be used or relied upon for safety-of-life applications;  *b)* shall not result in changes or restrictions to the existing Plan allotments and List assignments made under the Appendix **30B**, and their future development,  resolves to invite WRC‑23  to consider the results of the above studies in *resolves to invite ITU‑R* and take necessary actions, as appropriate,  invites administrations  to participate actively in the studies by submitting contributions to ITU‑R. |

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| **Responsible group** | **Contributing group** |
| **WP 4A** | **WP 3M, WP 5A, WP 5B,  WP 5C** |

**1. Background Information**

* CITEL proposed this Agenda Item at WRC-19 (Ref. Addendum 11 to Document 11(Add.24)-E (**WRC-19**)).
* WP4A is assigned as the responsible group of this agenda item to carry out study of technical and operational issues, and regulatory provisions for the use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service globally as follows:
* to study the technical and operational characteristics and user requirements of earth stations on aircraft and vessels that communicate or plan to communicate with GSO space stations in the FSS in the frequency band 12.75-13.25 GHz (Earth-to-space) under the envelope of Appendix **30B** Article 6 recorded in the List or MIFR with favourable finding only and examination of related existing regulatory provisions, subject to *recognizing a)*;
* to study the sharing and compatibility issues between earth stations on aircraftand vessels communicating with GSO space stations in the FSS and current and planned stations of existing services in *considering* *a)* as well as services in bands adjacent to those, to ensure protection of, and not impose undue constraints on, those services and their future development, taking into account the provisions of Appendix **30B**;
* to study the responsibility of the entities involved in the operation of the earth stations on aircraftand vessels in this Resolution;
* to develop the criteria to ensure that earth stations on aircraft and vessels as a new application of FSS in this frequency band shall not claim more protection or cause more interference than filed earth stations in Appendix **30B**;
* to develop the technical conditions and regulatory provisions for the harmonized operation of earth stations on aircraft and vessels communicating with GSO space stations in the FSS operating in the frequency band 12.75-13.25 GHz (Earth-to-space), considering the results of the studies outlined in *resolves to invite ITU‑R*1 and 2, and in particular without affecting the Appendix **30B** Plan;
* to ensure that the operation of earth stations on aircraft and vessels in the frequency band 12.75-13.25 GHz under Appendix **30B** shall not adversely affect the criteria in *recognizing j)*, including the cumulative effect of multiple earth stations on aircraft and vessels;
* to ensure that the use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels shall not limit the access of other administrations to their national resources in Appendix **30B** as well as implementation of Resolution **170(WRC‑19)**;
* to ensure that the use of earth stations on aircraft and vessels in this Resolution would not result in any additional status than the GSO network with which these stations communicate;
* to ensure that the results of ITU‑R studies are agreed by Member States by consensus;

**2. Information on on-going ITU-R Study**

* The latest ITU-R study on this agenda item was carried out by WP 4A from 22 February to 3 March 2021 by Virtual Meeting. The following documents are developed:
* Working document on WRC-23 agenda item 1.15 (Annex 19 to Working Party 4A Chairman’s Report)
* Preliminary draft CPM text for WRC-23 agenda item 1.15 (Annex 23 to Working Party 4A Chairman’s Report)
* Work plan for WRC-23 agenda item 1.15 (Annex 29 to Working Party 4A Chairman’s Report)
* Terms of reference for Working Party 4A Correspondence Group on WRC-23 agenda item 1.15 (Annex 30 to Working Party 4A Chairman’s Report)
* Ongoing discussion at WP 4A meetings are as follows:
* Determine and clarify the structure and configuration of forward and return signal of earth stations on board aircraft and vessel communicating with GSO space station.
* Carefully consider Resolution **172 (WRC-19)** in order to identify and group all of the areas/elements that are currently missing together with those which are necessary for the studies.
* Initiate compilation of technical characteristics, operational parameters and protection criteria
* Review the Rules of Procedure for all provisions referred to in Resolution **172 (WRC-19)** especially those that apply to AP**30B**.
* Review AP**30B** allotments, assignments recorded in the AP**30B** List as well as those in the MIFR; the assignments submitted under Articles 6 and 7 of RR Appendix **30B** not yet processed or recorded in the AP**30B** List.
* Request the BR to update information on AP**30B** as it develops.
* Initiate work on the skeleton of the draft CPM text as well as associated draft WRC-23 Resolution
* Review and complement the “Elements Document” with additional information provided in reply liaison statements from contributing WPs and contributions to WP 4A by administrations.
* Initiate study and suggest workable approaches that fully protects RR Appendix **30B** (existing allotment, assignments and planned development) including the objectives of Resolution **170 (WRC-19)**, taking into account input received from the BR.
* Liaise contributing WPs.

* Hyperlink to the relevant part of the webpage of [ITU-R Preparatory Studies for WRC-23](https://www.itu.int/en/ITU-R/study-groups/rcpm/Pages/wrc-23-studies.aspx)
* Results of the first session of the Conference Preparatory Meeting for WRC 23 (CPM23-1) (Administrative Circular CA/251)
  + - <https://www.itu.int/md/R00-CA-CIR-0251/en>
* Latest WP 4A document (Virtual Meeting from 22 February to 3 March 2021)
* Working document on WRC-23 agenda item 1.15 (Annex 19 to Working Party 4A Chairman’s Report)
* Preliminary draft CPM text for WRC-23 agenda item 1.15 (Annex 23 to Working Party 4A Chairman’s Report)
* Work plan for WRC-23 agenda item 1.15 (Annex 29 to Working Party 4A Chairman’s Report)
* Terms of reference for Working Party 4A Correspondence Group on WRC-23 agenda item 1.15 (Annex 30 to Working Party 4A Chairman’s Report)
  + - <https://www.itu.int/md/R19-WP4A-C-0246/en>
* Liaison statement to Working Party 5C (copy to Working Party 3M for information) - WRC-23 agenda item 1.15
* Liaison statement to Working Party 7C (copy to Working Party 3M for information) - WRC-23 agenda item 1.15
  + - <https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R19-WP4A-210222-TD&question=AI1.15>

**3. Position of the Regional Group (if available)**

* ATU
* ASMG
* CEPT

**Preliminary position**:

* CEPT supports establishing a regulatory framework and technical requirements for operation of earth stations on aircraft in the frequency band 12.75‐13.25 GHz (Earth‐to‐space) with conditions that protect the services currently allocated in this frequency band and bands adjacent to it, , taking into account ECC Decision (19)04.
* CEPT supports establishing a regulatory framework and technical requirements for operation of earth stations on vessels in the frequency band 12.75‐13.25 GHz (Earth‐to‐space) pending on the results of the studies conducted on protection of services currently allocated in this frequency band and bands adjacent to it.

Reference: Status of CEPT Preparation For WRC-23 / RA-23, December 2020

* + - <https://cept.org/files/4200/2021-01-14%20Status%20of%20CEPT%20prepararation%20for%20WRC-23%20(December%202020).pdf>
* CITEL

**Preliminary Views:**

* Some administrations support studies on the operation of earth stations on aircraft and vessels communicating with GSO FSS space stations in the 12.75-13.25 GHz (Earth-to-space) frequency band with the objective of developing appropriate technical and regulatory provisions to protect allotments/assignments in the Appendix 30B Plan and other primary allocated services, as well as primary services in adjacent bands, as called for in Resolution 172 (WRC-19)

Reference: 36 Meeting of PCC.II, 30 November to 4 December, 2020

* + - <https://cept.org/Documents/cpg/61939/cpg-20-info-26_citels-preparation-for-world-radiocommunication-conferences>
* RCC

**Preliminary Views:**

* The RCC Administrations support the studies of methods for sharing and guaranteecompatibility between earth stations on aircraft and vessels communicating with GSO space stations in the FSS in the frequency band 12.75-13.25 GHz (Earth-to-space) and incumbent and future stations of services in this frequency band as well as services in adjacent frequency bands (i.e. EESS (active) in the frequency band 13.25−13.75 GHz), to ensure protection of, and not impose undue constraints on those services and their future development, taking into account the provisions of Appendix **30B**.
* The RCC Administrations are in favour ofthe development of technical requirements andregulatory provisions for ESIMs on aircraft and vessels for the harmonized operation of such earth stations communicating with GSO space stations in the FSS in the frequency band 12.75-13.25 GHz (Earth-to-space), while ensuring in thisand adjacent bands protection to the existing services, taking into account the provisions of Appendix **30B**.
* The RCC Administrations are in favour of the need to ensure protection to allotments in the Plan and assignments in the List of RR Appendix **30B** in accordance with criteria provided in Annex 4 to Appendix **30B,**when considering the possibility of using earth stations in motionon aircraft and vessels communicating with GSO space stations in the FSS in the frequency band 12.75-13.25 GHz (Earth-to-space), and such use of the frequency band 12.75-13.25 GHz (Earth-to-space) by the earth stations on aircraft and vessels shall not result in any constraints or changes in the existing allotments/ assignments in the Plan/List and shall not adversely affect the criteria in Annex 4, including cumulative effect of multiple earth stations on aircraft and vessels.
* The RCC Administrations consider that ESIMs on aircraft and vessels shall operate in the frequency band 12.75-13.25 GHz (Earth-to-space) within the envelope of the earth station’s characteristics of the satellite network and also within the agreements reached by administrations under §§6.5, 6.6 and 6.16 of Article 6, Appendix **30B**.

Reference: Preliminary Position of the RCC Administrations on Agenda Items of the World Radiocommunication Conference 2023, 4 September 2020.

* + - <https://www.itu.int/oth/R0A0200000B/en>

**4. Position of International Organizations (if available)**

* ICAO
* IMO
* WMO

**Preliminary Position and objectives:**

* WMO supports studies to ensure that earth stations on aircraft and vessels communicating with geostationary space stations in the FSS in the frequency band 12.75-13.25 GHz (Earth-to-space) will protect theEESS (active) instruments operating in the adjacent band 13.25-13.75 GHz.

Reference: WMO contribution to WP 4A, 2021-02-15

* + - <https://www.itu.int/md/R19-WP4A-C/en>
* IARU R3
* Etc…