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| **The 3rd Meeting of the APT Conference Preparatory Group for WRC-23 (APG23-3)** | **APG23-3/OUT-35** |
| 8 – 13 November 2021, Virtual/Online Meeting | 13 November 2021 |

Working Party 5

**PRELIMINARY VIEWs on WRC-23 agenda item 2**

**Agenda item 2**

*to examine the revised ITU-R Recommendations incorporated by reference in the Radio*

*Regulations communicated by the Radiocommunication Assembly, in accordance with the further resolves of Resolution* ***27 (Rev.WRC-19)****, and to decide whether or not to update the corresponding references in the Radio Regulations, in accordance with the principles contained in the resolves of that Resolution;*

**1. Background**

This is a standing agenda item at every WRC to examine the revised ITU-R Recommendationsincorporated by reference in the Radio Regulations (RR) in order to determine their suitability for incorporation by reference in the RR. As such ITU-R Recommendations (IBR Recommendations) may be revised by ITU-R Study Groups, it is necessary for the next WRC to decide whether or not to update the corresponding references in the RR in accordance with Resolution **27 (Rev.WRC-19)**.

**2. Documents**

***2.1 Input Documents:*** APG23-3/INP-11(AUS), 23(NZL), 33(J), 45(CHN)

***2.2 Information Documents:*** APG23-3/16(BR), 20(CEPT), 29(DG chair), 37(ASMG)

**3. Summary of Discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Australia (APG23-3/INP-11)**

Australia supports the examination and review of ITU-R Recommendations incorporated by reference into the Radio Regulations and, where appropriate, the updating of these references.

**3.1.2 New Zealand (APG23-3/INP-23)**

New Zealand supports the examination of ITU-R Recommendations incorporated by reference in the Radio Regulations.

**3.1.3 Japan (APG23-3/INP-33)**

In order to facilitate the consideration of WRC-23 agenda item 2 by the future APG23 meetings, Japan has updated “The ITU-R Recommendations incorporated by reference in the Radio Regulations” contained in APG23-2/OUT-35 Attachment 1 with the study progress as of October 2021. Since the work is still in an early stage of this study cycle, the list is for initial information purposes only. APT Members are encouraged to participate and monitor the progress of the ITU-R studies in the relevant Working Parties, which may propose revisions of IBR Recommendations.

**3.1.4 China (APG23-3/INP-45)**

China supports the examination and review of ITU-R Recommendations incorporated by reference into the Radio Regulations and, where appropriate, the updating of these references.

In APG23-2, APG23-2/OUT-35 has been agreed by the meeting which provided a list of the ITU-R Recommendations incorporated by reference in the Radio Regulations (IBR Recommendations), along with information regarding the responsible ITU-R Working Parties and study progress as of February 2021. Based on the progress of the ITU-R studies in the relevant Working Parties, China updated the study progress of the IBR Recommendations as of August 2021.

**4. APT Preliminary View**

APT Members support the examination and review of ITU-R Recommendations incorporated by reference in the Radio Regulations and, where appropriate, the updating of these references in accordance with Resolution **27 (Rev.WRC-19).**

APT Members are encouraged to participate and monitor the progress of the ITU-R studies in the relevant Working Parties, which may propose and develop revisions of incorporated by reference (IBR) Recommendations, with a view to develop the APT positions on this agenda item towards the WRC-23.

**5. Other views(s) from APT Members**

None

**6. Issues for Consideration at the Next APG Meeting**

APG23-4 will examine and review the list of ITU-R Recommendations in Attachment 1, based on the progress of the ITU-R studies in the relevant Working Parties.

APG23-4 will also consider whether it is appropriate to update the references in the Radio Regulations, if there are revised IBR Recommendations already approved.

**7. Views from Other Organisations**

**7.1 CEPT (APG23-3/INF-20)**

Preliminary CEPT position is provided in Document APG23-3/INF-20.

* CEPT supports the revision of ITU‐R Recommendations: to be developed.
* CEPT resumes examining the compliance with the principles of Annex 1 to Resolution **27 (Rev.WRC‐19)** of the references to ITU‐R Recommendations in the Radio Regulations.
* CEPT supports update of the RR Volume 4 cross‐reference list.

**7.2 ASMG (APG23-3/INF-37)**

•ASMG administrations support the principle of Resolution No. **27 (Rev.WRC19)** to review and examine Recommendations incorporated by reference in the Radio Regulations with a view to update them as appropriate.

•Invite ASMG members to actively participate in ITU-R related working groups on revision of these recommendations.

**Attachment 1**

**Attachment 1**

**The ITU‑R Recommendations incorporated by reference in the Radio Regulations**

| **REC.** | **Title** | **RR Provision** | **Progress of future revision** | **ITU-R WP** |
| --- | --- | --- | --- | --- |
| **TF.460-6** | Standard-frequency and time-signal emissions | No. 1.14 (via Resolution 655 (WRC-15)) |   | WP 7A |
| **M.476-5** | Direct-printing telegraph equipment in the maritime mobile service | Nos. 19.83, 19.96A, 51.41 |   | WP 5B |
| **M.489-2** | Technical characteristics of VHF radiotelephone equipment operating in the maritime mobile service in channels spaced by 25 kHz | Nos. 51.77, 52.231, Appendix 18 (General *notes* *e)*) |   | WP 5B |
| **M.492-6** | Operational procedures for the use of direct-printing telegraph equipment in the maritime mobile service | No. 56.2 |   | WP 5B |
| **P.525-4** | Calculation of free-space attenuation | No. 5.444B (via Resolution 748 (Rev.WRC-19)) |   | WP 3J |
| **P.526-15** | Propagation by diffraction | No. 5.444B (via Resolution 748 (Rev.WRC-19)) |   | WP 3J |
| **M.541-10** | Operational procedures for the use of digital selective-calling equipment in the maritime mobile service | Nos. 51.35, 52.112, 52.149, 52.153, 54.2 |  Ann.14 to Doc.5B/355 | WP 5B |
| **M.585-8  (Annex 1)** | Assignment and use of identities in the maritime mobile service  | Nos. 19.99, 19.102, 19.111 | Ann.7 to Doc.5B/355 | WP 5B |
| **M.625-4** | Direct-printing telegraph equipment employing automatic identification in the maritime mobile service | Nos. 19.83, 51.41 |   | WP 5B |
| **M.633-4** | Transmission characteristics of a satellite emergency position-indicating radio beacon (satellite EPIRB) system operating through a satellite system in the 406 MHz band | No. 34.1 |  Ann.3 to Doc.4C/245 | WP 4C |
| **S.672-4** | Satellite antenna radiation pattern for use as a design objective in the fixed-satellite service employing geostationary satellites | TABLE 22-2 (and No. 22.5D.3), TABLE 22-3 (and No. 22.5F.3) |   | WP 4A |
| **M.690-3** | Technical characteristics of emergency position-indicating radio beacons operating on the carrier frequencies of 121.5 MHz and 243 MHz | Appendix 15 (Table 15-2) |   | WP 5B |
| **RA.769-2** | Protection criteria used for radio astronomical measurements | No. 5.372 |   | WP 7D |
| **P.838-3**  | Specific attenuation model for rain for use in prediction methods | Appendix 30A (Annex 3 § 2.2 Step 6) | Ann.15 to Doc.3J/145 | WP 3J |
| **M.1084-5** | Interim solutions for improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service | Appendix 18 (NOTE B) (prior to the table) |   | WP 5B |
| **SM.1138-3** | Determination of necessary bandwidths including examples for their calculation and associated examples for the designation of emissions | Appendix 1 (§ 1 and § 2) |   | WP 1A |
| **SA.1154-0** | Provisions to protect the space research (SR), space operations (SO) and Earth-exploration satellite services (EES) and to facilitate sharing with the mobile service in the 2 025-2 110 MHz and 2 200-2 290 MHz bands | No. 5.391 | Ann.9 to Doc.7B/158 | WP 7B |
| **M.1171-0** | Radiotelephony procedures in the maritime mobile service | Nos. 52.192, 52.195, 52.213, 52.224, 52.234, 52.240, 57.1 |   | WP 5B |
| **M.1172-0** | Miscellaneous abbreviations and signals to be used for radiocommunications in the maritime mobile service | No. 19.48 |   | WP 5B |
| **M.1173-1** | Technical characteristics of single-sideband transmitters used in the maritime mobile service for radiotelephony in the bands between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz and between 4 000 kHz and 27 500 kHz | Nos. 52.181, 52.229, Appendix 17 (Part B, Section I § 2 and § 6) |   | WP 5B |
| **M.1174-4** | Technical characteristics of equipment used for on-board vessel communications in the bands between 450 and 470 MHz | Nos. 5.287, 5.288 |   | WP 5B |
| **M.1187-1**  | A method for the calculation of the potentially affected region for a mobile-satellite service network in the 1‑3 GHz range using circular orbits | Appendix 4 (Annex 2 item C.11.b) |   | WP 4C |
| **S.1256-0** | Methodology for determining the maximum aggregate power flux-density at the geostationary-satellite orbit in the band 6 700-7 075 MHz from feeder links of non-geostationary satellite systems in the mobile-satellite service in the space‑to‑Earth direction | No. 22.5A |   | WP 4A |
| **RS.1260-2** | Feasibility of sharing between active spaceborne sensors and other services in the range 420-470 MHz | No. 5.279A |   | WP 7C |
| **BO.1293-2** | Protection masks and associated calculation methods for interference into broadcast-satellite systems involving digital emissions | Appendix 30A (Annex 3 § 3.3), Appendix 30 (Annex 5 § 3.4) |   | WP 4A |
| **S.1340-0** | Sharing between feeder links for the mobile-satellite service and the aeronautical radionavigation service in the Earth-to-space direction in the band 15.4-15.7 GHz | No. 5.511C |   | WP 4A |
| **S.1428-1** | Reference FSS earth-station radiation patterns for use in interference assessment involving non-GSO satellites in frequency bands between 10.7 GHz and 30 GHz | TABLE 22-1A,TABLE 22-1B,TABLE 22-1C (and No. 22.5C.6) |  Ann.5 to Doc.4A/392 | WP 4A |
| **BO.1443-3** | Reference BSS earth station antenna patterns for use in interference assessment involving non-GSO satellites in frequency bands covered by RR Appendix 30 | TABLE 22-1D (and No. 22.5C.11) |  Ann.6 to Doc.4A/392 | WP 4A |
| **RA.1513-2** | Levels of data loss to radio astronomy observations and percentage-of-time criteria resulting from degradation by interference for frequency bands allocated to the radio astronomy service on a primary basis | No. 5.372 |   | WP 7D |
| **M.1583-1** | Interference calculations between non-geostationary mobile-satellite service or radionavigation-satellite service systems and radio astronomy telescope sites  | No. 5.372, No. 5.443B (via Resolution 741 (Rev.WRC-15)), Appendix 4 Annex 2 (item A.17.b.3) (via Resolution 741 (Rev.WRC-15)) |   | WP 4C |
| **S.1586-1** | Calculation of unwanted emission levels produced by a non‑geostationary fixed-satellite service system at radio astronomy sites | No. 5.551H |   | WP 4A |
| **F.1613-0** | Operational and deployment requirements for fixed wireless access systems in the fixed service in Region 3 to ensure the protection of systems in the Earth exploration-satellite service (active) and the space research service (active) in the band 5 250-5 350 MHz | No. 5.447E |   | WP 5A |
| **RA.1631-0** | Reference radio astronomy antenna pattern to be used for compatibility analyses between non-GSO systems and radio astronomy service stations based on the epfd concept | No. 5.208B (via Resolution 739 (Rev.WRC‑19), No. 5.372, No. 5.443B (via Resolution 741 (Rev.WRC-15)), No. 5.551H, Appendix 4 Annex 2 (item A.17.b.3) (via Resolution 741 (Rev.WRC-15)) |   | WP 7D |
| **M.1642-2** | Methodology for assessing the maximum aggregate equivalent power flux-density at an aeronautical radionavigation service station from all radionavigation-satellite service systems operating in the 1 164-1 215 MHz band | Nos. 5.328A (via Resolution 609 (Rev. WRC‑07)) |   | WP 4C |
| **M.1643-0** | Technical and operational requirements for aircraft earth stations of aeronautical mobile-satellite service including those using fixed-satellite service network transponders in the band 14-14.5 GHz (Earth-to-space) | No. 5.504B (refers to Annex 1, Part C of Rec. ITU-R M.1643-0), Nos. 5.504C, 5.508A and 5.509A (refer to Annex 1, Part B of Rec. ITU-R M.1643-0) |   | WP 4C |
| **M.1652-1 (Annex 1 and Annex 5 )** | Dynamic frequency selection in wireless access systems including radio local area networks for the purpose of protecting the radiodetermination service in the 5 GHz band | No. 5.446A, 5.447F, 5.450A (via Resolution 229 (Rev.WRC-19)) |   | WP 5A |
| **M.1827-1** | Guideline on technical and operational requirements for stations of the aeronautical mobile (R) service limited to surface application at airports in the frequency band 5 091-5 150 MHz | No. **5**.444B (via Resolution 748 (Rev.WRC-19)) |   | WP 5B |
| **M.2013-0** | Technical characteristics of, and protection criteria for non-ICAO aeronautical radionavigation systems, operating around 1 GHz | No. 5.327A (via Resolution 417 (Rev.WRC-15)) |   | WP 5B |
| **RS.2065-0** | Protection of space research service (SRS) space-to-Earth links in the 8 400-8 450 MHz and 8 450-8 500 MHz bands from unwanted emissions of synthetic aperture radars operating in the Earth exploration-satellite service (active) around 9 600 MHz | No. 5.474C |   | WP 7C |
| **RS.2066-0** | Protection of the radio astronomy service in the frequency band 10.6-10.7 GHz from unwanted emissionof synthetic aperture radars operating in the Earth exploration-satellite service (active) around 9 600 MHz  | No. 5.474B | Ann.28 to Doc 7C/283 | WP 7C |

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