

## REPORT OF THE FOURTH WEEK OF THE WRC-23 (20 NOVEMBER – 15 DECEMBER 2023)

The World Radiocommunication Conference (WRC-23) was opened on 20 November 2023.

H.E. Mohammed Al Ramsi (UAE) was elected as the chairman of the Conference.

The European Communications Office (ECO) is publishing this report to provide an overview of the activities and results of the fourth week of WRC-23 (9-14 December). This is based on the status after the main work has been completed on 14 December. The remaining activity will address submission of declarations and reservations, and the signing of the Final Acts. Relevant background information can be found on the [ECC website](#).

The reports from previous weeks are available [here](#).

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Seven Committees were established by WRC-23:

- Committee 1: Steering Committee (composed of Chair and Vice-Chairs of the Conference and Committees);
- Committee 2: Credentials Committee (Basebi MOSINYI, Botswana);
- Committee 3: Budget Control Committee (Cindy COOK, Canada);
- Committee 4, 5 and 6: Specific Agenda Items Committees (see table below);
- Committee 7: Editorial Committee (Christian RISSONE, France).

Committees 4, 5 and 6 set up several Working Groups each. The responsibilities on the key agenda items for CEPT were then identified as highlighted below. Please note that several working groups also address relevant parts of agenda items 3 and 5.

Committee	Working Group/ Ad hoc Group	Agenda items
Committee 4 (Hiroyuki ATARASHI, Japan)	WG4A - Broadband applications in the mobile service (Mohamed MOGHAZI, Egypt)	1.1, 1.2, 1.4, Doc. 550 (WRC-19), 9.2 (relevant parts)
	WG4B - Aeronautical and maritime services (Sandra WRIGHT, USA)	1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 9.1-b, Res. 427
	WG4C - Fixed, mobile and broadcasting services (Usman ALIYU, Nigeria)	1.3, 1.5, 9.1-c, 9.2 (relevant parts)
Committee 5 (Anna MARKLUND, Sweden)	WG5A - Science (Eric ALLAIX, France)	1.12, 1.13, 1.14, 9.1-a, 9.1-d
	WG5B - Satellite allocation (Abdulrahman AL-NAJDI, Saudi Arabia)	1.15, 1.16, 1.17, 1.18, 1.19
	WG5C - Satellite regulatory (Cheng FENHONG, China)	7, 9.2 (relevant parts), 9.3
Committee 6 (Abdouramane EL HADJAR, Cameroon)	WG6A – General Issues (Jonathan WILLIAMS, USA)	2, 4, 8, 9.1, 9.2 (relevant parts), Res. 655
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## AGENDA ITEM 1.1 - RR 5.441B (4 800-4 990 MHZ)

### Sub Working Group 4A1 (Baxton SIREWU, Zimbabwe)

*to consider, based on the results of ITU-R studies, possible measures to address, in the frequency band 4 800 - 4 990 MHz, protection of stations of the aeronautical and maritime mobile services located in international airspace and waters from other stations located within national territories, and to review the power flux-density criteria in No. 5.441B in accordance with Resolution 223 (Rev.WRC-19)*

### CEPT POSITION

CEPT is of the view that,

- AMS and MMS stations located in international airspace or waters and operated in the band 4800-4990 MHz shall be protected on the basis of the following pfd limits provided in RR No. 5.441B and derived from detailed AMS and MMS characteristics and protection criteria:
  - In the frequency bands 4800-4825 MHz and 4835-4950 MHz,  $-140 \text{ dB(W/(m}^2 \cdot 1 \text{ MHz))}$  produced up to 19 km above sea level at 22 km from the coast, defined as the low-water mark, as officially recognised by the coastal State.
  - In the band 4800-4990 MHz,  $-134 \text{ dB(W/(m}^2 \cdot 1 \text{ MHz))}$  produced up to 30 m above sea level at 22 km from the coast, defined as the low-water mark, as officially recognised by the coastal State.
- These pfd criteria shall apply to IMT operating in national territories in order to protect AMS and MMS stations located in international airspace or waters and operating in the band 4800-4990 MHz, i.e. beyond the territorial seas.
- The above new pfd criteria shall apply to all countries listed in RR No. 5.441B ensuring consistency in the application of the limits.

### SHORT REPORT, INCLUDING STATUS FOR WEEK 4

Intensive work was carried out during WRC, in order to investigate measures to address, the protection of stations of the AMS and MMS in the frequency band 4 800-4 990 MHz located in international airspace and waters, from other stations located within national territories and to review the pfd criteria in No. 5.441B (see Resolution 223 (WRC-19)). The work continued until the last phase of WRC. The possibility of relaxing pfd limits in No. 5.441B and removing the countries with an exemption according to Resolution 223 (WRC-19)), as proposed by CEPT, could not be adopted.

Due to diverging views on the measures to be proposed, the Conference decided to retain the regulatory and technical conditions in No. 5.441B unchanged. The Conference also decided not to continue further studies in this regard and decided to keep unchanged the list of 11 countries where the pfd limit does not apply. Resolution 223 has been updated accordingly and approved by the Plenary.

In consequence, the decision of WRC-23 to retain the initial pfd limit confirms that this is the only adequate measure to enable the protection of AMS and MMS located in international airspace and waters and their continued operation, although it is unfortunate that the exemption could not be removed, which may lead to interference in some international airspace and waters.

### NEXT STEPS

None – work completed.

## AGENDA ITEM 1.2 - IMT CENTIMETER BANDS

### **Sub Working Group 4A2 (Luciana CAMARGOS, Brazil)**

*to consider identification of the frequency bands 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 025 MHz, 7 025 -7 125 MHz and 10.0-10.5 GHz for International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution 245 (WRC-19)*

### **CEPT POSITION**

#### **3300-3400 MHz (amend footnote in Region 1)**

CEPT does not support amendments to footnotes **5.429A** and **5.429B** which could extend them to countries north of 30° parallel north. Thus, CEPT does not support an IMT identification for the entire Region 1. Furthermore, CEPT opposes amending the footnote to change the regulatory provisions applicable to IMT stations in the band. In particular, IMT stations shall not cause harmful interference to, or claim protection from, systems in the radiolocation service in various national and international operational environments and shall meet unwanted emission levels specified in the relevant ITU-R Recommendations. In addition, protection of FSS in the frequency band 3400-3800 MHz should also be ensured, as appropriate.

#### **3300-3400 MHz (Region 2)**

CEPT supports maintaining the regulatory provisions in the footnotes Nos. **5.429C** and **5.429D** applicable to IMT stations in this band. In particular, IMT stations shall not cause harmful interference to, nor claim protection from, systems in the radiolocation service in various national and international operational environments, and shall meet unwanted emission levels specified in the relevant ITU-R Recommendations.

#### **3600-3800 MHz (Region 2)**

CEPT would not oppose an IMT Identification in Region 2, noting that administrations of Region 2 are expected to define relevant provisions to protect FSS earth stations

#### **6425-7025 MHz (Region 1) and 7025-7125 MHz (globally)**

CEPT is neither proposing nor supporting an IMT identification of the frequency range 6425-7125 MHz but could accept it if the conditions below are fulfilled. If these conditions are not fulfilled, CEPT will support NOC (underlined).

CEPT will only accept an IMT Identification if all of the following five conditions are fully met:

- 1) the protection of relevant primary services is ensured (as provided in the European Common Proposal - ECP)
- 2) continued operation of other services (i.e. those identified in RR Nos. **5.458** for EESS (passive) and **5.149** for Radioastronomy) is addressed (as provided in the ECP) with additionally new EESS (passive) primary allocations in the frequency bands 4.2-4.4 GHz, and 8.4-8.5 GHz, to allow the continued operation of sea surface temperature (SST) measurements
- 3) no limitations are imposed on the existing services and their future development
- 4) the IMT Resolution clearly outlines opportunities for other broadband applications in the mobile services (i.e. WAS/RLAN) as well as sufficient flexibility regarding the future wireless broadband usage, i.e. by IMT, WAS/RLAN or under a shared framework between IMT and WAS/RLAN as provided in the ECP

- 5) WRC-23 does not approve an agenda item for WRC-27 studying additional IMT identifications in frequency bands between 7 and 30 GHz where IMT would have the potential to jeopardize important European space and governmental spectrum.

### **10000-10500 MHz (Region 2)**

CEPT is of the view that the result of a possible identification of the frequency band 10-10.5 GHz in Region 2 under this agenda item has a global impact on EESS (active) in the band 10.0-10.4 GHz and may have a global impact on EESS (passive) in the band 10.6-10.7 GHz due to the required protection of these services on a global basis. Moreover, interference would be detrimental to airborne and shipborne radars operating in 10-10.5 GHz under the radiolocation service operated by some CEPT countries in all Regions at 10-10.5 GHz. Sharing and compatibility studies between IMT and EESS (active) show that sharing between IMT and those services is not possible. Therefore, CEPT is of the view that the band 10-10.4 GHz should not be identified for IMT in Region 2 in order to ensure the protection of the radiolocation and the globally operating EESS (active) systems and in order to not impose any additional regulatory or technical constraints to these services.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The frequency bands 6 425-7 125 MHz in Region 1 and 7 025-7 125 MHz in Region 3 were identified for IMT. The IMT identification footnote includes recognition that the frequency bands are also used for WAS/RLANs. The associated Resolution includes an e.i.r.p. mask to protect FSS (E-s). Footnotes were agreed for IMT identifications in some named countries in Region 2 and Region 3.

As a consequential action to the 6 GHz IMT identification, a future agenda item was agreed on studies on possible allocations to Earth exploration-satellite service (passive) in the bands 4200-4400 MHz and 8400-8500 MHz in connection with Sea Surface Temperature (SST) measurements.

Regarding the 3.3-3.4 GHz band, CEPT confirmed the No Change position. The offline discussions concerning the addition of the countries of Algeria and Tunisia to the footnotes 5.429A and 5.429B for the mobile service and IMT identification respectively, didn't reach consensus due to concerns over the protection of the radiolocation service in the band. Algeria and Tunisia reserved their right to deploy the respective services in their territories and they expressed their reservations in the Conference minutes.

Regarding the 10–10.5 GHz band, the document was approved and the band is to be identified for IMT, via footnote allocation and with the agreed constraints contained in the Resolution.

These solutions were approved by the Plenary.

### **NEXT STEPS**

None – work completed.

## **AGENDA ITEM 1.3 - MS 3 600-3 800 MHZ**

### **Sub Working Group 4C1 (Cesar GUTIERREZ MIGUELEZ, Spain)**

*to consider primary allocation of the frequency band 3 600-3 800 MHz to the mobile service in Region 1 and take appropriate regulatory actions, in accordance with Resolution **246 (WRC-19)***

### **CEPT POSITION**

CEPT supports the upgrade of the allocation of the frequency band 3600-3800 MHz to the mobile, except aeronautical mobile, service on a primary basis in Region 1 to improve opportunities for the introduction of mobile service applications in Europe.

This support is subject to the conditions that the current use in the frequency bands 3400-3800 MHz and the protection of primary services, under the existing CEPT regulatory framework, can be continued, and that no undue constraints are imposed on the existing services and their future development.

In consequence, CEPT supports that the technical and regulatory conditions applicable to the band 3400-3600 MHz, in particular the pfd limit of -154.5 dBW/m<sup>2</sup>/4 kHz not to be exceeded for more than 20% of time 3 m above ground at the border to protect the neighbouring countries, are one part of the technical conditions in response to WRC- 23 Agenda item 1.3, recognising that sharing studies carried out in ITU-R ensured that the full objective of Resolution **246 (WRC-19)** has been met. In addition, CEPT opposes making these technical and regulatory conditions for the frequency band 3600-3800 MHz more stringent than those applicable to the band 3400-3600 MHz to protect FSS earth stations, in particular any changes to the value or percentage of time of the pfd limit, or to the height above ground where this limit applies.

CEPT does not support introducing any further requirements or requests for coordination, in particular under No. **9.21**.

CEPT is of the view that consideration of an IMT identification as well as consideration of the aeronautical mobile service in this band are not in the scope of Resolution **246 (WRC-19)**.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The discussions on the way forward for agenda item 1.3 at the Committee 4 level have been successful and Committee 4 finalised the work on this agenda item. The allocation to the mobile service has been upgraded to primary in Region 1, while ensuring protection to the fixed-satellite service through a pfd-limit and coordination procedures. If the pfd-limit at the border of neighbouring countries is exceeded, coordination according to No. 9.21 will also apply.

Further to the upgrade of the frequency allocation, some country footnotes were agreed for countries outside CEPT, who chose either not to upgrade the allocation in the band 3700-3800 MHz or to identify parts of the frequency range for IMT.

### **NEXT STEPS**

None – work completed.

## AGENDA ITEM 1.4 - HIBS

### **Sub Working Group 4A3 (Camilo ZAMORA, Micronesia)**

*to consider, in accordance with Resolution 247 (WRC-19), the use of high-altitude platform stations as IMT base stations (HIBS) in the mobile service in certain frequency bands below 2.7 GHz already identified for IMT, on a global or regional level*

### **CEPT POSITION**

CEPT supports regulatory provisions applying to HIBS in order to enable their use of the frequency bands 694-960 MHz, 1710-1885 MHz and 2500-2690 MHz while protecting other services and applications in these frequency bands as well as in the adjacent bands. Under the same line, the conditions pertaining to the IMT applications using high altitude platform stations (HAPS) as base stations as currently defined through RR No. 5.388A and Resolution 221 (Rev. WRC-07) are also proposed to be revised.

The regulatory provisions proposed by CEPT to ensure protection of other services are of three different nature applying as appropriate, specific geographical coordination, in-band or adjacent band pfd masks and limitation of the HIBS emissions to a specific direction.

CEPT is of the view that the use by HIBS of these frequency bands should be on a non-protection basis, since studies have not addressed the risk that HIBS may require more protection than conventional IMT base stations.

CEPT is of the view that the use of HIBS should be enabled at an altitude lower than 20 km, down to a minimum of 18 km, since ITU-R studies have confirmed that there is a negligible difference in terms of impact to other services.

CEPT is of the view that there needs to be a pfd limit for the protection of broadcasting and not a coordination trigger since that would allow an alternative coordination procedure for the band 694-960 MHz.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The outcome of agenda item 1.4 is aligned with the European Common Proposal (ECP). For all bands, HIBS is identified on a non-protection basis, noting No.5.43A does not apply.

For the protection of IMT and fixed service, regional groups, except RCC, agreed on the values of the pfd mask, whereas RCC added a more stringent level for their countries.

The meeting also agreed on the HIBS definition to be added in the resolutions as “High-altitude platform station as IMT base station. The conditions in this Resolution refer to these platforms operating between 18 km and 25 km”.

Resolution 247 (WRC-19) was suppressed accordingly.

For issue A (694-960 MHz), a footnote for Regions 1 and 2 was added to Article 5. HIBS use in the frequency bands 694 728 MHz, 830-835 MHz and 805.3-806.9 MHz is limited to reception only to protect the radio astronomy service from second harmonic interference. A country footnote was added to Article 5 for Region 3 as they could not reach consensus on a regional level. RCC and CEPT agreed on the protection of the aeronautical radionavigation service, which is based on a distance coordination trigger (1058 km) under No.9.21. The protection of broadcasting service under GE06 agreement is aligned with the ECP (i.e., pfd level without coordination trigger). In addition, Iran added another provision for the protection of broadcasting



services for countries listed outside the GE06 agreement as they have neighbouring countries from both Region 1 and 3.

For issues B (1710- 1885 MHz) and C (1885-1980 MHz, 2010-2025 MHz and 2110-2170 MHz), a global footnote was added to Article 5 of the Radio Regulations and Resolution 221 (WRC-07) was modified. The operation of HIBS in the frequency bands 1710-1785 MHz in Regions 1 and 2, and 1710-1815 MHz in Region 3 is limited to reception only, and in the frequency band 2110-2170 MHz is limited to transmission only. CEPT, CITEL, ASMG, RCC and APT agreed to additional provisions for the protection of AMS in the band 1780-1850 MHz as proposed by USA.

For issue D, (2.5 GHz), a global footnote was added to Article 5.

The solution was approved by the Plenary.

#### **NEXT STEPS**

None – work completed.

## AGENDA ITEM 1.5 - UHF REVIEW

### **Sub Working Group 4C2 (Ronel LE GRANGE, Namibia)**

*to review the spectrum use and spectrum needs of existing services in the frequency band 470-960 MHz in Region 1 and consider possible regulatory actions in the frequency band 470-694 MHz in Region 1 on the basis of the review, in accordance with Resolution 235 (WRC-15)*

### **CEPT POSITION**

CEPT supports a secondary allocation to the mobile service (except aeronautical mobile) in the frequency band 470-694 MHz to be made at WRC-23, with a future agenda item for WRC-31 to consider a possible upgrade to a primary allocation.

CEPT is of the view that sharing studies indicate that due care will be required in any introduction of new applications of the mobile service in the band.

CEPT is of the view that this agenda item seeks the long-term balance between (1) national requirements, in particular due to the evolution of spectrum usage and demands, and (2) the challenges of effective cross-border coordination between the existing services and various services/applications wishing to access spectrum, including applications of the mobile service.

In line with Resolution 235 (WRC-15), CEPT acknowledges and supports that no regulatory action is required in the band 694-960 MHz.

CEPT is of the view that the primary allocation of the 470-862 MHz band to the broadcasting service in Region 1 shall remain, in order to enable the protection and development of incumbent usage of the broadcasting service.

CEPT is of the view that any possible regulatory action by WRC-23 in the band 470-694 MHz shall not be in conflict with any provision of the GE06 Agreement.

CEPT supports the continuation and development of the incumbent usage by PMSE (SAB/SAP) (in accordance with existing RR No. **5.296**).

CEPT supports the protection of the radioastronomy service within the frequency band 606-614 MHz, where required, to ensure its continued operation. CEPT is of the view that any decision on regulatory action(s) in the band 470-694 MHz at the WRC-23 shall consider regulatory action to protect RAS, taking into account RR No. **5.149**.

CEPT is currently of the view that no changes are necessary concerning RR No. **5.291A** addressing the operation of wind profiler radars.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

Extensive discussions continued throughout the week on this agenda item; firstly, during Committee 4 Ad Hoc and an associated informal discussion group activity, which was again followed by further discussions between Heads of regional groups, with talks concluding on Thursday morning (December 14th).

This agenda item has now been resolved, with the following main elements, amongst others, now agreed:

1. A new secondary allocation, to the mobile, except aeronautical mobile, service has been agreed for implementation through a country footnote, which applies to the entire frequency band 470-694 MHz.

The footnote's country list will encompass most CEPT countries.

2. A further new secondary allocation to the mobile, except aeronautical mobile, service has been agreed for implementation through a country footnote, which applies to the 614-694 MHz band for a number of African countries;
3. A new primary allocation to the mobile, except aeronautical mobile, service has been agreed for implementation through a country footnote, which applies to the frequency range 614-694 MHz for a number of ASMG countries;
4. Resolution 235 has been modified to, amongst other items, enable:
  - a) a review, after WRC-27, of the spectrum use of the frequency band 470-694 MHz or parts thereof for some countries in Region 1; and,
  - b) based upon this review, consideration of:
    - i) possible regulatory actions in the frequency band 614-694 MHz at WRC-31;
    - ii) possible regulatory action to protect radio astronomy services in the frequency band 608-614 MHz.

## **NEXT STEPS**

None - work completed.

## **AGENDA ITEM 1.6 - SUB-ORBITAL VEHICLES**

### **Sub Working Group 4B1 (Kim KOLB, USA)**

*to consider, in accordance with Resolution 772 (WRC-19), regulatory provisions to facilitate radiocommunications for sub-orbital vehicles.*

#### **CEPT Position**

CEPT is of the view that a new WRC Resolution is required that:

- a new WRC Resolution is required that provides the conditions for the operation of terrestrial stations and earth stations fitted on board sub-orbital vehicles;
- the new Resolution should not affect the operation of satellite launchers operating in the space operation service;
- in response to *invites ITU-R 3 of Resolution 772 (WRC-19)*, CEPT has not currently identified any need for action to be taken after WRC-23 to identify additional spectrum for sub-orbital vehicles.

#### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The No Change option agreed by Committee 4 during the previous week was approved by Plenary.

#### **NEXT STEPS**

None – work completed.

## AGENDA ITEM 1.7 - AMS(R)S 137 MHz

### Sub Working Group 4B2 (Olivier AL PELLAY, France)

*to consider a new aeronautical mobile-satellite (R) service allocation in accordance with Resolution **428 (WRC-19)** for both the Earth-to-space and space-to-Earth directions of aeronautical VHF communications in all or part of the frequency band 117.975-137 MHz, while preventing any undue constraints on existing VHF systems operating in the aeronautical mobile (R) service, in the aeronautical radionavigation service, and in adjacent frequency bands*

### CEPT POSITION

CEPT supports a new primary allocation to AMS(R)S in the frequency band 117.975-137 MHz while:

- limiting the use of the new AMS(R)S allocation to non-geostationary satellite systems and internationally standardised aeronautical systems as developed by ICAO;
- mandating that the use of this new primary allocation to AMS(R)S be subject to coordination provisions of No. **9.11A**;
- ensuring protection of services in adjacent bands and not constraining these services;
- associating the new allocation with footnotes and a new WRC Resolution in order to detail certain elements of the regulatory framework.

CEPT is of the view that in-band coexistence between AM(R)S and AMS(R)S and adjacent-band coexistence with ARNS below 117.975 MHz need to be ensured through frequency planning and coordination work, taking into account the current ICAO frequency management framework.

CEPT is of the view that the provisions above will also ensure compatibility between AMS(R)S systems and AM(OR)S assignments in the band 132-137 MHz of countries listed in RR Nos. **5.201** and **5.202**.

CEPT is of the view that the protection of adjacent band services operating above 137 MHz from AMS(R)S emissions can be ensured:

- through the 1 MHz frequency separation in 136-137 MHz and RR Appendix **3** limits for spurious emissions for AMS(R)S systems operating in 117.975-136 MHz,
- through 62.5 kHz frequency separation and RR Appendix **3** limits for spurious emissions for the band 136136.9375 MHz and
- through a limit on the level of unwanted emissions above 137 MHz for AMS(R)S emissions from systems operating in 136.9375-137 MHz.

CEPT is of the view that when operating in the frequency band 136.8-137 MHz, AMS(R)S space receivers shall be able to operate in the presence of out-of-band aggregated power level as described in the draft new Resolution **[EUR-A17-SAT-VHF] (WRC-23)**, as a result of satellite systems operating in the frequency band 137-138 MHz, without imposing additional regulatory provisions on those services operating in the frequency band 137-138 MHz.

### SHORT REPORT, INCLUDING STATUS FOR WEEK 4

None – work was completed during week 3.

### NEXT STEPS

None – work completed.

## AGENDA ITEM 1.8 - RESOLUTION 155

### **Sub Working Group 4B3 (Per HOVSTAD, China)**

*to consider, on the basis of ITU-R studies in accordance with Resolution 171 (WRC-19), appropriate regulatory actions, with a view to reviewing and, if necessary, revising Resolution 155 (Rev.WRC-19) and No. 5.484B to accommodate the use of fixed satellite service networks by control and non-payload communications of unmanned aircraft systems*

### **CEPT POSITION**

CEPT is of the view that if the conditions for the safety operation of CNPC established by ICAO cannot be met with the existing FSS link as it stands, then this link should not be used by the UAS operator.

CEPT is of the view that the safety aspects of UAS CNPC shall not have any impact on:

- the existing terrestrial services and their current and expected applications;
- the relevant existing agreements reached during FSS satellite coordination process;
- the future coordination of FSS networks during the application of provisions of Articles 9 and 11 of the Radio Regulations.

CEPT considered two options in accordance with Resolution 171 (WRC-19) to respond to this agenda item:

- to suppress RR No. 5.484B together with Resolution 155 (Rev.WRC-19) as well as Resolution 171 (WRC-19)
- to modify RR No. 5.484B and Resolution 155 (Rev.WRC-19) and to suppress Resolution 171 (WRC-19)

No agreement was reached on these options.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

Work continued in an ad-hoc group under Committee 4 to attempt to reach a compromise between the remaining 5 options:

- Option 1: Suppression of Resolution 155 (method 1)
- Option 2: Revision of Resolution 155 (method 2)
- Option 3: Suppression plus new agenda item for AMS(R)S frequencies
- Option 4: No Change
- Option 5: Defer until the 2027 Conference, and take decisions then based on the status within ICAO

A solution was commonly agreed based on Option 5, but with the additional condition that WRC-27 is openly allowed to decide on a potential agenda item for WRC-31. The two core elements are:

- Freezing the Resolution 155 (Rev. WRC-19)
- Parallel studies on potential AMS(R)S frequency spectrum under agenda item 6 as a basis for decision for WRC-27 on the course of actions for WRC-31

In this context Resolution 171 (WRC-19) was agreed to be suppressed.

The final document was approved by the Plenary.

### **NEXT STEPS**

None – work completed.

## **AGENDA ITEM 1.9 - APPENDIX 27**

### **Sub Working Group 4B4 (Glenn ODLUM, Australia)**

*to review Appendix 27 of the Radio Regulations and consider appropriate regulatory actions and updates based on ITUR studies, in order to accommodate digital technologies for commercial aviation safety-of-life applications in existing HF bands allocated to the aeronautical mobile (R) service and ensure coexistence of current HF systems alongside modernized HF systems, in accordance with Resolution 429 (WRC19)*

### **CEPT POSITION**

CEPT is of the view that the current version of RR Appendix 27 does not preclude the use of wideband digital HF communication by using multiple channels simultaneously.

CEPT proposes:

- The introduction in the Appendix 27 of the relevant parts of the current text of the Rules of Procedure for clarification and,
- adjustments of the Appendix 27 of the RR to make explicit the possibility to use wideband emissions by aggregation of multiple individual channels each of which complies with the provisions of Appendix 27.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

None – work was completed during week 2.

### **NEXT STEPS**

None – work completed.

## **AGENDA ITEM 1.10 - AMS NON-SAFETY**

### **Sub Working Group 4B5 (Saad ALASKAR, Saudi Arabia)**

*to conduct studies on spectrum needs, coexistence with radiocommunication services and regulatory measures for possible new allocations for the aeronautical mobile service for the use of non-safety aeronautical mobile applications, in accordance with Resolution 430 (WRC19)*

### **CEPT POSITION**

CEPT acknowledges the need for additional spectrum to fulfil the increasing demand for non-safety aeronautical mobile applications. Therefore, CEPT supports new allocations to AM(OR)S for non-safety application in the whole range or a part of the frequency bands 15.4-15.7 GHz and 22-22.21 GHz while:

- ensuring protection of the EESS/SRS (passive), and the RAS from unwanted emissions of the AM(OR)S;
- not claiming protection nor create harmful interference to radiolocation and aeronautical navigation services in the 15.4-15.7 GHz frequency band;
- ensuring protection of the primary allocations to fixed-satellite (Earth-to-space) service in the frequency band 15.43-15.63 GHz;
- ensuring protection of the primary allocations to the fixed and mobile services in the frequency band 22-22.21 GHz noting that the frequency range 21.2-23.6 GHz is allocated to the fixed service;
- considering that RR No. **5.149** applies, also recognizing that some CEPT administrations operate RAS under their National regulation with a primary or secondary status in the frequency band 22.00-22.21 GHz.

Noting that some CEPT Administrations operate water vapour radiometers in the frequency range 22-22.5 GHz utilized by some radio astronomy stations and in a variety of environmental applications, including weather forecasting and nowcasting, as well as climate monitoring for meteorology, CEPT will also ensure their necessary protection.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The agreed solution from the previous week was approved by the Plenary.

### **NEXT STEPS**

None – work completed.



## **AGENDA ITEM 1.11 - GMDSS**

**Sub Working Group 4B6 (Issue A and B: Mohammed ALHASSANI, UAE; Issue C: Xia GE, China)**

*to consider possible regulatory actions to support the modernization of the Global Maritime Distress and Safety System (GMDSS) and the implementation of e-navigation, in accordance with Resolution 361 (Rev. WRC19)*

### **CEPT POSITION**

#### **Issue A: Modernisation of GMDSS**

CEPT supports regulatory actions needed to implement the GMDSS modernisation in the Radio Regulation based on decisions taken in IMO.

CEPT supports in particular:

- the removal of narrow band direct printing from the GMDSS and introduction of an automatic connection system for MF and selected HF bands;
- the introduction of NAVDAT as a component of the GMDSS;
- to accommodate Automatic Identification System - search and rescue transmitters (AIS-SARTs) as homing equipment for survival craft stations, as an alternative to Radar-SARTs;
- to accommodate Automatic Identification System homing signals provided by EPIRBs (EPIRB-AIS) as an alternative to EPIRBs sending signals on 121.5 MHz and 243 MHz;
- the removal of satellite EPIRBs operating in the frequency band 1645.5-1646.5 MHz (Earth-to-space) from the GMDSS in the Radio Regulations.

#### **Issue B: e-navigation**

CEPT is of the view that no change to the Radio Regulations is required as a consequence of no decision taken by IMO regarding spectrum requirements to implement e-navigation.

#### **Issue C: Regulatory action due to the introduction of additional satellite systems into the GMDSS by IMO**

CEPT does not support the introduction of the regional satellite system BEIDOU in the Radio Regulations in order to be part of the GMDSS, even if the IMO has recognised the BEIDOU Message Service System as a GMDSS service provider. The reasons are the lack of justification of the frequency requirement, the incompatibility with the current usage of the 1610-1626.5 MHz and 2483.5-2500 MHz bands in which BEIDOU would like to operate and the non-achievement of the frequency coordination with the other MSS systems present in these frequency bands.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

Discussions in CEPT converged to the view that the compromise option, based on the proposals from France and China, could accommodate BDMSS as a GMDSS system while addressing concerns of CEPT administrations: The restriction to the GSO system and the service area recognised by IMO was made explicit in the new Resolution and in the footnote to Article 5. The Resolution ensures that protection under Appendix 15 comes into effect only after coordination is completed and instructs the BR to report to WRC-27 on this matter. The spectrum requirements of the candidate systems can be considered justified by its technical characteristics.

Agreement on the exact frequency range to be adopted into Appendix 15 for the uplink required intensive discussion. Finally, a disjunction of two bands, 1614.4225-1618.725 or 1616.3-1620.38 MHz, was proposed, subject to revision by the next WRC after completion of coordination.

#### **NEXT STEPS**

None – work completed.

## **AGENDA ITEM 1.12 - EESS (ACTIVE) RADAR SOUNDERS**

### **Sub Working Group 5A1 (Bruno ESPINOSA)**

*to conduct, and complete in time for WRC-23, studies for a possible new secondary allocation to the Earth exploration-satellite service (active) for spaceborne radar sounders within the range of frequencies around 45 MHz, taking into account the protection of incumbent services, including in adjacent bands, in accordance with Resolution 656 (Rev.WRC-19)*

### **CEPT POSITION**

CEPT supports a new secondary allocation to the Earth exploration-satellite service (active) in the 40-50 MHz band while ensuring the protection of incumbent services already allocated to the 40-50 MHz band or adjacent frequency ranges.

CEPT supports the development of technical and regulatory provisions, which would provide protection to the incumbent services while allowing the operation of spaceborne radar sounders in the EESS (active). Specifically, CEPT proposes to apply a set of pfd limits to EESS (active), one reference value (-147 dB(W/(m<sup>2</sup> · 4 kHz))) not to be exceeded for more than 0.05% of the time and a cap value (-136 dB(W/(m<sup>2</sup> · 4 kHz))), with additional provisions to cover the case of multiple EESS (active) spaceborne radar sounders in operation.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The issue was discussed at Committee 5 with 2 options, either No Change, supported by ASMG, or the solution with EESS (active) operations limited to the polar regions and Greenland, where outside of these areas operations might be possible upon agreement of specific administrations.

After intense discussion during which ASMG argued that the -189 dB(W/(m<sup>2</sup> · 4 kHz)) pfd was not sufficient, but that they would be willing to accept a much lower pfd value, it was finally agreed on this pfd value in order to retain the mention of explicit agreement.

The Plenary finally adopted the secondary allocation to EESS (active) with the above-mentioned limitations.

### **NEXT STEPS**

None – work completed.

## **AGENDA ITEM 1.13 - SRS 15 GHZ**

### **Sub Working Group 5A2 (Anton STEPANOV, Russian Federation)**

*to consider a possible upgrade of the allocation of the frequency band 14.8-15.35 GHz to the space research service, in accordance with Resolution 661 (WRC-19)*

### **CEPT POSITION**

CEPT is supporting an upgrade of the space research service (SRS) allocation to satellite systems operating in the space-to-space, space-to-Earth and Earth-to-space directions at distances from the Earth less than  $2 \times 10^6$  km from secondary to primary while ensuring protection for in-band FS/MS and for radioastronomy service in the adjacent band 15.35-15.4 GHz. Upgrading of the allocation of the frequency band 14.8-15.35 GHz to the SRS shall not claim protection from the aeronautical mobile service (AMS) and from the FS in the frequency band 14.8-15.35 GHz.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

A compromise solution was reached at the beginning of the week. Allocations for all directions will be upgraded for space research service near to Earth with conditions to protect the existing services. Therefore, this compromise is in line with the European position. The solution was adopted at the Plenary on Wednesday.

### **NEXT STEPS**

None – work completed.

## **AGENDA ITEM 1.14 - EESS (PASSIVE) 250 GHZ**

### **Sub Working Group 5A3 (Ahmad AMIN, UAE)**

*to review and consider possible adjustments of the existing frequency allocations or possible new primary frequency allocations to the Earth exploration-satellite service (passive) in the frequency range 231.5-252 GHz, to ensure alignment with more up-to-date remote-sensing observation requirements, in accordance with Resolution 662 (WRC-19)*

### **CEPT POSITION**

CEPT supports to cover relevant requirements of passive microwave sensor measurements within the frequency range 231.5-252 GHz with frequency allocations to EESS (passive) without unduly constraining the other primary services currently allocated in this frequency range, specifically:

- In line with the scientific observation requirements identified so far, CEPT supports a new primary allocation to the EESS (passive) in the frequency bands 239.2-242.2 GHz and 244.2-247.2 GHz;
- In order to avoid undue constraints to the primary services to which the bands 239.2-242.2 GHz and 244.2-247.2 GHz are currently allocated and subject to the outcome of the relevant sharing and compatibility studies with the services to which these and the adjacent bands are already allocated, CEPT is also proposing a shift of existing allocations to the FS and MS in the frequency band 239.2-241 GHz into the frequency band 235-238 GHz;
- In order to ensure that there will be no potential future impact to FS and MS in the frequency band 235 - 238 GHz, CEPT proposes to limit the existing allocation to EESS (passive) in this frequency band for use by limb sounding passive sensors only.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

None – work was completed during week 3.

### **NEXT STEPS**

None - work completed.

## **AGENDA ITEM 1.15 - GSO ESIM KU-BAND**

### **Sub Working Group 5B1 (Giselle CREESER, USA)**

*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)*

### **CEPT POSITION**

CEPT supports establishing a regulatory framework and technical requirements for operation of earth stations on aircraft and vessels 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 considers that earth stations on aircraft and vessels in the frequency band 12.75-13.25 GHz shall operate consistent with the Appendix **30B** procedures, protect the Appendix **30B** allotments in the Plan, assignments in the List and in the new proposed Appendix **30B** ESIM List (if adopted at WRC-23) and respect Resolution **170 (WRC-19)**.

CEPT supports the operation of these earth stations in the territories (air space and territorial waters) of administrations which have given agreement under No. **6.6** of Article 6 of Appendix **30B** and have authorised such operation within their territories. The characteristics of these earth stations should remain in the envelope of notified earth station characteristics.

CEPT supports the application of on-axis (depending on the maximum antenna gain) and off-axis e.i.r.p. density limits for the purpose of the protection of non-GSO FSS systems.

CEPT supports the use of power flux density (PFD) limits on the earth surface for earth stations on aircraft to ensure the protection of Mobile and Fixed Services, and also supports the development of a methodology to verify compliance with PFD limits by GSO earth stations on aircraft or of adequate transitional measures in case WRC-23 could not finalise the methodology.

CEPT is of the view that the notifying administration of the GSO network with which the earth stations on aircraft and vessels communicate should be identifiable to address the potential cases of harmful interference caused by any earth station on aircraft and vessels to fixed and mobile services. This identification could be done thanks to:

- i) the license issued by / authorisation of the administration for the operation of the earth station on aircraft and vessels on its territory;
- ii) the assistance of the flag nation of aircraft/vessel;
- iii) the on-board radio license of the aircraft or vessel equipped with an earth station.

CEPT is of the view that, unless specified otherwise in the Radio Regulations, the receiving part of these earth stations in the associated frequency bands shall not claim protection from terrestrial services having allocations in the same frequency bands and operating in accordance with the Radio Regulations.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The draft new Resolution was editorially reviewed and approved at Plenary.

**NEXT STEPS**

None – work completed.

## AGENDA ITEM 1.16 - NGSO ESIM KA-BAND

### **Sub Working Group 5B2 (Mario NERI, France)**

*to study and develop technical, operational and regulatory measures, as appropriate, to facilitate the use of the frequency bands 17.7-18.6 GHz, 18.8-19.3 GHz and 19.7-20.2 GHz (space-to-Earth) and 27.5-29.1 GHz and 29.5-30 GHz (Earth-to-space) by non-geostationary fixed-satellite service earth stations in motion, while ensuring due protection of existing services in those frequency bands, in accordance with Resolution 173 (WRC-19)*

### **CEPT Position**

CEPT supports the development of a regulatory framework for the operation of aeronautical and maritime ESIMs communicating with non-GSO satellite systems in the FSS in the frequency bands 17.7-18.6 GHz, 18.8 - 19.3 GHz and 19.7-20.2 GHz (space-to-Earth) and 27.5-29.1 GHz and 29.5-30 GHz (Earth-to-space).

CEPT also supports the operations of Land ESIMs in the frequency bands above and recognizes that they are subject to national regulations. Such operations shall not cause unacceptable interference to terrestrial services in neighbouring countries.

CEPT supports that the technical and operational requirements for the use of non-GSO ESIM shall ensure the protection of GSO networks and other services operating in the same frequency bands and in adjacent bands:

- CEPT is of the view that the protection of GSO networks in the fixed-satellite service operating in the frequency bands 17.8-18.6 GHz, 19.7-20.2 GHz, 27.5-28.6 GHz and 29.5-30 GHz from non-GSO ESIM can be achieved by requiring that links involving non-GSO ESIM comply with epfd limits referred to in Nos. **22.5C**, **22.5D** and **22.5F** and that the methodology included in Recommendation ITU-R S.1503 for determination of compliance with epfd limits in Article 22 is applicable to ESIM communicating with non-GSO FSS systems
- CEPT is of the view that to protect GSO networks – in those bands where epfd limits do not apply - and non-GSO systems in the FSS:
  - non-GSO ESIM characteristics shall remain within the envelope characteristics of typical earth stations associated with the non-GSO satellite system with which the ESIM communicates;
  - non-GSO ESIM shall not cause more interference and shall not claim more protection than typical earth stations in this non-GSO system;
  - the operation of non-GSO ESIM shall comply with the coordination agreements obtained following the application of provisions under No. **9.11A**.

CEPT supports that the technical and operational requirements for the use of non-GSO ESIM shall ensure the protection of fixed and mobile services with allocations in the frequency bands considered in this agenda item:

- CEPT is of the view that non-GSO ESIM operating in the frequency bands 17.7-18.6 GHz and 18.8-19.3 GHz (space-to-Earth) shall not claim protection from stations in the fixed and mobile services operating in the same frequency bands in accordance with the Radio Regulations;
- CEPT supports the use of PFD (power flux density) limits on the Earth's surface for aeronautical ESIMs to ensure the protection of fixed and mobile services. CEPT supports also the use of the methodology under development to examine compliance with the pfd limits by non-GSO aeronautical ESIM or transitional measures in case WRC-23 could not agree on the methodology;
- CEPT supports the applicability of the limits contained in Annex 3 to Resolution **169 (WRC-19)** to aeronautical and maritime ESIMs communicating with non-GSO systems operating in the frequency band 27.5-29.1 GHz; such ESIMs shall not cause unacceptable interference to fixed and mobile services operating in the same frequency band;
- CEPT supports the use of the limits contained in Annex 3 to Resolution **169 (WRC-19)** to protect stations in the fixed and mobile services operating in the frequency band 29.5-30 GHz on the entire territories of administrations mentioned in No. **5.542**.



- CEPT is of the view that the notifying administration of the non-GSO system with which the ESIMs communicate should be identifiable to address the potential cases of harmful interference caused by any ESIM to fixed and mobile services. This identification could be done thanks to:
  - i) the license issued by / authorisation of the administration for the operation of the ESIM on its territory;
  - ii) the assistance of the flag nation of aircraft/vessel;
  - iii) the on-board radio license of the aircraft or vessel equipped with the ESIM.

CEPT supports the protection of EESS (passive) sensors in the frequency band 18.6-18.8 GHz through an unwanted emission pfd limit over the oceans of -118 dBW/m<sup>2</sup>/200 MHz for MEO FSS satellites and -110 dBW/m<sup>2</sup>/200 MHz for LEO FSS satellites communicating with aeronautical and maritime ESIM. In addition, CEPT supports that no specific measure is required for non-GSO systems operating in LEO orbits that make use of frequency reuse schemes employing at least three colours.

#### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The solution agreed during the previous week was approved by the Plenary.

#### **NEXT STEPS**

None – work completed

## AGENDA ITEM 1.17 - INTER-SATELLITE LINKS

### Sub Working Group 5B3 (Samuel BLONDEAU, Luxembourg)

*to determine and carry out, on the basis of ITU-R studies in accordance with Resolution 773 (WRC-19), the appropriate regulatory actions for the provision of inter-satellite links in specific frequency bands, or portions thereof, by adding an inter-satellite service allocation where appropriate.*

### CEPT POSITION

CEPT supports the operation of satellite-to-satellite links under a new inter-satellite service allocation in the frequency bands 18.1-18.6 GHz, 18.8-20.2 GHz and 27.5-30 GHz, under conditions to ensure the protection of existing services in the same frequency bands and adjacent bands.

CEPT supports that the introduction of satellite-to-satellite transmissions must ensure the same level of protection for GSOs and non-GSOs as currently provided in the RR and must not impose new constraints on GSOs and non-GSOs to protect satellite-to-satellite links from interference.

CEPT supports that the introduction of satellite-to-satellite transmissions must ensure the same level of protection for terrestrial services as currently provided in the RR and must not impose new constraints on terrestrial services to protect satellite-to-satellite links from interference. CEPT does not support establishing a pfd mask to protect secondary terrestrial services operated in conformity with No. 5.542.

CEPT supports a NOC for the 11.7-12.7 GHz frequency band.

CEPT supports an ISS allocation. The hard limits or coordination procedures to protect terrestrial services and/or other satellite networks/systems will not be tied to the type of allocation.

CEPT supports a limitation to space research, space operation and Earth exploration-satellite applications and also transmissions of data originating from industrial and medical activities in space.

CEPT supports the operations under the “expanded cone” concept of operations, limited to the LEO-GSO links.

CEPT supports the development of provisions where no additional coordination would be required for the user and service provider space stations if satellite-to-satellite emissions fall within the envelope of the operational characteristics of the service provider.

For the protection of GSO systems, CEPT supports a pfd approach in the efd bands for non-GSO service providers, and a under the envelope approach for coordinated bands (for both non-GSO and GSO service providers).

For the protection of non-GSO systems, CEPT supports the development of hard limits in the bands 19.3-19.7 GHz and 27.5-30 GHz.

CEPT proposes that space stations that plan satellite-to-satellite transmissions should be governed by the following preliminary guiding principles:

- 1) Satellite-to-satellite link transmissions will comply with the same directionality indicators as in the existing FSS allocations (Earth-to-space = from user space station to service provider space station, space-to-Earth = from service provider space station to user space station);
- 2) Non-GSO user space stations will operate in a manner that should resemble typical Earth stations of the FSS service provider system;

- 3) The equivalent power flux-density,  $\text{epfd}_{\uparrow}$ , produced at any point in the geostationary-satellite orbit by emissions from all combined operations of inter-satellite and typical Earth station transmissions shall not exceed the limits given in Table 22-2;
- 4) The equivalent power flux-density,  $\text{epfd}_{\downarrow}$ , at any point on the Earth's surface visible from the transmitting satellite system, produced by emissions from all the space stations of the non-geostationary-satellite system shall not exceed the limits given in Tables 22-1A to 22-1E, where applicable;
- 5) The higher altitude to lower altitude link transmissions in 18.1-18.6 GHz and 18.820.2 GHz from the GSO or non-GSO FSS service provider space station to the non-GSO user space station would be identical in technical characteristic to the transmissions from GSO or non-GSO service providers to any ground-based user in the service provider's network.
- 6) CEPT supports the protection of EESS (passive) sensors in the frequency band 18.6-18.8 GHz through an unwanted emission pfd limit over the oceans of  $-118 \text{ dBW/m}^2/200 \text{ MHz}$  for MEO satellites and  $-110 \text{ dBW/m}^2/200 \text{ MHz}$  for LEO satellites communicating with non-GSO space stations. In addition, CEPT supports that no specific measure is required for non-GSO systems operating in LEO orbits that make use of frequency reuse schemes employing at least three colours.

#### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

Consensus was reached with other regions, including RCC, to enable the inter-satellite service (ISS) in the Ka band. The compromise solution agreed by CEPT includes:

- the extension to 29.5-30 GHz of the protection of the terrestrial services;
- an upgrade of the protection level regarding non-GSOs with operational altitude of 900 km;
- an upgrade of the pfd mask within Table 21-4;
- the protection of GSO in the fixed-satellite service.

Russia demanded coordination or explicit agreement related to an ISS service area. The compromise accepted by RCC during WRC-23 is limited to the case of a GSO relay satellite closer than  $2^\circ$  from a GSO FSS satellite above its country. The service provider shall seek agreement with the neighbouring GSO. This means the ISS service provider must provide information bilaterally in advance, so that the neighbouring GSO is informed without delays who to contact in case of harmful interference, and can operate without completion of an agreement. All the other proposals from CEPT were accepted by the other regions, including the expanded cone concept of operations and therefore the outcome of this agenda item is satisfactory for CEPT.

This solution was approved by the Plenary.

#### **NEXT STEPS**

None – work completed.

## **AGENDA ITEM 1.18 - MSS DATA COLLECTION**

### **Sub Working Group 5B4 (Jennifer MANNER, USA)**

*to consider studies relating to spectrum needs and potential new allocations to the mobile-satellite service for future development of narrowband mobile-satellite systems, in accordance with Resolution 248 (WRC-19)*

### **CEPT POSITION**

CEPT supports “No Change” to the Radio Regulations for the frequency bands 1695-1710 MHz, 2010-2025 MHz, 3300-3315 MHz, and 3385-3400 MHz.

CEPT considers further the possibility for a global allocation for narrowband MSS to be addressed by WRC27.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

None – work was completed during week 2.

### **NEXT STEPS**

None – work completed.

## **AGENDA ITEM 1.19 - FSS 17 GHZ**

### **Sub Working Group 5B5 (Luciana FERREIRA, Brazil)**

*to consider a new primary allocation to the fixed-satellite service in the space-to-Earth direction in the frequency band 17.3-17.7 GHz in Region 2, while protecting existing primary services in the band, in accordance with Resolution 174 (WRC-19);*

### **CEPT POSITION**

CEPT supports a new FSS (space-to-Earth) allocation in Region 2 in the frequency band 17.3-17.7 GHz, which facilitates the use of spectrum available to networks and systems in the FSS across Regions.

CEPT also supports harmonisation in Regions 1 and 2 of the provisions that apply between FSS networks in this frequency band.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

A compromise solution was reached, based on the CITELE input to the Conference, with the addition of a pfd limit to protect Region 1 and Region 3 Appendix 30A assignments from the downlink of the fixed-satellite service in Region 2. It should be noted that while both a hard limit and coordination are implemented, the value of the pfd is not restrictive. This limit only applies for Earth limb cases (orbital separation between 152.6 and 162.6°). This solution was approved at Committee 5. The CEPT position is almost met, with the only exception of epfd limits for the downlink in Region 1. This topic is planned to be addressed in a future agenda item covering fixed-satellite service downlink in 17.3-17.7 GHz in Region 3, as well as consideration of non-GSO globally.

This solution was approved by the Plenary.

### **NEXT STEPS**

None – work completed.

## **AGENDA ITEM 2 - RECS INCORPORATED BY REFERENCE**

### **Sub Working Group 6A1 (Keiko MORI, Japan)**

*to examine the revised ITUR Recommendations incorporated by reference in the Radio Regulations communicated by the Radiocommunication Assembly, in accordance with 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 resolves of that Resolution*

#### **CEPT Position**

CEPT supports updating the reference(s) in relevant RR provisions of the following ITU-R Recommendation(s): from ITU-R M.585-8 to M.585-9.

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.

#### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

None – work was completed during week 3.

#### **NEXT STEPS**

None – work completed.

## **AGENDA ITEM 4 - REVIEW OF RES/RECS**

### **Sub Working Group 6A1 (Keiko MORI, Japan)**

*in accordance with Resolution 95 (Rev. WRC 19), to review the Resolutions and Recommendations of previous conferences with a view to their possible revision, replacement or abrogation;*

#### **CEPT Position**

CEPT encourages the constant review of Resolutions and Recommendations from previous conferences and will follow activities, in particular of ITU, associated with this effort.

- CEPT proposes to suppress Resolutions: RES 75 (Rev.WRC-12), RES 160 (WRC-15), RES 161 (WRC-15)
- CEPT proposes to modify Resolutions: RES 49 (Rev.WRC-19), RES 85 (WRC-03), RES 99 (Rev.WRC-19), RES 140 (Rev. WRC-15), RES 163 (WRC-15), RES 343 (WRC-97), RES 608 (Rev. WRC-19), RES 731 (Rev. WRC-19), RES 762 (WRC-15), RES 804 (Rev. WRC-19)
- CEPT proposes to modify Recommendations: REC 34 (Rev. WRC-12).

#### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The agreements reached on this agenda item in the previous week were approved by the Plenary.

#### **NEXT STEPS**

None -work completed.

## **AGENDA ITEM 7 - SATELLITE PROCEDURES (RES. 86)**

### **Sub Working Group 5C1 (Jack WENGRYNIUK, USA)**

*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;*

### **CEPT POSITION**

CEPT supports retaining the current process of continuing evolution at successive WRCs of the regime governing space services. CEPT also favours a stable and predictable regulatory framework for efficient use of spectrum and orbit resources. CEPT intends to develop specific positions susceptible to bring improvement to the regulatory process.

CEPT favours the review of any RR provision which can bring accurate solutions to specific detected inconsistencies and develop new improved provisions with emphasis on solving the most urgent issues, i.e. well characterised issues whose improvement is urgent and impacting.

### **TOPIC A: TOLERANCES FOR NON-GSO ORBITAL CHARACTERISTICS**

#### **CEPT POSITION ON TOPIC A**

CEPT supports the development of the definition of tolerances limited to the orbital characteristics below of non-GSO space stations in FSS, BSS and MSS identifying a “notified orbital plane”:

- the inclination of the orbital plane;
- the altitude of the apogee of the orbit of the space station;
- the altitude of the perigee of the orbit of the space station, except in the case of HEO orbits.

CEPT supports the development of these tolerances only for FSS, BSS and MSS systems subject to Resolution **35 (WRC-19)** in the context of ITU regulatory procedures such as BIU, BBIU and the milestone-based approach. In the absence of such tolerances, it is unclear whether the requirements of Resolution **35 (WRC-19)** are met.

CEPT supports, except under No. **11.44C** and **11.49.2**, that tolerances could be temporarily exceeded for a short period of time to permit rephasing of satellites in an orbit-plane after a launch of new non-GSO space stations.

CEPT supports appropriate regulatory consequences under Nos. **11.44C**, **11.49.2** and **11.51** for frequency assignments to non-GSO space stations that do not maintain these to-be-developed orbital tolerances.

CEPT does not support methods permitting notifying administrations to self-declare the expected orbital altitude and inclination variations.

CEPT supports defining orbital tolerances such that the operation of non-GSO systems within those tolerances does not adversely impact the interference environment of other networks, systems and services.



CEPT supports for all networks to align their notified orbital characteristics with deployed orbital characteristics without regulatory implication subject to a maximum difference allowed between the notified and deployed orbital characteristics of the satellite system.

CEPT supports an accurate definition of a circular/elliptical orbit through the parameters required in Appendix 4, namely the distance between the perigee or apogee and the centre of the Earth.

#### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The Conference agreed a regulatory solution based on a merge of the proposal submitted by CITELE which proposed to review the tolerances at each milestone and the CEPT/APT 2-step approach (i.e. a large tolerance of 70 km to select final notified orbital parameters compared to the one submitted at CR/C level, and a small tolerance of 30 km). The new regulatory proposal considers the 2-step approach, but the application of the small tolerance will occur only as soon as a satellite is classed as bring into use (BIU), bring back into use (BBIU) or for the milestone purpose.

According to the agreed solution, for a non-GSO constellation lower than 2000 km, an administration could deploy its satellites within a range of +/- 70 km from the notified altitude, and variation of inclination less than 2 degrees or between 70 km & 100 km and inclination between 2 & 3 degrees subject to demonstration that these satellites will not create more interference (1<sup>st</sup> step). As soon as a satellite is used for BIU, BBIU or milestone under Resolution 35, these satellites could not move from their current deployed altitude for more than +/- 30 km and inclination variation less than 2 degrees (2<sup>nd</sup> step). At the end of the Milestone process, the administration is obliged to update its notification to fully align the MIFR data with its deployed orbital parameters. For non-GSO constellations with altitude greater than 2000 km, the same mechanism applies but with the respective values of 5 to 10% and 3 to 4 degrees for the 1<sup>st</sup> step. For the 2<sup>nd</sup> step, it is still required to respect the altitude tolerance of 30 km but with an inclination variation less than 3 degrees.

#### **NEXT STEPS**

None – work completed.

#### **TOPIC B: NON-GSO BIU POST-MILESTONE PROCEDURE**

##### **CEPT POSITION ON TOPIC B**

CEPT supports the adoption of a new Resolution to replace resolves 19 of Resolution **35 (WRC-19)** at WRC-23 suppressing resolves 19 of Resolution 35 (WRC-19) and leaving the rest of the Resolution **35 (WRC-19)** as is otherwise.

CEPT supports a decision at this WRC to give administrations a more stable regulatory framework to adapt their launch strategies to these new rules after their 3rd Milestone, which will take place mainly from 2027 onwards.

CEPT supports a regulatory solution aligning the post milestone procedures in this new Resolution with No. 11.49 and Resolution **35 (WRC-19)** allowing some operational flexibilities:

Possibility to operate a minimum 95% of the number of satellites notified in the MIFR without regulatory impact for constellations with more than 50 satellites.

Possibility to operate less than 95% of the number of satellites notified in the MIFR for a maximum period of 3 years without regulatory impact for constellations with more than 50 satellites. (A suspension process analogue to the GSO case is proposed.)

Considering the process to duly notify the Bureau based on similar regulatory mechanism as in **No. 11.49**

CEPT supports a reduction in the number of satellites notified in the MIFR if the deployed number of satellites falls below 95% of that which was notified in the MIFR for a continuous period exceeding 3 years for constellations with more than 50 satellites.

CEPT supports a threshold below 95% for constellations with less than or equal to 50 satellites.

CEPT considers that the application of No. **13.6** by the BR is not an adequate solution for Topic B.

#### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

A Post-milestone solution was agreed and added in Resolution 35.

These post-milestone procedures propose to:

- Submit a report every year, for information purpose only, indicating all events regarding modification of the altitude of specific satellites (date of the beginning and of the end of the event, reason)
- Submit a report every 4 years with a snapshot of the constellation at the time of the report submission. If the number of satellites in this report is below the threshold as defined in the Resolution, the number of satellites deployed shall be above the threshold at the subsequent report in 4 years. If the number of satellites deployed is still below the threshold at the subsequent report, the total number of satellites as contained in the MIFR shall be reduced to the total number of satellites as indicated in the last report.

The annual report will permit to collect deployment data to permit the review of the post-milestone procedure at a subsequent WRC.

#### **NEXT STEPS**

None – work completed.

#### **TOPIC C: PROTECTION OF GSO MSS FROM NON-GSO EMISSIONS IN 7/8 AND 20/30 GHZ**

##### **CEPT POSITION ON TOPIC C**

CEPT supports the identification and definition of criteria, extensions and addition of provisions in order to quantify the protection of GSO networks operating in the MSS from interference caused by non-GSO networks or systems operating in the same frequency bands 7250-7750 MHz (space-to-Earth), 7900-8025 MHz (Earth-to-space), 20.2-21.2 GHz (space-to-Earth) and 30-31 GHz (Earth-to-space) and in identical directions.

More specifically, CEPT supports:

- the modification of footnote RR No. **5.461** to exempt agreements under RR No. **9.21** regarding GSO networks in the MSS in the frequency bands 7250-7300 MHz and 7300-7375 MHz with respect to non-GSO systems for which complete coordination or notification information, as appropriate, are received by the Bureau after 15 December 2023.
- extend the provisions of RR No. **22.2** via an additional Article No. **22.2bis** to GSO networks in the MSS in the concerned frequency bands.
- introducing new RR Appendix 4 data items for assignments to non-GSO systems in the above-mentioned frequency bands to better facilitate analysis of potential interference for victim GSO networks.

#### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

None - work was completed during week 3.

#### **NEXT STEPS**

None – work completed.

#### **TOPIC D1: MODIFICATIONS TO APPENDIX 1 TO ANNEX 4 OF APPENDIX 30B**

##### **CEPT POSITION ON TOPIC D1**

CEPT supports correcting the values of the coordination arc in the aggregate C/I calculation in Appendix 1 to Annex 4 of RR Appendix **30B** based on the coordination arc reductions decided at WRC-19.

#### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

None – work was completed during week 1.

#### **NEXT STEPS**

None – work completed.

#### **TOPIC D2: NEW APPENDIX 4 PARAMETERS FOR RECOMMENDATION ITU-R S.1503 UPDATES**

##### **CEPT POSITION ON TOPIC D2**

CEPT supports making modifications to Appendix 4 in consequence of the revision to Recommendation ITU-R S.1503 agreed at ITU-R SG 4 in July 2023 and sent for formal adoption and approval.

#### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

None – work was completed during week 2.

#### **NEXT STEPS**

None – work completed.

#### **TOPIC D3: BR REMINDERS FOR BIU AND BBIU**

##### **CEPT POSITION ON TOPIC D3**

CEPT supports to establish reminders for confirming the bringing into use or bringing back into use of a satellite network or system under Nos. **11.44B**, **11.44C**, **11.44D** and **11.44E**.

##### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

None – work was completed during week 1.

#### **NEXT STEPS**

None – work completed.

#### **TOPIC E: IMPROVED PROCEDURES UNDER APPENDIX 30B FOR NEW ITU MEMBER STATES**

##### **CEPT POSITION ON TOPIC E**

CEPT supports the right of every ITU Member State to obtain a national allotment in the Plan in line with the objective of the Appendix **30B**.

CEPT supports to grant new ITU Member States the same conditions as those granted to administrations having no assignments in the Appendix **30B** List, or assignments listed under 6.1, as adopted in Resolution **170 (WRC-19)**, in addition to the procedure for the addition of a new allotment to the Plan for a new ITU Member State, already contained in Article 7 of Appendix **30B** of the RR. In addition, CEPT supports to add a new Annex 7 to Appendix **30B** of the RR to facilitate the addition of a new allotment to the Plan for a new Member State of the Union.

CEPT encourages new ITU Member States and the resulting affected administrations to actively undertake and cooperate in coordination discussions.

##### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

A new procedure in accordance with the ECP was approved by WRC-23 to facilitate a national allotment in Appendix 30B for new Member States without national allotment through Article 7 of Appendix 30B whilst ensuring some protection level to additional systems already deployed and in operation in Appendix 30B.

## **NEXT STEPS**

None – work completed.

## **TOPIC F: EXCLUDING UPLINK SERVICE AREA IN APPENDIX 30A FOR REGIONS 1 & 3 AND IN APPENDIX 30B**

### **CEPT POSITION ON TOPIC F**

Considering high level of completed coordination in Resolution 559 (WRC-19) between administrations, CEPT supports bilateral coordination solutions or national licensing conditions to address potential encountered problems on a case-by-case basis.

CEPT considers that the current regulatory provisions are adequate to address this Topic and supports No Changes to the Radio Regulations.

CEPT notes that, as an example, aligning the coverage area with the service area is not always technically feasible.

CEPT encourages administrations involved in Resolution **559 (WRC-19)** coordinations to make utmost efforts to communicate with requesting administrations and to timely reply in order to complete coordination.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

WRC-23 agreed on specific procedures for national projects submitted by one administration or for regional projects submitted by one administration on behalf of all administrations included in the regional service area. For these national/regional projects, it was proposed to adopt the following course of action:

- The BR could help in the selection of the orbital position for these national/regional projects
- These national/regional projects will follow the current coordination process and the BR will indicate to affected administrations and will recommend utmost effort to accommodate their need
- In case of continuing disagreement, the assistance of the BR will be requested, and bi-lateral coordination will be organised with BR support, with the possibility to consider the real uplink contour of the affected network
- In case of continuing disagreement without real technical justification, the BR will submit the results of its analysis to the RRB for their review. For affected networks not yet in the List on 1 January 2025, the RRB could request the BR to apply a specific mechanism to perform a new compatibility analysis by replacing the uplink global coverage with ellipses over the service area.

This solution was approved by the Plenary.

## **NEXT STEPS**

None – work completed.

## **TOPIC G: RESOLUTION 770 (WRC-19) GSO PROTECTION FROM SINGLE ENTRY NON-GSO IN Q/V BANDS**

### **CEPT POSITION ON TOPIC G**

CEPT supports to amend Resolution **770 (WRC-19)** by suppressing Annex 2 from Resolution **770 (WRC-19)** and move it to a new recommendation ITU-R S.2157 to be incorporated by reference in Resolution **770 (WRC-19)**.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The solution agreed during the previous week was approved by the plenary.

### **NEXT STEPS**

None – work completed.

## **TOPIC H: ENHANCED PROTECTION OF APPENDICES 30 AND 30A IN REGION 1 AND 3 AND APPENDIX 30B**

### **CEPT POSITION ON TOPIC H**

CEPT notes that there are several Planned bands initiatives to be discussed at WRC-23 and generally supports the continued protection of Appendices **30** and **30A** and Appendix **30B**.

CEPT does not support to change the current provisions with regards to implicit agreement at WRC-23 but CEPT is willing to consider studying the implications of suppressing provisions with regards to implicit agreement.

CEPT does not support to reduce the EPM degradation tolerance in Appendices **30** and **30A** without any valid technical studies supporting the reasoning behind such a modification.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The solution for this Topic was based on Method H1C, which replaces the implicit agreement with a new regulatory mechanism, for which the administration of the national assignment/allotment provides agreement to the administration of the additional use/system to operate until the bringing into use of its national assignment/allotment. At that time, the administration of the additional use/system commits to comply with the pfd level in respect of the affected national assignment/allotment. As the national allotment/assignment will not operate simultaneously on the same frequency over the same area as the additional use, mutual interference is not considered. The provision on the commitment aspect was further improved, to ensure that it was firm objective, measurable and enforceable. If the pfd level is not met, the BR shall submit the case of assignments in the List not respecting such conditions to the RRB with relevant information for necessary, appropriate actions.

As this was a package solution with Topic F, there was agreement from ATU not to change the EPM degradation tolerance and it remains at 0.45 dB.

The proposed solution for Topic H was approved at the Plenary.

#### **NEXT STEPS**

None – work completed.

#### **TOPIC I: SPECIAL ARRANGEMENTS UNDER APPENDIX 30B**

##### **CEPT POSITION ON TOPIC I**

CEPT supports a regulatory solution based on a specific agreement, on a voluntary basis, allowing an administration suffering from low reference protection margin for its national allotment in Appendix **30B** due to agreements under § 6.15 to retrieve adequate reference protection margin.

CEPT supports the possibility to sign a specific agreement between an additional system and a national allotment in Appendix 30B permitting the additional system to cover the territory of the national allotment in Appendix **30B** until the bringing into use of this national allotment in Appendix **30B**.

CEPT supports the adaptation of the additional system operations to not create harmful interference and to fully protect the operations of the national allotment with which the specific agreement was signed.

CEPT encourages administrations for which § 6.15 of Appendix **30B** has been applied with respect to a national allotment, to cooperate and consider signing such a specific agreement.

##### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

Only one Method was proposed for this Topic. The agreed regulatory solution will permit national allotments for those countries who did not comment in the past on the publication of an additional system to sign a new type of agreement. With such an agreement, the additional system commits to comply with the pfd level in respect of the affected national allotment at the time when this national allotment will be brought into use. The mutual interference won't be considered and automatically the national allotment will receive an adequate protection level.

The Plenary approved the proposed way forward.

#### **NEXT STEPS**

None – work completed

## TOPIC J: MODIFICATIONS TO RESOLUTION 76 (REV.WRC-15)

### CEPT POSITION ON TOPIC J

CEPT supports the modification of Resolution **76 (Rev.WRC-15)** to introduce the concept of “consultation meetings”.

CEPT supports that only the operational satellites of non-GSO systems should be considered to evaluate the aggregate epfd levels.

CEPT supports that all administrations are given full visibility of the process.

CEPT supports that the technical work, such as the methodology to be used to evaluate aggregate epfd limit compliance, as well as the methodology to adapt the operation of all non-GSO FSS systems operating co-frequency in frequency bands covered in Tables 1A to Table 1D that are taken into account to evaluate the aggregate epfd levels, should be developed by the ITU-R as a matter of urgency.

CEPT supports that any amendment to the relevant non-GSO FSS systems mentioned above shall not affect the regulatory status of the affected non-GSO systems, including following any modifications to their published characteristics.

CEPT supports that consultation meetings held under the amended Resolution **76 (WRC-15)** shall not occur before the methodologies above are developed by the ITU-R and made available to the membership or by 1 June 2027, whichever comes first.

CEPT supports that the current regulatory provisions in RR (Article **22.5K** and resolves 2 of Resolution **76 (WRC-15)**) combined with existing ITU-R Recommendations could be used for the interim period until the relevant methodologies needed for the consultation meeting are approved. However, CEPT notes that, in absence of a methodology to calculate the aggregate epfd produced by non-GSO FSS systems, the certainty of possible exceedance of the aggregate epfd produced by non-GSO FSS systems should be ensured.

### SHORT REPORT, INCLUDING STATUS FOR WEEK 4

A draft revised Resolution 76 was adopted by the Plenary. The document contains the description and principles for a consultation process with regard to the protection of geostationary fixed-satellite service and geostationary broadcasting-satellite service networks from the maximum aggregate equivalent power flux-density produced by multiple non-geostationary fixed-satellite service systems in frequency bands where equivalent power flux-density limits have been adopted.

### NEXT STEPS

None – work completed.



## **TOPIC K: MODIFICATIONS TO RESOLUTION 553 (REV.WRC-15)**

### **CEPT POSITION ON TOPIC K**

CEPT supports the possibility to apply the special procedure of Resolution **553 (Rev. WRC-15)** again if the requesting administration fails to bring into use a network even if the special procedure of Resolution **553 (Rev. WRC-15)** was previously requested.

CEPT supports the possibility to also apply the special procedure of **Resolution 553 (Rev. WRC-15)** once if the requesting administration has at maximum one network successfully examined under **No. 9.34** and published under **No. 9.38** for the frequency band 21.4-22 GHz and at the same orbital position(s) as the network to which the special procedure is to be applied.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The Resolution was updated to allow the possibility to apply the special procedure under this Resolution another time if the previous attempt failed.

### **NEXT STEPS**

None – work completed.

## **AGENDA ITEM 8 – REVIEW OF FOOTNOTES**

### **Sub Working Group 6A2 (Stella BANYENZA, Tanzania)**

*to consider and take appropriate action on requests from administrations to delete their country footnotes or to have their country name deleted from footnotes, if no longer required, taking into account Resolution 26 (Rev. WRC-19)*

### **CEPT POSITION**

#### **Issue A – Deletion of country footnotes or country names from footnotes**

CEPT supports administrations taking the initiative to review their footnotes and to propose the deletion of their country names or the deletion of country footnotes, if no longer required.

#### **Issue B – Addition of country names into existing footnotes**

- CEPT is of the view that this agenda item is not intended for adding country names into existing footnotes.
- CEPT is of the view that Conferences may continue to deal with requests to add country names to existing footnotes on a case by case basis, subject to the principle that proposals for the addition of country names to existing footnotes can be considered but their acceptance is subject to the express condition that there are no objections from the affected countries.

#### **Issue C – Addition of new country footnotes**

CEPT is of the view that this agenda item is not intended for addition of new country footnotes and therefore proposals for the addition of new country footnotes which are not related to agenda items of this Conference should not be considered.

#### **Issue D – Availability of proposals**

- CEPT supports Administrations bringing their proposals on Agenda item 8 to the attention of other Administrations with a view to avoid any potential difficulties well before a WRC;
- CEPT is of the view that the current practice on establishment of submission deadlines should be kept by the WRC-23 with regard to additional proposals for deletion of country names from footnotes and for addition of country names to existing footnotes.

#### **Issue E – Possible revision of Resolution 26 (Rev. WRC-19)**

CEPT supports retaining Resolution 26 (Rev. WRC-19).

CEPT proposes for WRC-23 no change to Resolution 26 (Rev. WRC-19).

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The work on updates to country footnotes and the revision to Resolution 26 was completed and approved at Plenary level.

**NEXT STEPS**

None – work completed

**AGENDA ITEM 9.1 - REPORT OF THE DIRECTOR**

*to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the Convention on the activities of the ITU Radiocommunication Sector since WRC-19*

## AGENDA ITEM 9.1 TOPIC A - SPACE WEATHER SENSORS

### Sub Working Group 5A4 (Boris SOROKIN)

*In accordance with Resolution 657 (Rev. WRC-19), review the results of studies relating to the technical and operational characteristics, spectrum requirements and appropriate radio service designations for space weather sensors with a view to describing appropriate recognition and protection in the Radio Regulations without placing additional constraints on incumbent services*

### CEPT POSITION

CEPT supports that the following definition for space weather is included in Article 1, section VIII, of the Radio Regulations:

*space weather: natural phenomena, mainly originating from solar activity and occurring beyond the major portion of Earth's atmosphere that impact Earth's environment and human activities.*

CEPT also supports the:

- Designation of space weather observations (active and receive-only) as an application of the MetAids service, operated under a subset of this service called MetAids (space weather) through Article 4 as follows:  
*Space weather sensor systems, may operate under the meteorological aids service (space weather) allocations.*
- Draft New WRC Resolution on the importance of MetAids (space weather) service applications, in which the definitions of active and receive-only space weather sensors will be introduced.

In addition, CEPT supports the further processing of the related work under an agenda item of WRC-27 - see preliminary agenda item 2.6 in Resolution 812 (WRC-19), in order to study the appropriate protection of receive-only space weather observations in the priority frequency bands which were defined for this purpose:

- 27.5-28.0 MHz;
- 37.5-38.25 MHz;
- 51.0-54.0 MHz;
- 73.0-74.6 MHz;
- 153.0-154.0 MHz;
- 218.28-248.28 MHz;
- 606.0-614.0 MHz.

Finally, CEPT supports the development of ITU-R Recommendation(s) to provide the relevant protection criteria for receive-only space weather sensors.

### SHORT REPORT, INCLUDING STATUS FOR WEEK 4

None – work was completed during week 3.

### NEXT STEPS

None – work completed.

## **AGENDA ITEM 9.1 TOPIC B - AMATEUR-RNSS AT 1300 MHZ**

### **Sub Working Group 4B7 (Dale HUGHES, Australia)**

*review the amateur service and the amateur-satellite service allocations in the frequency band 1 240-1 300 MHz to determine if additional measures are required to ensure protection of the radionavigation-satellite service (space-to-Earth) operating in the same band in accordance with Resolution **774 (WRC-19)***

### **CEPT POSITION**

CEPT supports the protection of the RNSS.

CEPT supports the development of a new ITU-R Recommendation based on the ITU-R Reports to provide guidance towards the implementation of technical and operational measures for the continued use of the frequency band 1240-1300 MHz by the Amateur and Amateur-satellite services in accordance with the RR in order to protect the RNSS.

CEPT supports that the above mentioned measures to be applied on the use of secondary Amateur and Amateur-satellite services should be based on the results of co-existence studies and measurement campaigns.

CEPT considers incorporating by reference the new ITU-R Recommendation developed by ITU-R WP 5A.

CEPT considers the development of a fallback position, e.g. a new WRC Resolution, in case the Recommendation ITU-R M.[AS\_GUIDANCE] is not adopted in due time for WRC-23.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

None - work was completed during week 3.

### **NEXT STEPS**

None – work completed.

## AGENDA ITEM 9.1 TOPIC C - FS IMT

### Committee 4 (Hiroyuki ATARASHI, Japan)

*study the use of International Mobile Telecommunication systems for fixed wireless broadband in the frequency bands allocated to the fixed service on a primary basis, in accordance with Resolution 175 (WRC-19)*

### CEPT POSITION

CEPT supports suppression of Resolution 175 (WRC-19) and opposes any other changes to the Radio Regulations in response to WRC-23 Agenda item 9.1, topic c including any new or revised Resolution on this topic.

CEPT is further of the view that:

- the usage of IMT systems in the fixed service is not compliant with the Radio Regulations;
- the work under this topic should focus on consideration of broadband fixed wireless access (BFWA) that use IMT technologies under the existing regulatory framework of the FS;
- given the existing provisions of the Radio Regulations and taking a technology neutral approach there is no need to consider/study specific frequency bands under this topic;
- BFWA that use IMT technologies as well as other technologies in the frequency bands allocated to the fixed service can be adequately addressed, if necessary, through an update of appropriate existing ITU-R Recommendations/Reports/Handbooks. The development of new ITU-R Recommendations/Reports should only be considered, if necessary, based on the outcome of a review of existing ITU-R deliverables;
- discussions on fixed wireless broadband applications that use IMT technologies, as any other technologies, should take place in ITU-R WPs 5A and 5C (not other ITU-R WPs) to avoid fragmentation of work and to ensure efficient working within ITU-R.

### SHORT REPORT, INCLUDING STATUS FOR WEEK 4

None – work was completed during week 1.

### NEXT STEPS

None – work completed.

## **AGENDA ITEM 9.1 TOPIC D - EESS (PASSIVE) 37 GHZ**

### **Sub Working Group 5A5 (Ted BERMAN, USA)**

*Protection of EESS (passive) in the frequency band 36-37 GHz from non-GSO FSS space stations (See WRC-19 Document 535, 2nd section of the Annex)*

### **CEPT POSITION**

CEPT supports the protection of EESS (passive) sensors operating in the frequency band 36-37 GHz from non-GSO FSS systems operating in the band 37.5-38 GHz:

- CEPT supports an unwanted emission power limit of -31 dBW/100 MHz in the band 36-37 GHz for FSS non-GSO space stations operating at an apogee altitude above 407 km and below 2000 km in the frequency band 37.5-38 GHz for the protection of EESS (passive) cold calibration channels;
- CEPT supports the inclusion of that unwanted emission power limit in a new footnote of Article 5 of the Radio Regulation during WRC-23;
- CEPT supports the inclusion the inclusion of items A.25 in Annex 2 of Appendix 4 regarding the compliance with the unwanted emission limit defined in a proposed new footnote.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The solution agreed during the previous weeks was agreed by the Plenary.

### **NEXT STEPS**

None – work completed



**RESOLUTION 427 (WRC-19)**

**Working Group 4B (Sandra WRIGHT, USA)**

*Updating provisions related to aeronautical services in the Radio Regulations*

**CEPT POSITION**

CEPT proposes for WRC-23 no change to Chapters IV, V, VI and VIII of Volume I of the Radio Regulations.

**SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

Consensus was reached for No Change, and approved at the plenary.

**NEXT STEPS**

None – work completed.

## **RESOLUTION 655 (WRC-15)**

### **Sub Working Group 6A3 (Frank ERNST, Germany)**

*Definition of time scale and dissemination of time signals via radiocommunication systems*

#### **CEPT POSITION**

CEPT recognises that:

- the general definition of the international reference time scale UTC is provided in Resolution 2 (2018) of the 26th General Conference on Weights and Measures (CGPM), whereas Resolution 4 (2022) of the 27th CGPM determines its future relation with respect to mean solar time UT1;
- UTC is produced by BIPM and its definition is not a task of spectrum regulation;
- the cooperation between BIPM and the ITU-R is settled by their Memorandum of Understanding, signed in 2020.

CEPT will address necessary revisions and amendments regarding Resolution **655 (WRC-15)**.

#### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The solution developed in the previous week was approved by the Plenary.

#### **NEXT STEPS**

None – work completed.

## ARTICLE 21 - WRC-19 DOCUMENT 550

### Sub Working Group 4A4 (Michael KRÄMER)

*The applicability of the limit specified in No. 21.5 of the Radio Regulations to IMT stations, that use an antenna that consists of an array of active elements*

### CEPT POSITION

*Note: The term AAS is used here as a shortcut for “stations in the mobile service, including IMT stations, and the fixed service that use an antenna that consists of an array of active elements”*

Proposed short-term approach at WRC-23 for notification and verification of AAS in the frequency range 24.45-29.5 GHz

For the purpose of verification of RR No. 21.5 in the notification of stations in the mobile service, including IMT stations, and stations in the fixed service, that use an antenna that consists of an array of active elements in the frequency range 24.45-29.5 GHz, CEPT is of the view that the "power delivered by a transmitter to the antenna of a station" in RR No. 21.5 can be considered as the "total radiated power" (TRP), which is defined as the integral of the power transmitted from all antenna elements in different directions over the entire radiation sphere (noting it is mathematically equivalent to the sum of conducted powers from all internal transmitters, minus ohmic losses).

The limit 8AA  $\leq$  10 dBW for notification of base stations that use an antenna that consists of an array of active elements would remain unchanged. The following other fields would have to be documented in every notification:

- 9G = maximum gain of the AAS
- 8B = 8AA + 9G
- 7AB = necessary bandwidth of the IMT transmission (currently 50, 100, 200 or 400 MHz)

The European Common Proposal proposes to implement the short-term solution at WRC-23 through revisions to RR Article 21, in particular a new provision 21.5B applicable to AAS in the frequency range 24.45-29.5 GHz, and to merge entries in Table 21-2 for the frequency band 24.45-29.5 GHz.

### SHORT REPORT, INCLUDING STATUS FOR WEEK 4

None – work completed during week 3.

### NEXT STEPS

None – work completed.

## **AGENDA ITEM 9.2 - INCONSISTENCIES IN RADIO REGULATIONS**

### **Sub Working Group 4A1,4A4,4C3,5C2,6A3**

*to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the ITU Convention on any difficulties or inconsistencies encountered in the application of the Radio Regulations*

### **CEPT POSITION**

Based on the Report of the Director of the Radiocommunication Bureau, CEPT gathered difficulties and inconsistencies in the application of the provisions of the Radio Regulations. CEPT prepared its views on these issues as part of the European preparation for the WRC-23 as indicated in Table 1 of the [CEPT Brief](#).

CEPT has developed European Common Proposals on five issues, all relative to Addendum 2 to Doc. WRC23/4:

- 1 “Practice of splitting a non-geostationary satellite system into several filed systems”, as mentioned in para 3.1.4;
- 2 “Harmful interference to receivers in the of the radionavigation satellite service”, as mentioned in para 3.1.7.2;
- 3 “Identification of transmissions of space systems”, as mentioned in para 3.1.8;
- 4 “PFD scaling factor to be applied to non-GSO FSS constellations with 1000 or more space stations operating in the 17.7-19.3 GHz frequency band”, as mentioned in para 3.1.9.2; and,
- 5 “§4.1.24 of Article 4 of Appendices 30 and 30A”, as mentioned in para 3.2.5.1.

### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

The solutions to all issues agreed during the previous weeks were approved by the Plenary.

### **NEXT STEPS**

None – work completed.

### **AGENDA ITEM 9.3 - DUE DILIGENCE (RES. 80)**

#### **Sub Working Group 5C2 (Jack WENGRYNIUK, USA)**

*to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the ITU Convention on action in response to Resolution 80 (Rev.WRC-07)*

#### **CEPT POSITION**

CEPT has prepared its views on these issues as shown in Table 1 of the [CEPT Brief](#).

#### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

Issues related to the implementation of Resolution 59 have been solved, leading to 41 new countries in the broadcasting-satellite service Plan. Consensus was reached on several due diligence issues with regards to the resulting wordings, Radio Regulations (RR) changes and text proposals for the minutes of the Plenary. Intensive discussions took place on RR No. 4.4 for which the time at WRC-23 was too short to address fully the issues presented in the RRB Report. Details are as follows:

- Conditions for possible extensions on force majeure cases as well as co-passenger delay cases were re-confirmed by WRC-23.
- Some issues related to the Appendices 30/30A/30B Plans were discussed and decided, e.g. to accommodate the needs of new countries as well as the long-term protection of the plans and the need to study this further.
- On Resolution 40, it was recognised that studies including the capability in RR No. 11.44B raised during WRC-23 need to be conducted under the standing WRC agenda item 7.
- WRC-23 instructed ITU-R to study possible measures to limit the practice of introducing a completely different orbital plane that is not foreseen to be required for operation of the constellation in order to satisfy requirements to bring or bring back into use frequency assignments.
- On long-term sustainability and equitable access and rational use of the non-GSO orbit/spectrum resources, WRC-23 recognised the decision made by RA-23 on the approval of Resolution ITU-R 74, and the need for the outputs from ITU-R expected by this Resolution as a matter of urgency.
- Recording of frequency assignments to satellite networks and systems under RR No. 4.4: WRC-23 confirmed that frequency assignments recorded under RR No. 4.4 are not entitled to protection from harmful interference from other frequency assignments recorded under RR No. 4.4. In order to increase the transparency, WRC-23 instructed the Bureau to insert the indication of the frequency assignment submission under RR No. 4.4 at the Summary Table of the Special Section or Part. In addition, to facilitate information sharing, WRC-23 instructed the Radiocommunication Bureau (BR) to make any information it may have regarding notification and bringing into use of frequency assignments under RR No. 4.4 available in an easily accessible format, such as publishing it on the BR's website and implementing a new filter option in the ITU Space Explorer Data Analytics tool. The shared information could include a list of filings that are using RR No. 4.4 as well as historical data, including the date of receipt of these assignments. In addition, the BR is also instructed to periodically inform administrations on the updated information regarding notification and bringing into use of frequency assignments under RR No. 4.4 made available on the BR's website and to invite the notifying administrations to take steps to cancel these assignments if no longer in use.

All of the above were approved by the Plenary.



**NEXT STEPS**

None – work completed.

## AGENDA ITEM 10 - FUTURE AGENDA

### Working Group 6B (Geraldo NETO, Brazil)

to recommend to the ITU Council items for inclusion in the agenda for the next world radiocommunication conference, and items for the preliminary agenda of future conferences, in accordance with Article 7 of the ITU Convention and Resolution **804 (Rev. WRC-19)**

### CEPT POSITION

CEPT is supporting the following preliminary agenda items as included in Resolution **812 (WRC-19)** for the Agenda for WRC-27:

- 2.1 - Radiolocation service 275-700 GHz. Resolution **663 (WRC-19)** to be modified;
- 2.2 - Aeronautical and Maritime ESIM. Resolution **176 (WRC-19)** to be modified to cover also NGSO and land ESIM;
- 2.4 - PFD and e.i.r.p. limits for 71-76 GHz/81-86 GHz. Resolution **775 (WRC-19)** to be modified;
- 2.6 - Space weather sensors. Follow-up on Resolution **657 (WRC-19)**;
- 2.8 - Space-to-space links among non-GSO and GSO satellites within MSS. Resolution **249 (WRC-19)** to be modified;
- 2.11 - EESS (Earth-to-space) 22.55-23.15 GHz. Resolution **664 (WRC-19)** to be modified;
- 2.12 - 694-960 MHz removal of limitation of aeronautical mobile. Resolution **251 (WRC-19)** to be modified;
- 2.13 - Low data rate MSS in the frequency bands 1645.5-1646.5 MHz, 1880-1920 MHz and 2010-2025 MHz. Resolution **248 (WRC-19)** to be suppressed. New Resolution to be developed.

CEPT is supporting preliminary agenda item 2.10 (Resolution **812 (WRC-19)**) VHF maritime frequencies in Appendix **18** for the future agenda of WRC-31.

In replacement of preliminary agenda item 2.5 (Resolution **812 (WRC-19)**), CEPT is supporting the following proposals for new agenda items:

- Protection of the EESS (passive) in bands covered by RR No. **5.340** above 86 GHz;
- Protection of RAS above 76 GHz from active space services: revision of Resolution **739 (WRC-19)**.

In addition, CEPT is supporting the following proposal for a new WRC-27 agenda item:

- FSS (Earth-to-space) 51.4-52.4 GHz for gateway earth stations non-GSO;
- Space-to-space links in C-band (3700-4200 MHz and 5925-6425 MHz) in the FSS;
- Protection of RAS from aggregated interference from large non-GSO constellations.

In case WRC-23 does not approve new primary allocation of the frequency bands 4.2-4.4 GHz and 8.4-8.5 GHz to EESS (passive) for Sea Surface Temperature (SST) (as a consequence of WRC-23 agenda item 1.2), CEPT will propose during WRC-23 a new agenda item for WRC-27 related to new passive EESS allocation in these frequency bands.

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Finally, it should be noted that CEPT discussed the following proposals for possible new WRC-27 agenda items, which were not supported to be included in the European Common Proposal:

- Coexistence/sharing studies on possible IMT identifications of frequency bands in the range 7.125-24 GHz;
- Methodologies related to the computation of aggregate equivalent power flux density levels and compliance with the relevant limits given in Annex 1 to Resolution **76 (Rev. WRC-15)**;
- Review of regulatory provisions for the protection of GSO FSS and BSS networks from unacceptable interference from non-GSO FSS systems in the frequency bands below 30 GHz in which Article **22** epfd limits apply;
- Protection of space stations sharing frequency in some frequency bands above 24 GHz from terrestrial stations in the fixed service or the mobile service, including IMT stations, and that use an array of active elements, in follow-up on the Art **21.5** discussions.

#### **SHORT REPORT, INCLUDING STATUS FOR WEEK 4**

Committee 6 continued to work during the last weekend of the Conference and throughout the early Wednesday morning to establish the agenda for WRC-27 and the preliminary agenda for WRC-31. The WRC-27 agenda includes 19 items and the preliminary agenda for WRC-31 includes 13 items. The European Common Proposal for the Agenda for WRC-27 included 13 items, nine of which were included in the agenda for WRC-27, and four were included in the preliminary agenda for WRC-31. The European Common Proposal for the preliminary Agenda for WRC-31 included three items, all of which were included for WRC-31.

There was an indication from other Committees of Conference that as a consequence of the outcome of their work some additional items are required for the WRC-27 agenda and preliminary agenda of WRC-31. Of particular interest for CEPT are the agenda item "for the studies relating to the EESS (passive) allocation for Sea Surface Temperature Measurements" for WRC-27, and "to review spectrum use and needs of applications of broadcasting and mobile services and consider possible regulatory actions in the frequency band 470-694 MHz" for the preliminary agenda of WRC-31.

The agreed future agendas are summarised below.

#### **Agenda for WRC27**

- 1.1 studies and regulatory measures on the use of 47.2-50.2 GHz and 50.4-51.4 GHz (Earth-to-space) for aeronautical and maritime earth stations in motion communicating with space stations in the fixed-satellite service with geostationary and non-geostationary satellites;
- 1.2 possible revisions of sharing conditions in the frequency band 13.75-14 GHz to allow the use of uplink fixed-satellite service earth stations with smaller antenna sizes;
- 1.3 studies relating to the use of 51.4-52.4 GHz by gateway earth stations transmitting to non-geostationary-satellites;
- 1.4 possible new primary allocations to the fixed-satellite service (space-to-Earth) in 17.3-17.7 GHz and broadcasting-satellite service (space-to-Earth) in the frequency band 17.3-17.8 GHz in Region 3, and to consider epfd limits to be applied in Regions 1 and 3 to non-geostationary-satellites in 17.3-17.7 GHz;
- 1.5 regulatory measures to limit unauthorised operations of non-GSO FSS and MSS earth stations and associated issues related to the service area of non-GSO FSS and MSS satellite systems;



- 1.6 technical and regulatory measures for fixed-satellite service satellite networks/systems in 37.5-42.5 GHz (space-to-Earth), 42.5-43.5 GHz (Earth-to-space), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) for equitable access to these frequency bands;
- 1.7 studies on International Mobile Telecommunications (IMT) in 4400-4800 MHz, 7125-8400 MHz (or parts thereof), and 14.8-15.35 GHz;
- 1.8 possible additional primary allocations to the radiolocation service in 231.5-275 GHz and possible new identifications for radiolocation service applications within 275-700 GHz for millimetric and sub-millimetric wave imaging systems;
- 1.9 regulatory actions to update Appendix 26 of the Radio Regulations in support of aeronautical mobile (OR) HF modernisation;
- 1.10 to develop power flux-density (pfd) and equivalent isotropically radiated power (e.i.r.p.) limits for inclusion in Article 21 of the Radio Regulations for fixed-satellite, mobile-satellite and broadcasting-satellite services to protect the fixed and mobile services in 71-76 GHz and 81-86 GHz;
- 1.11 technical and operational issues, and regulatory provisions, for space-to-space links among non-geostationary and geostationary satellites in 1518-1544 MHz, 1545-1559 MHz, 1610-1645.5 MHz, 1646.5-1660 MHz, 1670-1675 MHz, and 2483.5-2500 MHz allocated to the mobile-satellite service);
- 1.12 possible allocations and regulatory actions on mobile-satellite service (MSS) in 1427-1432 MHz (space-to-Earth), 1645.5-1646.5 MHz (space-to-Earth) and (Earth-to-space), 1880-1920 MHz (space-to-Earth) and (Earth-to-space) and 2010-2025 MHz (space-to-Earth) and (Earth-to-space) required for the future development of low-data-rate non-geostationary mobile-satellite systems;
- 1.13 possible new allocations to the mobile-satellite service for direct connectivity between space stations and International Mobile Telecommunications (IMT) user equipment to complement terrestrial IMT network coverage;
- 1.14 possible additional allocations to the mobile-satellite service;
- 1.15 studies on modified space research service (space-to-space) allocations, for future development of communications on the lunar surface and between lunar orbit and the lunar surface;
- 1.16 studies of technical and regulatory provisions necessary to protect radio astronomy (RAS) operating in specific Radio Quiet Zones and, in RAS primary allocated frequency bands globally, from aggregate radio-frequency interference caused by non-GSO systems;
- 1.17 regulatory provisions for receive-only space weather sensors and their protection in the Radio Regulations;
- 1.18 possible protection of the Earth exploration-satellite service (passive) and the radio astronomy service in certain frequency bands above 76 GHz from unwanted emissions of active services.
- 1.19 possibility of a future allocation to EESS (passive) in 4200-4400 MHz and 8400-8500 MHz.

It was also agreed to invite ITU-R to conduct technical studies on the epfd limits in Article 22 in order to ensure the continued protection of GSO FSS and BSS networks, and to inform WRC-27 of the results of the studies, without any regulatory consequences. It was agreed that this work should not be submitted under agenda item 9.1.

### **Preliminary agenda for WRC-31**

- 2.1 potential new allocations to fixed, mobile, radiolocation, amateur, amateur-satellite, radio astronomy, Earth exploration-satellite (passive and active) and space research (passive) services in 275-325 GHz;
- 2.2 [possible frequency bands for Non-beam and Beam Wireless Power Transmission (WPT) to avoid harmful interference to the radiocommunication services caused by WPT];
- 2.3 aeronautical and maritime earth stations in motion communicating with non-geostationary space stations in 12.75-13.25 GHz;
- 2.4 inter-satellite service allocations in 3700-4200 MHz and 5925-6425 MHz, and associated regulatory provisions, to enable links between non-geostationary orbit satellites and geostationary orbit satellites;
- 2.5 possible primary allocation in [694-960 MHz in Region 1], 890-942 MHz in Region 2, [3400-3700 MHz in Region 3] to the aeronautical mobile service (AMS) for the use of International Mobile Telecommunications (IMT) user equipment in terrestrial IMT networks by non-safety applications;;
- 2.6 identification of the frequency bands [102-109.5 GHz, 151.5-164 GHz, 167-174.8 GHz, 209-226 GHz and 252-275 GHz] for IMT;

- 2.7 improving the utilisation of VHF maritime radiocommunication;
- 2.8 improving the utilisation and channelisation of maritime radiocommunication in the MF and HF bands, including potential revisions of Article 52 and Appendix 17;
- 2.9 possible allocations to the radionavigation-satellite service (RNSS) (space-to-Earth) in [5 030-5 150 MHz and 5 150-5 250 MHz];
- 2.10 possible new primary allocation to the Earth exploration-satellite service (Earth-to-space) in 22.55-23.15 GHz;
- 2.11 upgrade of the secondary allocation to the Earth exploration-satellite service (EESS) (space-to-Earth) in the [37.5-40.5 GHz] band or possible new worldwide primary frequency allocations to the EESS (space-to-Earth) within [40.5-52.4 GHz];
- 2.12 possible new allocations to the Earth exploration-satellite service (active) in the frequency bands [3 000-3 100 MHz] and [3 300-3 400 MHz] on a secondary basis
- 2.13 coexistence between spaceborne synthetic aperture radars (SAR) operating in the Earth exploration-satellite service (active) and radiodetermination service in the frequency band 9 200-10 400 MHz, with possible actions as appropriate;
- 2.14 possible regulatory actions, including a review of the allocation of the frequency band 614-694 MHz to the mobile service for countries listed in No. **5.15A**.

#### **NEXT STEPS**

The above agreed agenda for WRC-27 be taken into account in CPM27-1 and CPG for the next cycle.