

Status of CEPT preparations for WRC-19

John Mettrop, UK CAA
ICAO NACC Preparatory Workshop for ITU WRC-19
6/7 February 2018

Structure of CPG19

- The Conference Preparatory Group (CPG19) of CEPT/ECC is responsible for developing the ECPs and Briefs for WRC-19 and RA-19
- The CPG management team has been confirmed:

- Chairman: Alexander Kühn, Germany
- Vice-Chairmen: Gerlof Osinga, The Netherlands
Alexandre Kholod, Switzerland
- Secretary: Karsten Buckwitz, Germany



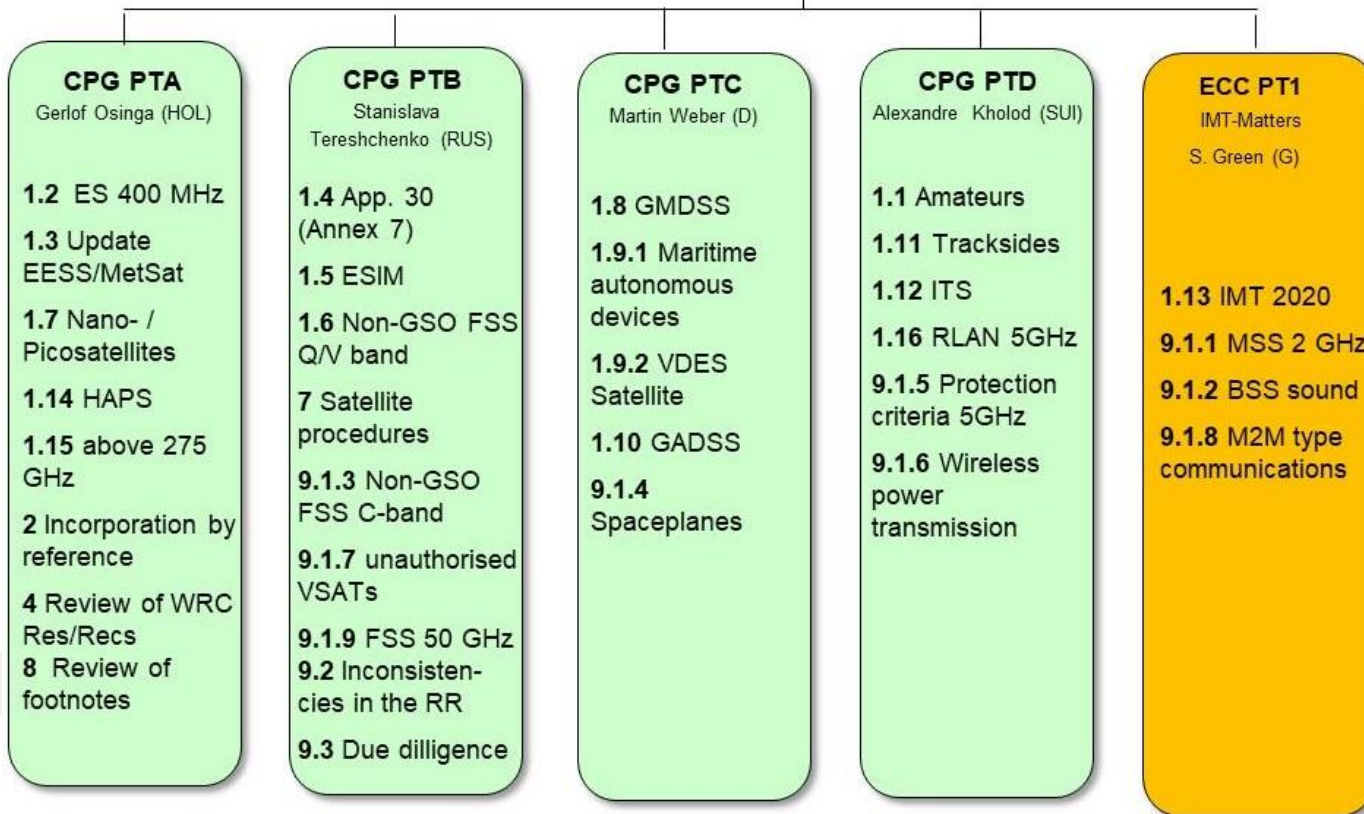
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CPG19 Project Teams

CPG19

Chairman: A. Kuehn (D)

Vice-Chairmen: G. Osinga (HOL)
A. Vallet (F)



CPG19 Deliverables

- **For both WRC-19 and the RA-19:**
- **European Common Proposals (ECPs)**
 - At least 10 administrations in support
 - No more than 6 opposing – as a general guideline
- **CEPT Briefs**
 - Describe each agenda item
 - Contains the CEPT view – agreed by consensus at each stage
- **CEPT co-ordination in ITU-R meetings**
 - Agreed contributions (also for non-WRC issues)
 - Co-ordination on lines to take

Agenda Item 1.10 (approved by CPG19#5)

Issue: *to consider spectrum needs and regulatory provisions for the introduction and use of the Global Aeronautical Distress and Safety System (GADSS), in accordance with Resolution 426 (WRC-15);*

Preliminary CEPT position:

CEPT recognises

- that the implementation of the GADSS concept would contribute to increasing the effectiveness of the current alerting of search and rescue (SAR) services for civil aviation transportation;
- that ICAO has stated that the GADSS requirements can be satisfied using systems operating within existing frequency allocations, and also that for WRC-19 no additional spectrum allocations are required and no changes to Article 5 are required.

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Agenda Item 1.10 (approved by CPG19#5)

Preliminary CEPT position (continued):

CEPT is of the view

- that systems contributing to the GADSS have to be identified in accordance with ICAO requirements or recommendations provided in SARPs, manuals or guidance material;
- that any changes to the Radio Regulations should be determined on the basis of the GADSS concept developed by ICAO;
- that systems identified to contribute to the GADSS may not necessarily require any additional frequency allocation nor any new or revised regulatory provisions
- that additional regulatory actions for the introduction and use of GADSS, if any, should be identified ensuring sharing and compatibility with systems in incumbent radiocommunication services in the frequency bands proposed for GADSS introduction and in the adjacent frequency bands without imposing any additional constraints on the existing and planned systems
- that according to the process to implement the GADSS concept an extension of activities towards WRC-23 may need to be considered

Agenda Item 9.1 Issue 9.1.4 (approved by CPG19#5)

Issue: *to conduct studies to identify any required technical and operational measures, in relation to stations on board sub-orbital vehicles, that could assist in avoiding harmful interference between radiocommunication services;*

Preliminary CEPT position:

CEPT is of the view that:

- the ITU-R studies called for by Resolution 763 should be supported;
- based on the results of those studies, what action is to be taken should be determined;
- stations on board suborbital vehicles shall not cause harmful interference nor impose additional constraints on systems operating under the incumbent services.
- suborbital vehicles need to be differentiated from current satellite launch vehicles.



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CEPT Coordinator: Stephen Limb (United Kingdom)



Other agenda items

Agenda items that may have an impact on spectrum used for aeronautical systems or services:

(1.7, 1.8, 1.9, 1.11, 1.12, 1.13, 1.14, 1.16, 4, 8, 9.1.3, 9.1.6, 10)

Agenda Item 1.7 (approved by CPG19#5)

Issue: *to study the spectrum needs for telemetry, tracking and command in the space operation service for non-GSO satellites with short duration missions, to assess the suitability of existing allocations to the space operation service and, if necessary, to consider new allocations, in accordance with Resolution **659 (WRC-15)**;*

Preliminary CEPT position:

- CEPT supports additional allocations or upgrades of existing allocations to the space operation service for short duration mission satellites provided that:
 - Studies of spectrum requirements are based on satellite missions planned and constellation development.
 - Studies of spectrum requirements show the need for additional allocations or upgrades of existing allocations.
 - Studies show compatibility with existing services.
- CEPT recognises that studies with regard to the bands 399.9-400.05 MHz and 401-403 MHz, if any, will have to take into account the considerations under Agenda item 1.2. In addition, CEPT is of the view that co-channel sharing between Earth-to-space links of non-GSO short duration missions and GSO Data Collection Systems is not feasible in the band 401-403 MHz.



Agenda Item 1.7 (approved by CPG19#5)

Preliminary CEPT position (continued):

- CEPT recognises that all allocations to the space operation service in the Earth-to-space direction below 1 GHz are subject to coordination under No **9.21**. The application of this provision is not suitable for short duration non-GSO satellites. Therefore, CEPT is of the view that, in addition to considering additional allocations to the space operation service in the Earth-to-space direction, there may be a need to consider modifying the current regulatory situation in the existing allocations.
- CEPT is of the view that consideration of the frequency band 154-156 MHz as candidate for operation of non-GSO satellites with short duration missions is not feasible due to difficulties in sharing with the incumbent services (the radiolocation service).
- CEPT is of the view that any consideration of bands for use under this agenda item must exclude the 406-406.1 MHz COSPAS-SARSAT band as well as its adjacent 405.9-406 MHz and 406.1-406.2 MHz bands (see resolves 1 of Resolution **205 (WRC-15)**).
- CEPT is of the view that sharing between non-GSO satellites with short duration missions and the radio astronomy service in the frequency bands 150.05-153 MHz and 406.1-410 MHz is not feasible in the Earth-to-space direction as well as the space-to-Earth direction. *CEPT Coordinator: Mr Wouter Jan Ubbels (The Netherlands)*



Agenda Item 1.8 (approved by CPG19#5)

Issue: *to consider possible regulatory actions to support Global Maritime Distress Safety Systems (GMDSS) modernization and to support the introduction of additional satellite systems into the GMDSS, in accordance with Resolution **359 (Rev.WRC-15)**;*

Preliminary CEPT position:

Issue A: Modernisation of GMDSS

- CEPT supports the introduction of the HF NAVDAT frequencies, defined in the Recommendation ITU-R M.2058-0, in RR Appendix 17.
- CEPT opposes of the introduction of the HF NAVDAT frequencies, defined in the Recommendation ITU-R M.2058-0, in RR Appendix 15 for this WRC.

CEPT co-Coordinator: Talayeh Hezareh (Germany)
Christian Rissone (France)



Agenda Item 1.8 (approved by CPG19#5)

Preliminary CEPT position (continued):

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

CEPT can support regulatory actions to introduce an additional satellite system into the GMDSS only if:

- IMO decides that an additional satellite system is accepted to become part of the GMDSS
- [the frequency bands used are allocated to the maritime mobile satellite service (for both space to Earth and Earth to space) on a primary basis]
- regulatory provisions ensure that the protection of services operating in the frequency bands concerned and in adjacent frequency bands are maintained.

*CEPT co-Coordinator: Talayeh Hezareh (Germany)
Christian Rissone (France)*



Agenda Item 1.9.1 (approved by CPG19#5)

Issue: *to consider, based on the results of ITU-R studies: regulatory actions within the frequency band 156-162.05 MHz for autonomous maritime radio devices to protect the GMDSS and automatic identifications system (AIS), in accordance with Resolution **362 (WRC-15)**;*

Preliminary CEPT position:

- CEPT is of the view that the operation of autonomous maritime radio devices needs to be harmonized and regulated.
- CEPT is of the view that the operation of autonomous maritime radio devices shall not reduce the integrity of AIS and of GMDSS.
- CEPT supports the identification of spectrum for autonomous maritime radio devices within the frequency band 156-162.05 MHz.

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Agenda Item 1.9.2 (approved by CPG19#5)

Issue: *to consider possible regulatory actions, including spectrum allocations to the maritime mobile-satellite service (MMSS) Resolution 358 (WRC-12) to enable a new VHF data exchange system (VDES) satellite component in accordance with Resolution 360 (Rev.WRC-15);*

Preliminary CEPT position:

- CEPT supports sharing and compatibility studies between the proposed VDES satellite component and the systems in the radiocommunication services allocated in the same and in adjacent frequency bands.
- CEPT is of the view that implementability of the VDES satellite component and feasibility of its sharing and compatibility with the systems in the radiocommunication services allocated in the same and adjacent frequency bands without imposing any limitations on those services shall be confirmed by appropriate study results.

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Agenda Item 1.9.2 (approved by CPG19#5)

Preliminary CEPT position (continued):

- Subject to the results of relevant studies, CEPT is considering three options:
 - a) the introduction of a new maritime mobile-satellite (space-to-Earth) service allocation within the frequency bands 160.9625-161.4875 MHz which is not channelized in RR Appendix 18 and the introduction of a new maritime mobile-satellite (Earth-to-space) service allocation for the channels 24, 84, 25, 85, 26 and 86 of RR Appendix 18;
 - b) the introduction of a new maritime mobile satellite service for the channels 1024, 1084, 1025, 1085, 1026, 1086 (Earth-to-space) of RR Appendix 18 and for the channels 2024, 2084, 2025, 2085, 2026 and 2086 (space-to-Earth) of RR Appendix 18;
 - c) frequency bands out of RR Appendix 18 (for example in the frequency range 162 MHz to 172 MHz) for introduction of VDES satellite component provided that sharing with the incumbent services. is feasible.

Agenda Item 1.11 (approved by CPG19#5)

Issue: *to take necessary actions, as appropriate, to facilitate global or regional harmonized frequency bands to support railway radiocommunication systems between train and trackside within existing mobile service allocations, in accordance with Resolution 236 (WRC-15);*

Preliminary CEPT position:

- CEPT is of the view that the harmonized use of frequencies for RSTT* within existing mobile service allocations serves current and future demands of railway organisations on all operational levels.
- CEPT is of the view that no changes to the RR are needed in response to WRC-19 Agenda item 1.11.

*RSTT (railway radiocommunication systems between train and trackside systems) considered by CEPT: train radio, train positioning, train remote, train surveillance

CEPT co-Coordinator: Zaza Gonjilashvili (Georgia)
Dirk Schattschneider (Germany)



Agenda Item 1.11 (approved by CPG19#5)

Preliminary CEPT position (continued):

- CEPT is of the view that harmonisation for RSTT can be achieved by the development of an appropriate non-mandatory ITU-R Recommendation containing its regional harmonisation measure. In this regard, CEPT highlights its existing framework for train radio RSTT on the basis of GSM-R, which serves interoperable cross-border railway operations. CEPT recognizes that there are other standards/technologies and frequency bands providing for RSTT.

In addition, CEPT is of the view that Agenda item 1.11 does not cover the provision of public communication services for passengers.

*CEPT co-Coordinator: Zaza Gonjilashvili (Georgia)
Dirk Schattschneider (Germany)*



Agenda Item 1.12 (approved by CPG19#5)

Issue: *to consider possible global or regional harmonized frequency bands, to the maximum extent possible, for the implementation of evolving Intelligent Transport Systems (ITS) under existing mobile-service allocations, in accordance with Resolution 237 (WRC-15);*

Preliminary CEPT position:

- CEPT is of the view that its existing regional harmonisation measures for ITS in the bands 5 855-5 925 MHz and 63-64 GHz are sufficient and no changes to the RR are required in response to WRC-19 Agenda item 1.12.
- CEPT is of the view that harmonisation measures for ITS on ITU-R level can be achieved through the development of an ITU-R Recommendation (and an ITU-R Report if needed).
- CEPT is of the view that the requirements developed for ITS operations under the existing primary mobile allocation have already addressed the necessary sharing and compatibility requirements of the other primary services, and consequently do not impose additional constraints on primary services having allocations in the considered frequency bands.

CEPT co-Coordinator: Andrianilana Rakotondradalo (France)
Tobias Vieracker (Germany)



Agenda Item 1.12 (approved by CPG19#5)

Preliminary CEPT position (continued):

- CEPT is also of the view that harmonisation of ITS under AI 1.12 is limited to the exchange of information to improve traffic management and assisting safe driving.
- In addition, CEPT is of the view that Road tolling (a.k.a. Electronic Toll Collection (ETC)) in 5 795-5 815 MHz is not part of Agenda Item 1.12



Agenda Item 1.13 (approved by CPG19#5)

Issue: *to consider identification of frequency bands for the future development of International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution **238 (WRC-15)**;*

Preliminary CEPT position:

- CEPT supports the results of the ITU-R studies on IMT spectrum needs in the range 24.25-86 GHz. CEPT supports sharing and compatibility studies for the bands listed in Resolves 2 of Resolution **238** (24.25-27.5 GHz, 31.8-33.4 GHz, 37-43.5 GHz, 45.5-50.2 GHz, 50.4-52.6 GHz, 66-76 GHz and 81-86 GHz), with the focus on the frequency bands 24.25-27.5 GHz, 40.5-43.5 GHz and 66-71 GHz.

*CEPT Coordinator: Robert Cooper (United Kingdom)
coordination team: Vladislav Sorokin (Russian Federation),
Sarunas Oberauskas (Lithuania)*



Agenda Item 1.13 (approved by CPG19#5)

Preliminary CEPT position (continued):

- CEPT supports the identification of global bands for IMT among the bands listed in resolves to invite ITU R 2 of Resolution **238**, taking into account the results of sharing and compatibility studies with existing services. Bands outside those listed in resolves to invite ITU-R 2 of Resolution **238** are not supported for consideration under this Agenda item.
 - CEPT intends to harmonise the 24.25-27.5 GHz band for Europe for 5G before WRC-19 through the adoption of a harmonisation decision and to promote it for worldwide harmonisation by an IMT identification. Hence the 24.25-27.5 GHz is a clear priority for immediate study within CEPT and these studies are assuming an individual authorisation regime. Studies need to take into account the compatibility with and protection of all existing services, including their future deployments, in the same and adjacent frequency bands; in particular the protection of current and future EESS/SRS earth stations should be addressed.

Note: CEPT has developed a Roadmap on 5G (<http://cept.org/ecc/topics/spectrum-for-wireless-broadband-5g#roadmap>). In this respect it is noted that “Europe has harmonised the 27.5-29.5 GHz band for broadband satellite and is supportive of the worldwide use of this band for ESIM. This band is therefore not available for 5G”.

*CEPT Coordinator: Robert Cooper (United Kingdom)
coordination team: Vladislav Sorokin (Russian Federation),
Sarunas Oberauskas (Lithuania)*



Agenda Item 1.14 (approved at CPG19#5)

Issue: *to consider, on the basis of ITU-R studies in accordance with Resolution 160 (WRC-15), appropriate regulatory actions for high-altitude platform stations (HAPS), within existing fixed-service allocations*

Preliminary CEPT position:

- CEPT supports studies under this Agenda item in accordance with Resolution 160 (WRC-15) while taking into account in particular:
 - the developments and requirements in HAPS in the fixed service and the associated spectrum sharing aspects
 - the need to ensure there is protection in place in order not to limit the possibility to use and develop existing services including other applications of the fixed service in the frequency bands identified and, as appropriate, in the adjacent bands.
 - the need to ensure that new sharing and compatibility studies are taking into account the outcome of studies already performed in ITU-R, where relevant, to support HAPS identification, in particular when considering the possible modifications of country footnotes HAPS identification into general HAPS identification.

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Agenda Item 1.14 (approved at CPG19#5)

Preliminary CEPT position (continued):

- CEPT is finalising studies on spectrum needs for broadband connectivity HAPS applications and results so far show that current HAPS identifications would not satisfy the overall spectrum requirements for HAPS connectivity applications.
- CEPT is of the view that any consideration of the frequency band 24.25-27.5 GHz in Region 2 under this Agenda item should not limit the possibility to identify the band for IMT on a global level under Agenda item 1.13.



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CEPT Coordinator: Nasarat Ali (United Kingdom)



Agenda Item 1.16 (approved by CPG19#5)

Issue: *to consider issues related to wireless access systems, including radio local area networks (WAS/RLAN), in the frequency bands between 5 150 MHz and 5 925 MHz, and take the appropriate regulatory actions, including additional spectrum allocations to the mobile service, in accordance with Resolution **239 (WRC-15)**;*

Preliminary CEPT position:

- In the 5 150-5 250 MHz band, CEPT would support relaxing the access conditions applicable to WAS/RLANs, if results of studies show that sharing and compatibility can be achieved with, MSS feeder links, aeronautical radionavigation and aeronautical telemetry (see No **5.446C**). However, CEPT noted that the current studies have shown difficulties in achieving co-existence with some incumbent services.
- In the 5 250-5 350 MHz band, CEPT would support relaxing the access conditions applicable to WAS/RLANs, if results of studies show that sharing and compatibility can be achieved with EESS (active) systems and radars. However, CEPT noted that the current studies have shown difficulties in achieving co-existence with incumbent services.



Agenda Item 1.16 (approved by CPG19#5)

Preliminary CEPT position:

- In the 5 350-5 470 MHz band, CEPT supports no change to the RR in this band.
- In the 5 725-5 850 MHz band, CEPT would support a new mobile allocation to accommodate WAS/RLANs use if sharing and compatibility studies can demonstrate the effectiveness of any new proposed interference mitigation techniques to ensure the protection of radars, fixed service (see No **5.455**) and FSS space station receivers. It is to be noted that CEPT will take into account compatibility studies between RLAN and specific applications within CEPT (e.g. road tolling systems).
- In the 5 850-5 925 MHz band, CEPT notes that the current studies have shown difficulties in achieving co-existence with other incumbent services without imposing any additional constraints on existing services such as FSS (space station receivers) and existing applications under the mobile service such as ITS (including urban rail). Therefore supports no change to the RR in this band.

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CEPT Coordinator: Andrew Gowans (United Kingdom)



Agenda Item 4 (approved at CPG19#3)

Issue: *in accordance with Resolution 95 (Rev.WRC-07), to review the resolutions and recommendations of previous conferences with a view to their possible revision, replacement or abrogation;*

Preliminary 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 Resolution TBD
- CEPT proposes to modify Resolution TBD
- CEPT proposes to suppress Recommendation TBD
- CEPT proposes to modify Recommendation TBD

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CEPT Coordinator: Karel Antousek (Czech Republic)



Agenda Item 8 (approved by CPG19#5)

Issue: *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-07);*

Preliminary CEPT position:

CEPT is of the view that there is no need to change the Resolution 26 (Rev. WRC-07).

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 footnotes or new country footnotes

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



Agenda Item 9.1 Issue 9.1.3 (approved by CPG19#5)

Issue: to study technical and operational issues and regulatory provisions for new non-geostationary-satellite orbit systems in the 3 700-4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz and 6 725-7 025 MHz frequency bands allocated to the fixed-satellite service;

Preliminary CEPT position:

- CEPT supports the study of technical and operational issues and regulatory provisions for new non-geostationary-satellite orbit systems in the 3 700-4 200 MHz, 4 500-4 800 MHz, 5 925-6 425 MHz and 6 725-7 025 MHz frequency bands under the terms of Resolution **157 (WRC-15)**.
- CEPT supports the protection of GSO/NGSO FSS, mobile and fixed services under these studies. No additional constraints should be applied to existing and future GSO and non-GSO FSS networks in the frequency bands 3 700-4 200 MHz (space-to-Earth) and 5 925-6 725 MHz (Earth-to-space), Furthermore, no additional constraint should apply to terrestrial services.

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CEPT Coordinator: Ethan Lavan (France)



Agenda Item 9.1 Issue 9.1.3 (approved by CPG19#3)

Preliminary CEPT position:

- CEPT is of the view that when considering the Article **22** $\text{epfd}\downarrow$ limits and $\text{epfd}\uparrow$ limits applicable to non-GSO systems in the frequency bands 3 700-4 200 MHz (space-to-Earth), 5 925-6 425 MHz (Earth-to-space), 4 500-4 800 MHz (space-to-Earth) and 6 725-7 025 MHz (Earth-to-space) it is necessary to ensure the protection of GSO FSS networks from unacceptable interference pursuant to No 22.2 as applicable, including the allotments of the Plan and assignments in the Appendix 30B List.
- CEPT is of the view that studies should take into account that the protection of mobile service is ensured regardless of allocation status of the mobile service.
- In the radio frequency band 3 700-4 200 MHz (space-to-Earth) CEPT does not object to a possible revision of Table 21-4 of Article 21 for non-GSO FSS satellites, while ensuring the protection of the mobile service and fixed service, and maintaining the existing Article **21** pfd limits for GSO networks.
- When developing technical and operational conditions and regulatory provisions for new systems of non-GSO FSS, there is a need to ensure protection of existing terrestrial services in the frequency bands 4 500-4 800 MHz (space-to-Earth), 5 925-6 425 MHz (Earth-to-space) and 6 725-7 075 MHz (Earth-to-space).

CEPT Coordinator: Ethan Lavan (France)



Agenda Item 9.1 Issue 9.1.6 (approved by CPG19#5)

Issue: Resolution **958 (WRC-15)** calls to complete ITU-R studies concerning Wireless Power Transmission (WPT) for electric vehicles (EV):

- a) to assess the impact of WPT for electric vehicles on radiocommunication services;
- b) to study suitable harmonized frequency ranges which would minimize the impact on radiocommunication services from WPT for electrical vehicles;

Preliminary CEPT position:

- CEPT supports studies concerning Wireless Power Transmission (WPT) for electric vehicles (EV) to assess the impact of WPT for EV on radiocommunication services.
- CEPT will consider only those potential candidate band(s) as suitable for WPT for EV, which minimise the impact of WPT for EV on radiocommunication services.
- CEPT is of the view that no further regulatory action to the RR will be required.

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CEPT Coordinator: Fatih Yurdal (Turkey)

Agenda Item 10

Issue: *to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, in accordance with Article 7 of the Convention;*

PT-A has been tasked by CEPT #5 with the co-ordination of CEPTs position on Agenda item 10. The work will now begin.

*CEPT Coordinator: Pasi Toivonen (Finland)
coordination team: Karsten Buckwitz (Germany),
Wesley Milton (United Kingdom)*



Next meetings

CPG #6 will meet

- 26-29 June 2018, Turku, Finland

its next project team meetings are:

- PTB #6: 10-13 April 2018, Copenhagen (ECO), Denmark
- PTD #5: 26 February – 2 March 2018, Vilnius, Lithuania
- PTC #5: 24-26 April 2018, Maisons Alfort, France
- PTA #5: 27 February – 2 March 2018, Stavanger, Norway

CEPT looks forward to welcoming representatives from the other regional organisations to these meetings

Useful links:

General information: <http://www.cept.org/ecc>

CPG page: <http://www.cept.org/ecc/groups/ecc/cpg>

Questions/Answers regarding CPG:

<https://cept.org/files/4200/CPG%20role%20in%20WRC%20preparation%20process%2011oct13.pdf>

Coordinators:

<http://www.cept.org/ecc/groups/ecc/cpg/page/list-of-cept-coordinators-wrc-19/>

CEPT Briefs/ECPs:

<http://www.cept.org/ecc/groups/ecc/cpg/page/cept-briefs-and-ecps-for-wrc-19>

Other Issues within CEPT

Working Group – Frequency Management

- PT 51
- Audio PMSE in the 960-1164 MHz frequency band
 - Video PMSE in the 2700-2900 MHz frequency band
- CG Drones Spectrum requirements for drones

Working Group – Spectrum Engineering

- PT 7 Audio PMSE in the 960-1164 MHz frequency band
- PT 21 Receiver parameters in spectrum management
- PT 24 UWB vehicular access systems in 3.4-4.8 GHz
- PT 40 Protection of aircraft from HIRF generated by satellite Earth stations

Thank you



Any QUESTIONS???

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Abbreviations

- **AIS** Automatic independent surveillance
- **CEPT** European conference of postal and telecommunications administrations
- **CG** Co-ordination group
- **CPG** Conference preparatory group
- **ECC** Electronic communication committee
- **ECP** European common proposals
- **ECO** European Communication Office
- **EESS** Earth exploration satellite system
- **ESIM** Earth station in motion
- **ETC** electronic toll collection
- **EV** Electric vehicles
- **FSS** Fixed satellite service
- **GADSS** Global aeronautical distress and safety system
- **GMDSS** Global maritime distress and safety system
- **GSO** Geo-stationary orbit
- **GSM-R** Global system for mobile communications – railway
- **HAPs** High altitude platforms
- **HIRF** High intensity radiated field
- **ICAO** International Civil Aviation Organization
- **IMO** International Maritime Organization
- **IMT** International mobile telecommunications
- **ITS** Intelligent transport systems
- **ITU** International Telecommunication Union
- **MMSS** Maritime mobile satellite service
- **MSS** Mobile satellite service
- **NAVDAT** Navigational data
- **NGSO** Non geo-stationary orbit
- **PMSE** Programme making and special events
- **PT** Project team
- **RLANs** Radio local area networks
- **RR** Radio regulations
- **RSTT** Railway radiocommunication systems between train and trackside systems
- **SAR** Search and rescue
- **VDES** VHF data exchange system
- **WAS** Wireless access systems
- **WPT** Wireless power transfer
- **WRC** World radiocommunication conference