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| Subject:  | Draft CEPT Brief on WRC-19 Agenda item 1.1 |
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| Summary:  |
| Proposal:  |
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DRAFT CEPT BRIEF ON AGENDA ITEM 1.1

1.1 to consider an allocation of the frequency band 50-54 MHz to the amateur service in Region 1, in accordance with Resolution 658 (WRC-15)

# ISSUE

CEPT has identified the following elements, relevant for this agenda item:

* to study spectrum needs for the amateur service in the band 50-54 MHz;
* to study sharing between the amateur service, and the mobile, fixed, radiolocation and broadcasting services, in order to ensure protection of these services

# Preliminary CEPT position

CEPT would support an allocation in the frequency range 50-54 MHz to the amateur service in Region 1, only if the spectrum needs for the amateur service in this band are justified and studies show thatthe broadcasting, fixed and mobile services as well as windprofiler radars in the radiolocation service, including their future deployment and services in adjacent spectrum, are protected.

If potentially the frequency band 50-54 MHz is allocated to the amateur service, this should not cause harmful interference to stations in the broadcasting and mobile services to which this frequency band is allocated on a primary basis. The amateur service shall not claim protection from harmful interference caused by the broadcasting service, mobile service and windprofiler radars in the radiolocation service.

# Background

This agenda item was developed based on proposals of CEPT and ASMG administrations during WRC-15. According to the Radio Regulations (RR) the band 50-54 MHz is allocated to the amateur service in Regions 2 and 3. Therefore an allocation of this frequency band to the amateur service in Region I would contribute to the harmonized use of this band by amateur service in all ITU-R Regions.

In Region 1 the frequency band 50-54 MHz is allocated in the RR to the broadcasting service on primary basis.

While the Region 1 African countries listed in No **5.169** have an alternative allocation to the amateur service in the frequency band 50-54 MHz on a primary basis, a number of other Region 1 countries have authorised the use of all or parts of the band 50-52 MHz by the amateur service on a mainly secondary (but sometimes national primary) basis in accordance with RR No **4.4**.

The frequency band 47-68 MHz or part of it, also has an additional allocation to the land mobile service on a primary basis in a number of countries in Region 1 according to No **5.164**. The frequency band 50-54 MHz is also allocated to the land mobile service on a primary basis as shown in the European Table of Frequency Allocations.

No **5.162A** provides for an additional allocation to the radiolocation service on a secondary basis in a number of countries, limited to the operation of windprofiler radars in accordance with Resolution 217 (**WRC-97**).

lTU-R WP 5A was designated as the responsible group for studies under WRC-19 agenda item 1.1. During its latest meeting (22 May - 1 June 2017) WP 5A continues work for WRC-19 agenda item 1.1. The preliminary draft CPM text and work plan for this agenda item appear in Annexes 4 and 5 of Doc. 5A/469, respectively. WP 5A developed a working document towards a preliminary draft new Report ITU-R M.[AMATEUR\_50\_MHz] (Annex 14 of Doc. 5A/469*).*This PDNR includes studies on spectrum needs, sharing and compatibility. WP 5A noted the need to continue work on these studies during next meeting, as a lot of issues still need to be clarified (e.g. more explanation of a method determining spectrum needs is required as well as some assumptions for others studies also should be clarified). It was also noted that the preliminary draft. CPM text is in a very early stage and needs further developing.

## Spectrum Needs Summary

An application-based approach to assess amateur spectrum needs for the frequency band 50–54 MHz is under consideration.

## sharing with broadcasting service

Option 1: Adequate protection of the broadcasting service requires that the amateur service stations’ field strength values do not exceed 6 dBμV/m for more than 10% of time at any point inside the service area of a broadcasting station.

Option 2: Adequate protection of the broadcasting service requires that the amateur service stations’ field strength values do not exceed 6 dBμV/m for more than 10% of time along the border of the Russian Federation.

## sharing with mobile service

Interference is inevitable if two transmitters operating within the same area transmit on the same frequency at the same time. In this case sharing a frequency is unlikely to be possible, unless acceptable mitigation techniques are defined.

ITU-R is developing a working document towards a preliminary draft new Report ITU-R M.[AMATEUR\_50\_MHz]. This PDNR includes studies on spectrum needs, sharing and compatibility. A number of open issues still need to be clarified.

Preliminary co-existence studies conducted within PTD to assess the separation distances between an amateur radio transmitter and a mobile radio receiver, suggest separation distances between 66 – 446 km, depending on amateur operation mode and frequency offset.

## sharing with radiolocation service

Taking into account the low number of WPR stations sharing can be considered on a case-by-case basis provided that amateurs do not claim protection from or priority over WPR.

## sharing with fixed service and other services

Summary and conclusion tbd

# List of relevant documents

ITU-Documentation (Recommendations, Reports, other)

* Recommendation ITU-R M.1732-1 ‘Characteristics of systems operating in the amateur and amateur-satellite services for use in sharing studies´;
* Amateur and amateur-satellite services Handbook
* Work plan for WRC-19 Agenda item 1.1
* Resolution 658 (WRC-15)
* Working Document Toward Preliminary Draft New report ITU-R M.[AMATEUR\_50\_MHz]
* Report ITU-R BT. 2387-0 (07/2015) contains information on responses from administrations on use of various frequency bands, including 50-54 MHz for broadcasting.
* Recommendation ITU-R BT.1368 ‘Planning criteria, including protection ratios, for digital terrestrial television services in the VHF/UHF bands’.
* Recommendation ITU-R BT.2033 ‘Planning criteria, including protection ratios, for second generation of digital terrestrial television broadcasting systems in the VHF/UHF bands’.
* Recommendation ITU-R SM.851 ‘Sharing between the broadcasting service and the fixed and/or mobile services in the VHF and UHF bands’.
* Final Acts of the European Broadcasting Conference (Stockholm, 1961 as revised in Geneva, 2006) (“ST61”) in the European Broadcasting Area
* Final Acts of the African Broadcasting Conference (Geneva, 1989 as revised in Geneva, 2006) (“GE89”) in the African Broadcasting Area and neighboring countries.

CEPT and/or ECC Documentation (Decisions, Recommendations, Reports)

EU Documentation (Directives, Decisions, Recommendations, other), if applicable

# Actions to be taken

Specify technical and operational characteristics for future amateur communication systems in the proposed band;

To agree on a propagation model to be used for sharing studies for land mobile communication systems operating in the band 50-54 MHz;

Conduct compatibility studies based on characteristics, protection criteria and interference scenario’s;

For mobile sharing update the Seamcat studies once the amateur duty cycles are finalised

Finalise coordination distances to ensure protection of WPR systems

The regulatory implication to protect WPR needs further study.

Define the status of a possible new allocation to the Amateur Service.

# Relevant information from outside CEPT

## European Union (date of proposal)

## Regional telecommunication organisations

APT (10 November 2017)

Preliminary View

APT Members are of the view that:

* Ongoing ITU-R studies relevant to WRC-19 agenda item 1.1 are supported.
* Spectrum need for the Amateur service in Region 1 should be clearly identified,

Any changes made to the Radio Regulations under WRC-19 Agenda Item 1.1 shall not impose additional constraints on the existing primary allocations in the band 50 – 54 MHz in Region 3.

ATU (September 2017)

1. Note that SADC resolved to support the allocation of the 50 – 54 MHz band to amateur service considering among others that in most SADC countries the range is already allocated to amateur on a primary basis.
2. Support the allocation of 50 – 54MHz (or part thereof) to the Amateur service in principle subject to favourable compatibility studies with the incumbent services – final study result to inform the final decision.

Arab Group (November 2017)

* Some administrations support frequency allocation for amateur service within the band 50-54 MHz on a primary basis, with following -up studies on this regard and emphasis on protecting the existing services without imposing new restrictions on them.
* Some administration prefers to wait and follow up the studies at this stage.

CITEL (November 2017)

Preliminary views

Canada and USA

WRC-19 Agenda Item 1.1 is a Region 1 issue. Any changes made to the Radio Regulations under WRC-19 Agenda Item 1.1 must not impact the existing allocation to the amateur service in 50 – 54 MHz in Region 2, nor subject Region 2 to any changed procedural or regulatory provisions

RCC (20 November 2017)

The RCC Administrations consider that during studies on possible allocation of the frequency band 50-54 MHz to the amateur service in Region 1, spectrum requirements for the amateur service shall be identified.

The RCC Administrations consider that, when identifying technical and regulatory conditions for such allocation, protection shall be ensured to the broadcasting service to which this frequency band is allocated on a primary basis, including stations of the broadcasting service in the frequency band 50-54 MHz, regulated by Stockholm-61 and Geneva-89.

## International organisations

IARU (April 2017) and EURAO (2 September 2017)

The IARU and EURAO support modification of the Table of Frequency Allocations to allocate the band 50-54 MHz to the Amateur Service on a primary basis in Region 1 and so provide a harmonized allocation across all three Regions.

**IATA (date of proposal)**

ICAO (November 2017)

No impact on aeronautical services has been identified from WRC-19 Agenda Items 1.1

IMO (date of proposal)

**NATO (20 December 2017)**

NATO Military Assessment  The whole range 30.005 - 87.5 MHz is essential for NATO military tactical communication. A diminished access to the whole band would reduce the ability to fulfill combined missions.

NATO Position

An allocation within the frequency range 50 - 54 MHz (or part of it) to the amateur service in Region 1 could only be considered when studies of amateur spectrum needs in Region 1 are completed and if studies provide the conditions for the amateur service that ensure that the military systems operated under the mobile service are protected.

SFCG (date of proposal)

WMO and EUMETNET (27 October 2017)

WMO does not oppose an allocation to amateur service in the 50-54 MHz provided that:

* appropriate protection of radiolocation service allocated by RR No 5.162A is ensured and
* the status of the new allocation to amateur service provides the radiolocation service equality or precedence relative to the amateur service.

WMO opposes any new allocation to amateur-satellite service in this frequency band

## Regional organisations

ESA (date of proposal)

Eurocontrol (date of proposal)

## OTHER INTERNATIONAL AND REGIONAL ORGANISATIONS

EBU (9 March 2017)

The EBU notes that the Stockholm 1961 Regional Agreement (Rev. Geneva 2006) still applies in the 50-54 MHz band.

This Agreement regulates the use of VHF bands for the broadcasting service by the countries of the European Broadcasting Area which covers almost all CEPT member states.

Many administrations in this area still have broadcasting assignments registered in the ST61 Plan or in the BR IFIC, and the provisions of the Agreement regarding protection of those assignments need to be respected, unless agreed otherwise by the administrations concerned.

As recorded by footnote ECA3 in the ECA Table: CEPT administrations are urged to take all practical steps to clear the band 47-68 MHz of assignments to the broadcasting service. The broadcasting assignments according to Stockholm Agreement 1961 shall be protected.

EBU also notes footnote ECA36 in the ECA Table: A frequency band, which has been harmonised by NATO and NATO member nations for military use as defined in the NATO Joint Civil/Military Frequency Agreement (NJFA) 2014. Note: A public version of the NJFA 2014 is expected to be provided by NATO to ECO by the end of 2016.

GSMA (date of proposal)

CRAF (27 June 2017)

The band 50-54 MHz is used by several radio telescopes around the world, in particular for the monitoring of solar activity. In region 1, major facilities such as LOFAR, the Decameter Array in Nancay, and other solar monitoring stations in Europe and Russia make use of that band on a daily basis. Resolution 657 (WRC-15) invites ITU-R to document for WRC-19 the technical and operational characteristics of space weather sensors, to determine for WRC-19 the appropriate radio service designations for space weather sensors, to conduct for WRC-23 the necessary sharing studies for incumbent systems operating in frequency bands used by space weather sensors, with the objective of determining regulatory protection that can be provided while not placing additional constraints on incumbent services. CRAF requests great care in allocating bands to active services, which may block the further development of space weather research.