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| **The 4th Meeting of the APT Conference Preparatory****Group for WRC-19 (APG19-4)** | **APG19-4/OUT-06** |
| 7 – 12 January 2019, Busan, Republic of Korea | 12 January 2019 |

Working Party 5

**PRELIMINARY VIEWs on WRC-19 agenda item 1.1**

**Agenda Item 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)***

**1. Background**

Resolution **658 (WRC-15)** resolves to invite ITU-R:

* to study spectrum needs in Region 1 for the amateur service in the frequency band 50‑54 MHz;
* taking into account the results of the above studies, to study sharing between the amateur service and the mobile, fixed, radiolocation and broadcasting services, in order to ensure protection of these services.

The frequency band 50-54 MHz is already allocated to the amateur service on a primary basis in Region 2 and Region 3. In Region 1 the frequency band is allocated to the Broadcasting service on a primary basis with additional or alternative allocations to the Amateur, Fixed, Mobile, and/or Radiolocation (limited to wind profiler radars) services in some countries.

Full or partial worldwide harmonization of the allocation to the Amateur service in the frequency band 50-54 MHz would promote global efficiency and economies of scale in fulfilling the purposes of the Amateur service and advance technical education, develop radio operating technique, and enhance international goodwill.

The frequency range 30-80 MHz is a transition area between ionospheric and non-ionospheric radio propagation modes, which makes it particularly interesting for experimentation and study with the amateur service. Band alignment with Regions 2 and 3 would facilitate the general understanding and prediction of propagation events as data accumulates and more Region 1 administrations grant their amateur licensees access to spectrum in the 50‑54 MHz frequency band.

ITU-R Working Party (WP) 5A as the responsible group for Agenda Item 1.1 has developed a preliminary draft new [Report ITU-R M.[AMATEUR\_50\_MHz]](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-0976%21N05%21MSW-E.docx) “Spectrum needs for the amateur service in the frequency band 50-54 MHz in Region 1 and sharing with mobile fixed, radiolocation, and broadcasting services”. One study concluded that 4 MHz of spectrum is required while the other concluded that 1.75 MHz is required. Results of sharing studies between incumbent services and the amateur service are summarized in the table below:

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| **Typical separation distances between amateur service and incumbent service stations** |
| Broadcasting | 70 to 175 km |
| Land mobile | 170 km to more than 500 km (average terrain) |
| Radiolocation (wind profiler radars)  | 29 km to more than 500 km |

In addition, specific studies on sharing with fixed services as well as coordination techniques and interference mitigation measures between services in adjacent countries have not yet been done. Possible techniques might include operational limitations on amateur stations, listen-before-talk operation, and technical means such as spread spectrum techniques.

**2. Documents**

Input Documents: APG19-4/INP-19 (Rev.1) (AUS), APG19-4/INP-63 (J), APG19-4/INP-80 (KOR), APG19-4/INP-87(IRN), APG19-4/INP-113 (IND), APG19-4/INP-122 (INS).

Information Documents: APG19-4/INF-02 (WMO), APG19-4/INF-03 (IARU), APG19-/INF-04 (ICAO), APG19-4/INF-09 (Rev.1) (ASMG), APG19-4/INF-09 (Rev.1) (ATU), APG19-4/INF-22 (CITEL), APG19-4/INF-23 (CEPT), APG19-4/INF-24 (RCC).

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Australia – Document APG19-4/INP-19 (Rev1) (AUS)**

Noting this is a Region 1 issue; any changes made to the Radio Regulations under WRC-19 agenda item 1.1 shall not adversely impact incumbent services in the 50–54 MHz frequency band and adjacent frequency bands in Australia.

**3.1.2 Japan** - **Document APG19-4/INP-63 (J)**

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

**3.1.3 Korea (Rep. of) – Document APG19-4/INP-80 (KOR)**

Noting this is a Region 1 issue, APT Members agree that any changes made to the Radio Regulations under WRC-19 Agenda Item 1.1 shall not adversely impact the incumbent amateur, broadcasting, fixed and mobile services in the 50–54 MHz frequency band and adjacent frequency bands in Region 3.

**3.1.4 Iran (Islamic Republic of) – Document APG19-4/INP-87 (IRN)**

I.R. of Iran supports the Method D (No Change) to the ITU’s RR.

Reasons for No Change:

The band 50-54 MHz is allocated to fixed, mobile and broadcasting services on primary basis in I.R. of Iran based on footnote **5.167** and is widely used by some of these services. Considering that I.R. of Iran is on the border of Region 1 on three sides of the country, any decision to the ITU’s RR in Region 1 would affect existing radio systems or services and also future plan of this administration in developing new systems and applications. So this administration can support an allocation in the frequency range 50-54 MHz to the amateur service in Region 1 on a secondary basis only:

* If the studies show that the fixed, mobile and broadcasting services are protected and there will be no unacceptable interference to their stations in these services;
* In the situations that based on the regulations, the amateur service shall not claim protection from harmful interference caused by fixed, mobile and broadcasting services.
* The above conditions shall be part of the footnote allocating the band to Amateur Service in Region 1.

Results of the studies on sharing amateur service with mobile service which is included in the Report ITU-R M.[AMATEUR\_50\_MHz] show that for protection of the land mobile service from harmful interference, a separation distance in the range of 170 km to more than 500 km in average terrain is needed. In mountainous regions, the separation distances are in about the same range. Dependent on the amateur service application, interference from a single amateur station may simultaneously interfere with more than 25 mobile channels in a range of up to 170 km.

Given the mobile nature of governmental communication systems, new and existing amateur service applications (fixed, mobile or portable) using the frequency band of 50-54 MHz, make sharing difficult.

Also, results of the studies on sharing amateur service with broadcasting service have shown that for protection of the broadcasting service from harmful interference, a field strength from an amateur station at the edge of the service area of a broadcasting transmitter shall not exceed 6 dB(μV/m) for 10% of the time at a height of 10 m above ground and typical separation distances between amateur service systems and broadcasting service stations would range from 70 to 175 km.

In addition, studies on sharing with fixed service as well as interference mitigation measures such as coordination between services in adjacent countries, operational limitation on amateur stations; listen-before-talk operation and technical means such as spread spectrum techniques have not yet been done.

Consequently, according to the results of the studies and above mentioned requirements and explanation and in order to avoiding additional restrictions on the operations of land mobile, fixed and broadcasting services stations and possible interference from the amateur service, this Administration supports the Method D (No Change) of CPM text.

**3.1.5 India – Document APG19-4/INP-113 (IND)**

Under Radio Regulation **5.167**, the band 50-54 MHz is allocated to fixed, mobile and broadcasting services on a primary basis in India and other neighboring countries. Therefore any changes made to the Radio Regulations under WRC-19 Agenda Item 1.1 shall not adversely impact the current and future broadcasting, fixed and mobile services in the 50–54 MHz frequency band and adjacent frequency bands in India.

We therefore support Method B2-An allocation to the amateur service on a secondary basis in the band 50–51.75 MHz, with appropriate footnotes or appropriate regulatory text to provide protection to services which already have an allocation in the band in India.

**3.1.6 Indonesia** - **Document APG19-4/INP-122 (INS)**

Indonesia supports any allocation to the amateur service in Region 1 in the band 50-54 MHz. Any changes made to the Radio Regulation under WRC-19 Agenda Item 1.1 must not impact the existing allocation to the amateur service in 50-54 MHz in Region 3.

**3.2 Summary of issues raised during the meeting**

APG19-4 input contributions on WRC-19 Agenda Item 1.1 recognise that Agenda item 1.1 is a Region 1 issue that could affect some countries in Region 3, and that any changes made to the Radio Regulations shall not adversely impact incumbent services in Region 3.

It was noted that the only likely area where harmful interference could arise is on the Region 1 – Region 3 border and consensus text was developed which specifically covered the incumbent services in the border region.

Considering the studies at ITU-R WP 5A, additional technical and regulatory provisions in the Radio Regulations might need to be developed.

The Draft CPM Report contains some regulatory provisions for Agenda item 1.1 which appear ambiguous, and this matter should be addressed at CPM19-2.

**4. APT Preliminary View(s)**

APT Members support ongoing ITU-R studies relevant to WRC-19 agenda item 1.1.

Noting this is a Region 1 issue, APT Members agree that any changes made to the Radio Regulations under WRC-19 Agenda Item 1.1 shall not adversely impact the incumbent amateur, broadcasting, fixed and mobile services in the 50–54 MHz frequency band and adjacent frequency bands in Region 3.

**5. Other View(s)**

According to the results of the studies and in order to avoiding additional restrictions on the operations of land mobile, fixed and broadcasting services stations and possible interference from amateur stations in Region 1, some APT Members bordering Region 1 support Method D – no change to the Radio Regulations.

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

Final development of APG Preliminary View on WRC-19 Agenda Item 1.1 and possible PACP.

APT Members are encouraged to contribute to the next APG meeting on Agenda Item 1.1, taking into account the studies of ITU-R WP 5A and the outcome of CPM 19-2.

**7. Views from Other Organisations**

**7.1 Regional Groups**

**7.1.1 ASMG - Document APG19-4/INP-09 (Rev.1)**

Some administrations support frequency allocation for amateur service within the band 50-54 MHz on a primary basis.

Some administration prefers to wait and follow up the studies at this stage.

Some administration doesn’t support frequency allocation for amateur service within the band 50-54 MHz on an initial basis.

**7.1.2 ATU - Document APG19-4/INP-09 (Rev.1)**

Method A, which entails an allocation to the amateur service on a primary basis in all the band 50-54 MHz, or part thereof, with appropriate footnotes to provide protection to services which already have an allocation in the band – this preliminary position is therefore in principle and is subject to favourable compatibility studies with the incumbent services.

**7.1.3 CITEL – Document APG19-4/INF-22 (CITEL)**

Outcome should not impact Region 2 or studies do not support taking action.

**7.1.4 CEPT – Document APG19-4/INF-23 (CEPT)**

An allocation of 2 MHz in the frequency range 50-52 MHz to the amateur service in Region 1 on a secondary basis.

CEPT is still discussing the future regulatory status of the amateur service in part of the band 50-52 MHz.

CEPT is of the view that the amateur service shall not cause harmful interference to, nor claim protection from harmful interference caused by the incumbent services.

**7.1.5 RCC – Document APG19-4/INF-24 (RCC)**

The RCC Administrations consider that in order to decide on possible allocation of the frequency band 50-54 MHz or a part of the band to the amateur service in Region 1, spectrum requirements for the amateur service shall be justified and agreed upon in ITU-R.

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.

The RCC Administrations allow for the possibility of allocation of a part of the frequency band 50-54 MHz to the amateur service on a secondary basis provided that additional measures will be introduced to protect broadcasting service on the border of an administration using broadcasting service.

**7.2 International Organisations**

**7.2.1** **World Meteorological Organization – Document APG19-4/INF-02 (WMO)**

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

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

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

**7.2.2 International Civil Aviation Organization – Document APG19-4/INF-04 (ICAO)**

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

**7.2.3 International Amateur Radio Union – Document APG19-4/INF-03 (IARU R3)**

The IARU supports 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. The IARU supports Method A in order to achieve inter-regional operability.

Method A: An allocation to the amateur service on a primary basis in all the band 50-54 MHz, or part thereof, with appropriate footnotes to provide protection to services which already have an allocation in the band.

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