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| Hilversum, The Netherlands, 27th - 30th November 2018 | | |
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| Group membership required to read? (Y/N)  N | | |
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| Summary: | | |
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| Proposal: | | |
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1. The following pages are intended to be compiled in one CEPT Brief on AI 9

DRAFT CEPT BRIEF ON AGENDA ITEM 9.1. – ISSUE 9.1.5

9.1.5 Resolution 764 (WRC-15) – Consideration of the technical and regulatory impacts of referencing Recommendations ITU-R M.1638-1 and ITU-R M.1849-1 in Nos 5.447F and 5.450A of the Radio Regulations;

# ISSUE

This Agenda item comes under Agenda item 9: to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the Convention

Agenda item 9.1 issue 9.1.5 addresses possible changes to the footnotes referenced in the allocations in   
5 250-5 350 MHz and 5 470-5 725 MHz which gives protection to radiolocation service from RLANs.

# Preliminary CEPT position

CEPT is investigating the potential technical and regulatory impacts of a solution, which would consist of deleting the references to Recommendations ITU-R M.1638 and M.1849 in the footnotes Nos 5.447F and 5.450A, and replacing these references with information related to the applicability of sharing conditions and mitigation measures given in Resolution 229 (Rev. WRC-12).

# Background

Recommendation ITU-R М.1638-0 is incorporated in Radio Regulations by reference in Nos 5.447F and 5.450А. In accordance with these RR provisions for protection of radiodetermination services in the frequency bands 5 250-5 350 MHz and 5 470-5 725 MHz more stringent protection criteria shall not be imposed based on system characteristics and interference criteria, than those stated in Recommendation ITU-R M.1638-0. However, since the allocation for WAS/RLAN was made in WRC-03 this Recommendation has been revised. As a result of this revision of Recommendation ITU-R M.1638-1 the list of radiolocation radars operating in the frequency range 5 GHz contained in the Recommendation has increased. In addition, the information with respect to the ground based meteorological radars has been moved to a separate Recommendation ITU-R М.1849-1. Both of these new Recommendations are not currently incorporated into the Radio Regulations. Therefore, for Nos 5.447F and 5.450А currently there is no clarification with respect to the latest version of Recommendation incorporated by reference in Radio Regulations. The work is to investigate the technical and regulatory impacts on the allocations referred to in Nos 5.447F and 5.450A that would result from referencing Recommendations ITU-R M.1638-1 and M.1849-1 in place of the original Recommendation ITU-R M.1638-0.

Recommendation ITU‑R M.1638-1 gives the characteristics of and protection criteria for sharing studies for radiolocation (except ground based meteorological radars) and aeronautical radionavigation radars operating in the frequency bands between 5 250 and 5 850 MHz.

Recommendation ITU-R M.1849-1 gives the technical and operational aspects of ground-based meteorological radars.

The aim of the agenda item and the associated Resolution 764 (WRC-15) is to ensure that no undue constraints are imposed on the services referenced in Nos [5.447F](file:///C:\Users\TRISTANT\Documents\A-TRAVAIL\WRC-19\Agenda\5.447F.docx) and [5.450A](file:///C:\Users\TRISTANT\Documents\A-TRAVAIL\WRC-19\CPG\CPG-PTD\PTD-2%20(Helsinki%20Janv%202017)\Contribution%20EUMETNET\5.450A.docx) footnotes and then to take any regulatory action as appropriate.

The study results show that in case of referencing Recommendation ITU-R M.1638-1 in place of Recommendation ITU-R M.1638-0, ground based meteorological radars will not be referenced in Nos [5.447F](file:///C:\Users\TRISTANT\Documents\A-TRAVAIL\WRC-19\Agenda\5.447F.docx) and [5.450A](file:///C:\Users\TRISTANT\Documents\A-TRAVAIL\WRC-19\CPG\CPG-PTD\PTD-2%20(Helsinki%20Janv%202017)\Contribution%20EUMETNET\5.450A.docx), therefore their required protection from the interference caused by stations in the mobile service will not be provided in the frequency bands 5 250-5 350 MHz and 5 470-5 725 MHz.

The comparison of the technical characteristics of the meteorological radars given in Recommendations ITU-R M.1638-0 and M.1849-1, operating in the frequency band 5 470-5 725 MHz showed that both Recommendations contain the technical characteristics of the meteorological radars leading to the lowest interference protection level.

In addition, an analysis of the relevant DFS detection by WAS/RLAN comparing the ground based meteorological radars described in Recommendations ITU-R M.1638-0 and M.1849-1 shows that adding a new reference to Recommendation ITU-R M.1849-1 to No  [5.450A](file:///C:\Users\TRISTANT\Documents\A-TRAVAIL\WRC-19\CPG\CPG-PTD\PTD-2%20(Helsinki%20Janv%202017)\Contribution%20EUMETNET\5.450A.docx) will not impose more stringent protection criteria on the mobile service, in particular WAS/RLAN in the frequency band 5 470-5 725 MHz, and will keep unchanged the protection of meteorological radars.

Therefore, a reference to Recommendation ITU-R M.1849-1 in No 5.450A will not lead to any changes of allocation conditions of the frequency band 5 470-5 725 MHz to the incumbent radio services.

A reference to Recommendation ITU-R M.1849-1 in No 5.447F will result in additional constraints imposed on the systems in the mobile service operating in the frequency band 5 250-5 350 MHz and it will lead to changes of allocation conditions of the frequency band to the incumbent radio services.

Studies have also shown that referencing Recommendation ITU-R M.1638-1 in Nos 5.447F and 5.450A will result in undue constraints being placed on the mobile (except aeronautical mobile) service in the relevant frequency bands.

Therefore, based on current analysis, it would be reasonable to retain a reference to Recommendation ITU-R M.1638-0 in Nos [5.447F](file:///C:\Users\TRISTANT\Documents\A-TRAVAIL\WRC-19\Agenda\5.447F.docx) and [5.450A](file:///C:\Users\TRISTANT\Documents\A-TRAVAIL\WRC-19\CPG\CPG-PTD\PTD-2%20(Helsinki%20Janv%202017)\Contribution%20EUMETNET\5.450A.docx). It will allow avoiding reference of two versions of one Recommendation in Radio Regulations.

CEPT is further investigating the potential technical and regulatory impacts of an alternative regulatory solution which would consist of deleting the second sentence of the footnotes, where the Recommendations are referenced and add information related to the sharing conditions and mitigation measures given in Resolution 229 (Rev. WRC-12) as shown below:

5.447F In the frequency band 5 250-5 350 MHz, stations in the mobile service shall not claim protection from the radiolocation service, the Earth exploration-satellite service (active) and the space research service (active). These services shall not impose on the mobile service more sharing conditions and mitigation measures ~~protection criteria, based on system characteristics and interference criteria~~, than those given in Resolution 229 (Rev. WRC-12) ~~stated in Recommendations ITU-R M.1638-0 and ITU-R RS.1632-0.~~

5.450A In the frequency band 5 470-5 725 MHz, stations in the mobile service shall not claim protection from radiodetermination services. Radiodetermination services shall not impose on the mobile service more stringent sharing conditions and mitigation ~~protection criteria, based on system characteristics and interference criteria,~~ than those given in Resolution 229 (Rev. WRC-12) ~~stated in Recommendation ITU-R M.1638-0~~.

Furthermore, with respect to the proposal to remove the references to ITU-R Recommendations M.1638 and M.1849 analyses of this proposal has shown that it:

is in line with the scope of Agenda item 9.1.5;

At this time, some CEPT administrations consider this as a regulatory solution for the agenda item is in accordance with the instructs to Director of the Bureau in Resolution **764 (WRC-15)** and other CEPT administrations do not think that the proposal falls within the scope of the agenda item.

ensures the mobile service cannot claim protection from the radiolocation service;

keeps intact the current methods of providing co-existence between RLAN and the radiolocation service in the Radio Regulations;

does not place any additional burden on the mobile service through changes in the Radio Regulations;

would avoid the need to create new agenda items at future WRCs (e.g. under AI 2) to study the impact of future updates of Recommendations ITU-R M.1638 and M.1849 with possible revisions to Nos 5.447F and 5.450A to note the content of this report.

Some CEPT administrations consider that this proposal would avoid the need for similar agenda items at future WRCs (e.g. under AI 2) but some other CEPT administrations still have some concerns that this does not provide an overall regulatory solution to this problem.

# List of relevant documents

ITU-Documentation (Recommendations, Reports, other)

Recommendation ITU-R M.1638-0 “Characteristics of and protection criteria for sharing studies for radiolocation, aeronautical radionavigation and meteorological radars operating in the frequency bands between 5 250 and 5 850 MHz”

Recommendation ITU-R M.1638-1 Characteristics of and protection criteria for sharing studies for radiolocation (except ground based meteorological radars) and aeronautical radionavigation radars operating in the frequency bands between 5 250 and 5 850 MHz

Recommendation ITU-R M.1849-1 “Technical and operational aspects of ground-based meteorological radars”

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

ECC Report 192 The Current Status of DFS (Dynamic Frequency Selection) in the 5 GHz frequency range

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

# Actions to be taken

# Relevant information from outside CEPT (examples of these are below)

## European Union (date of proposal)

## Regional telecommunication organisations

APT (March 2018)

Preliminary views

APT Members support ITU-R studies to investigate the technical and regulatory impacts on the services referred to in Nos. 5.447F and 5.450A that would result from referencing Recommendation ITU-R M.1638-1 in place of Recommendation ITU-R M.1638-0 in those footnotes and to also add a new reference to Recommendation ITU-R M.1849-1 to these footnotes. In so doing, APT Members also support to ensure the protection of the services to which the band is allocated including those which are referenced in these footnotes without any constraints to these services.

Other views

Some APT Members proposed to add the word “unacceptable” before the word “constraints” in the last line of the APT Preliminary View(s).

ATU (September 2017)

The APM19-2 agreed to support the on-going studies in WP5A, and to urge African administration to contribute and actively participate.

Arab Group (April 2018)

Follow up the studies and ensure protection of the existing services without adding new restrictions on them.

CITEL (December 2017)

Preliminary Views

Canada:

Canada supports and is participating in the studies on the technical and regulatory impacts as described in Resolution **764**, which are being conducted in WP 5A.

Canada is of the preliminary view that there is a need to avoid introduction of ITU-R M.1638-1 in the RR as there appears to be, based on current studies, significant impacts on RLAN DFS requirements if Recommendation ITU-R M.1638-1 were to be referred to in place of Recommendation ITU R M.1638-0. This is because some of the new radars (i.e., bistatic and frequency hopping radars) have substantially different system characteristics. Canada continues to follow the studies in WP 5A including those on the referencing of Recommendation ITU-R M.1849-1.

RCC (15 March 2018)

The RCC Administrations are in favour of maintaining the conditions for use of the allocation of the frequency bands 5250–5350 MHz and 5470–5725 MHz by radiodetermination services.

The RCC Administrations oppose reference to Recommendation ITU-R M.1849-1 in No.5.447F as this would result in changing conditions for mobile service in the frequency band 5250-5350 MHz. In this regard, the RCC Administrations are in favour of maintaining reference to Recommendation ITU-R M.1638-0 in No.5.447F.

The RCC Administrations are in favour of maintaining reference to Recommendation ITU-R M.1638-0 in No.5.450.

## International organisations

IATA (date of proposal)

ICAO (date of proposal)

IMO (date of proposal)

SFCG (date of proposal)

Although this agenda item does not appear to involve space science services, SFCG members will continue to monitor the developments of this agenda item in WP 5A for any potential outcomes identified that could impact space science service operations.

WMO and EUMETNET (June 2018)

WMO supports any solution that ensures the continued protection of meteorological radars from WAS/RLAN systems operating under the mobile service allocation in the 5470-5725 MHz frequency band.

## Regional organisations

ESA/SFCG(June 2016)

Although this agenda item does not appear to involve space science services, SFCG members will continue to monitor the developments of this agenda item in WP 5A for any potential outcomes identified that could impact space science service operations.

Eurocontrol (date of proposal)

## OTHER INTERNATIONAL AND REGIONAL ORGANISATIONS

NATO (June 2018)

NATO Military Assessment

Modifications made in Recommendation ITU-R M. 1638-1 provide relevant information on currently deployed military radars (information previously missing in Rec. ITU-R M. 1638-0). The characteristics of radars included in ITU-R M.1638-1 are required within ITU-R and/or CEPT in order to ensure currently deployed radar characteristics are considered in the sharing studies. These air, land and naval radars are indispensable for the NATO-wide operation of tactical and weapon systems and include frequency hopping radars, e.g. Air Defence High Power Radars accomplishing a variety of missions in particular as part of the NATO Integrated Air and Missile Defence System (NATINAMDS).

NATO Position

No NATO Position at this stage, however NATO Nations are monitoring this issue to assess the potential impact on NATO military usage.

EBU (date of proposal)

GSMA (date of proposal)

CRAF (date of proposal)