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CEPT BRIEF ON AGENDA ITEM 1.7

to review the use of the band 5 091-5 150 MHz by the fixed-satellite service (Earth-to-space) (limited to feeder links of the non-geostationary mobile-satellite systems in the mobile-satellite service) in accordance with Resolution 114 (Rev.WRC-12)

# ISSUE

Resolution 114 (Rev.WRC-12)

“resolves

1. that administrations authorizing stations providing feeder links for non-GSO systems in the MSS in the frequency band 5 091-5 150 MHz shall ensure that they do not cause harmful interference to stations of the aeronautical radionavigation service;
2. that the allocation to the aeronautical radionavigation service and the FSS in the frequency band 5 091-5 150 MHz should be reviewed at a future competent conference prior to 2018;
3. that studies be undertaken on compatibility between new systems of the aeronautical radionavigation service and systems of the FSS providing feeder links of the non‑GSO systems in the MSS (Earth-to-space)”

# CEPT position

CEPT supports the single method contained in the CPM text for this agenda item.

CEPT supports to remove the time limitation to the primary allocation to the fixed-satellite service (Earth-to-space) in the band 5 091-5 150 MHz, limited to feeder links of non-geostationary satellite systems in the mobile-satellite service. Resolution 114 (Rev. WRC-12) shall continue to apply to this allocation with the necessary consequential amendments.

CEPT also supports revising Resolution 748 (Rev.WRC-12) to update the reference to Recommendation ITU-R M.1827-1, in order to provide improved flexibility for AM(R)S.

# Background

Footnote No.5.444A permits use of the band 5 091-5 150 MHz by FSS feeder links subject to the requirements of No. 5.444 to protect microwave landing systems (MLS) operating in ARNS. Initially, the band 5 090-5 150 MHz was reserved to meet requirements for further development of MLS beyond the “basic” MLS band 5 030-5 091 MHz. Since WARC-95 and until WRC-07 MLS had priority over other uses in the band 5 030-5 150 MHz, and the FSS also had primary allocation in the band 5 091-5 150 MHz for Earth-to-space links with the restriction that no new assignments should be made to the FSS in this frequency band after 2012. Then this term was extended to 2016 (with a foreseen reversion of these FSS allocations to secondary ones after January 2018). Under WRC-15 agenda item 1.7 it is planned to consider current primary allocations to ARNS and FSS in the band 5 091-5 150 MHz with a view of possible removal of the said date-limitation to the FSS (limited to feeder links of NGSO MSS systems) in No. 544A due to preceding removal of priority of MLS in this frequency band.

It should be noted that the band 5 091-5 150 MHz is also allocated to the AMS limited to systems operating in the AM(R)S and in accordance with international aeronautical standards limited to surface applications at airports and aeronautical telemetry transmissions from aircraft stations. WP 5B has indicated that the removal of the date limitations for the FSS can be supported, provided that stable sharing conditions within ARNS and AM(R)S in the band are maintained and allow increased flexibility in the attribution of the ΔTs/Ts to the various aeronautical services in this band.

The CPM text contains a single method to satisfy the agenda item:

“The Method proposes:

* that the use of the band 5 091-5 150 MHz by systems of the FSS providing Earth-to-space feeder links of non-GSO systems in the MSS be maintained as a primary allocation;
* that each of the time limits on this allocation given in RR No. 5.444A, i.e. after 1 January 2016 no new assignments shall be made, and after 1 January 2018 the FSS will become secondary to the ARNS, be supressed;
* that the text specifying that “use of the band 5 091-5 150 MHz by FSS feeder links shall be made in accordance with Resolution 114 (Rev.WRC-15)” be added to the footnote;
* that coordination between FSS earth stations and ARNS ground stations is required under certain circumstances to ensure that the ARNS is protected from harmful interference and that a fixed distance be used in determining the coordination area; and
* that flexibility for AM(R)S be improved while ensuring protection of the FSS.

An improved flexibility would be possible for managing the interference contribution from AM(R)S by allowing its contribution to ΔTs/Ts to increase beyond the 2% limit, set forth in Recommendation ITU-R M.1827-1, whenever the ARNS contribution is below 3%. When the ARNS contribution is above 3%, the current hard limit of 2% on the AM(R)S contribution still applies.”

This method also assumes revision of Resolution 114 (Rev. WRC-12) and Resolution 748 (Rev. WRC-12), as well as modification to Appendix 7 to Radio Regulations.

# List of relevant documents

ITU-Documentation (Recommendations, Reports, other)

Resolution 114 (Rev.WRC-12) – Studies on compatibility between new systems of the aeronautical radionavigation services and fixed-satellite service (Earth-to-space) (limited to feeder links of the non-geostationary mobile-satellite systems in the mobile-satellite service) in the frequency band 5 091-5 150 MHz.

Resolution 748 (Rev.WRC-12) – Compatibility between the aeronautical mobile (R) service and the fixed-satellite service (Earth-to-space) in the band 5 091-5 150 MHz.

Recommendation ITU-R S.1342 - Method for determining coordination distances, in the 5 GHz band, between the international standard microwave landing system stations operating in the aeronautical radionavigation service and non-geostationary mobile-satellite service stations providing feeder uplink services.

Recommendation ITU-R M.1827 – Technical and operational requirements for stations of the aeronautical mobile (R) service (AM(R)S) limited to surface application at airports and for stations of the aeronautical mobile service (AMS) limited to aeronautical security (AS) applications in the band 5 091-5 150 MHz.

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

N/A

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

N/A

# Actions to be taken

* None

# Relevant information from outside CEPT

## European Union (date of proposal)

## Regional telecommunication organisations

APT (June 2014)

APT Members support the current Method A of the draft CPM text as shown in Annex 23 of Document 4A/468. APT Members also noted that the future application of ARNS systems in the band 5091-5150MHz should be protected from harmful interference and the development should not be limited.

ATU (January 2014)

EACO:

Supports studies on technical and operational issues relating to sharing of this band between new systems of the aeronautical radionavigation service and the FSS providing feeder links of the non-GSO systems in the MSS (Earth-to-space).

ECCAS:

Results of ITU-R studies shall be reviewed before forming a view

SADC:

SADC may support the proposed studies in the use of this band between the allocated services.

SUDAN:

Sudan is reviewing the current studies on assessment of the coexistence between the new systems of aeronautical radionavigation and fixed-satellite service (Earth-to-space) in the band 5 091-5 150 MHz.

NIGERIA:

Nigeria supports the co-existence of the FSS in the band 5091-5150 MHz provided it does not interfere with the existing Microwave Landing System operating in the band 5031-5090 MHz

ALGERIA:

Algeria is reviewing the current studies on assessment of coexistence between the new systems of aeronautical radionavigation and fixed-satellite service (Earth-to-space) in the band 5 091-5 150 MHz.

Arab Group (May 2014)

ASMG Position:

Supports the removal of the time limitation in RR 5.444A to the primary allocation to the fixed-satellite service (Earth-to-space) in the band 5 091-5 150 MHz, limited to feeder links of non-geostationary satellite systems in the mobile-satellite service, based on the information received from ICAO that no new systems are planned in the band.

Resolution 114 (Rev.WRC-12) after amendment shall continue to apply to this allocation in order to protect aeronautical services and encourage long-term sharing environment in the band.

KSA, Algeria, and Iraq position: follow up current studies with regards to sharing between existing Radionavigation services and Fixed-Satellite services (Earth-space) in the band 5091-5150 MHz.

CITEL (November 2014)

Brazil/Canada/United States/Uruguay

MOD Article 5to add FSS primary allocation in the 5091-5150 MHz band for feeder links of the non-GSO mobile satellite systems in the MSS

MOD No. 5.444Ato remove the time constraint elements on the FSS allocation while keeping all the other applicable regulatory provisions, i.e. No. 9.11Aand Resolution 114

MOD Appendix 7 to reflect the method of coordination that is to be used between FSS earth stations and ARNS stations

MOD Resolution 114: consequential changes

RCC (April 2015)

The RCC Administrations have no objections to maintain primary allocation of the frequency band 5091-5150 MHz to FSS limited to feeder links of the NGSO MSS systems (Earth-to-space), and remove temporary limitations specified in No 5.444A. Resolution 114 (Rev. WRC-12) should continue to be applied to this allocation taking into account relevant amendments.

The RCC Administrations have no objections to maintain primary allocation of the frequency band 5091-5150 MHz to FSS limited to feeder links of the NGSO MSS systems (Earth-to-space) and remove temporary limitations specified in No 5.444A. Resolution 114 (Rev.WRC-12) should continue to be applied to this allocation taking into account relevant amendments.

The RCC Administrations consider that under certain circumstances protection of ground stations in the ARNS needs coordination with Earth stations in the FSS. The RCC Administrations support the revision of Resolution 748 (Rev. WRC-12) and Recommendation ITU-R M.1827.

The RCC Administrations support the only method presented in CPM Report to satisfy this agenda item.

## International organisations

IATA (date of proposal)

ICAO (December 2013)

Support the removal of date limitations on the fixed satellite service (FSS) allocation in the frequency band 5091 – 5150 MHz subject to:

the retention of the aeronautical protections contained in Resolution114 (WRC-12).

improving the flexibility for managing the allowed FSS satellite noise temperature increase by the aeronautical mobile (R) and aeronautical radionavigation services operating in the band 5 091-5 150 MHz

IMO (date of proposal)

NATO

SFCG (date of proposal)

WMO (date of proposal)

## Regional organisations

ESA (date of proposal)

EUMETNET (date of proposal)

Eurocontrol (date of proposal)