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|  |  Doc. CPG15(14)017 Annex IV-07  |
| CPG15-4 |  |
| Riga, Latvia 25th – 28th March 2014 |  |
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| Date issued:  | 28th March 2014 |
| Source:  | CPG15-4 |
| Subject:  | Draft CEPT Brief on WRC-15 Agenda Item 1.7 |
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| Summary:  |
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| Proposal: |
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DRAFT 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)”

# Preliminary CEPT position

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) and Recommendation ITU-R M.1827 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 dTs/Ts to the various aeronautical services in this band.

At the time, draft CPM text contains the only method to satisfy the agenda item.

Method A:

“This 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 conditions 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 suppressed,
* that use of the band 5 091-5 150 MHz by FSS feeder links shall be made in accordance with Resolution 114 (Rev.WRC-12) 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 RR Appendix 7 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.”

Note: This method relies on the appropriate revision of Recommendation ITU-R M.1827 by ITU-R Study Group 5 in November 2014.

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.

 Doc 4A/468 Annex 23 – Draft CPM Text on WRC-15 Agenda item 1.7

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

N/A

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

N/A

# Actions to be taken

* to prepare proposals to ECP
* to prepare proposals to the draft CPM Report

# Relevant information from outside CEPT

## European Union (date of proposal)

## Regional telecommunication organisations

APT (December 2013)

APT Members support studies of the ITU-R on compatibility between aeronautical radionavigation service 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 with a view to consider, if appropriate, the removal of the date limitations on the FSS.

APT Members are also encouraged to actively participate in the relevant ITU-R studies.

ATU (December 2013)

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 (December 2013)

Follow up the current studies about evaluation of co-existence between the new Systems of the Aeronautical Radionavigation service and the fixed-satellite service (Earth-to-space) in the band 5 091-5 150 MHz.

CITEL (December 2013)

CAN/USA

Any new sharing studies should be limited to new systems of the ARNS as compatibility studies between feeder links of the non-GSO mobile satellite systems in the MSS and the AMS (AMRS and AMT) were already conducted in this band at WRC-07.

The primary allocation to the FSS for feeder links of the non-GSO mobile satellite systems in the MSS should be retained in the 5091 – 5150 MHz band, and as such the time constraint elements of No. 5.444A should be suppressed.

Resolution 114 (Rev. WRC-12) should be retained and updated to maintain the aeronautical protections and to promote a long term stable sharing environment for the allocated services in the 5091-5150 MHz band, taking into account the WRC-12 decision to suppress the application of Aeronautical Security in the AMRS allocation and Resolution 419.

RCC (December 2013)

The RCC Administrations support the requirements for defining/updating conditions of operating feeder links of NGSO FSS systems and ARNS stations in the frequency band 5091-5150 MHz. The conditions should be taken into consideration when developing the proposals for future usage of the mentioned frequency band by new systems in FSS supporting feeder links (Earth-to-space) of NGSO MSS systems

## 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 (December 2013)

TBD

SFCG (date of proposal)

WMO (date of proposal)

## Regional organisations

ESA (date of proposal)

EUMETNET (date of proposal)

Eurocontrol (date of proposal)