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| Subject:  | Draft CEPT Brief on WRC-19 Agenda Item 1.8 |
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| Summary:  |
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| Proposal: |
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DRAFT CEPT BRIEF ON AGENDA ITEM 1.8

1.8 to consider possible regulatory actions to support Global Maritime Distress Safety Systems (GMDSS) modernization and to support the introduction of additional satellite systems into the GMDSS, in accordance with Resolution 359 (Rev.WRC-15);

# ISSUE

Resolution 359 (WRC-15) also invites the WRC-19 to

consider the result of ITU Radiocommunication Sector (ITU-R) studies and take necessary actions, as appropriate, to support GMDSS modernization;

and consider regulatory provisions, if appropriate, based on the ITU-R studies, and taking into consideration the activities of IMO, related to the introduction of additional satellite systems into the GMDSS, including consideration of the MSS allocations used, while ensuring the protection of all incumbent services, including those in adjacent frequency bands, from harmful interference.

These two invites the WRC-19 has been identified for the CPM Report as two different issues

# Preliminary CEPT position

Issue A: modernisation of GMDSS

Position: TBD

Issue B: Regulatory action due to the introduction of additional satellite systems into the GMDSS by IMO

Position: TBD

# Background

There is a continuing need in the Global Maritime Distress and Safety System (GMDSS), on a global basis, for improved communications to enhance maritime capabilities. It is also related to enhancement of maritime safety in polar Arctic and Antarctic waters. Such maritime safety enhancement in the GMDSS can be achieved by the continued usage of GSO satellite networks along with the addition of NGSO satellite networks to extend the GMDSS functions to near polar areas. One system using GSO and nonGSO systems networks (COSPAS SARsat) is already providing some GMDSS functions in the polar area. The International Maritime Organization (IMO) is considering the modernization of GMDSS and has received an application to recognize an existing satellite system (Iridium) as part of the GMDSS, and consequential regulatory actions may need to be considered. Any new GMDSS satellite systems need to provide enhancement of maritime safety, through redundancy or the addition of new functionality while ensuring the protection of incumbent services in accordance with the Radio Regulations, including those in adjacent frequency bands, from harmful interference, and such GMDSS satellite systems operate within the interference environment of existing systems. This agenda item asks to conduct studies, considering Nos 4.6, 5.369 and 5.372 that provide information on the use of the frequency band 1 616-1 626.5 MHz (or parts thereof), the activities of IMO and the recognition of additional satellite systems for use in the GMDSS, including consideration of the MSS allocations used and the potential impact of possible modifications to the provisions of the Radio Regulations on sharing and compatibility with other services and systems in the frequency band and adjacent frequency bands to support GMDSS modernization.

In CEPT, ECC/DEC/(09)02 provides the necessary provisions for the harmonization of the frequency bands 1 610-1 626.5 MHz and 2 483.5-2 500 MHz for MSS systems.

# List of relevant documents

* Recommendation ITU-R M.1184-2: “Technical characteristics of mobile satellite systems in the frequency bands below 3 GHz for use in developing criteria for sharing between the mobile-satellite service (MSS) and other services” (ITU-R Question 201/8)
* Recommendation ITU-R M.1188-1: “Impact of propagation on the design of non-GSO mobile-satellite systems not employing satellite diversity which provide service to handheld equipment” (ITU-R Question 88/8)
* Recommendation ITU-R M.1583-1: “Interference calculations between non-geostationary mobile-satellite service or radionavigation-satellite service systems and radio astronomy telescope sites” (ITU-R Question 236/8)
* Report ITU-R [M.2369-0](http://www.itu.int/pub/R-REP-M.2369): “Use of non-geostationary orbit mobile satellite systems to enhance maritime safety”
* ITU-Documentation (Recommendations, Reports, other)
* Recommendation ITU-R RA.769-2: “Protection criteria used for radio astronomical measurements”
* Recommendation ITU-R RA.1513-1, “Levels of data loss to radio astronomy observations and percentage-of-time criteria resulting from degradation by interference for frequency bands allocated to the radio astronomy on a primary basis”

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

* ECC Decision (09)02: “The harmonisation of the bands 1610-1626.5 MHz and 2483.5-2500 MHz for use by systems in the Mobile-Satellite Service” approved 26 June 2009, amended 02 November 2012
* ECC Report 171: “Impact of unwanted emissions of IRIDIUM satellites on radioastronomy operations in the band 1610.6-1613.8 MHz” Tallinn, October 2011
* ECC Report 226: “Unwanted emissions of IRIDIUM satellites in the band 1610.6-1613.8 MHz, monitoring campaign 2013” approved 30 January 2015

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

# Actions to be taken

The following items have been identified to be studied for issue B under Resolution 359, within the CEPT

The use of an MSS allocation for GMDSS, which has a secondary status in the space to Earth direction.

Regulatory and compatibility issues related to protection of Radio Astronomy from GMDSS operating in an adjacent band.

Regulatory issues related to the operation of MSS systems which are not part of the GMDSS in the same band as GMDSS systems.

The radio regulatory conditions under which the non-GSO MSS systems would operate in the GMDSS.

The inconsistency and potential constraint of RR No. 5.368.

The regulatory status of the non-GSO MSS system, and any potential adverse impact of any change to the regulatory status.

Identify the groups and organizations already active in this field.

IMO

ITU-R study groups WP5B, WP4C, WP7D

Consider contacting CEPT groups regarding required information and studies.

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

## European Union (date of proposal)

## Regional telecommunication organisations

APT (date of proposal)

ATU (date of proposal)

ASMG (April 2017)

Due to the need for modern communications systems in the field of global maritime distress and safety services (GMDSS) in accordance with Resolution 359 (REV.WRC 15), and due to its important contribution to maritime safety, ASMG supports:

* the consideration of possible regulatory actions to support the modernization of (GMDSS).
* the introduction of additional satellite systems in the GMDSS system while ensuring compatibility and interconnection among the new and the current systems.
* following-up studies to be undertaken by ITU-R on the protection of frequency bands being used in the future.

CITEL (July 2017)

Canada and United States: With respect to Agenda Item 1.8, these Administrations support the activities of IMO related to the introduction of additional satellite systems into the GMDSS, as well as activities underway in the ITU-R. Based upon successful conclusion of these activities, these administration support appropriate modification of the Radio Regulations such as Appendix 15, to provide for introducing additional satellite systems into the GMDSS

RCC (September 16th, 2016)

The RCC Administrations consider that the IMO position should be taken into account in regard to the GMDSS modernization, including the introduction of the IMO-recognized additional satellite systems, when developing relevant regulatory actions to support such modernization considering protection of existing services and systems.

## International organisations

IATA (date of proposal)

ICAO (September 16)

To ensure that any change to the regulatory provisions and spectrum allocations resulting from this agenda item do not adversely impact on the capability of search and rescue aircraft to effectively communicate with vessels during disaster relief operations.

To ensure that any regulatory provisions in response to this agenda item do not adversely impact SARPS compliance of aeronautical mobile-satellite (route) service satellite systems.

IMO (August 16)

1. No substantive position has been developed with regard to GMDSS Modernization, awaiting the finalisation and approval of the Modernization Plan;
2. IMO invites ITU to take the appropriate regulatory measures to ensure full protection and availability of the frequency bands to be used by new recognised GMDSS satellite service providers for the provision of GMDSS services; and
3. IMO further invites ITU to resolve any issues under Resolution 359 (Rev.WRC‑15), in relation to the future operation of newly recognised GMDSS satellite service providers.

SFCG (date of proposal)

WMO and EUMETNET (date of proposal)

**NATO (**June **2017)**

This NATO military assessment summary is a common military assessment of the NATO Nations on the potential impacts and benefits of Agenda Item 1.8. It does not constitute a common position of the NATO Nations.

Maritime safety enhancements are critical to military operations. Modernization measures and other enhancements should be able to co-exist with existing standard equipment installed on ships. Sharing and compatibility studies should take into account the unique interference environment on-board vessels and within certain frequency ranges.

## Regional organisations

ESA (date of proposal)

Eurocontrol (date of proposal)

## OTHER INTERNATIONAL AND REGIONAL ORGANISATIONS

EBU (date of proposal)

GSMA (date of proposal)

CRAF (27 June 2017)

As stated in Resolution. 359, the new GMDSS provider must provide protection of incumbent services in accordance with the Radio Regulations, including those in adjacent frequency bands, from harmful interference. CRAF supports the protection of the existing primary RAS allocation in the 1 610.6-1 613.8 MHz band. No action on the modernization of the GMDSS and changes to the RR should be made unless the RAS band is free from harmful interference and acceptable sharing and compatibility criteria are developed with the RAS.