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**PLENARY MEETING**

**Addendum 2 to  
Document 6282-E  
4 September 2019  
Original: English**

**Member States of the Inter-American Telecommunication Commission (CITEL)**

**PROPOSALS FOR THE WORK OF THE CONFERENCE**

**Agenda item 1.2**

1.2 to consider in-band power limits for earth stations operating in the mobile-satellite service, meteorological-satellite service and Earth exploration-satellite service in the frequency bands 401-403 MHz and 399.9-400.05 MHz, in accordance with **Resolution 765 (WRC-15)**;

**BACKGROUND**

Resolution **765 (WRC-15)** calls for the necessary technical, operational and regulatory consideration of the possibility of establishing in-band power limits for earth stations in the EESS and MetSat services in the frequency bands 401-403 MHz and in the MSS frequency band 399.9-400.05 MHz taking into account the results of ITU-R studies.

The frequency bands 401-403 MHz and 399.9-400.5 MHz are used for Earth station uplink transmission by the Data Collection System (DCS) under the Earth exploration-satellite service (EESS) and meteorological-satellite service (MetSat) and the mobile-satellite service (MSS) allocations. DCS Earth stations known as data collection platforms (DCP) are deployed worldwide and communicate with GSO and non-GSO satellites.

The Data Collection Platforms (DCP) is a network of sensors measuring and gather information activity related to the Earth, environmental and scientific applications, weather, environment observation: meteorological and oceanographic, seismic observation, volcanology, geodesy and geodynamics, fishing vessel monitoring, wildlife tracking, homeland security, law enforcement, test/evaluation, monitoring shipments of dangerous goods, humanitarian applications, managing water resources or tsunami warning system.

The data collected by DCPs are transmitted to GSO and non-GSO satellite networks using the non-GSO MSS allocation in the band 399.9-400.05 MHz or the meteorological satellite allocation in the band 401-403 MHz. These systems usually operate using moderate to low equivalent isotropically radiated power (e.i.r.p.) levels, resulting in small link margins.

These frequency bands are also used by non-geostationary satellites for telecommand space operations (see RR No **1.23**) under the EESS, MetSat services, or under the MSS allocations and a growing number of these satellites are planned. The output power levels of the earth stations at the

antenna port peak e.i.r.p. of these telecommand links (Earth-to-space) can be much higher than the moderate to low power levels used for the DCS service links, leading to potential harmful interference to DCS satellite receivers.

Recommendation ITU-R SA.2045 provides information on the performance and interference criteria for relevant geostationary-satellite orbit (GSO) and non-geostationary satellite (non-GSO) DCS in the frequency band 401-403 MHz. Recommendation ITU-R SA.2044 provides information on the current and future usage of non-GSO DCS in the frequency band 401-403 MHz, and the portioning of the frequency band to allow all DCS equal access to the spectrum. Recommendation ITU-R M.2046 provides a description, and the corresponding protection criteria for broadband noise and narrowband interference, of one MSS system that uses the frequency band 399.9-400.05 MHz (Earth-to-space).

ITU-R studies considered in-band power limits for earth stations operating in the frequency ranges 399.9-400.05 MHz in the MSS and 401-403 MHz in the EESS and MetSat services.

## ARTICLE 5

### Frequency allocations

#### Section IV – Table of Frequency Allocations

(See No. 2.1)

**MOD IAP/6282A2/1**

**335.4-410 MHz**

Allocation to services		
Region 1	Region 2	Region 3
<b>399.9-400.05</b>	MOBILE-SATELLITE (Earth-to-space) 5.209 5.220 <a href="#">ADD 5.A12</a>	

**Reasons:** ITU-R studies results have shown a need to provide in-band power limits applicable to Earth stations in order to ensure protection of the existing and future operation of DCS for non-GSO satellite systems in the mobile satellite service.

**ADD IAP/6282A2/2**

**5.A12** In the frequency band 399.9-399.99 MHz, the maximum e.i.r.p. transmission from any Earth stations (Earth-to-space) in the mobile-satellite service shall not exceed 5 dBW. This limit shall apply after 22 November 2029 to systems for which complete notification information is received by the Radiocommunication Bureau before 22 November 2019 and that have been brought into use prior to 22 November 2019. Administrations are encouraged to take all efforts to comply with the maximum e.i.r.p. limits in the frequency band 399.9-399.99 MHz prior to 22 November 2029. (WRC-19)

**Reasons:** Establish Earth station maximum e.i.r.p. limit to ensure the continued operations of non-GSO data collection systems in the frequency band.

**MOD IAP/6282A2/3**

**335.4-410 MHz**

Allocation to services		
Region 1	Region 2	Region 3
<b>401-402</b>	METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile <a href="#">ADD 5.B12</a> <a href="#">ADD 5.C12</a>	
<b>402-403</b>	METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile <a href="#">ADD 5.B12</a> <a href="#">ADD 5.C12</a>	

**Reasons:**

**ADD IAP/6282A2/4**

**5.B12** In the frequency band 401-403 MHz, the maximum e.i.r.p. transmission from any Earth stations (Earth-to-space) in the meteorological-satellite service and the Earth exploration-satellite service shall not exceed 22 dBW for geostationary-satellite systems and non-geostationary-satellite systems with an orbital apogee equal to or greater than 35 786 km and 7 dBW for non-geostationary-satellite systems with an orbital apogee lower than 35 786 km.

These provisions shall not apply to all systems in the meteorological-satellite service and the Earth exploration-satellite service in this frequency band for which complete notification information has been received by the Radiocommunication Bureau before 22 November 2019 and that have been brought into use prior to 22 November 2019. However, all satellite systems in the meteorological-satellite service and the Earth exploration-satellite service operating in this frequency band shall comply with these provisions after 22 November 2029. (WRC-19)

**Reasons:** Establish Earth station e.i.r.p. limits to ensure the operations of both GSO and non-GSO data collection systems in the 401-403 MHz frequency band.

**ADD IAP/6282A2/5**

**5.C12** In the frequency band 401.898-402.522 MHz, the maximum e.i.r.p. transmission from satellite systems for which complete notification information was received by the Radiocommunication Bureau before 29 April 2007, may continue to operate at their current level. (WRC-19)

**Reasons:** This provision provides flexibility to existing Earth station(s) of associated non-GSO system and it ensures the continued operation of these non-GSO data collection systems.

**SUP IAP/6282A2/6**

**RESOLUTION 765 (WRC-15)**

**Establishment of in-band power limits for earth stations operating in mobile-satellite service, the meteorological-satellite service and the Earth exploration-satellite service in the frequency bands 401-403 MHz and 399.9-400.05 MHz**

**Reasons:** ITU-R studies associated with this Resolution have been completed and reflected in the relevant ITU-R Reports.