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| **World Radiocommunication Conference (WRC-15) Geneva, 2–27 November 2015** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
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| PLENARY MEETING | **Addendum 11 to Document 62-E** |
|  | **16 October 2015** |
|  | **Original: Chinese** |
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| China (People’s Republic of) | |
| Proposals for the work of the conference | |
|  | |
| Agenda item 1.11 | |

1.11to consider a primary allocation for the Earth exploration-satellite service (Earth-to-space) in the 7-8 GHz range, in accordance with Resolution **650 (WRC‑12)**;

Introduction

EESS missions currently carry out telemetry, tracking and command (TT&C) functions in the S‑band. The 2 025-2 110 MHz band is used to uplink the command and ranging signals while the 2 200‑2 290 MHz band is used to downlink the spacecraft telemetry and ranging signals. An EESS (Earth-to-space) allocation on a primary basis in the 7-8 GHz range would allow its use for TT&C in combination with the existing EESS (space-to-Earth) allocation in the band 8 025-8 400 MHz, thereby alleviating the congestion problem in the S-Band and mitigating the frequency coordination problem.

Sharing studies between stations of the EESS (Earth-to-space) and the SRS, FS, MS and SOS in various portions of the 7-8 GHz frequency range are addressed in Reports ITU-R SA.2275 and ITU‑R SA.2309, as well as in PDN Report ITU-R SA.[GSO EESS-Space 7GHz]. These studies show that sharing would be feasible in the frequency band 7 190-7 250 MHz.

Three methods have been proposed to satisfy this agenda item. Methods A and B propose a new primary allocation to the EESS in the frequency band 7 190-7 250 MHz, with various conditions establishing protection for currently allocated services. The third method, Method C, entails no change to the Radio Regulations.

Proposals

Resolution 650 (WRC-12) seeks to complement the telecommand operations of EESS (Earth-to-space) in the 7-8 GHz frequency range. Where sharing studies between SRS and EESS involving co‑frequency operations are concerned, in some cases, such as lunar missions or SRS near-Earth missions in the Lagrange points L1/L2, the interference from near-Earth SRS uplinks to EESS satellites would be unacceptable in terms of the relevant ITU-R criteria.

On the basis of the foregoing, this administration is of the view that a possible new allocation for EESS (Earth-to-space) should be limited to TT&C, and that the newly allocated GSO EESS (Earth-to-space) should not claim protection from existing and future SRS earth stations in the frequency band 7 190-7 235 MHz.

In the annex to this addendum, the Chinese Administration provides a new version of Method A, based on the CPM Report.

Annex

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations  
(See No. 2.1)

MOD CHN/62A11/1

5 570-7 250 MHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 7 145-7 190 FIXED  MOBILE  SPACE RESEARCH (deep space) (Earth-to-space)  5.458 MOD 5.459 | | |
| 7 190-7 235 EARTH EXPLORATION-SATELLITE (Earth-to-space) ADD 5.A111 ADD 5.A111*bis*  FIXED  MOBILE  SPACE RESEARCH (Earth-to-space) MOD 5.460  5.458 MOD 5.459 | | |
| 7 235-7 250 EARTH EXPLORATION-SATELLITE (Earth-to-space) ADD 5.A111  FIXED  MOBILE  5.458 | | |

MOD CHN/62A11/2

5.459 *Additional allocation:*in the Russian Federation, the frequency bands 7 100-7 155 MHz and 7 190-7 235 MHz are also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. **9.21**. In the frequency band 7 190-7 235 MHz, obtaining agreement under No. **9.21** with respect to the Earth exploration-satellite service (Earth-to-space) does not apply.     (WRC‑15)

**Reasons:** In the frequency band 7 190-7 235 MHz, RR No. 9.21 is applied to the space operation service in order to provide protection for the existing radiocommunication services and shall not be applied with respect to the new service (EESS) to avoid any new constraints on the existing radiocommunication services.

MOD CHN/62A11/3

5.460 No emissions to spacecraft operating in deep space shall be effected in the band 7 190-7 235 MHz. Geostationary satellites in the space research service operating in the band 7 190-7 235 MHz shall not claim protection from existing and future stations of the fixed and mobile services and No. 5.43Adoes not apply.     (WRC‑15)

**Reasons:** Deletion of the first sentence as consequential changes. Addition of words “spacecraft operating in” to be more precise.

ADD CHN/62A11/4

5.A111 The usage of the frequency band 7 190-7 250 MHz by the Earth exploration-satellite service shall be limited to tracking, telemetry and command for the operation of the spacecraft and Earth exploration-satellite service geostationary satellites in this frequency band shall not claim protection from existing and future stations of the fixed and mobile services and No. **5.43A** does not apply.(WRC‑15)

**Reasons:** To provide a new allocation to the EESS (Earth-to-space) in the frequency band 7 190-7 250 MHz. The TT&C function could be implemented by pairing this new allocation with the already existing EESS (space-to-Earth) allocation in the frequency band 8 025-8 400 MHz. It restricts the usage of the frequency band 7 190-7 250 MHz to the operation of the EESS spacecraft, because the aim for the Resolution 650 (WRC-12) is to obtain a new allocation in the frequency range 7-8 GHz for the TT&C operations and no studies regarding other purpose except for TT&C function have been performed. If there were no restrictions, this new allocation might be used for other purposes (e.g. data dissemination).

ADD CHN/62A11/5

5.A111*bis* The Earth exploration-satellite service geostationary satellites in this frequency band shall not claim protection from existing and future stations of the space research service and No. **5.43A** does not apply.(WRC‑15)

**Reasons:** Studies indicate that interference from earth stations of SRS into the GSO satellites of the newly allocated EESS would be unacceptable with respect to ITU-R criteria. Therefore, potential interference could not be avoided. It should be ensured that the possible new allocation does not restrict the existing and planned use of the allocated service.

SUP CHN/62A11/6

RESOLUTION 650 (WRC‑12)

Allocation for the Earth exploration-satellite service   
(Earth-to-space) in the 7-8 GHz range

**Reasons:** Not required.

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