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| 142add25add2A close up of a sign  Description automatically generated | **World Radiocommunication Conference (WRC-23) Dubai, 20 November - 15 December 2023** | |  |
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| PLENARY MEETING | | **Addendum 2 to Document 142(Add.25)-E** | |
|  | | **29 October 2023** | |
|  | | **Original: English** | |
|  | | | |
| United States of America | | | |
| PROPOSALS FOR THE WORK OF THE CONFERENCE | | | |
|  | | | |
| Agenda item 9.2 | | | |

9 to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the ITU Convention;

9.2 on any difficulties or inconsistencies encountered in the application of the Radio Regulations;[[1]](#footnote-1)1 and

Introduction

WRC‑19 agenda item 9.2 considers and approves the Report of the Director of the Radiocommunication Bureau on any difficulties or inconsistencies encountered in the application of the Radio Regulations. The United States of America have reviewed the Report of the Director and provide herein to WRC‑23 for its consideration specific proposals and comments/views related to Part 2 as contained in Addendum 2 to Document [WRC‑23/4](https://www.itu.int/md/R23-WRC23-C-0004/en). These proposals and comments/views either support the BR’s proposed corrective action, where possible, or provide other measures with which to resolve a given error or inconsistency.

The proposals identify the corresponding section to the Report of the Director for reference purposes.

Section 3.1.10.1: Interference in the shielded zone of the Moon

Background

RR Nos. **22.22** to **22.25** establish the requirements for the protection of radio astronomy observations and to other users of passive services in the shielded side of the Moon.

The Bureau has initiated a request to all administrations which are submitting non-geostationary systems or networks for advance publication or notification with a reference body of the Moon to provide a description on how a satellite system or network will comply with these requirements. On receipt of this information, the Bureau includes them in the publication of a BR IFIC.

The Conference is invited to consider if there is a need to add a requirement for administrations to commit to or demonstrate how they can meet the requirements of RR Nos. **22.22** to **22.25** when they submit a satellite network with a reference body of the Moon.

The United States of America believes that Appendix **4** of the Radio Regulations should be amended so that the relevant administrations send a commitment to meet the requirements established in RR Nos. **22.22** to **22.25**. It should be noted this solution would only apply to non-geostationary satellite systems and further studies are required to address other services/systems, taking into account RR No. **22.24**.

Proposal

APPENDIX 4 (REV.WRC‑19)

Consolidated list and tables of characteristics for use in the  
application of the procedures of Chapter III

ANNEX 2

Characteristics of satellite networks, earth stations  
or radio astronomy stations2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

MOD USA/142A25A2/1

**TABLE A**

GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK OR SYSTEM,  
EARTH STATION OR RADIO ASTRONOMY STATION     (Rev.WRC‑23)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Items in Appendix** | ***A \_ GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK OR SYSTEM, EARTH STATION OR RADIO ASTRONOMY STATION*** | **Advance publication of a geostationary- satellite network** | **Advance publication of a non-geostationary-satellite network or system subject to coordination under Section II  of Article 9** | **Advance publication of a non-geostationary-satellite network or system not subject to coordination under Section II  of Article 9** | **Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)** | **Notification or coordination of a non-geostationary-satellite network or system** | **Notification or coordination of an earth station (including notification under  Appendices 30A or 30B)** | **Notice for a satellite network in the broadcasting-satellite service under  Appendix 30 (Articles 4 and 5)** | **Notice for a satellite network  (feeder-link) under Appendix 30A  (Articles 4 and 5)** | **Notice for a satellite network in the fixed- satellite service under Appendix 30B  (Articles 6 and 8)** | **Items in Appendix** | **Radio astronomy** |
| … | … | … | | | | | | | | | … | … |
| **A.25** | **COMPLIANCE WITH ARTICLE 22, SECTION V – RADIO ASTRONOMY IN THE SHIELDED ZONE OF THE MOON** |  | | | | | | | | | **A.25** |  |
| A.25.a | a commitment by the administration of compliance with Nos. **22.22**, **22.23**, **22.24** and **22.25**  Required only for advance publication and notification of a satellite network or system with “Moon” as the reference body |  | **+** | **+** |  | **+** |  |  |  |  | A.25.a |  |

**Reasons:** To add a requirement for administrations to commit to or demonstrate how they can meet the requirements of RR Nos. **22.22** to **22.25** when they submit a satellite network with a reference body of the Moon.

Section 3.2.1.6: Orbital decay

Background

Some non-GSO satellites remain active until just before they re-enter in the atmosphere due to natural decay or orbit-disposal manoeuvres. The Bureau notes that, currently, available RR Appendix **4** parameters do not allow administrations to clearly reflect the orbital decay in a filing in detail. In order to reflect changes in the altitude of apogee and/or perigee, administrations should follow the procedure of RR No. **11.43B**. Considering difficulties of this procedure, the Bureau is applying the following current practice to represent filings for such systems:

a) the altitudes of the apogee and perigee of the space station indicates the initial orbital parameters at the moment of bringing into use,

b) the minimum altitude of the space station above the surface of the Earth at which any satellite transmits (Item A.4.b.4.f of RR Appendix **4**) indicates the minimum altitude at which satellites remain in operation during the entire lifetime,

c) such a satellite network is protected with the initial orbital parameters (the apogee and perigee, which may not include the minimum altitude), and therefore, commitments of that the satellite network will not cause more interference or require more protection, as compared to the initial orbital parameters should be provided by administration,

d) the examination, for example under RR No. **21.16**, should be carried out based on the worst-case approach for any orbital altitudes between the initial one and the minimum altitude.

The Conference is also invited to consider to add the following data items to Annex 2 of RR Appendix **4** to better represent such systems in the coordination and notification for recording of satellite network filings submitted to the ITU and to help the BR during the verification of the BIU and continuous use of these satellite networks:

1 a new data item “an indicator of whether the space station uses station-keeping to maintain the altitudes of the apogee and perigee”, required for each orbital plane of a non-GSO satellite network or system with reference body “Earth”;

2 a new data item “the altitude of the apogee and perigee (km) as a function of the time (days) beginning from the date of BIU for all orbital planes with different orbital characteristics”, required for non-GSO satellite networks for which the indicator introduced above is “N”.

The United States of America believes that non-GSO satellite systems that are planned to be operating while decaying should be clearly marked as such. It is noted that these systems do not have an "apogee" as the altitude where they operate, an altitude that is used to perform the BR examination or bilateral coordination. Therefore, it is not clear how protection is defined for such systems; nevertheless, the United States of America supports that any protection should be based on the altitude that was used in the initial examination or CR/C. The United States of America agrees with the addition a new RR Appendix **4** data item “an indicator of whether the space station uses station-keeping to maintain the altitudes of the apogee and perigee” and a new data item reflecting apogee and perigee as a function of time.

Proposal

APPENDIX 4 (REV.WRC‑19)

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ANNEX 2

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or radio astronomy stations2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

MOD USA/142A25A2/2

**TABLE A**

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EARTH STATION OR RADIO ASTRONOMY STATION     (Rev.WRC‑23)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Items in Appendix** | ***A \_ GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK OR SYSTEM, EARTH STATION OR RADIO ASTRONOMY STATION*** | **Advance publication of a geostationary- satellite network** | **Advance publication of a non-geostationary-satellite network or system subject to coordination under Section II  of Article 9** | **Advance publication of a non-geostationary-satellite network or system not subject to coordination under Section II  of Article 9** | **Notification or coordination of a geostationary-satellite network (including space operation functions under Article 2A of Appendices 30 or 30A)** | **Notification or coordination of a non-geostationary-satellite network or system** | **Notification or coordination of an earth station (including notification under  Appendices 30A or 30B)** | **Notice for a satellite network in the broadcasting-satellite service under  Appendix 30 (Articles 4 and 5)** | **Notice for a satellite network  (feeder-link) under Appendix 30A  (Articles 4 and 5)** | **Notice for a satellite network in the fixed- satellite service under Appendix 30B  (Articles 6 and 8)** | **Items in Appendix** | **Radio astronomy** |
| … | … | … | … | … | … | … | … | … | … | … | … | … |
| A.4.b.4.p | an indicator of whether the space station uses station-keeping to maintain the altitudes of the apogee and perigee |  |  |  |  | **X** |  |  |  |  | A.4.b.4.p |  |
| A.4.b.4.q | the altitude of the apogee and perigee (km) as a function of the time (days) beginning from the date of bringing into use for all orbital planes with different orbital characteristics  Required for non-GSO satellite networks for which the indicator introduced above is “N” |  |  |  |  | **+** |  |  |  |  | A.4.b.4.q |  |

**Reasons:** To add data items to Annex 2 of RR Appendix **4** to better represent such systems in the coordination and notification for recording of satellite network filings submitted to the ITU and to help the BR during the verification of the BIU and continuous use of these satellite networks.

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1. 1 This agenda sub-item is strictly limited to the Report of the Director on any difficulties or inconsistencies encountered in the application of the Radio Regulations and the comments from administrations. Administrations are invited to inform the Director of the Radiocommunication Bureau of any difficulties or inconsistencies encountered in the Radio Regulations. [↑](#footnote-ref-1)