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| **42 MEETING OF PERMANENT****CONSULTATIVE COMMITTEE II:****RADIOCOMMUNICATIONS****August 28 to September 01, 2023****Ottawa, Canada** | **OEA/Ser.L/XVII.4.2.42****CCP.II-RADIO /doc. 5938/23****13 August 2023****Original: English** |
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|  | **PROPOSALS FOR THE WORK OF THE CONFERENCE AGENDA ITEM 9.2** |  |
|  | **(Item on the Agenda: 3.1 (SGT-5))** |  |
|  | **(Document submitted by the delegation of the United States of America)** |  |

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| **Impact on the sector:** |
| This document supports the work of CITEL’s PCC.II Working Group for WRC under 3.1 of the agenda. |

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| **Executive Summary:** |
| Under agenda item 9.2, the United States makes the proposals below on the following sections of the BR Director’s Report:* Section 2.2.2: Inconsistencies, provisions that are lacking clarity – No. 5.433
* Section 2.2.3: Outdated provisions
	+ No. 5.461A
	+ No. 5.523A
	+ Reference to Resolution 901
	+ Removal of suppressed footnote No. 5.417A
	+ Article 42
* Section 3.1.9.1: Interference in the shielded zone of the Moon
* Section 3.2.1.6: Orbital decay
 |

**Section 2.2.2: Inconsistencies, provisions that are lacking clarity**

**Background:**

This section contains inconsistencies in the 2020 edition of the Radio Regulations identified and summarized by the Bureau in a Table, with a view to bringing them to the attention of WRC 23 which may wish to propose corrective action.

USA proposes no change to item #15 in Section 2.2.2, the Bureau’s proposal to remove No. **5.433** from the band 3 600-3 700 MHz in Region 2 of the Table of Frequency Allocations.

**Proposal:**

ARTICLE 5

**Frequency allocations**

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

**NOC USA/9.2/1**

**2 700-3 600 MHz**

|  |
| --- |
| **Allocation to services** |
| **Region 1** | **Region 2** | **Region 3** |
| **2 700-2 900** AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423 5.424 |
| **2 900-3 100** RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425 5.427 |
| **3 100-3 300** RADIOLOCATION Earth exploration-satellite (active) Space research (active) 5.149 5.428 |
| **3 300-3 400**RADIOLOCATION | **3 300-3 400**RADIOLOCATIONAmateurFixedMobile | **3 300-3 400**RADIOLOCATIONAmateur |
| 5.149 5.429 5.429A 5.429B 5.430  | 5.149 5.429C 5.429D | 5.149 5.429 5.429E 5.429F |
| **3 400-3 600**FIXEDFIXED-SATELLITE(space-to-Earth)MOBILE except aeronautical mobile 5.430ARadiolocation | **3 400-3 500**FIXEDFIXED-SATELLITE (space-to-Earth)MOBILE except aeronautical mobile 5.431A 5.431BAmateurRadiolocation 5.4335.282 | **3 400-3 500**FIXEDFIXED-SATELLITE (space-to-Earth)AmateurMobile 5.432 5.432BRadiolocation 5.4335.282 5.432A |
| **3 500-3 600**FIXEDFIXED-SATELLITE (space-to-Earth)MOBILE except aeronautical mobile 5.431BRadiolocation 5.433 | **3 500-3 600**FIXEDFIXED-SATELLITE (space-to-Earth)MOBILE except aeronautical mobile 5.433ARadiolocation 5.433 |
| 5.431 |

**Reasons:** Radars operating in these bands are specified in Rec. ITU-R M.1465 which indicates a tuning range above 3600 MHz. Thus, the instruction provided to urge operations above 3400 MHz continues to apply up to 3700 MHz.

**NOC USA/9.2/2**

**5.433** In Regions 2 and 3, in the band 3 400-3 600 MHz the radiolocation service is allocated on a primary basis. However, all administrations operating radiolocation systems in this band are urged to cease operations by 1985. Thereafter, administrations shall take all practicable steps to protect the fixed‑satellite service and coordination requirements shall not be imposed on the fixed-satellite service.

**Reasons:** Radars operating in these bands are specified in Rec. ITU-R M.1465 which indicates a tuning range above 3600 MHz. Thus, the instruction provided to urge operations above 3400 MHz continues to apply up to 3700 MHz.

**NOC USA/9.2/3**

**3 600-4 800 MHz**

|  |
| --- |
| **Allocation to services** |
| **Region 1** | **Region 2** | **Region 3** |
| **3 600-4 200**FIXEDFIXED-SATELLITE(space-to-Earth)Mobile | **3 600-3 700**FIXEDFIXED-SATELLITE (space-to-Earth)MOBILE except aeronautical mobile 5.434Radiolocation 5.433 | **3 600-3 700**FIXEDFIXED-SATELLITE (space-to-Earth)MOBILE except aeronautical mobileRadiolocation5.435 |
| **3 700-4 200**FIXEDFIXED-SATELLITE (space-to-Earth)MOBILE except aeronautical mobile |
| **4 200-4 400** AERONAUTICAL MOBILE (R) 5.436 AERONAUTICAL RADIONAVIGATION 5.438 5.437 5.439 5.440 |
| **4 400-4 500** FIXED MOBILE 5.440A |
| **4 500-4 800** FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE 5.440A |

**Reasons:** Radars operating in these bands are specified in Rec. ITU-R M.1465 which indicates a tuning range above 3600 MHz. Thus, the instruction provided to urge operations above 3400 MHz continues to apply up to 3700 MHz.

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**Section 2.2.3: Outdated provisions**

**Background:**

The 2020 edition of the RR contains several provisions which make reference to past dates. The concerned provisions are now obsolete. The Bureau lists in a table some RR texts that may require updates and they are brought to the attention of WRC 23, for consideration and for undertaking appropriate updates, where required.

USA provides the specific proposals below.

**Proposals:**

**Section 2.2.3: Outdated provisions – USA Proposal on No. 5.461A**

ARTICLE 5

**Frequency allocations**

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

**MOD USA/9.2/4**

**5.461A** The use of the band 7 450-7 550 MHz by the meteorological-satellite service (space-to-Earth) is limited to geostationary-satellite systems.      (WRC-23)

**Section 2.2.3: Outdated provisions – USA Proposal on No. 5.523A**

**MOD USA/9.2/5**

**5.523A** The use of the bands 18.8-19.3 GHz (space-to-Earth) and 28.6-29.1 GHz (Earth-to-space) by geostationary and non-geostationary fixed‑satellite service networks is subject to the application of the provisions of No. **9.11A** and No. **22.2** does not apply. Non-geostationary-satellite networks shall not cause unacceptable interference to geostationary fixed-satellite service networks for which complete Appendix **4** notification information is considered as having been received by the Bureau prior to 18 November 1995.     (WRC-23)

**Section 2.2.3: Outdated provisions – USA Proposal on Reference to Resolution 901**

APPENDIX 5 (REV.WRC‑19)

**Identification of administrations with which coordination is to be effected or
agreement sought under the provisions of Article 9**

**MOD USA/9.2/6**

TABLE 5-1     (Rev.WRC‑19)

**Technical conditions for coordination**

(see Article **9**)

TABLE 5-1 (*continued*)     (Rev.WRC‑19)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ReferenceofArticle 9** | **Case** | **Frequency bands(and Region) of the service for which coordinationis sought** | **Threshold/condition** | **Calculation method** | **Remarks** |
| No. **9.7**GSO/GSO(*cont.*) |  | 6) 18.0-18.3 GHz (Region 2) 18.1-18.4 GHz (Regions 1 and 3)  | i) Bandwidth overlap, andii) any network in the FSS or meteorological-satellite service and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±8° of the nominal orbital position of a proposed network in the FSS or the meteorological-satellite service |  |  |
|  |  | 6*bis*) 21.4-22 GHz (Regions 1 and 3) | i) Bandwidth overlap; andii) any network in the BSS and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±12° of the nominal orbital position of a proposed network in the BSS (see also Resolutions **554 (WRC‑12)** and **553 (WRC‑12)**). |  | No. **9.41** does not apply. |
|  |  | 7) Bands above 17.3 GHz, except those defined in 3), 3*bis*) and 6) | i) Bandwidth overlap, andii) any network in the FSS and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±8° of the nominal orbital position of a proposed network in the FSS (see also Resolution **901 (Rev.WRC‑15)**) |  |  |
|  |  |  |  |  |  |

TABLE 5-1 (*continued*)     (Rev.WRC‑19)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ReferenceofArticle 9** | **Case** | **Frequency bands(and Region) of the service for which coordinationis sought** | **Threshold/condition** | **Calculation method** | **Remarks** |
| No. **9.7**GSO/GSO(*cont.*) |  | 8) Bands above 17.3 GHz except those defined in 4), 5) and 6*bis*) | i) Bandwidth overlap, andii) any network in the FSS or BSS, not subject to a Plan, and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±16° of the nominal orbital position of a proposed network in the FSS or BSS, not subject to a Plan, except in the case of a network in the FSS with respect to a network in the FSS (see also Resolution **901 (Rev.WRC‑15)**) |  |  |
|  |  | 9) All frequency bands, other than those in 1), 2), 2*bis*), 3), 3*bis*), 4), 5), 6), 6*bis)*, 7) and 8), allocated to a space service, and the frequency bands in 1), 2), 2*bis*), 3), 3*bis*), 4), 5), 6), 6*bis*), 7) and 8) where the radio service of the proposed network or affected networks is other than the space services listed in the threshold/ condition column, or in the case of coordination of space stations operating in the opposite direction of transmission | i) Bandwidth overlap, andii) Value of ∆*T*/*T* exceeds 6% | Appendix 8 | In application of Article 2A of Appendix 30 for the space operation functions using the guardbands defined in § 3.9 of Annex 5 of Appendix 30, the threshold/condition specified for the FSS in the frequency bands in 2) applies.In application of Article 2A of Appendix 30A for the space operation functions using the guardbands defined in § 3.1 and 4.1 of Annex 3 of Appendix 30A, the threshold/condition specified for the FSS in the frequency bands in 2) and 7) applies, as appropriate |

**Section 2.2.3: Outdated provisions – USA Proposal on removal of suppressed footnote No. 5.417A**

**MOD USA/9.2/7**

TABLE 5-1 (*continued*)     (Rev.WRC-19)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ReferenceofArticle 9** | **Case** | **Frequency bands (and Region) of the service for which coordination is sought** | **Threshold/condition** | **Calculation method** | **Remarks** |
| No. **9.11**GSO,non-GSO/terrestrial | A space station in the BSS in any band shared on an equal primary basis with terrestrial services and where the BSS is not subject to a Plan, in respect of terrestrial services | 1 452-1 492 MHz2 310-2 360 MHz (No. **5.393**)2 535-2 655 MHz(No. **5.418**)17.7-17.8 GHz (Region 2) 74-76 GHz | Bandwidths overlap: The detailed conditions for the application of No. **9.11** in the bands 2 630-2 655 MHz and 2 605-2 630 MHz are provided in Resolution **539** **(Rev.WRC‑19)** for non-GSO BSS (sound) systems pursuant to No. **5.418**, and in No. **5.418** for GSO BSS (sound) networks pursuant to those provisions.The detailed conditions for the application of No. **9.11** in the frequency band 1 452-1 492 MHz are provided in Resolution **761** **(Rev.WRC-19)** for Regions 1 and 3. | Check by using the assigned frequencies and bandwidths |  |
| No. **9.12** Non-GSO/non-GSO | A station in a non-GSO satellite network in the frequency bands for which a footnote refers to No**. 9.11A** or No. **9.12**, in respect of any other non-GSO satellite network, with the exception of coordination between earth stations operating in the opposite direction of transmission | Frequency bands for which a footnote refers to No. **9.11A** or No. **9.12** | Bandwidths overlap | Check by using the assigned frequencies and bandwidths |  |

**Section 2.2.3: Outdated provisions – USA Proposal on Article 42**

**MOD USA/9.2/8**

APPENDIX 42 (REV.WRC‑19)

**Table of allocation of international call sign series**

(See Article **19**)

|  |  |
| --- | --- |
| **Call sign series** | **Allocated to** |
| AAA-ALZ | United States of America |
| AMA-AOZ | Spain |
| APA-ASZ | Pakistan (Islamic Republic of) |
| ATA-AWZ | India (Republic of) |
| AXA-AXZ | Australia |
| AYA-AZZ | Argentine Republic |
| A2A-A2Z | Botswana (Republic of) |
| A3A-A3Z | Tonga (Kingdom of) |
| A4A-A4Z | Oman (Sultanate of) |
| A5A-A5Z | Bhutan (Kingdom of) |
| A6A-A6Z | United Arab Emirates |
| A7A-A7Z | Qatar (State of) |
| A8A-A8Z | Liberia (Republic of) |
| A9A-A9Z | Bahrain (Kingdom of) |
|  |  |
| BAA-BZZ | China (People’s Republic of) |
|  |  |
| CAA-CEZ | Chile |
| CFA-CKZ | Canada |
| CLA-CMZ | Cuba |
| CNA-CNZ | Morocco (Kingdom of) |
| COA-COZ | Cuba |
| CPA-CPZ | Bolivia (Republic of) |
| CQA-CUZ | Portugal |
| CVA-CXZ | Uruguay (Eastern Republic of) |
| CYA-CZZ | Canada |
| C2A-C2Z | Nauru (Republic of) |
| C3A-C3Z | Andorra (Principality of) |
| C4A-C4Z | Cyprus (Republic of) |
| C5A-C5Z | Gambia (Republic of the) |
| C6A-C6Z | Bahamas (Commonwealth of the) |
| \*C7A-C7Z | World Meteorological Organization |
| C8A-C9Z | Mozambique (Republic of) |
|  |  |
| DAA-DRZ | Germany (Federal Republic of) |
| DSA-DTZ | Korea (Republic of) |
| DUA-DZZ | Philippines (Republic of the) |
| D2A-D3Z | Angola (Republic of) |
| D4A-D4Z | Cape Verde (Republic of) |
| D5A-D5Z | Liberia (Republic of) |
| D6A-D6Z | Comoros (Union of) |
| D7A-D9Z | Korea (Republic of) |

|  |  |  |
| --- | --- | --- |
| **Call sign series** | **Allocated to** |  |
| EAA-EHZ | Spain |  |
| EIA-EJZ | Ireland |  |
| EKA-EKZ | Armenia (Republic of) |  |
| ELA-ELZ | Liberia (Republic of) |  |
| EMA-EOZ | Ukraine |  |
| EPA-EQZ | Iran (Islamic Republic of) |  |
| ERA-ERZ | Moldova (Republic of) |  |
| ESA-ESZ | Estonia (Republic of) |  |
| ETA-ETZ | Ethiopia (Federal Democratic Republic of) |  |
| EUA-EWZ | Belarus (Republic of) |  |
| EXA-EXZ | Kyrgyz Republic |  |
| EYA-EYZ | Tajikistan (Republic of) |  |
| EZA-EZZ | Turkmenistan |  |
| E2A-E2Z | Thailand |  |
| E3A-E3Z | Eritrea |  |
| E4A-E4Z | Palestinian Authority1 |  |
| E5A-E5Z | New Zealand – Cook Islands | (WRC‑07) |
| E6A-E6Z | New Zealand – Niue | (WRC-15) |
| E7A-E7Z | Bosnia and Herzegovina | (WRC‑07) |
|  |  |  |
| FAA-FZZ | France |  |
|  |  |  |
| GAA-GZZ | United Kingdom of Great Britain and Northern Ireland |  |
|  |  |  |
| HAA-HAZ | Hungary (Republic of) |  |
| HBA-HBZ | Switzerland (Confederation of) |  |
| HCA-HDZ | Ecuador |  |
| HEA-HEZ | Switzerland (Confederation of) |  |
| HFA-HFZ | Poland (Republic of) |  |
| HGA-HGZ | Hungary (Republic of) |  |
| HHA-HHZ | Haiti (Republic of) |  |
| HIA-HIZ | Dominican Republic |  |
| HJA-HKZ | Colombia (Republic of) |  |
| HLA-HLZ | Korea (Republic of) |  |
| HMA-HMZ | Democratic People’s Republic of Korea |  |
| HNA-HNZ | Iraq (Republic of) |  |
| HOA-HPZ | Panama (Republic of) |  |
| HQA-HRZ | Honduras (Republic of) |  |
| HSA-HSZ | Thailand |  |
| HTA-HTZ | Nicaragua |  |
| HUA-HUZ | El Salvador (Republic of) |  |
| HVA-HVZ | Vatican City State |  |
| HWA-HYZ | France |  |
| HZA-HZZ | Saudi Arabia (Kingdom of) |  |
| H2A-H2Z | Cyprus (Republic of) |  |
| H3A-H3Z | Panama (Republic of) |  |
| H4A-H4Z | Solomon Islands |  |
| H6A-H7Z | Nicaragua |  |
| H8A-H9Z | Panama (Republic of) |  |
|  |  |  |
| IAA-IZZ | Italy |  |
| 1 In response to Resolution 99 (Rev. Dubai, 2018) of the Plenipotentiary Conference.     (WRC‑15) |  |

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**Section 3.1.9.1: 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 shielded side of the Moon.

The Bureau has initiated a request to all administration 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 Nos. **22.22** to **22.25** when they submit a satellite network with a reference body of Moon.

USA 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 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 No. 22.24.

**Proposal:**

**MOD USA/9.2/9**

APPENDIX 4 (REV.WRC‑23)

**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 stations[[1]](#footnote-1)2    (Rev.WRC‑23)**

**TABLE A**

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

| **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 **No.** **22.22**, **22.23**, **22.24** and **22.25**. Required for advance publication and notification of a satellite network or system with ‘Moon’ as the reference body. |  | **+** | **+** |  | **+** |  |  |  |  | A.25.a |  |

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**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 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 procedure of No. **11.43B**. Considering difficulties of this procedure, the Bureau is applying the following current practice to represent filings for such systems:

1. the altitudes of the apogee and perigee of the space station indicates the initial orbital parameters at the moment of bringing into use,
2. 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 Appendix **4**) indicates the minimum altitude at which satellites remain in operation during the entire lifetime,
3. 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,
4. the examination, for example under 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 the add of the following data items to Annex 2 of 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 NGSO satellite networks 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 NGSO satellite networks for which the indicator introduced above is “N”.

**USA [CITEL] View**: The USA 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 USA supports that any protection should be based on the altitude that was used in the initial examination or CR/C. We agree with the addition a new 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:**

**MOD USA/9.2/10**

APPENDIX 4 (REV.WRC‑23)

**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 stations[[2]](#footnote-2)2    (Rev.WRC‑23)**

**TABLE A**

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

| **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 |  |

\_\_\_\_\_\_\_\_\_\_\_\_\_

1. 2 The Radiocommunication Bureau shall develop and keep up-to-date forms of notice to meet fully the statutory provisions of this Appendix and related decisions of future conferences. Additional information on the items listed in this Annex together with an explanation of the symbols is to be found in the Preface to the BR IFIC (Space Services).    (WRC‑12) [↑](#footnote-ref-1)
2. 2 The Radiocommunication Bureau shall develop and keep up-to-date forms of notice to meet fully the statutory provisions of this Appendix and related decisions of future conferences. Additional information on the items listed in this Annex together with an explanation of the symbols is to be found in the Preface to the BR IFIC (Space Services).    (WRC‑12) [↑](#footnote-ref-2)