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| A 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 86(Add.25)-E** | |
|  | | **23 October 2023** | |
|  | | **Original: English** | |
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| Canada | | | |
| PROPOSALS FOR THE WORK OF THE CONFERENCE | | | |
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| 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

Canada acknowledges the efforts taken by the Radiocommunication Bureau to identify and provide in the Director’s Report to WRC-23 any errors, inconsistencies and out-of-date provisions encountered in the application of the Radio Regulations, as well as the Bureau’s proposed “correct text” and “possible corrective” or “course of action”.

Canada provides its proposals with respect to various sections contained in Addendum 2 to Document 4. Note that, in some cases, additional proposals or other measures to address a given error, inconsistency or issue raised in Addendum 2 to Document 4 may be provided.

CAN/86A25A2/1

With regard to section 2.2.1 of Addendum 2 to Doc. 4, Table 1 below contains the Canadians positions and/or proposals on typographical and other apparent errors discovered in the 2020 edition of the RR and the associated corrections suggested by the Bureau.

Table 1

List of typographical and other apparent errors discovered in the 2020 edition of the RR

| # | Language | Page | Incorrect or missing text | Correct text | Canadian positions/ proposals |
| --- | --- | --- | --- | --- | --- |
| 1 |  | Vol. 1 | **Articles** |  |  |
| 3 | S | 112 (RR5-78) | **5.388** Las bandas de frecuencias 1 885-2 025 MHz y 2 110-2 200 MHz están destinadas a su utilización, a nivel mundial, por las administraciones que deseen introducir las Telecomunicaciones Móviles Internacionales-2000 (IMT). Dicha utilización no impide la utilización de estas bandas de frecuencias por otros servicios a los que están atribuidas.  Las bandas de frecuencias deben ponerse a disposición de las IMT-2000 de acuerdo con lo dispuesto en la Resolución **212 (Rev.CMR-15)**\*. Véase también la Resolución **223 (Rev.CMR-15)**\*. (CMR-15) | **5.388** Las bandas de frecuencias 1 885-2 025 MHz y 2 110-2 200 MHz están destinadas a su utilización, a nivel mundial, por las administraciones que deseen introducir las Telecomunicaciones Móviles Internacionales- (IMT). Dicha utilización no impide la utilización de estas bandas de frecuencias por otros servicios a los que están atribuidas.  Las bandas de frecuencias deben ponerse a disposición de las IMT de acuerdo con lo dispuesto en la Resolución **212 (Rev.CMR-15)**\*. Véase también la Resolución **223 (Rev.CMR-15)**\*. (CMR-15) | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 5 | E, A, C, S, F | 150  (RR5-116) | 5.509E In the frequency bands 14.50-14.75 GHz in countries listed in Resolution **163 (WRC‑15)** and 14.50‑14.8 GHz in countries listed in Resolution **164** **(WRC‑15)**, the location of earth stations in the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service shall maintain a separation distance of at least 500 km from the border(s) of other countries unless shorter distances are explicitly agreed by those administrations. No. **9.17** does not apply. When applying this provision, administrations should consider the relevant parts of these Regulations and the latest relevant ITU‑R Recommendations.     (WRC‑15)  5.509F In the frequency bands 14.50-14.75 GHz in countries listed in Resolution **163 (WRC‑15)** and 14.50‑14.8 GHz in countries listed in Resolution **164 (WRC‑15)**, earth stations in the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service shall not constrain the future deployment of the fixed and mobile services.     (WRC‑15) | 5.509E In the frequency bands 14.5-14.75 GHz in countries listed in Resolution **163 (WRC‑15)** and 14.5‑14.8 GHz in countries listed in Resolution **164** **(WRC‑15)**, the location of earth stations in the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service shall maintain a separation distance of at least 500 km from the border(s) of other countries unless shorter distances are explicitly agreed by those administrations. No. **9.17** does not apply. When applying this provision, administrations should consider the relevant parts of these Regulations and the latest relevant ITU‑R Recommendations.     (WRC‑15)  5.509F In the frequency bands 14.5-14.75 GHz in countries listed in Resolution **163 (WRC‑15)** and 14.5‑14.8 GHz in countries listed in Resolution **164 (WRC‑15)**, earth stations in the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service shall not constrain the future deployment of the fixed and mobile services.     (WRC‑15) | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 6 | E (align other languages if necessary, F is correct) | 168  (RR5-134) | **5.551H** The equivalent power flux-density (epfd) produced in the frequency band 42.5-43.5 GHz by all space stations in any non-geostationary-satellite system in the fixed-satellite service (space-to-Earth), or in the broadcasting-satellite service operating in the frequency band 42-42.5 GHz, shall not exceed the following values at the site of any radio astronomy station for more than 2% of the time: | 5.551H The equivalent power flux-density (epfd) produced in the frequency band 42.5-43.5 GHz by all space stations in any non-geostationary-satellite system in the fixed-satellite service (space-to-Earth) or in the broadcasting-satellite service, operating in the frequency band 42-42.5 GHz, shall not exceed the following values at the site of any radio astronomy station for more than 2% of the time:  Correction to No. **5.551H:** the comma in the English text is not correctly placed. The comma should be removed from after “fixed-satellite service (space-to-Earth)” and a comma should be inserted after “broadcasting-satellite service” . | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 7 | E | 195 (RR9-1) | 6 **A.9.6** The provisions of Appendices **30**, **30A** and **30B** do not apply to non-geostationary service-satellite systems in the fixed-satellite. | 6 **A.9.6** The provisions of Appendices **30**, **30A** and **30B** do not apply to non-geostationary satellite systems in the fixed-satellite service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 10 | All | 243 (RR16-1) | No. 16.2 The international monitoring system comprises only those monitoring stations which have been so nominated by administrations in the information sent to the Secretary-General in accordance with Resolution ITU‑R 23 and the most recent version of Recommendation ITU‑R SM.1139. These stations may be operated by an administration or, in accordance with an authorization granted by the appropriate administration, by a public or private enterprise, by a common monitoring service established by two or more countries, or by an international organization.     (WRC‑15) | No. 16.2 The international monitoring system comprises only those monitoring stations which have been so nominated by administrations in the information sent to the Secretary-General in accordance with Resolution ITU‑R 23-3 and the most recent version of Recommendation ITU‑R SM.1139. These stations may be operated by an administration or, in accordance with an authorization granted by the appropriate administration, by a public or private enterprise, by a common monitoring service established by two or more countries, or by an international organization.     (WRC‑15) | Canada proposes an alternative text to replace the existing one as follows:  No. 16.2 The international monitoring system comprises only those monitoring stations which have been so nominated by administrations in the information sent to the Secretary-General in accordance with the most recent versions of Resolutions ITU‑R 23 and ITU‑R SM.1139. These stations may be operated by an administration or, in accordance with an authorization granted by the appropriate administration, by a public or private enterprise, by a common monitoring service established by two or more countries, or by an international organization.     (WRC‑23)  Canada does not believe that a reference to a specific version of the Resolution ITU‑R 23 is required and notes that not only the notion of incorporation by reference of an ITU‑R Resolution is not defined and has never been used in the past. |
| 11 | E, A, C, S, F | 301 (RR22-21) | No. 22.40 Under assumed free-space propagation conditions, the power flux-density emitted by an earth station of a geostationary-satellite network not for feeder links for the broadcasting-satellite service in the frequency bands 14.5-14.75 GHz in countries listed in Resolution **163 (WRC‑15)** and 14.50-14.8 GHz in countries listed in Resolution **164 (WRC‑15)** shall not exceed the value of −76 dB(W/(m2 · 27 MHz)) at any point in the geostationary-satellite orbit.     (WRC‑15) | No. 22.40 Under assumed free-space propagation conditions, the power flux-density emitted by an earth station of a geostationary-satellite network not for feeder links for the broadcasting-satellite service in the frequency bands 14.5-14.75 GHz in countries listed in Resolution **163 (WRC‑15)** and 14.5-14.8 GHz in countries listed in Resolution **164 (WRC‑15)** shall not exceed the value of −76 dB(W/(m2 · 27 MHz)) at any point in the geostationary-satellite orbit.     (WRC‑15) | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 12 | E | 425 (RR58-1) | **58.1** The provisions of the International Telecommunications Regulations, taking into account ITU‑T Recommendations, shall apply. | **58.1** The provisions of the International Telecommunication Regulations, taking into account ITU‑T Recommendations, shall apply. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
|  |  | **Vol. 2** | **Appendices** |  |  |
| 13 | All | AP  18-6  p.304 | *Specific notes*  … | *Specific notes*  …  *ww)* (SUP - WRC‑19)  …  *xx)* (SUP - WRC‑19)  …  *zx)* (SUP - WRC‑19) | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |

CAN/86A25A2/2

Table 2 below contains the Canadians positions and/or proposals on the inconsistencies in the RR and provisions that are lacking clarity and the associated corrections as suggested by the Bureau (section 2.2.2 of Addendum 2 to Doc 4)

Table 2

**Inconsistencies in the RR, provisions that are lacking clarity**

| **#** | **Language** | **Page** | **Nature of inconsistency** | **Possible corrective action** | **Canadian positions/ proposals** |
| --- | --- | --- | --- | --- | --- |
|  |  | **Volume, page** | **ARTICLES/APPENDIX** | **ARTICLES/APPENDIX** |  |
|  |  | **Volume 1** | **Article 5** | **Article 5** |  |
| 1 | All | 40 (RR5-6) | Footnotes Nos. **5.54B** and **5.54C**, which refer to the additional allocation, are included in the row of meteorological aids service in the Table for the band 8.3-9 MHz. | To move the reference to Nos. **5.54B** and **5.54C** to the last row of the Table for the band 8.3-9 MHz, since these alternative allocations replaces all services of that band. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. However, we note that the frequency range referred to should be 8.3-9 kHz instead of 8.3-9 MHz |
| 2 | All | 46 (RR5-12) | Footnote No. **5.78** is included in the last row of the Table for the band 415-472 kHz in Regions 2 and 3, meaning that it applies to more than one service in that part of the table. In fact, it applies only to the aeronautical radionavigation service. | To move the reference to No. **5.78** in the table for the band 415-472 kHz in Regions 2 and 3 to the row containing the secondary allocation to the aeronautical radionavigation service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 3 | All | 52 (RR5-18) | Footnote No. **5.112**, which refers to an additional allocation in a country of Region 3, is listed in the Table for the band 2 194-2 300 kHz in Region 1. | To remove No. **5.112** from the band 2 194-2 300 kHz in Region 1 of the Table of Frequency Allocations. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 4 | All | 56 (RR5-22) | Footnote No. **5.133** is included in the last row of the Table for the band 5 060-5 250 kHz in all Regions, meaning that it applies to more than one service in that part of the table. In fact, it applies only to the mobile, except aeronautical mobile, service. | To move the reference to No. **5.133** in the table for the band 5 060-5 250 kHz to the row containing the secondary allocation to the mobile, except aeronautical mobile, service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 5 | All | 69 (RR5-35) | Footnote No. **5.166A**, which refers to different category of the amateur service, also applies to radiolocation service. However,itis included in the row, relating to secondary allocation of amateur service in the Table for the band 50-52 MHz in Region 1. | To move the reference to No. **5.166A** to the last row of the Table for the band 50-52 MHz in Region 1. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 6 | All | 69 (RR5-35) | Footnotes Nos. **5.169** and **5.169A**, which refer to the alternative allocation, are included in the row of amateur service in the Table for the band 50-52 MHz in Region 1. | To move the reference to Nos. **5.169** and **5.169A** to the last row of the Table for the band 50-52 MHz in Region 1, since these alternative allocations replaces all services of that band. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 7 | All | 73 (RR5-39)  76 (RR5-42) | Footnote No. **5.206** is included in the last rows of the Table for the bands 137-137.025 MHz, 137.025-137.175 MHz, 137.175-137.825 MHz and 137.825-138 MHz in all Regions, meaning that it applies to more than one service in those parts of the table. In fact, it applies only to the aeronautical mobile (OR) service. | To move the reference to No. **5.206** in the table for the bands 137-137.025 MHz, 137.025-137.175 MHz, 137.175-137.825 MHz and 137.825-138 MHz to the rows containing the secondary allocation to the mobile except aeronautical mobile (R) service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 8 | All | 73 (RR5-39)  76 (RR5-42) | Footnote No. **5.208** is included in the last rows of the Table for the bands 137-137.025 MHz, 137.025-137.175 MHz, 137.175-137.825 MHz and 137.825-138 MHz in all Regions, meaning that it applies to more than one service in those parts of the table. In fact, it applies only to the mobile-satellite service. | To move the reference to No. **5.208** in the table for the bands 137-137.025 MHz, 137.025-137.175 MHz, 137.175-137.825 MHz and 137.825-138 MHz to the rows containing the allocation to the mobile-satellite (space-to-Earth) service. | Canada does not Support the amendments as suggested in Part 2 of the Director’s Report.  See the alternative proposal below this table. |
| 9 | All | 89 (RR5-55) | Footnote No. **5.269** is included in the last rows of the Table for the bands 420-430 MHz and 440-450 MHz in all Regions, meaning that it applies to more than one service in those parts of the table. In fact, it applies only to the radiolocation service. | To move the reference to No. **5.269** in the table for the bands 420-430 MHz and 440-450 MHz to the rows containing the secondary allocation to the radiolocation service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 10 | All | 89 (RR5-55) | Footnote No. **5.278** is included in the last rows of the Table for the bands 430-432 MHz, 432-438 MHz and 438-440 MHz in Regions 2 and 3, meaning that it applies to more than one service in those parts of the table. In fact, it applies only to the amateur service. | To move the reference to No. **5.278** in the table for the bands 430-432 MHz, 432-438 MHz and 438-440 MHz in Regions 2 and 3 to the rows containing the secondary allocation to the amateur service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 11 | All | 89 (RR5-55) | Footnote No. **5.285** is included in the last row of the Table for the band 440-450 MHz in all Regions, meaning that it applies to more than one service in that part of the table. In fact, it applies only to the radiolocation service. | To move the reference to No. **5.285** in the table for the band 440-450 MHz to the row containing the secondary allocation to the radiolocation service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 12 | All | 89 (RR5-55) | Footnotes Nos. **5.287** and **5.288**, which refer only to the maritime mobile service, are included in the last row of the Table for the band 456-459 MHz in all Regions, meaning that they apply to more than one service in that part of the table. | To move the reference to Nos. **5.287** and **5.288** in the table for the band 456-459 MHz to the row containing the allocation to the mobile service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 13 | All | 92 (RR5-58) | Footnotes Nos. **5.287** and **5.288**, which refer only to the maritime mobile service, included in the last row of the Table for the band 460-470 MHz in all Regions, meaning that they apply to more than one service in that part of the table. | To move the reference to Nos. **5.287** and **5.288** in the table for the band 460-470 MHz to the row containing the allocation to the mobile service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 14 | All | 92 (RR5-58) | Footnote No. **5.290**, which refers only to the meteorological-satellite service (space-to-Earth), is included in the last row of the Table for the band 460-470 MHz in all Regions, meaning that it applies to more than one service in that part of the table. | To move the reference to No. **5.290** in the table for the band 460-470 MHz to the row containing the secondary allocation to the meteorological-satellite service (space-to-Earth). | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 15 | All | 92 (RR5-58) | Footnote No. **5.292** is included in the last row of the Table for the band 470-512 MHz in Region 2, meaning that it applies to more than one service in that part of the table. In fact, it applies only to the mobile service. | To move the reference to No. **5.292** in the table for the band 470-512 MHz in Region 2 to the row containing the secondary allocation to the mobile service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 19 | All | 94 (RR5-60) | Footnote No. **5.308**,makes an additional allocationofthe frequency band 614-698 MHz to mobile service on a **primary** basis in Belize, Colombia and Guatemala. However, it is included in the Table with respect to the band 614-698 MHz which is already allocated to themobile service, but on a **secondary** basis in Region 2. | To change the type of No. **5.308** from “Additional allocation” to “Different category of service”. In addition, to move the reference to No **5.308** in the table for the band 614-698 MHz in Region 2 to the row containing a secondary allocation to the mobile service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 20 | All | 92 (RR5-58) | Footnote No. **5.309** is included in the last rows of the Table for the bands 614-698 MHz and 698-806 MHz in Region 2, meaning that it applies to more than one service in those parts of the table. In fact, it applies only to the fixed service. | To move the reference to No. **5.309** in the table for the bands 614-698 MHz and 698-806 MHz in Region 2 to the rows containing the secondary allocation to the fixed service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report |
| 21 | All | 96 (RR5-62) | Footnote No. **5.325** is included in the last rows of the Table for the bands 890-902 MHz, 902-928 MHz and 928-942 MHz in Region 2, meaning that it applies to more than one service in those parts of the table. In fact, it applies only to the radiolocation service. | To move the reference to No. **5.325** in the table for the bands 890-902 MHz, 902-928 MHz and 928-942 MHz in Region 2 to the rows containing the secondary allocation to the radiolocation service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 22 | All | 96 (RR5-62) | Footnote No. **5.326** is included in the last rows of the Table for the band 902-928 MHz in Region 2, meaning that it applies to more than one service in that part of the table. In fact, it applies only to the mobile, except aeronautical mobile, service. | To move the reference to No. **5.326** in the table for the band 902-928 MHz in Region 2 to the row containing the secondary allocation to the mobile, except aeronautical mobile, service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 23 | All | 96 (RR5-62) | Footnote No. **5.327** is included in the last row of the Table for the band 890-942 MHz in Region 3, meaning that it applies to more than one service in that part of the table. In fact, it applies only to the radiolocation service. | To move the reference to No. **5.327** in the table for the band 890-942 MHz in Region 3 to the row containing the secondary allocation to the radiolocation service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 25 | All | 106 (RR5-72) | Footnote No. **5.369** is included in the last rows of the Table for the bands 1 610-1 610.6 MHz, 1 610.6-1 613.8 MHz, 1 613.8-1 621.35 MHz and 1 621.35-1 626.5 MHz in Region 3, meaning that it applies to more than one service in those parts of the table. In fact, it applies only to the radiodetermination-satellite service (Earth-to-space). | To move the reference to No. **5.369** in the table for the bands 1 610-1 610.6 MHz, 1 610.6-1 613.8 MHz, 1 613.8-1 621.35 MHz and 1 621.35-1 626.5 MHz in Region 3 to the rows containing the secondary allocation to the radiodetermination-satellite service (Earth-to-space). | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 26 | All | 109 (RR5-75) | Footnote No. **5.382**, which refers to the different category of service, is listed in the Table for the band 1 690-1 700 MHz in Region 1, despite the fact that it also contains the provision for allocation to a country in Region 3. The relevant additional allocation to some countries in Regions 2 and 3 is included in footnote No. **5.381**. | To move the part of footnote No. **5.382**, which refers to Region 3, to the relevant footnote No. **5.381** which deals with additional allocation in Regions 2 and 3 as follows:  **5.382** *Different category of service:* in Saudi Arabia… Yemen, the allocation of the frequency band 1 690-1 700 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. **5.33**).  **5.381** *Additional allocation:* in Afghanistan, Cuba, India, Iran (Islamic Republic of) and Pakistan, the band 1 690-1 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis, and in the Dem. People’s Rep. of Korea the frequency band 1 690-1 700 MHz is also allocated to the fixed service on a primary basis (see No. **5.33**) and to the mobile, except aeronautical mobile, service on a secondary basis. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 27 | All | 111 (RR5-77)  114 (RR5-80) | Footnote No. **5.388** refers to an IMT identification of the frequency bands 1 885-2 025 MHz and 2 110-2 200 MHz. This footnote is included in the last rows of the Table for the bands 1 710-1 930 MHz, 1 930-1 970 MHz, 1 970-1 980 MHz, 1 980-2 010 MHz, 2 010-2 025 MHz, 2 110-2 120 MHz, 2 120-2 160 MHz, 2 160-2 170 MHz and 2 170-2 200 MHz in all Regions, meaning that it applies to more than one service in those parts of the table. In fact, it applies only to the mobile service. | To move the reference to No. **5.388** in the table for the bands 1 710-1 930 MHz, 1 930-1 970 MHz, 1 970-1 980 MHz, 1 980-2 010 MHz, 2 010-2 025 MHz, 2 110-2 120 MHz, 2 120-2 160 MHz, 2 160-2 170 MHz and 2 170-2 200 MHz to the rows containing the primary allocation to the mobile service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 29 | All | 124 (RR5-90) | Footnote No. **5.433**, which refers to an allocation in the band 3 400-3 600 MHz in Regions 2 and 3, is also listed in the Table for the band 3 600-3 700 MHz in Region 2. | To remove No. **5.433** from the band 3 600-3 700 MHz in Region 2 of the Table of Frequency Allocations. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 30 | All | 124 (RR5-90) | Footnote No. **5.435**, which refers only to the radiolocation service, is included in the last row of the Table for the band 3 600-3 700 MHz in Region 3, meaning that it applies to more than one service in that part of the table. | To move the reference to No. **5.435** in the table for the band 3 600-3 700 MHz to the row containing the secondary allocation to the radiolocation service in Region 3. | No objection. However Canada notes that the this type of exclusion of a service in one country or a group of countries smaller than a Region is typically implemented in Article **5** of the RR as an *alternative allocation* (See No. **5.39** and its implementation in No. **5.344** for example) which gets refer to in the last row of the Table. So in this context, No. **5.435** could be interpreted as stipulating an “*alternative allocation*” in Japan in the band 3620-3700 MHz to FS, FSS (Space-to-Earth) and MS except aeronautical mobile and consideration should be given to implementing it as such in future version of the RR |
| 31 | All | 126 (RR5-92) | Footnote No. **5.443** is included in the last row of the Table for the band 4 800-4 990 MHz in all Regions, meaning that it applies to more than one service in that part of the table. In fact, it applies only to the radio astronomy service. | To move the reference to No. **5.443** in the table for the band 4 800-4 990 MHz to the row containing the secondary allocation to the radio astronomy service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 32 | All | 131 (RR5-97) | Footnote No. **5.454** is included in the last row of the Table for the band 5 650-5 725 MHz in all Regions, meaning that it applies to more than one service in that part of the table. In fact, it applies only to the space research service. | To move the reference to No. **5.454** in the table for the band 5 650-5 725 MHz to the row containing the secondary allocation to the space research service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 33 | All | 137 (RR5-103) | Footnote No. **5.477** is included in the last rows of the Table for the bands 9 800-9 900 MHz and 9 900-10 000 MHz in all Regions, meaning that it applies to more than one service in those parts of the table. In fact, it applies only to the fixed service. | To move the reference to No. **5.477** in the table for the bands 9 800-9 900 MHz and 9 900-10 000 MHz to the rows containing the secondary allocation to the fixed service. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 34 | All | 163 (RR5-129) | Footnote No. **5.546**, which refers to the different category of service in some countries of Region 1 and 3, is listed in the Table for the band 31.5-31.8 GHz in Region 1 only. This footnote lists the name of Iran (Islamic Republic of) in Region 3. | To add the reference to No. **5.546** in the Table for the band 31.5-31.8 GHz in Region 3. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
|  |  | **Volume 1** | **Article 11** | **Article 11** |  |
| 37 | All |  | Footnote 27 to No. **11.44C** makes reference to “A.4.b.5.c…in Table A of Annex 2 to Appendix 4”, which existed in the previous version of the RR, but was changed to A.4.b.4.i at WRC-19 with an augmented text. A.4.b.5 is indicated as “Not used” in the latest version of the RR. | Replace A.4.b.5.c with new reference to argument of perigee A.4.b.4.i | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 38 | All | 223 (RR11-13) | Footnote 36 to No. **11.49** makes reference to “A.4.b.5.c…in Table A of Annex 2 to Appendix 4”, which existed in the previous version of the RR, but was changed to A.4.b.4.i at WRC-19 with an augmented text. A.4.b.5 is indicated as “Not used” in the latest version of the RR. | Replace A.4.b.5.c with new reference to argument of perigee A.4.b.4.i | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
|  |  | **Volume 2** | **Appendix 4 (Annex 1, Table 2)** | **Appendix 4 (Annex 1, Table 2)** |  |
| 39 | All | 60 (AP4-34) | Item identifier 1.14.k: a commitment that the level of unwanted power density into the HAPS ground station antenna in the band 31.3-31.8 GHz does not exceed −83 dB(W/200 MHz). It applies to HAPS ground station only. | To move “+” to the column “Receiving station in the bands listed in Nos. 5.457, 5.534A, 5.543B, 5.550D and 5.552A for the application of No. 11.9”.   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | 1.14.k | a commitment that the level of unwanted power density into the HAPS ground station antenna in the band 31.3-31.8 GHz does not exceed −83 dB(W/200 MHz) … (see Resolution **167 (WRC‑19)**)  Required in the band 31-31.3 GHz |  |  |  | **+** | 1.14.k | | Canada supports the amendment contained in Part 2 of the Director’s Report with an additional modification to the headers of TABLE 2 Characteristics for high altitude platform stations (HAPS) frequency assignments in the terrestrial services. Please see the alternative implementation at the bottom of this table. |
| 40 | All | 227 (AP7-79) | Table 8a contains a column for the broadcasting-satellite service in the frequency band 620-790 MHz, which was previously allocated through No. **5.311A**. | Suppress the column for the broadcasting-satellite service in the frequency band 620-790 MHz, because No. **5.311A** was suppressed by WRC-19. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 41 | All | 279 (AP17-7) | The Table of frequencies in Part A of Appendix 17 does not contain any overlapping bands having both Note *p)* and the Notes *i)*, *j)*, *n)* and *o)*, however Notes *i)*, *j)*, *n)* and *o)* are referred in Note *p)*. | To delete reference to Notes *i)*, *j)*, *n)* and *o)* from Note *p)* to eliminate the inconsistency. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 42 | All | 728 (AP30B-6) | §6.14 refers to paragraph 2.3 of Annex 4 to Appendix **30B**. However, Annex 4 was modified by WRC-19 and its paragraph 2.3 was renumbered but this reference was not updated. | Replace “containing the change in the values referred to in paragraph 2.3 of Annex 4 to  Appendix **30B**” with “containing the change in the calculated overall aggregate (*C*/*I*)*agg* value referred to in paragraph 2.1 of Annex 4 to Appendix **30B**”. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
|  |  | **Volume 3** | **Resolutions** | **Resolutions** |  |
| 43 | All | RES35-2 | Resolution **35 (WRC-19)**  Noting that for the purpose of this resolution:  - in second bullet starting with the term “ notified orbital plane” … and forth bullet refers reference to “A.4.b.5.c…in Table A of Annex 2 to Appendix 4”, which existed in the previous version of the RR, but was changed to A.4.b.4.i at WRC-19 with an augmented text. A.4.b.5 is indicated as “Not used” in the latest version of the RR. | Replace A.4.b.5.c with new reference to argument of perigee A.4.b.4.i | Canada supports the amendments as suggested in Part 2 of the Director’s Report.  Note also the proposed modifications to Resolution 35 (WRC-19) in doc WRC23/79 |

Alternative proposal for item # 8 of Table 2 above.

ARTICLE 5

Frequency allocations

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

**MOD**

75.2-137.175 MHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| ... | | |
| 137-137.025 SPACE OPERATION (space-to-Earth) 5.203C  METEOROLOGICAL-SATELLITE (space-to-Earth)  MOBILE-SATELLITE (space-to-Earth) 5.208A 5.208B 5.209  SPACE RESEARCH (space-to-Earth)  Fixed  Mobile except aeronautical mobile (R)  5.204 5.205 5.206 5.207 5.208 | | |
| 137.025-137.175 SPACE OPERATION (space-to-Earth) 5.203C  METEOROLOGICAL-SATELLITE (space-to-Earth)  SPACE RESEARCH (space-to-Earth)  Fixed  Mobile except aeronautical mobile (R)  Mobile-satellite (space-to-Earth) 5.208 5.208A 5.208B 5.209  5.204 5.205 5.206 5.207 | | |

**MOD**

**137.175-148 MHz**

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 137.175-137.825 SPACE OPERATION (space-to-Earth) 5.203C 5.209A  METEOROLOGICAL-SATELLITE (space-to-Earth)  MOBILE-SATELLITE (space-to-Earth) 5.208A 5.208B 5.209  SPACE RESEARCH (space-to-Earth)  Fixed  Mobile except aeronautical mobile (R)  5.204 5.205 5.206 5.207 5.208 | | |
| 137.825-138 SPACE OPERATION (space-to-Earth) 5.203C  METEOROLOGICAL-SATELLITE (space-to-Earth)  SPACE RESEARCH (space-to-Earth)  Fixed  Mobile except aeronautical mobile (R)  Mobile-satellite (space-to-Earth) 5.208 5.208A 5.208B 5.209  5.204 5.205 5.206 5.207 | | |
| ... |  |  |

**Reasons:** Canada alternative proposals consists of moving the location of RR No. **5.208** only in parts of the 137-138 GHz band where the mobile-satellite service is allocated on a secondary basis. The justification for such an alternative proposal is to maintain a consistency between the Table of Frequency Allocations and the RoP on the applicability of RR No. **9.11A** that shows that in bands where MSS is allocated on a primary basis the provisions of RR No. **9.12** to **9.14** applies equally to the Space Operation, the meteorological-satellite and space research services despite only stipulates that "*the use of the band 137-138 MHz by the mobile-satellite service is subject to coordination under No.* ***9.11A***”.

Alternative proposal for item # 39 of Table 2 above.

APPENDIX 4 (REV.WRC‑19)

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

ANNEX 1

Characteristics of stations in the terrestrial services[[2]](#footnote-2)1

Footnotes to Tables 1 and 2

**MOD**

TABLE 2   (Rev.WRC-23)

Characteristics for high altitude platform stations (HAPS) frequency assignments  
in the terrestrial services

| **Item identifier** | ***1 \_ GENERAL CHARACTERISTICS OF THE HAPS*** | **Transmitting HAPS station in the bands listed in No. 5.388A for the application of No. 11.2** | **Receiving HAPS station in the bands listed in No. 5.388A for the application of No. 11.9** | **Transmitting HAPS station in the bands listed in Nos. 5.457, 5.537A****, 5.530E, 5.532AA, 5.534A, 5.543B, 5.550D and 5.552A for the application of No. 11.2** | **Receiving HAPS station in the bands listed in Nos.  5.457, 5.534A, 5.543B, 5.550D and 5.552A for the application of No. 11.9** | **Item identifier** |
| --- | --- | --- | --- | --- | --- | --- |
| ... | ... |  |  |  |  |  |
| 1.14.k | a commitment that the level of unwanted power density into the HAPS ground station antenna in the band 31.3-31.8 GHz does not exceed −83 dB(W/200 MHz) under clear-sky conditions and may be increased under rainy conditions to mitigate fading due to rain, provided that the effective impact on the passive satellite does not exceed the impact under clear-sky conditions (see Resolution **167 (WRC‑19)**)  Required in the band 31-31.3 GHz |  |  |  | **+** | 1.14.k |
| ... | ... |  |  |  |  |  |

**Reasons:** Canada alternative proposals consists of reflecting in the various column headers in the Table 2 that only assignments to HAPS stations are notified.

CAN/86A25A2/3

With respect to section 2.2.3, Table 3 below contains the Canadians positions and/or proposals on outdated provisions in the RR and the associated corrections as suggested by the Bureau.

Table 3

**Texts in the RR that may require updates**

| **#** | **Page** | **Current RR text that may require update** | **Possible course of action** | **Canadian position or proposals** |
| --- | --- | --- | --- | --- |
|  | **Volume 1, ARTICLE 5** | | |  |
| 3 | 116 (RR5-82) | **5.413** In the design of systems in the broadcasting-satellite service in the bands between 2 500 MHz and 2 690 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2 690‑2 700 MHz. | To reflect the fact that there is no allocation to the broadcasting-satellite service in the frequency band 2670-2690 MHz any longer.  **5.413** In the design of systems in the broadcasting-satellite service in the bands between 2 500 MHz and 2 670 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2 690‑2 700 MHz. | Canada agrees with the need to adjust the upper edge of the frequency range referred to in No. 5.413 but suggest that the same shall be done to the lower edge of that range to reflect the actual BSS allocation.  Alternative proposal:  **5.413** In the design of systems in the broadcasting-satellite service in the bands between2520 MHz and 2 670 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2 690‑2 700 MHz. |
| 4 | 119 (RR5-85) | **5.419** When introducing systems of the mobile-satellite service in the band 2 670-2 690 MHz, administrations shall take all necessary steps to protect the satellite systems operating in this band prior to 3 March 1992. The coordination of mobile-satellite systems in the band shall be in accordance with No. **9.11A**. | To reflect the fact that there are no longer any satellite systems operating in this band prior to 3 March 1992 recorded in the MIFR, except for one that is recorded under No. **8.4**.  **5.419** The coordination of mobile-satellite systems in the frequency band 2 670-2 690 MHz shall be in accordance with No. **9.11A**. | Canada agrees with the need to modify No. **5.419** but proposes an alternative wording as follows:  **5.419** The use of the frequency band 2670-2690 MHz by the mobile-satellite service is subject to coordination under No. **9.11A**.  (WRC-23) |
| 5 | 136 (RR5-102) | No. **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. Non-geostationary meteorological-satellite systems in this band notified before 30 November 1997 may continue to operate on a primary basis until the end of their lifetime.     (WRC-97)  There are no non-geostationary meteorological-satellite systems notified before 30 November 1997. | Remove “ Non-geostationary meteorological-satellite systems in this band notified before 30 November 1997 may continue to operate on a primary basis until the end of their lifetime.” | Canada supports the amendments as suggested in Part 2 of the Director’s Report.  **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) |
| 6 | 156 (RR5-122) | No. **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. Administrations having geostationary-satellite networks under coordination prior to 18 November 1995 shall cooperate to the maximum extent possible to coordinate pursuant to No. **9.11A** with non-geostationary-satellite networks for which notification information has been received by the Bureau prior to that date, with a view to reaching results acceptable to all the parties concerned. 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-97)  The sentence “Administrations having geostationary-satellite networks under coordination prior to 18 November 1995 shall cooperate to the maximum extent possible to coordinate pursuant to No. **9.11A** with non-geostationary-satellite networks for which notification information has been received by the Bureau prior to that date, with a view to reaching results acceptable to all the parties concerned” refers to non-GSO networks for which notification information was received prior to 18 November 1995. However there are currently no such non-GSO networks in these frequency bands. | To remove from No. **5.523A** the sentence “Administrations having geostationary-satellite networks under coordination prior to 18 November 1995 shall cooperate to the maximum extent possible to coordinate pursuant to No. **9.11A** with non-geostationary-satellite networks for which notification information has been received by the Bureau prior to that date, with a view to reaching results acceptable to all the parties concerned.” | Canada agrees with the need to adjust No. 5.523A as shown below:  No. **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-97)  However, it is not clear whether non-GSO satellite network can claim protection from GSO network for which complete Appendix 4 notification information is considered as having been received by the Bureau prior to 18 November 1995. |
| 7 | 211 (RR11-1) | 6  A.11.6 If the payments are not received in accordance with the provisions of Council Decision 482, as amended, on the implementation of cost recovery for satellite network filings, the Bureau shall cancel the publication specified in Nos. **11.28** and **11.43** and the corresponding entries in the Master Register under Nos. **11.36**, **11.37**, **11.38**, **11.39**, **11.41**, **11.43B**or **11.43C**, as appropriate, after informing the administration concerned. The Bureau shall inform all administrations of such action and that the entries specified in the publication in question no longer have to be taken into consideration by the Bureau and other administrations and that any resubmitted notice shall be considered to be a new notice. The Bureau shall send a reminder to the notifying administration not later than two months prior to the deadline for the payment in accordance with the above-mentioned Council Decision 482 unless the payment has already been received. See also Resolution **905 (WRC‑07)\*\*\*\***.      (WRC-07)    \*\*\*\* *Note by the Secretariat:* This Resolution was abrogated by WRC-12. | 6  A.11.6 If the payments are not received in accordance with the provisions of Council Decision 482, as amended, on the implementation of cost recovery for satellite network filings, the Bureau shall cancel the publication specified in Nos. **11.28** and **11.43** and the corresponding entries in the Master Register under Nos. **11.36**, **11.37**, **11.38**, **11.39**, **11.41**, **11.43B** or **11.43C**, as appropriate, after informing the administration concerned. The Bureau shall inform all administrations of such action and that the entries specified in the publication in question no longer have to be taken into consideration by the Bureau and other administrations and that any resubmitted notice shall be considered to be a new notice. The Bureau shall send a reminder to the notifying administration not later than two months prior to the deadline for the payment in accordance with the above-mentioned Council Decision 482 unless the payment has already been received.  Resolution **905 (WRC-07)** was abrogated by WRC-12 and its reference for historical purposes has been retained in the Radio Regulations for a considerable period of time. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 8 | 406 (RR52-12) | No. **52.200** 4) One of the frequencies which coast stations are required to be able to use (see No. **52.197**) is printed in heavy type in the List of Coast Stations and Special Service Station (List IV) to indicate that it is the normal working frequency of the stations. Supplementary frequencies, if assigned, are shown in ordinary type. (WRC-07)] | The heavy type format is no longer used in List IV, therefore the possible SUP of No. **52.200** may be considered. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 9 | 411 (RR52-17) | No. **52.247** § 103 A coast station in the port operations service in an area where 156.8 MHz is being used for distress, urgency or safety shall, during its working hours, keep an additional watch on 156.6 MHz or another port operations frequency indicated in heavy type in the List of Coast Stations and Special Service Stations (List IV). (WRC-07)] | The heavy type format is no longer used in List IV, therefore the reference to ‘in heavy type’ may need to be removed from No. **52.247**. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 10 | 412 (RR52-18) | No. **52.248** § 104 A coast station in the ship movement service in an area where 156.8 MHz is being used for distress, urgency and safety shall, during its working hours, keep an additional watch on the ship movement frequencies indicated in heavy type in the List of Coast Stations and Special Service Stations (List IV). (WRC-07) | The heavy type format is no longer used in List IV, therefore the reference to ‘in heavy type’ may need to be removed from No. **52.247** | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 11 | 127 (AP5-7)  128 (AP5-8) | Reference to Resolution **901** needs to be updated from WRC-07 to WRC-15 | Reference to Resolution **901** needs to be updated from WRC-07 to WRC-15 in TABLE 5-1 of Appendix **5** to No. 9.7 . | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 12 | 133 (AP5-13) | Removal of suppressed footnote No. **5.417A** reference in 9.11 table of Appendix **5**. | Remove No.**5.417A** from TABLE 5-1 columns Frequency bands (and Region) of the service for which coordination is sought and Threshold/condition | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 13 | 443 (AP30-1) | 1 The Regions 1 and 3 List of additional uses is annexed to the Master International Frequency Register (see Resolution **542** (**WRC-2000**)\*\*). (WRC-03)  \*\* Note by the Secretariat: This Resolution was abrogated by WRC-03. | 1 The Regions 1 and 3 List of additional uses is annexed to the Master International Frequency Register.  Resolution **542** (**WRC-2000**) was abrogated by WRC-03 and its reference for historical purposes has been retained in the Radio Regulations for a considerable period of time. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 14 | 446 (AP30-4) | 1.8 *Regions 1 and 3 List of additional uses (hereafter called in short the “List”)*: The List of assignments for additional uses in Regions 1 and 3 as established by WRC-2000 (see Resolution **542 (WRC-2000)**\*), as updated following the successful application of the procedure of § 4.1 of Article 4. (WRC-03)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_  \* *Note by the Secretariat*: This Resolution was abrogated by WRC-03. | 1.8 *Regions 1 and 3 List of additional uses (hereafter called in short the “List”)*: The List of assignments for additional uses in Regions 1 and 3 as established by WRC-2000, as updated following the successful application of the procedure of § 4.1 of Article 4.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_  Resolution **542** (**WRC-2000**) was abrogated by WRC-03 and its reference for historical purposes has been retained in the Radio Regulations for a considerable period of time. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 15 | 449 (AP30-7) | 4.1.3 …. An assignment in the List shall lapse if it is not brought into use within eight years after the date of receipt by the Bureau of the relevant complete information5. A proposed new or modified assignment not included in the List within eight years after the date of receipt by the Bureau of the relevant complete information shall also lapse5.      (WRC‑07)  5 The provisions of Resolution **533 (Rev.WRC‑2000)**\*apply.     (WRC‑03)  \* Note by the Secretariat: This Resolution was abrogated by WRC‑12. | 4.1.3 …. An assignment in the List shall lapse if it is not brought into use within eight years after the date of receipt by the Bureau of the relevant complete information. A proposed new or modified assignment not included in the List within eight years after the date of receipt by the Bureau of the relevant complete information shall also lapse.    Resolution **533** (**Rev.WRC-2000**) was abrogated by WRC-03 and its reference for historical purposes has been retained in the Radio Regulations for a considerable period of time. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 16 | 456 (AP30-14) | 4.2.6 …. Modifications to that Plan shall lapse if the assignment is not brought into use within eight years after the date of receipt by the Bureau of the relevant complete information14. A request for a modification that has not been included in that Plan within eight years after the date of receipt by the Bureau of the relevant complete information shall also lapse14.     (WRC‑07)  14 The provisions of Resolution 533 (Rev.WRC‑2000)\*\* apply.     (WRC‑03)  \*\* Note by the Secretariat: This Resolution was abrogated by WRC‑12. | 4.2.6 …. Modifications to that Plan shall lapse if the assignment is not brought into use within eight years after the date of receipt by the Bureau of the relevant complete information. A request for a modification that has not been included in that Plan within eight years after the date of receipt by the Bureau of the relevant complete information shall also lapse.    Resolution **533** (**Rev.WRC-2000**) was abrogated by WRC-03 and its reference for historical purposes has been retained in the Radio Regulations for a considerable period of time. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 17 | 461 (AP30-19) | 18 If the payments are not received in accordance with the provisions of Council Decision 482, as amended, on the implementation of cost recovery for satellite network filings, the Bureau shall cancel the publication specified in § 5.1.6 and the corresponding entries in the Master Register under § 5.2.2, 5.2.2.1, 5.2.2.2 or 5.2.6, as appropriate, and the corresponding entries included in the Plan on and after 3 June 2000 or in the List, as appropriate, after informing the administration concerned. The Bureau shall inform all administrations of such action. The Bureau shall send a reminder to the notifying administration not later than two months prior to the deadline for the payment in accordance with the above-mentioned Council Decision 482 unless the payment has already been received. See also Resolution **905 (WRC-07)**\*. (WRC-07)  \* Note by the Secretariat: This Resolution was abrogated by WRC-12. | 18 If the payments are not received in accordance with the provisions of Council Decision 482, as amended, on the implementation of cost recovery for satellite network filings, the Bureau shall cancel the publication specified in § 5.1.6 and the corresponding entries in the Master Register under § 5.2.2, 5.2.2.1, 5.2.2.2 or 5.2.6, as appropriate, and the corresponding entries included in the Plan on and after 3 June 2000 or in the List, as appropriate, after informing the administration concerned. The Bureau shall inform all administrations of such action. The Bureau shall send a reminder to the notifying administration not later than two months prior to the deadline for the payment in accordance with the above-mentioned Council Decision 482 unless the payment has already been received.  Resolution **905 (WRC-07)** was abrogated by WRC-12 and its reference for historical purposes has been retained in the Radio Regulations for a considerable period of time. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 18 | 587 (AP30A-1) | 1 The Regions 1 and 3 List of additional uses is annexed to the Master International Frequency Register (see Resolution **542** (**WRC-2000**)\*\*). (WRC-03)  \*\* Note by the Secretariat: This Resolution was abrogated by WRC-03. | 1 The Regions 1 and 3 List of additional uses is annexed to the Master International Frequency Register. (WRC-23)  Resolution **542** (**WRC-2000**) was abrogated by WRC-03 and its reference for historical purposes has been retained in the Radio Regulations for a considerable period of time. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 19 | 590 (AP30A-4) | 1.10 *Regions 1 and 3 feeder-link List of additional uses (hereafter called in short the “feeder-link List”)*: The list of assignments for additional uses in Regions 1 and 3 as established by WRC-2000 (see Resolution **542 (WRC-2000)**\*), as updated following the successful application of the procedure of § 4.1 of Article 4. (WRC-03)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_  \* *Note by the Secretariat*: This Resolution was abrogated by WRC-03. | **1.10** *Regions 1 and 3 feeder-link List of additional uses (hereafter called in short the “feeder-link List”)*: The list of assignments for additional uses in Regions 1 and 3 as established by WRC-2000, as updated following the successful application of the procedure of § 4.1 of Article 4. (WRC‑23)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_  Resolution **542** (**WRC-2000**) was abrogated by WRC-03 and its reference for historical purposes has been retained in the Radio Regulations for a considerable period of time. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 20 | 593 (AP30A-7) | 4.1.3 …. An assignment in the feeder-link List shall lapse if it is not brought into use within eight years after the date of receipt by the Bureau of the relevant complete information. A proposed new or modified assignment not included in the List within eight years after the date of receipt by the Bureau of the relevant complete information7 shall also lapse.     (WRC‑19)  7 The provisions of Resolution 533 (Rev.WRC‑2000)\* apply.     (WRC‑03)  \* Note by the Secretariat: This Resolution was abrogated by WRC‑12. | 4.1.3 …. An assignment in the feeder-link List shall lapse if it is not brought into use within eight years after the date of receipt by the Bureau of the relevant complete information. A proposed new or modified assignment not included in the List within eight years after the date of receipt by the Bureau of the relevant complete information shall also lapse.     (WRC‑23)    Resolution **533** (**Rev.WRC-2000**) was abrogated by WRC-03 and its reference for historical purposes has been retained in the Radio Regulations for a considerable period of time. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 21 | 600 (AP30A-14) | 4.2.6 …. Modifications to that Plan shall lapse if the assignment is not brought into use within eight years after the date of receipt by the Bureau of the relevant complete information17 A request for a modification that has not been included in that Plan within eight years after the date of receipt by the Bureau of the relevant complete information17 shall also lapse.     (WRC‑07)  17 The provisions of Resolution 533 (Rev.WRC‑2000)\* apply.     (WRC‑03)  \* Note by the Secretariat: This Resolution was abrogated by WRC‑12. | 4.2.6 …. Modifications to that Plan shall lapse if the assignment is not brought into use within eight years after the date of receipt by the Bureau of the relevant complete information. A request for a modification that has not been included in that Plan within eight years after the date of receipt by the Bureau of the relevant complete information shall also lapse.     (WRC‑23)    Resolution **533** (**Rev.WRC-2000**) was abrogated by WRC-03 and its reference for historical purposes has been retained in the Radio Regulations for a considerable period of time. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 22 | 726 (AP30B-4) | 1 If the payments are not received in accordance with the provisions of Council Decision 482, as amended, on the implementation of cost recovery for satellite network filings, the Bureau shall cancel the publication specified in § 6.7 and/or 6.23 and the corresponding entries in the List under § 6.23 and/or 6.25, as appropriate, and reinstate any allotments back into the Plan after informing the administration concerned. The Bureau shall inform all administrations of such action and that the network specified in the publication in question no longer has to be taken into consideration by the Bureau and other administrations. The Bureau shall send a reminder to the notifying administration not later than two months prior to the deadline for the payment in accordance with the above-mentioned Council Decision 482, unless the payment has already been received. See also Resolution **905 (WRC-07)**\*.  \* Note by the Secretariat: This Resolution was abrogated by WRC-12. | 1 If the payments are not received in accordance with the provisions of Council Decision 482, as amended, on the implementation of cost recovery for satellite network filings, the Bureau shall cancel the publication specified in § 6.7 and/or 6.23 and the corresponding entries in the List under § 6.23 and/or 6.25, as appropriate, and reinstate any allotments back into the Plan after informing the administration concerned. The Bureau shall inform all administrations of such action and that the network specified in the publication in question no longer has to be taken into consideration by the Bureau and other administrations. The Bureau shall send a reminder to the notifying administration not later than two months prior to the deadline for the payment in accordance with the above-mentioned Council Decision 482, unless the payment has already been received.  Resolution **905 (WRC-07)** was abrogated by WRC-12 and its reference for historical purposes has been retained in the Radio Regulations for a considerable period of time. | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |
| 23 | 762 (AP42-2) | AP 42 – Note 1 - Res 99 (Rev. Busan, 2014) | Resolution 99 was revised by the Plenipotentiary Conference, Dubai, 2018. Revise to read Resolution 99 (Rev. Dubai, 2018) | Canada supports the amendments as suggested in Part 2 of the Director’s Report. |

CAN/86A25A2/4

In Section 3.1.1.1, the Bureau notes that it intends to check more systematically compliance of the notices for amateur-satellite networks or systems with the conditions set forth in RR Nos. **1.56** and **1.57**. Canada notes and supports this course of action in order to prevent improper use of the amateur-satellite service allocations. Canada proposes that WRC-23 notes this course of action.

In addition, the Bureau notes that the Conference may wish to remove the limitation of the amateur-satellite service to earth satellites only. Given the technological advancements, there may be a need to remove such limitation. However, Canada is of the view that further studies may be necessary with regards to the capability of amateur-satellite systems before modifying the definition in RR No. **1.57**, to ensure that the current issues identified by the Bureau with regards to the use of the amateur-satellite service by commercial operators are not broadened.

CAN/86A25A2/5

With regard to section 3.1.1.2, Canada supports the approach suggested by the Bureau and proposes that WRC-23 notes the conclusion of ITU-R WP 4A regarding the potential use of FSS allocation (feeder links in accordance with RR No. **1.115**) to downlink data gathered through on-board processing sensors operating under other radiocommunication services on satellites providing in-orbit services as well as for TT&C operations as indicated in RR No. **1.23**.

Canada generally supports the conclusion reached by the Bureau on the scenario described but believes that clarifications are required to avoid any ambiguities. Therefore, Canada proposes to clearly identify the various possibilities associated with the two distinct parts of the missions (standalone and docked to GSO space station) and their associated regulatory requirements in terms of notices as follows:

Case 1: non-GSO space station operation (i.e when not docked to GSO space station):

• Requirements in terms of notices associated with the use of frequency assignments not subject to coordination under section II of RR Article **9** or under RR No. **4.4** by the non-GSO space station communicating with earth stations i.e. **when not docked to the GSO space station**: Advance Publication Information and Notification for assignments to the non-GSO satellite network.

• Requirements in terms of notices associated with the use of frequency assignments subject to coordination under section II of RR Article **9** by the non-GSO network: Coordination request and Notification for these assignments to the non-GSO satellite network.

Case 2: non-GSO station docked to GSO space station:

• Additional requirements in terms of notices associated with the use of frequency assignments by the non-GSO network initially filed under Case 1 above: Coordination request and Notification for these assignments to the GSO satellite network except for use under RR No. **4.4** where API and Notification are required.

However, there is no additional requirements in terms of notices under Case 2 above:

• if there is no plan to use of frequency assignments filed under Case 1 **when docked to the GSO space station, or**

• if the existing notices for the frequency assignments to GSO satellite network already covered those frequency assignments filed under Case 1 above for use when docked to the GSO space station.

Canada also proposes that WRC-23 notes the scenario described and the associated regulatory requirements.

CAN/86A25A2/6

With regard to section 3.1.1.2, Canada shares the same understanding as the Bureau regarding the application § 4.2 of RR Appendix **30B** and proposes that WRC-23 confirms the Bureau’s application of RR No. **4.4** in frequency bands covered in RR Appendix **30B** subject to § 4.2of RR Appendix **30B.**

Canada proposes that WRC-23 instructs the RRB to make the proper amendments to the RoP concerning RR No. **4.4** to reflect the above understanding of the Bureau regarding the implementation of §4.2 of RR Appendix **30B** and more specifically instances where RR No. **4.4** can be invoked in frequency bands covered by RR Appendix **30B** as shown below:

In Appendix **30B** frequency bands subject to § 4.2of RR Appendix **30B** , the application of RR No. **4.4** is only acceptable for the cases listed below:

– Radio astronomy stations: radio astronomy is a passive service that does not involve the transmission of radio waves in its allocated bands, so the use of these bands does not cause interference to any other service. At present, radio astronomy utilizes the electromagnetic spectrum at frequencies from below 1 MHz to about 1 000 GHz, a range set primarily by the limitations of available technology. In principle, the entire radio spectrum is of scientific interest to the radio astronomy service.

– Earth exploration-satellite (passive) and space research (passive) services in consideration of the Rules of Procedure on RR No. **5.458**: while RR No. **5.458** states that “In the band 6 425-7 075 MHz, passive microwave sensor measurements are carried out over the oceans. In the band 7 075-7 250 MHz, passive microwave sensor measurements are carried out. Administrations should bear in mind the needs of the Earth exploration-satellite (passive) and space research (passive) services in their future planning of the bands 6 425-7 075 MHz and 7 075-7 250 MHz.”, the Rule of Procedure on this provision clarifies that there is no allocation to the Earth exploration-satellite (passive) and space research (passive) services in the frequency bands 6 425-7 075 MHz and 7 075-7 250 MHz. Notification of frequency assignments to the Earth exploration-satellite (passive) and space research (passive) services in these frequency bands will be considered by the Bureau not to be in conformity with the Table of Frequency Allocations.

– Recording of FSS space-to-Earth assignments for non-GSO MSS feeder links exceeding RR Article **21** limits in the frequency band 6 725-7 025 MHz: considering that the allocation exists for the service in the RR Appendix **30B** frequency band, an excess of the pfd limit may be recorded under RR No. **4.4** without infringing § 4.2 of RR Appendix **30B**.

– Recording of non-GSO FSS space-to-Earth assignments exceeding RR Article **21** limits in the frequency bands 10.7-10.95 GHz and 11.2-11.45 GHz: considering that the allocation exists for the service in RR Appendix **30B** frequency band, an excess of the pfd limits may be recorded under RR No. **4.4** without infringing § 4.2 of RR Appendix **30B**.

CAN/86A25A2/7

With regard to section 3.1.3.1, Canada supports the approach suggested by the Bureau and proposes that WRC-23 invites the ITU-R to develop a methodology to calculate the pfd specified in RR No. **5.218A** considering among others, the following aspects:

• The extension of RR Appendix **7** methodology to the space operations service in the frequency band 148-149.9 MHz for 1% of the time;

• Whether the percentage of time refers to a propagation model or visibility statistics of a non-GSO system, and

• Whether to include the duty cycle of the transmitting earth station in the new methodology to be elaborated.

CAN/86A25A2/8

With regard to section 3.1.3.2, Canada agrees with the conclusion reached by the Bureau on this issue and proposes the following amendments to the RR to ensure that frequency assignments to space stations having obtained the relevant agreements following the application under RR No. **9.21** have at least the possibility to comment considering when no other coordination provision under section II of RR Article **9** applies.

ARTICLE 9

Procedure for effecting coordination with or obtaining agreement of other administrations1, 2, 3, 4, 5, 6, 7, 8    (WRC‑19)

Section II − Procedure for effecting coordination13, 14

Sub-Section IIC − Action upon a request for coordination

**MOD**

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

28 9.52.1 An administration believing that unacceptable interference may be caused to its existing or planned satellite networks or systems not subject to the coordination procedure under Section II of Article **9** or subject to this Section under No.  **9.21** but only with respect to either terrestrial services or to a number of predetermined administrations not including the affected one/administration may send its comments to the requesting administration. A copy of these comments may also be sent to the Bureau. Such comments shall however not by themselves constitute a disagreement under No. **9.52**. Thereafter, both administrations shall endeavour to cooperate in joint efforts to resolve any difficulties, with the assistance of the Bureau, if so requested by either of the parties, and shall exchange any additional relevant information that may be available.     (WRC‑23)

CAN/86A25A2/9

With regard to section 3.1.3.3, Canada understands that the objective of RR No. **5.264B** was to carve out an exception for a number of non-GSO systems in the Earth exploration-satellite service including the meteorological-satellite services including METEOR-3M satellite system. In this context, Canada supports the approach suggested by the BR to clearly reflect that the exception covers only systems for which the notification information have been received not later than 28 April 2007.

Canada proposes the following modifications to RR No. **5.264B** to remove any ambiguity on whether the exception covers non-GSO systems for which the notification information has been received on 28 April 2007 as follows.

ARTICLE 5

Frequency allocations

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

**MOD**

5.264B Non-geostationary-satellite systems in the meteorological-satellite service and the Earth exploration-satellite service for which complete notification information has been received by the Radiocommunication Bureau no later than 28 April 2007 are exempt from provisions of No. **5.264A** and may continue to operate in the frequency band 401.898-402.522 MHz on a primary basis without exceeding a maximum e.i.r.p. level of 12 dBW.     (WRC‑23)

CAN/86A25A2/10

With regard to the part of section 3.1.4 dealing with “*splitting of non-geostationary satellite system into several filed systems*”, Canada agrees with the Bureau on the need to revisit the conclusions drawn by WRC-03 regarding the splitting of non-geostationary satellite systems into multiple filings sometimes submitted by multiple administrations as they may create some challenges in implementing provisions of the RR in particular but not limited to compliance with aggregate limits as those specified in RR Article **22**. Canada is of the view that matter could be identified as a topic under WRC-27 agenda item 7, as appropriate[[3]](#footnote-3).

CAN/86A25A2/11

With regard to the part of section 3.1.4 dealing with “*modifications of coordination requests of non-geostationary satellite systems while retaining the initial date of protection*”, Canada notes the challenge associated with keeping for a long period of time the parameters of the initial coordination request for a non-geostationary satellite network or system resulting from the obligation, as per the RR, for a notifying administration to demonstrate that any modifications to the coordination request submitted do not lead to a requirement for more protection compare to the initial coordination request. Canada agrees with the Bureau that maintaining a separate reference database is probably the most practical option. However, before making any decision to instruct the Director of the Radiocommunication to proceed with the development of such reference database WRC-23 may want to consider the cost associated with such decision and options to finance it.

CAN/86A25A2/12

With regard to the part of section 3.1.4 dealing with “*Validation of data items of notices*”, Canada agrees with the suggestion of the Bureau and proposes that WRC-23 notes that the processing and examination of these complex non-geostationary satellite systems has a financial impact on the work of the Union.

CAN/86A25A2/13

With regard to the part of section 3.1.4 dealing with “*examination of limits contained in Article****21***”, Canada proposes that WRC-23 notes the improvement of the internal tools to automate the pfd examination process to cope with the growing number of non-GSO satellite filings and their associated complexity.

CAN/86A25A2/14

With regard to the part of section 3.1.4 dealing with “*examination of limits contained in Article* ***22***”, Canada proposes that WRC-23 notes the tasks associated with the overall process of examining compliance with the RR Article **22** epfd limits and the solution implemented to address the issue of a very long calculation time to identify and or review (in the context of Resolution **85 (WRC-03)**) coordination requirements under RR No. **9.7B** through the implementation of the static calculation methodology provided in Recommendation ITU-R S.1714.

CAN/86A25A2/15

With regard to the part of section 3.1.4 dealing with “*submission of multiple masks in the same frequency band*”, the Bureau states that it has found cases where multiple masks are submitted in the same frequency band for examination under RR Nos. **22.5C**, **22.5D**, and **22.5F**. The Bureau further states that such cases were only accepted if these multiple masks apply to different orbital configurations or different satellite orbits and satellites. The Bureau then provides notes in the context of administrations requiring “flexibility at the stage of coordination without deciding which particular link type or earth station type should be in operation in each frequency band”, and invites the Conference to endorse the current practice.

Canada would like to highlight that there are non-GSO systems which will use a set of multiple pfd masks in the same frequency band in sequence over time. In such cases, multiple masks are submitted in the same frequency band for the purpose of providing a correct depiction of the non-GSO system for which the filing is submitted, rather than for flexibility purposes. This is an important distinction as it relates to some of the proposed courses of action by the Bureau.

Canada agrees that compliance with the provisions contained in RR Nos. **22.5C**, **22.5D**, and **22.5F** shall be determined based on the emissions from all earth/space stations. Therefore, it is important that, in cases where multiple masks are submitted in the same frequency band, administrations specify which mask(s) would be used by all space stations at any given time in a given frequency band. For instance, if an administrations submits two mask sets (mask set A and mask set B) in the frequency band 17.8-18.6 GHz, the administration may indicate that all space stations will use the masks from set A at some time instances and that all space stations will use the masks from set B at other time instances.

Canada also agrees that, in a single simulation, “the methodology of Recommendations ITU-R S.1503-2 and ITU-R S.1503-3 does not allow combining in epfd calculation multiple masks in the same frequency band”. However, if all satellites operate in accordance with the masks from a single mask set at any given time, then compliance with the provisions contained in RR Nos. **22.5C**, **22.5D**, and **22.5F** can be determined based on a simulation of each individual mask set using the existing epfd validation software available to the Bureau.

Lastly, Canada agrees that “multiple examinations for each frequency band would require the Bureau to process, examine and publish different sets of unique epfd data and may increase the publication time”. However, submitting this data in a manner similar to submitting multiple mutually exclusive configurations, as suggested by the Bureau, may not be a suitable solution in all cases. Such a submission would imply that eventually one of the mutually exclusive configurations will be chosen, and hence that only one mask will be used during operation. As stated above, there are non-GSO systems which will use a set of multiple pfd masks in the same frequency band in sequence over time, and which, therefore, cannot submit such masks as multiple mutually exclusive configurations.

Proposal

Canada notes that the examination of filings containing multiple masks in the same frequency band has been and continues to be studied by the ITU‑R in the context of the work on revisions to Recommendation ITU-R S.1503. However, the examination of such filings may not require changes to Recommendation ITU-R S.1503 and may instead require a separate methodology which uses the version of the epfd validation software available to the Bureau. In this context Canada proposes for WRC-23 to invite the ITU-R to develop a methodology for the examination of filings containing multiple masks in the same frequency band associated with a space station, whether it be within Recommendation ITU-R S.1503 or not. Furthermore, Canada proposes for WRC-23 to make the necessary changes to the Radio Regulations to ensure that filings containing multiple masks in the same frequency band are receivable by the Bureau. As such, Canada proposed to modify Table A of Annex 2 to RR Appendix **4** as follows.

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 stations[[4]](#footnote-4)2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

**MOD**

**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** | **ORBITAL INFORMATION** |  | | | | | | | | | **A.4** |  |
| **A.14** | **FOR STATIONS OPERATING IN A FREQUENCY BAND SUBJECT TO Nos. 22.5C, 22.5D, 22.5F OR 22.5L: SPECTRUM MASKS** |  | | | | | | | | | **A.14** |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |
| A.14.c | **For each pfd mask used by the non-geostationary space station:**  *Note* – The space station pfd mask is defined by the maximum power flux-density generated by the space station in the interfering non-geostationary-satellite system as seen from a point on the surface of the Earth at a given moment in time. One or more pfd masks may be associated with the non-geostationary space station in a given frequency band |  |  |  |  |  |  |  |  |  | A.14.c |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |

**Reasons:** Canada’s proposal consists of clarifying that a non-GSO filing may contain multiple pfd masks in the same frequency band

CAN/86A25A2/16

With regard to section 3.1.4.1, Canada proposes that WRC-23 notes the conclusion of the Bureau regarding the implementation of RR No. **9.1** as modified by WRC-19.

CAN/86A25A2/17

With regard to section 3.1.4.2, Canada proposes that WRC-23 notes the conclusion of the Bureau regarding the implementation of RR No. **9.2B** as modified by WRC-19 as well as the difficulty to comply the prescribed treatment period of 2 months in cases where the notifying administration has been given 30 days to clarify aspect of its initial submission.

CAN/86A25A2/18

With regard to section 3.1.4.3, Canada is of the view that the frequency band 2 025-2 100 MHz (Earth-to-space) and 2 200-2 290 MHz (space-to-Earth) are quite congested with the increasing numbers of satellite networks or systems operating in these bands. Since the development of smaller non-GSO satellites and the improvement of launching capabilities, Canada has seen more interest in these frequency bands. Understanding that submitting an Advanced Publication Information (API) to the Bureau with generic parameters over the entire frequency bands provides flexibility for coordination and design of new satellite networks or systems, however, this approach causes difficulties for others to select specific frequency range in these frequency bands, coordinate with incumbents to ensure the protection of their systems.

Technical and operational guidance on the use of these bands were developed during the 2019-2023 study cycle and are now provided in:

• Recommendation ITU-R [SA.2155](https://www.itu.int/rec/R-REC-SA/recommendation.asp?lang=en&parent=R-REC-SA.2155) “Guidelines on the use of the frequency band 2 200-2 290 MHz by Earth exploration-satellite service/space research service/space operation service satellite networks or systems that are not using spread-spectrum modulation”; and

• Recommendation ITU-R [SA.2156](https://www.itu.int/rec/R-REC-SA/recommendation.asp?lang=en&parent=R-REC-SA.2156) “Guidelines on the use of the frequency band 2 025-2 110 MHz by Earth exploration-satellite service/space research service/space operation service satellite networks or systems that are not using spread-spectrum modulation”.

Therefore, Canada proposes thatWRC-23 encourages administrations:

• to avoid submitting global service area with typical earth stations, but identify associated specific TT&C earth stations, such that the API could be as precise as possible and accurately represent the satellite project; and

• to avoid filing for the entire frequency bands and implement Recommendations ITU-R SA.2155 and ITU-R SA.2156 in the API submissions.

CAN/86A25A2/19

With regard to section 3.1.4.4 of Addendum 2 to Document 4, Canada agrees with the Bureau assessment of the usefulness of publishing advance publication information for satellite networks subject to coordination under section II of RR Article 9. Considering that all coordination requests are available “as-received” very quickly after the notice has been received by the Bureau, the frequency bands can be consulted easily from the [“as-received” webpage](https://www.itu.int/ITU-R/space/asreceived/Publication/AsReceived), and that the Bureau clearly publishes the expiry date for bringing into use of all frequency assignment groups in the CR/C special section for a coordination request, publishing the advance publication information separately may not be useful any longer.

As a result, Canada proposes the following modifications to the RR to implement the removal of advance publication information for satellite networks subject to coordination under section II of RR Article 9 as follows.

ARTICLE 9

Procedure for effecting coordination with or obtaining agreement of other administrations1, 2, 3, 4, 5, 6, 7, 8    (WRC‑19)

Section I − Advance publication of information on satellite  
networks or satellite systems

General

**SUP**

9.1A Upon receipt of the complete information sent under No. **9.30**, the Bureau shall make available, using the basic characteristics of the coordination request, a general description of the network or system for advance publication in a Special Section. The characteristics to be made available for this purpose are listed in Appendix **4**.     (WRC‑19)

**SUP**

9.2C Modifications to coordination information that include the use of an additional frequency band or modification of the orbital location for a space station using the geostationary-satellite orbit will require application of the procedure in No. **9.1A**.     (WRC‑15)

Section II − Procedure for effecting coordination13, 14

Sub-Section IIA − Requirement and request for coordination

**MOD**

9.30 Requests for coordination made under Nos. 9.7 to 9.14 and 9.21 shall be sent by the requesting administration to the Bureau, together with the appropriate information listed in Appendix 4 to these Regulations. Any additional frequency bands subsequently added to the request for coordination or a modification to the request for coordination involving a change of the orbital location for a space station using the geostationary-satellite orbit will be given a new date of receipt with respect to the application of Nos. **11.44**, **11.44.1** and **11.48**.     (WRC-23)

ARTICLE 11

Notification and recording of frequency   
assignments1, 2, 3, 4, 5, 6, 7    (WRC‑19)

Section II − Examination of notices and recording of frequency assignments   
in the Master Register

**MOD**

11.44 The notified dateMOD 23, 24, 25of bringing into use of any frequency assignment to a space station of a satellite network or system shall be not later than seven years following the date of receipt by the Bureau of the relevant complete information under No. **9.1** or 9.2 in the case of satellite networks or systems not subject to Section II of Article **9** or under No. **9.30** in the case of satellite networks or systems subject to Section II of Article **9**. Any frequency assignment not brought into use within the required period shall be cancelled by the Bureau after having informed the administration at least three months before the expiry of this period.     (WRC‑23)

**MOD**

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

23 11.44.1In the case of space station frequency assignments that are brought into use prior to the completion of the coordination process, and for which the Resolution **49 (Rev.WRC‑23)** orResolution **552 (Rev.WRC‑23)** data, as appropriate, have been submitted to the Bureau, the assignment shall continue to be taken into consideration for a maximum period of seven years from the date of receipt of the relevant information under No. **9.30**. If the first notice for recording of the assignments in question under No. **11.15** related to No. **9.1** or No. **9.30** has not been received by the Bureau by the end of this seven-year period, the assignments shall be cancelled by the Bureau after having informed the notifying administration of its pending actions six months in advance.     (WRC‑23)

[Editor’s note: Some of the modifications reflected under this proposal are consequential to changes proposed to Resolution **49**, **552** or **553**, as appropriate.]

**MOD**

11.44A A notice not conforming to No. 11.44 shall be returned to the notifying administration with a recommendation to restart the advance publication procedure under No. **9.1** orthe coordination procedure under No. **9.30**.     (WRC-23)

**MOD**

11.48 If, after the expiry of the period of seven years from the date of receipt of the relevant complete information referred to in No. **9.1** or **9.2** in the case of satellite networks or systems not subject to Section II of Article **9** or in No. **9.30**in the case of satellite networks or systems subject to Section II of Article **9**, the administration responsible for the satellite network has not brought the frequency assignments to stations of the network into use, or has not submitted the first notice for recording of the frequency assignments under No. **11.15**, or, where required, has not provided the due diligence information pursuant to Resolution **49 (Rev.WRC‑19)**, as appropriate, the corresponding information published under Nos. **9.2B** and **9.38**, as appropriate, shall be cancelled, but only after the administration concerned has been informed at least six months before the expiry date referred to in Nos. **11.44** and **11.44.1** and, where required, § 10 of Annex 1 of Resolution **49** **(Rev.WRC‑23)** MOD  31.     (WRC‑23)

[Editor’s note: Some of the modifications reflected under this proposal are consequential to changes proposed to Resolution **49**, **552** or **553**, as appropriate.]

**MOD**

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

31 11.48.1 If the information pursuant to Resolution **552 (Rev.WRC‑23)** has not been provided, the corresponding information published under No. **9.38** shall be cancelled 30 days after the end of the seven-year period following the date of receipt by the Bureau of the relevant complete information under No. **9.30**.      (WRC‑23)

[Editor’s note: Some of the modifications reflected under this proposal are consequential to changes proposed to Resolution **49**, **552** or **553**, as appropriate.]

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 stations[[5]](#footnote-5)2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

**MOD**

**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 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.13** | **REFERENCES TO THE PUBLISHED SPECIAL SECTIONS OF THE BUREAU'S INTERNATIONAL FREQUENCY INFORMATION CIRCULAR (see the Preface)** |  | | | | | | | | | **A.13** |  |
| A.13.a | the reference and number of the advance publication information in accordance with No. 9.**1** |  |  |  | **X** | **X** |  |  |  |  | A.13.a |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |

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**

1 For the purpose of effecting coordination under Article **9**, except in the case under No. **9.21**, and for identifying the administrations with which coordination is to be effected, the frequency assignments to be taken into account are those in the same frequency band as the planned assignment, pertaining to the same service or to another service to which the frequency band is allocated with equal rights or a higher category[[6]](#footnote-6)1 of allocation, which might affect or be affected, as appropriate, and which are:      (WRC‑15)

*a)* in conformity with No. **11.31**[[7]](#footnote-7)2; and

*b)* either recorded in the Master International Frequency Register (Master Register) with a favourable finding with respect to No. **11.32**; or

*c)* recorded in the Master Register with an unfavourable finding with respect to No. **11.32** and a favourable finding with respect to No. **11.32A** or No. **11.33**, as appropriate; or

*cbis)*recorded in the Master Register under No. **11.41**; or     (WRC‑03)

*d)* coordinated under the provisions of Article **9**; or

*e)* included in the coordination procedure with effect from the date of receipt by the Radiocommunication Bureau, in accordance with No. **9.34**, of those characteristics specified in Appendix **4** as mandatory or required, or from the date of dispatch, in accordance with No. **9.29**, of the appropriate information listed in Appendix **4**; or      (WRC‑23)

*f)* where appropriate, in conformity with a world or regional allotment or assignment plan and the associated provisions;

*g)* for terrestrial radiocommunication stations or earth stations operating in the opposite direction of transmission[[8]](#footnote-9)4 and, in addition, operating in accordance with these Regulations, or to be so operated prior to the date of bringing the earth station assignment into service, or within the next three years from the date of dispatch of coordination data under No. **9.29**, whichever is the longer, or from the date of the publication referred to in No. **9.38**, as appropriate.     (WRC‑2000)

**MOD**

RESOLUTION 49[[9]](#footnote-10)1 (Rev.WRC‑23)

Administrative due diligence applicable to some   
satellite radiocommunication services

The World Radiocommunication Conference (Dubai, 2023),

...

resolves

that the administrative due diligence procedure contained in Annex 1 to this Resolution shall be applied for a satellite network or satellite system of the fixed-satellite service, mobile-satellite service or broadcasting-satellite service for which request for coordination under No. **9.30**, or for which the request for modifications of the Region 2 Plan under Article 4, § 4.2.1 *b)* of Appendices **30** and **30A** that involve the addition of new frequencies or orbit positions, or for which the request for modifications of the Region 2 Plan under Article 4, § 4.2.1 *a)* of Appendices **30** and **30A** that extend the service area to another country or countries in addition to the existing service area, or for which the request for additional uses in Regions 1 and 3 under § 4.1 of Article 4 of Appendices **30** and **30A**, or for which the submission under Appendix **30B** is received, with the exception of submissions of new Member States seeking the acquisition of their respective national allotments[[10]](#footnote-11)2 for inclusion in the Appendix **30B** Plan,

...

ANNEX 1 TO RESOLUTION 49 (Rev.WRC‑23)

...

ANNEX 2 TO RESOLUTION 49 (Rev.WRC‑19)

**A Identity of the satellite network**

*a)* Identity of the satellite network

*b)* Name of the administration

*c)* Country symbol

*d)* Reference to the request for modification of the Region 2 Plan or for additional uses in Regions 1 and 3 under Appendices **30** and **30A**; or reference to the information processed under Article 6 of Appendix **30B (Rev.WRC‑19)**

*e)* Reference to the request for coordination (not applicable for Appendices **30**, **30A** and **30B**)

*f)* Frequency band(s)

*g)* Name of the operator

*h)* Name of the satellite

*i)* Orbital characteristics.

**B Spacecraft manufacturer[[11]](#footnote-12)\***

*a)* Name of the spacecraft manufacturer

*b)* Date of execution of the contract

*c)* Contractual “delivery window”

*d)* Number of satellites procured.

**C Launch services provider**

*a)* Name of the launch vehicle provider

*b)* Date of execution of the contract

*c)* Launch or in-orbit delivery window

*d)* Name of the launch vehicle

*e)* Name and location of the launch facility.

**MOD**

RESOLUTION 552 (REV.WRC‑23)

Long-term access to and development in the frequency band   
21.4-22 GHz in Regions 1 and 3

The World Radiocommunication Conference (Dubai, 2023),

considering

*...*

Annex 1 to Resolution 552 (rev.WRC‑23)

...

8 Within 30 days after the end of the seven-year period following the date of receipt by BR of the relevant complete information under No. **9.30**, and after the end of the three-year period following the date of suspension under No. **11.49**, if the complete information under this Resolution is not yet received by BR, the corresponding frequency assignments shall be cancelled by BR, which subsequently informs the administration accordingly.

Annex 2 to Resolution 552 (rev.WRC‑23)

Information to be submitted

1 Identity of the satellite network

*a)* Identity of the satellite network

*b)* Name of the notifying administration

*c)* Orbital characteristics

*d)* Reference to the request for coordination

*e)* Reference to the notification, when available

*f)* Frequency band(s) included in the relevant special sections of the satellite network

*g)* First date of bringing into use[[12]](#footnote-13)1

*h)* Regulatory status

– Satellite network under operation (only data listed in § 2 shall be provided), or

– Satellite network suspended (only data listed in § 3 shall be provided)

...

**MOD**

RESOLUTION 553 (rev.WRC‑23)

Additional regulatory measures for broadcasting-satellite networks   
in the frequency band and 21.4-22 GHz in Regions 1 and 3 for the   
enhancement of equitable access to this frequency band

The World Radiocommunication Conference (Dubai, 2023),

considering

...

ATTACHMENT TO RESOLUTION 553 (REV.WRC‑23)

Special procedure to be applied for an assignment for a BSS system   
in the frequency band 21.4-22 GHz in Regions 1 and 3

...

8 Upon receipt of the information under § 6 above, administrations seeking assistance in applying this special procedure shall submit a request for coordination together with the appropriate information listed in Appendix **4** to these Regulations[[13]](#footnote-14)5.

9 Administrations not seeking the assistance of the Bureau may submit a request for coordination together with the appropriate information listed in Appendix **4** to these Regulations5 at the same time as submitting the information under § 4.

...

ANNEX 1  
  
TO  
  
ATTACHMENT TO RESOLUTION 553 (REV.WRC‑23)

...

ANNEX 2  
  
TO  
  
ATTACHMENT TO RESOLUTION 553 (REV.WRC‑23)

Technical criteria to determine coordination requirements for submissions under the special procedure to be applied for an assignment for a   
broadcasting-satellite service system in the frequency band   
21.4-22 GHz in Regions 1 and 3

Coordination of assignments for a BSS space station with respect to other BSS networks is not required if the pfd produced under assumed free space propagation conditions does not exceed the threshold values shown below, anywhere within the service area of the potentially affected assignment:

*a)* this mask shall be applied for frequency assignments subject to this Resolution with regard to frequency assignments not subject to this Resolution for which:

*–* notification is not submitted under Article **11**; and

*–* complete information under Resolution **552 (Rev.WRC‑23)** is not received by the Bureau,

[Editor’s note: change above consequential to proposal # 12 above]

at the date of receipt of complete information under § 8 and 9 of the Attachment to this Resolution,

−146.88    dB(W/(m2 ⋅ MHz)) for 0° ≤ θ < 0.6°

−150.2 + 9.3 θ2 dB(W/(m2 ⋅ MHz)) for 0.6° ≤ θ < 1.05°

−140.5 + 27.2 log θ dB(W/(m2 ⋅ MHz)) for 1.05° ≤ θ < 2.65°

−138.1 + 1.3 θ2 dB(W/(m2 ⋅ MHz)) for 2.65° ≤ θ < 4.35°

−130.2 + 26.1 log θ dB(W/(m2 ⋅ MHz)) for 4.35° ≤ θ < 9.1°

−105 dB(W/(m2 · MHz)) for 9.1° ≤ θ

where θ is the minimum nominal geocentric orbital separation, in degrees, between the wanted and interfering space stations, taking into account the respective East-West station-keeping accuracies;

*b)* this mask shall be applied for frequency assignment subject to this Resolution with regard to:

– frequency assignments subject to this Resolution; or

– frequency assignments not subject to this Resolution for which:

– notification is submitted under Article **11**; or

– complete information under Resolution **552 (Rev.WRC‑23)** is received by the Bureau,

[Editor’s note: change above consequential to proposal # 12 above]

at the date of receipt of complete information under § 8 and 9 of the Attachment to this Resolution,

−149.88    dB(W/(m2 ⋅ MHz)) for 0° ≤ θ < 0.6°

−153.2 + 9.3 θ2 dB(W/(m2 ⋅ MHz)) for 0.6° ≤ θ < 1.05°

−143.5 + 27.2 log θ dB(W/(m2 ⋅ MHz)) for 1.05° ≤ θ < 2.65°

−141.1 + 1.3 θ2 dB(W/(m2 ⋅ MHz)) for 2.65° ≤ θ < 4.35°

−133.2 + 26.1 log θ dB(W/(m2 ⋅ MHz)) for 4.35° ≤ θ < 12°

−105 dB(W/(m2 · MHz)) for 12° ≤ θ

where θ is the minimum nominal geocentric orbital separation, in degrees, between the wanted and interfering space stations, taking into account the respective East-West station-keeping accuracies.

...

Canada also identifies a list of other provisions for which consequential changes consisting in adjusting references will be required as a result of modifications to Resolutions 49 (Rev. WRC-19), 552 (Rev. WRC-19) and 553 (Rev. WRC-15).

Table 4

List of other provisions that may require modifications to adjust the reference   
to Resolution 49, 552 and 553 as appropriate

| Volume I of the RR | |
| --- | --- |
| **Provisions/Resolutions** | **Potentially affected references** |
| **A.9.4** | Resolutions **49 (Rev.WRC-19)** and **552 (Rev.WRC-19)** |
| **A.9.8** | Resolution **553 (WRC-12)** |
| **A.11.2** | Resolutions **49 (Rev.WRC-19)** and **552 (Rev.WRC-19)** |
| **Volume II of the RR** | |
| **Appendix 30** | |
| Article 2A | Resolution **49 (Rev.WRC-19)** |
| Article 4:  Footnote to title of Article 4  4.1.3*bis*  4.1.25  4.2.6*bis* |  |
| Resolution **49 (Rev.WRC-15)** |
| Article 11:  11.2 Text for notes in the remarks column of the Plan - 7b | Resolution **49 (Rev.WRC-15)** |
| Annex 1 – Section 6 | Resolution **49 (Rev.WRC-19)** |
| **Appendix 30A** | |
| Article 2A | Resolution **49 (Rev.WRC-19)** |
| 4.1.3*bis* | Resolution **49 (Rev.WRC-15)** |
| 4.1.25 | Resolution **49 (Rev.WRC-15)** |
| 4.2.6*bis* | Resolution **49 (Rev.WRC-15)** |
| **Appendix 30B** | |
| Article 6– footnote to the title | Resolution **49 (Rev.WRC-15)** |
| 6.31*bis* | Resolution **49 (Rev.WRC-15)** |
| Article 8 - footnote to the title | Resolution **49 (Rev.WRC-15)** |
| **Volume III** | |
| Resolution **55 (Rev.WRC-19)** | Resolution **49 (Rev.WRC-19)** |
| Resolution **81 (Rev.WRC-15)** | Resolution **49 (WRC-97)** |
| Resolution **558 (WRC-19)** | Resolution **49 (Rev.WRC-15)** |

CAN/86A25A2/20

With regard to section 3.1.4.5, Canada notes that RR No. **9.7** does not exempt coordination of frequency assignment to a GSO space station used for inter-satellite links with a non-GSO space station not subject to coordination under section II of RR Article **9** whereas RR No. **9.2** does exempt them, leading towards a potential inconsistency in the RR. In this context, Canada supports the conclusion of the Bureau on the need to reflect this specific exception in the relevant part of the RR.

As a result, Canada is proposing the following modifications to the RR to ensure the alignment between RR Nos. 9.7 and 9.2 and reflecting also element of section 6 of the RoP concerning RR No. 11.32 (examination of frequency assignments to an inter-satellite link of a geostationary space station communicating with a non-geostationary space station)

ARTICLE 9

Procedure for effecting coordination with or obtaining agreement of other administrations1, 2, 3, 4, 5, 6, 7, 8    (WRC‑19)

Section II − Procedure for effecting coordination13, 14

Sub-Section IIA − Requirement and request for coordination

**MOD**

9.7 *a)* for a station in a satellite network using the geostationary-satellite orbit, in any space radiocommunication service, in a frequency band and in a Region where this service is not subject to a plan, in respect of any other satellite network using that orbit, in any space radiocommunication service in a frequency band and in a Region where this service is not subject to a plan, with the exception of the use of inter-satellite links of a geostationary space station communicating with a non-geostationary space station which are not subject to the coordination procedure under Section II of Article **9** and coordination between earth stations operating in the opposite direction of transmission.

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**

TABLE 5-1     (Rev.WRC‑23)

Technical conditions for coordination

(see Article 9)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Reference of Article 9 | Case | Frequency bands (and Region) of the service for which coordination is sought | Threshold/condition | Calculation  method | Remarks |
| No. **9.7** GSO/GSO | A station in a satellite network using the geostationary-satellite orbit (GSO), in any space radiocommunication service, in a frequency band and in a Region where this service is not subject to a Plan, in respect of any other satellite network using that orbit, in any space radiocommunication service in a frequency band and in a Region where this service is not subject to a Plan, with the exception of the use of inter-satellite links of a geostationary space station communicating with a non-geostationary space station which are not subject to the coordination procedure under Section II of Article **9** and the coordination between earth stations operating in the opposite direction of transmission | 1) 3 400-4 200 MHz 5 725-5 850 MHz (Region 1) and 5 850-6 725 MHz 7 025-7 075 MHz | i) Bandwidth overlap, and  ii) any network in the fixed-satellite service (FSS) and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±7° of the nominal orbital position of a proposed network in the FSS |  | With respect to the space services listed in the threshold/condition column in the frequency bands in 1), 2), 2*bis*), 3), 3*bis*), 4), 5), 6), 7) and 8), an administration may request, pursuant to No. **9.41**, to be included in requests for coordination, indicating the networks for which the value of Δ*T*/*T* calculated by the method in § 2.2.1.2 and 3.2 of Appendix **8** exceeds 6%. When the Bureau, on request by an affected administration, studies this information pursuant to No. **9.42**, the calculation method given in § 2.2.1.2 and 3.2 of Appendix **8** shall be used |
| 2) 10.95-11.2 GHz 11.45‑11.7 GHz  11.7-12.2 GHz  (Region 2) 12.2-12.5 GHz  (Region 3) 12.5‑12.75 GHz (Regions 1 and 3) 12.7‑12.75 GHz (Region 2) and  13.75‑14.8 GHz | i) Bandwidth overlap, and  ii) any network in the FSS or broadcasting-satellite service (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 ±6° of the nominal orbital position of a proposed network in the FSS or BSS, not subject to a Plan  iii) in the frequency band 14.5-14.8 GHz any network in the space research service (SRS) or FSS not subject to a Plan and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±6° of the nominal orbital position of a proposed network in the SRS or FSS not subject to a Plan |

...

CAN/86A25A2/21

With regard to section 3.1.4.6, Canada supports the above practice of the Bureau relating to the processing of coordination request with a bandwidth overlapping frequency assignments with two different regulatory regimes (i.e. subject to coordination under Section II of RR Article **9** and not subject to coordination under Section II of RR Article **9**).

As a result, Canada proposes that WRC-23 instructs the RRB to develop an RoP to reflect the above practice of the Bureau.

CAN/86A25A2/22

In section 3.1.4.7, the Bureau raises the issue of modifications to existing coordination requests of non-GSO satellite networks, which includes a new orbital plane with a new satellite with characteristics that differ significantly from the rest of the non-GSO system.

Canada notes that as per RR No. **11.44C** a single space station on one of the notified orbital planes is sufficient to bring into use a frequency assignment irrespective of the number of different notified orbital planes. Canada believes that the issue raised by the Bureau consists in clarifying how different these other orbital planes could be from the one where the space station used to confirm the bringing into use of any frequency assignment to space stations of a non-GSO systems. Canada is of the view that this issue leads to a more fundamental question which what constitute a frequency assignment in the context of non‑GSO systems.

To illustrate, let’s assume the case 3 as provided in section 3.1.4.7:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 3 | 48435/23137/90,  1248/1248/37.4\* | 1003.8/996.4/99.5 | Yes | Yes |

Let’s also assume that the same radio channel (same carrier frequency and same bandwidth, same power/eirp levels) are operated on both satellites of the HEO and the LEO portions of the non-GSO systems, can we conclude that this radio channel represent a unique frequency assignment for the entire non-GSO systems? Is there any other characteristics that needs to be taken into consideration to define a frequency assignments (e.g. the altitudes and or inclination)? By launching a satellite on a LEO orbital plane to bring into use or bring back into use a frequency assignment , could it be considered that the equivalent frequency assignment on the HEO orbital planes has also been brought or brought back into use?

In view of the above, Canada proposes that the Conference instruct ITU‑R to clarify, as necessary, what characterize a frequency assignment in the context of space stations in non‑GSO satellite systems, and to study possible measures to limit the practice of introducing a different orbital plane for the purpose of bringing or bringing back into use a frequency assignment to a non-GSO satellite systems.

CAN/86A25A2/23

With regard to section 3.1.4.8 of Addendum 2 to Document 4, Canada proposes that WRC-23 invites the relevant ITU-R Study Groups to develop more specific criteria for establishing coordination requirements under RR No. **9.19** in the following bands: 1 452-1 492 MHz, 2 310-2 360 MHz, 2 520-2 670 MHz, 11.7-12.75 GHz, 17.7-17.8 GHz, 40.5-42.5 GHz and 74-76 GHz.

CAN/86A25A2/24

With regard to section 3.1.4.9, Canada notes the information provided by the Bureau regarding the focus of requests for application of the procedure under RR No. **9.21** in relation to only four (RR Nos. **5.177**, **5.316B**, **5.430A**, and **5.441B**) of the 44 footnotes referring to RR No. **9.21** during the 2019-2023 study cycle. Canada also notes the challenges associated with the application of the RR No. **9.21** procedures in absence of any methodology or criteria for identification of affected administrations.

To remedy the situation, Canada proposes the following course of actions by WRC-23:

With respect to those seven footnotes (RR Nos. **5.181**, **5.190**, **5.197**, **5.251**, **5.259**, **5.279** and **5.484**) and any new footnotes adopted by WRC-23 referring to the RR No. **9.21** procedure and for which there is no methodology and criteria for the identification of affected administrations available, Canada proposes that WRC-23 invites the relevant study groups to include in their work program for the next study cycle, the need to develop the methodology and associated criteria to enable the Bureau to properly apply the RR No. **9.21** procedure.

CAN/86A25A2/25

With regard to section 3.1.4.9.1, Canada notes the information provided by the Bureau regarding the comparison between the results of the use of digital elevation models versus those of the use of the smooth Earth for the identification of potentially affected administrations in application of RR No. **9.21** in the 3 400-3 600 MHz frequency band. Canada proposes that WRC-23 instructs the Bureau to continue the simulation using both SE and DEM terrain data with the goal to determine the most suitable implementation for the BR examination software and to report the results to the RRB for a possible inclusion of DEM in this software through a rule of Procedure.

CAN/86A25A2/26

With regard to section 3.1.4.11, Canada proposes that WRC-23 notes the course of actions implemented by the Bureau with respect to the treatment of modifications to coordination requests for non-geostationary satellite systems submitted under the RoP on RR No. **9.27**.

CAN/86A25A2/27

With regard to section 3.1.4.11.1, Canada proposes that WRC-23 notes the information provided by the Bureau in relation with the statistics including the overall processing time for submissions under the RoP on No. **9.27**.

CAN/86A25A2/28

With regard to section 3.1.4.11.2, Canada proposes that WRC-23 notes the information provided by the Bureau in relation with its experience in processing submissions under RoP No. **9.27**.

CAN/86A25A2/29

With regard to section 3.1.4.11.3, Canada proposes that WRC-23 invites administrations as part of their on-going activities within WP 4A on the review of Recommendation ITU-R S.1526-1 to take into considerations elements contained in this section of the Director’s Report.

CAN/86A25A2/30

With regard to section 3.1.5.1, Canada proposes that the practice of the Bureau with respect to the notification of stations associated with terrestrial and space services as presented in the Director’s Report be reflected in the RoP by amending the existing RoP on Resolution **1 (Rev.WRC-97)** accordingly.

CAN/86A25A2/31

With regard to section 3.1.5.2, Canada notes the explanation provided by the Bureau and in particular the need to ensure a full consistency between RR Nos. **8.1** and **11.14** especially for frequency assignments for aircraft and ship stations involved in standalone aircraft or ship application (e.g. radio altimeters), or in aircraft-to-aircraft, aircraft to ship radiocommunication links. As a result, Canada proposes the following amendments to RR No. **11.14**.

ARTICLE 11

Notification and recording of frequency   
assignments1, 2, 3, 4, 5, 6, 7    (WRC‑19)

Section I − Notification

**MOD**

11.14 Frequency assignments to mobile stations of other services except ship, aircraft, radiolocation and radionavigation mobile stations, to stations in the amateur service, to earth stations in the amateur-satellite service, and those to broadcasting stations in the high-frequency bands allocated to the broadcasting service between 5 900 kHz and 26 100 kHz which are subject to Article 12 shall not be notified under this Article.

Section II − Examination of notices and recording of frequency assignments   
in the Master Register

CAN/86A25A2/32

With regard to section 3.1.5.3, Canada agrees that comments provided under RR No. **11.28.1** should be copied to the Bureau and published. As a result Canada proposes the following amendments to RR No. **11.28.1** as follows

**MOD**

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

11 11.28.1 In case of satellite networks or systems not subject to the coordination procedure under Section II of Article **9**, modifications to the characteristics initially published under No. **9.2B**  are also subject to the course of actions prescribed under Nos. **9.3** to **9.5**.    (WRC‑23)

CAN/86A25A2/33

With regard to section 3.1.5.4, Canada has no objection to the proposed change of the time allowed to bring into use a frequency assignment resulting from the modification of a recorded and brought into use assignment from 5 to 7 years.

CAN/86A25A2/34

With regard to section 3.1.5.5, Canada agrees with the approach suggested by the Bureau concerning the reminders under RR Nos. **11.44B**, **11.44C**, **11.44D** and **11.44E** and proposes that WRC-23 just note the course of action by the Bureau.

Regarding RR Nos. **11.44B** and **11.44C** and the reminder to notifying administration to confirm the completion of the BIU period as prescribed in the relevant provisions, Canada notes that Topic D3 under WRC-23 agenda item 7 is also addressing this issue and suggests that no action by WRC-23 beyond noting the practice of the Bureau be considered under WRC-23 agenda item 9.2 to avoid duplication of efforts.

CAN/86A25A2/35

With regard to section 3.1.5.6, Canada agrees with the Bureau on the need to align RR No. **11.48** with § 4 of Annex 1 to Resolution **49 (Rev.WRC-19)** and to reflect its action of sending reminders before the expiry of the regulatory period for both Resolution **552 (Rev.WRC-19)** and Resolution **49 (Rev.WRC-19)**.

As a result Canada proposes the following modification to RR No. **11.48**:

**MOD**

11.48 If, after the expiry of the period of seven years from the date of receipt of the relevant complete information referred to in No. **9.1** or **9.2** in the case of satellite networks or systems not subject to Section II of Article **9** or in No. **9.1A**in the case of satellite networks or systems subject to Section II of Article **9**, the administration responsible for the satellite network has not brought the frequency assignments to stations of the network into use, or has not submitted the first notice for recording of the frequency assignments under No. **11.15**, the corresponding information published under Nos. **9.1A**, **9.2B** and **9.38**, as appropriate, shall be cancelled, but only after the administration concerned has been informed at least six months before the expiry date referred to in Nos. **11.44** and **11.44.1**.

If, 30 days after the expiry of the period of seven years from the date of receipt of the relevant complete information referred to in No. **9.1A**, the administration responsible for the satellite network has not provided, where required, the due diligence information pursuant to Resolution **49 (Rev.WRC-19)** or Resolution **552 (Rev.WRC-19)**, as appropriate, the corresponding information published under Nos. **9.1A** and **9.38**, as appropriate, shall be cancelled, but only after the administration concerned has been informed at least six months before the expiry date referred to in Nos. **11.44** and **11.44.1**.     (WRC‑23)

**SUP**

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

31 11.48.1 If the information pursuant to Resolution **552 (Rev.WRC‑19)** has not been provided, the corresponding information published under No. **9.38** shall be cancelled 30 days after the end of the seven-year period following the date of receipt by the Bureau of the relevant complete information under No. **9.1A**.      (WRC‑19)

CAN/86A25A2/36

With regard to section 3.1.6.1, Canada proposes that WRC-23 notes the practice of the Bureau on the update of orbital parameters of frequency assignments to non-geostationary networks or systems not subject to Section II of RR Article **9** while noting that such practice may evolve in the future and that WRC-23 agenda item 7 deals with tolerances for certain orbital characteristics of non-GSO BSS, FSS and MSS systems for which frequency assignments while subject to Resolution **35 (WRC-19)** may not be subject to Section II of RR Article **9** (e.g.: frequency assignment to non-GSO FSS systems in 27-27.5 GHz). Furthermore, Canada is of the view that practices of the Bureau shall be reflected in appropriate section of the RoP.

CAN/86A25A2/37

With regard to section 3.1.7.1, Canada proposes that WRC-23 draws the attention of administrations on their respective obligations as per Nos. **15.1** and **15.22** of the Radio Regulations. Furthermore, Canada proposes that WRC-23 urges administrations:

• To implement the recommended maximum levels for unwanted emissions contained in Resolution **750 (Rev. WRC-19)**, and

• in addition to prohibiting their operations, to take appropriate measures to implement the prescription of RR No. **5.340** with respect to the 1 400-1 427 MHz frequency band and any other frequency bands covered in RR No. **5.340** including ensuring, to the extent practicable, that no commercial radio devices capable of operating in this frequency band are manufactured, sold exported, imported or marketed on their territory.

CAN/86A25A2/38

With regard to section 3.1.7.2, Canada supports the idea of having WRC-23 adopting a Resolution urging Member States to take actions to prevent and mitigate harmful interference affecting RNSS Receivers.

CAN/86A25A2/39

With regard to section 3.1.8, Canada proposes the modify RR No. **19.1.1** to reflect the progress made with respect of identification of signals as follows.

ARTICLE 19

Identification of stations

Section I − General provisions

**MOD**

1 19.1.1In the present state of the technique, it is recognized nevertheless that the transmission of identifying signals for certain radio systems (e.g. radiodetermination and radio relay systems) is not always possible.

CAN/86A25A2/40

With regard to section 3.1.9.2 and based on approach 1 described in Annex 21 to Document [4A/978](https://www.itu.int/dms_ties/itu-r/md/19/wp4a/c/R19-WP4A-C-0978!N21!MSW-E.docx) results of ITU-R studies, Canada proposes the following modifications to RR No. **21.16.6**.

ARTICLE 21

Terrestrial and space services sharing frequency bands above 1 GHz

Section V − Limits of power flux-density from space stations

**MOD**

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

13 21.16.6 The function *X* is defined as a function of N the total number of satellites in the non-geostationary satellite systems in the fixed-satellite service and Nv, the maximum number of satellites within visibility to any location at the surface of the Earth, as follows:

 dB for      *N*  ≤ 50

 dB for  50 < *N* ≤ 288

 dB for      288 < *N* ≤ 1 000

*X = MAX*[20.3, 10*log*10(*N*υ)] dB for 1 000 < *N*

In the band 18.8-19.3 GHz, these limits apply to emissions of any space station in a non-geostationary-satellite system in the fixed-satellite service for which complete coordination or notification information, as appropriate, has been received by the Radiocommunication Bureau after 17 November 1995, and which was not operational by that date.     (WRC‑23)

CAN/86A25A2/41

With regard to Section 3.1.9.3, Canada proposes that:

• WRC-23 notes the course of action implemented by the Bureau with respect to the compliance with the pfd limits in RR Table **21-4** under RR No. **11.31** for non-GSO system with more than 100 satellites; and

• WRC-23 instructs the Bureau to grant a qualified favourable finding under RR No. **11.31** with respect to the pfd limits in RR Table **21-4** for non-GSO satellite systems with 100 satellites or more for which complete notification information are received in between after the last day of the WRC-23 and the last day of WRC-27 under the condition that they do not exceed the pfd limits applicable to non-GSO system with less than 100 satellites as stipulated in RR Table **21-4**. The result of these studies and the qualified favourable finding can be reviewed by WRC-27 under proper arrangements to be decided by WRC-23.

CAN/86A25A2/42

With regard to Section 3.1.10.1, Canada notes the course of action implemented by the Bureau regarding RR Nos. **22.22** to **22.25** to ensure the protection of radio astronomy observations and other passive services users in the shielded zone of the Moon and supports the idea of reflecting this course of action in the RR. As a result, Canada proposes to modify Table A of RR Appendix **4** to add requirements for administrations filing satellite networks or system with a reference body of the Moon to provide with the notification information submitted in accordance with RR No. **11.2**:

• A commitment to comply with RR Nos. **22.22** to **22.25**; and

• A description of how the administration intends to meet these requirements.

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 stations[[14]](#footnote-16)2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

**MOD**

**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.24** | **COMPLIANCE WITH NOTIFICATION OF A NON-GSO SHORT DURATION MISSION** |  | | | | | | | | | **A.24** |  |
| A.24.a | a commitment by the administration that, in the case that unacceptable interference caused by a non-GSO satellite network or system identified as short-duration mission in accordance with Resolution **32 (WRC‑19)** is not resolved, the administration shall undertake steps to eliminate the interference or reduce it to an acceptable level  Required only for notification |  |  |  |  | **+** |  |  |  |  | A.24a |  |
| **A.25** | **COMPLIANCE WITH Nos. 22.22 to 22.25** |  |  |  |  |  |  |  |  |  | **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 notification of a satellite network or system with ‘Moon’ as the reference body |  |  |  |  | **+** |  |  |  |  | A.25.a |  |
| A.25.b | a Technical description on how the notifying administration intends to ensure compliance with the requirements stipulated in Nos. **22.22** to **22.25**.  Required only for notification of a satellite network or system with “Moon” as the reference body |  |  |  |  | **+** |  |  |  |  | A.25.b |  |

CAN/86A25A2/43

With regard to Section 3.1.10.2, Canada agrees with the view of the Bureau that interference studies on the use of frequency allocations for satellites services other than space research have not yet been conducted. Therefore, Canada is of the view that this issue should be studied by ITU‑R before any action is taken.

CAN/86A25A2/44

With regard to Section 3.1.10.3, Canada proposes that WRC‑23 instruct the Bureau to create a new class of station for radio stations operating on the surface of the Moon.

CAN/86A25A2/45

With regard to Section 3.2.1.1, Canada agrees making data item Effective Height of Antenna mandatory for all broadcasting stations in the VHF/UHF frequency bands up to 960 MHz in order to enable compatibility analysis between such stations.

As a results Canada proposes the following modifications to RR Appendix **4**.

APPENDIX 4 (REV.WRC‑19)

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

ANNEX 1

Characteristics of stations in the terrestrial services[[15]](#footnote-17)1

Footnotes to Tables 1 and 2

**MOD**

TABLE 1     (Rev.WRC‑23)

Characteristics for terrestrial services

| **Column No.** | **Item identifier** | **Notice related to**  **Description of data items and requirements** | **Broadcasting (sound and television) stations in  the VHF/UHF bands up to 960 MHz, for the  application of No. 11.2 and No. 9.21** | **Broadcasting (sound) stations in the LF/MF  bands, for the application of No. 11.2** | **Transmitting stations (except broadcasting  stations in the planned LF/MF bands, in the HF  bands governed by Article 12, and in the  VHF/UHF bands up to 960 MHz), for the  application of No. 11.2 and No. 9.21** | **Receiving land stations, for the application of  No. 11.9 and No. 9.21** | **Typical transmitting stations, for the  application of No. 11.17** | **Maritime mobile frequency allotment, for the  application of plan modification under Appendix  25 (Nos. 25/1.1.1, 25/1.1.2, 25/1.25)** | **Broadcasting stations in the HF bands, for the  application of No. 12.16** | **Item identifier** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **..** |  | **...** |  | | | | | | | |
| **9.3** |  | **For a transmitting antenna:** |  |  |  |  |  |  |  |  |
| **...** |  | ... |  |  |  |  |  |  |  |  |
| **9.3.3** | **9EC** | the effective height of the antenna, in metres, above the mean level of the ground between 3 and 15 km from the transmitting antenna, at 36 different azimuths in 10° intervals (i.e. 0°, 10°, ..., 350°), measured in the horizontal plane from True North in a clockwise direction | **X** |  | **X** |  |  |  |  | **9EC** |
| **...** |  | **...** |  |  |  |  |  |  |  |  |

CAN/86A25A2/46

With regard to Section 3.2.1.2, Canada recognizes that the current location of sub-item A.1.e.3.a under item A.1.e.3 entitled “For a specific earth station or radio astronomy station” in RR Appendix **4** does only allow the submission of information regarding the country or geographical area in which the specific earth station is located. Canada supports modifying RR Appendix **4** data item and more specifically relocating sub-item A.1.e.3.a so that it would allow the submission of information on the intended geographical area of operation to be submitted for both typical and specific earth station, as appropriate.  
Canada proposes to modify Table A of RR Appendix **4** as follows.

ANNEX 2

Characteristics of satellite networks, earth stations  
or radio astronomy stations[[16]](#footnote-18)2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

**MOD**

**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.1** | **IDENTITY OF THE SATELLITE NETWORK OR SYSTEM, EARTH STATION OR RADIOASTRONOMY STATION** |  | | | | | | | | | **A.1** |  |
| A.1.a | the identity of the satellite network or system | **X** | **X** | **X** | **X** | **X** |  | **X** | **X** | **X** | A.1.a |  |
| A.1.b | the beam identification  In the case of Appendix **30** or **30A**, required only for modification, suppression or notification of Plan assignments  In the case of Appendix **30B**, required only for a network derived from the Allotment Plan |  |  |  |  |  |  | **+** | **+** | **+** | A.1.b |  |
| A.1.e | **Identity of the earth station or radio astronomy station:** |  |  |  |  |  |  |  |  |  | A.1.e |  |
| A.1.e.1 | the type of earth station (specific or typical) |  |  |  |  |  | **X** |  |  |  | A.1.e.1 |  |
| A.1.e.2 | the name of the station |  |  |  |  |  | **X** |  |  |  | A.1.e.2 | **X** |
| A.1.e.2*bis* | the country or geographical area in which the station is located, using the symbols from the Preface |  |  |  |  |  | **X** |  |  |  | A.1.e.2.bis | **X** |
| A.1.e.3 | **For a specific earth station or radio astronomy station:** |  |  |  |  |  |  |  |  |  | A.1.e.3 |  |
| A.1.e.3.a | the country or geographical area in which the station is located, using the symbols from the Preface |  |  |  |  |  | **X** |  |  |  | A.1.e.3.a | **X** |

CAN/86A25A2/47

With regard to Section 3.2.1.3, Canada proposes that WRC-23 notes the actions taken by the Bureau to update the information relative to the operating agency associated with frequency assignments recorded in the MIFR when missing, captured as “999” or when generic names have been used.

CAN/86A25A2/48

With regard to Section 3.2.1.4, Canada generally agrees with the Bureau on the need to renumbered some of RR Appendix **4** data items. However, Canada proposes the following alternative to the modifications shown in Document WRC23/4.

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 stations[[17]](#footnote-19)2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

**MOD**

**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** | **ORBITAL INFORMATION** |  | | | | | | | | | **A.4** |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |
| A.4.b | **For space station(s) onboard non-geostationary satellite(s):** |  |  |  |  |  |  |  |  |  | A.4.b |  |
| A.4.b.1 | the reference body code |  | **X** | **X** |  | **X** |  |  |  |  | A.4.b.1 |  |
| A.4.b.2 | the number of orbital planes |  |  | **X** |  | **X** |  |  |  |  | A.4.b.2 |  |
| A.4.b.3 | where the Earth is the reference body |  |  |  |  |  |  |  |  |  | A.4.b.3 |  |
| A.4.b.3.a | indicator of whether the non-geostationary-satellite system represents a “constellation”, where the term “constellation” describes a satellite system, for which the relative distribution of the orbital planes and satellites is defined  *Note* – Non-geostationary-satellite systems in frequency bands subject to the provisions of Nos. **9.12**, **9.12A**, **22.5C**, **22.5D**, **22.5F** or **22.5L** are always considered as “constellations” |  |  | **X** |  | **X** |  |  |  |  | A.4.b.3.a |  |
| A.4.b.3.b | indicator of whether all the orbital planes identified under A.4.b.1 describe a) a single configuration where all frequency assignments to the satellite system will be in use or b) multiple configurations that are mutually exclusive where a sub-set of the frequency assignments to the satellite system will be in use on one of the sub-sets of orbital parameters to be determined at the notification and recording stage of the satellite system  Required only for the:  1) advance publication information for a non-geostationary-satellite system representing a constellation (A.4.b.1.a), and  2) coordination request for non-geostationary-satellite systems |  |  | **+** |  | **+** |  |  |  |  | A.4.b.3.b |  |
| A.4.b.3.c | if the orbital planes identified under A.4.b.1 describe multiple mutually exclusive configurations, identification of the number of sub-sets of orbital characteristics that are mutually exclusive  Required only for the:  1) advance publication information for a non-geostationary-satellite system representing a constellation (A.4.b.1.a), and  2) coordination request for non-geostationary-satellite systems |  |  | **+** |  | **+** |  |  |  |  | A.4.b.3.c |  |
| A.4.b.3.d | if the orbital planes identified under A.4.b.1.b describe multiple mutually exclusive configurations, identification of the orbital planes’ id numbers that are associated with each of the mutually exclusive configurations  Required only for the:  1) advance publication information for a non-geostationary-satellite system representing a constellation (A.4.b.1.a), and  2) coordination request for non-geostationary-satellite systems |  |  | **+** |  | **+** |  |  |  |  | A.4.b.3.d |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| A.4.b.3.e | **For space stations of a non-geostationary fixed-satellite service system operating in the frequency band 3 400‑4 200 MHz:** |  |  |  |  |  |  |  |  |  | A.4.b.3.e |  |
| A.4.b.3.e.1 | the maximum number of space stations (*NN*) in a non-geostationary-satellite system simultaneously transmitting on a co-frequency basis in the fixed-satellite service in the Northern Hemisphere |  |  | **X** |  | **X** |  |  |  |  | A.4.b.3.e.1 |  |
| A.4.b.3.e.2 | the maximum number of space stations (*NS*) in a non-geostationary-satellite system simultaneously transmitting on a co-frequency basis in the fixed-satellite service in the Southern Hemisphere |  |  | **X** |  | **X** |  |  |  |  | A.4.b.3.e.2 |  |
| A.4.b.4 | **For each orbital plane, where the Earth is the reference body:** |  |  |  |  |  |  |  |  |  | A.4.b.4 |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |

CAN/86A25A2/49

With regard to Section 3.2.1.5, Canada concurs with the Bureau on the difficulties associated with the use of the right ascension of the ascending node (RAAN) and support Option 1 as the best approach to addressed these difficulties without affecting the capability of administration to model the non-GSO system based on the orbital characteristics provided.   
Therefore, Canada proposes the following modifications to Table A of RR Appendix **4**.

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 stations[[18]](#footnote-20)2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

**MOD**

**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 | **For each orbital plane, where the Earth is the reference body:** |  |  |  |  |  |  |  |  |  | A.4.b.4 |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |
| A.4.b.4.j | the longitude of the ascending node (θ*j*) for the *j*-th orbital plane, measured counter-clockwise in the equatorial plane from the Greenwich meridian to the point where the satellite orbit makes its South-to-North crossing of the equatorial plane (0° ≤ θ*j* < 360°) at the reference time t = 0  Required only for orbits of a “constellation” (A.4.b.1.a), and to be specified in:  1) the advance publication information, for any frequency assignment not subject to the provisions of Section II of Article **9**  2) the coordination request, for any frequency assignment subject to the provisions of Nos. **9.12**, **9.12A**, **22.5C**, **22.5D**, **22.5F** or **22.5L**  3) the notification, in all cases |  |  | **+** |  | **+** |  |  |  |  | A.4.b.4.j |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |

CAN/86A25A2/50

With regard to Section 3.2.1.6, Canada does not support the inclusion of a new data item describing the altitude of the apogee and perigee as a function of time in RR Appendix **4** as there are numerous factor that affect orbital decay, e.g. atmospheric drag, the solar cycle (highly variable), gravitational anomalies, etc.

CAN/86A25A2/51

With regard to Section 3.2.1.7, Canada concurs with the Bureau that in absence of a requirement to provide specific information on that matter, the Bureau is not in a position to assess the compliance with limits specified for the values of pfd or epfd produced by unwanted emissions at the site of a radio astronomy station. Canada also supports the idea to addressing the case of the protection of radio astronomy station in adjacent bands in bands subject to RR No. **5.555B** in the same way it was done for RR Nos. **5.372**, **5.551H** and **5.551I** (See RR Appendix **4**, data items A.17.a*bis*, A.17.e.1 and A.17.e.2 respectively). As a result, Canada proposes to modify Table A of RR Appendix **4** to add a new data item, A.17.f as follows:

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 stations[[19]](#footnote-21)2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

**MOD**

**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.17** | **COMPLIANCE WITH POWER FLUX-DENSITY (pfd) LIMITS** |  | | | | | | | | | **A.17** |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |
| A.17.e.1 | the calculated equivalent power flux-density produced at the site of a radio astronomy station in the frequency band 42.5-43.5 GHz, as defined in No. **5.551H**  Required only for non-geostationary-satellite systems operating in the fixed-satellite service and broadcasting-satellite service in the frequency band 42-42.5 GHz |  |  |  |  | **+** |  |  |  |  | A.17.e.1 |  |
| A.17.e.2 | the calculated power flux-density produced at the site of a radio astronomy station in the frequency band 42.5‑43.5 GHz, as defined in No. **5.551I**  Required only for geostationary-satellite systems operating in the fixed-satellite service and broadcasting-satellite service in the frequency band 42-42.5 GHz |  |  |  | **+** |  |  |  |  |  | A.17.e.2 |  |
| A.17.f | The calculated power flux-density produced at the site of a radio astronomy station in the frequency band 48.94-49.04 GHz, as defined in No. **5.555B**  Required only for geostationary-satellite systems operating in the fixed-satellite service in the frequency bands 48.2-48.54 GHz and 49.44-50.2 GHz |  |  |  | **+** |  |  |  |  |  | A.17.f |  |
| ... | ... |  | | | | | | | | |  |  |

CAN/86A25A2/52

With regard to Section 3.2.1.8, Canada notes that the use of the 9 900-10 400 MHz is subject to pfd limits specified in RR Article **21** (Table **21-4**) and the compliance with this limits is typically assessed based on class of emissions, the antenna pattern and the necessary bandwidth. However, as mentioned by the Bureau, there is currently no requirement to provide the necessary bandwidth for active or passive sensors. However, it may be appropriate to required it specifically in the context of the use of the 9 900-10 400 MHz by EESS (active) and avoid having the Bureau systematically requesting this information in order to assess the compliance with the pfd limits specified in RR Table **21-4**. Furthermore, the necessary bandwidth is also required in order to assess the compliance with the requirement stated in RR No. **5.474A** to allow in the 9 200-9 300 MHz and 9 900-10 400 MHz frequency bands only assignments that are at least 600 MHz wide and cannot fit entirely within the 9 300-9 900 MHz band.

As a result, Canada proposes to modify Tables A and C of Appendix **4** as follows:

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 stations[[20]](#footnote-22)2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

**MOD**

**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.17** | **COMPLIANCE WITH POWER FLUX-DENSITY (pfd) LIMITS** |  | | | | | | | | | **A.17** |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |
| A.17.d | the mean power flux-density produced at the Earth’s surface by any spaceborne sensor, as defined in No. **5.549A** for the frequency band 35.5‑36 GHz or in Table **21‑4** for the frequency band 9 900‑10 400 MHz  Required only for satellite systems operating in  the Earth exploration-satellite service (active) or space research service (active) in the frequency band 35.5-36 GHz |  |  |  | **+** | **+** |  |  |  |  | A.17.d |  |
| **...** | **...** |  |  |  |  |  |  |  |  |  |  |  |

**MOD**

**TABLE C**

CHARACTERISTICS TO BE PROVIDED FOR EACH GROUP OF FREQUENCY ASSIGNMENTS   
FOR A SATELLITE ANTENNA BEAM OR AN EARTH STATION OR   
RADIO ASTRONOMY ANTENNA      (Rev.WRC‑23)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Items in Appendix** | ***C \_ CHARACTERISTICS TO BE PROVIDED FOR EACH GROUP OF FREQUENCY ASSIGNMENTS FOR A SATELLITE ANTENNA BEAM OR  AN EARTH STATION OR RADIO ASTRONOMY ANTENNA*** | **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** |
| ... | *...* |  | | | | | | | | |  |  |
| **C.8** | **POWER CHARACTERISTICS OF THE TRANSMISSION**  *Not required for passive sensors* |  | | | | | | | | | **C.8** |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |
| C.8.b.3 | **For the case of active sensors:** |  |  |  |  |  |  |  |  |  | C.8.b.3 |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |
| C.8.b.3.b | the mean power density, in dB(W/Hz), supplied to the input of the antenna  Required if neither C.8.a.2 nor C.8.b.2 is provided |  |  | **+** | **+** | **+** |  |  |  |  | C.8.b.3.b |  |
| C.8.b.3.c | the necessary bandwidth  Only required for active sensors operating in the Earth exploration-satellite service (active) in the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz |  |  |  | **+** | **+** |  |  |  |  | C.8.b.3.c |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |

CAN/86A25A2/53

With regard to Section 3.2.1.9, Canada supports the Bureau’s proposed approach to solve the issue related to the use of asymmetrical antenna patterns.

CAN/86A25A2/54

With regard to Section 3.2.1.10, Canada agrees with the conclusion reached by the Bureau concerning the orientation angles alpha and beta (RR Appendix **4** data items B.4.a.3.a.1 and B.4.a.3.a.2). As a result, Canada proposes to modify Table B of RR Appendix **4** as follows.

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 stations[[21]](#footnote-23)2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

**MOD**

**TABLE B**

CHARACTERISTICS TO BE PROVIDED FOR EACH SATELLITE ANTENNA BEAM OR   
EACH EARTH STATION OR RADIO ASTRONOMY ANTENNA    (Rev.WRC‑23)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Items in Appendix** | ***B \_ CHARACTERISTICS TO BE PROVIDED FOR EACH SATELLITE ANTENNA BEAM OR EACH EARTH STATION OR RADIO ASTRONOMY ANTENNA*** | **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** |
| ... | ... |  | | | | | | | | |  |  |
| **B.4** | **ADDITIONAL CHARACTERISTICS FOR NON-GEOSTATIONARY SPACE STATION ANTENNA** |  | | | | | | | | | **B.4** |  |
| ... | **...** |  |  |  |  |  |  |  |  |  |  |  |
| B.4.a.3.a | **For the orientation angles of the satellite transmitting and receiving fixed antenna beams:** |  |  |  |  |  |  |  |  |  | B.4.a.3.a |  |
| B.4.a.3.a.1 | the orientation angle alpha, in degrees (see the most recent version of Recommendation ITU‑R SM.1413) |  |  | **X** |  | **X** |  |  |  |  | B.4.a.3.a.1 |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |

CAN/86A25A2/55

With regard to Section 3.2.1.11, Canada acknowledges the difficulties for both the notifying administrations to provide meaningful information and the Bureau’s difficulties to interpret these information when provided and agrees with the need to allow administration wanting to provide more precise information to do it for frequency assignments to space station of a non-GSO satellite network or system subject or not to RR No. **9.11A**.

As a result, Canada proposes modifications to Table B of RR Appendix **4** as follows.

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 stations[[22]](#footnote-24)2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

**MOD**

**TABLE B**

CHARACTERISTICS TO BE PROVIDED FOR EACH SATELLITE ANTENNA BEAM OR   
EACH EARTH STATION OR RADIO ASTRONOMY ANTENNA    (Rev.WRC‑23)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Items in Appendix** | ***B \_ CHARACTERISTICS TO BE PROVIDED FOR EACH SATELLITE ANTENNA BEAM OR EACH EARTH STATION OR RADIO ASTRONOMY ANTENNA*** | **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** |
| ... | ... |  | | | | | | | | |  |  |
| **B.4** | **ADDITIONAL CHARACTERISTICS FOR NON-GEOSTATIONARY SPACE STATION ANTENNA** |  | | | | | | | | | **B.4** |  |
| B.4.a.1 | the reference number of each orbital plane in which the space station antenna characteristics are used |  |  | **X** |  | **X** |  |  |  |  | B.4.a.1 |  |
| B.4.a.2 | if the antenna characteristics of a space station are not common to every satellite in the specified orbital plane, the reference number of each satellite in the specified orbital plane, on which the space station antenna characteristics are used |  |  | **+** |  | **+** |  |  |  |  | B.4.a.2 |  |
| B.4.a.2.*bis* | For transmitting antennas with fixed beam pointed away from the nadir direction only, the satellite antenna gain G(θe) as a function of the elevation angle (θe) above the horizontal plane at the Earth surface at the minimum altitude at which any satellite within the satellite system |  |  |  |  | **O** |  |  |  |  | B.4.a.2.*bis* |  |
| B.4.a.2.*ter* | For transmitting antennas with steerable beam, the satellite antenna gain Gmax(θe) as a function of the elevation angle (θe) above the horizontal plane at the Earth surface |  |  |  |  | **O** |  |  |  |  | B.4.a.2.*ter* |  |
| B.4.a.3 | **For a space station submitted in accordance with Nos. 9.11A, 9.12, 9.12A or for active or passive sensors on board a non-geostationary-satellite network or system not subject to coordination under Section II of Article 9:** |  |  |  |  |  |  |  |  |  | B.4.a.3 |  |
| B.4.a.3.a | **For the orientation angles of the satellite transmitting and receiving antenna beams:** |  |  |  |  |  |  |  |  |  | B.4.a.3.a |  |
| B.4.a.3.a.1 | the orientation angle alpha, in degrees (see the most recent version of Recommendation ITU‑R SM.1413) |  |  | **X** |  | **X** |  |  |  |  | B.4.a.3.a.1 |  |
| B.4.a.3.a.2 | the orientation angle beta, in degrees (see the most recent version of Recommendation ITU‑R SM.1413) |  |  | **X** |  | **X** |  |  |  |  | B.4.a.3.a.2 |  |
| B.4.b | **For a space station submitted in accordance with Nos. 9.11A, 9.12 or 9.12A:** |  |  |  |  |  |  |  |  |  | B.4.b |  |
| B.4.b.1 | **Not used** |  |  |  |  |  |  |  |  |  | B.4.b.1 |  |
| B.4.b.1.a | **Not used** |  |  |  |  |  |  |  |  |  | B.4.b.1.a |  |
| B.4.b.1.b | **Not used** |  |  |  |  |  |  |  |  |  | B.4.b.1.b |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| B.4.b.3 | **Not used** |  |  |  |  |  |  |  |  |  | B.4.b.2 |  |
| B.4.b.4 | **For each transmitting beam:** |  |  |  |  |  |  |  |  |  | B.4.b.3 |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |

CAN/86A25A2/56

With regard to Section 3.2.1.12, Canada supports the idea of having an explicit reference to the filing(s) containing the frequency assignments to space station for service links in the filing containing the frequency assignments to space station for feeder links in frequency bands where the use of the allocation to the space services is limited to the provision of feeder links in support of another space services. This increases transparency and improve the overall understanding of the operation associated with these filings.

As a result, Canada proposes modifications to Table A of RR Appendix **4** as follows.

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 stations[[23]](#footnote-25)2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

**MOD**

**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.1** | **IDENTITY OF THE SATELLITE NETWORK OR SYSTEM, EARTH STATION OR RADIOASTRONOMY STATION** |  | | | | | | | | | **A.1** |  |
| A.1.a | the identity of the satellite network or system | **X** | **X** | **X** | **X** | **X** |  | **X** | **X** | **X** | A.1.a |  |
| A.1.b | the beam identification  In the case of Appendix **30** or **30A**, required only for modification, suppression or notification of Plan assignments  In the case of Appendix **30B**, required only for a network derived from the Allotment Plan |  |  |  |  |  |  | **+** | **+** | **+** | A.1.b |  |
| A.1.c | If different from A.1.a, the identity of the satellite network or system [submitted by the same notifying administration as the satellite network or system referred to in A.1.a] containing the service link frequency assignments  Required only for frequency assignments to space stations in bands where the use of the allocation is limited to feeder links. |  | **+** | **+** | **+** | **+** |  |  |  |  | A.1.c |  |
| ... | ... |  |  |  |  |  |  |  |  |  |  |  |

CAN/86A25A2/57

With regard to Section 3.2.1.13, Canada supports the introduction of a new Appendix 4 data items for spacecraft operating at the lagrangian point of a two-body system (e.g. The L1 Lagrange point of the Earth-Moon system or the L1 Lagrange Point of the Earth-Sun system).

CAN/86A25A2/58

With regard to Section 3.2.2.1, Canada supports the long standing and uncontested practice of the Bureau with respect to the use of the pfd limits contained in RR Article **21** for the FSS in the frequency band 17.7-17.8 GHz as pfd coordination thresholds for coordination of BSS frequency assignments under RR No. **9.11** in the frequency band 17.7-17.8 GHz.

As a result, Canada proposes the following modification to RR Appendix **5**.

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**

TABLE 5-1     (Rev.WRC‑23)

Technical conditions for coordination

(see Article 9)

...

TABLE 5-1 (*continued*)     (Rev.WRC-23)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Reference of Article 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 MHz 2 310-2 360 MHz (No. **5.393**) 2 535-2 655 MHz (Nos. **5.417A** and **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 Nos. **5.417A** and **5.418**, and in Nos. **5.417A** and **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.  The coordination thresholds for the application of No. **9.11** correspond to the pfd limits specified in Table **21-6** for the FSS in the band 17.7-17.8 GHz | Check by using the assigned frequencies and bandwidths |  |
| ... | ... |  |  |  |  |

CAN/86A25A2/59

With regard to Section 3.2.3, Canada agrees with the Bureau and proposes the following modifications to the introduction of RR Appendix **7** as shown below.

APPENDIX 7 (REV.WRC‑19)

Methods for the determination of the coordination area around an earth  
station in frequency bands between 100 MHz and 105 GHz

**MOD**

# 1 Introduction

This Appendix addresses the determination of the coordination area (see No. **1.171**) around a transmitting or receiving earth station that is sharing spectrum in frequency bands between 100 MHz and 105 GHz with terrestrial radiocommunication services or with earth stations operating in the opposite direction of transmission.

The coordination area represents the area surrounding an earth station sharing the same frequency band with terrestrial stations, or the area surrounding a transmitting earth station that is sharing the same bidirectionally allocated frequency band with receiving earth stations, within which the permissible level of interference may be exceeded and hence coordination is required. The coordination area is determined on the basis of known characteristics for the coordinating earth station and on conservative assumptions for the propagation path and for the system parameters for the unknown terrestrial stations (see Tables 7 and 8), or the unknown receiving earth stations (see Table 9), that are sharing the same frequency band.

Throughout this Appendix, the word “unknown”, when applied to terrestrial stations or earth stations, refers to such stations which specific operational parameters and potential location within that the coordination area are unknown.

CAN/86A25A2/60

With regard to Section 3.2.4.1, Canada supports the current practice of the Bureau with respect unrealistic satellite antenna gain contours which consist in requesting the notifying administrations to modify the satellite antenna gain contours to make them realistic.

Canada proposes that this practice be reflected in a relevant RoP. Furthermore, Canada proposes that, following the response of the administration to the above-mentioned request and in case the Bureau’s doubts with respect to the satellite gain contour remain, to include in the remarks section of the filing an indication of its concerns and to bring the satellite antenna gain contours to the attention of the ITU-R Study Group 4 for its consideration and comments, if any.

CAN/86A25A2/61

With regard to Section 3.2.4.2, Canada proposes that WRC-23 urges all administrations to keep up to date contact information in the e-communication system as well as official addresses registered with the Bureau.

CAN/86A25A2/62

With regard to section 3.2.6.4, Canada supports the update of Article 10 of RR Appendix **30B**, as suggested by the Bureau.

CAN/86A25A2/63

With regard to Section 3.2.6.5, Canada agrees with the Bureau concerning the erroneous inclusion of an equation to calculate the overall carrier-to-noise (*C*/*N*) ratio instead of the overall carrier-to-interference (*C/I*) ration in Appendix 1 to Annex 4 to RR Appendix **30B** of the English version of the RR. As a result Canada proposed the following amendment to the RR.

APPENDIX 30B (REV.WRC‑19)

Provisions and associated Plan for the fixed-satellite service  
in the frequency bands 4 500-4 800 MHz, 6 725-7 025 MHz,  
10.70-10.95 GHz, 11.20-11.45 GHz and 12.75-13.25 GHz

ANNEX 4     (REV.WRC‑19)

Criteria for determining whether an allotment or  
an assignment is considered to be affected[[24]](#footnote-26)15*bis*

APPENDIX 1 TO ANNEX 4     (Rev.WRC‑07)

Method for determination of the overall single-entry and aggregate  
carrier-to-interference value averaged over the necessary  
bandwidth of the modulated carrier

**MOD**

# 1 Single-entry *C*/*I*

This section describes the method for calculating the single-entry interference potential.

...

The overall single-entry (*C*/*I*)*t* at a given downlink test point due to a single interfering allotment or assignment is given by:

      dB

where:

(*C*/*I*)*umin*: lowest uplink *C*/*I* value among all uplink test points

(*C*/*I*)*d*: downlink *C*/*I* value at the test point under consideration.

NOTE – When only one of the uplink or the downlink is implemented in the bands subject to Appendix 30B, only the contribution from the link that is implemented in the bands subject to Appendix 30B shall be considered in calculating (*C*/*I*)*t*.

CAN/86A25A2/64

With regard to Section 3.3.1, Canada supports the course of action implemented by the Bureau concerning these assignments to some satellite networks recorded in the MIFR without any period of validity indicated and proposes it be noted by WRC-23.

CAN/86A25A2/65

With regard to Section 3.3.2, Canada notes the comments of the Bureau on § 4 of Annex to Resolution **32 (WRC-19)** regarding the ambiguity associated with the use of the word “notice” without additional information as well as the difficulties faced by some administrations with respect to the compliance with the obligation to notify under the relevant provision of RR Article **11** frequency assignments to non-GSO space stations identified as short duration mission within 60 days of the bringing into use of these frequency assignments.

As a result, Canada proposes to modify Resolution **32 (WRC-19)** to remove the ambiguity and to prevent the non-receivability of notices submitted more than 60 days after the bringing into use of frequency assignments to non-GSO space stations identified as short duration mission.

**MOD**

RESOLUTION 32 (REV.WRC‑23)

Regulatory procedures for frequency assignments to non-geostationary-satellite networks or systems identified as short-duration mission not subject to the application of Section II of Article 9

The World Radiocommunication Conference (Dubai, 2023),

considering

*...*

considering further

*...*

recognizing

*...*

noting

*...*

resolves

...

instructs the Director of the Radiocommunication Bureau

1 to expedite the online publication of notices “as received” for such networks or systems, in addition to the normal publication of notices;

2 to provide the necessary assistance to administrations in the implementation of this Resolution,

invites administrations

...

ANNEX TO RESOLUTION 32 (REV.WRC-23)

Application of the provisions of Articles 9 and 11 for non-geostationary-satellite networks and systems identified as short-duration mission

1 The general provisions of the Radio Regulations shall apply to non-geostationary-satellite (non-GSO) networks or systems identified as short-duration mission with the following exceptions/additions/amendments.

2 When submitting advance publication information under No. **9.1**, administrations shall submit the orbital characteristics (Appendix **4** data item A.4.b.4) planned at the early development stage of the satellite project.

3 In the application of No. **9.1**, the notification information cannot be communicated to the Radiocommunication Bureau (BR) at the same time, and can only be submitted after the launch of a satellite in the case of a network or of the first satellite in the case of a system with multiple launches.

4 Notices relating to notification for the recording of frequency assignments to non-GSO networks or systems identified as short-duration mission shall be communicated to BR only after the launch of a satellite in the case of a satellite network or of the first satellite in the case of a system requiring multiple launches, and not later than two months after the date of bringing into use. This provision applies instead of No. **11.25** for frequency assignments to non-GSO networks or systems with short-duration missions. Irrespective of the date of receipt of the notified characteristics of the non-GSO network or system with a short-duration mission under this Resolution, the maximum period of validity of frequency assignments of the system shall not exceed the time-limit in *resolves* 1.2 of this Resolution. At the expiry date of period of validity, as described in *resolves* 1.2 of this Resolution, BR shall publish a suppression of the related Special Section.

4*bis* anyfrequency assignments tonon-GSO networks or systems identified as short-duration mission of which the notice referred to in § 4 reaches the Bureau more than two months after the date of bringing into use, shall bear a remark in the Master Register to indicate that it is not in conformity with § 4 of the Annex to Resolution **32 (Rev.WRC-23)**.

5 In addition to the application of No. **11.36**,BR shallpublish the characteristics of the system together with the findings under No. **11.31** in the International Frequency Information Circular (BR IFIC) and on its website within no more than four months from the date of receipt of complete information under No. **11.28**. When BR is not in a position to comply with the time-limit referred to above, it shall periodically so inform the notifying administration, giving the reasons therefor.

6 In the application of No. **11.44**, the date of bringing into use of a non-GSO network or system identified as short-duration mission shall be defined as the launch date of a satellite in the case of a non-GSO network or of the first satellite in the case of a non-GSO system requiring multiple launches (see *resolves* 5of this Resolution).

7 Nos. **11.43A**, **11.43B** and **11.49** shall not apply to frequency assignments to non-GSO networks or systems identified as short-duration mission.

CAN/86A25A2/66

With regard to Section 3.3.3.2, Canada proposes that the Conference notes the specific aspect of the implementation of resolves 11 of Resolution **35 (WRC-19)** in this section as the understanding of the Bureau. Furthermore, Canada proposes that any practice or understanding of the Bureau be included in the dedicated section of the RoP for WRC proceedings.

CAN/86A25A2/67

With regard to Section 3.3.3.3, Canada is of the view that there should be no limitation on the scope of changes allowed for the RAAN and proposes that WRC-23 notes this understanding of the Bureau . As for the proposal above, Canada proposes that any practice or understanding of the Bureau be included in the dedicated section of the RoP relating to the WRC proceedings.

CAN/86A25A2/68

With regard to Section 3.3.3.4, Canada proposes that the Conference notes these specific aspect of the implementation of resolves 17 of Resolution **35 (WRC-19)** in this section as the understanding of the Bureau. Furthermore, Canada proposes that any practice or understanding of the Bureau be included in the dedicated section of the RoP for WRC proceedings.

CAN/86A25A2/69

[Editor’s note: If the conference agrees to the course of action as proposed under CAN/**5991A25**/14, then the consideration of this proposal is no longer required.]

With regard to Section 3.3.5, Canada agrees with the Bureau regarding the fact that section 1 of Annex 1 to Resolution **49 (Rev. WRC-19)** deals with frequency assignments to satellite networks or systems subject to coordination under RR Nos. **9.7**, **9.11**, **9.12**, **9.12A** and **9.13** and in that context, a reference to RR No. **9.2B** which relates to frequency assignments to satellite networks or systems not subject to section II of RR Article **9** introduce and inconsistency in the Radio Regulations that can create confusion. As a Result, Canada proposes the following modification to Resolution **49 (Rev.WRC-19)**.

**MOD**

RESOLUTION 49[[25]](#footnote-27)1 (Rev.WRC‑23)

Administrative due diligence applicable to some   
satellite radiocommunication services

The World Radiocommunication Conference (Dubai, 2023),

*...*

resolves

that the administrative due diligence procedure contained in Annex 1 to this Resolution shall be applied for a satellite network or satellite system of the fixed-satellite service, mobile-satellite service or broadcasting-satellite service for which the advance publication information under No. **9.1A**, or for which the request for modifications of the Region 2 Plan under Article 4, § 4.2.1 *b)* of Appendices **30** and **30A** that involve the addition of new frequencies or orbit positions, or for which the request for modifications of the Region 2 Plan under Article 4, § 4.2.1 *a)* of Appendices **30** and **30A** that extend the service area to another country or countries in addition to the existing service area, or for which the request for additional uses in Regions 1 and 3 under § 4.1 of Article 4 of Appendices **30** and **30A**, or for which the submission under Appendix **30B** is received, with the exception of submissions of new Member States seeking the acquisition of their respective national allotments[[26]](#footnote-28)2 for inclusion in the Appendix **30B** Plan,

...

ANNEX 1 TO RESOLUTION 49 (Rev.WRC‑23)

...

ANNEX 2 TO RESOLUTION 49 (Rev.WRC‑23)

CAN/86A25A2/70

With regard to Section 3.3.6, Canada agrees with the conclusion of the Bureau regarding the absence of any difference between the pfd hard limits aimed to protect GSO networks outside the coordination arc stipulated in Appendix 1 to Attachment 1 to Resolution **170 (WRC-19)** and those contained in Annex 3 to RR Appendix **30B** despite what the text in Appendix 1 to Attachment 1 to Resolution **170 (WRC-19)** is implying. As a result, Canada proposes the following modifications to Resolution **170 (WRC-19)**.

RESOLUTION 170 (REV.WRC‑23)

Additional measures for satellite networks in the fixed-satellite service  
in frequency bands subject to Appendix 30B for the enhancement  
of equitable access to these frequency bands

The World Radiocommunication Conference (Dubai, 2023),

...

ATTACHMENT 1 TO   
RESOLUTION 170 (REV.WRC‑23)

Additional measures for satellite networks in the fixed-satellite service in frequency bands subject to Appendix 30B for the enhancement   
of equitable access to these frequency bands

...

APPENDIX 1 TO ATTACHMENT 1 TO   
RESOLUTION 170 (REV.WRC‑23)

Criteria for determining whether an assignment is considered to be affected by networks submitted to Appendix 30B under this Resolution

The criteria as contained in Annex 4 to Appendix **30B** continue to apply in order to determine if a proposed new assignment applying the procedures of this Attachment affects:

a) national allotments in the Plan;

b) an assignment stemming from the conversion of an allotment into an assignment without modification or with modification within the envelope of the allotment;

c) an allotment requested under Article 7 of Appendix **30B** by a new Member State of the Union which has received unfavourable findings under Article 7 and has been subsequently treated as a submission under § 6.1 of Appendix **30B**;

d) assignments stemming from the application of § 6.35 of Appendix **30B**;

e) assignments for which the procedures of this Resolution have been previously applied;

f) assignments recorded in the List until 22 November 2019 with a service area limited to the national territories.

An assignment which appears in the List with a service area beyond national territories or which BR has previously examined after receiving complete information and published under § 6.7 of Appendix **30B**, which does not fall into any of the above categories and that is not applying the procedures of this Attachment, is considered as being affected by a proposed new assignment that is applying the procedures of this Attachment:

1) if the orbital spacing between its orbital position and the orbital position of the proposed new assignment is equal to or less than:

1.1) 7° in the frequency bands 4 500-4 800 MHz (space-to-Earth) and 6 725‑7 025 MHz (Earth-to-space);

1.2) 6° in the frequency bands 10.70-10.95 GHz (space-to-Earth), 11.20-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space);

2) however, an administration is considered as not being affected by a proposed new assignment that is applying the procedures of this Attachment if the conditions listed in 2.1 or 2.2 are satisfied:

2.1) the calculated[[27]](#footnote-29)8 Earth-to-space single-entry carrier-to-interference (*C*/*I*)*u* value at each test point associated with the assignment under consideration is greater than or equal to a reference value of 27 dB, or (*C*/*N*)*u* + 6 dB[[28]](#footnote-30)9, or any already accepted Earth-to-space single entry (*C*/*I*), whichever is the lowest, and the calculated8 space-to-Earth single-entry (*C*/*I*)*d* value everywhere within the service area of the assignment under consideration is greater than or equal to a reference value[[29]](#footnote-31)10 of 23.65 dB, or (*C*/*N*)*d* + 8.65 dB[[30]](#footnote-32)11, or any already accepted value, whichever is the lowest, and the calculated8 overall aggregate (*C*/*I*)*agg* value at each test point associated with the assignment under consideration is greater than or equal to a reference value of 21 dB, or (*C*/*N*)*t* + 7 dB[[31]](#footnote-33)12, or any already accepted overall aggregate (*C*/*I*)*agg* value, whichever is the lowest, with a tolerance of 0.45 dB[[32]](#footnote-34)13 in the case of assignments not stemming from the conversion of an allotment into an assignment without modification, or when the modification is within the envelope characteristics of the initial allotment;

2.2) in the frequency band 4 500-4 800 MHz (space-to-Earth), the power flux-density (pfd) produced under assumed free-space propagation conditions does not exceed the threshold values shown below, anywhere within the service area of the potentially affected assignment:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 0 | ≤ | θ | ≤ | 0.09 | −240.5 | dB(W/(m2 ∙ Hz)) |
| 0.09 | < | θ | ≤ | 3 | −240.5 + 20log(θ/0.09) | dB(W/(m2 ∙ Hz)) |
| 3 | < | θ | ≤ | 5.5 | −216.79 + 0.75 ∙ θ2 | dB(W/(m2 ∙ Hz)) |
| 5.5 | < | θ | ≤ | 7 | −194.1 + 25log(θ/5.5) | dB(W/(m2 ∙ Hz)) |

where θ denotes nominal geocentric separation (degrees) between interfering and interfered with satellite networks;

in the frequency band 6 725-7 025 MHz (Earth-to-space), the pfd produced at the location in the geostationary-satellite orbit (GSO) of the potentially affected assignment under assumed free-space propagation conditions does not exceed −201.0 −*GRx* dB(W/(m2 ∙ Hz)), where *GRx* is the relative space station uplink receive antenna gain of the potentially affected assignment at the location of the interfering earth station;

in the frequency bands 10.7-10.95 and 11.2-11.45 GHz (space-to-Earth), the pfd produced under assumed free-space propagation conditions does not exceed the threshold values shown below, anywhere within the service area of the potentially affected assignment:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 0 | ≤ | θ | ≤ | 0.05 | −235.0 | dB(W/(m2 ∙ Hz)) |
| 0.05 | < | θ | ≤ | 3 | −235.0 + 20log(θ/0.05) | dB(W/(m2 ∙ Hz)) |
| 3 | < | θ | ≤ | 5 | −207.98 + 0.95 ∙ θ2 | dB(W/(m2 ∙ Hz)) |
| 5 | < | θ | ≤ | 6 | −184.23 + 25log(θ/5) | dB(W/(m2 ∙ Hz)) |

where θ denotes nominal geocentric separation (degrees) between interfering and interfered with satellite networks;

in the frequency band 12.75-13.25 GHz (Earth-to-space), the pfd produced at the location in the GSO of the potentially affected assignment under assumed free-space propagation conditions does not exceed −205.0 − *GRx* dB(W/(m2 ∙ Hz)), where *GRx* is the relative space station uplink receive antenna gain of the potentially affected assignment at the location of the interfering earth station.

APPENDIX 2 TO ATTACHMENT 1 TO   
RESOLUTION 170 (REV.WRC‑23)

Protection criteria for a new incoming network

...

ATTACHMENT 2 TO RESOLUTION 170 (REV.WRC‑23)

Number of Appendix 30B submissions that have been received by the Radiocommunication Bureau

...

CAN/86A25A2/71

With regard to Section 3.3.10, it is Canada’s understanding that the use of earth stations on-board vessels communicating with non-GSO systems has not been studied when the provisions in Resolution **902** **(WRC-03)** have been adopted. Therefore, ITU-R studies would be required before expanding the application of this Resolution to earth stations communicating with non-GSO systems.

CAN/86A25A2/72

With regard to section 3.3.11, Canada notes that the Bureau has successfully implemented the online platforms e-Communications and e-Submission of satellite network filings in response to the requirements of Resolutions **907 (Rev.WRC-15)** and **907 (Rev.WRC-15)** and supports the approach suggested by the Bureau to consolidate the operational requirements of these two Resolutions into Resolution **55 (Rev.WRC-19)**.As a result, Canada proposes the followingmodifications to Resolution **55 (Rev.WRC-19)**.

**MOD**

RESOLUTION 55 (REV.WRC‑23)

Electronic submission of, and communications on, notice forms for satellite networks, earth stations, radio astronomy stations and reports of harmful interference affecting space services

The World Radiocommunication Conference (Dubai, 2023),

considering

1 that submission of notices for all satellite networks, earth stations and radio astronomy stations in electronic format would further facilitate the tasks of the Radiocommunication Bureau (BR) and of administrations, and would accelerate the processing of these notices;

2 that the volume of advance publication information, coordination requests, notifications and filings under Appendices **30**, **30A** and **30B** for satellite networks or systems has been steadily increasing in recent years;

3 that a significant amount of effort is required to maintain the relevant databases;

4 that a paperless electronic approach for the submission of satellite network filings and comments, if required, would make this information readily accessible to all, and would limit the workload for administrations and the Bureau in the processing of these filings;

5 that the use of electronic means of communication in an integrated online platform for administrative correspondence related to advance publication, coordination and notification of satellite networks, earth stations, radio astronomy stations would facilitate the tasks of the Bureau and of administrations with the potential to improve the efficiency and the coordination and notification process by reducing the amount of duplicated correspondence,

recognizing

1 that, should the processing delays related to the coordination and notification procedures extend beyond the periods specified in Articles **9** and **11** as well as in Appendices **30**, **30A** and **30B**, administrations may be faced with a shortened time window in which to effect coordination;

2 that administrations could use the time freed by a reduction of administrative correspondence to effect coordination;

3 that the Bureau has successfully implemented the online platforms e-Communications and e-Submission of Satellite Network Filings [as required by previous Conferences];

4 that, since 1 August 2018, all satellite network filings are submitted to the Bureau through the e-Submission of Satellite Network Filings;

5 that, since 23 October 2019, all correspondence relating to the submission and commenting of satellite network filings could be communicated through e-Communications;

6 that, since 1 September 2018, reports of harmful interference affecting space services have been submitted by administrations through the Satellite Interference Reporting and Resolution System (SIRRS) implemented by the Bureau for this purpose,

resolves

1 that, as from 3 June 2000, all notices (AP4/II and AP4/III), radio astronomy notices (AP4/IV) and API (AP4/V and AP4/VI) and due diligence information (Resolution **49** **(Rev.WRC‑19)**)for satellite networks and earth stations submitted to BR pursuant to Articles **9** and **11** shall be submitted in electronic format compatible with the BR electronic notice form capture software (SpaceCap);

2 that, as from 17 November 2007, all notices for satellite networks, earth stations and radio astronomy stations submitted to BR pursuant to Articles **9** and **11**, as well as Appendices **30** and **30A** and Resolution **49 (Rev.WRC‑19)**, shall be submitted in electronic format compatible with the BR electronic notice form capture software (SpaceCap and SpaceCom);

3 that, as from 1 June 2008, all notices for satellite networks and earth stations submitted to BR pursuant to Appendix **30B** shall be submitted in electronic format compatible with the BR electronic notice form capture software (SpaceCap);

4 that, as from 1 July 2009, comments/objections submitted to BR in accordance with Nos. **9.3** and **9.52** with respect to Nos. **9.11** to **9.14** and **9.21** of Article **9**, or in accordance with § 4.1.7, 4.1.9, 4.1.10, 4.2.10, 4.2.13 or 4.2.14 of Appendices **30** and **30A** with respect to modification to the Region 2 Plan or to additional uses in Regions 1 and 3 under Article 4 and use of the guardbands under Article 2A of those Appendices, shall be submitted in electronic format compatible with the BR electronic notice form capture software (SpaceCom);

5 that, as from 18 February 2012, all requests for inclusion or exclusion submitted to BR under No. **9.41** of Article **9** shall be submitted in electronic format compatible with the BR electronic notice form capture software (SpaceCom);

6 that, since 3 June 2000, all graphical data associated with the submissions addressed in *resolves*1, 2 and 3 should be submitted in graphics data format compatible with BR’s data capture software (graphical interference management system (GIMS));

7 that all information indicated in *resolves*1 to 6, in Annexes 1 and 2 to Resolution **35 (WRC-19)**, in Annex 2 to Resolution **552 (Rev.WRC-19)** and in the Attachment to Resolution **553 (Rev.WRC-19)** under § 8 and § 9, shall be submitted to the Bureau, using the ITU web interface e-Submission of Satellite Network Filings;

8 that the administrative correspondence between administrations and the Bureau related to the advance publication, coordination, notification and recording processes, including correspondence related to Appendices **30**, **30A** and **30B**, for satellite networks, earth stations and radio astronomy stations shall be communicated, whenever possible, using the ITU web interface e-Communications;

9 that reports of harmful interference affecting space services and associated correspondence exchanged between administrations and the Bureau in accordance with Article **15** and No. **13.2** of the Radio Regulations shall be submitted, whenever possible, using the ITU web interface SIRRS;

10 that, wherever the words “telegram”, “telex” or “fax” are inserted in provisions related to the advance publication, coordination, notification and recording processes of satellite /networks, earth stations and radio astronomy stations, including the provisions contained in Appendices **30**, **30A** and **30B**, e-Communications shall be used instead;

11 that other, traditional means of communication can be used in case of difficulty encountered in *resolves*8, 9 and 10,

instructs the Radiocommunication Bureau

1 to make available coordination requests and notifications referred to in *resolves*1 “as received” within 30 days of receipt on its website;

2 to provide administrations with the latest versions of the capture and validation software and any necessary technical means, training and manuals, along with any assistance requested by administrations to enable them to comply with *resolves*1 to 4 above;

3 to integrate the validation software with the capture software to the extent practicable;

4 to continue to develop and improve e-Submission of Satellite Network Filings, e‑Communications and SIRRS to meet the needs of the Radio Regulations with respect to the submission of, and comments to, satellite network filings, as well as the associated correspondence.

**SUP**

RESOLUTION 907 (Rev.WRC‑15)

Use of modern electronic means of communication for administrative correspondence related to advance publication, coordination and   
notification of satellite networks including that related to   
Appendices 30, 30A and 30B, earth stations and   
radio astronomy stations

**SUP**

RESOLUTION 908 (rev.WRC‑15)

Electronic submission and publication of satellite network filings

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

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)
2. 1 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 (Terrestrial Services). [↑](#footnote-ref-2)
3. Canada notes that this matter may also be covered in some proposals under other agenda items and proper coordination should take place during WRC-23 to avoid duplication of efforts. [↑](#footnote-ref-3)
4. 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-4)
5. 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-5)
6. 1 The coordination under Nos. **9.11A** to **9.19** applies only to assignments in frequency bands allocated with equal rights.      (WRC‑15) [↑](#footnote-ref-6)
7. 2 For the purpose of effecting coordination, an assignment for which the process of obtaining agreement under No. **9.21** has been initiated is considered to be in conformity with No. **11.31** with respect to No. **9.21**. [↑](#footnote-ref-7)
8. 4 The associated space network characteristics must have been communicated to the Bureau under No. **9.30** or under § 4.1.3/4.2.6 of Article 4 of Appendix **30** or § 4.1.3/4.2.6 of Article 4 of Appendix **30A**.     (WRC‑2000) [↑](#footnote-ref-9)
9. 1 This Resolution does not apply to satellite networks or satellite systems of the broadcasting-satellite service in the frequency band 21.4-22 GHz in Regions 1 and 3. [↑](#footnote-ref-10)
10. 2 See § 2.3 of Appendix **30B (Rev.WRC‑19)**. [↑](#footnote-ref-11)
11. \* NOTE − In cases where a contract for satellite procurement covers more than one satellite, the relevant information shall be submitted for each satellite. [↑](#footnote-ref-12)
12. 1 This information has already been provided by the administration under the provisions of Article **11** and will be inserted by the Radiocommunication Bureau (BR). [↑](#footnote-ref-13)
13. 5 For submissions under this special procedure, the coordination information is receivable at the same date as that of the advance publication information. [↑](#footnote-ref-14)
14. 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-16)
15. 1 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 (Terrestrial Services). [↑](#footnote-ref-17)
16. 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-18)
17. 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-19)
18. 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-20)
19. 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-21)
20. 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-22)
21. 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-23)
22. 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-24)
23. 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-25)
24. 15*bis* For frequency assignments recorded in the List and brought into use before 23 November 2019, the criteria of § 2.2 of this Annex are not applicable.     (WRC-19) [↑](#footnote-ref-26)
25. 1 This Resolution does not apply to satellite networks or satellite systems of the broadcasting-satellite service in the frequency band 21.4-22 GHz in Regions 1 and 3. [↑](#footnote-ref-27)
26. 2 See § 2.3 of Appendix **30B (Rev.WRC‑19)**. [↑](#footnote-ref-28)
27. 8 Including a computational precision of 0.05 dB. [↑](#footnote-ref-29)
28. 9 (*C*/*N*)*u* is calculated as in Appendix 2 to Annex 4 to Appendix **30B**. [↑](#footnote-ref-30)
29. 10 The reference values within the service area are interpolated from the reference values at the test points. [↑](#footnote-ref-31)
30. 11 (*C*/*N*)*d* is calculated as in Appendix 2 to Annex 4 to Appendix **30B**. [↑](#footnote-ref-32)
31. 12 (*C*/*N*)*t* is calculated as in Appendix 2 to Annex 4 to Appendix **30B**. [↑](#footnote-ref-33)
32. 13 Inclusive of the 0.05 dB computational precision. [↑](#footnote-ref-34)