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| **World Radiocommunication Conference (WRC-15)Geneva, 2–27 November 2015** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
|  |  |
| PLENARY MEETING | **Addendum 2 toDocument 16(Add.23)-E** |
|  | **16 October 2015** |
|  | **Original: English** |
|  |
| Canada |
| Proposals for the work of the conference |
|  |
| Agenda item 9.2 |

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

9.2 on any difficulties or inconsistencies encountered in the application of the Radio Regulations; and

General matters

Canada acknowledges the efforts taken by the Radiocommunication Bureau to identify and provide in the Director’s Report to WRC-15 any errors, inconsistencies and out-of-date provisions encountered in the application of the 2012 edition of the Radio Regulations, as well as the Bureau’s proposed “correct text” and “possible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 Revision 1 to Document 4, Addendum 2. Note, in some cases, additional proposals or other measures with which to resolve a given error or inconsistency may be provided.

# 1 Proposals related to section 2.2.1, Table 1

Canada has reviewed Table 1 to Section 2.2.1 contained in Revision 1 of Addendum 2 to Document 4 and supports the corrective action, as presented by the Bureau, for the cases listed below:

MOD CAN/16A23A2/1

| **#** | **Language** | **Page** | **Incorrect or missing text** | **Correct text** |
| --- | --- | --- | --- | --- |
|  |  | **Vol. 1** | Preamble |  |
| 1 | All | 3 | **0.3** In using frequency bands for radio services, Members shall bear in mind that radio frequencies and the geostationary-satellite orbit are limited natural resources and that they must be used rationally, efficiently and economically, in conformity with the provisions of these Regulations, so that countries or groups of countries may have equitable access to both, taking into account the special needs of the developing countries and the geographical situation of particular countries (No. 196 of the Constitution). | **0.3** In using frequency bands for radio services, Members shall bear in mind thatradio frequencies and any associated orbits, including the geostationary-satellite orbit, are limited natural resources and that they must be used rationally, efficiently and economically, in conformity with the provisions of these Regulations, so that countries or groups of countries may have equitable access to those orbits and frequencies, taking intoaccount the special needs of the developing countries and the geographical situation of particular countries (No. 196 of the Constitution). |
|  |  | **Vol. 1** | Articles |  |
| 3 | All | 47 | **RR5-11*****(Region 1)*****283.5-315**AERONAUTICAL RADIONAVIGATIONMARITIME RADIONAVIGATION(radiobeacons) 5.735.72 5.74 | **RR5-11*****(Region 1)*****283.5-315**AERONAUTICAL RADIONAVIGATIONMARITIME RADIONAVIGATION(radiobeacons) 5.735.74 |
| 4 | All | 47 | **RR5-11*****(Region 1)*****315-325**AERONAUTICAL RADIONAVIGATIONMaritime radionavigation (radiobeacons) 5.735.72 5.75 | **RR5-11*****(Region 1)*****315-325**AERONAUTICAL RADIONAVIGATIONMaritime radionavigation (radiobeacons) 5.735.75 |
| 5 | All | 47 | **RR5-11*****(Region 1)*****325-405**AERONAUTICAL RADIONAVIGATION5.72 | **RR5-11*****(Region 1)*****325-405**AERONAUTICAL RADIONAVIGATION |
| 6 | All | 47 | **RR5-11*****(Region 1)*****405-415**RADIONAVIGATION 5.765.72 | **RR5-11*****(Region 1)*****405-415**RADIONAVIGATION 5.76 |
| 7 | All | 52 | **RR5-16*****(Region 1)*****1 810-1 850**AMATEUR5.98 5.99 5.100 5.101 | **RR5-16*****(Region 1)*****1 810-1 850**AMATEUR5.98 5.99 5.100 |
| 9 | S | 61 | **RR5-255.141B** *Atribución adicional:*  a partir del 29 de marzo de 2009, … y Yemen, la banda 7 100-7 200 kHz también estará atribuida a título primario a los servicios fijo y móvil salvo móvil aeronáutico (R).     (CMR-03) | **RR5-255.141B** *Atribución adicional:*  a partir del 29 de marzo de 2009, … y Yemen, la banda 7 100-7 200 kHz también estará atribuida, a título primario, a los servicios fijo y móvil salvo móvil aeronáutico (R).     (CMR-03) |
| 10 | S | 84 | **RR5-48328,6-335,4**RADIONAVEGACIÓN AERONÁUTICA 5.259 | **RR5-48****328,6-335,4**RADIONAVEGACIÓN AERONÁUTICA 5.2585.259 |
| 11 | All | 88 | **RR5-52*(Region 1)*****430-432**AMATEURRADIOLOCATION5.271 5.272 5.273 5.2745.275 5.276 5.277 | **RR5-52*(Region 1)*****430-432**AMATEURRADIOLOCATION5.271 5.2745.275 5.276 5.277 |
| 12 | All | 88 | **RR5-52*(Region 1)*****432-438**AMATEURRADIOLOCATIONEarth exploration-satellite (active) 5.279A5.138 5.271 5.272 5.276 5.277 5.280 5.281 5.282 | **RR5-52*(Region 1)*****432-438**AMATEURRADIOLOCATIONEarth exploration-satellite (active) 5.279A5.138 5.271 5.276 5.277 5.280 5.281 5.282 |
| 13 | All | 88 | **RR5-52*(Region 1)*****438-440**AMATEURRADIOLOCATION5.271 5.273 5.274 5.275 5.276 5.277 5.283 | **RR5-52 *(Region 1)*****438-440**AMATEURRADIOLOCATION5.271 5.274 5.275 5.276 5.277 5.283 |
| 17 | S | 110 | **RR5-745.388** Las bandas 1 885-2 025 MHz y 2 110-2 200 MHz están destinadas a su utilización, a nivel mundial, por las administraciones que desean introducir las telecomunicaciones móviles internacionales 2000 (IMT). Dicha utilización no excluye el uso de estas bandas por otros servicios a los que están atribuidas. Las bandas de frecuencias deberían ponerse a disposición de las IMT 2000 de acuerdo con lo dispuesto en la Resolución 212 (Rev.CMR-97)**[[1]](#footnote-1)\***. Véase también la Resolución 223 (CMR-2000)\*.)      (CMR-2000) | **RR5-74**5.388 Las bandas 1 885-2 025 MHz y 2 110-2 200 MHz están destinadas a su utilización, a nivel mundial, por las administraciones que desean introducir las telecomunicaciones móviles internacionales (IMT). Dicha utilización no excluye el uso de estas bandas por otros servicios a los que están atribuidas. Las bandas de frecuencias deberían ponerse a disposición de las IMT de acuerdo con lo dispuesto en la Resolución **212 (Rev.CMR-07**)**)**. Véase también la Resolución **223 (Rev.CMR‑07)**).      (CMR-2000) |
| 18 | S | 110 | **RR5-745.388B** Para proteger los servicios fijo y móvil, incluidas las estaciones móviles IMT 2000, en los territorios de Argelia, ..., contra interferencia en el mismo canal, una estación en plataforma a gran altitud que funcione como estación de base IMT 2000 en los países vecinos, en las bandas a las que se refiere el número 5.388A, no rebasará... | **RR5-74**5.388B Para proteger los servicios fijo y móvil, incluidas las estaciones móviles IMT, en los territorios de Argelia, ..., contra interferencia en el mismo canal, una estación en plataforma a gran altitud que funcione como estación de base IMT en los países vecinos, en las bandas a las que se refiere el número 5.388A, no rebasará... |
| 19 | All | 112 | **RR5-76*(Region 1)*****2 450-2 483.5**FIXEDMOBILERadiolocation5.150 5.397 | **RR5-76*(Region 1*****2 450-2 483.5**FIXEDMOBILERadiolocation5.150 |
| 20 | All | 112 | **RR5-76*(Region 1)*****2** **500-2** **520**FIXED 5.410MOBILE except aeronautical mobile 5.384A5.405 5.412 | **RR5-76*(Region 1*****2** **500-2** **520**FIXED 5.410MOBILE except aeronautical mobile 5.384A 5.412 |
| 21 | E, S, F | 113 | **RR5-775.398A** *Different category of service:*In Armenia, Azerbaijan, … | **RR5-775.398A** *Different category of service:*in Armenia, Azerbaijan, … |
| 22 | All | 115 | **RR5-79*(Region 1)*****2** **520-2** **655**FIXED 5.410MOBILE except aeronauticalmobile 5.384ABROADCASTING-SATELLITE 5.413 5.4165.339 5.405 5.412 5.417C 5.417D 5.418B 5.418C | **RR5-79*(Region 1*****2** **520-2** **655**FIXED 5.410MOBILE except aeronauticalmobile 5.384ABROADCASTING-SATELLITE 5.413 5.4165.339 5.412 5.417C 5.417D 5.418B 5.418C |
| 24 | S | 124 | **RR5-885 460-5 470**RADIONAVEGACIÓN 5.449EXPLORACIÓN DE LA TIERRA POR SATÉLITE (activo)INVESTIGACIÓN ESPACIAL (activo)RADIOLOCALIZACIÓN 5.448D5.448B | **RR5-885 460-5 470**EXPLORACIÓN DE LA TIERRA POR SATÉLITE (activo)RADIOLOCALIZACIÓN 5.448DRADIONAVEGACIÓN 5.449INVESTIGACIÓN ESPACIAL (activo)5.448B |
| 25 | S | 124 | **RR5-885 470-5 570**RADIONAVEGACIÓN MARÍTIMAMÓVIL salvo móvil aeronáutico 5.446A 5.450AEXPLORACIÓN DE LA TIERRA POR SATÉLITE (activo)INVESTIGACIÓN ESPACIAL (activo)RADIOLOCALIZACIÓN 5.450B5.448B 5.450 5.451 | **RR5-885 470-5 570**EXPLORACIÓN DE LA TIERRA POR SATÉLITE (activo)MÓVIL salvo móvil aeronáutico 5.446A, 5.450ARADIOLOCALIZACIÓN 5.450BRADIONAVEGACIÓN MARÍTIMAINVESTIGACIÓN ESPACIAL (activo)5.448B 5.450 5.451 |
| 28 | E | 131 | **RR5-955.462A** … −135 + 0.5 (θ − 5) dB(W/m2) in a 1 MHz band for    5° ≤ θ <   5° | **RR5-955.462A** … −135 + 0.5 (θ − 5) dB(W/m2) in a 1 MHz band for    5° ≤ θ <   25° |
| 30 | E | 148 | **RR5-112****18.8-19.3 GHz** FIXED-SATELLITE (space-to-Earth) 5.516.B 5.523A | **RR5-112****18.8-19.3 GHz** FIXED-SATELLITE (space-to-Earth) 5.516B |
| 31 | F | 196 | **RR9-109.52** Si, à la suite des mesures prises aux termes du numéro **9.50**, une administration n'accède pas à la demande de coordination, elle informe l'administration requérante de son désaccord et fournit des renseignements sur celles de ses assignations qui font l'objet du désaccord, dans un délai de quatre mois à compter de la date de publication de la Circulaire hebdomadaire conformément aux dispositions du numéro **9.38**, ou à compter de la date d'envoi des renseignements pour la coordination conformément au numéro **9.29**. … | **RR9-109.52** Si, à la suite des mesures prises aux termes du numéro **9.50**, une administration n'accède pas à la demande de coordination, elle informe l'administration requérante de son désaccord et fournit des renseignements sur celles de ses assignations qui font l'objet du désaccord, dans un délai de quatre mois à compter de la date de publication de la Circulaire BR IFIC conformément aux dispositions du numéro **9.38**, ou à compter de la date d'envoi des renseignements pour la coordination conformément au numéro **9.29**. … |
| 32 | S | 220 | RR13-213.6 *b)* cuando de la información disponible se desprenda que una asignación inscrita no se ha puesto en servicio, ha quedado fuera de uso o continúa en funcionamiento pero no de conformidad con las características requeridas notificadas según se especifica en el Apéndice **4**,…. | RR13-213.6 *b)* cuando de la información fiable disponible se desprenda que una asignación inscrita no se ha puesto en servicio, ha quedado fuera de uso o continúa en funcionamiento pero no de conformidad con las características requeridas notificadas según se especifica en el Apéndice **4**,…. |
| 33 | All | 229 | **RR15-315.21** … in particular Article **45** of the Constitution… | **RR15-315.21**… in particular Article 45 of the Constitution… |
| 34 | All | 229 | **RR15-315.22** … provisions of Article **45** of the Constitution… | **RR15-315.22** … provisions of Article 45 of the Constitution… |
| 35 | E | 259 | **RR21-321.8** … where θ is the angle of elevation of the horizon viewed from the centre of radiation of the antenna of the earth station and measured in degrees as positive above the horizontal plane and negative below it. | **RR21-321.8** … where θ is the angle of elevation of the horizon viewed from the centre of radiation of the antenna of the earth station and measured in degrees as positive above the horizontal plane and negative below it. |
| 36 | All | 260 | **RR21-4**Table **21-3** (Rev.WRC-12)

|  |  |
| --- | --- |
| 14.25-14.3 GHz  | (with respect to the countries listed inNos. **5.505**, **5.508** and **5.509**) |

 | **RR21-4**Table **21-3** (Rev.WRC-12)

|  |  |
| --- | --- |
| 14.25-14.3 GHz  | (with respect to the countries listed inNos. **5.505** and **5.508**) |

 |
| 39 | F | 286 | **RR22-16**32 **22.22.1** La zone tranquille de la Lune comprend la partie de la surface de la Lune et le volume d'espace adjacent qui sont protégés des émissions provenant d'un point situé à moins de 100 000 km du centre de la Terre. | **RR22-16**32 **22.22.2** Le niveau de brouillage préjudiciable est fixé par accord entre les administrations intéressées compte tenu des Recommandations pertinentes de l'UIT-R. |
| 40 | All | 288 | **RR22-1822.32** **§ 10 …**48   180 1 dB(W/40 kHz) | **RR22-1822.32** **§ 10 …**48   180 11 dB(W/40 kHz) |
| 47 | S, F | 359 | **RR42-142.3** …in the appropriate section of Appendix16 (Section IV, “Aircraft stations”). | **RR42-142.3**…in the appropriate section of Appendix16 (Section IV, “Stations on board aircraft”). |
| 49 |  | **Vol. 2** | Appendices | Appendices |
| 51 | F | 104 | **AP4-78C – CARACTÉRISTIQUES À FOURNIR POUR CHAQUE GROUPE D'ASSIGNATION DE FRÉQUENCE D'UN FAISCEAU D'ANTENNE DE SATELLITE OU D'UNE ANTENNE DE STATION TERRIENNE OU D'UNE ANTENNE DE STATION DE RADIOASTRONOMIE** | **AP4-78 D – CARACTÉRISTIQUES GLOBALES DES LIAISONS** |
| 53 | F | 232 | **AP8-2**A : direction, à partir du satellite S, de la station terrienne d'émission eT pour la iaison par atellite A; | **AP8-2**A : direction, à partir du satellite S, de la station terrienne d'émission eT pour la liaison par satellite A; |
| 54 | All | 234 | **AP8-4** (4) | **AP8-4** (4) |
| 55 | All | 234 | **AP8-4** (7) | **AP8-4** (7) |
| 56 | E, C | 235 | **AP8-5****2.2.2.1 Simple frequency-changing transponder on board the satellite**s (10) | **AP8-5****2.2.2.1 Simple frequency-changing transponder on board the satellite** (10) |
| 57 | All | 238-241 | **AP8** Annex I, Annex II, Annex III, Annex IV | **AP8**Annex 1, Annex 2, Annex 3, Annex 4 |
| 58 | F | 239 | **AP8-9 (PDF version only)***a)* La distance *d* entre une station terrienne et un satellite géostationnaire est donnée par la formule: | **AP8-9 (PDF version only)***a)* La distance *d* entre une station terrienne et un satellite géostationnaire est donnée par la formule: |
| 59 | ALL | 240 | **AP8-10**a) for values of 4 (maximum gain ≥ 48 dB approximately):…*b) for values of 4 (maximum gain ≥ 48 dB approximately):* | **AP8-10**a) for values of 4 (maximum gain ≥ 48 dBi approximately):… b) for values of 4 (maximum gain ≥ 48 dBi approximately): |
| 60 | E, C | 241 | **AP8-11**G(φ) = −10 − 10 log  for 48°≤ φ ≤180° | **AP8-11**G(φ) = 10 − 10 log  for 48°≤ φ ≤180° |
| 61 | E, A, S, F, R | 242 | **AP8-12****2 Input data**The values of the network parameters given in the table below are derived from those published in accordance with Appendix **4**.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Symbol\*** | **Value** | **Unit** |
| … |  |  |  |
| Downlink at 3 950 MHz | *P*′*s**G*′3(η*e*)*G*4(θ*t*)*Ld* |  −57 −15.5 14.5 196 | dB(W/Hz)dBdBdB |
|  | 10 log γ*T*θ*t* |  15 105 5 | dBKdegrees |

 | **AP8-12****2 Input data**The values of the network parameters given in the table below are derived from those published in accordance with Appendix **4**.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Symbol\*** | **Value** | **Unit** |
| … |  |  |  |
| Downlink at 3 950 MHz | *P*′*s**G*′3(η*e*)*G*4(θ*t*)*Ld* |  −57 15.5 14.5 196 | dB(W/Hz)dBdBdB |
|  | 10 log γ*T*θ*t* |  −15 105 5 | dBKdegrees |

 |
| 64 | F | 480 | **AP30-4**2A.1.1 La coordination entre les assignations destinées à assurer les fonctions d'exploitation spatiale et les assignations du SRS relevant d'un Plan est effectuée conformément aux dispositions de l'Article 7.     (CMR‑07) | **AP30-4**2A.1.1 La coordination entre les assignations destinées à assurer les fonctions d'exploitation spatiale et les assignations du SRS relevant d'un Plan est effectuée conformément aux dispositions de l'Article 7. |
| 65 | E | 489 | **AP30-13**4.2.3 *c)* …modifications to that Plan have been re*c*eived by the Bureau… | **AP30-13**4.2.3 *c)*…modifications to that Plan have been received by the Bureau… |
| 66 | All | 489 | **AP30-13****4.2.6**14 The provisions of Resolution **533 (Rev.WRC‑2000)** apply.  (WRC‑03) | **AP30-13****4.2.6**14 The provisions of Resolution **533 (Rev.WRC‑2000)\*\*** apply.  (WRC‑03)\*\* *Note by the Secretariat*: This Resolution was abrogated by WRC-12. |
| 67 | E, A, C, S, R | 492 | **AP30-16**4.2.16 …Article **5**… | **AP30-16**4.2.16 …Article 5… |
| 68 | E, A, C, S, R | 493 | **AP30-17**4.2.23 …Article **5**… | **AP30-17**4.2.23 …Article 5… |
| 69 | E | 505 | **AP30-29**TABLE 3

|  |  |  |  |
| --- | --- | --- | --- |
| BeamName | Channels | LimitCriteria ref.Table 2 | Countries or geographical areas affected3\* |

 | **AP30-29**TABLE 3

|  |  |  |  |
| --- | --- | --- | --- |
| BeamName | Channels | LimitCriteria ref.Table 2 | Countries or geographical areas affected\* |

 |
| 70 | A, S | 570 | **AP30-94**–148 dB(W/(m2 ⋅ 4 kHz)) for θ ≤ 5°–148 + 0.5 (θ – 5) dB(W(m2 ⋅ 4 kHz) for 5° < θ ≤ 25°–138 dB(W/(m2 ⋅ 4 kHz)) for 25° < θ ≤ 90° | **AP30-94**–148 dB(W/(m2 ⋅ 4 kHz)) for θ ≤ 5°–148 + 0.5 (θ – 5) dB(W/(m2 ⋅ 4 kHz) for 5° < θ ≤ 25°–138     dB(W/(m2 ⋅ 4 kHz)) for 25° < θ ≤ 90° |
| 76 | F | 797 | **AP30B-31**1.7.3 La température de bruit du système de réception de la station spatiale à la sortie de l'antenne de réception est la suivante: 1 000 K pour la bande des 6 GHz; 1 500 K pour la bande des 13 GHz. | **AP30B-31**1.7.3 La température de bruit du système de réception de la station spatiale à la sortie de l'antenne de réception est la suivante: 500 K pour la bande des 6 GHz; 550 K pour la bande des 13 GHz. |
| 79 |  | **Vol. 3** | Resolutions | Resolutions |
| 80 | All | 59 | **RESOLUTION 49 (REV. WRC-12)***resolves* 6 that if the complete due diligence information is not received by the Bureau before the expiry date specified in *resolves* 2 or 2*bis* above, ... | **RESOLUTION 49 (REV. WRC-12)***resolves* 6 that if the complete due diligence information is not received by the Bureau before the expiry date specified in *resolves* 2, 2*bis* or 3 above, ... |

# 2 Additional proposals related to Section 2.2.1

Canada has identified other inconsistencies or errors in addition to those described in Table 1 to Section 2.2.1 of Document 4, Addendum 2, Revision 1.

ARTICLE 11

Notification and recording of frequency
assignments1, 2, 3, 4, 5, 6, 7, 7*bis*    (WRC‑12)

MOD CAN/16A23A2/2

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7 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.

**Reasons:** Correct formatting error by inserting a space between the words “corresponding” and “entries”.

ARTICLE 19

Identification of stations

Section IV − Identification of stations using radiotelephony

MOD CAN/16A23A2/3

19.74 2) *Ship stations*

– a call sign (see No. 19.); *or*

– the official name of the ship preceded, if necessary, by the name of the owner on condition that there is no possible confusion with distress, urgency and safety signals; *or*

– its selective call number or signal.

**Reasons:** No. 19.56 was abrogated by WRC-07.

ARTICLE 56

Narrow-band direct-printing telegraphy

MOD CAN/16A23A2/4

56.3 § 3 Before transmitting, a station shall take precautions to ensure that its emissions will not interfere with transmissions already in progress; if such interference is likely, the station shall await an appropriate break in the communications in progress. This obligation does not apply to stations where unattended operation is possible through automatic means.

**Reasons:** No. 47.3 was abrogated by WRC-03.

APPENDIX 8 (REV.WRC‑03)

Method of calculation for determining if coordination is required between geostationary-satellite networks sharing the same frequency bands

MOD CAN/16A23A2/5

ANNEX 3

Radiation patterns for earth station antennas to be used
when they are not published

When neither measured data nor relevant ITU‑R Recommendations accepted by the administrations concerned are available then administrations should use the reference patterns as described below (dBi):

a) for values of [[2]](#footnote-2)4 (maximum gain ≥ 48 dBi approximately):

 *G*(φ) = *Gmax* − 2.5 × 10−3  for 0 < φ < φ*m*

 *G*(φ) = *G*1 for φ*m* ≤ φ < φ*r*

 *G*(φ) = 32 − 25 log φ for φ*r* ≤ φ < 48°

 *G*(φ) = −10 for 48° ≤ φ <180°

where:

|  |  |  |
| --- | --- | --- |
|  *D*: | antenna diameter |  expressed in the same unit |
|  λ: | wavelength |

 φ: off-axis angle of the antenna, in degrees, equal to θ*t* or θ*g*, as applicable

 *G*1: gain of the first sidelobe = 2 + 15 log 

           degrees

           degrees

*b)* for values of 4 (maximum gain < 48 dBi approximately):

 *G*(φ) = *Gmax* − 2.5 × 10−3  for 0 < φ < φ*m*

 *G*(φ) = *G*1 for φ*m* ≤ φ < 

 *G*(φ) = 52 − 10 log  − 25 log φ for  ≤ φ < 48°

 *G*(φ) = 10 − 10 log  for 48° ≤ φ ≤ 180°

The above patterns may be modified as appropriate to achieve a better representation of the actual antenna pattern.

**Reasons:** The absolute gain is relative to an isotropic antenna and should be stated in dBi. Supports also other corrections, as proposed by the BR in Table 1 to Section 2.2.1 contained in Revision 1 to Addendum 2 to Document 4.

MOD CAN/16A23A2/6

ANNEX 4

Example of an application of Appendix 8

MOD CAN/16A23A2/7

# 1 General

In this example of Case I (see § 2.2.1), two identical satellite networks each with a simple frequency-changing transponder and a global coverage antenna are assumed.

All topocentric angles θ*t* are assumed to be equal to 5°.

For this angular separation and for an earth station antenna with *D*/λ greater than 100, the reference radiation pattern (32 − 25 log θ*t*) gives a gain of 14.5 dBi in the direction of the satellite of the other network.

The input data are furnished in § 2 below and are expressed in decibels except for the parameters *T* and θ*t*. In § 3 the calculations are performed in decibels.

It may be noted that since both satellites use global beams there is practically no antenna discrimination between wanted and unwanted signals at the satellite, and that this constitutes a worst case.

**Reasons:** The absolute gain is relative to an isotropic antenna and should be stated in dBi. Supports also correction to annex title, as proposed by the BR in Table 1 to Section 2.2.1 contained in Revision 1 to Addendum 2 to Document 4.

MOD CAN/16A23A2/8

# 2 Input data

The values of the network parameters given in the table below are derived from those published in accordance with Appendix 4.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Symbol\* | Value | Unit |
| Uplink at 6 175 MHz | *P*′*e**G*′1(θ*t*)*G*2(δ*e*′)*Lu* |  −37 14.5 15.5 200 | dB(W/Hz)dBidBidB |
| Downlink at 3 950 MHz | *P*′*s**G*′3(η*e*)*G*4(θ*t*)*Ld* |  −57 15.5 14.5 196 | dB(W/Hz)dBidBidB |
|  | 10 log γ*T*θ*t* |  −15 105 5 | dBKdegrees |
| \* All capital symbols, except *T*, refer to parameters given in logarithmic units. |

**Reasons:** The absolute gain is relative to an isotropic antenna and should be stated in dBi. Supports also other corrections as proposed by the BR in Table 1 to Section 2.2.1 contained in Revision 1 to Addendum 2 to Document 4.

# 3 Proposals related to section 2.2.2.1, Table 2

Canada has reviewed Table 2 to Section 2.2.2.1 contained in Revision 1 to Addendum 2 to Document 4 and supports the corrective action, as presented by the Bureau, for the cases listed below:

MOD CAN/16A23A2/9

| # | Language | Page – provision | Nature of inconsistency | Possible corrective action |
| --- | --- | --- | --- | --- |
|  |  | Volume, page | ARTICLES/APPENDIX | ARTICLES/APPENDIX |
|  |  | Volume 1 | Article 5 | Article 5 |
| 1 | All | 89 | 5.279A The use of this band by sensors in the Earth exploration-satellite service… | 5.279A The use of the band 432-438 MHz by sensors the Earth exploration-satellite service… |
| 2 | All | 120 | **5.432** *Different category of service:*in Korea (Rep. of), Japan and Pakistan, the allocation of the band 3 400-3 500 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. **5.33**). (WRC‑2000) | To move this footnote from the bottom of the box of the Table (i.e. Region 3, 3 400-3 500 MHz) and to place it next to “Mobile”, since it applies to the mobile service only |
| 5 |  | Volume 1 | Article 11 | Article 11 |
| 6 | All | 210 | **11.48** | Inconsistency between 11.48 & para 8 of Annex 1 to Res 552, 30 days after 7 years should be added to 11.48 |
| 7 |  | Volume 2 | Appendix 4 | **Appendix 4** |
| 8 | All | 87 | B.3.e | A + symbol should be added for Appendix 30 submissions. |
| 9 |  | Volume 3 | Resolutions and Recommendations | **Resolutions and Recommendations** |
| 10 | All | 309 | RESOLUTION 608 (WRC-03)Use of the frequency band 1 215-1 300 MHz by systems of the radionavigation-satellite service (space-to-Earth | Add a note by the Secretariat referred to Sudan in *recognizing* 2, indicating its partition into two independent States in 2011. |

# 4 Proposals related to section 2.2.3, Table 3

Canada has reviewed Table 3 to Section 2.2.3 contained in Revision 1 to Addendum 2 to Document 4 and supports the corrective action, as presented by the Bureau, for the cases listed below:

MOD CAN/16A23A2/10

| # | Page | Current RR text that may require update | Possible course of action |
| --- | --- | --- | --- |
|  | Volume 1, ARTICLE 5 |
| 1 | 81 | 5.224A The use of the bands 149.9-150.05 MHz and 399.9-400.05 MHz by the mobile-satellite service (Earth-to-space) is limited to the land mobile-satellite service (Earth-to-space) until 1 January 2015.     (WRC-97) | Suppress because of reference to past date. Restriction on use will be obsolete at time of WRC-15 |
| 2 | 81 | 5.224B The allocation of the bands 149.9-150.05 MHz and 399.9-400.05 MHz to the radionavigation-satellite service shall be effective until 1 January 2015.     (WRC-97) | Suppress because of reference to past date. Allocation will be obsolete at time of WRC-15.(Consequential MOD/SUP also required to Nos. **5.220**, **5.222**, **5.223**, **5.260** and AP**7**) |
| 3 | 94 | 5.312 *Additional allocation*:  in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 645-862 MHz, in Bulgaria the bands 646-686 MHz, 726-758 MHz, 766-814 MHz and 822-862 MHz, in Romania the band 830-862 MHz, and in Poland, the band 830-860 MHz until 31 December 2012 and the band 860-862 MHz until 31 December 2017, are also allocated to the aeronautical radionavigation service on a primary basis.    (WRC‑12) | Modify since the some portion of the bands of additional allocation is referenced to past date. Allocation will be obsolete at time of WRC-15. |
| 4 | 94 | 5.313A …. In China, the use of IMT in this band will not start until 2015. | Modify the footnote because of reference to 2015. |
| 5 | 94 | 5.316 *Additional allocation:*  in Germany, Saudi Arabia, Bosnia and Herzegovina, Burkina Faso, Cameroon, Côte d'Ivoire, Croatia, Denmark, Egypt, Finland, Greece, Israel, Jordan, Kenya, Libya, The Former Yugoslav Republic of Macedonia, Liechtenstein, Mali, Monaco, Montenegro, Norway, the Netherlands, Portugal, the United Kingdom, the Syrian Arab Republic, Serbia, Sweden and Switzerland, the band 790-830 MHz, and in these same countries and in Spain, France, Gabon and Malta, the band 830-862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis. However, stations of the mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, stations of services operating in accordance with the Table in countries other than those mentioned in connection with the band. This allocation is effective until 16 June 2015.     (WRC‑07) | Suppress because of reference to past date. Additional allocation will be obsolete at time of WRC-15 |
| 6 | 95 | 5.316A *Additional allocation:*  in Spain, France, Gabon and Malta, the band 790-830 MHz, in Albania, Angola, Bahrain, Benin, Botswana, Burundi, Congo (Rep. of the), Egypt, United Arab Emirates, Estonia, Gambia, Ghana, Guinea, Guinea-Bissau, Hungary, Iraq, Kuwait, Lesotho, Latvia, Lebanon, Lithuania, Luxembourg, Malawi, Morocco, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Uganda, Poland, Qatar, Slovakia, Czech Rep., Romania, Rwanda, Senegal, Sudan, South Sudan, South Africa, Swaziland, Tanzania, Chad, Togo, Yemen, Zambia, Zimbabwe and French overseas departments and communities of Region 1, the band 790-862 MHz and in Georgia, the band 806-862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis subject to the agreement by the administrations concerned obtained under No. **9.21** and under the GE06 Agreement, as appropriate, including those administrations mentioned in No. **5.312**, where appropriate. See Resolutions **224 (Rev.WRC‑12)** and **749 (Rev.WRC‑12)**. This allocation is effective until 16 June 2015.    (WRC‑12) | Suppress because of reference to past date. Additional allocation will be obsolete at time of WRC-15 |
| 7 | 95 | 5.316B In Region 1, the allocation to the mobile, except aeronautical mobile, service on a primary basis in the frequency band 790-862 MHz shall come into effect from 17 June 2015 and shall be subject to agreement obtained under No. **9.21** with respect to the aeronautical radionavigation service in countries mentioned in No. **5.312**. For countries party to the GE06 Agreement, the use of stations of the mobile service is also subject to the successful application of the procedures of that Agreement. Resolutions **224 (Rev.WRC‑12)** and **749 (Rev.WRC‑12)** shall apply, as appropriate.    (WRC‑12) | Modify because the text of footnote may require updating at WRC-15 due to a lapsed date. |
| 8 | 104 | 5.362B *Additional allocation:* The band 1 559-1 610 MHz is also allocated to the fixed service on a secondary basis in Algeria, Saudi Arabia, Armenia, Azerbaijan, Belarus, Benin, Cameroon, Russian Federation, Gabon, Georgia, Guinea, Guinea-Bissau, Jordan, Kazakhstan, Libya, Lithuania, Mali, Mauritania, Nigeria, Uzbekistan, Pakistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Dem. People’s Rep. of Korea, Romania, Senegal, Tajikistan, Tanzania, Tunisia, Turkmenistan and Ukraine until 1 January 2015, at which time this allocation shall no longer be valid. Administrations are urged to take all practicable steps to protect the radionavigation-satellite service and the aeronautical radionavigation service and not authorize new frequency assignments to fixed-service systems in this band.     (WRC‑12) | Suppress because of reference to past date. Allocation will be obsolete at time of WRC-15 |
| 9 | 104 | 5.362C *Additional allocation:* in Congo (Rep. of the), Eritrea, Iraq, Israel, Jordan, Qatar, the Syrian Arab Republic, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the band 1 559-1 610 MHz is also allocated to the fixed service on a secondary basis until 1 January 2015, at which time this allocation shall no longer be valid. Administrations are urged to take all practicable steps to protect the radionavigation-satellite service and not authorize new frequency assignments to fixed-service systems in this band.    (WRC‑12) | Suppress because of reference to past date. Allocation will be obsolete at time of WRC-15 |
| 10 | 129 | 5.458C Administrations making submissions in the band 7 025-7 075 MHz (Earth-to-space) for geostationary-satellite systems in the fixed-satellite service after 17 November 1995 shall consult on the basis of relevant ITU‑R Recommendations with the administrations that have notified and brought into use non-geostationary-satellite systems in this frequency band before 18 November 1995 upon request of the latter administrations. This consultation shall be with a view to facilitating shared operation of both geostationary-satellite systems in the fixed-satellite service and non-geostationary-satellite systems in this band. | Suppress **5.458C** because there are no NGSO systems before 18 Nov 1995 |
| 11 | 173 | 5.562D *Additional allocation*:  In Korea (Rep. of), the bands 128-130 GHz, 171-171.6 GHz, 172.2-172.8 GHz and 173.3-174 GHz are also allocated to the radio astronomy service on a primary basis until 2015.     (WRC‑2000) | Suppress because of allocation is “until 2015”. Ambiguous as to when in 2015. Does the allocation expire or terminate on January 1, 2015? Regardless, the allocation will no longer be relevant in next edition of the RR. (Also need to consider if consequential amendments are required to No. **5.149** and its application in the Table in the bands 123-130 GHz and 167-174.5 GHz) |
| 12 | Volume 2, APPENDICES |
| 13 | 489 | AP30-134.2.614 The provisions of Resolution **533 (Rev.WRC‑2000)** apply.  (WRC‑03) | AP30-134.2.614 The provisions of Resolution 533 (Rev.WRC‑2000)\*\* apply.  (WRC‑03)\*\* *Note by the Secretariat*: This Resolution was abrogated by WRC-12. |
| 14 | 567 | **AP30-91**ANNEX 126 For the protection of analogue assignments brought in service before 17 October 1997, the following values shall be used until 1 January 2015:–147 dB(W/(m2 ⋅ 27 MHz)) for 0° ≤ θ < 0.44°–138 + 25 log θ dB(W/(m2 ⋅ 27 MHz)) for 0.44° ≤ θ < 9°. | **AP30-91**ANNEX 1**Reason:** Suppress because of reference to past date. |
| 15 | 583, 584 | **AP30-107/108**ANNEX 433 For the protection of analogue assignments brought into service before 17 October 1997, the following values shall be used until 1 January 2015:–147 dB(W/(m2 ⋅ 27 MHz)) for 0° ≤ θ < 0.44°–138 + 25 log θ dB(W/(m2 ⋅ 27 MHz)) for 0.44° ≤ θ < 9°. | **AP30-107/108**ANNEX 4**Reason:** Suppress because of reference to past date. |
| 16 | 694 | **AP30A-66**32 The power control values will be calculated after WRC-2000. | **AP30A-66****Reason:** Power control values have been calculated and communicated to all administrations via Circular Letter CR/356. |
| 17 | 770 | **AP30B** - Article 6 Note 11 …See also Resolution **905 (WRC-07)**. | **AP 30B** - Article 6 Note 11 …See also Resolution **905 (WRC-07)** \*\*.\*\* *Note by the Secretariat:* This Resolution was abrogated by WRC-12. |

# 5 Proposals related to section 3.1.2

Canada has reviewed Section 3.1.2 as contained in Revision 1 to Addendum 2 to Document 4 regarding No. 5.511A and No. 5.511D and supports the conclusion of the Director regarding the outdated content of these two provisions. More specifically, Canada supports Option 2 provided in Annex 32 to Document 4A/242 (23 May 2013) and reproduced here to facilitate the consideration and analysis of this option.

ARTICLE 5

Frequency allocations

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

MOD CAN/16A23A2/11

15.4-18.4 GHz

|  |
| --- |
| Allocation to services |
| Region 1 | Region 2 | Region 3 |
| 15.4-15.43 RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION  |
| 15.43-15.63 FIXED-SATELLITE (Earth-to-space) MOD 5.511A RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION 5.511C |
| 15.63-15.7 RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION  |

**Reasons:** No. 5.511D can be removed because it is obsolete. Consequential modification No. 5.511A.

MOD CAN/16A23A2/12

5.511A Use of the band 15.43-15.63 GHz by the fixed-satellite service (space‑to‑Earth and Earth-to-space) is limited to feeder links of non-geostationary systems in the mobile-satellite service, subject to coordination under No. 9.11A.     (WRC‑15)

**Reasons:** Remove fixed-satellite service in the band 15.43-15.63 GHz since the date of entry of these systems has since passed and there are no recorded FSS assignments in the band 15.4-15.7 GHz.

SUP CAN/16A23A2/13

5.511D

**Reasons:** Remove fixed-satellite service in the bands 15.4-15.43 GHz and 15.63-15.7 GHz.

ARTICLE 21

Terrestrial and space services sharing frequency bands above 1 GHz

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

MOD CAN/16A23A2/14

TABLE **21-4**     (Rev.WRC‑12)

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency band | Service\* | Limit in dB(W/m2) for anglesof arrival (δ) above the horizontal plane | Reference bandwidth |
| 0°-5° | 5°-25° | 25°-90° |
|  |  |  |  |  |  |

**Reasons:** Remove fixed-satellite service in the band 15.43-15.63 GHz.

APPENDIX 4 (REV.WRC‑12)

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[[3]](#footnote-3)2    (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

MOD CAN/16A23A2/15

**TABLE A**

GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION

| **Items in Appendix** | ***A \_ GENERAL CHARACTERISTICS OF THE SATELLITE NETWORK, EARTH STATION OR RADIO ASTRONOMY STATION***  | **Advance publication of a geostationary-satellite network** | **Advance publication of a non-geostationary-satellite network subject to coordination under Section II of Article 9** | **Advance publication of a non-geostationary-satellite network 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** | **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.c |  |

**Reasons:** Remove fixed-satellite service in the band 15.43-15.63 GHz.

MOD CAN/16A23A2/16

APPENDIX 5 (REV.WRC‑15)

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

ANNEX 1

# 1 Coordination thresholds for sharing between MSS (space-to-Earth) and terrestrial services in the same frequency bands and between non‑GSO MSS feeder links (space-to-Earth) and terrestrial servicesin the same frequency bands and between RDSS (space-to-Earth) and terrestrial services in the same frequency bands     (WRC‑12)

SUP CAN/16A23A2/17

## 1.3

**Reasons:** Remove outdated information.

APPENDIX 7 (REV.WRC‑12)

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

ANNEX 7

System parameters and predetermined coordination distances for determination of the coordination area around an earth station

# 3 Horizon antenna gain for a receiving earth station with respect to a transmitting earth station

MOD CAN/16A23A2/18

TABLE 8c    (Rev.WRC‑12)

Parameters required for the determination of coordination distance for a receiving earth station

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Receiving spaceradiocommunicationservice designation | Fixed-satellite | Fixed-satellite,radio-determinationsatellite | Fixed-satellite | Fixed-satellite | Meteorological-satellite7, 8 | Meteorological-satellite9 | Earth exploration-satellite7 | Earth exploration-satellite9 | Spaceresearch10 | Fixed-satellite | Broadcasting-satellite |  | Broadcasting-satellite | Fixed-satellite7 |
|  |  |  |  |  |  |  |  |  | Deep space |  |  |  |  |  |  |
| Frequency bands (GHz) | 4.500-4.800 | 5.150-5.216 | 6.700-7.075 | 7.250-7.750 | 7.450-7.550 | 7.750-7.900 | 8.025-8.400 | 8.025-8.400 | 8.400-8.450 | 8.450-8.500 | 10.7-12.75 | 12.5-12.7512 |  | 17.7-17.8 | 17.7-18.819.3-19.7 |
| Transmitting terrestrial service designations | Fixed, mobile | Aeronautical radionavigation | Fixed, mobile | Fixed, mobile | Fixed, mobile | Fixed, mobile | Fixed, mobile | Fixed, mobile | Fixed, mobile | Fixed, mobile | Fixed, mobile |  | Fixed | Fixed, mobile |
| Method to be used | § 2.1 | § 2.1 | § 2.2 | § 2.1 | § 2.1, § 2.2 | § 2.2 | § 2.1 | § 2.2 | § 2.2 | § 2.1, § 2.2 | § 1.4.5 |  | § 1.4.5 | § 2.1 |
| Modulation at earth station1 | A | N |  | N | A | N | N | N | N | N | N | N | A | N | A | N |  |  | N |
| Earth stationinterferenceparametersand criteria | *p*0 (%) | 0.03 | 0.005 |  | 0.005 | 0.03 | 0.005 | 0.002 | 0.001 | 0.083 | 0.011 | 0.001 | 0.1 | 0.03 | 0.003 | 0.03 | 0.003 |  |  | 0.003 |
| *n* | 3 | 3 |  | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 1 |  |  | 2 |
| *p* (%) | 0.01 | 0.0017 |  | 0.0017 | 0.01 | 0.0017 | 0.001 | 0.0005 | 0.0415 | 0.0055 | 0.001 | 0.05 | 0.015 | 0.0015 | 0.03 | 0.003 |  |  | 0.0015 |
| *NL* (dB) | 1 | 1 |  | 1 | 1 | 1 | – | – | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |  |  | 1 |
| *Ms* (dB) | 7 | 2 |  | 2 | 7 | 2 | – | – | 2 | 4.7 | 0.5 | 1 | 7 | 4 | 7 | 4 |  |  | 6 |
| *W* (dB) | 4 | 0 |  | 0 | 4 | 0 | – | – | 0 | 0 | 0 | 0 | 4 | 0 | 4 | 0 |  |  | 0 |
| Terrestrial station parameters | *E* (dBW)in *B*2 | A | 923 | 923 |  | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 25 5 | 255 | 40 | 40 | 55 | 55 |  |  | 35 |
| N | 424 | 424 |  | 42 | 42 | 42 | 42 | 42 | 42 | 42 | −18 | −18 | 43 | 43 | 42 | 42 |  | 40 | 40 |
| *Pt* (dBW) in *B* | A | 403 | 403 |  | 13 | 13 | 13 | 13 | 13 | 13 | 13 | −175 | −175 | −5 | −5 | 10 | 10 |  |  | −10 |
| N | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | −60 | −60 | −2 | −2 | −3 | −3 |  | −7 | −5 |
| *Gx* (dBi) | 523, 4 | 523, 4 |  | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 45 | 45 | 45 | 45 |  | 47 | 45 |
| Reference band-width6 | *B* (Hz) | 106 | 106 |  | 106 | 106 | 106 | 107 | 107 | 106 | 106 | 1 | 1 | 106 | 106 | 27 × 106 | 27 × 106 |  |  | 106 |
| Permissible interference power | *Pr*( *p*) (dBW)in *B* |  |  |  | −151.2 |  |  | −125 | −125 | −15411 | −142 | −220 | −216 |  |  | −131 | −131 |  |  |  |

*Notes to Table 8c:*

1 A: analogue modulation; N: digital modulation.

2 *E* is defined as the equivalent isotropically radiated power of the interfering terrestrial station in the reference bandwidth.

3 In this band, the parameters for the terrestrial stations associated with transhorizon systems have been used. If an administration believes that transhorizon systems do not need to be considered, the line-of-sight radio-relay parameters associated with the frequency band 3.4-4.2 GHz may be used to determine the coordination area.

4 Digital systems assumed to be non-transhorizon. Therefore *Gx* = 42.0 dBi. For digital transhorizon systems, parameters for analogue transhorizon systems above have been used.

5 These values are estimated for 1 Hz bandwidth and are 30 dB below the total power assumed for emission.

6 In certain systems in the fixed-satellite service it may be desirable to choose a greater reference bandwidth *B*. However, a greater bandwidth will result in smaller coordination distances and a later decision to reduce the reference bandwidth may require recoordination of the earth station.

7 Geostationary-satellite systems.

8 Non-geostationary satellites in the meteorological-satellite service notified in accordance with No. **5.461A** may use the same coordination parameters.

9 Non-geostationary-satellite systems.

10 Space research earth stations in the band 8.4-8.5 GHz operate with non-geostationary satellites.

11 For large earth stations: *Pr*(*p*) = (*G* − 180) dBW

 For small earth stations: *Pr*(20%) = 2 (*G* − 26) − 140 dBW for  26 < *G* ≤ 29 dBi

 *Pr*(20%) = *G* − 163 dBW for        *G*  29 dBi

 *Pr*(*p*)% = *G* − 163 dBW for        *G* ≤ 26 dBi

12 Applies to the broadcasting-satellite service in unplanned bands in Region 3.

MOD CAN/16A23A2/19

TABLE 9b

Parameters required for the determination of coordination distance for a transmitting earth station
in bands shared bidirectionally with receiving earth stations

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Space service designation in which the transmittingearth station operates | Fixed-satellite | Fixed-satellite |  | Fixed-satellite | Fixed-satellite | Fixed-satellite3 | Fixed-satellite3 | Earth exploration-satellite,space research |
| Frequency bands (GHz) | 10.7-11.7 | 12.5-12.75 |  | 17.3-17.8 | 17.7-18.4 | 19.3-19.6 | 19.3-19.6 | 40.0-40.5 |
| Space service designation in which the *receiving* earth station operates | Fixed-satellite | Fixed-satellite |  | Broadcasting-satellite | Fixed-satellite, meteorological- satellite | Fixed-satellite3 | Fixed-satellite4 | Fixed-satellite, mobile‑satellite |
| Orbit7 | GSO | Non-GSO | GSO | Non-GSO |  |  | GSO | Non-GSO | GSO | GSO | Non-GSO |
| Modulation at *receiving* earth station1 | A | N | N | A | N |  |  |  | N | N |  |  |  |
| Receiving earth station interference parameters and criteria | *p*0 (%) | 0.03 | 0.003 | 0.03 | 0.003 |  |  | 0.003 | 0.01 | 0.003 | 0.003 |
| *n* | 2 | 2 | 2 | 2 |  |  | 2 | 1 | 2 | 2 |
| *p* (%) | 0.015 | 0.0015 | 0.015 | 0.0015 |  |  | 0.0015 | 0.01 | 0.0015 | 0.0015 |
| *NL* (dB) | 1 | 1 | 1 | 1 |  |  | 1 | 0 | 1 | 1 |
| *Ms* (dB) | 7 | 4 | 7 | 4 |  |  | 6 | 5 | 6 | 6 |
| *W* (dB) | 4 | 0 | 4 | 0 |  |  | 0 | 0 | 0 | 0 |
| Receiving earth station parameters | *Gm* (dBi) 2 |  |  | 51.9 |  |  | 31.2 |  |  | 58.6 | 53.2 | 49.5 | 50.8 | 54.4 |
| *Gr* 5 | 9 | 9 | 10 | 9 | 9 | 1111 |  |  | 9 | 10 | 10 | 9 | 7 12 |
| *min* 6 | 5° | 5° | 6° | 5° | 5° | 10° |  |  | 5° | 5° | 10° | 10° | 10° |
| *Te* (K)8 | 150 | 150 | 150 | 150 |  |  | 300 | 300 | 300 | 300 |
| Reference bandwidth | *B* (Hz) | 106 | 106 | 106 | 106 |  |  | 106 | 106 |  |  |
| Permissible interference power | *Pr*( *p*) (dBW) in *B* | −144 | −144 | −144 | −144 | −144 | −144 |  |  | −138 | −141 |  |  |
| *Notes to Table 9b:*1 A: analogue modulation; N: digital modulation.2 On-axis gain of the receive earth station antenna.3 Feeder links of non-geostationary-satellite systems in the mobile‑satellite service.4 Geostationary‑satellite systems.5 Horizon antenna gain for the receive earth station (refer to § 3 of the main body of the Appendix).6 Minimum elevation angle of operation in degrees (non-GSO or GSO).7 Orbit of the space service in which the receiving earth station operates (GSO or non-GSO).8 The thermal noise temperature of the receiving system at the terminal of the receiving antenna (under clear-sky conditions). Refer to § 2.1 of this Annex for missing values.9 Horizon antenna gain is calculated using the procedure of Annex 5. Where no value of *Gm* is specified, a value of 42 dBi is to be used.10 Horizon antenna gain is calculated using the procedure of Annex 5, except that the following antenna pattern may be used in place of that given in § 3 of Annex 3: *G* = 32 − 25 log φ for 1° ≤ φ < 48°; and *G* = −10 for 48° ≤ φ < 180° (refer to Annex 3 for definition of symbols).11 Non-geostationary horizon antenna gain. *Ge* = *Gmax* (see § 2.2 of the main body of this Appendix) for *G* = 36 − 25 log (φ) > −6 (refer to Annex 3 for definition of symbols).12 Non-geostationary horizon antenna gain. *Ge* = *Gmax* (see § 2.2 of the main body of this Appendix) for *G* = 32 − 25 log (φ) > −10 (refer to Annex 3 for definition of symbols). |

**Reasons:** Remove fixed-satellite service in the band 15.4-15.7 GHz.

MOD CAN/16A23A2/20

VOLUME 4

ITU-R Recommendations incorporated by reference[[4]](#footnote-4)\*

TABLE OF CONTENTS

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 …

**Cross-reference list of the regulatory provisions, including footnotes and Resolutions, incorporating ITU-R Recommendations by reference**

| RecommendationITU-R | Title of the Recommendation | RR provisions and footnotes with ITU-R Recommendations contained in RR Volume 4 |
| --- | --- | --- |
|  |  |  |
| … |

**Reasons:** Remove fixed-satellite service in the band 15.4-15.7 GHz.

# 6 Proposals related to section 3.2.1.1

Canada supports Option 2: MOD § 1 to Appendix 5 as contained in Section 3.2.1.1 of Revision 1 to Addendum 2 to Document 4 and is shown below for reference purposes.

APPENDIX 5 (REV.WRC‑12)

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

MOD CAN/16A23A2/21

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 band is allocated with equal rights, which might affect or be affected, as appropriate, and which are:

(*Editorial note:* if the modification above is adopted, footnote 1 should also be suppressed.)

**Reasons:** Coordination of frequency assignments pertaining to the same service or different services in Article **9** should be considered only when services have equal rights.

# 7 Proposals related to section 3.2.2.3

Canada supports the modifications to Nos. 9.47 and 9.62 as contained in Section 3.2.2.3 of Revision 1 to Addendum 2 to Document 4 and is shown below for reference purposes.

ARTICLE 9

Procedure for effecting coordination with or obtaining agreement of other administrations1, 2, 3, 4, 5, 6, 7, 8, 8*bis*    (WRC‑12)

Section II − Procedure for effecting coordination12, 13

Sub-Section IIB − Acknowledgement of receipt of a request for coordination

MOD CAN/16A23A2/22

9.47 If there is no acknowledgement of receipt within 30 days after the Bureau’s action under No. 9.46, the Bureau shall immediately send a reminder providing an additional fifteen-day period for the response. In the absence of such an acknowledgement within fifteen days, it shall be deemed that the administration which has failed to acknowledge receipt has undertaken:

Sub-Section IID − Action in the event of no reply, no decision or disagreement on a request for coordination

MOD CAN/16A23A2/23

9.62 If the administration concerned fails to respond within thirty days of the Bureau’s action under No. 9.61, the Bureau shall immediately send a reminder providing an additional fifteen-day period for the response. If the administration still fails to respond after the Bureau’s reminder within the fifteen days, the provisions of Nos. 9.48 and 9.49 shall apply.

**Reasons:** To reflect the Bureau’s practice of sending a reminder providing an additional fifteen-day period for the response by administrations.

# 8 Proposals related to section 3.2.2.4.1

MOD CAN/16A23A2/24

Canada has reviewed the recommendation provided by the BR regarding the submission of requests for coordination related to non-GSO satellite systems.

Canada concurs in principle with the BR regarding the treatment for a request for coordination of a non-GSO satellite system. In addition, Canada proposes that the Conference decide, and record in the minutes of the Plenary, to instruct the RRB to develop a new Rule of Procedure to address this issue.

# 9 Proposals related to sections 3.2.2.4.2 to 3.2.2.4.4

MOD CAN/16A23A2/25

Canada believes that the issues raised by the BR regarding the adequacy of limits in Articles **21** and **22**, the coordination of NGSO systems and the BIU as it pertains to NGSO systems require much further studies before any regulatory actions, if required, are taken. Therefore, Canada does not support changes to the Radio Regulations at WRC-15 and does not believe that the RRB should develop Rules of Procedures absent the completion of ITU-R studies for these items.

# 10 Proposals related to section 3.2.3.1

Canada supports the Bureau’s suggestions to No. 11.31.1 as contained in Section 3.2.3.1 of Revision 1 to Addendum 2 to Document 4.

ARTICLE 11

Notification and recording of frequency
assignments1, 2, 3, 4, 5, 6, 7, 7*bis*    (WRC‑12)

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

MOD CAN/16A23A2/26

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11 11.31.1 Conformity with the Table of Frequency Allocations implies the successful application of No. **9.21**, when necessary. However, the recording of the assignment with respect to those objecting administration(s) whose agreement(s) have not been obtained will be with a favourable finding, subject to the condition that the assignment in question shall not cause harmful interference to nor claim protection from the service(s) of the objecting administration(s) from which the agreement was sought and that the notifying administration indicates that efforts have been made to obtain the agreement. With respect to the administration(s) which have not objected under No. **9.21**, the recording of the assignment shall also be made with a favourable finding.     (WRC‑15)

**Reasons:** To encourage administrations to complete to the maximum extent possible the agreement seeking procedure under No. 9.21, in which the notifying administration should indicate to the Bureau that efforts have been made to effect coordination under No. 9.21 with those objecting administrations whose agreements have not been obtained.

# 11 Proposals related to section 3.2.5.2.5

Canada supports the modification in Appendix 4 as contained in Section 3.2.5.2.5 of Revision 1 to Addendum 2 to Document 4 and is shown below for reference purposes.

APPENDIX 4 (REV.WRC‑12)

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-6)2     (Rev.WRC‑12)

Footnotes to Tables A, B, C and D

MOD CAN/16A23A2/27

**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

| **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 subject to coordination under Section II of Article 9** | **Advance publication of a non-geostationary-satellite network 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** | **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.a.2 | the maximum power density, in dB(W/Hz), supplied to the input of the antenna for each carrier type2In the case of Appendix **30B**, required only for notification under Article 8Required if neither C.8.b.2 nor C.8.b.3.b is provided |  |  | **+**  | **+** | **+** | **O** |  |  | **+** | C.8.a.2 |  |

**Reasons:** Currently, the necessary bandwidth and the class of emission shall be submitted for each carrier in a notification under Article 8 of Appendix 30B under data item C.7.a. As a consequence, the maximum power density value for each carrier type, i.e. data item C.8.a.2, should be allowed to be submitted in a notification under Article 8 of Appendix 30B.

MOD CAN/16A23A2/28

**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

| **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 subject to coordination under Section II of Article 9** | **Advance publication of a non-geostationary-satellite network 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** | **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.b.2 | the maximum power density, in dB(W/Hz), supplied to the input of the antenna2For coordination or notification of an Appendix **30A** earth station the values shall include the maximum range of power controlIn the case of Appendix **30B**, required only for submission under Article 6Required if neither C.8.a.2 nor C.8.b.3.b is provided |  |  | **+** | **+** | **+** |  **+ 1** | **X** | **X**  | **X****+** | C.8.b.2 |  |

**Reasons:** Currently, the power density values can only be provided under data item C.8.b.2 for Appendix 30B submissions. Canada is of the view that item C.8.b.2 of Appendix 4 is applicable for a submission under Article 6 of Appendix 30B.

# 12 Proposals related to section 3.2.5.2.8

Canada supports the modification to § 2.4 of Appendix 8 as contained in Section 3.2.5.2.8 of Revision 1 to Addendum 2 to Document 4 and is shown below for reference purposes.

APPENDIX 8 (REV.WRC‑03)

Method of calculation for determining if coordination is required between geostationary-satellite networks sharing the same frequency bands

# 2 Calculation of the apparent increase in equivalent noise temperature of the satellite link subject to an interfering emission

MOD CAN/16A23A2/29

## 2.4 Use of information furnished under Appendix 4

When an administration elects to use information furnished under Appendix 4 with the calculation procedures of § 2.2.1.1 and § 2.2.2.1 in order to formulate comments, the calculations need to be made for both sets of values of γ and *T* furnished. The greater of the two values of Δ*T*/*T* resulting from these calculations is the one to be used.

**Reasons:** § 2.2.1.1 and § 2.2.2.1 are providing explanation on the calculation method for the ΔT/T between geostationary-satellite networks sharing the same frequency bands referring to Appendix 4 information that are no more submitted under Sub-Section IB of Article 9of the Radio Regulations.

# 13 Proposals related to section 3.2.6.1

Canada supports the modification to § 2A.2 of Article 2A of Appendices 30 and 30A as contained in Section 3.2.6.1 of Revision 1 to Addendum 2 to Document 4 and is shown below for reference purposes.

APPENDIX 30 (REV.WRC‑12) \*

Provisions for all services and associated Plans and List1 for
the broadcasting-satellite service in the frequency bands
11.7-12.2 GHz (in Region 3), 11.7-12.5 GHz (in Region 1)
         and 12.2-12.7 GHz (in Region 2)    (WRC‑03)

MOD CAN/16A23A2/30

2A.2 Any assignment intended to provide these functions in support of a geostationary-satellite network in the BSS shall be notified under Article **11** and brought into use within the following time-limitsn:

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

n The time-limit is established at the time when the request is received under § 2A.1.4.

**Reasons:** To clearly define start of regulatory period for assignments submitted under Article 2A of Appendices of 30 and 30A.

# 14 Proposals related to section 3.2.7.3

Canada supports Option 1 MOD to § 6.17 of Article 6 of Appendix 30B as contained in Section 3.2.7.3 of Revision 1 to Addendum 2 to Document 4 and is shown below for reference purposes.

APPENDIX 30B (REV.WRC‑12)

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, 11.2-11.45 GHz and 12.75-13.25 GHz

MOD CAN/16A23A2/31

ARTICLE 6     (REV.WRC‑12)

Procedures for the conversion of an allotment into an assignment, for
the introduction of an additional system or for the modification of
an assignment in the List1, 2     (WRC‑07)

6.17 If agreements have been reached with administrations published in accordance with § 6.7, the administration proposing the new or modified assignment may request the Bureau to have the assignment entered into the List, indicating the final characteristics of the assignment together with the names of the administrations with which agreement has been reached. For this purpose, it shall send to the Bureau the information specified in Appendix 4. In submitting the notice, the administration may request the Bureau to examine the notice under § 6.19, 6.21 and 6.22 (entry into the List) and then the notice submitted separately under Article 8 of this Appendix (notification).

**Reasons:** To clarify Appendix 4notice submitted under the original § 6.17 of Appendix 30B is not valid for examination under Article 8 and therefore a separate submission under Appendix 4 data for Article 8 is required for notification.

# 15 Proposals related to section 3.2.7.4

Canada supports Option 1 MOD to § 6.31 of Article 6 of Appendix 30B as contained in Section 3.2.7.4 of Revision 1 to Addendum 2 to Document 4 and is shown below for reference purposes.

MOD CAN/16A23A2/32

ARTICLE 6     (REV.WRC‑12)

Procedures for the conversion of an allotment into an assignment, for
the introduction of an additional system or for the modification of
an assignment in the List1, 2     (WRC‑07)

6.31 The regulatory time-limit for bringing into use of an assignment to a space station of a satellite network is no more than eight years from the date of receipt by the Bureau of the complete notice under § 6.1.

**Reasons:** This option is simpler and less chance of misinterpretation regarding the planned date of bringing into use.

# 16 Proposals related to section 3.2.8.2

Canada supports the modification to §4.1.3*bis* and §4.2.6*bis* of Article 4 of Appendices 30 and 30A and § 6.31*bis* of Appendix 30B as contained in Section 3.2.8.2 of Revision 1 to Addendum 2 to Document 4 and is shown below for reference purposes.

APPENDIX 30 (REV.WRC‑12) \*

Provisions for all services and associated Plans and List1 for
the broadcasting-satellite service in the frequency bands
11.7-12.2 GHz (in Region 3), 11.7-12.5 GHz (in Region 1)
         and 12.2-12.7 GHz (in Region 2)    (WRC‑03)

ARTICLE 4     (Rev.WRC‑03)

Procedures for modifications to the Region 2 Plan or
for additional uses in Regions 1 and 33

MOD CAN/16A23A2/33

4.1.3*bis*

...

If, within one year of the request for extension, the administration has not provided to the Bureau updated Resolution **49 (Rev.WRC‑03)**\* information for the new satellite under procurement, the related frequency assignments shall lapse. In the absence of this updated information thirty days prior to the expiry of the one year period, the Bureau shall send a reminder to the notifying administration.     (WRC‑15)

(*Editorial note:* Apply the same modification to § 4.2.6*bis* of Appendix **30**, § 4.1.3*bis* of Appendix **30A** and § 4.2.6*bis* of Appendix **30A**).

APPENDIX 30B (REV.WRC‑12)

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, 11.2-11.45 GHz and 12.75-13.25 GHz

MOD CAN/16A23A2/34

ARTICLE 6     (REV.WRC‑12)

Procedures for the conversion of an allotment into an assignment, for
the introduction of an additional system or for the modification of
an assignment in the List1, 2     (WRC‑07)

6.31*bis*

...

If, for a satellite network or satellite system to which Resolution **49 (Rev.WRC‑12)** applies, the administration has not provided to the Bureau updated Resolution **49 (Rev.WRC‑12)** information for the new satellite under procurement within one year of the request for extension, the related frequency assignments shall lapse. In the absence of this updated information thirty days prior to the expiry of the one year period, the Bureau shall send a reminder to the notifying administration.     (WRC‑15)

**Reasons:** To clarify that the Bureau should send a reminder to the notifying administration thirty days before the expiry date of the one-year period to submit the updated Resolution 49 information in case of launch failure, in a similar approach as § 10 of Annex 1 to Resolution 49.

# 17 Proposals related to section 3.2.8.3

Canada supports the modification to § 5.3.1 of Article 5 of Appendices 30 and 30A proposed by the Bureau as contained in Section 3.2.8.3 of Revision 1 to Addendum 2 to Document 4 and is shown below for reference purposes.

APPENDIX 30 (REV.WRC‑12) \*

Provisions for all services and associated Plans and List1 for
the broadcasting-satellite service in the frequency bands
11.7-12.2 GHz (in Region 3), 11.7-12.5 GHz (in Region 1)
         and 12.2-12.7 GHz (in Region 2)    (WRC‑03)

ARTICLE 5     (rev.WRC‑12)

Notification, examination and recording in the Master International
Frequency Register of frequency assignments to space stations
in the broadcasting-satellite service18     (WRC‑07)

MOD CAN/16A23A2/35

## 5.3 Cancellation of entries in the Master Register

5.3.1 Any notified frequency assignment to which the Article 4 procedures have been applied and which has been provisionally recorded under § 5.2.7 shall be brought into use no later than the end of the period provided under § 4.1.3, 4.1.3*bis*, 4.2.6 or 4.2.6*bis* of Article 4. Any other frequency assignment provisionally recorded under § 5.2.7 shall be brought into use by the date specified in the notice. Unless the Bureau has been informed by the notifying administration of the bringing into use of the assignment under § 5.2.8, it shall, no later than fifteen days before the notified date of bringing into use or the end of the regulatory period established under § 4.1.3, 4.1.3*bis*, 4.2.6 or 4.2.6*bis* of Article 4, as appropriate, send a reminder requesting confirmation that the assignment has been brought into use within the regulatory period. If the Bureau does not receive that confirmation within thirty days following the notified date of bringing into use or the period provided under § 4.1.3, 4.1.3*bis*, 4.2.6 or 4.2.6*bis* of Article 4, as the case may be, it shall cancel the entry in the Master Register.     (WRC‑15)

**Reasons:** Since § 6.32 of Appendix 30B establishes the need for the Bureau to send a reminder telefax thirty days prior to the expiry date of the extension period granted due to launch failure at WRC-12, it is good to extend this procedure to Article 5 of Appendices 30 and 30A in a similar manner in order to harmonize the procedures in case of launch failure for Appendices 30, 30A and 30B.

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1. \* *Nota de la Secretaría*: esta Resolución fue revisada por la CMR-07. [↑](#footnote-ref-1)
2. 4 In cases where  is not given, it may be estimated from the expression 20 log  ≈ *Gmax* − 7.7, where *Gmax* is the main lobe antenna gain (dBi). [↑](#footnote-ref-2)
3. 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-3)
4. \* In some of these Recommendations, which were adopted prior to 1 January 2001, the prefix “S” before the references to RR is still maintained until the concerned Recommendation is modified according to the standard procedures. [↑](#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-6)