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# UPDATES to the

## Rules of Procedure

(Edition of 2012)

approved by the Radio Regulations Board

Revision (Circular No.)	Date	Part	AR/AP	RR No. or other reference <sup>1</sup>	Pages to be removed	Pages to be inserted
1 See CR/339	September 2012	A1	AR5	5.316A <sup>*</sup>	5	5 (rev.1)
				5.327A <sup>**</sup>		
				5.397	7-8	7-8 (rev.1)
				5.399		
				5.410 <sup>*</sup>		
				5.444B <sup>**</sup>	13-15	13-15 (rev.1)
				5.446A		
			Receivability	1, 1.1 <sup>**</sup> , 1.2 2 b)	1-3	1-3 (rev.1)
			AR21	21.16, 3	2	2 (rev.1)
			AP18	AP18 <sup>*</sup>	1-2	-
			AP30	An. 1, 1 b)	14-16	14-16 (rev.1)
			AP30A	An. 1, 4 b)	13-16	13-15 (rev.1)
			AP30B	6.3 a), 2.3	2-6	2-7 (rev.1)
				6.16 Art. 8, 8.17 <sup>**</sup>		
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<sup>1</sup> The new Rules or modifications to the existing Rules of Procedure take effect immediately or as otherwise indicated.

<sup>\*</sup> Effective date of suppression: 1 January 2013.

<sup>\*\*</sup> Effective date of application: 1 January 2013.

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<b>5.327A</b>
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1           Appendix **4** does not contain data elements which would enable examination as to whether the notified frequency assignment is associated to a system that operates in accordance with recognized international aeronautical standards or to a system that operates under other standards. As the Bureau has no means to make such differentiation, the Board decided that the Bureau shall make no examination of the notified frequency assignment to a station in the aeronautical mobile (R) service (AM(R)S) from the view point of its conformity with this provision. (MOD RRB12/60)

2           With respect to the requirements contained in *resolves* 2 and 3 of Resolution **417 (Rev.WRC-12)**, the Board decided that the Bureau shall make no examination of the notified frequency assignment to a station in the AM(R)S from the view point of its conformity with these provisions since Appendix **4** does not contain data elements which would enable to determine whether the notification is related to a Universal Access Transceiver system or to another system in the AM(R)S. (ADD RRB12/60)

3           With respect to the power limits contained in *resolves* 6 of Resolution **417 (Rev.WRC-12)**, the Board decided that the Bureau shall check the e.i.r.p. limits for the ground based and airborne stations only for the band 960 – 1 164 MHz since frequency assignments to stations in the AM(R)S notified in the band 960 – 1 164 MHz do not contain any information concerning out-of-band emissions in the frequency band 1 164 – 1 215 MHz. (ADD RRB12/60)

**5.329**

Assignments to stations of the radionavigation-satellite service if recorded need to indicate that they shall not cause harmful interference to assignments to stations of the radionavigation service of the countries listed in No. **5.331** and to stations of the radiolocation service (Symbol R in Column 13B2 and reference to No. **5.329** in Column 13B1).

**5.340**

The comments made under the Rules of Procedure concerning No. **4.4** apply.

**5.351**

1 This provision permits, in derogation of the definitions contained in Nos. **1.70**, **1.72**, **1.76** and **1.82**, the use of the bands allocated to a mobile-satellite service by a station at a specified fixed point (without being a coast, land, base or an aeronautical earth station).

2 The exceptional circumstances referred to in this provision cannot be evaluated by the Bureau.

3 The Board therefore concluded that assignments notified under this provision shall receive a favourable regulatory finding.

**5.357**

The terrestrial uses authorized by this provision appear to be closely related to the operational conditions within a combined aeronautical system using space and terrestrial radiocommunications. The Bureau has no means to verify such uses and considers this provision an additional allocation to the aeronautical mobile (R) service.

**5.364**

This provision contains two different types of equivalent isotropically radiated power (e.i.r.p.) density limits for transmitting mobile earth stations in the frequency band 1 610-1 626.5 MHz, namely:

- a) peak e.i.r.p. density limit, and
- b) mean e.i.r.p. density limit.

The peak e.i.r.p. density limit is derived from the maximum power density of the assignment as submitted by the responsible administration.

For the second type, it is not clear whether it is spectral mean, or temporal mean, or spatial mean. The Board decided that, on a provisional basis, and until the relevant ITU-R Recommendation is available, the Bureau use a spectral mean e.i.r.p. density when applying this provision. This spectral mean e.i.r.p. will be derived from the mean power density of an assignment, which is obtained from its total power divided by its necessary bandwidth and multiplied by 4 kHz.

<b>5.366</b>
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This provision is considered an additional allocation to the aeronautical radionavigation-satellite service. The comments made under No. **5.49** apply. However, when the Special Section is to be published it shall contain an indication that the assignment is for use on a worldwide basis for “airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities”.

<b>5.376</b>
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The comments made under the Rules of Procedure concerning No. **5.357** apply.

<b>5.399</b>
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The comments made under the Rules of Procedure concerning No. **5.164** apply. (MOD RRB12/60)

<b>5.415</b>
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1 In this provision, the allocation “is limited to national and regional systems”. The Board concluded that a national system is a system having a service area limited to the territory of the notifying administration. As a consequence of this, the regional system to which reference is made shall be considered to be an aggregate of two or more national systems; they shall be limited to the territories (which are not necessarily restricted to bordering countries) of the administrations concerned and they shall be notified by one of these administrations on behalf of all the administrations concerned. When the allocation is made to more than one Region, a regional system may cover territories in those Regions for which the allocation exists. The Board reached this conclusion keeping in mind No. **5.2.1**, relating to the interpretation of the word “regional” without a capital “R”.

2 In accordance with this provision, the fixed-satellite service is limited for use by national or regional systems in the band 2 500-2 690 MHz in Region 2 and in the bands 2 500-2 535 MHz and 2 655-2 690 MHz in Region 3. Only those assignments which satisfy the following conditions shall be considered to be in conformity with the Table of Frequency Allocations:

- a) The service area for a regional system is within the Region concerned, i.e. in Region 2 only in the band 2 535-2 655 MHz or in Regions 2 and 3 in the other bands between 2 500 and 2 690 MHz and:
  - i) When an administration submits a coordination request for a service area that covers its national territory and extends beyond it, the responsible administration shall submit at the same time the list of administrations that agreed to form the regional system and the service area shall be formed accordingly. If no agreement is obtained, the service area shall be limited to its national territory;
  - ii) When an administration submits a coordination request for a service area that does not include its national territory but only territories of other administrations, it shall submit at the same time the list of administrations that agreed to form the regional system and the service area shall be formed accordingly. If no agreement is obtained, the relevant assignments shall be considered not to be in compliance with the Table of Frequency Allocations and the finding shall be unfavourable.



2.2 Down-link FSS applications in the bands 10.7-10.95 GHz and 11.2-11.45 GHz (Appendix **30B**, planned usage):

- a) As for the interference which is likely to be caused to FSS up-link from Appendix **30B** down-link the same condition referred to in 2.1 a) above applies, i.e., in the examination of Appendix **30B** Plan and List entries no account shall be taken of the FSS up-link assignments included in the MIFR with the above-mentioned symbol.
- b) As for the interference which is likely to be caused to Appendix **30B** down-link receiving earth stations from FSS up-link transmitting earth stations the same condition referred to in 2.1 b) above applies.

#### 5.444B

1 This provision limits the use of the band 5 091-5 150 MHz by the aeronautical mobile service to two different applications. However, Appendix **4** does not contain data elements which would enable examination as to whether the notified frequency assignment is associated with any of these specific applications or with other applications in the aeronautical mobile service. As the Bureau has no means to make such differentiation, the Board decided that the Bureau shall make no examination of the notified frequency assignment to a station in the aeronautical mobile service from the view point of its conformity with this provision. (MOD RRB12/60)

2 With respect to the submissions in the aeronautical mobile (R) service, including the ones referred to in the first indent of this provision, and given the indications in *resolves* 1 of Resolution **748 (Rev.WRC-12)**, the recording of any such assignment in the MIFR will be associated with the symbol “R” in column 13B2 (“*Finding observation*”) and with symbol “RS748” in column 13B1 (“*Finding reference*”). The Board also considered that the indications in *resolves* 3 of Resolution **748 (Rev.WRC-12)**, including the reference to No. **4.10**, are intended for administrations and the Bureau shall make no examination of frequency assignments from the view point of their conformity with the conditions set forth in *resolves* 3 of Resolution **748 (Rev.WRC-12)**. (MOD RRB12/60)

3 With respect to the submissions related to aeronautical telemetry transmissions referred to in the second indent of this provision, and in addition to the considerations in § 1 of this Rule of Procedure which are also applicable for aeronautical telemetry applications, the Board considered that the indications in *resolves* 1 and in *resolves* 2 of Resolution **418 (Rev.WRC-12)** are intended for administrations and the Bureau shall make no examination of the notified frequency assignment to a station in the aeronautical mobile service from the view point of its conformity with the conditions set forth in Annex 1 to Resolution **418 (Rev.WRC-12)**. (MOD RRB12/60)

<b>5.446A</b>
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1 This provision stipulates that the use of the bands 5 150-5 350 MHz and 5 470-5 725 MHz by the stations in the mobile, except aeronautical mobile, service shall be in accordance with Resolution **229 (Rev.WRC-12)**. Accordingly, Resolution **229 (Rev.WRC-12)** specifies that the use of these bands, by the mobile service, will be for the implementation of wireless access systems (WAS) including radio local area networks (RLAN) (see *resolves* 1) and, in addition to this, it specifies the maximum e.i.r.p. levels for stations in the mobile service (see *resolves* 2, 4 and 6).

As far as the band 5 150-5 350 MHz is concerned, the situation is rather simple, given the fact that the provisions of Resolution **229 (Rev.WRC-12)** are applicable to all stations in the mobile, except aeronautical mobile, service, with the exception of cases referred to in No. **5.447**, which apply to the band 5 150-5 250 MHz and where other (e.g. less stringent) conditions may be established in the context of the application of the procedure of No. **9.21**.

On the other hand, the situation in the band 5 470-5 725 MHz is more complex, bearing in mind that other provisions are applicable to stations in the mobile, except aeronautical mobile, service (e.g. those indicated in Nos. **5.451**, **5.453** and in Table **21-2** of Article **21**), which are stipulating different conditions (e.g. power limits) than the ones indicated in Resolution **229 (Rev.WRC-12)**. Consequently, administrations referred to in No. **5.453** (for the band 5 650-5 725 MHz) and in No. **5.451** (for the band 5 470-5 725 MHz) may implement other applications in the mobile, except aeronautical mobile, service, which are not necessarily WAS, subject to compliance with the conditions set forth in No. **5.451** and the power limits set forth in Table **21-2** of Article **21**. (MOD RRB12/59)

2 Given the fact that, for the implementation of WAS, high deployment densities are expected, such implementation options could be adequately covered through notifications in the form of typical stations. The notification of terrestrial stations in the mobile, except aeronautical mobile, service in the form of typical stations is normally possible with no restrictions in the bands 5 150-5 350 MHz and 5 470-5 670 MHz in all countries, and in the band 5 670-5 725 MHz in the countries not mentioned in No. **5.453**. However, provision No. **11.21A**, in conjunction with Table **21-2**, does not provide for the possibility of notifying terrestrial stations in the mobile, except aeronautical mobile, service, in the form of typical stations, for the band 5 670-5 725 MHz, for the countries listed in No. **5.453**. The strict application of these provisions would mean that the countries listed in No. **5.453** cannot notify their WAS applications in the form of typical stations, even though they conform with the limits of Resolution **229 (Rev.WRC-12)**. The Board concluded that such a restricted interpretation of all the relevant provisions for the band 5 670-5 725 MHz, for the countries

listed in No. **5.453**, would result in unnecessary burden for both the administrations listed in No. **5.453** and the Bureau. Consequently, the Board instructed the Bureau to accept notifications for mobile, except aeronautical mobile, stations, in the form of typical stations, from the administrations listed in No. **5.453**, provided that the maximum e.i.r.p. does not exceed 1 W, which implies that each typical station notice receivable in the band 5 670-5 725 MHz (with an e.i.r.p. of less than or equal to 1 W) is deemed to be part of a WAS. (MOD RRB12/59)

#### **5.484**

See comments under the Rules of Procedure concerning No. **5.441**.

#### **5.485**

1 The wording of this provision raised the following basic question: “Is the band 11.7-12.2 GHz in Region 2 allocated to the broadcasting-satellite service?” The Board considered the following:

- a) that the provision is not titled an “additional allocation”. Some provisions do not have such a title and the Board considered them additional allocations. However, in this case, it is not clear that the intent was to permit an additional allocation;
- b) the provision states that “transponders on space stations in the fixed-satellite service may be used additionally ... in the broadcasting-satellite service”: the use of the word “additionally”, together with the last sentence saying that “this band shall be used principally for the fixed-satellite service”, leads to the understanding that the use by the broadcasting-satellite service is not of the same nature as would be the use of a given band by a service to which the band is allocated;
- c) the provision refers to transponders, which are to be considered transmitting stations. As the procedures of Articles **9** and **11** and Resolution **33 (Rev.WRC-03)** apply to each assignment, each transponder shall be considered independently from the others. Consequently the provision may be interpreted in either of the following two ways:
  - a first interpretation consists in considering that some transponders will be used for the FSS and others for the BSS, and this is equivalent to a sharing of the band between two services which raises a question about the word “principally”: how many transponders would be allowed for each of the two services?
  - a second interpretation consists in considering that a given transponder of the FSS may be used in a given period of time for broadcasting (this is not to be confused with the use of the FSS for the transport of a video signal between two fixed points). If in such a case the provision was to be considered an additional allocation, a question arises in relation to the procedure to be applied: Should it be that of Articles **9** and **11** or that of Resolution **33 (Rev.WRC-03)**?

2 Keeping in mind the above comments, the Board concluded that the band 11.7-12.2 GHz is not allocated in Region 2 to the broadcasting-satellite service. Those transponders of the fixed-satellite service which are used for broadcasting-satellite purposes will be treated in accordance with Articles **9** and **11** (and Appendix **30** if required to define inter-regional sharing). When such a use is indicated in the notice, the Bureau will assume that the coordination of the network was made on the basis that for the period during which a transponder is used for broadcasting, the e.i.r.p. will not exceed the e.i.r.p. notified for the fixed-satellite service. Considering that the fixed-satellite service uses relatively low e.i.r.p., the Bureau will consider the value of 53 dBW to be a limit not to be exceeded.

<b>5.488</b>
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**Application of power flux-density (PFD) No. 9.14 coordination thresholds (Region 2 GSO FSS in the band 11.7-12.2 GHz) to steerable beams**

1 Use of steerable beams is becoming widespread. PFD values produced by assignments in steerable beams often exceed the applicable PFD coordination thresholds for some or all positions of those beams. In these cases, administrations tend to state that PFD coordination thresholds will not be exceeded and sometimes provide appropriate technical description as to how it would be done.

2 For the purpose of transparency and to set an upper limit on the acceptable extent of the PFD control and avoid subjectivity in the evaluation of the PFD control method, the Board concluded that until the time that a relevant ITU-R Recommendation is available, the following Rule will apply on a provisional basis.

3 In cases where frequency assignments in steerable beams of a GSO FSS satellite network operating in the band 11.7-12.2 GHz exceed, for certain positions of these beams, the PFD thresholds that trigger coordination under No. **9.14** in respect to stations of terrestrial services, the Bureau will establish that coordination is not required only if:

- a) there is at least one position of the steerable beam where the applicable PFD coordination thresholds are not exceeded without any reduction of the notified power density; and
- b) the administration states that for the other positions of the steerable beam the applicable PFD coordination thresholds will not be exceeded by applying a method, the description of which should be submitted to the Bureau. One possible example of such a method is described in the Annex to the Rule relating to No. **21.16**.

<b>5.492</b>
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1 The Board concluded that the frequency bands covered by Appendix **30** are not allocated to the FSS in the Regions where the BSS is subject to the Plan of Appendix **30**. Those transponders of the BSS which are also used for FSS purposes will be treated in accordance with Article 5 of Appendix **30**.

2 Earth stations receiving FSS transmissions from the BSS transponders will be treated as earth stations of the BSS and are not to be notified as individual earth stations.

**Rules concerning the Receivability of forms of notice generally  
applicable to all notified assignments submitted to  
the Radiocommunication Bureau in application  
of the Radio Regulatory Procedures** (MOD RRB12/60)

## **1 Submission of information in electronic format**

### **1.1 Space services** (ADD RRB12/60)

The Board noted the requirement for mandatory electronic filing and submission of comments/objections and requests for inclusion or exclusion specified in the *resolves* of Resolution **55 (Rev.WRC-12)**. It noted also that capture and validation software had been made available to administrations by the Bureau, including software to submit information required in Annex 2 of Resolution **552 (WRC-12)**. Accordingly, all information indicated in the *resolves* of Resolution **55 (Rev.WRC-12)** and in the Annex 2 of the Resolution **552 (WRC-12)** and in the Attachment to Resolution **553 (WRC-12)** under §8 and §9, shall be submitted to the Bureau in electronic format (except graphical data which can still be submitted in paper form) which is compatible with the BR electronic notice form capture software (SpaceCap) and comments/objections software (SpaceCom). (MOD RRB12/60)

(ADD RRB12/60)

### **1.2 Terrestrial services**

Submission of frequency assignment/allotment notices for terrestrial services in the context of Articles **9, 11, 12** and Appendix **25** of the Radio Regulations and various regional agreements shall be made exclusively via the ITU web interface *WISFAT* (**W**eb **I**nterface for **S**ubmission of **F**requency **A**ssignments/allotments) available at <http://www.itu.int/ITU-R/go/wisfat/en>.

## 2 Receipt of notices (MOD RRB12/60)

It is incumbent on all administrations to meet deadlines established in the Radio Regulations and, accordingly, to take account of possible mail delays, holidays or periods during which ITU may be closed<sup>1</sup>.

Having regard to the various means available for transmission and delivery of notices and other related correspondence, the Board has decided that:

- a) Mail received through the postal service<sup>2</sup> shall be recorded as received on the first working day on which it is delivered to the ITU/BR's offices in Geneva. Where the mail is subject to a regulatory time limit that occurs on a date on which the ITU is closed, the mail should be accepted if it has been recorded as received on the first working day following the period of closure.
- b) E-mail, telefax documents or WISFAT submissions shall be recorded as received on the actual date of receipt, irrespective of whether or not that is a working day at the ITU/BR's offices in Geneva. (MOD RRB12/60)
- c) In the case of e-mails (except those to which electronic forms created using SpaceCom are attached), an administration is required to send, within 7 days of the date of the e-mail, a confirmation by either telefax or mail, which shall be regarded as being received on the same date as the original e-mail.
- d) All mail must be sent to the following address:

Radiocommunication Bureau  
International Telecommunication Union  
Place des Nations  
CH-1211 Geneva 20  
Switzerland

- e) All telefaxes must be sent to:

+41 22 730 57 85 (several lines)

- f) All e-mails must be sent to:

brmail@itu.int

- g) Information received in the ITU/BR by e-mail shall be acknowledged immediately by e-mail by the ITU/BR.

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<sup>1</sup> The Radiocommunication Bureau shall inform administrations by circular letter at the beginning of each year, and as appropriate, about holidays or periods in which ITU may be closed in order to assist them in meeting their obligations.

<sup>2</sup> Includes courier, messenger or other services.

### 3 Establishment of a formal date of receipt of information in accordance with Annex 2 to Appendix 4

3.1 According to provisions Nos. **11.28**<sup>3</sup> and **11.29**, complete notices are examined by date order of their receipt and the Bureau cannot act upon a notice having a technical bearing on an earlier notice until the earlier notice has been dealt with. While similar provisions do not exist in all the regulatory procedures defined in the Radio Regulations, nevertheless, several other provisions tacitly require the same general concept. The Board decided that the principle of treatment by date order of receipt of any submission is to be applied in each of the procedures described in Articles **9** and **11**, Appendices **30**, **30A** and **30B** and Resolutions containing specific procedures. When more than one submission is received on the same date, all those submissions shall be mutually taken into account.

3.2 In order to establish a formal date of receipt for the purpose of treatment of the submissions (notices for advance publication, request for coordination, modification to the Region 2 Plan or proposed new or modified assignments in the Regions 1 and 3 Lists under Article 4 of Appendices **30** or **30A**, proposed new or modified assignments in the guardbands to provide space operation functions under Article 2A of Appendices **30** or **30A**, or request for application of Articles 6 or 7 of Appendix **30B**, and notifications for recording in the Master International Frequency Register (Master Register)), the Bureau shall examine *inter alia* the completeness and correctness of the information submitted by administrations. It shall also take account of the requirements of No. **9.1** when establishing the formal date of receipt of coordination information and notification information with respect to the date of receipt (when the coordination procedure of Section II of Article **9** is applicable) and the date of publication (when coordination is not required by Section II of Article **9**) of advance information, respectively.

3.3 Considering the requirement for mandatory electronic filing and availability to administrations of capture and validation software, where a notice received by the Bureau does not contain all of the mandatory information as defined in Annex 2 of Appendix **4** or appropriate reason for any omissions, the Bureau shall regard the notice as incomplete. The Bureau shall immediately inform the administration and seek the information not provided. Further processing of the notice by the Bureau will remain in abeyance and a formal date of receipt (see § 3.1 above) will not be established until the missing information is received. The formal date of receipt will be the date of receipt of the missing information (see also § 3.6 to 3.10 below).

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<sup>3</sup> The Board notes that there is an inconsistency between the English (and Spanish) and French texts of provision No. **11.28**. While the English (and Spanish) texts stipulate that “it shall be examined in the date order of their receipt”, the French text stipulates that “... il les examinera dans l'ordre ou il les reçoit”. There is no mention of “date” in the French text. The current practice of processing in the date order of their receipt will continue until the matter is considered by the next WRC.

3.4 The latest version of the validation software available to administrations, as advised by Circular Letter, is used by the Bureau when assessing the completeness of Appendix 4 Forms of Notice. Administrations are encouraged to run the validation software themselves in order to overcome any difficulties in the notices before they are submitted to the Bureau.

3.5 After processing the Appendix 4 Form of Notice as set out in § 3.3, if the Bureau finds that further clarification is required concerning the correctness of the mandatory data submitted, it shall request the administration responsible for the station or network to provide the clarification within 30 days, otherwise it shall establish the formal date of receipt as that recorded in accordance with § 2 and § 3.2 above.

3.6 If the information or clarification is provided within that period of 30 days (counted from the date of the dispatch of Bureau's message), the date of receipt established by the Bureau in accordance with § 2 and § 3.2 above will be considered as the formal date of receipt for the purpose of any subsequent processing of the notice.

3.7 Nevertheless, for replies received within the above period of 30 days, a new formal date of receipt is established in those cases (or for the concerned part of the station or network) where the information submitted subsequently is outside the scope and beyond the objective of the Bureau's enquiry pursuant to § 3.5 above, if the new or modified data has impact on the regulatory and technical examination, irrespective of whether the newly provided information adds new affected administrations or not. See also the Rules of Procedure relating to provision No. 9.27.

3.8 If the information or clarification is not provided within the above period of 30 days, the submission shall be considered incomplete and the Bureau will establish no formal date of receipt. A new formal date of receipt will be established when the complete information is received.

3.9 One year after the Bureau sought information under § 3.3 or 3.5, as appropriate, unless otherwise specified in the relevant procedure, any pending submissions containing incomplete information shall be returned to the notifying administration.

3.10 In case of the request for deletion of an assignment, a group of assignments, an emission, beams or other characteristics of a satellite network or satellite system, two situations may arise:

- a) The satellite network or satellite system in question has not yet been examined and published by the Bureau. In that case, the initial formal date of receipt will be maintained for the remaining part of the satellite network or system, if any.
- b) The satellite network or satellite system in question has already been examined and published by the Bureau. In that case, the request for deletion shall be published in a modification to the previously published relevant Special Section and the technical bearing of the deletion will be examined by the Bureau in the date order of receipt of the request.



## **Rules concerning**

### **ARTICLE 21 of the RR**

#### **21.11**

1 When the agreement of an administration concerned is not obtained, the assignment is not in conformity with the Radio Regulations. In order to identify the administrations concerned, the Bureau shall calculate a nominal contour based in all azimuths on the limits specified under No. **21.8** and compare it with the appropriate contour resulting from the notified e.i.r.p. and the antenna diagram. In any azimuth where the second contour exceeds the first one, an agreement under this provision is required with any administration having a territory which lies within the contour. The communication to the Bureau of the agreement of this administration is required for the formulation of a favourable Finding under No. **11.31**.

2 In accordance with this provision, any frequency assignment having an e.i.r.p. that exceeds the limits by more than 10 dB will receive an unfavourable Finding under No. **11.31**.

#### **21.14**

Elevation angles lower than 3° would create a high value of the e.i.r.p. towards the horizon. The Board concluded that this provision is to be used together with Section III of Article **21**. This means the following:

Irrespective of the e.i.r.p. of the earth station, an elevation angle lower than 3° is subject to the agreement of the administrations concerned. In the case of receiving earth stations, to identify the administrations concerned, a nominal coordination contour is drawn at a 3° elevation angle and compared with the contour for the notified elevation angle. In any azimuth where the second contour exceeds the first one, an agreement under this provision is required with any administration having a territory which lies within the coordination area. The Bureau shall formulate a favourable Finding under No. **11.31** only when it is informed of the formal agreement of these administrations.

#### **21.16**

### **Application of power flux-density (PFD) limits to steerable beams**

1 Use of steerable beams is becoming widespread. PFD values produced by assignments in steerable beams often exceed the applicable hard PFD limits for some or all positions of those beams. In these cases, administrations tend to state that PFD limits will be met and sometimes provide appropriate technical description as to how it would be done.

2 For the purpose of transparency and to set an upper limit on the acceptable extent of the PFD control and avoid subjectivity in the evaluation of the PFD control method, the Board concluded that until the time that a relevant ITU-R Recommendation is available, the following Rule will apply on a provisional basis.

3 In cases where frequency assignments in steerable beams of a satellite network, except the frequency assignments under the Appendix **30B**, exceed the applicable hard PFD limits, the Bureau will establish a favourable Finding only if: (MOD RRB12/60)

- a) there is at least one position of the steerable beam where the applicable PFD limits are met without any reduction of the notified power density; and
- b) the administration states that the applicable PFD limits will be met by applying a method, the description of which should be submitted to the Bureau. One possible example of such a method is described in the Annex to this Rule.

## ANNEX 1

### **Method to be applied to meet the regulatory PFD limits when steerable beams are used**

Where steerable beams are used in satellite networks, operational measures may be needed to adjust space station transmit power density so that the applicable regulatory PFD limits for specific beam positions are met. In such cases, administrations may apply the following method for each specific steerable beam position and for each assignment in such beam:

*Step 1:* For a specific beam position, produce a plot of beam gain contours on a map of the Earth that shows equal elevation lines.

*Step 2:* Using the notified power density of the particular assignment, determine if PFD produced at beam peak or any other point on the Earth exceeds the applicable PFD limits. If so, determine the maximum amount of PFD excess (i.e. find the point with largest excess over the limit).

*Step 3:* Adjust, i.e. reduce, the operational power density of the assignment by at least the maximum amount determined in Step 2 above, so that PFD produced on any point on the Earth meets the applicable PFD limit.

For non-GSO satellites in elliptical orbits, its distance towards points on the Earth also changes as the satellite travels along the orbit. To find the maximum amount of PFD excess in this case, Steps 1 and 2 above need to be repeated for various orbital positions of the satellite.

The application of this method is illustrated in the following example. Assume that the steerable beam is positioned as shown in the figure below.

1.3 Should the results of the calculations described in § 1.1 and 1.2 above indicate that the proposed new characteristics increase the interference to other assignments/services, the Bureau would reach an unfavourable finding with respect to § 5.2.1 *d)* of Article 5 of Appendix **30** and proceed accordingly.

2 With respect to the fifth indent of § 5.2.1 *d)*, in the case of administrations of Region 2 the orbital position shall be examined to ensure compliance with the cluster concept (§ B of Annex 7 to Appendix **30** and § 4.13.1 of Annex 3 to Appendix **30A**) as follows:

- if the orbital position is identical with that shown in the Plan, no further agreements are necessary;
- however, if the orbital position is different from that contained in the Plan but it is in the same cluster, then only the agreement of administrations having assignments in the same cluster is necessary. The clusters are listed in the Attachment 1 to the present Rules of Procedure concerning Appendix **30**. Appendices **30** and **30A** do not contain any paragraph indicating the procedure to be followed for this agreement. The task of the Bureau in this respect is to ensure that the agreement of the administrations concerned is indicated in the notice; otherwise it considers the assignment to be not in conformity with the Plan.

3 See comments under No. **5.492**.

#### **5.2.2.1**

This paragraph implicitly relates to the cases where the Bureau reaches a favourable Finding with respect to § 5.2.1 *a)* and § 5.2.1 *c)* and an unfavourable Finding with respect to § 5.2.1 *b)* but a favourable Finding with respect to § 5.2.1 *d)*. In this event, the frequency assignment shall be recorded in the Master Register.

#### **5.2.2.2**

Part of this paragraph deals with interim systems which are submitted in application of Resolution **42 (Rev.WRC-03)\*** for Region 2.

In case of Regions 1 and 3, should the Bureau reach a favourable Finding with respect to § 5.2.1 *a)* and 5.2.1 *c)* but an unfavourable Finding with respect to § 5.2.1 *b)* and 5.2.1 *d)*, the assignments in question shall be returned immediately by airmail to the notifying administration with the reasons of the Bureau for this Finding and with such suggestions as the Bureau may be able to offer with a view to a satisfactory solution of the problem.

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\* *Note by the Secretariat:* This Resolution was revised by WRC-12.

<b>An. 1</b>
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**Limits for determining whether a service of an administration is affected  
by proposed modifications to the Region 2 Plan or by proposed  
new or modified assignments to the Regions 1 and 3 List**

<b>1</b>
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*a) Test points*

1 In examining a proposed modification, all test points communicated to the Bureau by administrations are used. These test points are periodically published by the Bureau together with the updated reference situation of the Plan(s) and List(s).

*b) Implementation of the power flux-density limit referred to in the first paragraph of Section 1 of Annex 1 to Appendix 30*

The power flux-density limit of  $-103.6 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  which is indicated in the first paragraph of Section 1 of Annex 1 to Appendix 30 was established in order to protect BSS assignments from interference that may be caused by BSS networks located outside an arc of  $\pm 9^\circ$  around a wanted BSS network, under worst-case station-keeping conditions. Therefore, this power flux-density limit was intended to be considered as a hard-limit that shall not be exceeded. (MOD RRB12/60)

*c) Implementation of the power flux-density masks and equivalent protection margin criterion referred to in sub-paragraphs a) and b) of Section 1 of Annex 1 to Appendix 30*

1 In accordance with sub-paragraphs *a)* and *b)* of Section 1 of Annex 1 to Appendix 30, an administration, which has assignment(s) in the Plan, in the List or assignment(s) for which the procedure of Article 4 of Appendix 30 has already been initiated, is considered as affected by a proposed new or modified assignment in the List if all the following conditions are met:

- the orbital spacing between both assignments is less than 9°, under worst-case station-keeping conditions; and
- there is a frequency overlap between the bandwidths assigned to each assignment; and
- under assumed free-space propagation conditions, the power flux-density value derived from the appropriate power flux-density mask given in § *a*) of Section 1 of Annex 1 to Appendix **30** is exceeded at least at one of the test-points<sup>10</sup> of the wanted assignment; and
- the reference equivalent protection margin of at least one of the test-points<sup>10</sup> of that wanted assignment falls more than 0.45 dB below 0 dB, or if already negative, more than 0.45 dB below that reference equivalent protection margin value.

*d) Reference protection margin<sup>11</sup>*

1 The reference equivalent protection margin values of:

- the assignments in the downlink or feeder-link Plans;
- the assignments in the downlink or feeder-link Lists;
- the assignments for which the procedure of Article 4 of Appendices **30** or **30A** has been initiated,

include the potential interference effects of the other assignments of the corresponding Plan and List, as established at WRC-2000, and those of the other assignments entered in the corresponding List after a successful application of the Article 4 procedure.

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<sup>10</sup> In the case of a wanted assignment in the Plan, the test-points referred to in this paragraph are those defined in that Plan. In the case of a wanted assignment in the List or for which the procedure of Article 4 of Appendices **30/30A** has already been initiated, the test-points referred to in this paragraph are those provided under former Annex 2 to Appendices **30/30A** or under Appendix **4**.

<sup>11</sup> An analysis carried out by the Bureau has shown that the sensitivity to interference, in terms of being identified as affected, by networks received by the Bureau under Article 4 of Appendices **30** and **30A**, caused by subsequent proposed modifications to the Plan, decreases when those networks have a very low equivalent protection margin. In those cases where, because of the above phenomenon they are not identified as affected (the equivalent protection margin reduces by at least 0.45 dB) it is up to the administrations concerned to take necessary action, as appropriate.

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2           The reference equivalent protection margin used as the basis for comparing the effect of a proposed new or modified assignment is that periodically published by the Bureau and updated once a new or modified assignment is entered in the corresponding List after a successful application of the Article 4 procedure.

*b) Implementation of the power flux-density limit referred to in the first paragraph of Section 4 of Annex 1 to Appendix 30A*

The power flux-density limit of  $-76 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  which is indicated in the first paragraph of Section 4 of Annex 1 to Appendix 30A was established in order to protect BSS feeder-link assignments from interference which may be caused by BSS feeder-link networks located outside an arc of  $\pm 9^\circ$  around the wanted BSS feeder-link network, under worst-case station-keeping conditions. Therefore, this power flux-density limit was intended to be considered as a hard-limit that shall not be exceeded. (MOD RRB12/60)

*c) Implementation of the equivalent protection margin degradation criterion referred to in the third paragraph of Section 4 of Annex 1 to Appendix 30A*

1 In accordance with the third paragraph of Section 4 of Annex 1 to Appendix 30A, an administration, which has assignment(s) in the 14 or 17 GHz Plan, in the 14 or 17 GHz List or assignment(s) for which the procedure of Article 4 of Appendix 30A has already been initiated, is considered as affected by a proposed new or modified assignment in the 14 or 17 GHz List if all the following conditions are met:

- the orbital spacing between both assignments is less than  $9^\circ$ , under worst-case station-keeping conditions; and
- there is a frequency overlap between the bandwidths assigned to each assignment; and
- the reference equivalent protection margin of at least one of the test-points<sup>5</sup> of that wanted assignment falls more than 0.45 dB below 0 dB, or if already negative, more than 0.45 dB below that reference equivalent protection margin value.

*d) Reference protection margin*

See comments made under § d) of the Rules of Procedure relating to § 1 of Annex 1 to Appendix 30.

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<sup>5</sup> In the case of a wanted assignment in the Plan, the test-points referred to in this paragraph are those defined in that Plan. In the case of a wanted assignment in the List or for which the procedure of Article 4 of Appendices 30/30A has already been initiated, the test-points referred to in this paragraph are those provided under former Annex 2 to Appendices 30/30A or under Appendix 4.

<b>An. 3</b>
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**Technical data used in establishing the provisions and associated Plans  
and Regions 1 and 3 feeder-link Lists, which should be used  
for their application**

<b>1.7</b>
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The footnote to this provision states that “in certain cases (e.g. when channel spacing and/or bandwidth are different from the values given in § 3.5 and 3.8 of Annex 5 to Appendix 30), equivalent protection margins for the second adjacent channels may be used. Appropriate protection masks included in ITU-R Recommendations should be used if available. Until a relevant ITU-R Recommendation is incorporated in this Annex by reference, the Bureau will use the worst-case approach as adopted by the Radio Regulations Board”.

Noting that Recommendation ITU-R BO.1293-2 provides a method for calculation of interference only between assignments using different channelling and bandwidth in the case of a digital interferer, the Board therefore decided that, as an interim measure, until the applicable ITU-R Recommendations for protection masks/calculation method are available the calculation methods shown in Table 1 shall be applied when calculating interference between two assignments in the Plans and/or modifications to Plans.



TABLE 1

Wanted assignment	Interfering assignment	Method to be applied
“Standard” <sup>1</sup> analogue	“Standard” analogue	As defined in Annex 3 to Appendix <b>30A</b>
“Non-standard” analogue	“Standard” analogue	As described in the Bureau’s MSPACE Manual
“Standard” analogue	“Non-standard” analogue	As described in the Bureau’s MSPACE Manual
“Non-standard” analogue	“Non-standard” analogue	As described in the Bureau’s MSPACE Manual
Digital	“Standard” or “non-standard” analogue	As described in the Bureau’s MSPACE Manual
“Standard” or “non-standard” analogue	Digital	As defined in Recommendation ITU-R BO.1293-2 <sup>2</sup>
Digital	Digital	As defined in Recommendation ITU-R BO.1293-2 <sup>2</sup>

<sup>1</sup> Standard analogue assignments are those assignments which use the following parameters:

- For Regions 1 and 3: 27 MHz bandwidth, 19.18 MHz channel spacing and the assigned frequencies as specified in Article 9A of Appendix **30A**;
- For Region 2: 24 MHz bandwidth, 14.58 MHz channel spacing and the assigned frequencies as specified in Article 9 of Appendix **30A**.

<sup>2</sup> Recommendation ITU-R BO.1293-2 (Annexes 1 and 2) is applied instead of Recommendation ITU-R BO.1293-1, which is referred to in § 3.4 of Annex 5 to Appendix **30** and § 3.3 of Annex 3 to Appendix **30A**.

**3**

## Power-control

Paragraph 3.11.4 of Annex 3 to Appendix **30A** states that “In the event of modifications to the Plan, the Bureau shall recalculate the value of power control for the assignment subject to modification and insert the appropriate value for assignment in the Plan. A modification to the Plan shall not require the adjustment of the values of permissible power increase of other assignments in the Plan”. Therefore, the Board decided that, the Bureau, immediately after the Regions 1 and 3 feeder-link Plan (14 GHz or 17 GHz) is updated and before Part B publication is effected, shall recalculate the power control values and inform about its findings the responsible administration, as appropriate. If the values referred to in the above paragraph need to be adjusted, the responsible administration shall seek all the possible means to solve the matter with the affected administrations.

## **Rules concerning**

### **APPENDIX 30B to the RR**

#### **Art. 4**

#### **Execution of the provisions and associated Plan**

##### **4.1**

#### **Bidirectional allocation of some bands**

- 1 See comments made under the Rules of Procedure concerning No. **5.441**.

#### **Art. 6**

#### **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 List**

##### **6.3 a)**

- 1 The footnotes attached to provisions § 6.3 *a*), 6.19 *b*), 7.5 *a*) and 8.8 require that the “other provisions” mentioned in those provisions shall be identified and included in the Rules of Procedure.

The regulatory examinations under § 6.3 *a*), 6.19 *b*), 7.5 *a*) and 8.8 include the following:

- conformity with the Table of Frequency Allocations, including its footnotes and any Resolution or Recommendation which is referred to in such a footnote;
- all “other” mandatory provisions that are contained in Articles **21** to **22**, in Articles 3 and 4 of Appendix **30B** to the Radio Regulations and/or in Resolutions that are relevant to the service in the frequency band in which a station of that service operates.

2 The list of “other provisions” that are contained in Articles **21** to **22** with respect to which the notices are examined, is given below:

2.1 conformity with the power limits for earth stations as stipulated in provisions Nos. **21.8** and **21.12**, account being taken of provisions Nos. **21.9** and **21.11**<sup>1</sup>, and in provisions Nos. **22.26** to **22.29** under the conditions specified in provisions Nos. **22.30**, **22.31** and **22.37** where the earth stations are subject to those power limitations;

2.2 conformity with the minimum angle of elevation of earth stations as stipulated in provisions No. **21.14**<sup>2</sup>;

2.3 conformity with the limits of power flux-density from space stations produced at the Earth’s surface as indicated in the Table **21-4** (provision No. **21.16**), taking into account, as appropriate, the provision Nos. **21.17**; however, the Rules of Procedure relating to No. **21.16** concerning the application of power flux-density (PFD) limits to steerable beams do not apply in this case. (MOD RRB12/60)

2.4 conformity with the limit specified in provisions Nos. **22.8** and **22.19**.

2.5 Other provisions of Articles **21** and **22** will not be taken into account in the Regulatory examination under § 6.3 *a*), 6.19 *b*), 7.5 *a*) and 8.8 and the Board understands that these provisions are to be applied between administrations as appropriate.

## **6.5**

1 The planning exercise and the interference analysis were made by WARC Orb-88 for the whole band of 300 MHz (6/4 GHz) or 500 MHz (13/11 GHz) on a co-channel basis. It may happen that two administrations conclude agreement on the shared use of the frequency bands. In the compatibility examination by the Bureau, the mutual interference between non-overlapping frequency assignments shall not be taken into consideration in formulating findings.

2 The Board, in reviewing the implementation of the regulatory procedures of Appendix **30B**, noted that there is no provision to prohibit the implementation of non-simultaneous transmissions within the context of that Appendix. The Board further noted that this approach is used within the context of Appendices **30** and **30A** by means of the grouping concept as defined in Articles 9 and 9A of Appendix **30A**, Articles 10 and 11 of Appendix **30** and Rules of Procedure relating to § 4.1.1 *a*) and 4.1.1 *b*) of Appendices **30** and **30A**.

3 In view of the above, the Board decided that the same grouping concept can also be applied within the context of § 6.5 and 6.21. The Board’s understanding of the grouping concept is that in the interference calculation to entries (allotments or assignments) that are part of the group, only the interference contribution from entries that are not part of the same group are to be considered. On the other hand, for the interference calculation from entries

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<sup>1</sup> See Rules of Procedure relating to No. **21.11**.

<sup>2</sup> See Rules of Procedure relating to No. **21.14**.

belonging to a group into entries that are not part of the same group, only the worst interference contribution from that group is to be taken into consideration.

4 The Board did not find any regulatory basis to extend the use of groupings involving multiple orbital positions. However, grouping of networks in different orbital positions may be used before the inclusion of the assignments in the List to modify the orbital position of a network.

5 Interference between assignments to the “existing systems” as referred to in *considering b) and c)* of Resolution **148 (WRC-07)** shall not be taken into consideration in single-entry calculation for consistent implementation of *instructs the Radiocommunication Bureau 2* of that Resolution.

6 See also *Note by the Secretariat* relating to the “multi-beam networks” as indicated in column 10 of the tables in Article 10 of Appendix **30B**.

(ADD RRB12/60)

## 6.16

1 When the Bureau receives an objection to being included in a service area of an assignment from an administration in accordance with §6.16 of Appendix **30B**, the Bureau publishes the modified service area for exclusion of its territory from the service area if the assignment has already been included in the List. If the assignment is at the stage of coordination and not yet included in the List (i.e. published in an AP30B/A6A/ -- Special Section only), the Bureau takes that objection into account in the examination under §6.19 a) when the assignment is submitted by the notifying administration under §6.17. The final characteristics of the assignment in the List (i.e. those published in an AP30B/A6B/-- Special Section) shall not include the territory and test points that are within the territory of the objecting administration in the service area.

2 However, an administration can object to the inclusion of its territory in the service area of an assignment of the other administrations not yet entered in the List and explicitly request that the objection should be taken into account in the examination of its own network submitted under §6.17 of Appendix **30B** in order to facilitate inclusion of the assignments of its own network to be included in the List. In this case, the objection should be considered definitive. The Bureau shall then, in accordance with §6.16 of Appendix **30B**, exclude the territory and test points that are within the territory of that objecting administration from the service area of the assignment objected and publish the modified service area in a modification to the corresponding AP30B/A6A/-- Special Section. The modification to the service area and the deletion of test points shall then be taken into account in the subsequent examinations including examinations under §6.21 and 6.22 of Appendix **30B** of the network submitted by the objecting administration under §6.17 of Appendix **30B**.

**6.19 b)**

See Rules of Procedure relating to § 6.3 a).

**6.21**

See Rules of Procedure relating to § 6.5.

**Art. 7**

**Procedure for the addition of a new allotment to the Plan  
for a new Member State of the Union**

**7.3****New allotment to the Plan for a new Member State of the Union**

1           Provision § 7.3 of Appendix **30B** requests the Bureau to identify appropriate technical characteristics and associated orbital locations for a prospective national allotment upon receipt of a request from a new Member State.

The Bureau shall apply the procedures described below to find an appropriate orbital position for an allotment in the Appendix **30B** Plan for a new Member State.

2           The Bureau shall ensure that all submitted test-points are located within the national territory of the new Member State. Test-point locations shall be verified using the ITU Digitized World Map. In addition, in the absence of a height above sea level, a value of zero metres shall be assumed by the Bureau.

3 In order to facilitate the implementation of the orbital position selection approach described in § 8 below, the new Member State may provide under § 7.2 c) of Article 7 of Appendix **30B** its preferred orbital position(s) and/or its preferred orbital arc(s), bearing in mind that the implementation of these preferences might not be possible due to excesses of interference to or from other allotments or assignments of Appendix **30B**.

4 The Bureau shall establish the required minimum elevation angles associated to each test-point in accordance with § 1.3 of Annex 1 to Appendix **30B**. The service arc shall then be calculated in order to meet the required minimum elevation angles of all test-points.

5 With regard to the generation of the minimum ellipse to cover the national territory of the new Member State, the Bureau shall use a space station antenna beam pointing error of  $0.1^\circ$  for the generation of elliptical beams under Article 7 of Appendix **30B**.

6 With regard to the transmitting and receiving space station antenna maximum gain values, as a function of the major and minor axes of the ellipse, instead of using the definition contained in § 1.7.2 of Annex 1 to Appendix **30B** the Bureau shall use the more precise formula defined in § 3.13.1 of Annex 5 and § 3.7.1 of Annex 3 of Appendices **30** and **30A**, respectively.

7 With regard to the calculation of the maximum power density values, the Bureau shall assume the worst-case conditions in terms of space station antenna pointing error and rotational accuracy for the calculation of the antenna gain in the direction of each test-point, in order to ensure that the objective *C/N* ratios defined in § 1.2 of Annex 1 to Appendix **30B** are met for all test points, i.e., assume the minimum gain value of the antenna, taking into account a pointing error of  $0.1^\circ$  and a rotational accuracy of  $\pm 1.0^\circ$ .

8 With regard to the selection of orbital position, the Bureau shall use an automated approach based on an iterative process as follows:

8.1 Once the service arc is calculated, as mentioned in § 4 above, an iterative process is implemented to identify suitable orbital position(s) within that arc for the allotment to the new Member State in question.

8.2 The Bureau shall assume a minimum orbital position step of  $0.1^\circ$  in this process.

8.3 Each new possible orbital position shall be examined by the Bureau as follows:

- regenerate the elliptical beam parameters;
- recalculate the required power density values;
- using the criteria<sup>3</sup> of Annex 3 and Annex 4 of Appendix **30B**, determine whether the new allotment at that orbital position is compatible with the allotments and the assignments as mentioned in § 7.5 of Article 7.

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<sup>3</sup> For a request from a new Member State received before 17 November 2007, a single entry of 25 dB and an aggregate *C/I* of 21 dB shall be applied.

9 The Bureau shall identify the most appropriate orbital position(s) with the aim to minimize the *C/I* excesses caused or received from other allotment(s), or assignment(s) of Appendix **30B** and send this information to the requesting administration in accordance with § 7.3 of Article 7.

#### **7.5 a)**

See Rules of Procedure relating to § 6.3 a).

(ADD RRB12/60)

#### **Art. 8**

### **Procedure for notification and recording in the Master Register of assignments in the Planned bands for the fixed-satellite service**

#### **8.8**

See Rules of Procedure relating to § 6.3 a).

(ADD RRB12/60)

#### **8.17**

In accordance with the decision of WRC-12 recorded in the minutes of the 12th Plenary Meeting, an administration may request, as of 1 January 2013, for suspension of the use of a frequency assignment to a space station for a period not exceeding three years and §8.17 of Appendix **30B** shall be applied as follows:

- Wherever the use of a frequency assignment to a space station recorded in the Master Register is suspended for a period exceeding six months, the notifying administration shall, as soon as possible, but no later than six months from the date on which the use was suspended, inform the Bureau of the date on which such use was suspended. When the recorded assignment is brought back into use, the notifying administration shall so inform the Bureau, as soon as possible. The date on which the recorded assignment is brought back into use shall be no later than three years from the date of suspension.
- If the recorded frequency assignment is not brought back into use within three years from the date of suspension, the Bureau shall cancel the assignment from the Master Register and apply the provisions of §6.33.
- The date of bringing back into use of a frequency assignment to a space station shall be understood as the same as that described in footnote *20bis* to §5.2.10 of Appendix **30** (Rev.WRC-12) and in footnote *24bis* to §5.2.10 of Appendix **30A** (Rev.WRC-12).

<b>An. 3 and An. 4</b>
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1 WRC-07 revised Appendix **30B** and introduced power flux-density limits in Annex 3 of Appendix **30B** in order to protect FSS allotments and assignments from interference which may be caused by FSS assignments located outside the orbital arcs defined in Annex 4. Although the reference bandwidth of these limits in Annex 3 is 1 MHz, the maximum power densities which are used for the calculation of power flux-densities are submitted in dB(W/Hz) averaged over the necessary bandwidth (C.8.h) and 4 kHz (C.8.b.2) in accordance with Appendix 4. The discrepancy between the reference bandwidth for the limits and the averaging bandwidth for submission might lead to the overestimation of interference when a few narrow-band carriers are used, e.g. carriers for tracking, telemetry and telecommand. On the other hand, a narrow-band carrier might cause significant interference to other narrow-band carriers if these carriers are accidentally overlapping with each other.

2 In order to avoid the overestimation of interference from narrow-band carriers into wideband carriers caused by integrating the power of narrow-band carriers from 1 Hz to 1 MHz and to provide a mechanism to resolve unexpected interference between narrow-band carriers, the Board decided on the following course of action.

2.1 In the case when:

- a) the maximum power density, in dB(W/Hz), averaged over the worst 1 MHz band, supplied to the input of the antenna taking into account the number of carriers and power level of each carrier to be operated within the averaging bandwidth of 1 MHz;

is lower than;

- b) the maximum power density, in dB(W/Hz), averaged over the necessary bandwidth (C.8.h);

2.2 the power density value as described in 2.1 a) above shall be provided by a notifying administration together with the relevant Appendix 4 information;

2.3 the Bureau shall use the submitted power density value as described in 2.1 a) above for its examination under Annexes 3 and 4 and publish it in the relevant Special Section;

2.4 those operating assignments whose power density value as described in 2.1 b) is higher than that in 2.1 a) shall not cause harmful interference to, or claim protection from, prior assignments recorded in the MIFR.

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