

## UPDATES to the

### Rules of Procedure

(Edition of 1998)

**approved by the Radio Regulations Board**

Revision <sup>(1)</sup> (Circular No.)	Date	Part	ARS	Pages to be removed	Pages to be inserted
1 See CR/127 Corr.1	June 1999	A1 C	ARS5 –	15-18 1-3	15-18 (rev.1) 1-3 (rev.1)
2 See CR/129	October 1999	Table of Contents A1 A1 A1 A1 A1	ARS5 Receivability ARS9 ARS13 APS30B	1-2 7-20 3-4 5-6 13-14 – 7-8 11-12	1-2 (rev.2) 7-20 (rev.2) 3-4 (rev.2) 5-6 <i>bis</i> (rev.2) 13-14 (rev.2) 1 (rev.2) 7-8 <i>ter</i> (rev.2) 11-12 (rev.2)
3 See CR/140	March 2000	A1	ARS11	11-12	11-12 (rev.3)
4 See CR/151	October 2000	A1 A1 A3	ARS5 APS30B GE75	17-18 13-14 1-3	17-18 (rev.4) 13-14 <i>bis</i> (rev.4) 1-2 (rev.4)
4 See CR/151*	October 2000	A1	ARS5	17-18	17-18 (rev.4)
5 See CR/156	December 2000	A1 A1 A1 A1	ARS4 ARS9 APS30 APS30A	1-2 1-4 1-2 1-2	1-2 (rev.5) 1-4 (rev.5) 1-2 <i>bis</i> (rev.5) 1-4 (rev.5)

(1) Refer to the relevant Circular Letter noted in column 1 regarding dates of application of new or modified Rules of Procedure included in these update pages.

\* Error in the heading of rev.4.

<b>Revision <sup>(1)</sup> (Circular No.)</b>	<b>Date</b>	<b>Part</b>	<b>ARS</b>	<b>Pages to be removed</b>	<b>Pages to be inserted</b>
6 See CR/160	March 2001	A1	ARS5	1-2	1-2 (rev.6)
		-	-	13-16	13-16 (rev.6)
		A1	ARS9	1-2	1-2 (rev.6)
		-	-	7-20	7-18 (rev.6)
		A1	ARS11	19-20	19-20 (rev.6)
		A1	ARS13	1	1 (rev.6)
		A1	APS5	1	1 (rev.6)
		A1	APS30	1-2 <i>bis</i>	1-2 <i>bis</i> (rev.6)
		-	-	13-20	13-20 (rev.6)
		A1	APS30A	1-2 <i>bis</i>	1-2 <i>bis</i> (rev.6)
-	-	11-14	11-16 (rev.6)		
A1	RES51	1	1 (rev.6)		

<sup>(1)</sup> Refer to the relevant Circular Letter noted in column 1 regarding dates of application of new or modified Rules of Procedure included in these update pages.

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## Rules concerning

### ARTICLE S5 of the RR

#### S5.2.1

Several footnotes of the Table of Frequency Allocations contain a reference to “sub-regional” uses (for example No. **S5.488**) with a small “r”. The Board considered such footnotes on the basis of this provision together with No. **S5.22** and reached the following conclusions:

- Where the allocation is made to one Region only, the term “sub-Regional” is interpreted in the meaning of No. **S5.22**, i.e. sub-Regional applies only within a Region.
- When the allocation is made to more than one Region, the term “sub-regional” may cover territories in different Regions.
- A “sub-region” or “sub-Region” is not necessarily limited to bordering countries.

#### S5.22

See comments under the Rules of Procedure concerning No. **S5.2.1**.

#### S5.33

Number **S5.152** illustrates this provision. When the transmitting and the receiving stations are both located within one of the countries listed in the footnote, the fixed service has equal rights with the amateur service. This is also the case when one station is located in one country and the other in another country, both countries being listed in No. **S5.152**. When either station is not within one of the countries listed in the footnote, the assignment is out of band.

#### S5.36

The Radio Regulations contain the procedure defined in No. **S9.21** together with a number of footnotes of the Table of Frequency Allocations stipulating that an additional or alternative allocation is made “subject to agreement obtained under the procedure set forth in No. **S9.21**”. The Board had to indicate to the Bureau under which category of allocation an assignment in the service to which the procedure of No. **S9.21** had been successfully applied and where the footnote did not indicate the category of allocation, should be recorded. The following conclusions were reached:

- a) When a footnote allocates a frequency band to a service on a secondary basis or on a non-interference basis, this indication is considered by the Board as a restriction imposed on the allocation.

- b) Number **S5.37** stipulates that “If restrictions are imposed on an additional allocation ... this is indicated in the footnote of the Table”.
- c) Therefore, when a footnote does not contain such restrictions, the allocation is necessarily on a primary basis.

#### **S5.40**

The interpretation given under No. **S5.36** for additional allocations when the agreement under No. **S9.21** is required applies also in this case to alternative allocations.

#### **S5.43**

This provision specifies the operation on a non-interference and non-protection basis of a service, or station in a service, in respect to another service, or to another station in the same service. However, this provision does not specify the relation between the respective categories of allocations to which the operation on a non-interference and non-protection basis for a service, in respect to another service, applies. Bearing in mind the scope of application and the complexity of allocations contained in various provisions of Article **S5**, as well as the circumstances under which the allocations were made, the Board considers that the respective status of each allocation which is subject to the condition of not causing harmful interference to, or not claiming protection from, other service or other station in the same service, is to be derived from the conditions specified in each specific provision.

Bearing in mind the various and complex allocation situations that are described in the provisions of Article **S5**, as well as the circumstances under which the allocations were made, the Board considers that the attention of a future conference should be drawn to the footnotes specifying the operation on a non-interference and non protection basis, which involve different categories of service, with the view to specifically establish the relationship between the respective categories of allocation to which the operation on a non-interference and non-protection basis refers.

#### **S5.43A**

1 As this provision is quoted in several other provisions, which entered into force on 3 June 2000, the Board considers that this provision also entered into force on 3 June 2000.

2 See also comments under the Rules of Procedure concerning No. **S5.43**.

**S5.467**

As the title of this provision is “*Alternative allocation*”, the allocation of the band 8 400-8 500 MHz to the space research service in the United Kingdom is not limited to the direction space-to-Earth. The limitation to deep space specified in No. **S5.465** does not apply to it.

**S5.484**

See comments under the Rules of Procedure concerning No. **S5.441**.

**S5.485**

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 footnotes 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 **S9** and **S11** and Resolution **33 (Rev.WRC-97)** 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 fixed-satellite service and others for the broadcasting-satellite service, 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 fixed-satellite service may be used in a given period of time for broadcasting (this is not to be confused with the use of the fixed-satellite service 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 **S9** and **S11** or that of Resolution **33 (Rev.WRC-97)**?

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 **S9** and **S11** (and Appendix **S30** 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.

**S5.487**

Number **S5.43** states that “a service may operate ... subject to not causing harmful interference”. This provision stipulates that “services ... shall not cause harmful interference to ...”. Despite this difference in wording, the Board is of the view that No. **S5.43** would apply in this case. This would lead to a contradiction with Articles 4, 6 and 7 of Appendix **S30**, containing procedures which lead one to consider that the fixed-satellite, the fixed and the mobile services have equality of rights with the broadcasting-satellite service. The Board considers that in this case it should be deemed when applying Appendix **S30** that the service concerned has equality of rights; however, if, despite the application of the procedures of Appendix **S30**, harmful interference is actually caused to a broadcasting-satellite station, the fixed, fixed-satellite or mobile station shall cease this interference.

**S5.488**

1 In accordance with footnote **S5.488**, as modified by WRC-2000, the use of the band 11.7-12.2 GHz by geostationary-satellite networks in the fixed-satellite service in Region 2 is now subject to the application of Resolution **77 (WRC-2000)**. The modified provision is to be applied as of 3 June 2000 pursuant to Resolution **59 (WRC-2000)**. Resolution **77 (WRC-2000)** resolves that, before an administration notifies or brings into use a GSO FSS network in Region 2, it shall seek agreement of any administration in Regions 1, 2 and 3 having a primary allocation to terrestrial services in the subject frequency band if the power flux-density produced on its territory exceeds the threshold values contained in the Resolution.

2 The Board noted that the decision of WRC-2000 is a confirmation of the need to protect terrestrial services in Regions 1, 2 and 3 from GSO FSS networks in Region 2 (*considering g) of Resolution 77 (WRC-2000)* refers) also in the period between 1 January 1999 and 2 June 2000.

3. Based on the above, for the application of **S5.488**, as modified by WRC-2000, the Board instructs the Bureau to act as follows:

3.1 Coordination requests under Article **S9** or former Article **11**

3.1.1 For coordination requests for the GSO FSS networks received as of 1 January 1999 to establish, in accordance with Resolution **77 (WRC-2000)**, the list of administrations the agreement of which is required and to publish this list in the relevant Special Section of its IFIC.

3.1.2 For coordination requests received before 1 January 1999 for which Article **14** Special Section (AR14/C) was not published, to take the same action as specified in § 3.1.1 above.

3.2 Notifications under Article **S11**

For notifications of the above-mentioned GSO FSS networks received as of 1 January 1999:

- for which agreement requirements under Resolution **77 (WRC-2000)** were established and published in accordance with § 3.1.1 or 3.1.2 above, to examine whether the required agreements (explicit) are properly reflected in the Forms of Notice and to establish the finding under **S11.32** accordingly;
- for which coordination procedure under the former Article **11** was started before 1 January 1999 and Article **14** Special Section (AR14/C) was published, to verify only the existence of agreements (explicit or implicit, as the case may be) with those administrations which were identified as potentially affected in that Special Section due to the power flux-density limits excess on their territory and to establish the finding under **S11.32** accordingly.

3.3 For request of assistance received from administrations in case of difficulties to obtain the required agreement from other administrations (identified as affected) to apply the corresponding/analogous provisions of Article **S9** or former Article **11**.

**S5.490**

This provision is similar to No. **S5.487**. The same rules apply.

**S5.491****Use of the band 12.2-12.5 GHz by the fixed-satellite service in Region 3**

In this footnote, the allocation “is limited to national and sub-regional systems”. Following WRC-97, a question has arisen as to the relevance of this limitation to non-geostationary satellite systems in the fixed-satellite service (non-GSO systems in the FSS). Having analyzed all decisions of WRC-97 related to the use of non-GSO FSS systems in certain frequency bands and particularly Resolution **130 (WRC-97)** and Resolution **538 (WRC-97)**, the Board is of the opinion that WRC-97 had the intention to promote the development of non-GSO satellite systems capable of providing global service. For that reason, the Board decided to instruct the Bureau to provisionally disregard, until WRC-2000, the limitation to national and sub-regional systems stipulated in the footnote when examining submissions of assignments received after 21 November 1997 with respect to their conformity with the Table of Frequency Allocations to non-GSO FSS systems in the bands in question. The Board agreed also to instruct the Bureau to continue applying this limitation in the case of GSO networks.

For GSO networks, the Board understands a national system as being a system having a service area limited to the territory of the notifying administration. As a consequence of this, the sub-regional system to which reference is made shall be considered an aggregate of two or more national systems; it shall be limited to the territories of the administration concerned and it shall be notified by one of the participating administrations. The Board reached this conclusion keeping in mind No. **S5.22**, which defines a sub-Region, and No. **S5.2.1**, relating to the interpretation of the word “sub-regional” without a capital “R”. Therefore, 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 national or sub-regional system is within Region 3;
- b) in the case of a national system the service area is limited to the territory under the jurisdiction of the notifying administration;
- c) in the case where a service area covers territory under the jurisdiction of other administrations it shall be limited to the territories of the administrations concerned and it shall be notified by one of the participating administrations on behalf of the other administrations;
- d) if the satellite network is operated within the framework of an international system to which countries outside Region 3 pertain, the notice must indicate that the use is limited to Region 3.

**S5.492**

1 The Board concluded that the frequency bands covered by Appendix **S30** are not allocated to the fixed satellite Service in the Regions where the broadcasting-satellite service is subject to the Plan of Appendix **S30**. Those transponders of the broadcasting-satellite

## Rules concerning

### ARTICLE S9 of the RR

#### Advance publication (Article S9, Section I)

##### **S9.1**

#### **1 Postponement of the date of bringing into use**

1.1 The Board understands from the reference to Nos. **S11.44** and **S11.44B** to **S11.44I** in No. **S9.1** in conjunction with in No. **S11.48** that, for a space station of a satellite network not yet brought into use, the maximum overall period of validity of an advance publication can be five years under No. **S9.1** plus a maximum of two years extension if granted. Consequently, any postponement of the date of bringing into use (beyond the original five years), at any stage of the procedure, is acceptable only if the date of bringing into use (2C date) remains within five years plus any agreed extension of up to two years following the date of receipt by the Bureau of the relevant advance information referred to in Nos. **S9.1** and **S9.2**. The granting of the extensions within this overall seven year period is, however, subject to several other conditions which are described in the appropriate parts of the Rules of Procedure. (See Resolution **57 (WRC-2000)** and comments under the Rules of Procedure concerning Nos. **S9.5D**, **S11.44** and Resolution **51 (Rev.WRC-2000)**).

1.2 The last paragraph of this provision relates to the establishment of the date of receipt for coordination and/or notification, as the case may be. The Conference decided to treat the cases of satellite networks for which the coordination procedure of Section II of Article **S.9** is applicable differently from those satellite networks for which the above-mentioned coordination is not applicable. For the former the earliest possible date of receipt of a coordination request is six months after the date of receipt of the information for advance publication and for the latter, the information date of receipt of a notification is six months after the date of publication of the advance information.

The Bureau shall periodically provide the information concerning the date of receipt of the advance publication information for both types of the space network in order to apply this provision as well as Nos. **S11.44** and **S11.48**.

#### **2 Cancellation of advance publication**

On the basis of the above (in particular Nos. **S11.44** and **S11.48**) and irrespective of the regulatory status of the network (under advance publication, coordination or already recorded in the Master Register), the Bureau will, after having informed the administration concerned, cancel from the Master Register or its advance publication or coordination files those networks which are not notified as being brought into use within the above mentioned period.

Administrations intending to bring these networks into use at a later date will have to re-start the procedures from the advance publication stage. In accordance to No. **S11.48**, the Bureau shall inform the administration responsible for the space station not later than 3 months before the expiry date of the five-year period, and 3 months before the expiry date of seven-year period, if extension is granted. (See comments under the Rules of Procedure concerning Nos. **S9.5D**, **S11.44** and Resolution **51 (Rev.WRC-2000)**).

3 The seven-year period (five years plus up to maximum two years of extension, if granted) mentioned under §1 above is not taken into account in case for the addition, at any time, of an earth station, even if it was not foreseen in the advance publication.

## **S9.2**

1 Number **S9.2**, as modified by WRC-2000, indicates that “the use of an additional frequency band or modification of the orbital location by more than  $\pm 12^\circ$  for a space station using the geostationary-satellite orbit will require the application of the advance publication procedure for this band or orbital location, as appropriate”. As regards a change of orbital location, the Board understands that this provision applies to changes communicated to the Bureau after 3 June 2000 (see Resolution **56 (WRC-2000)**).

2 Consequently, for such cases where a new advance publication is required, the date of receipt of the new information for advance publication will be the start for the period of validity (five years plus any granted extension) for the new frequency band or, in case of a change of orbital location, for the GSO network as referred to in relevant provisions of Articles **S9** and **S11**.

3 For a GSO satellite network that has started the coordination procedure of Section II of Article **S9** before 3 June 2000, or has been notified under Article **S11** before that date, the reference orbital location will be the latest orbital location communicated to the Bureau before 3 June 2000 for coordination or notification, according to the case.

4 The question may arise, however, as to whether a change of orbital location of a geostationary satellite network up to  $\pm 12^\circ$  is cumulative during the entire regulatory processing (i.e., Advance Publication (Article **S9**, Section I), Coordination (Article **S9**, Section II), and Notification (Article **S11**)) of a network. The Board considers that the cumulative modification of the orbital location of a geostationary satellite network during the entire regulatory processing of a network up to  $\pm 12^\circ$  from the nominal position indicated in the first advance publication of the network, or in the coordination request under § 3 above, as appropriate, does not require a new advance publication.

5 For modifications other than those mentioned in § 1 above, an administration is not required to re-start the advance publication procedure for a modification of a frequency assignment which is either recorded in the Master Register, has been coordinated or is being coordinated under Section II of Article **S9**. Such cases are treated in accordance with relevant provisions of Section II of Article **S9** or those of Article **S11**, without a change of the original date of receipt or date of publication of the advance publication information.

4.2 One of the new frequency bands allocated by WRC-95 to MSS feeder links (FSS allocation limited to this use in the space-to-Earth direction) is the band 6700-7075 MHz. The band had already been allocated to the FSS (Earth-to-space) and a portion of the band (6725-7025 MHz) is used through the application of the Appendix **S30B** (allotment) plan. From the establishment of maximum PFD limits to be observed by non-GSO MSS feeder links at the GSO and within a sector of  $\pm 5^\circ$  included in the provisions of § 2.2 of Annex 1 to Appendix **S5** and of No. **S22.5A** (for the protection of emissions in the Earth-to-space direction received by GSO space stations), the Board understands that, when applying No. **S9.11A** to MSS feeder links, Appendix **S30B** entries (Part A allotments, Part B or List assignments) in the band 6725-7025 MHz or other GSO receiving space stations (operating in the Earth-to-space direction) in the bands 6700-6725 MHz and 7025-7075 MHz, shall not be taken into account under No. **S9.27**.

**S9.15 to  
S9.19**

1 The expression in Nos. **S9.15**, **S9.17** and **S9.17A** of “band allocated with equal rights” is understood to mean bands with the same category of allocation. According to footnote No. 1 to § 1 of Appendix **S5** the “equality of right” condition is extended to all coordination forms under Nos. **S9.15** to **S9.19**.

2 Cases have arisen in practice where the coordination contour around an earth station exceeds several hundreds of kilometer and overlaps only a very small part of the territory of an administration (less than a few tens of kilometers). Considering that several conservative assumptions are used in calculating the coordination distance, the Board decided that when the overlapping is less than 5% of the coordination distance, no coordination is required.

**S9.18**

The coordination procedure of No. **S9.18** is to be applied only in frequency bands allocated to a space service in the direction space-to-Earth, i.e. when transmitting terrestrial stations are inside the coordination area of a receiving earth station for which coordination under No. **S9.17** has already been initiated and in the case where both services have the same category of allocation.

The coordination between receiving terrestrial stations and transmitting earth stations is done only when the transmitting earth station is coordinated in application of No. **S9.17**. Once that coordination is initiated an administration wishing to operate terrestrial stations within the coordination area of the transmitting earth station can evaluate the level of interference that its station may receive and decide by itself whether to proceed or not with the implementation of its terrestrial stations.

## **S9.19**

This provision relates to the requirements of coordination of transmitting terrestrial stations and transmitting earth stations in the fixed satellite service (Earth-to-space) with respect to typical BSS earth stations. To date, there is no ITU-R Recommendation defining the power flux-density level produced by the terrestrial stations and transmitting earth stations in the FSS at the edge of the service area of non-planned BSS to be used for triggering the coordination. Until such time that a calculation method and technical criteria are included in the relevant ITU-R Recommendations, in applying this provision, for the identification of affected administration, the Bureau, in addition to the frequency overlap examination, also uses, on a provisional basis, the power flux density limits in the nearest frequency band(s), where available.

## **S9.21**

### **1 Notification under Article S11 before the completion of the procedure of No. S9.21**

The Bureau accepts notifications under Article S11 with a reference to No. S4.4 in a band where the coordination procedure of No. S9.21 is to be applied at any moment before starting the procedure or during the application of the procedure of No. S9.21 (See footnote No. S11.31.1). For cases of notification under Article S11, where the coordination of No. S9.21 was already initiated but not yet fully completed, see comments under the Rules of Procedure relating to footnote No. S11.31.1 and No. S11.37.

### **2 Application of the procedure of No. S9.21 to frequency assignments for reception by an earth or space station**

Because the coordination procedures of Nos. S9.7 to S9.19, as well as the notification and recording of frequency assignments to space networks and earth stations, are applicable separately to receiving and transmitting assignments, the Board considered that the coordination procedure of No. S9.21 also applies separately to these types of stations. However, the Board considered that in the case of receiving frequencies, the reference to “the agreement of an administration with respect to the frequency assignment which may be affected” (§ 2 of Appendix S5) has no meaning unless the recording of such frequencies, after successful application of No. S9.21, imposes restrictions on the current use and the future development of the services of another administration (for example if the assignments to such services run the risk of receiving an unfavourable Finding due to a recorded assignment with respect to No. S9.21).

To this effect the Board adopted the following Rules:

- a) for the purpose of applying the coordination procedure of No. **S9.21** to a receiving earth or space station, the characteristics of the station shall be published in an appropriate Special Section, without indicating the names of the administrations concerned (“likely to be affected”);
- b) after the completion of the procedure the assignment will be deemed to have successfully applied the coordination procedure of No. **S9.21** and will receive a favourable Finding with respect to No. **S11.31**;
- c) however, if the Bureau is informed within the prescribed period of four months following the publication of the Special Section that an administration considers that one of its assignments, operated or planned to be operated in accordance with the Radio Regulations, notified or not notified to the Bureau, may adversely affect the assignment published in the subject Special Section, and it could not reach an agreement with the administration which had initiated the coordination procedure of No. **S9.21**, the Bureau will enter in the Master Register, by means of an appropriate symbol in Column 11 of the entry for the assignment in question, the name of the administration formulating such an objection, in order to indicate this situation. The administration responsible for the assignment published in the Special Section will be deemed not to be entitled to object to any harmful interference that may be caused by the assignment of the administration whose name is entered in Column 11. Furthermore, when the latter administration notifies its assignments, the Bureau will not take account of the receiving space or earth station which is the subject of this publication when it applies the procedures of Articles **S9** and **S11** to such assignments.

### **3 Secondary services**

The following Rule has been adopted by the Board for application in cases where the application of the coordination procedure of No. **S9.21** will upgrade a secondary allocation to a primary status.

For the purpose of identifying other administrations (Administration B) likely to be affected, assignments to stations of secondary services already entered in the Master Register and subject to provisions of Nos. **S5.28** to **S5.31** shall not be taken into consideration in cases involving those services of the requesting administration (Administration A) which are subject to the coordination procedure of No. **S9.21** and will have primary status once that procedure has been successfully applied. Consequently, when criteria are drawn up for identifying affected administrations, secondary services shall not be regarded as enjoying protection against a primary service subject to the coordination procedure of No. **S9.21**.

### **4 Coordination of a satellite network**

When an administration communicates Appendix **S4** data (APS4/II) for a satellite network to initiate the coordination procedure of No. **S9.21**, the Bureau will act under Nos. **S9.36**

to **S9.38** for that satellite network with respect to other satellite networks and for the space station of that satellite network with respect to terrestrial services, as appropriate.

If the administration requests that No. **S9.21** be also initiated for earth stations of the satellite network, the request shall be accompanied with the APS4/III forms of notice. The Bureau will then establish coordination and/or “agreement” areas, as appropriate, for specific and/or typical earth stations located on the territory of the requesting administration, and publish the information under No. **S9.38**. In case horizon elevation data were not provided, as well as in the case of typical earth stations, a value of 0° will be assumed by the Bureau.

### **S9.23**

See comments under the Rules of Procedure concerning No. **S9.5D**.

### **S9.27**

## **1 Frequency assignments to be taken into account in the coordination procedure**

Frequency assignments to be taken into account in the coordination procedure are mentioned in §1 to 5 of Appendix **S5** (see also Rules of Procedure concerning **S9.36** and Appendix **S5**).

1.1 As stated under the Rules of Procedure concerning No. **S9.1** the period between the date of receipt by the Bureau of relevant information under Nos. **S9.1** and **S9.2** for a satellite network and the date of bringing into use of the assignments of the satellite network in question shall in no circumstance exceed five years as referred to in No. **S9.1** plus any extension up to two years granted according to the procedure of Nos. **S11.44B** to **S11.44I**. Consequently, frequency assignments not complying with these time limits will no longer be taken into account under the provisions of No. **S9.27** and Appendix **S5**. (See also Nos. **S9.1**, **S9.2**, **S11.43A**, **S11.44**, **S11.48** and Resolution **49 (WRC-97/WRC-2000, as applicable)** and Resolution **57 (WRC-2000)**)

## **2 Modification of characteristics of a satellite network during coordination**

2.1 After an administration informs the Bureau of a modification of characteristics of its network, it is essential to establish its proper coordination requirements with respect to other administrations, i.e. with which administration(s), and for which of their network(s), the modified part of the network needs to effect coordination before it can be notified for recording.

2.2 The guiding principles for dealing with modifications are:

- general obligation to effect coordination before notification (No. **S9.6**), and
- the fact that coordination is not required when the nature of the change is such as not to increase the interference to or from, as the case may be, the assignments of other administration, as specified in Appendix **S5**.

2.3 Based on these principles, and provided that the appropriate coordination trigger limit is exceeded, the modified part of the network will need to effect coordination with respect to space networks that are to be taken into account for coordination:

- a) with dates of receipt (DR) before the original date of submission (D1) of the subject network; and
- b) with date of receipt (DR) after the original date of submission (D1) of the modified network but before the date of the modification (D2), where the nature of the change is such as to increase the interference to or from, as the case may be, the assignments of those networks which were received in the period between D1 and D2. In case of GSO networks referred to in No. **S9.7** including those to which coordination arc approach (frequency bands 1), 2) and 3) of No. **S9.7** of Table **S5-1** of Appendix **S5**) have been applied, the increase of interference will be measured in terms of  $\Delta T/T$ .

2.3.1 Where the coordination requirements of the modification involve any network under *b*) above, the modified assignments will have as their date of receipt (DR) the date of submission of the modification (i.e. DR = D2). Otherwise, they will retain their original date of receipt (DR) (i.e. DR = D1).

2.3.2 In case of successive modifications of the same part of the network, if the next modification (compared with the previous modification) does not increase the interference to or from a particular network not included in the coordination requirements under *b*) above, that particular network will not be included in the coordination requirements of that next modification.

2.3.3 If it is not possible to verify that there is no increase of interference (e.g. in absence of appropriate criteria or calculation methods), the date of receipt (DR) date of the modified assignments will be D2.

2.4 After having examined the modified network as described in § 2.3 above, the Bureau shall publish the modification, including its coordination requirements, in the appropriate Special Section for comments by administrations within the usual 4-month period. Initial characteristics are thus replaced by the published modified characteristics, and only the latter will be taken into account in subsequent applications of No. **S9.36**.

### **3 Modification to characteristics of an earth station**

3.1 The use of another associated space station may be one of the modifications of characteristics to an earth station. In the case of examination under **S9.15**, **S9.17** and **S9.17A**, a new coordination contour is drawn and compared with the previous one. Coordination is

then required with any administration on the territory of which a coordination distance is increased. In the case of examination under **S9.19**, the pfd of the transmitting earth station with modified characteristics is calculated at the edge of the BSS service area. Coordination is then required with any administration on the territory of which the pfd at the edge of the BSS service area is increased as the result of modification of characteristics of the transmitting earth station in fixed satellite service and is above the permissible level. However, if the initial associated space station has been cancelled or if the coordinated frequency assignments of the earth station do not cover the newly notified assignments, this notification of the assignments of the earth station will be considered as a new notice (first notification).

3.2 Generally, the Bureau uses the same approach, i.e. an increase of the coordination distance or an increase of the pfd at the edge of the BSS service area, according to the case, in order to decide if there is an increase of interference.

**S9.28,  
S9.29  
and S9.31**

1 These provisions of the Radio Regulations establish the complete responsibility of the requesting administration for effecting the coordination of the frequency assignments to stations in the terrestrial services and to Earth stations (specific or typical) of satellite networks with respect to other Earth stations and stations of terrestrial services (see Nos. **S9.15** to **S9.19**), without any involvement of the Radiocommunication Bureau, except the cases referred to in Nos. **S9.33** and/or **S9.52**. Therefore, the Board considers these provisions as being addressed to administrations, and the Bureau has no action to take in this respect.

2 See also Rules of Procedure under No. **S11.32** (§ 4).

**S9.36**

1 Under this provision, the Bureau “shall identify any administrations with which coordination may need to be effected”. In applying Appendix **S5** with respect to No. **S9.21**, the Bureau uses the following calculation methods and criteria<sup>2</sup>:

- space network vs. space network: Appendix **S8**;
- earth station vs. terrestrial stations (and *vice versa*): Rules of Procedure B1, B2 (derived from Appendix **S7**);

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<sup>2</sup> For cases not covered under this paragraph, the Bureau, in collaboration with the appropriate Radiocommunication Study Groups, continue to develop applicable calculation methods and criteria in the form of Rules of Procedure to be submitted to the RRB for approval.

- transmitting terrestrial stations vs. receiving space stations: criteria of Article **S21**;
- transmitting space stations vs. terrestrial services: pfd limits defined in Article **S21** and in Annex 1 (§ 4, 5 and 8) of Appendix **S30** (see also the Rules of Procedure concerning **S5.488**);
- fixed-satellite transmitting space stations in the band 11.7-12.2 GHz vs. Broadcasting-satellite service (inter-Regional): pfd limits defined in Annex 4 of Appendix **S30**;
- between stations of terrestrial services in some specific frequency bands: Rules of Procedure B4, B5 and B6 as appropriate.

2 For coordination requests under Nos. **S9.11** to **S9.14** and **S9.21**, it is to be noted that irrespective of the identification by the Bureau under No. **S9.36** (see footnote **S9.36.1**), any administration, even one which was not identified, may object to the published assignment under No. **S9.52** and any administration, including one identified by the Bureau, that has not commented on the proposed use within the regulatory time limit is considered to have no objection to that use in accordance with No. **S9.52C**.

#### **S9.42**

If the Bureau's calculations do not indicate that the requesting administration should be brought into coordination procedure, the matter is left for consideration by the administration initiating the coordination.

#### **S9.48**

The Board concluded that this provision applies only to those radiocommunication stations which were taken into consideration when the coordination request was either sent to the other administration as stipulated in No. **S9.29** or submitted to the Bureau in the case of application of Nos. **S9.30** and **S9.32**. Other existing assignments of the administration to which this provision is not applied remain entitled to protection. Assignments of the same administrations which are considered at a later date are also entitled to protection.

#### **S9.49**

The comments made in the Rules of Procedure concerning No. **S9.48** apply. This administration is deemed to have undertaken not to cause interference to those stations for which the agreement was requested.

<b>S9.50</b>
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**Comments relating to the exclusion of the territory of a country from the service area of a space station**

1 When an Administration B requests the Bureau to exclude its territory from the service area of a space station of an Administration A, this raises the following questions:

- should that comment have any effect on the identification of the administrations concerned in the coordination process or on the assessment of the level of harmful interference?
- what action shall the Bureau take in respect of it?

2 The question of a request concerning the exclusion of the territory of a country from the service area of a space station can be studied at two different levels:

- the compatibility between services and stations and the related status that may be derived from the application of the procedures contained in the Radio Regulations, on one hand, and
- the principles embodied in the Preamble to the Convention and the Radio Regulations as well as in Resolution **1 (Rev.WRC-97)** in respect of the sovereign right of each country to use the frequency spectrum and the geostationary satellite orbit, on the other hand.

3 Compatibility matters are well defined in the Radio Regulations; they involve:

- power flux-density limitations which are deemed to avoid any problem of incompatibility without any recourse to coordination with terrestrial services;
- coordination between administrations using or intending to use stations of the same service or of different services sharing the same frequency band;
- examination by the Bureau of the probability of harmful interference in cases where, for one reason or another, agreement on coordination could not be reached between the administrations concerned.

4 The identification by the Bureau of administrations involved in a coordination process and the assessment of the probability of harmful interference are based on the technical characteristics notified by administrations. The extent to which a comment intended to reduce the service area of a space station may affect the application of Articles **S9** and **S11** should be considered on the basis of a distinction to be made between the “coverage area” and the “service area”. The coverage area results from limitations imposed by the design of the space station, and a certain degree of overlapping of territories of other countries not intending to participate in the system may be unavoidable. The Board understands that, in designing any space station, the administration concerned applies No. **S15.5**, which stipulates that “radiation in and reception from unnecessary directions shall be minimized by taking the maximum practical advantage of the properties of directional antennas whenever the nature of the service permits”. If an Administration B, not participating in a given satellite network,

considers that the network was not designed to minimize the overlapping which resulted in an unnecessary coverage of its territory, the Bureau can only transmit such comment to Administration A without any action from its side.

5 In relation to the sovereignty of the Administration B to authorize earth stations to be installed on its territory, the Bureau assumes that, in accordance with Resolution 1 (Rev.WRC-97), an agreement existed between the two administrations. Administration B is entitled to react and indicate to the Bureau that such an agreement does not exist; however, the Bureau has no authority to modify a characteristic notified by Administration A without its agreement. If the latter refuses to modify the service area, the Bureau can only note this situation. (The licensing authority, irrespective of the application of the procedures of Article S9, remains under the responsibility of Administration B. See also comment under the Rules of Procedure concerning Resolution 1 (Rev.WRC-97).)

6 In conclusion, when Administration B makes comments intending to exclude its territory from the service area of the space station of Administration A, the Bureau:

- shall consider such comments receivable and that it is a matter to be resolved between the administrations concerned;
- shall inform Administration A of the comments received requesting consultations between the administrations concerned (Administrations A and B) and will modify the service area only if Administration A agrees;
- shall enter a remark to indicate this situation when publishing a Special Section;
- shall consider, unless it receives a subsequent notification to the contrary, that there is no agreement between Administrations A and B under Resolution 1 (Rev.WRC-97) for the use of the territory of Administration B by earth stations associated with the satellite network in question.

#### **S9.50.2**

The agreement referred to in this provision is considered as a bilateral agreement not involving the Bureau or any other administration.

#### **S9.52**

1 The provision No. S9.52 states that in the case of a disagreement concerning coordination, the responding administration (Administration B) informs the administration requesting the coordination (Administration A) of the reasons for its disagreement and in particular includes in these reasons those “assignments upon which that disagreement is based.” “A copy of these comments shall also be sent to the Bureau. Where this information relates to terrestrial stations or earth stations operating in the opposite direction of transmission within the coordination area of an earth station, only that information relating to existing radiocommunication stations or those to be brought into use within the next three months for terrestrial stations, or three years for earth stations, shall be treated as notifications under No. S11.2 or S11.9”. Provision No. S9.52 does not specify what action the Bureau will

take with respect to the information relating to the other type of stations which are not to be considered as notifications but with respect to which the responding administration also stated its disagreement. The Bureau will not consider them as a notification under No. **S11.2** or **S11.9** and will not publish them, considering that it is a bilateral matter which does not need to be brought to the knowledge of all administrations.

2 The information submitted to the Bureau by Administration B which, according to No. **S9.52**, shall be treated as notifications under No. **S11.2** or **S11.9** could only be so considered, if it contains complete data as required by Appendix **S4**; otherwise the notice(s) will be returned to Administration B as incomplete. It is also understood that these notices have to be in conformity with No. **S11.31**; otherwise the notice(s) will be either returned to the Administration B, or shall be recorded in the Master Register for information purposes only, if the administration indicated that the assignment(s) will be operated in accordance with No. **S4.4**. Furthermore, the relevant frequency assignments of Administration B will be examined under No. **S11.32** (with respect to its conformity with the procedures relating to coordination) and may be eventually returned to administration, under No. **S11.37**, if the Bureau finds that the procedures for obtaining coordination were not successfully applied with all concerned administrations, under No. **S9.27** with respect to their assignments recorded in MIFR. See also Rules of Procedure relating to No. **S9.29**.

3 This provision allows the responding Administration B to inform the requesting Administration A of its disagreement within four months. It is to be noted that Administration B which may not be in position, for any reason, to respond to the requesting Administration A can send its disagreement directly to the Bureau accompanied by a statement reflecting the situation. The Board decided that disagreements addressed directly to the Bureau are valid in the meaning of No. **S9.52**, and the Bureau shall communicate the disagreement to Administration A.

#### **4 Case of administrations having responded**

An Administration B may, when it accepts the proposed use, stipulate conditions of use. If such conditions are accepted by the administration requesting the agreement, the Bureau will take this as an agreement.

4.1 When an administration has responded in application of No. **S9.52** within four months and requested the assistance of the Bureau, the latter will act according to Article **S13**.

4.2 When an Administration B has responded, in application of No. **S9.52**, more than four months after the date of publication of the relevant Special Section or the date of dispatch of the coordination data under No. **S9.29**, and the Bureau has been informed of a continuing disagreement between the two administrations, the Bureau has to literally apply No. **S9.52C**; it will consider Administration B as not having responded in due time. Therefore, despite the comments expressed by Administration B, Administration A will be considered to have successfully completed the procedure.

4.3 When an Administration B has responded, in application of No. **S9.52**, more than four months after the date of publication of the Special Section in application of No. **S9.38** or the dispatch of the coordination data under No. **S9.29**, and an agreement is reached between the two administrations, the Bureau will take this situation into account.

### **S9.52C**

## **1 Case of administrations not responding**

With respect to administration not responding, an administration having applied the procedure shall be regarded as having successfully completed the procedure of this Article for assignments for which there was no response.

## **2 Publication of Special Sections containing the status of the coordination procedures under Nos. S9.11 to S9.14 and S9.21**

2.1 Upon expiry of the deadline for disagreement to a coordination request under Nos. **S9.11** to **S9.14** and **S9.21**, the Bureau shall, according to its records, publish a list of administrations having submitted within the regulatory deadline their disagreement in the appropriate Special Section series. This will provide an opportunity to all administrations to ensure that their disagreements/comments are acknowledged and that they will duly be taken into account when the Bureau further examines the frequency assignments at the notification stage (Nos. **S11.31** and **S11.32**).

2.2 Any comment which does not explicitly express objection to the request for coordination is not considered as a disagreement under No. **S9.52**. In case of doubt concerning the nature of comments, the administration concerned should be consulted.

2.3 The appropriate Special Section shall include the following information:

- a) the names of administrations whose disagreement to the request for coordination were received within the regulatory deadline;
- b) a Note, which reads:

“Pursuant to No. **S9.52C**, all administrations other than those listed above shall be regarded as unaffected, and in the case of Nos. **S9.11** to **S9.14** the provision of Nos. **S9.48** and **S9.49** shall apply.”

### **S9.53**

See comments under the Rules of Procedures concerning No. **S9.6** (§ 1 c)).

**S9.58**

This provision refers to changes in the characteristics which have been decided during the coordination procedure of the assignment of the network. For processing of the modification, the Bureau will apply § 2 of the Rules concerning No. **S9.27**. When publishing the modified characteristics in a modification to the Special Section containing the original coordination request, the Bureau will indicate the nature of the modification as specified in No. **S9.58**.

**S9.60**

In application of No. **S9.11A**, when the information on a station in the fixed service upon which an administration's disagreement is based cannot be provided as referred to in under **S9.52**, the reference parameters contained in Annex 1 to Appendix **S5** can be used to determine the need for coordination.

**S9.62**

With respect to an administration not responding, an administration having applied the procedure shall be regarded as having successfully completed the procedure of this Article with respect to assignments for which there was no response.

**S9.63**

In the absence of reply to provide the required information (to enable the Bureau to carry out the compatibility analysis), the Bureau shall use the information available to it.

**S9.65**

See Rules under No. **S9.6** (§ 2), Nos. **S11.32A** and **S11.33**.

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### **S11.39**

The Board understands the third sentence of provision No. **S11.39**, and the provisions Nos. **S11.39A** to **S11.39E**, as being applicable to those notices under Appendices **S25**, **S26** or **S27**, as appropriate, which receive unfavourable finding under No. **S11.34**.

### **S11.43A**

1 Modification of a space network may take place during the coordination process; this case is covered in the comments under the Rules of Procedure concerning Nos. **S9.27** (§ 3), **S9.58**, **S11.28** and **S11.32**.

2 With respect to applicable procedures for cases of modifications to assignments to satellite networks which are recorded in the Master Register, WARC Orb-88 decided that, in the case of geostationary satellite networks, any modification to the basic characteristics of an assignment, in the application of No. **S11.43A** (former RR1548), should be subject only to the coordination procedure (Section II of Article **S9**). On the basis of this decision, the Bureau does not require an administration to recommence the advance publication procedure, for a modification of a frequency assignment recorded in the Master Register unless the modification concerns the addition of a new frequency band which was not included in the advance publication of the network or a change of orbital location by more than  $\pm 12^\circ$  (see also the Rule under **S9.2**).

The purpose of the examination under No. **S11.43A** is to determine whether the coordination requirements remained unchanged or, where appropriate, whether the probability of harmful interference has not increased (See also the Rules of Procedure concerning Nos. **S11.28** and **S11.32**). In these cases, the provisions of No. **S11.43B** apply with the effect of maintaining unchanged the status (Findings) and the date of receipt of the assignment. If, due to the modifications, new coordination requirements are identified by comparing the level of interference (such as  $\Delta T/T$ ) resulted from consideration of the initial characteristics and that of modified characteristics, then unfavourable finding shall be given and the form of notice shall be returned to the notifying administration. The notifying administration should be requested to apply Section II of Article **S9**. Findings with respect to No. **S11.32** are determined on the basis of the coordination agreements effected to meet the new coordination requirements. In the case, where the provisions of Nos. **S11.32A** and **S11.33** are applicable and the examinations show an increase in the probability of harmful interference compared with that which resulted from the initial examination, then the finding is unfavourable and the notice shall be returned in accordance with provision No. **S11.38**. See also Rules of Procedure under No. **S11.43B**.

3 Modification of an earth station by changing the associated space station or the associated beam so far as No. **S11.32** is concerned is covered in the comments under the Rules of Procedure concerning No. **S11.32** in § 2.2.2 and 2.2.3.

4 When the modification of a frequency assignment to an earth station is examined in application of Nos. **S9.15**, **S9.17** and **S9.17A**, the coordination distance is calculated in each azimuth and the coordination under Nos. **S9.15**, **S9.17** and **S9.17A** is required only with

those countries on whose territory the coordination distance is increased owing to the modification. (See comments under the Rules of Procedure concerning No. **S9.27** (§ 3.1 and 3.2).)

5 When the modification of a frequency assignment is examined in application of No. **S9.19**, the pfd of the transmitting station (terrestrial station or FSS earth station) with modified characteristics is calculated at the edge of the BSS service area and the coordination under No. **S9.19** is required only with those countries where the pfd limit at the edge of the BSS service area is increased as the result of modification of characteristics of the transmitting station and is above the permissible level. (See comments under the Rules of Procedure concerning No. **S9.27** (§ 3.1 and 3.2).)

### **S11.43B**

1 This provision specifies that a change in the characteristics shall be examined when appropriate with respect to Nos. **S11.32** to **S11.34**, as appropriate.

1.1 In the case of the examination of Space Networks under No. **S11.32** or **S11.32A**, the comments under No. **S11.43A** indicate the cases which should not be considered as modifications but as first notifications (with new date of receipt). These examinations should be carried out by checking the application of § 6 *a*) to 6 *c*) of Appendix **S5**. In cases where there is no calculation method and/or criteria to check the application of these provisions (e.g. coordination requirement for Nos. **S9.12** and **S9.13**), the Bureau shall treat these modifications as new notifications of assignments. Number **S11.43B** refers to an increase in the probability of harmful interference. The probability of harmful interference (*C/I*) is calculated in the examination Nos. **S11.32A** and **S11.33** only. The examination No. **S11.32** is made using the threshold/condition specified in Appendix **S5**.

1.2 It should be noted that in the examination under No. **S11.32A**, assignments published under No. **S9.38** or **S9.58** but not yet notified are also taken into account. Therefore, for practical reasons, in application of this provision, these assignments shall be also taken into account in addition to assignments already recorded in the MIFR.

2 This provision makes reference to the “original date of entry in the Master Register”. The Board considers this date to be the date of receipt of the original notice. However, with respect to the notices received prior to 1 January 1999, the Board considers this date equivalent to the date recorded in column 2A, 2B, or 2D, as appropriate.

### **S11.43C**

The Board concluded that the resubmitted assignments will be recorded only if the finding with respect to No. **S11.31** remained favourable.

## Rules concerning

### ARTICLE S13 of the RR

In reviewing Sections III and IV of Article **S13**, the Radio Regulations Board noted that modifications were introduced by WRC-97 particularly in relation to the process of considering proposed changes or additions to Rules of Procedure and the opportunity available to administrations to comment on such proposals.

Nos. **S13.14** and **S13.15** in Section III establish procedures for changes to the Rules of Procedure and a sequence for Board consideration, publication, comment by administrations and possible further review or special study. On the other hand, No. **S13.17** in Section IV also refers to preparation of draft modifications or additions to Rules of Procedure.

The Board has concluded that there is a lack of clarity in the procedures to be followed for modifications or additions to Rules of Procedure. It also had regard to the desirability for transparency in considering such proposed modifications or additions.

Accordingly, the Board decided that the following procedures should be followed with respect to the application of Nos. **S13.14**, **S13.15** and **S13.17**:

- a)* Proposals for changes or additions to the Rules of Procedure can emerge from administrations, from the Radiocommunication Bureau, or from the Board itself. Irrespective of the source of proposals, the Board regards No. **S13.17** as requiring that the Bureau should prepare draft modifications or additions to the Rules of Procedure arising from such proposals. In the interests of transparency, the Board considers that such drafts should then be made available for a period of normally 45 days for comment by administrations.
  - b)* The Bureau, in accordance with No. **S13.14**, shall submit to the Board the final drafts of all proposed changes to the Rules of Procedure, as well as the comments received in response to the procedure in § *a)* above.
  - c)* Any need pursuant to No. **S13.15**, for a special study in relation to the Rules of Procedure submitted by an administration or identified by the Board or the Bureau, or the need for any new Rules or modification or addition to the existing Rules of Procedure shall be handled in accordance with the procedure in § *a)* and *b)* above.
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## Rules concerning

### APPENDIX S5 to the RR

**1**

In addition to the frequency assignment listed in *a)* to *g)*, the frequency assignment recorded in Master Register with an unfavourable Finding under No. **S11.32** and an unfavourable Finding under No. **S11.32A** without having caused harmful interference, in application of No. **S11.41**, shall be taken into account.

See also Rules of Procedure relating to Nos. **S9.27**, **S9.29**, **S9.31** and **S11.32**.

#### **Table S5-1**

On reading the descriptions contained in the first and second columns of this Table the Board concluded that these columns contain descriptions which are of an explanatory nature, and thus should only be used for the purpose of information. The appropriate regulatory texts are those contained in the provisions of Article **S9** corresponding to the reference made in the first column of the Table.

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## Rules concerning

### APPENDIX S30 to the RR

(Rules are arranged by paragraph numbers of Appendix S30)

**In application of the following Rules whenever reference is made to the Region 1 and 3 Plan, it means the Plan revised at WRC-97 for Region 1 and 3 WRC-97 Plan**

#### Art. 2

### Frequency bands

#### 2.2

1 The Board, in reviewing § 2.2 of Article 2 of Appendices **S30/S30A (WRC-2000)**, decided to instruct the Bureau to proceed as follows:

2 Space operations functions in the guardbands of Appendices **S30/S30A** will be processed within the regulatory framework of Appendices **S30/S30A (WRC-2000)** without a need to publish an advance publication information, i.e. administration would initiate the coordination procedure under No. **S9.7** by submitting the coordination data. The regulatory time limit for bringing into use any assignments in the guardbands will be same as that for planned BSS/Feeder link assignments i.e. 8 years from the date on which the complete information is received by the Bureau for modification and/or inclusion of new assignments in the List for Regions 1 and 3 (§ 4.1.3) and/or modification to the Region 2 Plan (§ 4.2.6) of Article 4 of both Appendices **S30** and **S30A (WRC-2000)**.

3 For the use of the guardbands of the Appendices **S30/S30A** for space operations functions for the initial Plan, the 8 year regulatory time limit will apply and will be counted from the date on which the complete Appendix **S4** data is received by the Bureau for these guardbands.

4 This implies that the coordination and notification procedure for the use of the guard bands should be applied at the same time as the respective coordination and notification of the associated main BSS networks.

5 Protection Criteria and Calculation Methods to be used for the implementation of § 2.2 to Article 2 of Appendix **S30**,

5.1 WRC-2000 included in the new § 2.2 of Article 2 to Appendix **S30** the regulatory provisions to coordinate assignments intended to provide space operation functions in the guardbands of the Appendix **S30** frequency bands with other services using the same

bands. However, WRC-2000 did not refer explicitly to the protection criteria and calculation methods, which shall be applied to implement these new provisions.

5.2 In view of the above and until the time that the relevant ITU-R Recommendation is available, the Board instructed the Bureau to use the protection criteria and calculation methods associated with the provisions referred to in § 2.2 of Article 2 to Appendix **S30**.

**Art. 3**

**Execution of the provisions and associated Plans**

**3.1**

For the footnote of § 3.1 see comments made under the Rules of Procedure concerning No. **S5.492**.

**Art. 4**

**Procedure for modification to the Plans**

**4.1 a)**

This paragraph refers to the modification in the sense of a change to “the characteristics of any of its frequency assignments to a space station in the broadcasting-satellite service which are shown in the appropriate Regional Plan”. The Plans as they appear in Articles 10 and 11 of Appendix **S30** contain only eight and sixteen characteristics respectively, while Annex 2 contains a greater number of characteristics which were used by each of the conferences concerned to establish the Plan. Among these characteristics only one, the energy dispersal (Annex 2, § 14 *h*)), is referred to in the footnote of § 4.1. The Board considers that modifications of characteristics other than those listed in Articles 10 and 11 of Appendix **S30** may be considered as modifications to the Plans. These other characteristics are listed in the comments under § 5.2.1 *b*) of Article 5 of Appendix **S30**.

In reviewing § 4.1 *a*) and 4.1 *b*) of Article 4 of Appendix **S30**, the Board concluded that, the Bureau, in applying relevant sections of Annex 1 shall, where applicable, compare the power flux density and  $\Delta T/T$  values, as the case may be, resulting from modification to the Plan with those values in the Plan. If it is not possible to do so, the Bureau should use the absolute limit expressed in relevant sections of Annex 1 to that Appendix.



See also Rules of Procedure under § 4.3.5.

**4.1 b)**

See Rules of Procedure relating to § 4.1 a) above.

See also Rules of Procedure under § 4.3.5.

**4.1 c)**

When an administration cancels an assignment from the Regional Plan under this paragraph, or when the Bureau, in applying § 4.3.5 deletes an assignment from the Plan, the Reference Situation of the Plan assignments and those in the process of modification would be updated. The Bureau need not to recalculate the affected administration(s) as result of the above-mentioned cancellation.

**4.3.1.1**

1 In determining those administrations of Regions 1 and 3 that may be affected, the proposed modification is examined with respect to the Regions 1 and 3 Plan as it exists at the date of receipt of the request for modification including the proposed modifications received before that date (whether the procedure of Article 4 is complete or not). The examination consists of ensuring that the limits of Annex 1 of Appendix **S30** are not exceeded. Account is also taken of any time-limited modifications to the Plans in accordance with § 4.3.15.

2 Following the introduction by 1983 Conference of the grouping concept for Region 2 (Articles 9 and 10 of Appendices **S30A** and **S30** respectively) and further to the decision of WARC Orb-88 to apply the grouping concept to the Regions 1 and 3 Feeder link Plan (Article 9A of Appendix **S30A**), the IFRB decided to extend this concept to the 1977 Conference BSS Plan. On the other hand, the cluster concept was introduced by 1983 Conference for Region 2 for BSS and associated feeder-links (§ B of Annex 7 of Appendix **S30**, § 4.13 of Annex 3 of Appendix **S30A**) and for Regions 1 and 3 by WARC Orb-88 for feeder-links (§ 3.15 of Annex 3 of Appendix **S30A**). The IFRB decided that Regions 1 and 3 could also apply this concept for the BSS Plan provided that the required agreement is obtained from administrations in the cluster.

3 The Board's understanding of the group concept is that in the interference calculation to assignments that are part of the group, only the interference contribution from assignments that are not part of the same group are to be considered. On the other hand, for the interference calculation from assignments belonging to a group into assignments that are not part of the same group, only the worst interference contribution from that group is to be taken into consideration.

For the Regions 1 and 3 Plans, the Board did not find any regulatory basis to extend the use of multiple orbital positions for networks involving grouping beyond those cases which were accepted by WRC-97 and included in the revised Regions 1 and 3 Plans.

**Art. 7**

**Coordination, notification and recording of FSS assignments  
affecting BSS assignments**

**7.1.1**

The procedures contained in Article 7 of Appendix **S30** follow the general principle of coordination procedures in the non-planned bands contained in Article **S9**. A similar article exists in Appendix **S30A**. The Board, having noted that this paragraph applied to the fixed-satellite service could not find any reason for excluding the possibility for an administration to apply this paragraph on behalf of a group of administrations.

**7.2.2**

In this paragraph there is reference to the interference potential specified in an agreement; the Bureau may not have the details of this agreement, and will therefore take this into account only when it has been communicated to it.

**Sect. III  
to VIII**

Any frequency assignment subject to application of Article 7 of Appendix **S30** are simultaneously notified under Article **S11**, the Board therefore decided that the application of the relevant paragraph of Sections III to VIII of Article 7 of Appendix **S30** shall be carried out within the framework of Article **S11**.

**An. 1**

**Limits for determining whether a service of an administration is  
affected by proposed modifications to the Plan**

**1**

*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 PFD Limit referred to in the first paragraph of Section 1 of Annex 1 to Appendix **S30***

1 The PFD 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 **S30** 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 PFD limit was intended to be considered as a hard-limit that shall not be exceeded.

2 In order for the Bureau to practically implement this provision in a reasonable time period, i.e. without having to capture and process the relevant Appendix S4 data, which is currently done several months after the data submission, the Board concluded that the PFD limit of  $-103.6 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  could be converted into two e.i.r.p. limits as follows:

2.1 “First e.i.r.p. limit”:

An e.i.r.p. value of 58.4 dBW, which corresponds to the maximum e.i.r.p. level below which the PFD limit is never exceeded, i.e. this e.i.r.p. value corresponds to a PFD value of  $-103.6 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  produced by a satellite pointing at its sub-satellite point (the shortest distance from the GSO to the Earth).

2.2 “Second e.i.r.p. limit”:

An e.i.r.p. value of 59.8 dBW, which corresponds to the minimum e.i.r.p. level above which the PFD limit is always exceeded, i.e. this e.i.r.p. value corresponds to a PFD value of  $-103.6 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  produced by a satellite pointing at the edge of the visible part of the Earth (the longest distance from the GSO to the earth).

3 The Board therefore decided that the PFD limit of  $-103.6 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  shall be implemented by the Bureau by checking the e.i.r.p. value of each assignment of a given network against the e.i.r.p. limits defined in § 2 above.

4 To this aim, the Board instructed the Bureau to apply the following course of action:

4.1 If the “first e.i.r.p. limit” of 58.4 dBW **is not exceeded** by any assignment of a given network, the PFD limit of  $-103.6 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  would be considered to be met.

4.2 If the e.i.r.p. value of at least one assignment of a given network exceeds the “second e.i.r.p. limit” of 59.8 dBW, the Bureau shall then consult with the Administration responsible for this network in order for it to reduce this e.i.r.p. value at least below 59.8 dBW and preferably below 58.4 dBW. This consultation would have to be carried out according to the Rules of Procedure on the Receivability of forms of notice, i.e. within the 30 + 15 days referred to in § 3.2 of these Rules.

Should the responsible Administration insist on keeping the original e.i.r.p. value(s) of the assignment(s) in question for this network, the assignment(s) would then be considered as exceeding the PFD limit referred to in the first paragraph of Section 1 of Annex 1 to Appendix S30 (i.e.  $-103.6 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$ ), and thus not being in conformity with Article 4 of Appendix S30. The assignment(s) would then be deleted from the network and the responsible Administration would be informed accordingly.

4.3 Otherwise, if the e.i.r.p. value of at least one assignment of a given network is in the range between both above-mentioned e.i.r.p. limits (i.e. 58.4 dBW and 59.8 dBW), the Bureau should proceed further with this network and study more deeply the conformity with the PFD limit of  $-103.6 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  at the time of the other regulatory and technical examinations.

Should it be found at that time that the assignment(s) in question exceed(s) the above-mentioned PFD limit, a Note would be included in the corresponding Special Section drawing the attention of the responsible administration to the need to take necessary action at the stage of Part B publication (application of § 4.1.12 of Appendix **S30**) to ensure that the e.i.r.p. level of the assignment(s) satisfies the PFD limit of  $-103.6 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$ , otherwise the assignment(s) shall be considered not to be in conformity with Article 4 of Appendix **S30 (WRC-2000)** and shall not be thus included in the List even if all other paragraphs of Article 4 were successfully applied.

5 The Board noted that considering the level of e.i.r.p. of current BSS satellite networks, this PFD limit was unlikely to be exceeded and therefore the Bureau might face a limited number of cases of this nature.

*c) Implementation of the PFD masks and EPM criterion referred to in sub-paragraphs a) and b) of Section 1 of Annex 1 to Appendix S30*

1 In accordance sub-paragraphs *a)* and *b)* of Section 1 of Annex 1 to Appendix **S30 (WRC-2000)**, an Administration, which has assignment(s) in the Plan, in the List or assignment(s) for which the procedure of Article 4 of Appendix **S30** 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  $9^\circ$ , 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 PFD value derived from the appropriate PFD mask given in § *a)* of Section 1 of Annex 1 to Appendix **S30** is exceeded at least at one of the test-points<sup>1</sup> of the wanted assignment; and
- the reference EPM of at least one of the test-points<sup>1</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 EPM value.

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<sup>1</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 **S30/S30A** has already been initiated, the test-points referred to in this paragraph are those provided under former Annex 2 to Appendices **S30/S30A** or under Appendix **S4**.

d) *Reference protection margin*<sup>2</sup>

1 The reference equivalent protection margin (EPM) 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 **S30** or **S30A** 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.

2 The reference EPM 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.

6

The Board noted that this section does not contain the limits applicable to the protection of Region 3 fixed-satellite stations in the band 12.2-12.5 GHz from Region 1 broadcasting-satellite stations in the case of modifications to the Plan. The Board therefore decided that, to protect the fixed satellite service in Region 3 in the band 12.2-12.5 GHz from the modifications to the Region 1 BSS Plan, the Bureau shall apply the limits applicable for Region 2 (11.7-12.2 GHz).

7

The Board noted that the  $\Delta T/T$  criteria contained in this section which is to be used in conjunction with the calculation method of Appendix **S8** is 4%. (In Appendix **S8** this trigger limit is 6%.) In reviewing the footnote 3 of Appendix **S8**, the Board instructs the Bureau to continue to use 4% as the criteria for identification of affected administration.

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<sup>2</sup> An analysis carried out by the Radiocommunication 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 **S30** and **S30A**, caused by subsequent proposed modifications to the Plan, decreases when those networks have a very low equivalent protection margin (EPM). 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.

<b>An. 4</b>
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**Need for coordination of a transmitting space station in the fixed-satellite service or in the broadcasting-satellite service where this service is not subject to a Plan: in Region 2 (11.7-12.2 GHz) with respect to the Regions 1 and 3 Plan; in Region 1 (12.5-12.7 GHz) and in Region 3 (12.2-12.7 GHz) with respect to the Region 2 Plan**

(See Article 7)

**Clarification on the implementation of Annex 4 to Appendix S30**

1 The Board, in reviewing the implementation of the protection criteria and methods of Appendix **S30**, has identified that the text of Annex 4 to Appendix **S30 (WRC-2000)** requires further clarification or complementary information with regard to the implementation of the corresponding protection criteria and method for sharing between the services involved.

2 Annex 4 to Appendix **S30** contains the PFD mask applicable to protect BSS receiving earth stations subject to a Plan or the List from FSS or BSS transmitting space stations not subject to a Plan nor the List. This PFD mask was not discussed thus not reviewed at WRC-2000.

3 The method described in this Annex refers to the calculation of “the power flux-density on the territory of an administration”. However, the Board is of the understanding that a BSS assignment in a Plan, in the List or for which the procedure of Article 4 of Appendices **S30** has been initiated needs to be protected on the basis of its service area.

4 The Board also noted that Annex 4 to Appendix **S30 (WRC-2000)** does not contain a reference to the protection of Region 1 BSS assignments from Region 3 FSS assignments in the band 12.2-12.5 GHz. Therefore the Board decided that, to protect Region 1 BSS assignments from Region 3 FSS assignments in the band 12.2-12.5 GHz, the same limits already contained in this Annex shall be applied.

5 In addition to that and in order to allow the Bureau to practically verify the compliance with this PFD mask over the service area of the BSS assignments, the Board, in reviewing the subject matter in conjunction with the practices currently used by the Bureau, decided to instruct the Bureau to apply the following course of actions:

5.1 When the service area of the BSS assignment is defined by a contour, the Bureau will apply the same methodology as the one used for the protection of FSS systems, which is described in the Rule of Procedure AP30/former 4.3.1.5, paragraphs 2 *b)* and 3 *b)*, i.e.:

An administration in Region 1 or Region 3 is identified among those whose agreement is required when, under assumed free-space propagation conditions, the power flux-density over any portion of the service area of the corresponding Region 1 or Region 3 BSS assignment resulting from the proposed Region 2 FSS assignment exceeds the limits prescribed in Annex 4 to Appendix **S30**.

An administration in Region 2 is identified among those whose agreement is required when, under assumed free-space propagation conditions, the power flux-density over any portion of the service area of the corresponding Region 2 BSS assignment resulting from the proposed Region 1 or Region 3 FSS assignment or proposed Region 3 BSS assignment not subject to a Plan or the List exceeds the limits prescribed in Annex 4 to Appendix S30.

An administration in Region 1 is identified among those whose agreement is required when, under assumed free-space propagation conditions, the power flux-density over any portion of the service area of the corresponding Region 1 BSS assignment resulting from the proposed Region 3 FSS assignment exceeds the limits prescribed in Annex 4 to Appendix S30.

5.2 In the absence of available service area contour of the BSS assignment, the methodology described in § 5.1 above will be applied but instead of verifying the power flux-density compliance over any portion of the service area, it will be verified at each of the BSS test-points associated with the service area of the corresponding BSS assignment.

**An. 5**

**Technical data used in establishing the plan and which should be used for their application**

**3.5.1 and 3.8**

These sections govern the channel spacing between the assigned frequencies of two adjacent channels and the necessary bandwidth values for systems in the Plans for Regions 1, 2 and 3. They also state that if different frequency spacing and/or bandwidths are submitted, they will be treated in accordance with applicable ITU-R Recommendations for protection masks when available. “In the absence of such Recommendations, the Bureau will use the worst-case approach as adopted by the Radio Regulations Board.”

Noting that available ITU-R Recommendations provide only a method for calculation of interference 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 the 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 5 to Appendix S30
“Non-standard” analogue	“Standard” analogue	As described in the Bureau’s internal Rule relating to MSPACE Manual
“Standard” analogue	“Non-standard” analogue	As described in the Bureau’s internal Rule relating to MSPACE Manual
“Non-standard” analogue	“Non-standard” analogue	As described in the Bureau’s internal Rule relating to MSPACE Manual
Digital	“Standard” or “non-standard” analogue	As described in the Bureau’s internal Rule relating to MSPACE Manual
“Standard” or “non-standard” analogue	Digital	As defined in Recommendation ITU-R BO.1293
Digital	Digital	As defined in Recommendation ITU-R BO.1293

- <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 11 of Appendix S30.
  - For Region 2: 24 MHz bandwidth, 14.58 MHz channel spacing and the assigned frequencies as specified in Article 10 of Appendix S30.

### 3.11

Section 3.11 of Annex 5 to Appendix S30 describes the space station keeping accuracy under which the space stations operating in the broadcasting satellite services must be maintained.

In the absence of applicable ITU-R Recommendations describing how these limitations should be implemented in the compatibility analyses performed by the Bureau, the Radio Regulation Board (RRB) decided that the Bureau should develop the appropriate methodology for the application of this section.

## ATTACHMENT 1

### Clusters for Region 2

Column No.	Designation
1	Cluster (degree)
2	Number of beams in the cluster
3	Administration names and orbital position

CLUSTERS FOR REGION 2

1	2	3							
-175.00	8	ALS00003	HWA00003	HWA01003	USAPSA03	ALS00003	HWA00003	USAPSA03	HWA01003
		-175.2	-175.2	-175.2	-175.2	-174.8	-174.8	-174.8	-174.8
-166.00	8	ALS00002	HWA00002	HWA01002	USAPSA02	ALS00002	HWA00002	USAPSA02	HWA01002
		-166.2	-166.2	-166.2	-166.2	-165.8	-165.8	-165.8	-165.8
-157.00	2	USAWH102	USAWH102						
		-157.2	-156.8						
-148.00	2	USAWH101	USAWH101						
		-148.2	-147.8						
-138.00	8	CAN01101	CAN01201	CAN02101	CAN02201	CAN01101	CAN01201	CAN02101	CAN02201
		-138.2	-138.2	-138.2	-138.2	-137.8	-137.8	-137.8	-137.8
-136.00	2	MEX02NTE	MEX02NTE						
		-136.2	-135.8						
-131.00	1	CTR00201							
		-130.8							
-129.00	12	CAN01203	CAN01303	CAN01403	CAN02203	CAN02303	CAN02403	CAN01203	CAN01303
		-129.2	-129.2	-129.2	-129.2	-129.2	-129.2	-128.8	-128.8
		CAN01403	CAN02203	CAN02303	CAN02403				
		-128.8	-128.8	-128.8	-128.8				
-127.00	2	MEX02SUR	MEX02SUR						
		-127.2	-126.8						
-121.00	1	PNRIFRB2							
		-121.0							
-119.00	2	USAEH004	USAEH004						
		-119.2	-118.8						
-116.00	3	BLZ00001	CYM00001	TCA00001					
		-115.8	-115.8	-115.8					
-115.00	6	BOLAND01	CLMAND01	EQACAND1	EQAGAND1	PRUAND02	VENAND03		
		-115.2	-115.2	-115.2	-115.2	-115.2	-115.2		
-110.00	4	PTRVIR02	USAEH003	PTRVIR02	USAEH003				
		-110.02	-110.2	-109.8	-109.8				

## Rules concerning

### APPENDIX S30A to the RR

(Rules are arranged by paragraph numbers of Appendix S30A)

#### Art. 2

#### Frequency bands

##### 2.2

1 The Board, in reviewing § 2.2 of Article 2 of Appendices **S30/S30A (WRC-2000)**, decided to instruct the Bureau to proceed as follows:

2 Space operations functions in the guardbands of Appendices **S30/S30A** will be processed within the regulatory framework of Appendices **S30/S30A (WRC-2000)** without a need to publish an advance publication information, i.e. administration would initiate the coordination procedure under No. **S9.7** by submitting the coordination data. The regulatory time limit for bringing into use any assignments in the guardbands will be same as that for planned BSS/Feeder link assignments i.e. 8 years from the date on which the complete information is received by the Bureau for modification and/or inclusion of new assignments in the List for Regions 1 and 3 (§ 4.1.3) and/or modification to the Region 2 Plan (§ 4.2.6) of Article 4 of both Appendices **S30** and **S30A (WRC-2000)**.

3 For the use of the guardbands of the Appendices **S30/S30A** for space operations functions for the initial Plan, the 8 year regulatory time limit will apply and will be counted from the date on which the complete Appendix **S4** data is received by the Bureau for these guardbands.

4 This implies that the coordination and notification procedure for the use of the guard bands should be applied at the same time as the respective coordination and notification of the associated main BSS networks.

5 Protection Criteria and Calculation Methods to be used for the implementation of § 2.2 to Article 2 of Appendix **S30A**,

5.1 WRC-2000 included in the new § 2.2 of Article 2 to Appendix **S30A** the regulatory provisions to coordinate assignments intended to provide space operation functions in the guardbands of the Appendix **S30A** frequency bands with other services using the same bands. However, WRC-2000 did not refer explicitly to the protection criteria and calculation methods, which shall be applied to implement these new provisions.

5.2 In view of the above and until the time that the relevant ITU-R Recommendation is available, the Board instructed the Bureau to use the protection criteria and calculation methods associated with the provisions referred to in § 2.2 of Article 2 to Appendix S30A.

**Art. 4**

**Procedure for modification to the Plans**

**4.1 a)**

This paragraph refers to the modification in the sense of a change to “the characteristics of any of its frequency assignments in the fixed-satellite service which are shown in the appropriate Regional Plan”. The Plans as they appear in Articles 9 and 9A contain only eight and eighteen characteristics, respectively, while Annex 2 contains a greater number of characteristics which were used by each of the conferences concerned to establish the Plan. The Board considers that modifications of characteristics other than those listed in Articles 9 and 9A may be considered as modifications to the Plans. These other characteristics are listed in the comments under § 5.2.1 b) of Article 5.

In reviewing § 4.1 a) and 4.1 b) of Article 4 of Appendix S30, the Board concluded that, the Bureau, in applying relevant sections of Annex 1 shall, where applicable, compare the power flux density and  $\Delta T/T$  values, as the case may be, resulting from modification to the Plan with those values in the Plan. If it is not possible to do so the Bureau should use the absolute limit expressed in relevant sections of Annex 1 to Appendix S30.

See also Rules of Procedure under § 4.2.5.

**4.1 b)**

See Rules of Procedure relating to § 4.1 a) above.

See also Rules of Procedure under § 4.2.5.

**4.1 c)**

When an administration cancels an assignment from the Regional Plan under this paragraph, or when the Bureau, in applying § 4.2.5 deletes an assignment from the Plan, the Reference Situation of the Plan assignments and those in the process of modification would be updated. The Bureau need not recalculate the affected administration(s) as result of the above-mentioned cancellation.

**4.2.1.1**

1 In determining those administrations of Regions 1 and 3 that may be affected, the proposed modification is examined with respect to the Regions 1 and 3 Plan as it exists at the date of receipt of the request for modification including the proposed modifications received

before that date (whether the procedure of Article 4 is complete or not). The examination consists of ensuring that the limits of Annex 1 (§ 4) of Appendix **S30A** are not exceeded. Account is also taken of any time-limited modifications to the Plans in accordance with § 4.2.16.

2 Following the introduction by 1983 Conference of the grouping concept for Region 2 (Articles 9 and 10 of Appendices **S30A** and **S30** respectively) and further to the decision of WARC Orb-88 to apply the grouping concept to the Regions 1 and 3 feeder link Plan (Article 9A of Appendix **S30A**), the IFRB decided to extend this concept to the 1977 Conference BSS Plan. On the other hand, the cluster concept was introduced by 1983 Conference for Region 2 for BSS and associated feeder-links (§ B of Annex 7 of Appendix **S30**, § 4.13 of Annex 3 of Appendix **S30A**) and for Regions 1 and 3 by WARC Orb-88 for feeder-links (§ 3.15 of Annex 3 of Appendix **S30A**). The IFRB decided that Regions 1 and 3 could also apply this concept for the BSS Plan provided that the required agreement is obtained from administrations in the cluster.

3 The Board's understanding of the group concept is that in the interference calculation to assignments that are part of the group, only the interference contribution from assignments that are not part of the same group are to be considered. On the other hand, for the interference calculation from assignments belonging to a group into assignments that are not part of the same group, only the worst interference contribution from that group is to be taken into consideration.

For the Regions 1 and 3 Plans, the Board did not find any regulatory basis to extend the use of multiple orbital positions for networks involving grouping beyond those cases which were accepted by WRC-97 and included in the revised Regions 1 and 3 Plans.<sup>1</sup>

For the Region 2 Plan, the Board did not find any regulatory basis to extend the use of groupings involving multiple orbital positions (except for the case of 0.4° orbital separation which was allowed for clusters within the Region 2 Plan and its subsequent modifications).

#### 4.2.1.2

In determining those administrations affected in accordance with this paragraph, the limits of Annex 1 (§ 1) and Annex 4 (§ 3) will be used for those specific earth stations in the fixed-satellite service (space-to-Earth) which are either recorded in the MIFR or notified at the time of examination under Nos. **S11.2** to **S11.9**.

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<sup>1</sup> The Radiosat-6 and -7 feeder link networks were accepted by the WRC-97 for subsequent inclusion in the Regions 1 and 3 feederlink Plan by the Bureau.



## 6.2

1 This paragraph refers to the need for an Administration B to communicate the actual location of its feeder-link earth stations without specifying which of these earth stations should be taken into account. As no indication is given, the Board understands that the administration may communicate the locations of earth stations without any limitations.

2 The actual locations of earth stations so communicated to Administration A and to the Bureau will be examined for their conformity with the characteristics listed under comments relating to § 5.2.1 *b)* of this Appendix or those for which the procedure of Article 4 was successfully applied. This examination will lead to the following:

- earth stations which conform to the above characteristics will be entered in the Plan without applying the Article 4 procedure, and Administration A will be informed accordingly;
- earth stations which do not conform to the characteristics listed under the comments relating to § 5.2.1 *b)* and for which the Article 4 procedure was not applied will be recorded in the Plan once the procedure of Article 4 is successfully applied and in this application of Article 4 the proposed use of the terrestrial service by Administration A shall be taken into account.

3 It is concluded from this paragraph that no transportable earth station can be used in the band 17.7-17.8 GHz in Region 2.

## 6.5

This paragraph implies that these feeder-link earth stations will not be entered in the Plan. For this reason the Bureau shall in such cases recommend to the administration that it apply the procedure of Article 4 in order to permit its earth stations to be entered in the Plan.

## Art. 7

### **Coordination, notification and recording of FSS assignments when feeder-links to BSS assignments are involved**

## 7.6

The comments under § 6.5 apply.

**An. 1**

**Limits for determining whether a service of an administration is affected by proposed modifications to the Plan**

**3**

See comments made under the Rules of Procedure concerning § 2 of Annex 1 to Appendix **S30**.

**4**

*a) Test points*

See comments made under the Rules of Procedure concerning § *a*) of Section 1 of Annex 1 to Appendix **S30**.

*b) Implementation of the PFD Limit referred to in the first paragraph of Section 4 of Annex 1 to Appendix **S30A***

1 The PFD 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 **S30A** 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 PFD limit was intended to be considered as a hard-limit that shall not be exceeded.

2 In order for the Bureau to practically implement this provision in a reasonable time period, i.e. without having to capture and process the relevant Appendix **S4** data which is currently done several months after the data submission, the Board concluded that the PFD limit of  $-76 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  could be converted into two e.i.r.p. limits as follows:

2.1 “First e.i.r.p. limit”:

An e.i.r.p. value of 86 dBW which corresponds to the maximum e.i.r.p. level below which the PFD limit is never exceeded, i.e. this e.i.r.p. value corresponds to a PFD value of  $-76 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  produced by a transmitting earth station located at the sub-satellite point (the shortest distance from the Earth to the GSO).

2.2 “Second e.i.r.p. limit”:

An e.i.r.p. value of 87.4 dBW which corresponds to the minimum e.i.r.p. level above which the PFD limit is always exceeded, i.e. this e.i.r.p. value corresponds to a PFD value of  $-76 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  produced by a transmitting earth station located at the edge of the visible part of the Earth (the longest distance from the Earth to the GSO).

3 The Board therefore decided that the PFD limit of  $-76 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  shall be implemented by the Bureau by checking the e.i.r.p. value of each assignment of a given network against the e.i.r.p. limits defined in § 2 above, together with the compliance of the relative off-axis e.i.r.p. of the associated feeder-link antenna with Fig. A (WRC-97 curves) of Annex 3 to Appendix **S30A**.

4 To this aim, the Board further instructed the Bureau to apply the following course of action:

4.1 If the “first e.i.r.p. limit” of 86 dBW **is not exceeded** by any assignment of a given network and if the relative off-axis e.i.r.p. of the associated feeder-link antenna is in compliance with Fig. A (WRC-97 curves) of Annex 3 to Appendix **S30A**, the PFD limit of  $-76 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  would be considered to be met.

4.2 If the e.i.r.p. value of at least one assignment of a given network exceeds the “second e.i.r.p. limit” of 87.4 dBW or if the relative off-axis e.i.r.p. of the associated feeder-link antenna is not in compliance with Fig. A (WRC-97 curves) of Annex 3 to Appendix **S30A**, the Bureau shall then consult with the Administration responsible for this network in order for it to reduce this e.i.r.p. value at least below 87.4 dBW and preferably below 86 dBW, and/or to ensure that the relative off-axis e.i.r.p. of the associated feeder-link antenna is in conformity with Fig. A (WRC-97 curves) of Annex 3 to Appendix **S30A**. This consultation would have to be carried out according to the Rules of Procedure on the Receivability of forms of notice, i.e. within the 30 + 15 days referred to in § 3.2 of these Rules.

Should the responsible Administration insist on keeping the original characteristics of the assignment(s) in question for this network, the assignment(s) would then be considered as being not in conformity the first paragraph of Section 4 of Annex 1 to Appendix **S30A**, and thus not in conformity with Article 4 of Appendix **S30A**. The assignment(s) would then be deleted from the network and the responsible Administration would be informed accordingly.

4.3 Otherwise, if the e.i.r.p. value of at least one assignment of a given network is in the range between both above-mentioned e.i.r.p. limits (i.e. 86 dBW and 87.4 dBW) and if the relative off-axis e.i.r.p. of the associated feeder-link antenna is in conformity with Fig. A (WRC-97 curves) of Annex 3 to Appendix **S30A**, the Bureau should proceed further with this network and study more deeply the conformity with the PFD limit of  $-76 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$  at the time of the other regulatory and technical examinations.

Should it be found at that time that the assignment(s) in question exceeds the above-mentioned PFD limit, a Note would be included in the corresponding Special Section drawing the attention of the responsible administration to the need to take necessary action at the stage of Part B publication (application of §4.1.12 of Appendix **S30A**) to ensure that the e.i.r.p. level of the assignment(s) satisfies the PFD limit of  $-76 \text{ dB(W/(m}^2 \cdot 27 \text{ MHz))}$ , otherwise the assignment(s) shall be considered not to be in conformity with of Article 4 of Appendix **S30A (WRC-2000)** and shall not be thus included in the List even if all other paragraphs of Article 4 were successfully applied.

5 The Board noted that considering the level of feeder-link e.i.r.p. of current BSS satellite networks, this PFD limit was unlikely to be exceeded and therefore the Bureau might face a limited number of cases of this nature.

c) *Implementation of the EPM degradation criterion referred to in the third paragraph of Section 4 of Annex 1 to Appendix S30A*

1 In accordance the third paragraph of Section 4 of Annex 1 to Appendix **S30A (WRC-2000)**, 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 **S30A** 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°, under worst-case station-keeping conditions; and
- there is a frequency overlap between the bandwidths assigned to each assignment; and
- the reference EPM of at least one of the test-points<sup>3</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 EPM value.

d) *Reference protection margin*

See comments made under the Rules of Procedure concerning § d) of Section 1 of Annex 1 to Appendix **S30**.

**An. 3**

**Technical data used in establishing the Plan and which should be used for their application**

**1.7**

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 **S30**), equivalent protection margins for the second adjacent channels may be used. Appropriate

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<sup>3</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 **S30/S30A** has already been initiated, the test-points referred to in this paragraph are those provided under former Annex 2 to Appendices **S30/S30A** or under Appendix **S4**.

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 ITU-R Recommendation BO.1293 (incorporated in this Annex by reference) provides only a method for calculation of interference 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>S30A</b>
“Non-standard” analogue	“Standard” analogue	As described in the Bureau’s internal Rule relating to MSPACE Manual
“Standard” analogue	“Non-standard” analogue	As described in the Bureau’s internal Rule relating to MSPACE Manual
“Non-standard” analogue	“Non-standard” analogue	As described in the Bureau’s internal Rule relating to MSPACE Manual
Digital	“Standard” or “non-standard” analogue	As described in the Bureau’s internal Rule relating to MSPACE Manual
“Standard” or “non-standard” analogue	Digital	As defined in Recommendation ITU-R BO.1293
Digital	Digital	As defined in Recommendation ITU-R BO.1293

<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 **S30A**;
- for Region 2: 24 MHz bandwidth, 14.58 MHz channel spacing and the assigned frequencies as specified in Article 9 of Appendix **S30A**.

3
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**Power-control**

Paragraph 3.11.4 of Annex 3 to Appendix **S30A** 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.

**ATTACHMENT 1**

to Rules concerning Appendix **S30A**

**FAST ROLL-OFF ANTENNA PATTERN**

for the feeder-link Plan (Appendix **S30A** (Region 2))

A discontinuity was noticed in Curve A for the Region 2 feeder-link fast roll-off antenna beam (Fig. 8 of § 4 of Annex 3 to Appendix **S30A**). The upper limit for the plateau at -25.23 dB is given for a  $\varphi/\varphi_0 = 1.413$ .

When used in the equation of  $-(22 + 20 \log (\varphi/\varphi_0))$  this value gives a relative gain of -25.00 dB, which leaves a gap of 0.23 dB between the plateau and the next equation. For this reason, the value of 1.413 should be replaced by 1.45 as shown below:

*Curve A:* co-polar component (dB relative to main beam gain)

$-12 (\varphi/\varphi_0)^2$	for $0 \leq \varphi/\varphi_0 \leq 0.5$
$-33.33 \varphi_0^2 ((\varphi/\varphi_0) - x)^2$	for $0.5 < \varphi/\varphi_0 \leq (0.87/\varphi_0) + x$
-25.23	for $(0.87/\varphi_0) + x < \varphi/\varphi_0 \leq 1.45$
$-(22 + 20 \log (\varphi/\varphi_0))$	for $\varphi/\varphi_0 > 1.45$

after intersection with Curve C, as Curve C.

## Rules concerning

### RESOLUTION 51 (Rev.WRC-2000)

#### Transitional arrangements relating to the advance publication and coordination of satellite networks

*resolves*

1 Resolution **51 (Rev.WRC-2000)** concerns the transitional arrangements relating to the advance publication and coordination of satellite networks. In its *resolves*, Resolution **51 (Rev.WRC-2000)** indicates that: “for satellite networks for which the API has been received by the Bureau prior to 22 November 1997, the maximum allowed time period from the date of publication of the API to bring the relevant frequency assignments into use shall be six years plus the extension pursuant to No. **1550** (see also Resolution **49 (Rev.WRC-2000)** and Resolution **57 (WRC-2000)**)”.

2 In view of the above, the Board decided that:

2.1 For satellite networks for which Advance Publication Information has been received by the Bureau prior to 22 November 1997, the maximum allowed regulatory time is 9 years from the date of publication of Advance Publication.

2.2 If the characteristics of a satellite network are modified after assignments are brought into use and if new coordination agreements are required without a need to publish a new advanced publication then a total allowed regulatory time for bringing into use of any assignment for the modified characteristics should be:

2.2.1 8 1/2 years from the date of receipt of the request for publication of the modified characteristics for the subject satellite networks if the request for modification is received by the Bureau prior to 22 November 1997,

2.2.2 5 years from the date of receipt of the request for publication of the modified characteristics for the subject satellite networks if the request for modification is received by the Bureau after 22 November 1997 (see No. **S11.43A**).

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