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(ITU) للاتصالات الدولي الاتحاد في والمحفوظات المكتبة قسم أجراه الضوئي بالمسح تصوير نتاج (PDF) الإلكترونية النسخة هذه والمحفوظات المكتبة قسم في المتوفرة الوثائق ضمن أصلية ورقية وثيقة من نقلًا.

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## 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.

## UPDATES to the

### Rules of Procedure

(Edition of 1998)

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<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)
7 See CR/166	June 2001	–	–	11-14	11-16 (rev.6)
		A1	RES51	1	1 (rev.6)
		A1	ARS5	1-2	1-2 (rev.7)
		–	–	9-10	9-10 <i>bis</i> (rev.7)
		–	–	15-16	15-16 (rev.7)
		A1	Receivability	1-4	1-6 (rev.7)
		A1	ARS9	7-8	7-8 (rev.7)
		–	–	11-14	11-14 (rev.7)
		A1	ARS11	3-4	3-4 (rev.7)
		–	–	11-16	11-16 <i>bis</i> (rev.7)
		–	–	21-22	21-22 <i>bis</i> (rev.7)
		A1	APS7	1 (new)	1 (rev.7)
		Part B	B1	1-9 SUP	1 (rev.7)
		–	B2	1-12 SUP	1 (rev.7)
		C	–	1-3	1-3 (rev.7)

<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.

## UPDATES to the

### Rules of Procedure

(Edition of 1998)

**approved by the Radio Regulations Board (*cont.*)**

Revision <sup>(1)</sup> (Circular No.)	Date	Part	ARS	Pages to be removed	Pages to be inserted
8 See CR/171	December 2001	A1	ARS5	3-4	3-4 (rev.8)
		–	–	9-10	9-10 <sup>ter</sup> (rev.8)
		–	–	19-20	19-20 (rev.8)
		A1	ARS9	5-6 <sup>bis</sup>	5-32 (rev.8)
		–	–	7-8	
		–	–	17-18	
		A1	ARS11	5-10	5-10 (rev.8)
		–	–	15-16	15-16 (rev.8)
		–	–	21-22 <sup>bis</sup>	21-22 <sup>bis</sup> (rev.8)
		A1–	ARS23	1-2	1-2 (rev.8)
		A1	APS4	1-2	1-3 (rev.8)
		A1	APS30	11-12 <sup>bis</sup>	11-12 (rev.8)
		–	–	15-16	15-16 (rev.8)
		–	–	19-20	19-20 (rev.8)
		A1	APS30A	7-10	7-19 (rev.8)
		–	–	15-16	–
		A1	APS30B	3-4	3-4 (rev.8)
		–	–	11-16	11-19 (rev.8)
		A2	ST61	1	1-2 (rev.8)
		A5	GE84	1	1 (rev.8)
		A6	GE89	1-2	1-2 (rev.8)

- (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.

## S5.49

Several footnotes, mainly those relating to allocations to mobile services, restrict allocations to a type of operation or to some specific systems. The Board had no means to examine the extent to which these restrictions are respected. (This fact was noted by WARC Mob-87 where such restrictions were made.) Consequently the Board decided that no symbol relating to these types of restrictions should be included in Column 13C of the MIFR.

## S5.73

1 This footnote represents *de facto* an additional allocation, by providing the possibility for transmission of supplementary navigational information from any station in the maritime radionavigation service, on condition that no harmful interference is caused to radiobeacon stations operating in the radionavigation service.

2 *The meaning of narrow-band:* based on the information in the Recommendation ITU-R M.476-5, the Board considered that 500 Hz represents a reasonable limit for narrow-band techniques and set this value as a regulatory limit to be checked in the examinations of the conformity of the notified bandwidth in the context of this provisions. Therefore, the Bureau shall formulate an unfavourable regulatory finding, in the application of No. S5.73, if that limit is exceeded for notified classes of emission F1B or G1D.

## S5.128

1 This provision applies to parts of the frequency bands to which No. S5.129 also applies. For their application, the Board has considered that:

- Number S5.129, which pertains to a worldwide allocation, does not exclude the countries listed in No. S5.128;
- previous provisions (those existing before WARC-79 which described more in detail the conditions of use of the band) permitted a maximum radiated power of 1 kW p.e.p. under certain conditions, and
- several assignments were notified before 1979 and were recorded with this power.

The Board therefore decided to apply the two provisions as follows:

- a) In all countries, administrations may exceptionally use, for stations of the fixed service, frequencies in the bands 4 063-4 123 kHz and 4 130-4 438 kHz, with a mean power not exceeding 50 W (this limit may be exceeded in the band and countries listed in b) below), on condition that the communications are within the boundary of the country concerned.
- b) AFG, ARG, ARM, AZE, BLR, BOT, BFA, CAF, CHN, GEO, IND, KAZ, MLI, NGR, KGZ, RUS, TCD, TJK, TKM and UKR may exceptionally use mean power greater than 50 W but less than 1 kW on frequencies in the bands 4 063-4 123 kHz, 4 130-4 133 kHz

and 4408-4438 kHz when the transmitting stations of the fixed service are situated at least 600 km from the coast and the communications are within the boundary of the country concerned.

2 Both provisions Nos. **S5.128** and **S5.129** make the additional allocation “on condition that harmful interference is not caused ...”. Therefore, No. **S5.43** applies in all cases.

#### **S5.129**

See comments under the Rules of Procedure concerning No. **S5.128**.

#### **S5.149**

There is no allocation to radio astronomy in the bands 73-74.6 MHz (Regions 1 and 3), 1330-1400 MHz, 3260-3267 MHz, 3332-3339 MHz, 3345.8-3352.5 MHz, 6650-6675.2 MHz, 22.01-22.21 GHz, 22.81-22.86 GHz, 23.07-23.12 GHz, 31.2-31.3 GHz, 36.43-36.5 GHz, 168.59-168.93 GHz, 171.11-171.45 GHz (except for KOR), 172.31-172.65 GHz (except for KOR), 173.52-173.85 GHz (except for KOR) and 195.75-196.15 GHz. Notification of frequency assignments to radio astronomy stations in the bands 73-74.6 MHz (Regions 1 and 3), 1330-1400 MHz, 3260-3267 MHz, 3332-3339 MHz, 3345.8-3352.5 MHz, 6650-6675.2 MHz, 22.01-22.21 GHz, 22.81-22.86 GHz, 23.07-23.12 GHz, 31.2-31.3 GHz, 36.43-36.5 GHz, 168.59-168.93 GHz, 171.11-171.45 GHz (except for KOR), 172.31-172.65 GHz (except for KOR), 173.52-173.85 GHz (except for KOR) and 195.75-196.15 GHz will be considered by the Bureau not to be in conformity with the Table of Frequency Allocations.

#### **S5.164**

Literal interpretation of this provision for an assignment to a land-mobile station in a country listed in the footnote would require recording:

- a symbol to indicate that the assignment is primary with respect to the countries listed in this footnote,
- a symbol to indicate that the assignment is secondary with respect to the broadcasting service for other countries,
- a symbol to indicate that the assignment is primary with respect to fixed and mobile services in countries listed in Nos. **S5.165** and **S5.171**,
- a symbol to indicate that the assignment is primary with respect to the amateur service in countries listed in No. **S5.169**,
- etc.

The Board decided to have such assignments recorded with symbol R in Column 13B2 and a reference to the footnote concerned in Column 13B1.

**S5.397**

The Board has no means to identify the administrations concerned and instructed the Bureau to treat notices from France as follows:

- Complete notices from France will receive a favourable regulatory Finding under No. **S11.31**, assuming that, when the agreement of a country B is not indicated in the notice, that agreement is not required.
- If, following the publication of the assignment, country B objects to the notified use, the Bureau will modify its Finding and request France to seek the agreement of country B.

**S5.399**

1 This provision does not indicate the frequency band in which it is applicable. The Board concluded that it applies in the band 2 483.5-2 500 MHz.

2 The comments made under the Rules of Procedure concerning No. **S5.164** apply.

**S5.409**

1 In the band 2 500-2 690 MHz, four provisions are applicable:

- Number **S5.409** recommending that administrations do not develop new tropospheric scatter systems;
- Number **S5.410** permitting the use of tropospheric scatter systems in Region 1 subject to the application of the procedure of No. **S9.21**;
- Number **S5.411** recommending that administrations planning new tropospheric scatter links avoid directing the radiation towards the geostationary-satellite orbit;
- Number **S21.3** (together with No. **S21.6**) limiting the e.i.r.p. in Regions 2 and 3 in the band 2 655-2 690 MHz.

2 As indicated above, Nos. **S5.409** and **S5.411** are considered recommendations to administrations, and the Bureau has no action to take in their respect.

**S5.410**

See comments under the Rules of Procedure concerning No. **S5.409**.

**S5.411**

See comments under the Rules of Procedure concerning No. **S5.409**.

**S5.415**

1 In this footnote, the allocation “is limited to national and regional systems”. The Board concluded that a national system is a system having a service area limited to the territory of the notifying administration. As a consequence of this, the regional system to which reference is made shall be considered to be an aggregate of two or more national systems; they shall be limited to the territories (which are not necessarily restricted to bordering countries) of the administrations concerned and they shall be notified by one of these administrations on behalf of all the administrations concerned. When the allocation is made to more than one Region, a regional system may cover territories in those Regions for which the allocation exists. The Board reached this conclusion keeping in mind No. **S5.2.1**, relating to the interpretation of the word “regional” without a capital “R”.

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

- a) The service area for a regional system is within the Region concerned, i.e. in Region 2 only in the band 2 535-2 655 MHz or in Regions 2 and 3 in the other bands between 2 500 and 2 690 MHz.
- b) In the case of a national system, the service area is limited to the territory under the jurisdiction of the notifying administration.
- c) If the satellite network is operated within the framework of an international system to which other countries pertain, the notice must indicate that the use is limited to the Region(s) concerned.

**S5.416**

See comments under the Rules of Procedure concerning **S5.415**.

**S5.418**

1 In accordance with footnote **S5.418**, as modified by WRC-2000, the use of the sub-band 2 630-2 655 MHz by non-geostationary satellite systems in the broadcasting-satellite service (sound) in certain Region 3 countries listed in this footnote is now subject to the application of Resolution **539 (WRC-2000)**, as of 3 June 2000. Resolution **539 (WRC-2000)** resolves that, before an administration notifies to the Bureau or brings into use a frequency assignment for a broadcasting-satellite service (sound) system using non-GSO satellite in the band 2 630-2 655 MHz, for which complete Appendix **S4** coordination information, or notification information, has been received after 2 June 2000, it shall seek agreement of any administration in Regions 1, 2 and 3 having a primary allocation to terrestrial services in the same frequency band if the power flux-density produced on its territory exceeds the threshold values contained in the Resolution.



2           Based on the above, for the application of No. **S5.418**, to non-geostationary satellite systems in the BSS (sound) in the band 2 630-2 655 MHz, the Bureau shall, for coordination requests (Article **S9**) for the non-GSO BSS (sound) systems received as of 3 June 2000, establish the list of administrations the agreement of which is to be sought based on power flux-density thresholds included in *resolves* 2, Resolution **539 (WRC-2000)** and publish this list in the relevant Special Section of its IFIC.

3           The Board studied the relationship between the application of Resolution **539 (WRC-2000)** to coordination requests of non-GSO BSS (sound) systems in the band 2 630-2 655 MHz received as of 3 June 2000 and the procedure under No. **S9.11**. Taking account of Table S5-1 of Appendix **S5** (column threshold/conditions) under No. **S9.11**, the Board's conclusions are as follows:

- a) In relation to the non-GSO BSS (sound) systems and terrestrial stations sharing procedure, coordination requests of such systems received as of 3 June 2000 will be subject to the application of Resolution **539 (WRC-2000)** within the procedure under No. **S9.11**.
- b) For notifications (Article **S11**) of non-GSO BSS (sound) systems received as of 3 June 2000, the Bureau shall examine and establish the finding under Article **S11**.

<b>S5.418C</b>
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1           In accordance with footnote **S5.418C**, as added by WRC-2000, the use of the band 2 630-2 655 MHz by geostationary-satellite networks is now subject to the application of the provisions of No. **S9.13** with respect to non-geostationary satellite systems in the broadcasting-satellite service (sound), as of 3 June 2000. Resolution **33 (WRC-97)** resolves that for satellite networks for which the API or the request for coordination has been received by the Bureau prior to 1 January 1999, the procedure in Sections A to C in Resolution **33** shall be applied. The Board studied the applicability of No. **S9.13** coordination in the above context and understands No. **S9.13** coordination to apply as follows.

Noting however the apparent discrepancy between Resolution **33** and No. **S5.418C** and the lack of reciprocity in the coordination process between non-GSO BSS (sound) systems and

GSO BSS systems, and also the difficulty in linking No. **S5.418C** reference to «notification information» of GSO BSS systems to the No. **S22.2** application referred to in No. **S5.418A**, the Board considers the above approach as temporary and time limited to be used by the Bureau on a provisional basis until further decisions by WRC-03.

GSO satellite network	Date of receipt of coordination information	No. applicability S9.13
FSS (Region 2)	< 3.6.2000	NO
	≥ 3.6.2000	YES
BSS	< 3.6.2000	NO
	≥ 3.6.2000	YES

#### **S5.441**

1 Article **S5** defines, in the band 10.7-11.7 GHz, a bi-directional allocation for the Fixed-satellite service in Region 1. Three footnotes (**S5.441**, **S5.484** and **S5.484A**) further regulate the usage of the bands. The provisions of No. **S5.484** apply to the up-link (Earth-to-space) allocation for BSS feeder-links. Numbers **S5.441** and **S5.484A** (covering parts of the band 10.7-11.7 GHz) apply to the down-link. The following problems were noted:

1.1 the Table of Frequency Allocations defines a bi-directional allocation of the whole band 10.7-11.7 GHz for the FSS in Region 1. Number **S5.484** defines the up-link allocation for Region 1, while Nos. **S5.441**, **S5.484A** and Resolution **130 (WRC-97)** regulate the down-link use for GSO and non-GSO FSS. The sub-bands 10.7-10.95 GHz and 11.2-11.45 GHz, for the space-to-Earth direction, are, for GSO applications, covered by the provisions of Appendix No. **S30B**. The up- and down-link allocations, for GSO use, are of the same category. Non-GSO uses are under power flux-density limitations defined by Article **S22** and are subject to certain conditions as stipulated in No. **S22.2** which is referred to in Resolution **130 (WRC-97)** (*resolves* 3, 6.1.2 and 7);

Footnote **S5.551E** further refers to Resolution **134 (WRC-97)** (“Use of the band 40.5-42.5 GHz by the fixed-satellite service shall be in accordance with Resolution **134 (WRC-97)**”) which *resolves*:

“1 that the date of the provisional application of the allocation to the FSS in Regions 1 and 3 in the band 40.5-42.5 GHz is 1 January 2001;

2 that WRC-1999 should review this allocation, including the date of 1 January 2001, taking full account of the requirements of the other services to which the band is allocated and available ITU-R studies.”

2 The prohibition referred to in Resolution **128 (WRC-97)** is only related to the implementation of the Fixed Satellite Service in the band 41.5-42.5 GHz before a certain date (prior to 1 January 1999 in Region 2 and 1 January 2001 in Regions 1 and 3). Consequently, there is no restriction for administration to initiate the process of advance publication and coordination before these dates. However, until the next WRC decides on the definitive status of the allocation and the ITU-R agrees on technical and operational measures, there is no technical criteria based on which the Bureau could carry out the required regulatory and technical examination with respect to the assignments for which the request for coordination is received under Nos. **S9.30** and **S9.32**.

3 In view of the above, the Board decided that when submissions are received by the Bureau in the frequency band 41.5-42.5 GHz, the Bureau shall act as follows:

- to proceed with the process of advance publication as appropriate;
- to proceed with the coordination process indicating the results of its examination based on the criteria available at the time of the examination; once the status of the allocation becomes definitive and the technical criteria and operational measures are agreed upon, the Bureau shall take necessary actions to review the situation and revise its previous finding accordingly;

as for the notification, if the date of bringing into use is before 1 January 1999, for submissions notified for operation in Region 2 and before 1 January 2001 for those notified for operation in Regions 1 and 3, the subject Forms of Notice will be considered not receivable and shall be returned to the notifying administration.

If the date of bringing into use is after 1 January 1999 for operation in Region 2 and 1 January 2001 for operation in Regions 1 and 3, and if at the time of examination the status of allocation is not yet definitive and the technical and operational criteria are not yet agreed, the assignments in question will be recorded for information only. This situation shall be reflected in the appropriate remarks columns. Once the status of allocation becomes definitive and the technical and operational measures agreed upon, the Bureau will review its previous finding and take necessary measures, as appropriate.

**S5.554**

See comments under § 1 of the Rules of Procedure concerning No. **S5.351**.

**S5.556**

There is no allocation to radio astronomy in the bands listed in this provision. The Board concluded that the words “national arrangements” are referring to arrangements to be made in each country. These arrangements are not required to be communicated to the Bureau. Notifications of frequency assignments to radio astronomy stations in these bands will be considered by the Bureau not to be in conformity with the Table of Frequency Allocations.

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## **2 Application of No. S9.11A to different services/frequency bands**

2.1 This provision does not specifically define the services to which the coordination procedure required under Nos. **S9.12** to **S9.16** applies.

2.2 Administrations found some difficulties in applying the equivalent procedure contained in Resolution **46 (Rev.WRC-97)** now incorporated in Articles **S9**, **S11** and Appendix **S5** with respect to certain categories of services. The question was whether, in addition to the space services specifically mentioned in the footnotes (mobile-satellite and radiodetermination-satellite services as well as non-GSO MSS feeder links and non-GSO FSS), the procedure is applicable or not to the other terrestrial and space services not specifically mentioned in the appropriate footnotes.

2.3 While recognizing the difficulties of harmonizing the text of the footnotes to Article **S5** introduced by WARC-92, WRC-95 and WRC-97 on the one hand and the text of the provision of No. **S9.11A** (including Nos. **S9.12** to **S9.16**) and **S9.17A**, as appropriate with respect to the services to which this provision is applicable, on the other hand, the Board concluded that the procedure is applicable to all other space and terrestrial services with respect to those satellite services having allocations with equal rights and mentioned in the specific footnotes to which this provision applies. The frequency bands are those to which, in a footnote, reference is made to this provision in the Table of Frequency Allocations (see Tables **S9.11A-1** and **S9.11A-2** below). In these Tables, there is an indication of those other space services (in addition to the mobile-satellite and radiodetermination-satellite services as well as non-GSO MSS feeder links and non-GSO FSS included in the footnotes) to which this coordination procedure shall also apply. This application is subject to the same condition as that of the space services specifically mentioned in the footnotes, e.g. the coordination of space stations of the other space services (space-to-Earth), with respect to terrestrial services, is required only if the threshold values indicated in Annex 1 to Appendix **S5** are exceeded.

2.4 WRC-2000 decided to delete Table S5-1A of Appendix **S5** subject to the condition that it be included in a Rule of Procedure with appropriate modifications (e.g. inclusion of terrestrial services, etc.) (minutes of the Plenary (B17) refer). The extended version of the above-mentioned table is contained in Tables **S9.11A-1** and **S9.11A-2**, based on the following considerations:

- a) No. **S9.14** applies to space-to-Earth frequency allocations only, i.e. coordination of a transmitting space station in respect of receiving terrestrial stations when the threshold value is exceeded. In the absence of threshold value, the provisions of No. **S9.50.1** could apply (see also Appendix **S5**). For the Earth-to-space frequency allocations, the Board is of the opinion that no coordination is required between the involved space and terrestrial services, which both are considered on an equal basis.

- b) No. **S9.15** applies to Earth-to-space and space-to-Earth frequency allocations of a non-geostationary satellite network to which No. **S9.11A** refers, i.e. coordination of a transmitting earth station in respect of receiving terrestrial stations and coordination of a receiving earth station in respect of transmitting terrestrial stations, if the coordination area of the earth station in a non-geostationary satellite network includes the territory of another country (see also Appendix **S5**).
- c) No. **S9.16** applies to space-to-Earth frequency allocations of a non-geostationary satellite network to which No. **S9.11A** refers only, i.e. coordination of a transmitting terrestrial station within the coordination area of a receiving earth station in a non-geostationary satellite network.

### **3 Frequency allocation matters**

3.1 The Board studied the relationship between the date of implementation of the new procedure and the date of entry into force of those allocations the associated footnote of which includes a reference to No. **S9.11A**. The Board's conclusions are as follows.

3.2 WRC-97, in its Resolution **54 (WRC-97)** instructed the Bureau to apply the provisions of the Resolution **46 (Rev.WRC-97)/No. S9.11A** as of 22 November 1997 to those bands in which the Resolution is mentioned even though the footnotes to the Table of Frequency Allocations are not in force until a later date. The Board understands that the earlier date of implementation of the procedure does not influence the date of entry into force of the related allocations. Tables **S9.11A-1** and **S9.11A-2** below contain indications on the dates of entry into force of the allocations concerned with the application of No. **S9.11A**.

3.3 In a coordination request the conformity of the frequency assignments, with the Table of Frequency Allocations is considered through the examinations under No. **S9.35** (with respect to the conformity with No. **S11.31**) and the Findings of the Bureau will reflect the status of the assignment with respect to the allocation. The Board decided that the following categories of No. **S11.31** Finding shall be formulated regarding the dates concerned:

- a) the Finding is favourable if, at the date of receipt by the Bureau of the coordination request, the allocation concerned is in force;
- b) the Finding is unfavourable if, at the date of receipt by the Bureau of the coordination request, the allocation concerned is not in force and will not come into force before the planned date of bringing the assignment into use;
- c) the Finding is "qualified favourable" (which will become favourable at the date of coming into force of the allocation) if, at the date of receipt by the Bureau of the coordination request, the allocation concerned is not in force but will come into force before the planned date of bringing the assignment into use. This Finding will permit the network in question to coordinate its assignments and to be taken into account in the application of No. **S9.27**.

## 4 Application of the procedure for “existing” networks

### 4.1 The Board noted that:

- a) As of 18 November 1995, in the frequency bands 18.9-19.6 GHz and 28.7-29.4 GHz, and on 22 November 1997, in the frequency bands, 19.6-19.7 GHz, and 29.4-29.5 GHz to which the No. **S9.11A/Resolution 46** was referred by WRC-95 and WRC-97, as appropriate, some GSO systems were already under the coordination (former Article 11 of the RR) or MIFR recording (former Article 13 of the RR) procedures (complete Appendix **S4/3** information had been received by the Bureau) and some non-GSO systems were under the MIFR recording procedure (complete Appendix **S4/3** information had been received by the Bureau under former Article 13 of the RR). On the basis of WRC-97 decisions (see **S5.523A**, **S5.523C**, **S5.523D**, **S5.523E**) these networks are not subject to the application of No. **S9.11A**/§ 2.1 and 2.2 of Annex 1 to Resolution **46** (to “effect” coordination). This means that, when they are examined under the notification procedure of Article **S11**, the provisions of No. **S11.32** with respect to the application of No. **S9.11A** will not apply with respect to them and that GSO networks already under coordination on 18 November 1995 or 22 November 1997, in the appropriate bands, will not be published by the Bureau in a Special Section in the application of No. **S9.11A**. The Rules of Procedure relating to No. **S5.523A** also apply.
  
- b) As of 18 November 1995, in the frequency bands 18.8-18.9 GHz and 28.6-28.7 GHz, to which the No. **S9.11A/Resolution 46** was referred by WRC-97, some GSO systems were already under the coordination (former Article 11 of the RR) or MIFR recording (former Article 13 of the RR) procedures (complete Appendix **S4/3** information had been received by the Bureau before 18 November 1995) and some non-GSO systems were under the MIFR recording procedure (complete Appendix **S4/3** information had been received by the Bureau under former Article 13 of the RR before 18 November 1995). On the basis of WRC-97 decisions (*resolves* 1 and *instructs the Radiocommunication Bureau* of Resolution **132 (WRC-97)** and No. **S5.523A**) these networks are not subject to the application of No. **S9.11A**/§ 2.1 and 2.2 of Annex 1 to Resolution **46** (to “effect” coordination). This means that, when they are examined under the notification procedure of Article **S11**, the provisions of No. **S11.32** with respect to the application of No. **S9.11A** will not apply with respect to them and that GSO networks already under coordination at that date (18 November 1995) in the above-mentioned bands, will not be published by the Bureau in a Special Section in the application of No. **S9.11A**. The Rules of Procedure relating to No. **S5.523A** also apply.

However, GSO and non-GSO systems in the frequency bands 18.8-18.9 GHz and 28.6-28.7 GHz, which were at the stage of coordination (under former Article 11 of the RR) procedure in the period between 18 November 1995 and 17 February 1996<sup>1</sup> are subject to application of § 2.1 and 2.2 of Annex 1 of Resolution **46 (Rev.WRC-95)** (to “effect”

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<sup>1</sup> Between 18 February 1996 and 22 November 1997, the use of this frequency was frozen by WRC-95.

coordination). This means that, when they are examined under the notification procedure of Article S11, the provisions of No. S11.32 with respect to the application of No. S9.11A will apply with respect to them and these networks already under coordination or under MIFR recording in that period in the above-mentioned bands, will be published by the Bureau in a Special Section in the application of No. S9.11A/Resolution 46.

- c) GSO networks (under coordination or coordinated under provisions other than No. S9.11A/Resolution 46) as well as GSO and non-GSO cases notified to the Bureau under former Article 13 of the RR before 18 November 1995 will be taken into account in the coordination process under No. S9.11A initiated by other administrations after 18 November 1995 or 22 November 1997, as appropriate, in application of No. S9.27.

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 6 700-7 075 MHz. The band had already been allocated to the FSS (Earth-to-space) and a portion of the band (6 725-7 025 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 6 725-7 025 MHz or other GSO receiving space stations (operating in the Earth-to-space direction) in the bands 6 700-6 725 MHz and 7 025-7 075 MHz, shall not be taken into account under No. S9.27.



**TABLE S9.11A-1**  
**Applicability of the provisions of Nos. S9.11A - S9.15 to stations of space services**

1	2	3	4	5	6	7
Frequency band (MHz)	Footnote in Art. S5	Space services mentioned in a footnote referring to No. S9.11A to which Nos. S9.12 to S9.15 apply, or referring to Nos. S9.12 – S9.13, as appropriate	Other space services to which Nos. S9.12 to S9.14 apply equally	Terrestrial services in respect of which Nos. S9.14 and S9.15 apply equally, as appropriate	Date of provisional application of the allocation if later than 3.06.2000, or if different from the application date of the RR	Notes
137-137.025 137.175-137.825	S5.208	MOBILE-SATELLITE (non-GSO)	↓ SPACE OPERATION METEOROLOGICAL-SATELLITE SPACE RESEARCH	↓ FIXED (S5.204, S5.205) LAND MOBILE (S5.204, S5.205) MARITIME MOBILE (S5.204, S5.205) AERONAUTICAL MOBILE (OR) (S5.204, S5.206) BROADCASTING (S5.207)		1, 2
137.025-137.175 137.825-138	S5.208	MOBILE-SATELLITE (NON-GSO)	↓ ---	Fixed (in countries other than those listed in S5.204, S5.205) Land mobile (in countries other than those listed in S5.204, S5.205) Maritime mobile (in countries other than those listed in S5.204, S5.205) Aeronautical mobile (OR) (in countries other than those listed in S5.204, S5.206)		
148-149.9	S5.219	MOBILE-SATELLITE (non-GSO)	↑ <i>To be considered at the 25th Meeting of the RRB</i>	<i>To be considered at the 25th Meeting of the RRB</i>		
149.9-150.05	S5.220	MOBILE-SATELLITE (non-GSO)	↑ <i>To be considered at the 25th Meeting of the RRB</i>	<i>To be considered at the 25th Meeting of the RRB</i>	Limited to LMSS System until 1.1.2015 (S5.224A)	
312-315	S5.255	Mobile-Satellite (non-GSO)	↑ Mobile-Satellite (GSO)	↑ ---		
387-390	S5.255	Mobile-satellite (non-GSO)	↓ Mobile-Satellite (GSO)	↓ ---		
399.9-400.05	S5.220	MOBILE-SATELLITE (non-GSO)	↑ <i>To be considered at the 25th Meeting of the RRB</i>	---	Limited to LMSS System until 1.1.2015 (S5.224A)	

**TABLE S9.11A-1 (continuation)**

1	2	3	4	5	6	7
Frequency band (MHz)	Footnote in Art. S5	Space services mentioned in a footnote referring to No. S9.11A to which Nos. S9.12 to S9.15 apply, or referring to Nos. S9.12 – S9.13, as appropriate	Other space services to which Nos. S9.12 to S9.14 apply equally	Terrestrial services in respect of which Nos. S9.14 and S9.15 apply equally, as appropriate	Date of provisional application of the allocation if later than 3.06.2000, or if different from the application date of the RR	Notes
400.15-401	S5.264	MOBILE-SATELLITE (non-GSO)	↓ METEO-SATELLITE SPACE RESEARCH	↓ FIXED (S5.262) MOBILE (S5.262) METEOROLOGICAL AIDS		1 2
454-455	S5.286A	MOBILE-SATELLITE (non-GSO) (S5.286D, S5.286E)	↑ ---	--- (See S5.286B, S5.286C)		
455-456	S5.286A	MOBILE-SATELLITE (non-GSO) (R2, S5.286E)	↑ ---	--- (See S5.286B, S5.286C)		
459-460	S5.286A	MOBILE-SATELLITE (non-GSO) (R2, S5.286E)	↑ ---	--- (See S5.286B, S5.286C)		
1 492-1 525	S5.348	MOBILE-SATELLITE (R2, except USA (S5.344))	↓ ---	FIXED MOBILE		3
1 525-1 530	S5.354	MOBILE-SATELLITE	↓ SPACE OPERATION	↓ FIXED (R1, R3, see also S5.352A) LAND MOBILE (S5.349) MARITIME MOBILE (S5.349) AERONAUTICAL MOBILE (S5.342, S5.350)		1
1 530-1 535	S5.354	MOBILE-SATELLITE	↓ SPACE OPERATION	↓ AERONAUTICAL MOBILE (S5.342)		1
1 535-1 545	S5.354	MOBILE-SATELLITE	↓ ---	---		
1 545-1 550	S5.354	MOBILE-SATELLITE	↓ ---	AERONAUTICAL MOBILE (R) (S5.357)		4
1 550-1 555	S5.354	MOBILE-SATELLITE	↓ ---	FIXED (S5.359) AERONAUTICAL MOBILE (R) (S5.357)		4
1 555-1 559	S5.354	MOBILE-SATELLITE	↓ ---	FIXED (S5.359)		
1 610-1 626.5	S5.364	MOBILE-SATELLITE (except S), RADIODETERMINATION- SATELLITE (R2+S5.369)	↑ ---	--- (See S5.364)		
1 610-1 613.8	S5.364	Radiodetermination-satellite (R1 (S5.371), R3, VEN (S5.370))	↑ ---	Fixed (S5.355)		

TABLE S9.11A-1 (*continuation*)

1	2	3	4	5	6	7
Frequency band (MHz)	Footnote in Art. S5	Space services mentioned in a footnote referring to No. S9.11A to which Nos. S9.12 to S9.15 apply, or referring to Nos. S9.12 – S9.13, as appropriate	Other space services to which Nos. S9.12 to S9.14 apply equally	Terrestrial services in respect of which Nos. S9.14 and S9.15 apply equally, as appropriate	Date of provisional application of the allocation if later than 3.06.2000, or if different from the application date of the RR	Notes
1 613.8-1 626.5	S5.364 S5.365	Radiodetermination-satellite (R1 (S5.371), R3, VEN (S5.370)) Mobile-satellite	↑ --- ↓	Fixed (S5.355)		
1 613.8-1 626.5	S5.365	Mobile-satellite	↓ ---	Fixed (S5.355)		
1 626.5-1 631.5	S5.354	MOBILE-SATELLITE	↑ ---	Fixed (S5.359)		
1 631.5-1 634.5	S5.354	MOBILE-SATELLITE	↑ ---	--- (See S5.374)		
1 634.5-1 645.5	S5.354	MOBILE-SATELLITE	↑ ---	FIXED (S5.359)		
1 645.5-1 646.5	S5.354	MOBILE-SATELLITE	↑ ---	---		
1 646.5-1 656.5	S5.354	MOBILE-SATELLITE	↑ ---	FIXED (S5.359) AERONAUTICAL MOBILE (R) (S5.376)		
1 656.5-1 660.5	S5.354	MOBILE-SATELLITE	↑ ---	--- (See S5.374)		
1 675-1 690	S5.377	MOBILE-SATELLITE (R2)	↑ --- (See S5.377)	FIXED LAND MOBILE MARITIME MOBILE		
1 690-1 700	S5.377	MOBILE-SATELLITE (R2)	↑ --- (See S5.377)	FIXED (R2 and R3 countries listed in S5.381 and S5.382, R1 countries listed in S5.382) LAND MOBILE (R2 and R3 countries listed in S5.381, R1 countries listed in S5.382) MARITIME MOBILE (R2 and R3 countries listed in S5.381, R1 countries listed in S5.382)		
1 700-1 710	S5.377	MOBILE-SATELLITE (R2)	↑ SPACE RESEARCH (S5.384)	↑ FIXED LAND MOBILE MARITIME MOBILE		1

TABLE S9.11A-1 (continuation)

1	2	3	4	5	6	7
Frequency band (MHz)	Footnote in Art. S5	Space services mentioned in a footnote referring to No. S9.11A to which Nos. S9.12 to S9.15 apply, or referring to Nos. S9.12 – S9.13, as appropriate	Other space services to which Nos. S9.12 to S9.14 apply equally	Terrestrial services in respect of which Nos. S9.14 and S9.15 apply equally, as appropriate	Date of provisional application of the allocation if later than 3.06.2000, or if different from the application date of the RR	Notes
1 980-1 990	S5.389A	MOBILE-SATELLITE	↑ ---	FIXED (except R2 countries in S5.389B) MOBILE (except R2 countries in S5.389B) (see also S5.389F)	1.1.2005 in R2	
1 990-2 010	S5.389A	MOBILE-SATELLITE	↑ ---	FIXED MOBILE (see also S5.389F)		
2 010-2 025	S5.389C	MOBILE-SATELLITE (R2)	↑ ---	FIXED (R2) MOBILE (R2) (see also S5.390 and S5.389E)	1.1.2002 (1.1.2000 in CAN, USA)	
2 160-2 170	S5.389C	MOBILE-SATELLITE (R2)	↓ SPACE RESEARCH S5.392A (RUS)	↓ FIXED (R2) MOBILE (R2) (see also S5.390, S5.392A and S5.389E)	1.1.2002 (1.1.2000 in CAN, USA)	1, 5
2 170-2 200	S5.389A	MOBILE-SATELLITE	↓ SPACE RESEARCH S5.392A (RUS)	↓ FIXED MOBILE (see also S5.389F and S5.392A)		1, 5
2 483.5-2 500	S5.402	MOBILE-SATELLITE RADIODETERMINATION- SATELLITE (R2 & R1/R3 countries in S5.400)	↓ ---	RADIOLOCATION (R2, R3, F)(S5.397, S5.399) FIXED MOBILE		7
2 483.5-2 500	S5.402	Radiodetermination-satellite (R1&R3)	↓ ---	--- (See S5.399)		
2 500-2 515	S5.414 S5.403	MOBILE-SATELLITE (except countries in S5.412)	↓ FIXED SATELLITE (R2&3), RADIODETERMINATION- SATELLITE (S5.404)	↓ FIXED LAND MOBILE MARITIME MOBILE RADIOLOCATION (F)	1.1.2005 (until 2005: S9.21: MSS (-AMSS))	1

**TABLE S9.11A-1 (continuation)**

1	2	3	4	5	6	7
Frequency band (MHz)	Footnote in Art. S5	Space services mentioned in a footnote referring to No. S9.11A to which Nos. S9.12 to S9.15 apply, or referring to Nos. S9.12 – S9.13, as appropriate	Other space services to which Nos. S9.12 to S9.14 apply equally	Terrestrial services in respect of which Nos. S9.14 and S9.15 apply equally, as appropriate	Date of provisional application of the allocation if later than 3.06.2000, or if different from the application date of the RR	Notes
2 515-2 520	<b>S5.414</b> <b>S5.403</b>	MOBILE-SATELLITE (except countries in <b>S5.412</b> )	↓ FIXED SATELLITE (R2&3), RADIODETERMINATION-SATELLITE ( <b>S5.404</b> ) AERONAUTICAL MOBILE-SATELLITE (J, IND) ( <b>S5.415A</b> )	↓ FIXED, LAND MOBILE MARITIME MOBILE RADIOLOCATION (F)	1.1.2005 (until 2005: <b>S9.21</b> : MSS (-AMSS)) 1.1.2002 (AMSS in IND)	1
2 520-2 535	<b>S5.403</b>	MOBILE-SATELLITE (except AERONAUTICAL MOBILE-SATELLITE) (except countries in <b>S5.412</b> and <b>S5.417</b> )	↓ BROADCASTING-SATELLITE, FIXED SATELLITE (R2&3) AERONAUTICAL MOBILE-SATELLITE (J, IND) ( <b>S5.415A</b> )	↓ FIXED LAND MOBILE MARITIME MOBILE RADIOLOCATION (F)	1.1.2002 (AMSS in IND)	1, 6
2 630-2 655	<b>S5.418A</b> <b>S5.418B</b> <b>S5.418C</b>	BROADCASTING-SATELLITE (Non-GSO) (sound) ( <b>S5.418</b> ) BROADCASTING-SATELLITE (GSO) FIXED-SATELLITE (R2)	↓ BROADCASTING-SATELLITE (non-GSO) (television)	↓ --- (see Res. <b>539 (WRC-2000)</b> )		8, 9
2 655-2 670	<b>S5.420</b>	MOBILE-SATELLITE (except AERONAUTICAL MOBILE-SATELLITE) (except countries in <b>S5.412</b> and <b>S5.417</b> )	↑ BROADCASTING-SATELLITE, FIXED SATELLITE (R2 and R3)	↓ ↑ ↓ FIXED LAND MOBILE MARITIME MOBILE		1
2 670-2 690	<b>S5.419</b> <b>S5.420</b>	MOBILE-SATELLITE (except countries in <b>S5.412</b> )	↑ FIXED SATELLITE (R2 and R3), AERONAUTICAL MOBILE-SATELLITE (J, IND) ( <b>S5.420A</b> )	↑ FIXED, LAND MOBILE MARITIME MOBILE	1.1.2005 (until 2005: <b>S9.21</b> : MSS (-AMSS)) 1.1.2002 (AMSS in IND)	1
5 091-5 150	<b>S5.444A</b>	FIXED-SATELLITE (limited to non-GSO MOBILE SATELLITE SERVICE feeder link)	↑ AERONAUTICAL-MOBILE SATELLITE (R) ( <b>S5.367</b> )	↑ --- (See <b>S5.444A</b> )		

**TABLE S9.11A-1 (continuation)**

1	2	3	4	5	6	7
Frequency band (MHz/GHz)	Footnote in Art. S5	Space services mentioned in a footnote referring to No. S9.11A to which Nos. S9.12 to S9.15 apply, or referring to Nos. S9.12 – S9.13, as appropriate	Other space services to which Nos. S9.12 to S9.14 apply equally	Terrestrial services in respect of which Nos. S9.14 and S9.15 apply equally, as appropriate	Date of provisional application of the allocation if later than 3.06.2000, or if different from the application date of the RR	Notes
5 150-5 216	S5.447B  S5.447A S5.447C	FIXED-SATELLITE (limited to non-GSO MOBILE SATELLITE SERVICE feeder link)  FIXED-SATELLITE (limited to non-GSO MOBILE SATELLITE SERVICE feeder link)	↓  ↑ RADIODETERMINATION-SATELLITE (S5.446), with date of bringing into use prior to 17.11.1995	↓  AERONAUTICAL RADIONAVIGATION, MOBILE (S5.447)		1, 13, 14
5 216-5 250	S5.447A S5.447C	FIXED-SATELLITE (limited to non-GSO MOBILE SATELLITE SERVICE feeder link)	↑ RADIODETERMINATION-SATELLITE (S5.446), with date of bringing into use prior to 17.11.1995	↓ AERONAUTICAL RADIONAVIGATION, MOBILE (S5.447)		1, 13
6 700-7 075	S5.458B	FIXED-SATELLITE (limited to non-GSO MOBILE SATELLITE SERVICE feeder link)	↓ non-GSO FIXED-SATELLITE in bands 6700 – 6725 MHz and 7025 – 7075 MHz	↑ FIXED MOBILE		1, 13
10.7-11.7	S5.441 S5.484A	Non-GSO FIXED-SATELLITE	↓ Non-GSO FIXED-SATELLITE (R1)	↑ ---		10, 11
11.7-12.5	S5.484A S5.487A	Non-GSO FIXED-SATELLITE	↓ ---	---		10, 11
12.5-12.7	S5.484A S5.487A	Non-GSO FIXED-SATELLITE	↓ Non-GSO FIXED-SATELLITE (R1) Non-GSO BROADCASTING-SATELLITE (R3)	↑ ↓ ---		10, 11
12.7-12.75	S5.484A	Non-GSO FIXED-SATELLITE (R1, R3)	↓ Non-GSO FIXED-SATELLITE (R1, R2) Non-GSO BROADCASTING-SATELLITE (R3)	↑ ↓ ---		10, 11
12.75-13.25	S5.441	Non-GSO FIXED-SATELLITE	↑ ---	---		10, 11
13.75-14.5	S5.484A	Non-GSO FIXED-SATELLITE	↑ ---	---		10, 11

TABLE S9.11A-1 (*continuation*)

1	2	3	4	5	6	7
Frequency band (GHz)	Footnote in Art. S5	Space services mentioned in a footnote referring to No. S9.11A to which Nos. S9.12 to S9.15 apply, or referring to Nos. S9.12 – S9.13, as appropriate	Other space services to which Nos. S9.12 to S9.14 apply equally	Terrestrial services in respect of which Nos. S9.14 and S9.15 apply equally, as appropriate	Date of provisional application of the allocation if later than 3.06.2000, or if different from the application date of the RR	Notes
15.43-15.63	S5.511A	FIXED-SATELLITE (limited to non-GSO MOBILE SATELLITE SERVICE feeder link) FIXED-SATELLITE (limited to non-GSO MOBILE SATELLITE SERVICE feeder link)	↓ --- ↑	AERONAUTICAL RADIONAVIGATION		12, 14
15.63-15.65	S5.511D	Non-GSO FIXED-SATELLITE	↓ FIXED-SATELLITE	↑ AERONAUTICAL RADIONAVIGATION		1, 12
17.3-17.7	S5.516	Non-GSO FIXED-SATELLITE (R1, R3)	↑ Non-GSO BROADCASTING-SATELLITE (R2)	↓ ---		10, 11
17.7-17.8	S5.516	Non-GSO FIXED-SATELLITE (R1, R3)	↑ Non-GSO FIXED-SATELLITE Non-GSO BROADCASTING-SATELLITE (R2)	↓ ---		10, 11
17.8-18.1	S5.516 S5.484A	Non-GSO FIXED-SATELLITE	↑ --- ↓	---		10, 11
18.1-18.4	S5.484A	Non-GSO FIXED-SATELLITE	↓ ---	---		10, 11
18.4-18.6	S5.484A	Non-GSO FIXED-SATELLITE	↓ ---	---		10, 11
18.8-19.3	S5.523A	FIXED-SATELLITE	↓ ---	FIXED MOBILE		13
19.3-19.6	S5.523B  S5.523D	FIXED-SATELLITE (limited to non-GSO MOBILE SATELLITE SERVICE feeder link) FIXED-SATELLITE (GSO with coordination information received as of 18.11.1995 and non-GSO MOBILE SATELLITE SERVICE feeder link) (see also S5.523C)	↑ --- ↓	FIXED MOBILE		13, 14

TABLE S9.11A-1 (continuation)

1	2	3	4	5	6	7
Frequency band (GHz)	Footnote in Art. S5	Space services mentioned in a footnote referring to No. S9.11A to which Nos. S9.12 to S9.15 apply, or referring to Nos. S9.12 – S9.13, as appropriate	Other space services to which Nos. S9.12 to S9.14 apply equally	Terrestrial services in respect of which Nos. S9.14 and S9.15 apply equally, as appropriate	Date of provisional application of the allocation if later than 3.06.2000, or if different from the application date of the RR	Notes
19.6-19.7	S5.523D	FIXED-SATELLITE (GSO with coordination information received as of 22.11.1997 and non-GSO MOBILE SATELLITE SERVICE feeder link) (see also S5.523E)	↓ FIXED-SATELLITE (GSO with coordination information received as of 22.11.1997 and non-GSO) (see also S5.523E)	↑ FIXED MOBILE		13, 14
19.7-20.1	S5.484A	Non-GSO FIXED-SATELLITE	↓ Non-GSO MOBILE-SATELLITE (R2)	↓ ---		10, 11
20.1-20.2	S5.484A	Non-GSO FIXED-SATELLITE	↓ Non-GSO MOBILE-SATELLITE	↓ ---		10, 11
27.5-28.6	S5.484A	Non-GSO FIXED-SATELLITE	↑ Non-GSO FIXED-SATELLITE in the band 27.5-27.501 GHz (S5.538)	↓ ---		10, 11
28.6-29.1	S5.523A	FIXED-SATELLITE	↑ ---	FIXED MOBILE		
29.1-29.5	S5.535A	FIXED-SATELLITE (GSO (see also S5.523C and S5.523E) and non-GSO MOBILE SATELLITE SERVICE feeder link)	↑ ---	FIXED MOBILE		
29.5-29.9	S5.484A	Non-GSO FIXED-SATELLITE	↑ Non-GSO MOBILE-SATELLITE (R2)	↑ ---		10, 11
29.9-30	S5.484A	Non-GSO FIXED-SATELLITE	↑ Non-GSO MOBILE-SATELLITE Non-GSO FIXED-SATELLITE in the band 29.999-30.000 GHz (S5.538)	↑ ↓ ---		10, 11



*Notes*

- <sup>1</sup> The coordination of non-GSO space services (Earth stations) in respect of terrestrial services is to be effected under the provisions of No. **S9.15**. For the coordination of GSO space services (Earth stations) in respect of terrestrial services columns 4 and 5 of Table **S9.11A**, the provisions of No. **S9.17** apply.
- <sup>2</sup> Coordination thresholds indicated in Annex 1 to Appendix **S5** apply only to MOBILE-SATELLITE service.
- <sup>3</sup> For AERONAUTICAL MOBILE service for telemetry, the requirement for coordination is determined by band overlap only (**S5.348**).
- <sup>4</sup> See Rule of procedure on No. **S5.357**.
- <sup>5</sup> SPACE RESEARCH service is not subject to the application of the provisions of Nos. **S9.14** and **S9.15**.
- <sup>6</sup> The coordination of BROADCASTING-SATELLITE service in respect of terrestrial services is to be effected under the provisions of No. **S9.11**.
- <sup>7</sup> RADIOLOCATION service is subject to the application of the provisions of Nos. **S9.14** and **S9.15** vis-à-vis stations in the MOBILE-SATELLITE service only.
- <sup>8</sup> The coordination of non-GSO BROADCASTING-SATELLITE service (sound) in respect of terrestrial services is subject to the provisions of Resolution **539. (WRC-2000)**.
- <sup>9</sup> The coordination of non-GSO BROADCASTING-SATELLITE service (television) (column 4) is subject to the provisions of No. **S9.12** only.
- <sup>10</sup> The coordination of space services (Earth stations) listed in columns 3 in respect of the terrestrial services to which the same band is allocated with equal rights is to be effected under the provisions of **S9.17**.
- <sup>11</sup> Subject to application of the provisions of No. **S9.12** only.
- <sup>12</sup> Non-GSO FIXED-SATELLITE service (space-to-Earth) subject to application of the provisions of No. **S9.14** in the frequency band 15.45-15.65 GHz only
- <sup>13</sup> Not subject to application of the provisions of No. **S9.14**.
- <sup>14</sup> For the coordination of GSO or non-GSO space services (specific earth station) in respect of other earth stations operating in the opposite direction of transmission, see also the provisions of No. **S9.17A**.

**TABLE S9.11A-2**

**Applicability of the provisions of No. S9.16 to stations of terrestrial services**

1	2	3	4	5	6	7
Frequency band (MHz/GHz)	Footnote in Art. S5	Terrestrial services to which No. S9.16 applies	Space services mentioned in a footnote referring to No. S9.11A in respect of which No. S9.16 applies, and other non-GSO space services in respect of which No. S9.16 applies equally		Date of provisional application of the allocation if later than 3.06.2000, or if different from the application date of the RR	Notes
137-137.025 137.175-137.825	S5.208	FIXED (S5.204, S5.205) LAND MOBILE (S5.204, S5.205) MARITIME MOBILE (S5.204, S5.205) AERONAUTICAL MOBILE (OR) (S5.204, S5.206) BROADCASTING (S5.207)	MOBILE-SATELLITE (non-GSO (S5.209)) SPACE OPERATION METEOROLOGICAL-SATELLITE SPACE RESEARCH	↓		1
137.025-137.175 137.825-138	S5.208	Fixed (in countries other than those listed in S5.204, S5.205) Land mobile (in countries other than those listed in S5.204, S5.205) Maritime mobile (in countries other than those listed in S5.204, S5.205) Aeronautical mobile (OR) (in countries other than those listed in S5.204, S5.206)	Mobile-satellite (non-GSO (S5.209))	↓		1
400.15-401	S5.264	FIXED (S5.262) MOBILE (S5.262) METEOROLOGICAL AIDS	MOBILE-SATELLITE (non-GSO (S5.209)) METEOROLOGICAL-SATELLITE SPACE RESEARCH	↓		1
1 492-1 525	S5.348	FIXED (R2) MOBILE (R2)	MOBILE-SATELLITE (R2, except USA (S5.344))	↓		1, 2
1 525-1 530	S5.354	FIXED (R1, R3, see also S5.352A) LAND MOBILE (S5.349) MARITIME MOBILE (S5.349) AERONAUTICAL MOBILE (S5.342, S5.350)	MOBILE-SATELLITE SPACE OPERATION	↓		1
1 530-1 535	S5.354	AERONAUTICAL MOBILE (S5.342)	MOBILE-SATELLITE SPACE OPERATION	↓		1
1 545-1 550	S5.354	AERONAUTICAL MOBILE (R)	MOBILE-SATELLITE	↓		1, 3

TABLE S9.11A-2 (continuation)

1	2	3	4	5	6	7
Frequency band (MHz/GHz)	Footnote in Art. S5	Terrestrial services to which No. S9.16 applies	Space services mentioned in a footnote referring to No. S9.11A in respect of which No. S9.16 applies, and other non-GSO space services in respect of which No. S9.16 applies equally		Date of provisional application of the allocation if later than 3.06.2000, or if different from the application date of the RR	Notes
1 550-1 555	S5.354	FIXED (S5.359) AERONAUTICAL MOBILE (R)	MOBILE-SATELLITE	↓		1
1 555-1 559	S5.354	FIXED (S5.359)	MOBILE-SATELLITE	↓		1
1 613.8-1 626.5	S5.365	Fixed (S5.355)	Mobile-satellite	↓		1
2 160-2 170	S5.389C	FIXED (R2) MOBILE (R2) (see also S5.390, S5.392A and S5.389E)	MOBILE-SATELLITE (R2)	↓	1.1.2002 (1.1.2000 in CAN, USA)	1
2 170-2 200	S5.389A	FIXED MOBILE (see also S5.392A and S5.389F)	MOBILE-SATELLITE	↓		1
2 483.5-2 500	S5.402	RADIOLOCATION (R2, R3, F) (S5.397, S5.399) FIXED MOBILE	MOBILE-SATELLITE RADIODETERMINATION-SATELLITE (R2+ R1/R3 countries in S5.400)	↓		1, 4
2 500-2 515	S5.414 S5.403	FIXED LAND MOBILE MARITIME MOBILE RADIOLOCATION (F)	MOBILE-SATELLITE (except countries in S5.412) FIXED SATELLITE (R2&3), RADIODETERMINATION-SATELLITE (S5.404)	↓	1.1.2005 (until 2005: S9.21: (MSS -AMSS)) 1.1.2002 (AMSS in IND)	1
2 515-2 520	S5.414 S5.403	FIXED LAND MOBILE MARITIME MOBILE RADIOLOCATION (F)	MOBILE-SATELLITE (except countries in S5.412) FIXED SATELLITE (R2&3), RADIODETERMINATION-SATELLITE (S5.404) AERONAUTICAL MOBILE-SATELLITE (J, IND) (S5.415A)	↓	1.1.2005 (until 2005: S9.21: MSS (-AMSS)) 1.1.2002 (AMSS in IND)	1
2 520-2 535	S5.403	FIXED LAND MOBILE MARITIME MOBILE RADIOLOCATION (F)	MOBILE-SATELLITE (except AERONAUTICAL MOBILE-SATELLITE) (except countries in S5.412) BROADCASTING-SATELLITE, FIXED SATELLITE (R2&3) AERONAUTICAL MOBILE-SATELLITE (J, IND) (S5.415A)	↓	1.1.2002 (AMSS in IND)	1, 5

**TABLE S9.11A-2 (continuation)**

1	2	3	4	5	6	7
Frequency band (MHz/GHz)	Footnote in Art. S5	Terrestrial services to which No. S9.16 applies	Space services mentioned in a footnote referring to No. S9.11A in respect of which No. S9.16 applies, and other non-GSO space services in respect of which No. S9.16 applies equally		Date of provisional application of the allocation if later than 3.06.2000, or if different from the application date of the RR	Notes
5 150-5 216	<b>S5.447B</b>	AERONAUTICAL RADIONAVIGATION MOBILE ( <b>S5.447</b> )	FIXED-SATELLITE (limited to non-GSO MOBILE SATELLITE SERVICE feeder link) RADIODETERMINATION-SATELLITE ( <b>S5.446</b> ), with date of bringing into use prior to 17.11.1995	↓		1
6 700-7 075	<b>S5.458B</b>	FIXED MOBILE	FIXED-SATELLITE (limited to non-GSO MOBILE SATELLITE SERVICE feeder link ( <b>S5.458B</b> ))	↓		1
15.43-15.63	<b>S5.511A</b>	AERONAUTICAL RADIONAVIGATION	FIXED-SATELLITE (limited to non-GSO MOBILE SATELLITE SERVICE feeder link ( <b>S5.511A</b> ))	↓		1, 6
15.63-15.65	<b>S5.511D</b>	AERONAUTICAL RADIONAVIGATION	FIXED-SATELLITE (limited to non-GSO ( <b>S5.511D</b> ))	↓		1
18.8-19.3	<b>S5.523A</b>	FIXED MOBILE	FIXED-SATELLITE	↓		1
19.3-19.7	<b>S5.523D</b>	FIXED MOBILE	FIXED-SATELLITE (limited to non-GSO MOBILE SATELLITE SERVICE feeder link)	↓		1

*Notes*

- <sup>1</sup> The coordination of the terrestrial services under the provisions of No. **S9.16** is to be effected only in respect of earth stations of non-GSO satellite networks. For the coordination of the terrestrial services in respect of earth stations of GSO satellite networks, the provisions of No. **S9.18** apply.
- <sup>2</sup> For the aeronautical mobile service for telemetry, the requirement for coordination is determined by band overlap only (**S5.348**).
- <sup>3</sup> See Rule of procedure on No. **S5.357**.
- <sup>4</sup> The radiolocation service is subject to the application of the provisions of No. **S9.16** vis-à-vis stations in the mobile-satellite service only.
- <sup>5</sup> For the coordination of the terrestrial services in respect of earth stations of the broadcasting-satellite service the provisions of No. **S9.19** apply.
- <sup>6</sup> Stations in the aeronautical radionavigation service in this band are subject to power limits indicated in Recommendations ITU-R S.1340 (see No. **S5.511C**).

## 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 equality of rights between services to which the band is allocated. 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 Taking into account Article **S59**, Resolution **59**, Resolution **541**, the Board concluded that provisions **S9.17-S9.19** and Appendix **S7** as modified by WRC-2000 shall enter into force as of 1 January 2002 except with respect to submissions under Appendices **S30** and **S30A** to which **S9.17A**, **S9.19** and Appendix **S7** shall apply as of 3 June 2000<sup>2</sup>. Table S5-1 of Appendix **S5** as modified by WRC-2000 with respect to application of **S9.15** to **S9.19** shall enter into force as of 1 January 2002.

3 See also Rules of Procedure concerning Appendix **S7**.

## 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

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<sup>2</sup> In Resolution **541 (WRC-2000)**, it is stipulated that the Regions 1 and 3 Plans, the list and their associated procedures, together with Annexes thereto shall enter into force as of 3 June 2000. The procedures noted in Resolution **541 (WRC-2000)** require the application of Appendix **S7 (WRC-2000)**.

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.

<b>S9.28, S9.29 and S9.31</b>
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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).

<b>S9.36</b>
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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>3</sup>:

- space network vs. space network: Appendix **S8**;
- earth station vs. terrestrial stations and *vice versa*: Appendix **S7**;
- transmitting terrestrial stations vs. receiving space stations: criteria of Article **S21**;
- transmitting space stations vs. terrestrial services: pfd limits defined in Article **S21**;
- between stations of terrestrial services in some specific frequency bands: Rules of Procedure B4, B5 and B6 as appropriate.

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<sup>3</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.

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 disagree with 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 be unaffected by 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.

#### **S9.50**

### **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.

<b>S9.52C</b>
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## **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 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.

2.2 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.”

2.3 See also § 2.4a of the Rule of Procedure relating to No. **S9.11A**

<b>S9.53</b>
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See comments under the Rules of Procedures concerning No. **S9.6** (§ 1 c)).

<b>S9.58</b>
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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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## **S11.28**

### **Comparison of data with those submitted under Article S9**

Number **S11.28** does not refer to the need to compare the notified characteristics with those published in the Special Sections for advance publication, for coordination, and for results/status of the coordination. A frequency notice submitted under No. **S11.2** or **S11.9** whose characteristics differ from those published in a Special Section necessarily requires consideration by the Bureau for appropriate actions. The following actions shall be taken:

- 1) The date of bringing into use of a space station shall be compared with the date of receipt of the supporting advance publication. In the case that this period exceeds 5 years plus any extension of up to 2 years, if granted, the notice is returned to the notifying administration with a recommendation to restart the Article **S9** procedure. (See also comments under the Rules of Procedure concerning No. **S9.1**.)
- 2) When the notified characteristics are within the limits of those published in the Special Section relating to advance publication but are different from those published in the Special Section relating to coordination, this difference is assumed to have resulted from the coordination.
- 3) For practical reasons, the Bureau could not systematically undertake the comparison of coordination information contained in the notice form submitted under No. **S11.2** or **S11.9** and that from the voluminous correspondence from the coordination phase. The Board thus decided that the No. **S11.32** examinations of the Bureau shall be based on the coordination information available from the notice forms (Boxes A5/A6). This information being the most up-to date for the case under examination, the Bureau shall consider the notified data of the network submitted in the notice form as coordinated with those countries mentioned in boxes A5/A6.
- 4) When the notified characteristics are not within the limits of those published in the Special Section relating to the advance publication the comments made under the Rules of Procedure concerning No. **S9.2** apply.

## **S11.31**

1 Provision No. **S11.31.2** requires that the “other provisions” mentioned in No. **S11.31** should be identified and included in the Rules of Procedure. This chapter intends to answer the above problem.

The regulatory examination under No. **S11.31** includes the following<sup>6</sup>:

- conformity with the Table of Frequency Allocations, including its footnotes and any Resolution or Recommendation which is referred to in such a footnote;

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<sup>6</sup> With respect to the application of this provision to assignments of the Broadcasting-satellite service submitted under Resolution 33 (Rev.WRC-97) see comments under Rules of Procedure concerning No. **S23.13**.

- the successful application of No. **S9.21**, when mention is made of that provision in a footnote (See also Rules of Procedure relating to Nos. **S9.21**, **S11.31.1** and **S11.37**);
- all “other” mandatory provisions that are contained in Articles **S21** to **S57**, in Appendices to the Radio Regulations and/or in Resolutions (except Resolution **49** for which there is a separate procedure as contained in the Rules of Procedure concerning No. **S11.44**) that are relevant to the service in the frequency band in which a station of that service operates.

2 The list of these “other provisions”, referred to in No. **S11.31.2**, with respect to which the notices to stations in terrestrial (§ 2.1 to 2.5.2) or space services (§ 2.6 to 2.6.6) are examined, is given below:

2.1 *Broadcasting service:* Those contained in No. **S23.7** concerning the power limit (50 kW) of the broadcasting transmitters operating in the Tropical bands in the frequency bands listed in No. **S23.6**.

2.2 *Fixed service:* Those of No. **S24.2** which stipulate that F3E and G3E emissions are prohibited in the fixed service below 30 MHz;

2.3 *Aeronautical mobile service:* There are mandatory provisions only for the frequency bands that are allocated exclusively to the aeronautical mobile service. These provisions (obligatory channelling arrangement, permitted classes of emission, power limits) are contained in Appendices **S26** and **S27**. The provisions of No. **S43.4** also falls into this category of mandatory regulatory provisions, i.e. the prohibition of using the exclusive frequency allocations to the aeronautical mobile service for any kind of public correspondence.

2.4 *Maritime mobile service:* Most of them are related to the frequency bands that are allocated exclusively to the maritime mobile service (obligatory channelling arrangements, permitted classes of emission, power limits, etc); however many of them are also applicable to the non-exclusive allocations to the maritime mobile service. A summary of the provisions that are applicable to the frequency assignments subject to notification is given in the Table below:

	Provision No.
Power limits	<b>S52.56, S52.104</b> <b>S52.117, S52.127</b> (Region 1 only), <b>S52.143, S52.144, S52.172</b> <b>S52.184-S52.186, S52.188, S52.200</b> (Region 1 only) <b>S52.219, S52.220, S52.227</b>
Class of emission	<b>S52.2, S52.3, S52.17, S52.37</b> <b>S52.55, S52.98, S52.101, S52.177, S52.183, S52.188, S52.198, S52.217</b>
Mandatory sub-division	<b>S52.10</b> (Region 1 only), <b>S52.13, S52.39</b> and <b>S52.40</b> Appendix <b>S17</b>

2.5 The list of these “other provisions”, referred to in No. **S11.31.2**, with respect to which notices to stations in terrestrial services<sup>7</sup> in the bands that are shared with equal rights with space services are examined, is given below:

2.5.1 conformity with the limits concerning the maximum equivalent isotropically radiated power, in the context of services and frequency bands indicated in Table **S21-2** (Nos. **S21.3**, **S21.4**, **S21.5A** and **S21.6**);

2.5.2 conformity with the limits concerning the power delivered by a transmitter to the antenna of a station in the fixed or mobile services (13 dBW in frequency bands between 1 GHz and 10 GHz, 10 dBW in frequency bands above 10 GHz), in the context of services and frequency bands indicated in Table **S21-2** (Nos. **S21.5** and **S21.6**).

2.6 The list of these “other provisions”, referred to in No. **S11.31.2**, applicable to space services, is given below so far as Articles **S21** and **S22** are concerned:

2.6.1 conformity with the power limits for earth stations as stipulated in provisions Nos. **S21.8**, **S21.10** and **S21.12**, **S21.13** account being taken of Nos. **S21.9** and **S21.11**<sup>8</sup>, and in provisions **S22.26** to **S22.28** or **S22.32** (as appropriate) under the conditions specified in **S22.30**, **S22.31** and **S22.34** to **S22.39**, where the earth station are subject to those power limitations (see also A.16 of Appendix **S4**).

2.6.2 conformity with the minimum angle of elevation of earth stations as stipulated in provisions Nos. **S21.14**<sup>9</sup> and **S21.15**.

2.6.3 conformity with the limits of power flux-density from space stations produced at the Earth’s surface as indicated in the Table **S21-4** (No. **S21.16**), as well as with the  $epfd_{\downarrow}$  limits in Tables **S22-1A** to **S22-1D** (No. **S22.5C**), taking into account, as appropriate, the provisions of Nos. **S21.17** and **S22.5CA**.

2.6.4 conformity with the limits of power flux-density from space stations produced at the geostationary-satellite orbit as indicated in Nos. **S22.5** and **S22.5A** as well as with  $epfd_{is}$  limits in Table **S22-3** (No. **S22.5F**).

2.6.5 conformity with limit of equivalent power flux density from earth stations produced at the GSO ( $epfd_{\uparrow}$ ) as indicated in the Table **S22-2** (No. **S22.5D**).

2.6.6 conformity with the limit specified in Nos. **S22.8**, **S22.13**, **S22.17** and **S22.19**.

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<sup>7</sup> In bands shared by terrestrial and space radiocommunication services, the administration may use passive repeaters in the fixed service (radio-relay systems). While generally the passive repeater is situated close to the transmitting or receiving station, it usually involves a major change in the direction of the maximum radiation which may further affect the orbit; for this reason, the Board decided that administrations shall be requested to notify both parts of the link as separate stations, i.e., transmitting stations to passive repeater and passive repeater to receiving stations; and that each of the notices, containing information in accordance with Appendix **S4**, is treated as a separate assignment representing a separate station.

<sup>8</sup> See Rule of Procedure relating to No. **S21.11**.

<sup>9</sup> See Rule of Procedure relating to No. **S21.14**.

3 Other provisions of Articles **S21** and **S22** will not be taken into account in the Regulatory examination under No. **S11.31** and the Board understands that these provisions are to be applied between administrations.

## 5 Conformity with the Table of frequency allocations

The examination of conformity with the Table of frequency allocations consists of determining whether the assigned frequency and/or the necessary bandwidth of the emission is within the frequency band allocated to the service in which the station in question operates. Another element is to identify the category of the service according to the Table of Frequency Allocations. The following rules are applied in this connection:

5.1 *Out-of band emissions:* In the case where the assigned frequency is in a band which is not allocated to the service in which the station operates the notice receives an unfavourable regulatory finding. If the assigned frequency is on the edge of a band which is not allocated to the service the finding is also unfavourable.

5.2 *Overlapping emissions:* In the case where the assigned frequency is in the band which is allocated to the service, but the necessary bandwidth overlaps the immediately adjoining band which is not allocated to the service, the notice receives an unfavourable regulatory finding.

5.3 *Receiving point of a terrestrial service is in a region where the service is not allocated:* In the case of circuit whose transmitting point is in a country, Sub-Region or Region where the frequency is allocated to the service, but whose receiving point is not, an unfavourable regulatory finding is issued.

5.4 The relationship between the notifying administration and the territory in which the station is located is covered by Resolution 1 (**Rev.WRC-97**) (see also comments under the Rules of Procedure concerning No. **S9.3** and Resolution 1 (**Rev.WRC-97**). The notification of assignments to space stations raises the following questions:

- Should there be any relation between the territory of the notifying administration and the orbital position of a space station in the case of worldwide allocations?
- Should there be any such relation in the case of Regional allocations or allocations to a group of countries or to individual countries?

In reply to these questions the Board reached the following conclusions:

- a) In the case of worldwide allocations without a specific restriction in a footnote, any administration may notify any orbital position and any service area in any part of the Earth which is visible from the space station.
- b) When an allocation is made with territorial restrictions, such as for national use, the service area must then be limited to that territory.
- c) In the case of a Regional allocation, as the limits separating the three Regions do not refer to the geostationary-satellite orbit, the orbital position is not taken into consideration when determining if the Regional allocation is respected; only the service area is used to formulate a Finding; this Finding is favourable if the service area is entirely located in the Region to which the allocation is made and unfavourable otherwise. When there is no specific restriction in a footnote, any administration, pertaining or not to the Region to which the allocation is made, may notify any orbital position and any service area within the Region to which the allocation is made.
- d) The § c) above applies equally to an allocation to a sub-Region or to a country.
- e) As indicated in c) and d) above, the service area notified by an administration is not necessarily the territory of the notifying administration. When the service area notified covers totally or partly the territory of another administration, it is assumed (unless advised to the contrary by an administration not accepting such practice) that an agreement exists between the administrations concerned. If, following the publication of an assignment in the weekly Circular, an administration objects to the notified service area, the Bureau informs the notifying administration of the comments received and will modify the service area only if the notifying administration so requests.
- f) A space station has a “coverage area” which generally encompasses the “service area”. Article S1 of the Radio Regulations does not contain a definition for these terms; however, the definitions given in Annex 5 to Appendix S30 may be used. Generally the coverage area results in an unavoidable transmission over the territory of other countries and the comments made in § e) above do not apply to such unavoidable overlap.

5.5 *Categories of allocation:* In the case when the assigned bandwidth overlaps two frequency bands that are both allocated to the service in question, with different categories of allocation, the favourable regulatory finding is accompanied by the indication of the status derived from the lowest of the two categories of allocation.

5.6 *Tropical broadcasting bands:* The frequency bands listed in No. S23.6 are allocated on a shared basis to the tropical broadcasting, to fixed and mobile services (see also footnote No. S5.113). In the Tropical Zone (No. S5.16-S5.21) the broadcasting service has priority over the other services in these frequency bands and the frequency assignments to services other than the broadcasting service are indicated so as to show their lower status with respect to the frequency assignments to stations in the broadcasting service, while retaining their status with respect to the non-broadcasting assignments from both inside and outside the Tropical Zone (symbol V in column 13B2).

6 The No. **S11.31** examination shall be made on the basis of the information on the status of the coordination agreement available to the Bureau in the Form of Notice. (See Rules of Procedure relating to No. **S11.31.1**).

7 The examination under Articles **S21** and **S22** may result in cases where the limits stipulated in these Articles are exceeded. When the agreement of other administrations is foreseen, the Bureau will formulate a favourable Finding No. **S11.31** only if it is informed that such agreement exists. This agreement is treated by the Bureau separately from the coordination agreement.

#### **S11.31.1**

1 Experience indicates that the number of administrations commenting on the Special Sections containing the request for agreement under No. **S9.21** is limited, and there may be only few administrations objecting to the use on the basis of sound technical criteria without necessarily ascertaining that harmful interference exists or will exist. Number **S11.31.1** indicates that the conformity with the Table of Frequency Allocations implies the successful application of No. **S9.21**, when necessary. This raises the question of the advisability of formulating an unfavourable Finding to indicate that, because of the few objections to the request, the procedure of No. **S9.21** has not been successfully applied. Two alternatives were examined:

- *Alternative 1:* record the assignment with a favourable Finding together with the name(s) of the administration(s) still having objections, indicating that with respect to this (these) administration(s) the recording is made under the conditions of No. **S4.4**.
- *Alternative 2:* record the assignment with an unfavourable Finding together with the names of administrations having given their agreement and indicating that No. **S4.4** does not apply to them.

As indicated above, the number of disagreeing administrations is very limited, and for this reason the Board decided that the Bureau shall apply the first alternative. It is understood that the partially favourable Finding (with respect to a few administrations No. **S4.4** applies) satisfies the conditions of No. **S11.31.1** and this condition permits the assignment in question to be included in the coordination procedures, when necessary, or to be recorded, as appropriate.

See also Rules of Procedures under No. **S9.52C**.

## **2.3 Cancellation of the space station's assignment**

If the space station's assignment is cancelled by the notifying administration, the Bureau shall review the earth station(s) associated with that space station and in accordance with No. **S13.13** suggest to the notifying administration to either cancel or suitably modify the basic characteristics of the entry.

## **3 Examination of a frequency assignment to an earth station with respect to the application of Nos. S9.15, S9.17, S9.17A and S9.19**

See comments under the Rules of Procedure concerning No. **S9.27** (§ 3.1 and 3.2).

## **4 Examination of frequency assignment notices to stations in terrestrial services in the bands shared with equal rights with space service**

4.1 In its examinations of a frequency assignment notice for a station of a terrestrial service, in the bands shared with equal rights with space services, from the point of view of its conformity with the procedures relating to coordination with respect to earth stations of other administrations, the Bureau takes into account those earth stations which are recorded in the Master Register. To this effect, the Bureau uses the coordination contour associated to the respective earth station and calculated in accordance with the calculation method and parameters being in force at the time of notification of the earth station.

If, within a period of three years following the date of notification<sup>10</sup> of the terrestrial station, the Bureau receives a comment from another administration, indicating that the concerned assignment was included in a coordination procedure initiated by this later administration pursuant to No. **S9.29** in respect to its earth station(s) coordination under No. **S9.15** or **S9.17**, and was not agreed to, or was agreed with different technical characteristics, the Bureau will review the situation in accordance with the relevant provisions of Article **S14** and will proceed accordingly.

## **5 Examination of frequency assignment notices to earth stations operating in opposite direction of transmission**

5.1 In its examinations of a frequency assignment notice to an earth operating in opposite direction of transmission, from the point of view of its conformity with the procedures relating to coordination with respect to earth stations of other administrations, the Bureau takes into account those earth stations which are recorded in the Master Register.

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<sup>10</sup> In cases where the Bureau is not in a position to publish notification data under No. **S11.28** within three years following the date of notification, a comment received three months after the date of publication shall be taken into account by the Bureau.

If, within a period of three years following the date of notification<sup>11</sup> of the earth station operating in the opposite direction of transmission, the Bureau receives a comment from another administration, indicating that the concerned assignment was included in a coordination procedure initiated by this later administration pursuant to No. **S9.29** in respect to its earth station(s) coordination under No. **S9.17A**, and was not agreed to, or was agreed with different technical characteristics, the Bureau will review the situation in accordance with the relevant provisions of Article **S14** and will proceed accordingly.

## **6 Examination of frequency assignments to an inter-satellite link of a geostationary space station communicating with a non-geostationary space station**

6.1 The Board has noted the requirement to consider a calculation method for the Radiocommunication Bureau to examine an inter-satellite link of a geostationary space station communicating with a non-geostationary space station in frequency bands allocated to the inter-satellite service with respect to No. **S11.32**.

6.2 Taking into account the discussion during WRC-2000 and the current lack of criteria, calculation method and associated tools to proceed with such examination, until such time as the relevant ITU-R Study Groups provide/establish necessary criteria and a required calculation method which could be adopted by the Board, the Bureau when examining the above-mentioned cases in frequency bands allocated to the inter-satellite service<sup>12</sup> with respect to their conformity to No. **S11.32**, shall proceed as follows:

6.2.1 To give a favourable regulatory finding with respect to **S11.32** (symbol “A” in Column 13A2).

6.2.2 To insert a symbol “K” in Column 13B2 with the following text:

“K”: this frequency assignment to an inter-satellite link of a geostationary space station communicating with a non-geostationary space station is not taken into account by the Bureau in its examination under **S11.32**.

6.3 See also the Rules of Procedure concerning **S5.392**.

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<sup>11</sup> In cases where the Bureau is not in a position to publish notification data under No. **S11.28** within three years following the date of notification, a comment received three months after the date of publication shall be taken into account by the Bureau.

<sup>12</sup> Frequency bands allocated to the inter-satellite service to which par. 6 applies:  
22.55-23.55 GHz    24.45-24.75 GHz    25.25-27.5 GHz    32-33 GHz    59.3-71 GHz  
122.25-123 GHz    130-134 GHz    167-174.8 GHz    191.8-200 GHz.



<b>S11.44 and S11.44.1</b>
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1 The information concerning the date of bringing into use is normally to be provided in the following occasions:

- in **APS4** form of notice when submitted under No. **S11.15**; and
- in any subsequent communication to the Bureau under Nos. **S11.44B** to **S11.44I**; and
- in the confirmation of the date of bringing into use under No. **S11.47**.

It should be noted that the information concerning the date of bringing into use shall be provided for each assignment or group of assignments.

2 Number **S11.44** provides that administrations may request an extension of the date of bringing into use. This extension cannot be more than two years. In addition, the extension is given only under specific conditions as enumerated in Nos. **S11.44C** to **S11.44I**. As mentioned in No. **S11.44B**, the extension cannot be granted if the complete “due diligence” information required by Resolution **49 (WRC-97/WRC-2000**, as applicable) is not provided.

3 Number **S11.44** also states that the Bureau shall cancel those frequency assignments which are not brought into use within the required period (5 years plus the extension granted by the Bureau). Before the Bureau cancels any frequency assignment, it needs to inform the administration at least three months before the expiry of the above period.

4 The Board noted from Resolution **49 (WRC-97/WRC-2000**, as applicable) that the submission of the complete “due diligence” information by administrations is closely associated with the expiry date (five years) of the regulatory period. In fact, § 10 of Annex 1 to the Resolution instructs the Bureau to inquire about the complete “due diligence” information if this was not received at least 6 months before the 5 year deadline.

5 The Board concluded from the above that the Bureau shall inquire on the date of bringing into use of the assignments and the complete “due diligence” information before the 5 year period expires, if the above information is not communicated by the administration. The Board noted that the two inquiries concern similar information and they are to be effected at similar points in time. Consequently the Board decided that one inquiry shall be effected by the Bureau for both purposes. Six months before the expiry of the 5 year period counted from the date of receipt of the advance information submitted under No. **S9.1**, if the administration has not confirmed the date of bringing into use of the assignments of a satellite network and/or has not provided the complete “due diligence” information pursuant to Resolution **49 (WRC-97/WRC-2000**, as applicable), the Bureau shall request the administration to fulfill its obligations.

6 If no answer is received, a reminder shall be sent 3 months before the expiry of the 5 year period.

7 At the end of the five year period the following situations may be envisaged:

7.1 If the administration confirms that the assignments of the space station have been brought into use and it provides the complete “due diligence” information in accordance with Resolution 49 (WRC-97/WRC-2000, as applicable), the Bureau maintains the MIFR recording of the subject assignments (provisional recording is changed to definitive one) or, if the assignments of the network have not been recorded in the MIFR, the Bureau continues to take into account the coordination and/or advance publication files of the subject network in the applicable regulatory procedures.

7.2 If the complete “due diligence” information is provided in accordance with Resolution 49 (WRC-97/WRC-2000, as applicable) but the assignments have not been brought into use and the administration requests an extension not more than two years referring to one or more circumstances mentioned in Nos. S11.44C to S11.44I, the Bureau examines this request for extension and, according to its conclusion, either grants an extension or, if it is not in a position to grant the extension, it explains the reasons thereof to the administration. If the extension is granted, then the Bureau maintains the MIFR recording of the subject assignments (provisional recording) or, if the assignments of the network have not been recorded in the MIFR, the Bureau continues to take into account the coordination and/or advance publication files of the subject network in the applicable regulatory procedures till the end of the extended period. If the extension is not granted, the Bureau cancels the MIFR recording of the assignments in question and or, if the assignments of the network have not been recorded in the MIFR, it will no longer take into account the coordination and/or advance publication files of the network in the applicable regulatory procedures (files are cancelled).

7.3 In any other cases (i.e. no complete “due diligence” information provided or no extension requested or no answer from the administration received) the Bureau shall cancel the MIFR recording of the subject assignments or, if the assignments of the network have not been recorded in the MIFR, it will no longer take into account the coordination and/or advance publication files of the network in the applicable regulatory procedures (files are cancelled).

8 If the assignments are brought into use and due diligence information has been provided for them, the Bureau continues to take into account the coordination and/or advance publication files of the network in the applicable regulatory procedures till the end of the 7 year regulatory period with or without extension under S11.44B-S11.44I, even if these assignments are not notified.

9 Three months before the end of the 7-year regulatory period of assignments, if the assignments are not notified under No. S11.15 i.e. no first notification (see APS4 form) on these assignments is received by the Bureau, it shall inform the notifying administration that the assignment will no longer be taken into account by the Bureau and administrations unless they are notified within the 7-year regulatory deadline.

10 At the end of the 7-year regulatory period, the Bureau shall take into account in its examination, only the assignments brought into use, for which due diligence information is provided and for which first notification (**S11.15**) has been received either with all the agreements obtained (**No. S11.32**), or with required agreements missing, but with a request to apply Nos. **S11.32A**, **S11.35** or **S11.41**, as appropriate.

Those assignments which could be not recorded at the end of these procedures will no longer be taken into account.

11 A reference to the regulatory five years plus extension or seven years in this Rule should be considered as nine years from the date of publication of the API for satellite networks for which the relevant advance publication information has been received prior to 22 November 1997.

12 See also the Rules of Procedures concerning No. **S11.47**

<b>S11.47</b>
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According to this provision, the Bureau shall send a reminder and inform the administrations concerned before it cancels the subject entry from the Master Register and/or its files. Considering that administrations can submit and resubmit the notice with a new date of bringing into use within this 5 year period, the Board adopted the following practical procedure for this process with respect to assignments to stations in the space services:

1 When, on expiry of the 15-day period after the date of bringing into use (date) recorded in the MIFR, the Bureau has not received confirmation of the bringing into use of an assignment, a reminder shall be sent to the notifying administration in accordance with

## Rules concerning

### ARTICLE S23 of the RR

#### **S23.13**

1 No. **S23.13** refers to the radiation from a space station over the territory of other countries and consequently it relates mainly to the question of “coverage area” and not “service area”. According to WRC-95 decisions<sup>1</sup>, an agreement under No. **S23.13** (former RR2674) should be sought from administrations included in the “service area” of a BSS space station. It was also stated that this agreement, which is a separate agreement from the one required under Article 4 of Appendix **S30**, should be sought either directly from the administrations concerned or through the publication required under the Plan modification procedure.

2 On the basis of WRC-95 decisions<sup>2</sup>, the Board decided that, for the application of No. **S23.13** within the procedures of Article 4 of Appendix **S30** as well as those of No. **S9.11** and Resolution **33 (Rev.WRC-97)**, the Bureau shall apply the following procedure:

2.1 When examining, for data completeness, the information related to a BSS space station, received by the Bureau after 18 November 1995, for application in the Plan modification or coordination procedures in accordance with either Article 4 of Appendix **S30** or Section B (§ 3.2.1) of Resolution **33 (Rev.WRC-97)** or under No. **S9.11**, whose service area exceeds the territory of the notifying Administration, the Bureau shall require that the service area be defined in terms of other administrations (country/territory symbols) included in the service area. The notifying administration should therefor indicate whether a special (separate) agreement has been obtained from these administrations relating to the inclusion of their territories in the service area.

2.2 The Special Sections published by the Bureau in application of Article 4 of Appendix **S30** (APS30/E... series) or of Resolution **33 (Rev.WRC-97)** (RS33/C... series) or of No. **S9.11** shall contain the indication of the agreements already obtained under No. **S23.13** or not yet obtained with a request for such agreement. The expiry period for comment relating to the inclusion or otherwise of the territory in the service area will be the same 4 months which is required for comments of administrations concerning technical compatibility with the proposed plan modification procedures.

2.3 If no comment is received either by the notifying administration or through the Bureau within the four month period mentioned in § 2.2 above, it is understood that there is no objection to the inclusion of the territory in the planned service area.

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<sup>1</sup> See § 4.3 of former Resolution **531 (WRC-95)**.

<sup>2</sup> See §§ 5.3.1 and 4.3 of the Annex to former Resolution **531 (WRC-95)**.

2.4 In case of a disagreement on the inclusion of a territory in the service area the Bureau shall modify the service area by excluding the test points (see item 7 of Annex 2 to Appendix S30) situated on the territory of the objecting administrations from the service area of the proposed plan modification. In cases where the service area is not described by test points (as in the Resolution 33 (Rev.WRC-97) or in No. S9.11 applications), the exclusion of the territory of the objecting administrations from the service area shall be effected by graphical means to be implemented in the BR's Space Network System (SNS). In these cases, the reception of the emission of the BSS space station is not entitled to be protected within the territory excluded from the service area.

Thereafter, the administration initiating the BSS project is entitled to bring it into use after successful completion of the relevant plan modification procedure.

2.5 When a plan modification request or the application of Resolution 33 (Rev.WRC-97) or of No. S9.11 is submitted by a notifying administration on behalf of a group of named administrations or when the submission concerns a sub-regional or multinational system (and in which case the notification contains the list of administrations on behalf of which the communication has been made), it is understood that the agreement of inclusion of the territory in the service area has been given.

2.6 For cases received before 18 November 1995, but not yet processed and published, the Bureau shall add the following Note in the relevant Special Section of the WIC:

*"Note by the Bureau:*

Attention of the administrations is drawn to the provisions of No. S23.13 (former RR2674) under which they may wish to comment with respect to the inclusion or otherwise of their territory in the service area of the satellite network which is published in this Special Section. The expiry date for such comments will be the same four months as indicated on page [...] of this publication."

2.7 The scope of application of this Note is only to provide instructions to the Bureau concerning the implementation of the decisions of the WRC-95. No other actions are required from the Bureau. Consequently the Board understands that there are no regulatory implications on this Note and that it should be used only in bilateral/multilateral coordination among administrations.

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## Rules concerning

### APPENDIX S4 to the RR

#### An. 1A

#### ITEM 3A

When submitting a notice within the procedure of Article **S11**, the administrations are required to provide information on the call sign or other identification used, as requested by Nos. **S19.7** to **S19.9** of the Radio Regulations. Bearing in mind the variety of special arrangements concluded between administrations concerning notification of frequency assignments, the Board instructed the Bureau not to perform systematic control of the call signs during the validation and examination of the notice. Nevertheless, if non-conformity of the call sign with the international call series is identified, the notifying administration is to be informed thereof.

#### An. 2A

#### A.17 a)

The Board noted that Annex 2A of Appendix **S4**, item A.17 a) requires that “for non-geostationary-satellite systems operating in the radionavigation-satellite service in the band 5010-5030 MHz, the aggregate power flux-density produced at the Earth’s surface in the band 5030-5150 MHz in a 150 kHz bandwidth and in the band 4990-5000 MHz in a 10 MHz bandwidth, as defined in No. **S5.443B**” be provided by the notifying administration. According to the provisions of No. **S5.443B** and *resolves* 3), Resolution **604 (WRC-2000)**, this data element is, however, also required for submission of information on geostationary-satellite systems operating in the radionavigation-satellite service in the band 5010-5030 MHz. The reference to geostationary-satellite systems in item A.17 a) was probably omitted by inadvertence at WRC-2000. To correct the inconsistency, the Board decided that Administration will be requested to provide, in addition to the relevant characteristics listed in Appendix **S4**, for any geostationary-satellite system operating in the radionavigation-satellite service in the band 5010-5030 MHz, the aggregate power flux-density produced at the Earth’s surface in the band 5030-5150 MHz in a 150 kHz bandwidth and in the band 4990-5000 MHz in a 10 MHz bandwidth, as defined in No. **S5.443B**. The Bureau, in the completeness examination of the submitted data, will then also take account of the item A.17 a) requirement for geostationary-satellite systems.

#### **A.17 b)**

The Board noted that Annex 2A of Appendix **S4**, item A.17 *b)* correctly reflect the requirement as indicated in the first sentence of No. **S5.551G**. A similar requirement however also exists for geostationary-stations in the fixed-satellite service (space-to-Earth) or in the broadcasting-satellite service (space-to-Earth) operating in the band 42-42.5 GHz (refer 2<sup>nd</sup> sentence of No. **S5.551G** and *resolves* of Resolution **128 (Rev. WRC-2000)**). No. **S5.551G** requirement for geostationary-satellite stations under Annex 2A of Appendix **S4**, part A.17 was probably omitted by inadvertence at WRC-2000. To correct the inconsistency the Board decided that Administration will be requested to provide, in addition to the relevant characteristics listed in Appendix **S4**, the calculated value of the power flux-density in the band 42.5-43.5 GHz produced by any geostationary station in the fixed-satellite service (space-to-Earth) or in the broadcasting-satellite service (space-to-Earth) operating in the band 42-42.5 GHz at the site of a radio astronomy station, as defined in No. **S5.551G**. The Bureau, in the completeness examination of the submitted data, will then also take account of No. **S5.551G** requirement for geostationary-satellite stations.

#### **B.4 a)**

When submitting a notice within the applicable procedures of Articles **S9** or **S11**, in order to better describe the power flux density pattern on the surface of the Earth resulting from the emission of a space station aboard a non-geostationary satellite in circular orbit, the following optional information can be provided together with the other data contained in Appendix **S4** to the Radio Regulations:

**Appendix S4, Annex 2A, Item B.4 a)** (non-geostationary space station antenna characteristics)

1 In addition to the information currently contained in Appendix **S4** to be provided under this item, if appropriate, indicate:

1.1 in the case of a transmitting space station aboard a non-geostationary satellite in a circular orbit that is intended to communicate with earth stations via a transmitting antenna pointing in a direction that is fixed with respect to the satellite, the maximum isotropic gain (dBi) and the gain contours plotted in a radial projection from the satellite onto a plane perpendicular to the axis from the centre of the Earth to the satellite. The space station antenna gain contours shall be drawn as isolines of the isotropic gain at least for -2, -4, -6, -10, and -20 dB and at 10 dB intervals thereafter, as necessary, relative to the maximum antenna gain, when any of these contours is located either totally or partially within the limit of visibility of the Earth from the given non-geostationary satellite.

1.2 in the case of a space station aboard a non-geostationary satellite in a circular orbit where a steerable beam is used, data on the antenna radiation characteristics as follows:

- if the effective boresight area (see No. **S1.175**) is identical with the global or nearly global service area, provide only the maximum isotropic antenna gain (dBi) that is then applicable to all points on the surface of the Earth;

- if the effective boresight area (see No. **S1.175**) is less than the global or nearly global service area, provide the maximum isotropic gain and the effective gain contours (see No. **S1.176**) as defined above.

2 The additional information detailed in § 1.1 and 1.2 above is considered as optional. When examining such a case, the Bureau shall use the more detailed information to calculate power flux density values if it is provided; if it is not the calculation shall be made as at present and be based on the maximum e.i.r.p. transmitted.

## An. 2B

### Table of characteristics

The Board noted that in Annex 2B of Appendix **S4**, in the “Table of characteristics to be submitted for space and radio astronomy services”, two data elements, namely B.4.b and C.9.c, are marked as required in the case of “Advance publication of non-geostationary-satellite network not subject to coordination under Section II of Article **S9**” represented in the 4<sup>th</sup> column of the Table. These data elements are, however, according to the definition included in the textual part of Appendix **S4**, only required for submissions made under **S9.11A/Resolution 46 (Rev.WRC-97)** which is a coordination procedure defined by Section II of Article **S9**. The inclusion of the above data in the Table has been, probably, made by inadvertence. To correct the inconsistency the Board decided that the Bureau, in the completeness examination of the submitted data, will disregard the requirement for the characteristics B.4.b and C.9.c in the case of advance publication of those non-GSO satellite systems which are not subject to the coordination procedures of Section II of Article **S9**.

The data items concerned by the present Rule are the following:

B.4 b):

- orientation of the satellite transmitting and receiving antenna beams and their radiation pattern;
- satellite antenna gain  $G(\theta_e)$  as a function of elevation angle at a fixed point on the Earth;
- spreading loss (for a non-GSO satellite) as a function of the elevation angle;
- maximum and average beam peak e.i.r.p./4 kHz and e.i.r.p./1 MHz for each beam.

C.9 c):

The type of modulation and multiple access, and spectrum mask.



- energy dispersal (same as § 3.18 of Annex 5 to Appendix S30);
- the power flux-density identified in Note 10 of the Region 2 Plan, to determine whether the limits are met or whether there is an agreement with the affected administrations.

#### 5.2.1 d)

1 If an administration notifies any assignment with characteristics different from those listed in the Rules of Procedure related to § 5.2.1 *b)* of Article 5 of Appendix S30, and those allowed in § 5.2.1 *d)* of the same Article, a calculation is undertaken by the Bureau to determine if the proposed new characteristics would increase the interference level caused to other assignments in the appropriate Regional Plan, in the Regions 1 and 3 List, in the same service or in other service sharing the same frequency bands.

1.1 With respect to the compatibility of the proposed new characteristics with other assignments of the same Regional Plan and List, as appropriate, the increase of the interference will be checked by comparing the EPM/OEPM values of these other assignments, which are resulting from the use of the proposed new characteristics of the network in question on the one hand, and those obtained with the previous<sup>4</sup> characteristics of the network in question, on the other hand. These EPM/OEPM calculations are performed under the same technical assumptions and conditions, taking into account the orbital separation limit of  $\pm 9^\circ$  for assignments in the Regions 1 and 3 Plan and List. A more detailed analysis of the interference situation could also be required by using single entry *C/I* values in order to identify the assignments of the network in question which are causing the increase of the interference.

In addition, in the case of Regions 1 and 3, the notified assignments with new characteristics for the network in question are examined with respect to their compliance with the PFD hard-limit defined in Section 1 of Annex 1 to Appendix S30, or, as the case may be, with respect to their compliance with the PFD level of the corresponding assignments in the Plan or in the List if those assignments were adopted by WRC-2000 with PFD level(s) higher than the above-mentioned PFD hard-limit.

1.2 With respect to the compatibility with other inter-regional assignments in the same service or assignments in other service sharing the same frequency bands, as appropriate, the increase of the interference will be checked by calculating the PFD or  $\Delta T/T$  value, according to the case, produced by the proposed new characteristics at any test-point or within the service area of the other assignments, according to the case, and by comparing the resulting PFD or  $\Delta T/T$  values, according to the case, with those obtained with the previous<sup>4</sup> characteristics of the subject assignment.

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<sup>4</sup> As appearing in the appropriate Plan or List, according to the case.

1.3 Should the results of the calculations described in § 1.1 and 1.2 above indicate that the proposed new characteristics increase the interference to other assignments/services, the Bureau would reach an unfavourable finding with respect to § 5.2.1 *d)* of Article 5 of Appendix **S30 (WRC-2000)** and proceed accordingly.

2 With respect to the fifth indent of § 5.2.1 *d)*, in the case of administrations of Region 2 the orbital position shall be examined to ensure compliance with the cluster concept (§ B of Annex 7 to Appendix **S30** and § 4.13.1 of Annex 3 to Appendix **S30A** as follows:

- if the orbital position is identical with that shown in the Plan, no further agreements are necessary;
- however, if the orbital position is different from that contained in the Plan but it is in the same cluster, then only the agreement of administrations having assignments in the same cluster is necessary. The clusters are listed in the Attachment 1 to the present Rules of Procedure concerning Appendix **S30**. Appendices **S30** and **S30A** do not contain any paragraph indicating the procedure to be followed for this agreement. The task of the Bureau in this respect is to ensure that the agreement of the administrations concerned is indicated in the notice; otherwise it considers the assignment to be not in conformity with the Plan.

3 See comments under No. **S5.492**.

#### **5.2.2.1**

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

#### **5.2.2.2**

Part of this paragraph deals with interim systems which are submitted in application of Resolution **42 (Rev.Orb-88)** for Region 2.

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

#### **5.3.1**

1 See item 2 in the comments under § 4.3.5 above.

2 For any notification other than that relating to the modification to the Plan, the date of bringing into use of assignments can be extended at the request of the notifying administration by no more than three years.

Nevertheless, the total period for the implementation (bringing into use) of the assignments whether or not the submission is received for both Appendices **S30** and **S30A** shall be limited to 8 years.

See comments under § 4.3.5.

<b>Art. 6</b>
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**Coordination, notification and recording of terrestrial  
assignments affecting BSS assignments**

<b>6.3.9</b>
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This paragraph refers to “the other administrations concerned”. These administrations are those identified in application of § 6.1.1. There is no reference in either this paragraph or in § 6.1.1 to Resolution **42 (Rev.Orb-88)** therefore the Board understands these paragraphs also to apply to assignments appearing in the Interim System List.

<b>6.3.10</b>
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See comments made under § 6.3.9 above.

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>5</sup> of the wanted assignment; and
- the reference EPM of at least one of the test-points<sup>5</sup> of that wanted assignment falls more than 0.45 dB below 0 dB, or if already negative, more than 0.45 dB below that reference EPM value.

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<sup>5</sup> In the case of a wanted assignment in the Plan, the test-points referred to in this paragraph are those defined in that Plan. In the case of a wanted assignment in the List or for which the procedure of Article 4 of Appendices 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>6</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>6</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.

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 <sup>2</sup>
Digital	Digital	As defined in Recommendation ITU-R BO.1293 <sup>2</sup>

- <sup>1</sup> Standard analogue assignments are those assignments which use the following parameters:
- For Regions 1 and 3: 27 MHz bandwidth, 19.18 MHz channel spacing and the assigned frequencies as specified in Article 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.
- <sup>2</sup> Although Recommendation ITU-R BO.1293-1 is referred to in § 3.4 of Annex 5 to Appendix S30 and § 3.3 of Annex 3 to Appendix S30A, Recommendation ITU-R BO.1293 continues to apply until a new version is available, which will contain the necessary elements to deal with some "new" characteristics of the assignments included in the WRC-2000 Plans.

### 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				

<b>Art. 5</b>
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## **Notification, examination and recording**

<b>Scope of application</b>
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1 In revising the Appendix **S30A** feeder-link Plans for Regions 1 and 3, WRC-2000 has excluded from the procedure of Article 4 of Appendix **S30A** the coordination of the specific or typical transmitting earth stations with respect to receiving FSS earth stations operating in the opposite direction of transmission, as well as with respect to terrestrial stations. This coordination should now be undertaken by the notifying administration directly with the other concerned administrations with respect to terrestrial stations and receiving FSS/BSS earth stations operating in the opposite direction of transmission, in accordance with the relevant/corresponding provisions of Article **S9** of the Radio Regulations.

2 In view of the above, the Board concluded that the notification procedure of Appendix **S30A** and the scope of application of Article 5 to that Appendix, shall be clarified as follows:

3 At the stage of the notification of assignments included in an appropriate Regional Plan, or of assignments included in the List(s) after a successful coordination under Article 4 of Appendix **S30A**, according to the case, the notifying administration shall request the application of Article 5 of Appendix **S30A** only for the part of these assignments related to the receiving space station and the associated typical transmitting earth station(s) with respect to other space stations of other assignments.

4 As mentioned in footnote 10 to the title of Article 5 of Appendix **S30A** (**WRC-2000**), for the notification of specific transmitting earth station(s) associated to a receiving space station, the notifying administration shall request the application of Article **S11**.

<b>5.2.1 b)</b>
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1 The Board has considered the question whether the examination with respect to conformity with the Plan means only the columns of Articles 9 and 9A of Appendix **S30A**, as updated or whether it also includes an examination with respect to the technical criteria given in Annex 3 to Appendix **S30A** which were used for the establishment of the Plans. The Board concluded that some of the technical criteria contained in Annex 3 need to be taken into account in this examination. Therefore, the examination from the viewpoint of conformity with the Plan is carried out in two steps:

*a)* to ensure that the characteristics notified are those specified in the columns of the Plan concerned as updated (see § 3.1 of Article 3). If the characteristics are different then the examination under § 5.2.1 *c)* is carried out. For the items below, any characteristics for which the procedure of Article 4 has been successfully applied could be notified.



b) to ensure that the protection criteria resulting from the Plan<sup>2</sup> are not exceeded. To this effect, the following characteristics are examined:

- i) For a receiving space station:
  - space station beam identification (as indicated in columns 1 and 2 of Articles 9 and 9A respectively of Appendix S30A);
  - nominal orbital position (as indicated in columns 2 and 3 of Articles 9 and 9A respectively of Appendix S30A);
  - channel number/frequency (as indicated in column 3 of Article 9 and columns 4 and 5 of Article 9A of Appendix S30A);
  - boresight coordinates (as indicated in columns 4 and 6 of Articles 9 and 9A respectively of Appendix S30A);
  - in the case of elliptical beam:
    - antenna beamwidth (as indicated in columns 5 and 7 of Articles 9 and 9A respectively of Appendix S30A);
    - ellipse orientation (as indicated in columns 6 and 7 of Articles 9 and 9A respectively of Appendix S30A);
    - antenna rotational accuracy (same as or better than § 3.7.4 (Regions 1 and 3) or 4.6.4 (Region 2) of Annex 3 to Appendix S30A);
  - polarization (as indicated in columns 7 and 12 of Articles 9 and 9A respectively of Appendix S30A);
  - service area (test points shall be located within the service area);
  - class of emission and bandwidth (as indicated in column 15 of Article 9A in the case of Regions 1 and 3 Plan of Appendix S30A, or otherwise as indicated in § 3.1 and 3.8 of Annex 5 to Appendix S30);
  - antenna characteristics (same as or better than those indicated in columns 8 or 9 as appropriate of Article 9A of Appendix S30A in the case of Regions 1 and 3 Plan, or otherwise same as or better than § 4.6 of Annex 3 to Appendix S30A);
  - antenna pointing accuracy (same as or better than § 3.7.4 (Regions 1 and 3) or § 4.6.4 (Region 2) of Annex 3 to Appendix S30A);
  - system noise temperature (see § 3.8 (Regions 1 and 3) and § 4.7 of Annex 3 to Appendix S30A as appropriate);
  - station keeping tolerance (same as or better than that of § 3.16 of Annex 3 to Appendix S30A);

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<sup>2</sup> Any time the “Plan” is referred to, this means the current version of the Plan as updated on the date of Bureau’s examination.

- modulation characteristics (same as in column 15 of Article 9A of Appendix **S30A** in the case of the Regions 1 and 3 Plan, or otherwise as indicated in § 3.1 of Annex 5 to Appendix **S30**);
- range of automatic gain control (same as § 3.10 of Annex 3 to Appendix **S30A** for Regions 1 and 3, and 4.9 of the same Annex for Region 2).

ii) For a transmitting earth station:

The examination of a notice of a frequency assignment to an earth station under this paragraph use the characteristics mentioned below or those for which the Article 4 procedure was successfully applied. In regard to the rules that the Bureau shall apply in processing frequency assignments to earth stations, the uncertainties originate from the reference in several paragraphs to “the characteristics appearing in the Plan”, although the Plan contains only the earth station e.i.r.p. (Column 8 identical for all the entries) for Region 2 Plan and earth station e.i.r.p. and power control for Regions 1 and 3 Plan (Columns 13 and 14). In order to alleviate these uncertainties, the Board decided that the Bureau shall consider as “characteristics appearing in the Plan” those characteristics used for the establishment of the Plan as indicated in Annex 3 to this Appendix. As a result of the above, whenever a paragraph of Appendix **S30A** refers to the characteristics of earth stations appearing in the Plan, the following characteristics will be used for Regions 1 and 3 or Region 2, as appropriate:

- e.i.r.p.: Columns 8 and 13 of Articles 9 and 9A respectively of Appendix **S30A**;
- antenna diameter: § 3.5.1 or 4.4.1 of Annex 3 to Appendix **S30A**;
- reference patterns: Fig. 6 or Fig. A of Annex 3 to Appendix **S30A** (as indicated in Column 11 of Article 9A of Appendix **S30A** for the Regions 1 and 3 Plan);
- transmit power: § 3.6 or 4.5 of Annex 3 to Appendix **S30A**;
- in the case of a fixed feeder-link earth station:
  - its geographical coordinates within the service area,
  - elevation angle of the horizon around the earth station;
- in the case of a typical earth station:
  - the location of the earth station to be associated with test points within the service area,
  - elevation angle of the horizon around the earth station is assumed to be zero;
- energy dispersal (same as § 3.18 of Annex 5 to Appendix **S30**).

In relation to the transmitting power, the Board noted that according to § 3.11 and 4.10 of Annex 3 to Appendix **S30A**, the use of power control shall remain within the limits indicated in those paragraphs.

### 5.2.1 d)

1 If an administration notifies any assignment with characteristics different from those listed in § 1 b) of the Rules of Procedure related to § 5.2.1 b) of Article 5 of Appendix S30A, and those allowed in § 5.2.1 d) of the same Article, a calculation is undertaken by the Bureau to determine if the proposed new characteristics would increase the interference level caused to other assignments in the appropriate Regional Plan, in the Regions 1 and 3 List(s), in the same service of an inter-regional Plan or in an other service sharing the same frequency bands.

1.1 With respect to the compatibility of the proposed new characteristics with other assignments of the same Regional Plan and List, as appropriate, the increase of the interference will be checked by comparing the EPM/OEPM values of these other assignments, which are resulting from the proposed new characteristics on the one hand, and those obtained with the previous<sup>3</sup> characteristics of the network in question on the other hand. These EPM/OEPM calculations are performed under the same technical assumptions and conditions taking into account the orbital separation limit of  $\pm 9^\circ$  for assignments in the Regions 1 and 3 Plan and List. A more detailed analysis of the interference situation could also be required by using single entry C/I values in order to identify the assignments of the network in question which are causing the increase of the interference.

In addition, in the case of Regions 1 and 3, the notified assignments with new characteristics for the network in question are examined with respect to their compliance with the PFD hard-limit defined in Section 4 of Annex 1 to Appendix S30A, or, as the case may be, with respect to their compliance with the PFD level of the corresponding assignments in the Plan(s) or in the List(s) if those assignments were adopted by WRC-2000 with PFD level(s) higher than the above-mentioned PFD hard-limit.

1.2 With respect to the compatibility with other inter-regional assignments in the same service or assignments in other service sharing the same frequency bands, as appropriate, the increase of the interference will be checked by calculating the  $\Delta T/T$  value, according to the case, produced by the proposed new characteristics at any test-point or within the service area of the other assignments, according to the case, and by comparing the resulting  $\Delta T/T$  values, according to the case, with those obtained with the previous<sup>3</sup> characteristics of the subject assignment.

1.3 Should the results of the calculations described in § 1.1 and 1.2 above indicate that the proposed new characteristics increase the interference to other assignments, the Bureau would reach an unfavourable finding with respect to § 5.2.1 d) of Article 5 of Appendix S30A (WRC-2000) and proceed accordingly.

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<sup>3</sup> As appearing in the appropriate Plan or List, according to the case.

2 With respect to the fourth indent of § 5.2.1 *d)*, in the case of administrations of Region 2, the orbital position shall be examined to ensure compliance with the cluster concept (§ B of Annex 7 to Appendix **S30** and § 4.13.1 of Annex 3 to Appendix **S30A** as follows:

- if the orbital position is identical with that shown in the Plan, no further agreements are necessary;
- however, if the orbital position is different from that contained in the Plan-but it is in the same cluster, then the agreement of administrations having assignments in the same cluster is necessary. The clusters are listed in the Attachment 1 to the Rules of Procedure concerning Appendix **S30**. Appendices **S30** and **S30A** do not contain any paragraph indicating the procedure to be followed for the above-mentioned agreement. The task of the Bureau in this respect is to ensure that the agreement of the administrations concerned is indicated in the notice; otherwise it considers the assignment to be not in conformity with Plan.

3 With respect to the fifth indent of § 5.2.1 *d)*, in the case of administrations of Regions 1 and 3, the use of an orbital position not coincident with that appearing in the Plan(s) or the List(s) would require, as other major changes of the characteristics, to seek the agreement of the administrations having assignments identified as affected by this change (see also the comments made under the Rules of Procedure concerning Section 3.15 of Annex 3 to Appendix **S30A (WRC-2000)**).

4 With respect to footnote 11 to the fifth indent of § 5.2.1 *d)*, see paragraph 3 above.

#### **5.2.2.1**

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

#### **5.2.2.2**

Part of this paragraph deals with interim systems which are submitted in application of Resolution 42 (**Rev.Orb-88**) for Region 2.

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

### 5.3.1

1 See § 2 in the comments under § 4.2.5 above.

2 For any notification other than that relating to the modification to the Plan, the date of bringing into use of assignments can be extended at the request of the notifying administration by no more than three years.

Nevertheless, the total period for the implementation (bringing into use) of the assignments whether or not the submission is received for both Appendices **S30** and **S30A** shall be limited to 8 years.

See comments under § 4.2.5.

## Art. 6

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

#### 6.1

1 The paragraphs of Article 6 do not mention interim systems implemented in accordance with Resolution **42 (Rev.Orb-88)**. Such systems may be implemented in the following frequency bands shared with equal rights with terrestrial services:

- 17.7-17.8 GHz for Region 2; and
- (through application of Resolution **519 (Orb-88)** and Article 4) 14.5-14.8 GHz and 17.7-18.1 GHz for Regions 1 and 3.

Such usage may affect terrestrial stations.

2 This paragraph refers to “the closest feeder-link earth station located on the border of the territory of another administration”. This earth station is to be considered a typical earth station located at the worst location.

3 In order to evaluate the interference, an Administration A, intending to use terrestrial stations, needs to know the fixed-earth station existing or planned. In order to take them into account administrations may calculate the coordination area as indicated in § 7 of Appendix **S7** around a service area as referred to in the comments under § 4.2.1.3.

#### 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>4</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 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.

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<sup>4</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.

TABLE 1

Wanted assignment	Interfering assignment	Method to be applied
“Standard” <sup>1</sup> analogue	“Standard” analogue	As defined in Annex 3 to Appendix S30A
“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 <sup>2</sup>
Digital	Digital	As defined in Recommendation ITU-R BO.1293 <sup>2</sup>

- <sup>1</sup> Standard analogue assignments are those assignments which use the following parameters:
- *for Regions 1 and 3*: 27 MHz bandwidth, 19.18 MHz channel spacing and the assigned frequencies as specified in Article 9A of Appendix S30A;
  - *for Region 2*: 24 MHz bandwidth, 14.58 MHz channel spacing and the assigned frequencies as specified in Article 9 of Appendix S30A.
- <sup>2</sup> Although Recommendation ITU-R BO.1293-1 is referred to in § 3.4 of Annex 5 to Appendix S30 and § 3.3 of Annex 3 to Appendix S30A, Recommendation ITU-R BO.1293 continues to apply until a new version is available, which will contain the necessary elements to deal with some “new” characteristics of the assignments included in the WRC-2000 Plans.

## 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.

### 3.15

1 The first paragraph of this section contains a general definition of the orbital positions generally used in the Regions 1 and 3 feeder-link Plans at 14 and 17 GHz. This paragraph was not considered at WRC-2000 to reflect the new orbital positions adopted by that Conference.

In view of the above, the Board concluded that the orbital positions referred to in this paragraph should not be understood as a definition of the orbital positions of the Regions 1 and 3 feeder-link Plans, but rather as a general principle which was established at WARC Orb-88 to prepare the original Plans and which was further applied at WRC-2000 to revised these Plans, noting that the orbital positions used in the Regions 1 and 3 feeder-link Plans at 14 and 17 GHz, as adopted at WRC-2000, are indicated in column 3 of Article 9A to Appendix S30A (WRC-2000).

2 The second paragraph of this section deals with grouping of space stations in nominal orbital positions of  $\pm 0.2^\circ$  from the centre of the cluster.

In adopting the Regions 1 and 3 downlink and associated feeder-link Plans, WRC-2000 did adopt assignments in these Plans, which are located at orbital positions shifted by  $\pm 0.2^\circ$  from some nominal positions. This measure was taken as one of the tools to resolve the excess of interference identified during the re-planning studies in the feeder-link Plans at both 14 and 17 GHz<sup>5</sup>.

However, none of the assignments located on one side of a given nominal position (e.g.  $-0.2^\circ$ ) were grouped with other assignments located on the other side of that nominal position (e.g.  $+0.2^\circ$ ).

In view of the above, the Board concluded that the second paragraph of Section 3.15 of Annex 3 to Appendix S30A refers to an assumption made at WARC Orb-88, but which was no longer used at WRC-2000.

3 The third paragraph of this section provides a definition of the cluster concept in the case of the Regions 1 and 3 feeder-link Plans.

The Board noted that this paragraph could be understood as defining, in the case of the Regions 1 and 3 feeder-link Plans, a concept similar to the Region 2 cluster concept, which is defined in Section 4.13.1 of Annex 3 to Appendix S30A.

In adopting the Regions 1 and 3 downlink and associated feeder-link Plans, WRC-2000 adopted some assignments in these Plans at orbital positions shifted by  $\pm 0.2^\circ$  from some nominal positions in order to resolve the excess of interference identified during the re-planning studies in the feeder-link Plans at both 14 and 17 GHz without being associated with any cluster concept.

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<sup>5</sup> For further details, see Section 8.3 of Corrigendum 1 to Document WRC-2000/34.

In view of the above, the Board concluded that since WRC-2000 did not decide to consider assignments located at  $\pm 0.2^\circ$  from a given nominal position as being part of a cluster, the third paragraph of Section 3.15 of Annex 3 to Appendix S30A shall not be understood as allowing the application of the cluster concept in the case of the Regions 1 and 3 feeder-link Plans, contrarily to what was adopted at WARC Orb-88.

## 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)

$$-12 (\varphi/\varphi_0)^2 \quad \text{for } 0 \leq \varphi/\varphi_0 \leq 0.5$$

$$-33.33 \varphi_0^2 ((\varphi/\varphi_0) - x)^2 \quad \text{for } 0.5 < \varphi/\varphi_0 \leq (0.87/\varphi_0) + x$$

$$-25.23 \quad \text{for } (0.87/\varphi_0) + x < \varphi/\varphi_0 \leq 1.45$$

$$-(22 + 20 \log (\varphi/\varphi_0)) \quad \text{for } \varphi/\varphi_0 > 1.45$$

after intersection with Curve C, as Curve C.

2 However, frequency assignments in the space operation service with the above mentioned class of station associated with the existing systems of Part B of the Plan which (recorded in the MIFR) were entered in the Appendix **S30B** List without any compatibility examinations<sup>1</sup> (§ 6.25 of Article 6 of Appendix **S30B**) and should thus be taken into account in the subsequent examinations under appropriate provisions of that Appendix.

3 In the light of § 1 above the Board decided that for assignments to the stations in space operation service associated with the Appendix **S30B** Plan received under that Appendix after 29 August 1988 the Bureau shall:

3.1 consider them as being incompatible with the Plan and thus,

3.2 not enter them in the Appendix **S30B** List as far as the reference situation is concerned,

3.3 continue to protect the assignments mentioned in § 2 above.

See also comments made under the Rules of Procedure concerning § 6.25<sup>2</sup>.

#### **Bi-directional allocation of some bands**

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

### **Art. 6**

#### **Procedures for implementation of the Plan**

### **6.12**

#### **Compatibility examinations**

1 The footnote to the provisions of § 6.27 of Article 6 of Appendix **S30B** makes reference to the case of an apparent incompatibility between two assignments in Part B when, nevertheless, an agreement exists between the administrations concerned. Such agreements may be concluded for assignments in Part A as well. These examples raise the question of which aggregate carrier-to-interference ratio is to be used in case of an agreed lower single entry *C/I* value during coordination. The Board concluded that for such cases the coordinated assignments (with the agreed lower single entry *C/I* value) shall be included in the calculations of the aggregate *C/I* and the aggregate *C/I* value so calculated together with the agreed lower single entry *C/I* value will further be considered in subsequent examinations as the new reference situation which was accepted by the administrations. It should be noted that over-protection of networks may result after the acceptance of relatively low level of *C/I*

<sup>1</sup> While affecting a number of allotments in Part A of the Plan with the single-entry or aggregate *C/I* ratios different to those agreed at the WARC Orb-88.

<sup>2</sup> In which it is required that the Bureau shall continue to protect the assignments to the space operation service with the single-entry and aggregate *C/I* ratios resulting from their entry in the Appendix **S30B** List and to retain the lowest resulting values of the single-entry and/or aggregate *C/I* ratios for the affected allotments of Part A in the technical examination of subsequent submissions of administrations under the provisions of Appendix **S30B**.

(i.e. high levels of interference) during a specific coordination if the network were to be subsequently protected according to the criteria contained in Annex 4 of Appendix **S30B** against other networks submitted later for the application of the procedures of the Plan. To deal with this possible inequity, the Board decided that such assignments/allotments will be protected in subsequent examinations by the Bureau using the new aggregate and/or single entry *C/I* values, as the case may be (resulting from the accepted higher levels of interference) rather than using the *C/I* criteria contained in Annex 4 of Appendix **S30B** (i.e., 26 and 30 dB for aggregate and single entry cases, respectively). In case of multiple new accepted single entry *C/I* values for the same test point, the Board decided to instruct the Bureau to use in subsequent examinations the lowest new accepted single entry *C/I* value. In application of this paragraph, the principle prescribed in the last paragraph of Annex 4 of Appendix **S30B** shall continue to apply.

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

3 Paragraphs 6.12, 6.18, 6.43 and 6.56 determines the different categories of allotments/assignments which have to be taken into account in the compatibility examinations of “non-conforming assignments” (Section IA), sub-regional systems (Section II), “additional uses” (Section III) or of those assignments for which the macrosegmentation concept was not applied. In contrast with § 6.24 (Section IB), in the above mentioned provisions the compatibility examinations are not extended to Part B networks. This would mean that networks being notified under provisions of Sections IA, II and III would not be examined as to their compatibility with Part B of the Plan. In order to avoid the recording of assignments whose compatibility has not been fully examined the Board decided to extend the compatibility examinations to the above case and before recording the assignments found incompatible with a Part B network it will inform the administration concerned accordingly.

## **4 Use of additional frequency bands by “existing systems”**

4.1 The Board’s views on the possibility of using for a satellite network contained in Part B of Appendix **S30B** (existing system) a frequency sub-band which was not originally included in any publications of that network referred to in § 2.4 *a)*, *b)* and *c)* of Article 2 of that Appendix is summarised as follows.

4.1.1 The main purpose of the WARC Orb-88 was to establish the allotment Plan and its associated Regulatory procedures for national coverage for the fixed satellite service in 6/4 and 13/10-11 GHz bands.

or aggregate carrier-to-interference *C/I* ratios for the allotments of Part A of the Plan affected as a result of the application of the first sentence of § 6.25 of Article 6 of Appendix **S30B**;

7.3 not to take into account, while performing *C/I* calculations, inter-beam interference within a multi-beam network;

7.4 calculate the interference to each assignment of these “multi-beam networks” and corresponding *C/I* ratio for their protection in subsequent calculations;

7.5 take into account in the technical examinations the interference of only one beam of “multi-beam networks” which constitutes the worst case with respect to the assignments of the Plan and Appendix **S30B** List;

7.6 apply the Annex 4 criteria for the separate up-and down-links for the case mentioned in § 5 above.

#### **6.31**

See comments made under the Rules of Procedure concerning § 6.16*bis*.

#### **6.38**

1 The Board’s understanding of the “intention of a group of administrations” establishing the subregional system is that this intention needs to be reflected on the notice form by a reference to the agreement by each of the administration forming the “group of administrations”. In case that any test point of the sub-regional system is situated inside the territory of an administration(s) other than those on behalf of which the sub-regional system is submitted, agreement of that administration(s) should also be provided together with the Annex 2 data.

2 See also the Rules of Procedure concerning § 2.5.

#### **6.39**

The national allotment used by the subregional system needs to be suspended unless it is used in a compatible way, i.e. without affecting the Plan. This compatibility may be obtained through coordination agreements concluded between the administrations concerned. The Board’s understanding of the phrase “it can be used in a way that does not affect allotments in the Plan ...” is that the compatibility analysis will be carried out by the Bureau in accordance with the Rules relating to § 6.12.

#### **6.43**

See also item 5 in the comments made under the Rules of Procedure concerning § 6.12.

**6.47**

See comments made under the Rules of Procedure concerning § 6.16.

**6.48**

See comments made under the Rules of Procedure concerning § 6.16bis.

**6.56**

See item 5 in the comments made under the Rules of Procedure concerning § 6.12.

**Art. 7**

## **New allotments to new Member States of the Union**

**7.1**

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

1        Appendix **S30B** contains provisions inviting the Bureau, when it is requested, to provide an allotment to a new Member State of the Union.

2        The Bureau, to the extent practicable<sup>5</sup>, should endeavour to find appropriate orbital positions compatible with the Plan using, if necessary, the PDA concept (defined in § 5.3 and 5.4 of Article 5 of Appendix **S30B**).

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<sup>5</sup> *Note by the Radiocommunication Bureau: Due to non-availability of a method to apply the PDA concept, the computer software currently available for the Appendix **S30B** applications (MSPACEG) is limited to the method of Annex 4 of Appendix **S30B** to carry out compatibility calculations between networks at fixed orbital positions. Consequently the Radiocommunication Bureau is not in a position to apply the PDA concept.*



3 In view of the difficulties of the Bureau to apply the PDA concept in its integrity and until the time when a method to apply that PDA concept is available, the Board decided that the Bureau shall apply the procedures described below as soon as possible upon receipt of the request<sup>6</sup> to find an appropriate orbital position for an allotment in Part A of the Plan for a new Member State of the Union under Article 7 of Appendix **S30B**.

3.1 The Bureau shall ensure that all submitted test-points are located within the national territory of the new Member State. Test-point locations shall be verified using the ITU Digitised World Map (IDWM). In addition, in the absence of a height above sea level, a value of zero metres shall be assumed by the Bureau. With respect to the rain climatic zone(s), this information shall be defined by the Bureau based on Recommendation ITU-R P.837-3.

3.2 In order to facilitate the implementation of the orbital position selection approach described in § 3.9 below, the new Member State may provide under § 7.2 c) of Article 7 of Appendix **S30B** its preferred orbital position(s) and/or its preferred orbital arc(s), bearing in mind that the implementation of these preferences might not be possible due to excesses of interference to or from other allotments, existing systems or assignments of Appendix **S30B**.

3.3 Using the rain climatic zones defined as described in § 3.1 above, the Bureau shall establish the required minimum elevation angles associated to each test-point in accordance with section 1.3 of Annex 1 to Appendix **S30B**. The service arc shall then be calculated in order to meet the required minimum elevation angles of all test-points. In cases where the required minimum elevation angles cannot be obtained with a non-zero service arc, a minimum service arc of at least 20° shall be defined, provided that all test-points remain visible from any orbital position within that service arc. This value of 20° is proposed to comply with the definition of the Predetermined Arc (PDA) (i.e. ideally  $\pm 10^\circ$  in the case of allotments (see Article 5 of Appendix **S30B**)).

3.4 With regard to the generation of the minimum ellipse to cover the national territory of the new Member State, the Bureau shall apply the same assumptions as those used during the BSS replanning studies, i.e. to use only a space station antenna beam pointing error of 0.1° for the generation of elliptical beams under Article 7 of Appendix **S30B**.

3.5 With regard to the transmitting and receiving space station antenna maximum gain values, as a function of the major and minor axes of the ellipse, instead of using the definition contained in § 1.7.2, Section A of Annex 1 to Appendix **S30B** the Bureau shall use the more precise formula defined in sections 3.13.1 of Annex 5 and 3.7.1 of Annex 3 of Appendices **S30** and **S30A**, respectively.

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<sup>6</sup> *Note by the Radiocommunication Bureau:* This is to provide to that administration provisional results based on the current Reference Situation files at that time. It is understood that the proposed allotment is not entered in Part A of the Plan at that time

3.6 With regard to the calculation of the maximum power density values, the Bureau shall assume the worst-case conditions in terms of space station antenna pointing error and rotational accuracy for the calculation of the antenna gain in the direction of each test-point, in order to ensure that the objective *C/N* ratios defined in section 1.2 of Annex 1 to Appendix **S30B** are met for all test points, i.e., assume the minimum gain value of the antenna, taking into account a pointing error of  $0.1^\circ$  and a rotational accuracy of  $\pm 1.0^\circ$ .

3.7 With regard to the free-space loss, the Bureau shall use the formulae as described in the MSPACE manual.

3.8 With regard to the atmospheric losses, the Bureau shall use Recommendation ITU-R P.618-7.

3.9 With regard to the selection of orbital position, the Bureau shall use an automated approach based on an iterative process similar to the one used during the BSS replanning studies performed at WRC-2000, as follows:

3.9.1 Once the service arc is calculated, as mentioned in § 3.3 above, an iterative process is implemented to identify suitable orbital position(s) within that arc for the allotment to the new Member State in question.

3.9.2 Taking into account the possible orbital position preferred by this new Member State (see § 3.2 above), the Bureau shall start the iterative process either from that preferred orbital position, or in the absence of such a preference, to start from the orbital position located in the middle of the orbital arc preferred by this new Member State (see § 3.2 above), or in case of no preferences, to start from the orbital position located in the middle of the service arc as defined in § 3.3 above.

3.9.3 The Bureau shall identify the nearest suitable orbital positions. Considering the non-regular orbital position spacing used in Appendix **S30B** on the one hand and in order to shorten the time required for the implementation of that iterative process on the other hand, the Bureau shall assume a minimum orbital position step of  $0.1^\circ$  in this process.

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

- regenerate the elliptical beam parameters;
- recalculate the required power density values;
- using the criteria of Annex 4 of Appendix **S30B**, determine whether the new allotment at that orbital position is compatible with the allotments of the Part A, the existing networks contained in Part B of the Plan, the assignments which appear in the Appendix **S30B** List and the assignments with respect to which the Bureau previously received information in accordance with Article 6 of that Appendix.

3.10 In the case where none of the orbital positions assessed in § 3.9 above provides for the allotment in question, a solution in conformity with the Appendix **S30B** Annex 4 criteria, the Bureau shall repeat the orbital position selection process described in § 3.9 above

with improved antenna patterns for this allotment. These improved antenna patterns are described for both earth and space station antennas in Sections 1.6.5 and 1.7.2 of Annex 1 to Appendix **S30B**, respectively.

3.11 After this second study, if there is still no orbital position providing the allotment in question with a solution in conformity with the Appendix **S30B** Annex 4 criteria, the most appropriate orbital position(s) shall be identified with the aim to minimise the *C/I* excesses caused or received from other allotment(s), existing system(s) or assignment(s) of Appendix **S30B**, or by applying any other appropriate criteria agreed by the new Member State in question.

3.12 The Bureau shall send these provisional results<sup>7</sup> to the requesting administration of the new Member State recommending that it may seek the agreement(s) of affected administration(s). Upon reaching the required agreement(s) it may submit a request for an allotment at one of the proposed position(s) to the Bureau.

3.13 Upon receipt of this submission, the Bureau shall examine again the compatibility of the proposed allotment with the allotments in Part A, the existing networks contained in Part B, the assignments which appear in the Appendix **S30B** List and the assignments with respect to which the Bureau has previously received information in accordance with Article 6 of Appendix **30B**, using the latest updated Reference Situation files after the processing of all submissions received under Appendix **S30B** before the date of receipt of the subject request, § 3 above refers. If no information is received under § 3.12 above by the time of processing of the subject request, it shall be returned to that administration with an indication that subsequent resubmission will be considered in the order of date of receipt as appropriate.

3.14 The Bureau shall send the results of its calculations to the responsible administration of the new Member State. That administration may then, within a period of 30 days after having received these results, change or adjust characteristics previously submitted and send the changes to the Bureau within that 30 days' period together with a confirmation of any previous agreement and/or new required agreements as necessary.

3.15 Upon receipt of the information mentioned in § 3.14 above, the Bureau shall re-examine the situation.

3.15.1 If the results of the re-examination do not show compatibility with the allotments in Part A, the existing networks contained in Part B, the assignments which appear in the Appendix **S30B** List and the assignments with respect to which the Bureau has previously received information in accordance with Article 6 of Appendix **30B**, the submission shall be returned to that administration with an indication that subsequent resubmission will be considered in the order of date of receipt as appropriate.

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<sup>7</sup> *Note by the Radiocommunication Bureau:* This is to provide to that administration provisional results based on the current Reference Situation files at that time. It is understood that the proposed allotment is not entered in Part A of the Plan at that time.

3.15.2 Otherwise, the Bureau shall enter the new allotment in Part A of the Plan and inform administrations in its circular telegram, indicating the characteristics of this new allotment and any agreed changes to other characteristics of other allotments or assignments, if no administration was identified as affected in the above-mentioned exercises or if the required agreements are reached.

3.16 If no information is received within the period referred to in § 3.14 above, the submission shall be returned to that administration with an indication that subsequent resubmission will be considered in the order of date of receipt as appropriate.

<b>An. 1</b>
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### **Parameters used in characterizing the FSS Plan**

The antenna characteristics referred to in the footnote under the title of Annex 1 (Fast roll-off antenna pattern for the allotment Plan) are reproduced in the Attachment 1 to the present Rules of Procedure.

<b>An. 2</b>
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### **Basic data to be furnished in notices relating to stations in the fixed-satellite service entering the design stage using frequency bands of the Plan**

In order to establish a formal date of receipt for submission received by the Bureau, information relating to the modification of orbital position(s), in application of “PDA concept” should be sent together with Annex 2 data. See also Rules of procedure relating to § 6.16.

### **Use of Appendix S4 in lieu of Annex 2 to Appendix S30B for submission of notices in application of Appendix S30B**

1 In order to streamline the procedures both in administrations and in the Radiocommunication Bureau it was proposed during WRC-2000 that Appendix S4 should be used for the submission of notices in application of Appendix S30B Plan. This proposal was contained in the Draft Resolution [COM 4/9] included in Document CMR2000/484. Whilst the draft Resolution was not adopted, the Summary Record of the Conference notes that the principle was agreed and that the Radiocommunication Bureau and the RRB be asked to establish a Rule of Procedure on the issue.

2 The Board has examined the content of the Draft Resolution [COM 4/9] and considered that:

- WRC-2000 decided to definitively transfer in Appendix **S4 (WRC-2000)** the data elements which were contained in former Annex 2 to Appendices **S30** and **S30A**, and to use Appendix **S4 (WRC-2000)** for the submission of notices relating to stations in the broadcasting-satellite service subject to Appendices **S30 (WRC-2000)** and **S30A (WRC-2000)**.
- It is essential to harmonize the data structure related to all space services and to integrate the space plans data in the existing Space Network Systems database (SNS).

The Board therefore concluded that this approach would require that all satellite filings should use the format of Appendix **S4 (WRC-2000)**, which would facilitate the development of software and databases in the Radiocommunication Bureau.

3 In view of the above and in the interest of streamlining the procedures both for administrations and for the Radiocommunication Bureau, the Board decided that, when furnishing the basic data relating to stations in the fixed-satellite service subject to Appendix **S30B**, administrations are required to use the Appendix **S4 (WRC-2000)** of the Radio Regulations in lieu of Annex 2 to Appendix **S30B**.

4 In any cases where the mandatory data elements to be provided in application of Articles 6 and 8 of Appendix **S30B** as contained in the applicable columns of the Tables of Annex 2B of Appendix **S4** are inconsistent (e.g. power characteristics of transmission), the data elements from Annex 2 of Appendix **S30B** shall be used.

## ATTACHMENT 1

to Rules concerning Appendix **S30B**

### FAST ROLL-OFF ANTENNA PATTERN

1 An examination of Fig. 2 of Annex 1 to Appendix **S30B** showed that the equations are valid only for a minimum beamwidth of  $0.8^\circ$ , i.e. for the 13/10-11 GHz bands.

2 A corrected set of equations is given in § 4 below. These equations are applicable to any fast roll-off antenna beam with a minimum beamlet beamwidth,  $B_{min}$ , given as an input parameter. Figure 2 was also modified accordingly.

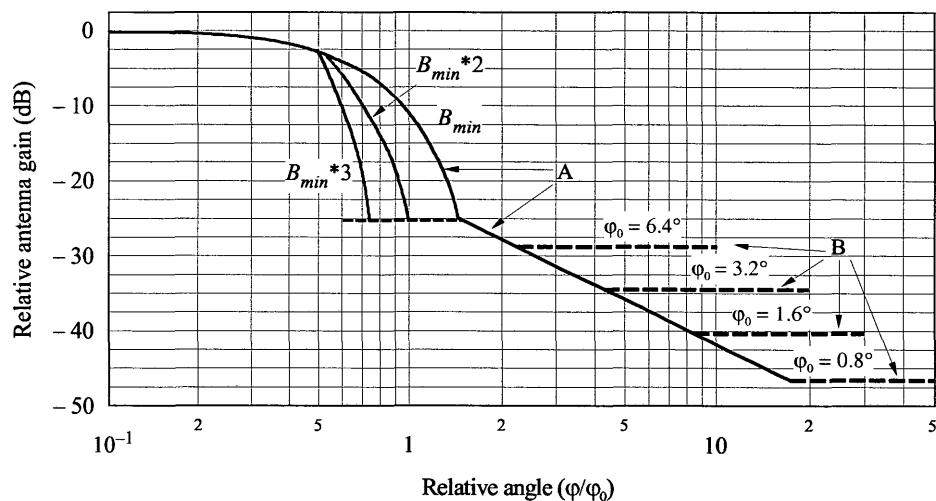
3 When  $B_{min}$  is set at  $0.8^\circ$  (for 13/10-11 GHz) the expression:

$$12 \left[ \frac{(\varphi/\varphi_0) - x}{B_{min}/\varphi_0} \right]^2 \text{ resolves to } 18.75 \varphi_0^2 [(\varphi/\varphi_0) - x]^2$$

and  $1.45 B_{min}$  becomes 1.16 as given in the Final Acts. At 6/4 GHz (with  $B_{min}$  set at  $1.6^\circ$ ) these values become  $4.69 \varphi_0^2 [(\varphi/\varphi_0) - x]^2$  and  $1.45 B_{min}$  becomes 2.32.

4

FIGURE 2  
Reference patterns for satellite antennas  
with fast roll-off in the main beam



RP/A1-02

Curve A: dB relative to main beam gain

$$-12 (\varphi/\varphi_0)^2 \quad \text{for } 0 \leq (\varphi/\varphi_0) \leq 0.5$$

$$-12 \left[ \frac{(\varphi/\varphi_0) - x}{B_{min}/\varphi_0} \right]^2 \quad \text{for } 0.5 < (\varphi/\varphi_0) \leq \left( \frac{1.45 B_{min}}{\varphi_0} + x \right)$$

$$-25.23 \quad \text{for } \left( \frac{1.45 B_{min}}{\varphi_0} + x \right) < (\varphi/\varphi_0) \leq 1.45$$

$$-(22 + 20 \log (\varphi/\varphi_0)) \quad \text{for } (\varphi/\varphi_0) > 1.45$$

after intersection with curve B: Curve B.

Curve B: minus the on-axis gain (Curves A and B represent examples of four antennas having different values of  $\varphi_0$  as labelled in Fig. 2. The on-axis gains of these antennas are approximately 28.3, 34.3, 40.4 and 46.4 dBi, respectively).

where:

$\varphi$ : off-axis angle (degrees)

$\varphi_0$ : cross-sectional half-power beamwidth in the direction of interest (degrees)

$$x = 0.5 \left( 1 - \frac{B_{min}}{\varphi_0} \right)$$

where:

$$B_{min} = \begin{cases} 0.8^\circ & \text{for 13/10-11 GHz} \\ 1.6^\circ & \text{for 6/4 GHz.} \end{cases}$$

## **PART A2**

### **Rules concerning the Regional Agreement for the European Broadcasting Area concerning the use of frequencies by the broadcasting service in the VHF and UHF bands (Stockholm, 1961) (ST61)**

#### **1 Receivability of notices**

In the application of the Regional Agreement for the European Broadcasting Area concerning the use of frequencies by the broadcasting service in the VHF and UHF bands (Stockholm, 1961), the Bureau will apply the procedures contained in Articles 4 and 5 of the Agreement and associated technical criteria with respect to the notices received from all administrations having territories in the European Broadcasting Area, as defined in No. S5.14 of the Radio Regulations, provided that the station concerned is situated within the planning area.

#### **Art. 2**

#### **Execution of the Agreement**

##### **1**

1 In the examination for conformity with the Agreement, a notice is considered to be in conformity with the Agreement either when the notified characteristics are the same as in the Plan or, where they are different, when they do not increase the probability of interference in any azimuth above that resulting from the entry in the Plan.

2 An assignment in the Plan may contain, in addition to the maximum effective radiated power,

- an azimuth of maximum radiation,
- in some cases, reduced e.r.p. in one or more azimuths or one or more sectors.

3 The notified radiation characteristics are considered to be in conformity with the Plan if the e.r.p. in any azimuth is equal to or lower than the ones derived from the Plan by combination of maximum e.r.p. and reduced e.r.p. in azimuths or sectors.



4 When an assignment, notified under Article **S11** with an azimuth of maximum radiation different from the one in the Plan, satisfies the condition indicated in § 3 above, its radiation characteristics are considered to be in conformity with the Plan.

5 When a notice is received, for modification under Article 4 of the Agreement or for notification under Article 5, the relevant coordination distances of the Agreement shall be equally applied to analogue and digital systems. An appropriate symbol shall be used to identify the television standard.

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## **Rules of Procedure**

### **PART A5**

#### **Rules concerning the Regional Agreement relating to the use of the band 87.5-108 MHz for FM sound broadcasting (Geneva, 1984) (GE84)**

##### **1 Receivability of notices**

In the application of the Regional Agreement relating to the use of the band 87.5-108 MHz for FM sound broadcasting (Geneva, 1984), the Bureau will apply the procedures contained in Articles 4, 5 and 7 of the Agreement and associated technical criteria with respect to the notices received from all administrations having territories in the planning area (all administrations in Region 1, the Islamic Republic of Iran, and Afghanistan), with the exception of the Administration of Iceland, provided that the station concerned is situated within the planning area.

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## PART A6

### Rules concerning the Regional Agreement relating to the planning of VHF/UHF television broadcasting in the African Broadcasting Area and neighbouring countries (Geneva, 1989) (GE89)

#### 1 Receivability of notices

In the application of the Regional Agreement relating to the planning of VHF/UHF television broadcasting in the African Broadcasting Area and neighbouring countries (Geneva, 1989), the Bureau will apply the procedures contained in Articles 4 and 5 of the Agreement and associated technical criteria with respect to the notices from all administrations having territories in the planning area (i.e. all administrations having territories within the African Broadcasting Area as defined in Nos. S5.10 to S5.13 of the Radio Regulations and those administrations neighbouring the African Broadcasting Area as listed in No. 1.8 of Article 1 of the GE89 Agreement), provided that the station concerned is situated within the planning area.

#### 2 Examination of notices related to the non-planned services in the bands governed by the Regional Agreement GE89

2.1 Sections 5.2 and 5.3 of Article 5 of the GE89 Agreement specify the procedure to be followed for the examination of the notices related to the non-planned primary services in the bands governed by the Agreement. The bands and the services concerned are summarized in the Table below.

TABLE

Frequency band (MHz)	Services and countries within the planning area	Provisions	Notes
47-68	<b>FX:</b> AFS, AGL, BOT, BDI, CME, COD, COG, IRN, LSO, MDG, MLI, MOZ, MWI, NMB, RRW, SOM, SDN, SWZ, TCD, TZA, ZWE	<b>S5.165</b> <b>S5.167</b> <b>S5.171</b>	1
	<b>MO(-AER):</b> AFS, AGL, BOT, BDI, CME, COD, COG, LSO, MDG, MLI, MOZ, MWI, NMB, RRW, SOM, SDN, SWZ, TCD, TZA, ZWE	<b>S5.165</b> <b>S5.171</b>	1
	<b>MO:</b> IRN	<b>S5.167</b>	
174-223	<b>FX:</b> IRN		
	<b>MO:</b> IRN		

TABLE (end)

Frequency band (MHz)	Services and countries within the planning area		Provisions	Notes
223-230	<b>FX:</b>	IRN	<b>S5.247</b>	
	<b>MO:</b>	IRN		
	<b>AL:</b>	ARS, BHR, IRN, OMA, QAT, UAE		
230-238	<b>FX:</b>	from all parties to the Agreement (excepting those referred to in No. <b>S5.252</b> )	<b>S5.247</b>	2
	<b>MO:</b>	from all parties to the Agreement (excepting those referred to in No. <b>S5.252</b> )		3
	<b>AL:</b>	ARS, BHR, IRN, OMA, QAT, UAE		
246-254	<b>FX:</b>	from all parties to the Agreement (excepting those referred to in No. <b>S5.252</b> )		2
	<b>MO:</b>	from all parties to the Agreement (excepting those referred to in No. <b>S5.252</b> )		
470-790	<b>FX:</b>	IRN		
	<b>MO:</b>	IRN		
790-862	<b>FX:</b>	from all parties to the Agreement		
	<b>MO:</b>	IRN		

NOTE 1 – The additional allocations to countries referred to in No. **S5.171** are limited to the band 54-68 MHz.

NOTE 2 – In the frequency bands 230-238 MHz and 246-254 MHz, in the examinations under § 5.2 of the Agreement, account is taken of only those frequency assignments in the broadcasting service which are entered into Plan following a successful application of the procedure referred to in No. **S9.21**, as required by Resolution 1 (GE89) and No. **S5.252**.

NOTE 3 – The additional allocation to countries referred to in No. **S5.247** is limited to the band 223-235 MHz.

2.2 The frequency assignment notices related to the aeronautical radionavigation service of Nigeria, whose allocation is governed by No. **S5.251**, shall not be subject to the examinations referred to in § 5.2 of Article 5 of the Agreement, since these notices are subject to the application of the procedure of No. **S9.21**.

2.3 The frequency assignment notices related to services and countries referred to in Nos. **S5.164**, **S5.235**, **S5.243** and **S5.316** shall not be subject to the examinations requested by § 5.2 of Article 5 of the Agreement, since their allocation is subject to not causing harmful interference to, or claiming protection from, the broadcasting service. Consequently they will be recorded in the MIFR under the conditions of No. **S5.43** vis-à-vis the broadcasting service (symbol R in column 13B2).