



INTERNATIONAL TELECOMMUNICATION UNION

FINAL ACTS

Adopted by the First Session of
the World Administrative
Radio Conference on the Use
of the Geostationary-Satellite Orbit
and the Planning of Space
Services Utilizing It
Geneva, 1985 (ORB-85)

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NOTE

The following symbols have been used to indicate the nature of the revision in each case.

- ADD = addition of a new provision
MOD = modification of an existing provision
NOC = provision unchanged
SUP = deletion of an existing provision

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FINAL ACTS

**Adopted by the First Session of the
World Administrative Radio Conference
on the Use of the Geostationary-Satellite Orbit and
the Planning of Space Services Utilizing It**

Geneva, 1985 (WARC Orb-85)¹

PREAMBLE

1 The First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (WARC Orb-85) convened at Geneva on 8 August 1985 in conformity with Article 54 of the International Telecommunication Convention, Resolutions Nos. 1 and 8 of the Plenipotentiary Conference, Nairobi, 1982, and Resolution No. 3 of the World Administrative Radio Conference, Geneva, 1979, as well as Resolution No. 895 of the Administrative Council.

2. The delegates of the following Members of the International Telecommunication Union:

People's Democratic Republic of Algeria, Federal Republic of Germany, People's Republic of Angola, Kingdom of Saudi Arabia, Argentine Republic, Australia, Austria, State of Bahrain, Belgium, Byelorussian Soviet Socialist Republic, Republic of Bolivia, Federative Republic of Brazil, Brunei Darussalam, People's Republic of Bulgaria, Burkina Faso, Republic of Cameroon, Canada, Chile, People's Republic of China, Vatican City State, Republic of Colombia, People's Republic of the Congo, Republic of Korea, Costa Rica, Republic of the Ivory Coast,

¹ Abridged title Final Acts WARC Orb-85

Cuba, Denmark, Republic of Djibouti, Arab Republic of Egypt, United Arab Emirates, Ecuador, Spain, United States of America, Ethiopia, Finland, France, Gabonese Republic, Ghana, Greece, Republic of Guatemala, Republic of Guinea, Republic of Honduras, Hungarian People's Republic, Republic of India, Republic of Indonesia, Islamic Republic of Iran, Republic of Iraq, Ireland, State of Israel, Italy, Jamaica, Japan, Hashemite Kingdom of Jordan, Republic of Kenya, State of Kuwait, Lebanon, Republic of Liberia, Socialist People's Libyan Arab Jamahiriya, Luxembourg, Democratic Republic of Madagascar, Malaysia, Malawi, Republic of Mali, Republic of Malta, Kingdom of Morocco, Mexico, Monaco, Mongolian People's Republic, Nicaragua, Federal Republic of Nigeria, Norway, New Zealand, Sultanate of Oman, Islamic Republic of Pakistan, Republic of Panama, Papua New Guinea, Republic of Paraguay, Kingdom of the Netherlands, Peru, Republic of the Philippines, People's Republic of Poland, Portugal, State of Qatar, Syrian Arab Republic, German Democratic Republic, Democratic People's Republic of Korea, Ukrainian Soviet Socialist Republic, Socialist Republic of Romania, United Kingdom of Great Britain and Northern Ireland, Rwandese Republic, Republic of San Marino, Republic of Senegal, Republic of Singapore, Somali Democratic Republic, Democratic Socialist Republic of Sri Lanka, Sweden, Confederation of Switzerland, Republic of Suriname, United Republic of Tanzania, Republic of Chad, Czechoslovak Socialist Republic, Thailand, Togolese Republic, Kingdom of Tonga, Trinidad and Tobago, Tunisia, Turkey, Union of Soviet Socialist Republics, Eastern Republic of Uruguay, Republic of Venezuela, People's Democratic Republic of Yemen, Socialist Federal Republic of Yugoslavia,

have adopted

subject to the approval of the competent authorities of their respective countries, a partial revision of the Radio Regulations, as contained in the *Annex* and outlined below:

- the provisions and associated Plan for the broadcasting-satellite service in the frequency band 12.2 - 12.7 GHz in Region 2, as incorporated into Appendix 30 (Orb-85) to the Radio Regulations;
- the provisions and associated Plan for the feeder links for the broadcasting-satellite service (12.2 - 12.7 GHz) in Region 2 in the frequency band 17.3 - 17.8 GHz, as incorporated into the Radio Regulations as Appendix 30A;
- consequential modifications to certain Articles of the Radio Regulations and to Appendix 30 thereto;

have also adopted

Resolution 41 (Orb-85) relating to the use of the provisions of Appendix 30 (Orb-85) and Appendix 30A contained in the Final Acts WARC Orb-85 prior to the

date of entry into force of those Final Acts, and a procedure relating to interim systems for Region 2, as contained in Resolution 42 (Orb-85), as well as other Resolutions;

have decided

that the above-mentioned partial revision of the Radio Regulations shall form an integral part of the Radio Regulations, and that the said partial revision shall enter into force on 30 October 1986, at 0001 hours UTC

IN WITNESS WHEREOF, the delegates of the Members of the International Telecommunication Union mentioned below have, on behalf of their respective competent authorities, signed one copy of the present Final Acts in the Arabic, Chinese, English, French, Russian and Spanish languages. In case of dispute, the French text shall prevail. This copy shall remain deposited in the archives of the Union. The Secretary-General shall forward one certified true copy to each Member of the International Telecommunication Union.

Done at Geneva, 15 September 1985

ANNEX
Partial Revision of the Radio Regulations and the
Appendices Thereto

ARTICLE 8

GHz
11.7 - 12.75

Allocation to Services			
	Region 1	Region 2	Region 3
MOD	11.7 - 12.5 FIXED BROADCASTING BROADCASTING-SATELLITE Mobile except aeronautical mobile	11.7 - 12.1 FIXED 837 FIXED-SATELLITE (space-to-Earth) Mobile except aeronautical mobile 836 839	11.7 - 12.2 FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING-SATELLITE
		12.1 - 12.2 FIXED-SATELLITE (space-to-Earth) 836 839 842	
		12.2 - 12.7 FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING-SATELLITE	
	838		838
MOD			838 845
MOD	12.5 - 12.75 FIXED-SATELLITE (space-to-Earth) (Earth-to-space)	839 844 846	12.5 - 12.75 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile BROADCASTING-SATELLITE 847
		12.7 - 12.75 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aeronautical mobile	
MOD	848 849 850		

- MOD 836 In Region 2, in the band 11.7 – 12.2 GHz, transponders on space stations
Orb-85 in the fixed-satellite service may be used additionally for transmissions in the broadcasting-satellite service, provided that such transmissions do not have a maximum e.i.r.p. greater than 53 dBW per television channel and do not cause greater interference or require more protection from interference than the coordinated fixed-satellite service frequency assignments. With respect to the space services, this band shall be used principally for the fixed-satellite service.
- MOD 837 *Different category of service* in Canada, Mexico and the United States, the
Orb-85 allocation of the band 11.7 – 12.1 GHz to the fixed service is on a secondary basis (see No. 424).
- MOD 839 The use of the bands 11.7 – 12.2 GHz by the fixed-satellite service in
Orb-85 Region 2 and 11.7 – 12.7 GHz by the broadcasting-satellite service in Region 2 is limited to national and sub-regional systems. The use of the band 11.7 – 12.2 GHz by the fixed-satellite service in Region 2 is subject to previous agreement between the administrations concerned and those having services, operating or planned to operate in accordance with the Table, which may be affected (see Articles 11, 13 and 14). For the use of the band 12.2 – 12.7 GHz by the broadcasting-satellite service in Region 2, see Article 15.
- SUP 840
Orb-85
- SUP 841
Orb-85
- MOD 842 *Additional allocation* the band 12.1 – 12.2 GHz in Brazil and Peru, is also
Orb-85 allocated to the fixed service on a primary basis.
- SUP 843
Orb-85
- MOD 844 In Region 2, in the band 12.2 – 12.7 GHz, existing and future terrestrial
Orb-85 radiocommunication services shall not cause harmful interference to the space services operating in conformity with the Broadcasting-Satellite Plan for Region 2 contained in Appendix 30 (Orb-85).
- MOD 846 In Region 2, in the band 12.2 – 12.7 GHz, assignments to stations of the
Orb-85 broadcasting-satellite service in the Plan for Region 2 contained in Appendix 30 (Orb-85) may also be used for transmissions in the fixed-satellite service (space-to-Earth), provided that such transmissions do not cause more

interference or require more protection from interference than the broadcasting-satellite service transmissions operating in conformity with the Region 2 Plan. With respect to the space services, this band shall be used principally for the broadcasting-satellite service.

- MOD 847 The broadcasting-satellite service in the band 12.5 – 12.75 GHz in
Orb-85 Region 3 is limited to community reception with a power flux density not exceeding $-111 \text{ dB(W/m}^2\text{)}$ as defined in Annex 5 of Appendix 30 (Orb-85). See also Resolution 34.
- MOD 869 The use of the band 17.3 – 18.1 GHz by the fixed-satellite service
Orb-85 (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. For the use of the band 17.3 – 17.8 GHz in Region 2 by the feeder links for the broadcasting-satellite service in the band 12.2 – 12.7 GHz, see Article 15A.

ARTICLE 11

NOC Coordination of Frequency Assignments to Stations in a Space Radiocommunication Service Except Stations in the Broadcasting-Satellite Service and to Appropriate Terrestrial Stations¹

- MOD A 11.1 For the coordination of frequency assignments to stations in
Orb-85 the broadcasting-satellite service and other services in the frequency bands 11.7 – 12.2 GHz (in Region 3), 11.7 – 12.5 GHz (in Region 1) and 12.2 – 12.7 GHz (in Region 2), as well as the coordination of frequency assignments to feeder-link stations utilizing the fixed-satellite service (Earth-to-space) in the frequency band 17.3 – 17.8 GHz (in Region 2) and other services in these bands in Region 2, see also Article 15 and Article 15A respectively.

ARTICLE 12

- MOD **Orb-85** **Notification and Recording in the Master International Frequency Register of Frequency Assignments to¹ Terrestrial Radiocommunication Stations^{2, 3, 4}**
- MOD **A.12.3** ³ For the notification and recording of frequency assignments to terrestrial stations in the frequency bands 11.7 – 12.2 GHz (in Region 3), 12.2 – 12.7 GHz (in Region 2) and 11.7 – 12.5 GHz (in Region 1), so far as their relationship to the broadcasting-satellite service in these bands is concerned, see also Article 15
- ADD **A.12.4** ⁴ For the notification and recording of frequency assignments to terrestrial stations in the frequency band 17.7 – 17.8 GHz (in Region 2), so far as their relationship to the fixed-satellite service (Earth-to-space) in this band is concerned, see also Article 15A

ARTICLE 13

- NOC **Notification and Recording in the Master International Frequency Register of Frequency Assignments¹ to Radio Astronomy and Space Radiocommunication Stations Except Stations in the Broadcasting-Satellite Service²**
- MOD **A.13.2** ² For notification and recording of frequency assignments to stations in the broadcasting-satellite service and other services in the frequency bands 11.7 – 12.2 GHz (in Region 3), 11.7 – 12.5 GHz (in Region 1) and 12.2 – 12.7 GHz (in Region 2), as well as the notification and recording of frequency assignments to feeder-link stations in the fixed-satellite service (Earth-to-space) in the frequency band 17.3 – 17.8 GHz (in Region 2) and other services in these bands in Region 2, see also Article 15 and Article 15A respectively

ARTICLE 15

- MOD **Orb-85** **Coordination, Notification and Recording of Frequency Assignments to Stations of the Broadcasting-Satellite Service in the Frequency Bands 11.7 – 12.2 GHz (in Region 3), 12.2 – 12.7 GHz (in Region 2) and 11.7 – 12.5 GHz (in Region 1) and to the Other Services to Which these Bands Are Allocated, so far as their Relationship to the Broadcasting-Satellite Service in these Bands is Concerned**
- MOD **1656** **Orb-85** The provisions and associated Plans for the broadcasting-satellite service in the frequency bands 11.7 – 12.5 GHz (in Region 1), 12.2 – 12.7 GHz (in Region 2) and 11.7 – 12.2 GHz (in Region 3), as contained in Appendix 30 (**Orb-85**) to the Radio Regulations, shall apply to the assignment and use of frequencies by stations of the broadcasting-satellite service in these bands and to the stations of other services to which these bands are allocated, so far as their relationship to the broadcasting-satellite service in these bands is concerned. For the broadcasting-satellite service in Region 2, Resolution 42 (**Orb-85**) is also applicable

ADD Orb-85 ARTICLE 15A

ADD Orb-85 **Coordination, Notification and Recording of Frequency Assignments to Stations in the Fixed-Satellite Service (Earth-to-space) in the Frequency Band 17.3 - 17.8 GHz (in Region 2) Providing Feeder Links for the Broadcasting-Satellite Service and also to Stations of Other Services to Which this Band is Allocated in Region 2, so far as their Relationship to the Fixed-Satellite Service (Earth-to-space) in this Band is Concerned in Region 2**

ADD 1668 Orb-85 The provisions and associated Plan for feeder links associated with the broadcasting-satellite service, utilizing the fixed-satellite service (Earth-to-space) in the frequency band 17.3 - 17.8 GHz (in Region 2), as contained in Appendix 30A, shall apply to the assignment to and use by feeder links of frequencies in this band and to stations of other services to which this band is allocated in Region 2, so far as the relationship of these other services to the fixed-satellite service (Earth-to-space) in this band is concerned in Region 2. For feeder links in the fixed-satellite service for the broadcasting-satellite service in Region 2, Resolution 42 (Orb-85) is also applicable.

ARTICLE 69

Entry into force of the Radio Regulations

MOD 5187 Orb-85 § 1 These Regulations, which are annexed to the International Telecommunication Convention, shall enter into force on 1 January 1982, except as specified in Nos 5188, 5189 and 5193

ADD 5193 Orb-85 § 7 The partial revision of the Radio Regulations contained in the Final Acts of WARC Orb-85 shall enter into force on 30 October 1986 at 0001 hours UTC ¹

ADD 5193.1 Orb-85

¹ For the provisional application of this partial revision, see Resolution 41 (Orb-85)

MOD

APPENDIX 30 (Orb-85)

Orb-85

MOD

**Provisions for All Services and Associated Plans
for the Broadcasting-Satellite Service in the Frequency
Bands 11.7 - 12.2 GHz (in Region 3), 11.7 - 12.5 GHz
(in Region 1) and 12.2 - 12.7 GHz (in Region 2)**

(See Article 15)

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ARTICLE 1

General Definitions

1 For the purposes of this Appendix the following terms shall have the meanings defined below

1.1 *1977 Conference* World Administrative Radio Conference for the Planning of the Broadcasting-Satellite Service in the Frequency Bands 11.7 - 12.2 GHz (in Regions 2 and 3) and 11.7 - 12.5 GHz (in Region 1), called in short World Broadcasting-Satellite Administrative Radio Conference, Geneva, 1977

1.2 *1983 Conference* Regional Administrative Radio Conference for the Planning in Region 2 of the Broadcasting-Satellite Service in the Frequency Band 12.2 - 12.7 GHz and Associated Feeder Links in the Frequency Band 17.3 - 17.8 GHz, called in short Regional Administrative Conference for the Planning of the Broadcasting-Satellite Service in Region 2 (RARC Sat-R2) Geneva, 1983

1.3 *1985 Conference* First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It, Geneva, 1985, called in short WARC Orb-85

1.4 *Regions 1 and 3 Plan* The Plan for the Broadcasting-Satellite Service in the Frequency Bands 11.7 - 12.2 GHz in Region 3 and 11.7 - 12.5 GHz in Region 1 contained in this Appendix, together with any modifications resulting from the successful application of the procedures of Article 4 of this Appendix

1.5 *Region 2 Plan* The Plan for the Broadcasting-Satellite Service in the Frequency Band 12.2 - 12.7 GHz in Region 2 contained in this Appendix, together with any modifications resulting from the successful application of the procedures of Article 4 of this Appendix

1.6 *Frequency assignment in conformity with the Plan* Any frequency assignment which appears in the Regions 1 and 3 Plan or the Region 2 Plan or for which the procedure of Article 4 of this Appendix has been successfully applied.

MOD

ARTICLE 2

Frequency Bands

2.1 The provisions of this Appendix apply to the broadcasting-satellite service in the frequency bands between 11.7 GHz and 12.2 GHz in Region 3, between 11.7 GHz and 12.5 GHz in Region 1 and between 12.2 GHz and 12.7 GHz in Region 2 and to the other services to which these bands are allocated in Regions 1, 2 and 3, insofar as their relationship to the broadcasting-satellite service in these bands is concerned.

MOD

ARTICLE 3

Execution of the Provisions and Associated Plans

3.1 The Members of the Union in Regions 1, 2 and 3 shall adopt, for their broadcasting-satellite space stations¹ operating in the frequency bands referred to in this Appendix, the characteristics specified in the appropriate Regional Plan and the associated provisions

3.2 The Members of the Union shall not change the characteristics specified in the Regions 1 and 3 Plan or in the Region 2 Plan, or bring into use assignments to broadcasting-satellite space stations or to stations in the

¹ In Region 2, such stations may also be used for transmissions in the fixed-satellite service (space-to-Earth) in accordance with No 846 of the Radio Regulations

other services to which these frequency bands are allocated, except as provided for in the Radio Regulations and the appropriate Articles and Annexes of this Appendix

MOD

ARTICLE 4

Procedure for Modifications to the Plans

4.1 When an administration intends to make a modification¹ to one of the Regional Plans i.e. either

- a) to modify the characteristics of any of its frequency assignments to a space station² in the broadcasting-satellite service which are shown in the appropriate Regional Plan, or for which the procedure in this Article has been successfully applied, whether or not the station has been brought into use *or*
- b) to include in the appropriate Regional Plan a new frequency assignment to a space station in the broadcasting-satellite service, *or*
- c) to cancel a frequency assignment to a space station in the broadcasting-satellite service

the following procedure shall be applied before any notification of the frequency assignment is made to the International Frequency Registration Board (see Article 5 of this Appendix)

¹ The intention not to employ energy dispersal in accordance with paragraph 3.18 of Annex 5 shall be treated as a modification and thus subject to the appropriate provisions of this Article

² The expression "frequency assignment to a space station", wherever it appears in this Article, shall be understood to refer to a frequency assignment associated with a given orbital position. See also Annex 7 and Resolution 43 (Orb-85) for the orbital limitations

4.1.1 Before an administration proposes to include in the Region 2 Plan under the provisions of paragraph 4.1 b), a new frequency assignment to a space station or to include in the Plan new frequency assignments to a space station whose orbital position is not designated in the Plan for this administration, all of the assignments to the service area involved should normally have been brought into service or have been notified to the Board in accordance with Article 5 of this Appendix. Should this not be the case, the administration concerned shall inform the Board of the reasons therefor

4.2 The term "frequency assignment in conformity with the Plan" used in this and the following Articles is defined in Article 1

4.3 *Proposed modifications to a frequency assignment in conformity with one of the Regional Plans or inclusion in that Plan of a new frequency assignment*

For Regions 1 and 3

4.3.1 An administration proposing a modification to the characteristics of a frequency assignment in conformity with the Regions 1 and 3 Plan, or the inclusion of a new frequency assignment in that Plan, shall seek the agreement of those administrations:

4.3.1.1 of Regions 1 and 3 having a frequency assignment to a space station in the broadcasting-satellite service in the same or adjacent channel which is in conformity with the Regions 1 and 3 Plan, or in respect of which proposed modifications to that Plan have already been published by the Board in accordance with the provisions of paragraph 4.3.5.1 or 4.3.6 of this Article, *or*

4.3.1.2 of Region 2 having a frequency assignment to a space station in the broadcasting-satellite service with the necessary bandwidth, any portion of which falls within the necessary bandwidth of the proposed assignment, which is in conformity with the Region 2 Plan, or in respect of which proposed modifications to that Plan have already been published by the Board in accordance with the provisions of paragraph 4.3.5.1 or 4.3.6 of this Article, *or*

4.3.1.3 identified in accordance with *resolves 2* of Resolution 43 (Orb-85), *or*

4.3.1.4 having no frequency assignment in the broadcasting-satellite service in the channel concerned but in whose territory the power flux-density value exceeds the prescribed limit as a result of the proposed modification or having an assignment whose associated service area does not cover the whole of the territory of the administration, and in whose territory outside that service area the power flux-density from the broadcasting-satellite space station subject to this modification exceeds the prescribed limit as a result of the proposed modification, *or*

4.3.1.5 having a frequency assignment in the band 11.7 - 12.2 GHz in Region 2 or 12.2 - 12.5 GHz in Region 3 to a space station in the fixed-satellite service which is recorded in the Master Register or which has been coordinated or is being coordinated under the provisions of No 1060 of the Radio Regulations, or those of paragraph 7.2.1 of this Appendix,

4.3.1.6 whose services are considered to be affected

4.3.2 The services of an administration are considered to be affected when the limits shown in Annex 1 are exceeded

For Region 2

4.3.3 An administration proposing a modification to the characteristics of a frequency assignment in conformity with the Region 2 Plan, or the inclusion of a new frequency assignment in that Plan, shall seek the agreement of those administrations

4.3.3.1 of Region 2 having a frequency assignment in the Region 2 Plan to a space station in the broadcasting-satellite service in the same or adjacent channel which is in conformity with that Plan, or in respect of which proposed modifications to that Plan have already been published by the Board in accordance with the provisions of paragraph 4.3.5.1 or 4.3.6 of this Article, *or*

4.3.3.2 of Regions 1 and 3 having a frequency assignment to a space station in the broadcasting-satellite service with the necessary bandwidth, any portion of which falls within the necessary bandwidth of the proposed assignment, which is in conformity with the Regions 1 and 3 Plan, or in respect of which proposed modifications to that Plan have already been published by the Board in accordance with the provisions of paragraph 4.3.5.1 or 4.3.6 of this Article, *or*

4 3 3 3 identified in accordance with *resolves* 1 of Resolution 43 (Orb-85),
or

4 3 3 4 having no frequency assignment in the broadcasting-satellite service in the channel concerned but in whose territory the power flux-density value exceeds the prescribed limit as a result of the proposed modification or having an assignment whose associated service area does not cover the whole of the territory of the administration, and in whose territory outside that service area the power flux-density from the broadcasting-satellite space station subject to this modification exceeds the prescribed limit as a result of the proposed modification, or

4 3 3 5 having a frequency assignment in the band 12.5 - 12.7 GHz in Region 1 or 12.2 - 12.7 GHz in Region 3 to a space station in the fixed-satellite service which is recorded in the Master Register or which has been coordinated or is being coordinated under the provisions of No 1060 of the Radio Regulations or those of paragraph 7 2 1 of this Appendix, or

4 3 3 6 having a frequency assignment to a space station in the broadcasting-satellite service in the band 12.5 - 12.7 GHz in Region 3 with the necessary bandwidth, any portion of which falls within the necessary bandwidth of the proposed assignment and which

- a) is recorded in the Master Register, or
- b) has been coordinated or is being coordinated under the provisions of Resolution 33, or
- c) appears in a Region 3 Plan to be adopted at a future administrative radio conference, taking account of modifications to that Plan which may be introduced in accordance with the Final Acts of the Conference,

4 3 3 7 whose services are considered to be affected.

4 3 4 The services of an administration are considered to be affected when the limits shown in Annex 1 are exceeded

For all Regions

4 3 5 An administration intending to modify characteristics in one of the Regional Plans shall send to the Board, not earlier than five years but preferably not later than eighteen months before the date on which the

assignment is to be brought into use, the relevant information listed in Annex 2 Modifications to that Plan involving additions under paragraph 4 1 b) shall lapse if the assignment is not brought into use by that date

4 3 5 1 Where as a result of the intended modification the limits defined in Annex 1 are not exceeded, this fact shall be indicated when submitting to the Board the information required by paragraph 4 3 5. The Board shall then publish this information in a special section of its weekly circular

4 3 5 2 In all other cases the administration shall notify the Board of the names of the administrations whose agreement it considers should be sought in order to arrive at the agreement referred to in paragraph 4 3 1 or 4 3 3, as well as of those with which agreement has already been reached

4 3 6 The Board shall determine on the basis of Annex 1 the administrations whose frequency assignments are considered to be affected within the meaning of paragraph 4 3 1 or 4 3 3. The Board shall include the names of those administrations with the information received under paragraph 4 3 5 2 and shall publish the complete information in a special section of its weekly circular. The Board shall immediately send the results of its calculations to the administration proposing the modification to the appropriate Regional Plan.

4 3 7 The Board shall send a telegram to the administrations listed in the special section of the weekly circular drawing their attention to the information it contains and shall send them the results of its calculations

4 3 8 An administration which feels that it should have been included in the list of administrations whose services are considered to be affected may, giving the technical reasons for so doing, request the Board to include its name. The Board shall study this request on the basis of Annex 1 and shall send a copy of the request with an appropriate recommendation to the administration proposing the modification to the appropriate Regional Plan

4 3 9 Any modification to a frequency assignment which is in conformity with the appropriate Regional Plan or any inclusion in that Plan of a new frequency assignment which would have the effect of exceeding the limits specified in Annex 1 shall be subject to the agreement of all administrations whose services are considered to be affected

4.3.10 The administration seeking agreement or the administration with which agreement is sought may request any additional technical information it considers necessary. The administrations shall inform the Board of such requests.

4.3.11 Comments from administrations on the information published pursuant to paragraph 4.3.6 should be sent either directly to the administration proposing the modification or through the Board. In any event the Board shall be informed that comments have been made.

4.3.12 An administration that has not notified its comments either to the administration seeking agreement or to the Board within a period of four months following the date of the weekly circular referred to in paragraph 4.3.5.1 or 4.3.6 shall be understood to have agreed to the proposed assignment. This time limit may be extended by up to three months for an administration that has requested additional information under paragraph 4.3.10 or for an administration that has requested the assistance of the Board under paragraph 4.3.20. In the latter case the Board shall inform the administrations concerned of this request.

4.3.13 If, in seeking agreement, an administration modifies its initial proposal, it shall again apply the provisions of paragraph 4.3.5 and the consequent procedure with respect to any other administration whose services might be affected as a result of modifications to the initial proposal.

4.3.14 If no comments have been received on the expiry of the periods specified in paragraph 4.3.12, or if agreement has been reached with the administrations which have made comments and with which agreement is necessary, the administration proposing the modification may continue with the appropriate procedure in Article 5 and shall inform the Board, indicating the final characteristics of the frequency assignment together with the names of the administrations with which agreement has been reached.

4.3.15 The agreement of the administrations affected may also be obtained in accordance with this Article, for a specified period.

4.3.16 When the proposed modification to the appropriate Regional Plan involves developing countries, administrations shall seek all practicable solutions conducive to the economical development of the broadcasting-satellite systems of these countries.

4.3.17 The Board shall publish in a special section of its weekly circular the information received under paragraph 4.3.14 together with the names of any administrations with which the provisions of this Article have been successfully applied. The frequency assignment concerned shall enjoy the same status as those appearing in the appropriate Regional Plan and will be considered as a frequency assignment in conformity with the Plan.

4.3.18 When an administration proposing to modify the characteristics of a frequency assignment or to make a new frequency assignment receives notice of disagreement from an administration whose agreement it has sought, it should first endeavour to solve the problem by exploring all possible means of meeting its requirement. If the problem still cannot be solved by such means, the administration whose agreement has been sought should endeavour to overcome the difficulties as far as possible, and shall state the technical reasons for any disagreement if the administration seeking the agreement requests it to do so.

4.3.19 If no agreement is reached between the administrations concerned the Board shall carry out any study that may be requested by these administrations, the Board shall inform them of the result of the study and shall make such recommendations as it may be able to offer for the solution of the problem.

4.3.20 An administration may at any stage in the procedure described, or before applying it, request the assistance of the Board, particularly in seeking the agreement of another administration.

4.3.21 The relevant provisions of Article 5 of this Appendix shall be applied when frequency assignments are notified to the Board.

4.4 *Cancellation of frequency assignments*

When a frequency assignment in conformity with one of the Regional Plans is no longer required, whether or not as a result of a modification, the administration concerned shall immediately so inform the Board. The Board shall publish this information in a special section of its weekly circular and delete the assignment from the appropriate Regional Plan.

4 5 *Master copy of the Plans*

- 4 5 1 a) The Board shall maintain an up-to-date master copy of the Regions 1 and 3 Plan taking account of the application of the procedure specified in this Article. The Board shall prepare a document listing the amendments to be made to the Plan as a result of modifications made in accordance with the procedure in this Article.
- b) The Board shall maintain an up-to-date master copy of the Region 2 Plan, including the overall equivalent protection margins of each assignment, taking account of the application of the procedure specified in this Article. This master copy shall contain the overall equivalent protection margins derived from the Plan as established by the 1983 Conference and those derived from all modifications to the Plan as a result of the successful completion of the modification procedure described in this Article. The Board shall prepare a document listing the amendments to be made to the Plan as a result of modifications made in accordance with the procedure described in this Article.

4 5 2 The Secretary-General shall be informed by the Board of any modifications made to the Regional Plans and shall publish an up-to-date version of those Plans in an appropriate form when justified by the circumstances

MOD

ARTICLE 5

**Notification, Examination and Recording in the
Master Register of Frequency Assignments
to Space Stations in the
Broadcasting-Satellite Service**

5 1 *Notification*

5 1 1 Whenever an administration intends to bring into use a frequency assignment to a space station in the broadcasting-satellite service, it shall

notify this frequency assignment to the Board. For this purpose, the notifying administration shall apply the following provisions

5 1 2 For any notification under paragraph 5 1 1, an individual notice for each frequency assignment shall be drawn up as prescribed in Annex 2, the various sections of which specify the basic characteristics to be provided as appropriate. It is recommended that the notifying administration should also supply any other data it may consider useful.

5 1 3 Each notice must reach the Board not earlier than three years before the date on which the frequency assignment is to be brought into use. In any case, the notice must reach the Board not later than three months before that date¹.

5 1 4 Any frequency assignment the notice of which reaches the Board after the applicable period specified in paragraph 5 1 3 shall, where it is to be recorded, bear a remark in the Master Register to indicate that it is not in conformity with paragraph 5 1 3.

5 1 5 Any notice made under paragraph 5 1 1 which does not contain the characteristics specified in Annex 2 shall be returned by the Board immediately by airmail to the notifying administration with the relevant reasons.

5 1 6 Upon receipt of a complete notice, the Board shall include its particulars, with the date of receipt, in its weekly circular, which shall contain the particulars of all such notices received since the publication of the previous circular.

5 1 7 The circular shall constitute the acknowledgement to the notifying administration of the receipt of a complete notice.

¹ Where appropriate, the notifying administration shall initiate the procedure for modifying the Plan concerned in sufficient time to ensure that this limit is observed. For Region 2, see also Resolution 42 (Orb-85) and paragraph B of Annex 7.

5.1.8 Complete notices shall be considered by the Board in order of receipt. The Board shall not postpone its finding unless it lacks sufficient data to reach a decision; moreover, the Board shall not act upon any notice which has a technical bearing on an earlier notice still under consideration by the Board until it has reached a finding with respect to such earlier notice.

5.2 *Examination and recording*

5.2.1 The Board shall examine each notice:

- a) with respect to its conformity with the Convention and the relevant provisions of the Radio Regulations (with the exception of those relating to b), c) and d) below),
- b) with respect to its conformity with the appropriate Regional Plan, *or*
- c) with respect to its conformity with the appropriate Regional Plan, however, having characteristics differing from those in the appropriate Regional Plan in one or more of the following aspects:
 - use of a reduced *e i r p*,
 - use of a reduced coverage area entirely situated within the coverage area appearing in the appropriate Regional Plan,
 - use of other modulating signals in accordance with the provisions of paragraph 3.1.3 of Annex 5,
 - use of the assignment for transmission in the fixed-satellite service in accordance with No 846 of the Radio Regulations,
 - use of an orbital position under the conditions specified in paragraph B of Annex 7; *or*
- d) with respect to its conformity with the provisions of Resolution 42 (Orb-85).

5.2.2 Where the Board reaches a favourable finding with respect to paragraphs 5.2.1 a) and 5.2.1 b), the frequency assignment of an administration shall be recorded in the Master Register. The date of receipt of the notice by the Board shall be entered in Column 2d. In relations between administrations, all frequency assignments brought into use in conformity with the appropriate Regional Plan and recorded in the Master Register shall be considered to have the same status irrespective of the dates entered in Column 2d for such frequency assignments.

5.2.2.1 Where the Board reaches a favourable finding with respect to paragraphs 5.2.1 a) and 5.2.1 c), the frequency assignment shall be recorded in the Master Register. The date of receipt of the notice by the Board shall be entered in Column 2d. In relations between administrations, all frequency assignments brought into use in conformity with the appropriate Regional Plan and recorded in the Master Register shall be considered to have the same status irrespective of the dates entered in Column 2d for such frequency assignments. When recording these assignments, the Board shall indicate by an appropriate symbol the characteristics having a value different from that appearing in the appropriate Regional Plan.

5.2.2.2 Where the Board reaches a favourable finding with respect to paragraph 5.2.1 a) but an unfavourable finding with respect to paragraphs 5.2.1 b) and 5.2.1 c), it shall examine the notice with respect to the successful application of the provisions of Resolution 42 (Orb-85). A frequency assignment for which the provisions of Resolution 42 (Orb-85) have been successfully applied shall be recorded in the Master Register with an appropriate symbol to indicate its interim status. The date of receipt of the notice by the Board shall be entered in Column 2d. In relations between administrations all frequency assignments brought into use following the successful application of the provisions of Resolution 42 (Orb-85) and recorded in the Master Register shall be considered to have the same status irrespective of the dates entered in Column 2d for such frequency assignments.

5.2.3 Whenever a frequency assignment is recorded in the Master Register, the finding reached by the Board shall be indicated by a symbol in Column 13a.

5.2.4 Where the Board reaches an unfavourable finding with respect to paragraphs 5.2.1 a), 5.2.1 b) and 5.2.1 c), the notice shall be returned immediately by airmail to the notifying administration with the reasons of the Board for this finding and with such suggestions as the Board may be able to offer with a view to a satisfactory solution of the problem.

5.2.5 Where the notifying administration resubmits the notice and the finding of the Board becomes favourable with respect to the appropriate parts of paragraph 5.2.1, the notice shall be treated as in paragraph 5.2.2, 5.2.2.1 or 5.2.2.2, as appropriate.

5.2.6 If the notifying administration resubmits the notice without modification and insists on its reconsideration, and if the Board's finding with respect to paragraph 5.2.1 remains unfavourable, the notice is returned to the notifying administration in accordance with paragraph 5.2.4. In this case, the notifying administration undertakes not to bring into use the frequency assignment until the condition specified in paragraph 5.2.5 is fulfilled. For Regions 1 and 3, in the event that the Board has been informed of agreement to modification of the Plan for a specified period of time in accordance with Article 4, the frequency assignment shall be recorded in the Master Register with a note indicating that the frequency assignment is valid only for the period specified. The notifying administration using the frequency assignment over a specified period shall not subsequently invoke this fact to justify the continued use of the frequency beyond the period specified unless it obtains the agreement of the administration(s) concerned.

5.2.7 If a frequency assignment notified in advance of bringing into use in conformity with paragraph 5.1.3 has received a favourable finding by the Board with respect to the provisions of paragraph 5.2.1, it shall be entered provisionally in the Master Register with a special symbol in the Remarks Column indicating the provisional nature of that entry.

5.2.8 When the Board has received confirmation that the frequency assignment has been brought into use, the Board shall remove the symbol in the Master Register.

5.2.9 The date in Column 2c shall be the date of bringing into use notified by the administration concerned. It is given for information only.

5.3 *Cancellation of entries in the Master Register*

5.3.1 If an administration has not confirmed the bringing into use of a frequency assignment under paragraph 5.2.8, the Board will make inquiries of the administration not earlier than six months after the expiry of the period specified in paragraph 5.1.3. On receipt of the relevant information, the Board will either modify the date of coming into use or cancel the entry.

5.3.2 If the use of any recorded frequency assignment is permanently discontinued, the notifying administration shall so inform the Board within three months, whereupon the entry shall be removed from the Master Register.

MOD

ARTICLE 6

Coordination, Notification and Recording in the Master International Frequency Register of Frequency Assignments to Terrestrial Stations Affecting Broadcasting-Satellite Frequency Assignments in the Frequency Bands 11.7 - 12.2 GHz (in Region 3), 11.7 - 12.5 GHz (in Region 1) and 12.2 - 12.7 GHz (in Region 2)¹

Section 1. Coordination Procedure to Be Applied

6.1.1 Before notifying to the Board a frequency assignment to a terrestrial transmitting station, an administration shall initiate coordination with any other administration having a frequency assignment to a broadcasting-satellite station in conformity with the appropriate Regional Plan if

— the necessary bandwidths of the two transmissions overlap and

¹ These procedures do not replace the procedures prescribed for terrestrial stations in Articles 11 and 12 of the Radio Regulations.

- the power flux-density which would be produced by the proposed terrestrial transmitting station exceeds the value derived in accordance with Annex 3 at one or more points on the edge of the service area which is within the coverage area of the broadcasting-satellite station of that administration

6.1.2 For the purpose of effecting coordination, the administration responsible for the terrestrial station shall send to the administrations concerned, by the fastest possible means, a diagram drawn to an appropriate scale indicating the location of the terrestrial station and all other data of the proposed frequency assignment and the approximate date on which it is planned to bring the station into use.

6.1.3 An administration with which coordination is sought shall acknowledge receipt of the coordination data immediately by telegram. If no acknowledgement is received within fifteen days of dispatch, the administration seeking coordination may dispatch a telegram requesting acknowledgement of receipt of the coordination data, to which the receiving administration shall reply. Upon receipt of the coordination data, an administration with which coordination is sought shall promptly examine the matter with regard to interference¹ which would be caused to its frequency assignments in conformity with the appropriate Regional Plan and shall, within an overall period of two months from dispatch of the coordination data, either notify the administration requesting coordination of its agreement to the proposed assignment or, if this is impossible, indicate the reasons therefor and make such suggestions as it may be able to offer with a view to a satisfactory solution of the problem.

¹ The criteria to be employed in evaluating interference levels shall be based on the relevant CCIR Recommendations or, in the absence of such Recommendations, shall be agreed between the administrations concerned

6.1.4 No coordination is required when an administration proposes to change the characteristics of an existing assignment in such a way as not to increase the level of interference to the service to be rendered by the broadcasting-satellite stations of other administrations

6.1.5 An administration seeking coordination may request the Board to endeavour to effect coordination where

- a) an administration with which coordination is sought fails to acknowledge receipt under paragraph 6.1.3 within one month of dispatch of the coordination data
- b) an administration which has acknowledged receipt under paragraph 6.1.3 fails to give a decision within three months of dispatch of the coordination data
- c) the administration seeking coordination and an administration with which coordination is sought disagree on the acceptable level of interference, *or*
- d) coordination is impossible for any other reason

In so doing, the administration concerned shall provide the Board with the necessary information to enable it to endeavour to effect such coordination

6.1.6 Either the administration seeking coordination or an administration with which coordination is sought, or the Board, may request any additional information which they may require to assess the level of interference to the services concerned

6.1.7 Where the Board receives a request under paragraph 6.1.5 a), it shall forthwith send a telegram to the administration concerned requesting immediate acknowledgement

6.1.8 Where the Board receives an acknowledgement following its action under paragraph 6.1.7 or receives a request under paragraph 6.1.5 b), it shall forthwith send a telegram to the administration concerned requesting an early decision on the matter

6.1.9 Where the Board receives a request under paragraph 6.1.5 d), it shall endeavour to effect coordination in accordance with the provisions of paragraph 6.1.2. Where the Board receives no acknowledgement of its request for coordination within the period specified in paragraph 6.1.3, it shall act in accordance with paragraph 6.1.7

6.1.10 Where an administration fails to reply within one month of dispatch of the Board's telegram sent under paragraph 6.1.7 requesting an acknowledgement or fails to give a decision on the matter within two months of dispatch of the Board's telegram of request sent under paragraph 6.1.8, the administration with which coordination was sought shall be considered to have undertaken that no complaint will be made in respect of any harmful interference which may be caused by the terrestrial station being coordinated to the service rendered or to be rendered by its satellite-broadcasting station

6.1.11 Where necessary, as part of the procedure under paragraph 6.1.5, the Board shall assess the level of interference. In any case, the Board shall inform the administrations concerned of the results obtained

6.1.12 In the event of continuing disagreement between one administration seeking to effect coordination and one with which coordination has been sought, the administrations concerned may explore the possibility of reaching an agreement on the use of the proposed frequency assignment for a specified period

Section II Notification Procedure for Frequency Assignments

6.2.1 Any frequency assignment to a fixed, land or broadcasting station shall be notified to the International Frequency Registration Board if the use of the frequency concerned is capable of causing harmful interference to the service rendered or to be rendered by a broadcasting-satellite station of any other administration, or if it is desired to obtain international recognition of the use of the frequency¹

6.2.2 For this notification, an individual notice for each frequency assignment shall be drawn up as prescribed in Section A of Appendix I to the Radio Regulations, which specifies the basic characteristics to be furnished as required. It is recommended that the notifying administration should also supply the additional data called for in that Section, together with such further data as it may consider appropriate

6.2.3 Whenever practicable, each notice should reach the Board before the date on which the assignment is brought into use. The notice made in accordance with paragraph 6.2.2 must reach the Board not earlier than three years and not later than three months before the date on which the assignment is to be brought into use

6.2.4 Any frequency assignment, the notice of which reaches the Board less than three months before it is brought into use shall, where it is to be recorded, bear a remark in the Master Register to indicate that it is not in conformity with paragraph 6.2.3

¹ The attention of administrations is specifically drawn to the provisions of Section I of this Article

**Section III. Procedure for the Examination of Notices
and the Recording of Frequency Assignments
in the Master Register**

6 3 1 Whatever the means of communication, including telegraph, by which a notice is transmitted to the Board, it shall be considered complete if it contains at least the appropriate basic characteristics specified in Section A of Appendix 1 to the Radio Regulations

6 3 2 Complete notices shall be considered by the Board in the order of their receipt

6 3 3 Any incomplete notice shall be returned by the Board immediately, by airmail, to the notifying administration with the reasons therefor

6 3 4 Upon receipt of a complete notice, the Board shall include the particulars thereof, with the date of receipt, in its weekly circular, this circular shall contain the particulars of all such notices received since publication of the previous circular

6.3.5 The circular shall constitute the Board's acknowledgement to the notifying administration of the receipt of a complete notice.

6 3 6 Complete notices shall be considered by the Board in the order specified in paragraph 6 3 2 The Board may not postpone the formulation of a finding unless it lacks sufficient data to reach a decision; moreover, the Board shall not act upon any notice which has a technical bearing on an earlier notice still under consideration by the Board until it has reached a finding with respect to such earlier notice

6 3 7 The Board shall examine each notice

6 3 8 — with respect to its conformity with the Convention, the relevant provisions of the Radio Regulations and the provisions of this Appendix (with the exception of those relating to the coordination procedure and the probability of harmful interference),

6 3 9 — with respect to its conformity with the provisions of paragraph 6 1 1 relating to coordination of the use of the frequency assignment with the other administrations concerned

6 3 10 — where appropriate, with respect to the probability of harmful interference to a broadcasting-satellite station whose frequency assignment is in conformity with the appropriate Regional Plan

6 3 11 Depending upon the findings of the Board subsequent to the examination prescribed in paragraphs 6 3 8, 6 3 9 and 6 3 10, further action shall be as follows

6 3 12 *Finding unfavourable with respect to paragraph 6 3 8*

6 3 13 Where the notice includes a specific reference to the fact that the station will be operated in accordance with the provisions of No 342 of the Radio Regulations, it shall be examined immediately with respect to paragraphs 6 3.9 and 6 3.10

6 3.14 If the finding is favourable with respect to paragraph 6 3 9 or 6 3 10, as appropriate, the assignment shall be recorded in the Master Register The date of receipt of the notice by the Board shall be entered in Column 2d

6 3 15 If the finding is unfavourable with respect to paragraph 6 3 9 or 6 3.10, as appropriate, the notice shall be returned immediately by airmail to the notifying administration with the Board's reasons for this finding In such case the notifying administration shall undertake not to bring into use the frequency assignment until the condition specified in paragraph 6 3 14 can be fulfilled However, the administrations concerned may explore the possibility of reaching an agreement on the use of the proposed frequency assignment for a specified period

6 3 16 Where the notice does not include a specific reference to the fact that the station will be operated in accordance with the provisions of No 342 of the Radio Regulations, it shall be returned immediately by airmail to the notifying administration with the Board's reasons for this finding and with such suggestions as the Board may be able to offer with a view to a satisfactory solution of the problem

6.3.17 If the notifying administration resubmits the notice unchanged, it shall be treated in accordance with the provisions of paragraph 6.3.16

6.3.18 If the notifying administration resubmits the notice with a specific reference to the fact that the station will be operated in accordance with the provisions of No 342 of the Radio Regulations, it shall be treated in accordance with the provisions of paragraphs 6.3.13 and 6.3.14 or 6.3.15, as appropriate

6.3.19 If the notifying administration resubmits the notice with modifications which, after re-examination, result in a favourable finding by the Board with respect to paragraph 6.3.8, the notice shall be treated in accordance with the provisions of paragraphs 6.3.20 to 6.3.32. However, in any subsequent recording of the assignment, the date of receipt of the resubmitted notice by the Board shall be entered in Column 2d

6.3.20 *Finding favourable with respect to paragraph 6.3.8*

6.3.21 Where the Board finds that the coordination procedure mentioned in paragraph 6.3.9 has been successfully applied with all administrations whose broadcasting-satellite services may be affected, the assignment shall be recorded in the Master Register. The date of receipt of the notice by the Board shall be entered in Column 2d

6.3.22 Where the Board finds that the coordination procedure mentioned in paragraph 6.3.9 has not been applied, and the notifying administration requests the Board to effect the required coordination, the Board shall take the appropriate action and shall inform the administrations concerned of the results obtained. If the Board's efforts are successful, the notice shall be treated in accordance with the provisions of paragraph 6.3.21. If the Board's efforts are unsuccessful, the notice shall be examined by the Board with respect to the provisions of paragraph 6.3.10

6.3.23 Where the Board finds that the coordination procedure mentioned in paragraph 6.3.9 has not been applied and the notifying administration does not request the Board to effect the required coordination, the notice shall be returned immediately by airmail to the notifying administration with the Board's reasons for this action and with such suggestions as the Board may be able to offer with a view to a satisfactory solution of the problem.

6.3.24 Where the notifying administration resubmits the notice and the Board finds that the coordination procedure mentioned in paragraph 6.3.9 has been successfully applied with all administrations whose broadcasting-satellite services may be affected, the assignment shall be recorded in the Master Register. The date of receipt of the original notice by the Board shall be entered in Column 2d. The date of the receipt of the resubmitted notice by the Board shall be entered in the Remarks Column

6.3.25 Where the notifying administration resubmits the notice, requesting the Board to effect the required coordination, it shall be treated in accordance with the provisions of paragraph 6.3.22. However, in any subsequent recording of the assignment, the date of receipt of the resubmitted notice by the Board shall be entered in the Remarks Column

6.3.26 Where the notifying administration resubmits the notice and states that it has been unsuccessful in its efforts to effect coordination, it shall be examined by the Board with respect to the provisions of paragraph 6.3.10. However, in any subsequent recording of the assignment, the date of receipt of the resubmitted notice by the Board shall be entered in the Remarks Column

6.3.27 *Finding favourable with respect to paragraphs 6.3.8 and 6.3.10*

6.3.28 The assignment shall be recorded in the Master Register. The date of receipt by the Board of the notice shall be entered in Column 2d

6.3.29 *Finding favourable with respect to paragraph 6.3.8 but unfavourable with respect to paragraph 6.3.10*

6.3.30 The notice shall be returned immediately by airmail to the notifying administration with the Board's reasons for this finding and with such suggestions as the Board may be able to offer with a view to a satisfactory solution of the problem

6.3.31 Should the notifying administration resubmit the notice with modifications which result, after re-examination, in a favourable finding by the Board with respect to paragraph 6.3.10, the assignment shall be recorded in the Master Register. The date of receipt of the original notice by the Board shall be entered in Column 2d. The date of receipt of the resubmitted notice by the Board shall be indicated in the Remarks Column.

6.3.32 Should the notifying administration resubmit the notice, either unchanged or with modifications which reduce the probability of harmful interference, but insufficiently to permit the provisions of paragraph 6.3.31 to be applied and should that administration insist upon reconsideration of the notice but the Board's finding remain unchanged, the notification shall again be returned to the notifying administration in accordance with paragraph 6.3.30. In such case, the notifying administration shall undertake not to bring into use the proposed frequency assignment until the condition specified in paragraph 6.3.31 can be fulfilled. However, the administrations concerned may explore the possibility of reaching an agreement on the use of the frequency assignment for a specified period. In that event the Board shall be notified of the agreement and the frequency assignment shall be recorded in the Master Register with a note indicating that the assignment is valid only for the specified period. The notifying administration using the frequency assignment during a specified period shall not subsequently use this circumstance to justify continued use of the frequency beyond this period unless it obtains the agreement of the administration or administrations concerned.

6.3.33 *Change in the basic characteristics of assignments already recorded in the Master Register*

6.3.34 Any notice of a change in the basic characteristics of an assignment already recorded in the Master Register, as specified in Appendix 1 to the Radio Regulations (except those entered in Columns 2c, 3 and 4a of the Master Register), shall be examined by the Board in accordance with the provisions of paragraphs 6.3.8 and 6.3.9 and, where appropriate, paragraph 6.3.10 and the provisions of paragraphs 6.3.12 to 6.3.32 inclusive shall be applied. Where the change should be recorded, the original assignment shall be amended according to the notice.

6.3.35 However, in the event of a change in the basic characteristics of an assignment which is in conformity with paragraph 6.3.8, should the Board reach a favourable finding with respect to paragraph 6.3.9 and, if applicable, paragraph 6.3.10, or find that the change does not increase the probability of harmful interference to assignments already recorded, the amended assignment shall retain the original date in Column 2d. In addition, the date of receipt by the Board of the notice relating to the change shall be entered in the Remarks Column.

6.3.36 The planned date of bringing into use of a frequency assignment may be extended on request of the notifying administration by three months. Where the administration states that, due to exceptional circumstances, it needs a further extension of this period, such extension may be granted, but it shall in no case exceed six months from the original planned date of bringing into use.

6.3.37 In applying the provisions of this Section, any resubmitted notice which is received by the Board more than two years after the date of its return by the Board shall be considered as a new notice.

6.3.38 *Recording of frequency assignments notified before being brought into use*

6.3.39 If a frequency assignment notified prior to its bringing into use has received a favourable finding by the Board with respect to paragraphs 6.3.8 and 6.3.9, and, where appropriate, 6.3.10, it shall be entered provisionally in the Master Register with a special symbol in the Remarks Column indicating the provisional nature of that entry.

6.3.40 Within one month after the date of bringing into use, either as originally notified or as modified in application of paragraph 6.3.36, the notifying administration shall confirm that the frequency assignment has been brought into use. When the Board is informed that the assignment has been brought into use, the special symbol shall be deleted from the Remarks Column.

6.3.41 If the Board fails to receive this confirmation within the period referred to in paragraph 6.3.40, the entry concerned shall be cancelled. The Board shall consult the administration concerned before taking such action.

MOD

ARTICLE 7

Procedures for Coordination, Notification and Recording in the Master International Frequency Register of Frequency Assignments to Stations in the Fixed-Satellite Service in the Frequency Bands 11.7 - 12.2 GHz (in Region 2), 12.2 - 12.7 GHz (in Region 3) and 12.5 - 12.7 GHz (in Region 1), When Frequency Assignments to Broadcasting-Satellite Stations in Conformity with the Regions 1 and 3 Plan, or the Region 2 Plan, Respectively, Are Involved¹

Section I Procedure for the Advance Publication of Information on Planned Fixed-Satellite Systems

Publication of Information

7 1 1 An administration which intends to establish a fixed-satellite system shall, prior to the procedure described in paragraph 7 2 1, where applicable, send to the International Frequency Registration Board, not earlier than five years and preferably not later than two years before the date of bringing into service each satellite network of the planned system, the information listed in Appendix 4 to the Radio Regulations.

7 1 2 Any amendments to the information concerning a planned satellite system sent in accordance with paragraph 7.1 1 shall also be sent to the Board as soon as they become available

¹ These provisions do not replace the procedures prescribed in Articles 11 and 13 of the Radio Regulations when stations other than those of the broadcasting-satellite service are involved

7 1 3 The Board shall publish the information sent under paragraphs 7 1 1 and 7 1 2 in a special section of its weekly circular and shall also, when the weekly circular contains such information, so advise all administrations by circular telegram. The circular telegram shall include the frequency bands to be used and, in the case of a geostationary satellite, the orbital location of the space station

7 1 3 1 If the information is found to be incomplete, the Board shall publish it under paragraph 7.1 3 and immediately seek, from the administration concerned, any clarification and information not provided. In such cases, the period of three months specified in paragraph 7 1 4 shall count from the date of publication, under paragraph 7 1 3, of the complete information

Comments on Published Information

7 1 4 If, after studying the information published under paragraph 7 1 3, any administration is of the opinion that interference which may be unacceptable may be caused to its frequency assignments in conformity with the appropriate Regional Plan, it shall, within three months after the date of the weekly circular publishing the information listed in Appendix 4 to the Radio Regulations, send its comments to the administration concerned. A copy of these comments shall also be sent to the Board. If no such comments are received from an administration within the period mentioned above, it may be assumed that that administration has no basic objections to the planned fixed-satellite network(s) of that system of which details have been published

Resolution of Difficulties

7 1 5 An administration receiving comments sent in accordance with paragraph 7 1 4 shall endeavour to resolve any difficulties that may arise without considering the possibility of adjustment to broadcasting-satellite stations of other administrations. If no such means can be found, the administration concerned is then free to apply to other administrations concerned in order to solve these difficulties, provided that any modifications which may result to the appropriate Regional Plan are in accordance with Article 4

7.1.6 In their attempts to resolve the difficulties mentioned above, administrations may seek the assistance of the Board.

Results of Advance Publication

7.1.7 An administration, on behalf of which details of planned satellite networks have been published in accordance with the provisions of paragraphs 7.1.1 and 7.1.2 shall, after the period of three months specified in paragraph 7.1.4, inform the Board whether or not comments provided for in paragraph 7.1.4 have been received and of the progress made in resolving any remaining difficulties. Additional information on the progress made in resolving any remaining difficulties shall be sent to the Board at intervals not exceeding six months prior to the commencement of coordination or the sending in of notices to the Board. The Board shall publish this information in a special section of its weekly circular and shall also, when the weekly circular contains such information, so inform all administrations by circular telegram.

Commencement of Coordination or Notification Procedure

7.1.8 In complying with the provisions of paragraphs 7.1.5 and 7.1.6, an administration responsible for a planned fixed-satellite system shall, if necessary, defer its commencement of the coordination procedure of paragraph 7.2.1 or, where this is not applicable, the sending of its notices to the Board until five months after the date of the weekly circular containing the information listed in Appendix 4 to the Radio Regulations on the relevant satellite network. However, in respect of those administrations with which difficulties have been resolved or which have responded favourably, the coordination procedure, where applicable, may be commenced prior to the expiry of the five months mentioned above.

Section II. Coordination Procedures to Be Applied in Appropriate Cases

7.2.1 Before an administration notifies to the Board or brings into use any frequency assignment to a space station in the fixed-satellite service, it shall seek the agreement of any other administration having a frequency assignment in conformity with the appropriate Regional Plan, if:

- a) any portion of the necessary bandwidth proposed for the space station in the fixed-satellite service falls within the necessary bandwidth associated with the frequency assignment to the broadcasting-satellite station, and
- b) the power flux-density which would be produced by the proposed fixed-satellite assignment exceeds the value specified in Annex 4.

For this purpose, the administration seeking agreement shall send to any other such administration the information listed in Appendix 3 to the Radio Regulations.

7.2.2 No additional agreement is necessary when an administration proposes to change the characteristics of an existing assignment in such a way as will, in respect of the broadcasting-satellite service of another administration, meet the requirements of paragraph 7.2.1 above, or when this assignment has previously been the subject of an agreement and when the change will not cause any increase in the interference potential specified in that agreement.

7.2.3 An administration seeking coordination under paragraph 7.2.1 shall at the same time send to the Board a copy of the request for coordination together with the information listed in Appendix 3 to the Radio Regulations and the name(s) of the administration(s) whose agreement is sought. The Board shall determine on the basis of Annex 4 which frequency assignments in conformity with the appropriate Regional Plan are considered to be affected. The Board shall include the names of those administrations with the information received from the administration seeking coordination and shall publish this information in a special section of its weekly circular, together with a reference to the weekly circular in which details of the satellite system were published in accordance with Section I of this Article. When the weekly circular contains such information, the Board shall so inform all administrations by circular telegram.

7.2.4 An administration believing that it should have been included in the procedure under paragraph 7.2.1 shall have the right to request that it be brought into the procedure.

7.2.5 An administration whose agreement is sought under paragraph 7.2.1 shall acknowledge receipt of the coordination data immediately by telegram. If no acknowledgement is received within one month after the date of the weekly circular publishing the information under paragraph 7.2.3, the administration seeking coordination shall dispatch a telegram requesting acknowledgement, to which the receiving administration shall reply within a further period of one month. Upon receipt of the coordination data, an administration shall, having regard to the proposed date of bringing into use of the assignment for which agreement was requested, promptly examine the matter with regard to interference¹ which would be caused to the service rendered by its stations in respect of which agreement is sought under paragraph 7.2.1, and shall, within three months from the date of the relevant weekly circular, notify its agreement to the requesting administration. If the administration with which coordination is sought does not agree, it shall, within the same period, send to the administration seeking coordination the technical details upon which its disagreement is based, and make such suggestions as it may be able to offer with a view to a satisfactory solution of the problem. A copy of these comments shall also be sent to the Board.

7.2.6 An administration seeking coordination may request the Board to endeavour to effect coordination in those cases where:

- a) an administration whose agreement is sought under paragraph 7.2.1 fails to acknowledge receipt, under paragraph 7.2.5, within two months after the date of the weekly circular publishing the information relating to the request for coordination;
- b) an administration has acknowledged receipt under paragraph 7.2.5, but fails to give a decision within three months from the date of the relevant weekly circular,

- c) there is disagreement between the administration seeking coordination and an administration whose agreement is sought as to the acceptable level of interference, or
- d) agreement between administrations is not possible for any other reason.

In so doing, it shall furnish the Board with the necessary information to enable it to endeavour to effect such coordination.

7.2.7 Either the administration seeking coordination or an administration whose agreement is sought, or the Board, may request additional information which they may require to assess the level of interference to the services concerned.

7.2.8 Where the Board receives a request under paragraph 7.2.6 a) it shall forthwith send a telegram to the administration whose agreement is sought requesting immediate acknowledgement.

7.2.9 Where the Board receives an acknowledgement following its action under paragraph 7.2.8, or where the Board receives a request under paragraph 7.2.6 b), it shall forthwith send a telegram to the administration whose agreement is sought requesting an early decision on the matter.

7.2.10 Where the Board receives a request under paragraph 7.2.6 d), it shall endeavour to effect coordination in accordance with the provisions of paragraph 7.2.1. The Board shall also, where appropriate, act in accordance with paragraph 7.2.3. Where the Board receives no acknowledgement to its request for coordination within the periods specified in paragraph 7.2.5, it shall act in accordance with paragraph 7.2.8.

7.2.11 Where an administration fails to reply within one month of dispatch of the Board's telegram requesting an acknowledgement sent under paragraph 7.2.8, or fails to give a decision on the matter within one month of dispatch of the Board's telegram of request under paragraph 7.2.9, it shall be deemed that the administration whose agreement was sought has undertaken

- a) that no complaint will be made in respect of any harmful interference which may be caused to the services rendered by its

¹ The criteria to be employed in evaluating interference levels shall be based upon the technical information contained in this Appendix or upon relevant CCIR Recommendations and shall be agreed between the administrations concerned.

broadcasting-satellite stations by the use of the assignment for which coordination was requested;

- b) that its broadcasting-satellite stations will not cause harmful interference to the use of the assignment for which coordination was requested

7.2.12 Where necessary, as part of the procedure under paragraph 7.2.6, the Board shall assess the level of interference. In any case, the Board shall inform the administrations concerned of the results obtained.

7.2.13 In the event of continuing disagreement between one administration seeking to effect coordination and one whose agreement has been sought, provided that the assistance of the Board has been requested, the administration seeking coordination may, after five months from the date of the request for coordination, taking into consideration the provisions of paragraph 7.3.4, send its notice concerning the proposed assignment to the Board. In those circumstances the notifying administration shall undertake not to bring the frequency assignment into use until the condition in paragraph 7.4.11.2 can be fulfilled. But the administrations concerned may explore the possibility of reaching an agreement on the use of the proposed frequency assignment for a specified period

Section III. Notification of Frequency Assignments

7.3.1 Any frequency assignment to a space station in the fixed-satellite service shall be notified to the Board:

- a) if the use of the frequency concerned is capable of causing harmful interference to a frequency assignment of another administration which is in conformity with the appropriate Regional Plan¹; or
- b) if it is desired to obtain international recognition of the use of the frequency

¹ The attention of administrations is specifically drawn to the application of paragraph 7.2.1 above

7.3.2 Similar notice shall be given for any frequency to be used for reception by an earth station where one or more of the conditions specified in paragraph 7.3.1 are applicable

7.3.3 For any notification under paragraph 7.3.1 or 7.3.2, an individual notice for each frequency assignment shall be drawn up as prescribed in Appendix 3 to the Radio Regulations, the various Sections of which specify the basic characteristics to be furnished according to the case. The notifying administration shall furnish such further data as it considers appropriate

7.3.4 Each notice must reach the Board not earlier than three years before the date on which the assignment is to be brought into use. The notice must reach the Board in any case not later than three months¹ before this date

7.3.5 Any frequency assignment to an earth or space station, the notice of which reaches the Board after the applicable period specified in paragraph 7.3.4, shall, where it is to be recorded, bear a mark in the Master Register to indicate that it is not in conformity with paragraph 7.3.4

Section IV. Procedure for the Examination of Notices and the Recording of Frequency Assignments in the Master Register

7.4.1 Any notice which does not contain at least those basic characteristics specified in Appendix 3 to the Radio Regulations shall be returned by the Board immediately, by airmail, to the notifying administration with the reasons therefor

7.4.2 Upon receipt of a complete notice, the Board shall include the particulars thereof, with the date of receipt, in its weekly circular which shall contain the particulars of all such notices received since the publication of the previous circular

¹ The notifying administration shall take this limit into account when deciding, where appropriate, to initiate the coordination procedure(s)

7.4.3 The circular shall constitute the acknowledgement to the notifying administration of the receipt of a complete notice.

7.4.4 Complete notices shall be considered by the Board in the order of their receipt. The Board shall not postpone the formulation of a finding unless it lacks sufficient data to render a decision in connection therewith, moreover, the Board shall not act upon any notice which has a technical bearing on an earlier notice still under consideration by the Board, until it has reached a finding with respect to such earlier notice.

7.4.5 The Board shall examine each notice

7.4.5.1 with respect to its conformity with the Convention, the relevant provisions of the Radio Regulations and the provisions of this Appendix (with the exception of those relating to the coordination procedures and the probability of harmful interference),

7.4.5.2 where appropriate, with respect to its conformity with the provisions of paragraph 7.2.1, relating to the coordination of the use of the frequency assignment with the other administrations concerned having a frequency assignment in conformity with the appropriate Regional Plan,

7.4.5.3 where appropriate, with respect to the probability of harmful interference to the service rendered or to be rendered by a broadcasting-satellite station whose frequency assignment is in conformity with the appropriate Regional Plan

7.4.6 Depending upon the findings of the Board subsequent to the examination prescribed in paragraphs 7.4.5.1, 7.4.5.2 and 7.4.5.3, as appropriate, further action shall be as follows

7.4.7 *Finding favourable with respect to paragraph 7.4.5.1 in cases where the provisions of paragraph 7.4.5.2 are not applicable*

7.4.7.1 The assignment shall be recorded in the Master Register. The date of receipt by the Board of the notice shall be entered in Column 2d

7.4.8 *Finding unfavourable with respect to paragraph 7.4.5.1*

7.4.8.1 Where the notice includes a specific reference to the fact that the station will be operated in accordance with the provisions of No 342 of the Radio Regulations and the finding is favourable with respect to paragraphs 7.4.5.2 and 7.4.5.3, as appropriate, the assignment shall be recorded in the Master Register. The date of receipt of notice by the Board shall be entered in Column 2d

7.4.8.2 Where the notice includes a specific reference to the fact that the station will be operated in accordance with the provisions of No 342 of the Radio Regulations and the finding is unfavourable with respect to paragraph 7.4.5.2 or 7.4.5.3, as appropriate, the notice shall be returned immediately by airmail to the notifying administration with the reasons of the Board for this finding. In those circumstances the notifying administration shall undertake not to bring into use the frequency assignment until the condition in paragraph 7.4.8.1 can be fulfilled. The agreement of the administrations affected can also be obtained in accordance with this Article for a specified period. In that event the Board shall be notified of the agreement and the frequency assignment shall be recorded in the Master Register with a note indicating that the frequency assignment is valid only for the period specified. The notifying administration using the frequency assignment over a specified period shall not subsequently use this circumstance to justify continued use of the frequency beyond the period specified if it does not obtain the agreement of the administration(s) concerned. The date of receipt by the Board of the original notice shall be entered in Column 2d

7.4.8.3 Where the notice does not include a specific reference to the fact that the station will be operated in accordance with the provisions of No 342 of the Radio Regulations, it shall be returned immediately by airmail to the notifying administration with the reasons of the Board for this finding and with such suggestions as the Board may be able to offer with a view to the satisfactory solution of the problem

7.4.8.4 If the notifying administration resubmits the notice unchanged, it shall be treated in accordance with the provisions of paragraph 7.4.8.3. If it is resubmitted with a specific reference to the fact that the station will be operated in accordance with the provisions of No 342 of the Radio Regulations, it shall be treated in accordance with the provisions of

paragraph 7.4.8.1 or 7.4.8.2, as appropriate. If it is resubmitted with modifications which, after re-examination, result in a favourable finding by the Board with respect to paragraph 7.4.5.1, it shall be treated as a new notice.

7.4.9 Finding favourable with respect to paragraph 7.4.5.1 in cases where the provisions of paragraph 7.4.5.2 are applicable

7.4.9.1 Where the Board finds that the coordination procedures mentioned in paragraph 7.4.5.2 have been successfully completed with all administrations whose frequency assignments in conformity with the appropriate Regional Plan may be affected, the frequency assignment shall be recorded in the Master Register. The date of receipt by the Board of the notice shall be entered in Column 2d.

7.4.9.2 Where the Board finds that the coordination procedure mentioned in paragraph 7.4.5.2 has not been applied, and the notifying administration requests the Board to effect the required coordination, the Board shall take appropriate action and shall inform the administrations concerned of the results obtained. If the Board's efforts are successful, the notice shall be treated in accordance with paragraph 7.4.9.1. If the Board's efforts are unsuccessful, the notice shall be examined by the Board with respect to the provisions of paragraph 7.4.5.3.

7.4.9.3 Where the Board finds that the coordination procedure mentioned in paragraph 7.4.5.2 has not been applied, and the notifying administration does not request the Board to effect the required coordination, the notice shall be returned immediately by airmail to the notifying administration with the reasons of the Board for this action and with such suggestions as the Board may be able to offer with a view to the satisfactory solution of the problem.

7.4.9.4 Where the notifying administration resubmits the notice and the Board finds that the coordination procedure mentioned in paragraph 7.4.5.2 has been successfully completed with all administrations whose frequency assignments in conformity with the appropriate Regional Plan may be affected, the frequency assignment shall be recorded in the Master Register. The date of receipt of the original notice by the Board shall be entered in Column 2d. The date of receipt by the Board of the resubmitted notice shall be entered in the Remarks Column.

7.4.9.5 Where the notifying administration resubmits the notice with a request that the Board effect the required coordination under paragraph 7.2.1, it shall be treated in accordance with the provisions of paragraph 7.4.9.2. However, in any subsequent recording of the assignment, the date of receipt by the Board of the resubmitted notice shall be entered in the Remarks Column.

7.4.9.6 Where the notifying administration resubmits the notice and states it has been unsuccessful in effecting the coordination, the Board shall inform the administrations concerned thereof. The notice shall be examined by the Board with respect to the provisions of paragraph 7.4.5.3. However, in any subsequent recording of the assignment, the date of receipt by the Board of the resubmitted notice shall be entered in the Remarks Column.

7.4.10 Finding favourable with respect to paragraphs 7.4.5.1 and 7.4.5.3

7.4.10.1 The assignment shall be recorded in the Master Register. The date of receipt by the Board of the notice shall be entered in Column 2d.

7.4.11 Finding favourable with respect to paragraph 7.4.5.1 but unfavourable with respect to paragraph 7.4.5.3

7.4.11.1 The notice shall be returned immediately by airmail to the notifying administration with the reasons of the Board for this finding and with such suggestions as the Board may be able to offer with a view to the satisfactory solution of the problem.

7.4.11.2 Should the notifying administration resubmit the notice with modifications which result, after re-examination, in a favourable finding by the Board with respect to paragraph 7.4.5.3, the assignment shall be recorded in the Master Register. The date of receipt by the Board of the original notice shall be entered in Column 2d. The date of receipt by the Board of the resubmitted notice shall be indicated in the Remarks Column.

7.4.11.3 Should the notifying administration resubmit the notice, either unchanged, or with modifications which decrease the probability of harmful

interference, but not sufficiently to permit the provisions of paragraph 7.4.11.2 to be applied, and should that administration insist upon reconsideration of the notice, but should the Board's finding remain unchanged, the notification shall again be returned to the notifying administration in accordance with paragraph 7.4.11.1. In those circumstances, the notifying administration shall undertake not to bring into use the proposed frequency assignment until the condition in paragraph 7.4.11.2 can be fulfilled. The agreement of the administrations affected can also be obtained in accordance with this Article for a specified period. In that event the Board shall be notified of the agreement and the frequency assignment shall be recorded in the Master Register with a note in the Remarks Column indicating that the assignment is valid only for the specified period. The notifying administration using the frequency assignment over a specified period shall not subsequently use this circumstance to justify continued use of the frequency beyond the period specified if it does not obtain the agreement of the administration(s) concerned. The date of receipt by the Board of the original notice shall be entered in Column 2d.

7.4.12 *Change in the basic characteristics of assignments already recorded in the Master Register*

7.4.12.1 A notice of a change in the basic characteristics of an assignment in the fixed-satellite service already recorded, as specified in Appendix 3 to the Radio Regulations (except the name of the station or the name of the locality in which it is situated or the date of bringing into use), shall be examined by the Board in conformity with paragraph 7.4.5.1 and, where appropriate, paragraphs 7.4.5.2 and 7.4.5.3, and the provisions of paragraphs 7.4.7 to 7.4.11.3 inclusive shall apply. Where the change should be recorded, the original assignment shall be amended accordingly.

7.4.12.2 However, in the case of a change in the characteristics of an assignment which is in conformity with paragraph 7.4.5.1, should the Board reach a favourable finding with respect to paragraphs 7.4.5.2 and 7.4.5.3, where appropriate, or find that the changes do not increase the probability of harmful interference to frequency assignments in conformity with the

appropriate Regional Plan, the amended assignment shall retain the original date in Column 2d. The date of receipt of the notice by the Board relating to the change shall be entered in the Remarks Column.

7.4.12.3 The projected date of bringing into use of a frequency assignment may be extended by four months at the request of the notifying administration. If the administration states that, due to exceptional circumstances, it needs a further extension of this period, such extension may be provided but it shall in no case exceed eighteen months from the original projected date of bringing into use.

7.4.12.4 In applying the provisions of this Section IV, any resubmitted notice which is received by the Board more than two years after the date of its return by the Board shall be considered as a new notice.

7.4.13 *Recording of frequency assignments in the fixed-satellite service notified before being brought into use*

7.4.13.1 If a frequency assignment notified in advance of bringing into use has received a favourable finding by the Board with respect to paragraph 7.4.5.1 and, where appropriate, paragraphs 7.4.5.2 and 7.4.5.3, it shall be entered provisionally in the Master Register with a special symbol in the Remarks Column indicating the provisional nature of that entry.

7.4.13.2 Within one month after the date of bringing into use, either as originally notified or as modified in application of paragraph 7.4.12.3, the notifying administration shall confirm that the frequency assignment has been brought into use. When the Board is informed that the assignment has been brought into use, the special symbol shall be deleted from the Remarks Column.

7.4.13.3 If the Board does not receive this confirmation within the period referred to in paragraph 7.4.13.2, the entry concerned shall be cancelled. The Board shall advise the administration concerned before taking such action.

Section V *Recording of Findings in the Master Register*

7.5 In any case where a frequency assignment is recorded in the Master Register, the finding reached by the Board shall be indicated by a symbol in Column 13a. In addition, a remark indicating the reasons for any unfavourable finding shall be inserted in the Remarks Column.

Section VI. Categories of Frequency Assignments

7 6 1 The date in Column 2c shall be the date of putting into use notified by the administration concerned. It is given for information only

7 6 2 If harmful interference is actually caused to the reception of any broadcasting-satellite station whose frequency assignment is in conformity with the appropriate Regional Plan, by the use of a frequency assignment to a space radiocommunication station subsequently recorded in the Master Register in accordance with the provisions of paragraph 7 4 11.3, the station using the latter frequency assignment must, upon receipt of advice thereof, immediately eliminate this harmful interference

7.6.3 If harmful interference to the reception of any broadcasting-satellite station whose frequency assignment is in conformity with the appropriate Regional Plan, is actually caused by the use of a frequency assignment which is not in conformity with paragraph 7.4.5.1, the station using the latter frequency assignment must, upon receipt of advice thereof, immediately eliminate this harmful interference

Section VII. Review of Findings

7.7.1 The review of a finding by the Board may be undertaken

- a) at the request of the notifying administration,
- b) at the request of any other administration interested in the question, but only on the grounds of actual harmful interference,
- c) on the initiative of the Board itself when it considers this is justified.

7 7 2 The Board, in the light of all the data at its disposal, shall review the matter, taking into account paragraph 7.4.5.1 and, where appropriate, paragraphs 7.4.5.2 and 7.4.5.3, and shall render an appropriate finding, informing the notifying administration prior either to the promulgation of its finding or to any recording action.

7 7 3 If the finding of the Board is then favourable it shall enter in the Master Register the changes that are required so that the entry shall appear in the future as if the original finding had been favourable

7 7 4 If the finding with regard to the probability of harmful interference remains unfavourable, no change shall be made in the original entry

Section VIII. Modification, Cancellation and Review of Entries in the Master Register

7 8 The Board shall at intervals not exceeding two years request confirmation from the notifying administration that its assignment has been and will continue to be in regular use in accordance with its recorded characteristics

7 8 1 Where the use of a recorded assignment to a station in the fixed-satellite service is suspended for a period of eighteen months, the notifying administration shall, within this eighteen-month period, inform the Board of the date on which such use was suspended and of the date on which the assignment is to be brought back into regular use

7 8 2 Whenever it appears to the Board, whether or not as a result of action under paragraph 7 8 1, that a recorded assignment to a space station in the fixed-satellite service has not been in regular use for more than eighteen months, the Board shall inquire of the notifying administration as to when the assignment is to be brought back into regular use

7.8.3 If no reply is received within six months of action by the Board under paragraph 7 8 2, or if the reply does not confirm that the assignment to a space station in the fixed-satellite service is to be brought back into regular use within this six-month limit, a mark should be entered against the entry in the Master Register

7 8 4 In case of permanent discontinuance of the use of any recorded frequency assignment, the notifying administration shall inform the Board within three months of such discontinuance, whereupon the entry shall be removed from the Master Register

7 8 5 Whenever it appears to the Board from the information available that a recorded assignment has not been brought into regular operation in accordance with the notified basic characteristics, or is not being used in accordance with those basic characteristics, the Board shall consult the notifying administration and, subject to its agreement, shall either cancel or suitably modify or retain the basic characteristics of the entry.

7 8 6 If, in connection with an inquiry by the Board under paragraph 7 8 5, the notifying administration has failed to supply the Board within three months with the necessary or pertinent information, the Board shall make suitable entries in the Remarks Column of the Master Register to indicate the situation

ARTICLE 8

Miscellaneous Provisions Relating to the Procedures

8 1 If so requested by any administration, the Board, using such means at its disposal as are appropriate in the circumstances, shall conduct a study of cases of alleged contravention or non-observance of these provisions or of harmful interference

8 2 The Board shall thereupon prepare and forward to the administration or administrations concerned a report containing its findings and recommendations for the solution of the problem

8 3 On receiving the Board's recommendations for the solution of the problem, an administration shall promptly acknowledge their receipt by telegram and shall indicate the action it intends to take Where the Board's suggestions or recommendations are unacceptable to the administrations concerned, further efforts should be made by the Board to find an acceptable solution to the problem

8 4 Where, as a result of a study, the Board submits to one or more administrations suggestions or recommendations for the solution of a problem, and where no reply has been received from one or more of these administrations within a period of three months, the Board shall consider that the suggestions or recommendations concerned are unacceptable to the administrations which did not answer If it was the requesting administration which failed to answer within this period, the Board shall discontinue the study

8 5 If so requested by any administration, particularly by an administration of a country in need of special assistance, the Board, using such means at its disposal as are appropriate in the circumstances, shall render the following assistance

- a) computation necessary in the application of Annexes 1, 3 and 4,
- b) any other assistance of a technical nature for completion of the procedures in this Appendix

8 6 In making a request to the Board under paragraph 8 5, the administration shall provide the Board with the necessary information

MOD

ARTICLE 9

Power Flux-Density Limits Between 12.2 GHz and 12.7 GHz to Protect Terrestrial Services in Regions 1 and 3 from Interference from Region 2 Broadcasting-Satellite Space Stations

9 1 The power flux-density at the Earth's surface in Regions 1 and 3, produced by emissions from a space station in the broadcasting-satellite service in Region 2 for all conditions and for all methods of modulation shall not exceed the values given in Section 5 of Annex 1 on the territory of any country unless the administration of that country so agrees

NOC

ARTICLE 11

**The Plan for the Broadcasting-Satellite Service in
the Frequency Bands 11.7 - 12.2 GHz in Region 3
and 11.7 - 12.5 GHz in Region 1**

(§ 11.1 - footnote)

MOD

¹ See Annex 5, paragraph 3.2.3

Note by the General Secretariat Only the title of Article 11 and the footnote to 11.1 are reproduced in these Final Acts. The Article itself, which contains the Regions 1 and 3 Plan, was not considered by the Conference, but will be included in the 1986 updating of the Radio Regulations

MOD

ARTICLE 12

Relationship to Resolution 507

12.1 The provisions and associated Plans for the broadcasting-satellite service in Regions 1 and 3 and in Region 2, of this Appendix, shall be regarded as including a world agreement and associated Plans for Regions 1, 2 and 3 in accordance with *resolves* 1 of Resolution 507, which requires the stations in the broadcasting-satellite service to be established and operated in accordance with such agreements and associated plans

MOD

ARTICLE 13

Interference

13.1 The Members of the Union shall endeavour to agree on the action required to reduce harmful interference which might be caused by the application of these provisions and the associated Plans.

MOD

ARTICLE 14

Period of Validity of the Provisions and Associated Plans

14.1 For Regions 1 and 3, the provisions and associated Plan have been prepared in order to meet the requirements of the broadcasting-satellite service in the bands concerned for a period of at least fifteen years from 1 January 1979

14.2 For Region 2, the provisions and associated Plan have been prepared in order to meet the requirements of the broadcasting-satellite service in the bands concerned for a period extending until at least 1 January 1994

14.3 In any event, the provisions and associated Plans shall remain in force until their revision by a competent administrative radio conference convened in accordance with the relevant provisions of the Convention in force

SUP

ARTICLE 15

SUP

ARTICLE 16

With respect to paragraph 4.3.3.4 in the case of an addition of a new assignment to the Region 2 Plan, an administration in Region 2 is considered as being affected if the power flux-density on any part of its territory exceeds $-115 \text{ dB(W/m}^2\text{)}$

MOD

ANNEX 2

**Basic Characteristics to Be Furnished in
Notices¹ Relating to Space Stations in
the Broadcasting-Satellite Service²**

1. Country and IFRB number in the case of Regions 1 and 3; country and beam identification in the case of Region 2
2. Nominal orbital position (in degrees from the Greenwich meridian) in the case of Regions 1 and 3, orbital position (xxx.xx degrees from the Greenwich meridian) in the case of Region 2
3. Assigned frequency or channel number
4. Date of bringing into use
5. Identity of the space station
6. Service area (if necessary, the service area may be defined by a number of "test points")

¹ The Board shall develop and keep up-to-date forms of notice to meet fully the statutory provisions of this Annex

² In Region 2, only those notices relating to frequency assignments for space stations used for telemetry and tracking purposes associated with the Region 2 Plan shall be furnished in accordance with Appendix 3 to the Radio Regulations

7. Geographical coordinates of the intersection of the antenna beam axis with the Earth
8. Rain-climatic zone(s)¹
9. Class of station
10. Class of emission and necessary bandwidth
11. Power supplied to the antenna (dBW) in the case of Regions 1 and 3, and, in the case of Region 2, power supplied to the antenna (dBW) and the maximum power density per Hz (dB(W/Hz)), averaged over the worst 5 MHz, 40 kHz and 4 kHz, supplied to the antenna
12. Antenna characteristics
 - a) gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi),
 - b) shape of the beam (elliptical, circular, or other),
 - c) pointing accuracy,
 - d) type of polarization,
 - e) sense of polarization,
 - f) for circular beams indicate the following
 - half-power beamwidth in degrees,
 - co-polar and cross-polar radiation patterns,
 - g) for elliptical beams indicate the following
 - co-polar and cross-polar radiation patterns
 - rotation accuracy,
 - orientation,
 - major axis (degrees) at the half-power beamwidth,
 - minor axis (degrees) at the half-power beamwidth,

¹ As defined in Annex 5 to this Appendix

- h)* for beams of other than circular or elliptical shape, indicate the following:
- co-polar and cross-polar gain contours plotted on a map of the Earth's surface, preferably in a radial projection from the satellite on to a plane perpendicular to the line from the centre of the Earth to the satellite. The isotropic or absolute gain shall be indicated at each contour which corresponds to a decrease in gain of 2, 4, 6, 10 and 20 dB and thereafter at 10 dB intervals down to a value of 0 dB relative to an isotropic radiator;
 - wherever practicable, a numerical equation or table providing the necessary information to allow the gain contours to be plotted

In the case of Regions 1 and 3:

- i)* ΔG (difference between the maximum gain and the gain in the direction of the point in the service area at which the power flux-density is at a minimum).
13. Station keeping accuracy.
14. Modulation characteristics:
- a)* type of modulation;
 - b)* pre-emphasis characteristics;
 - c)* TV standard;
 - d)* sound broadcasting characteristics,
 - e)* frequency deviation;
 - f)* composition of the baseband;
 - g)* type of multiplexing of the video and sound signals,
 - h)* energy dispersal characteristics
15. Minimum angle of elevation in the service area in the case of Regions 1 and 3.
16. Type of reception (individual or community) in the case of Regions 1 and 3.

17. Regular hours of operation (UTC)
18. Coordination
19. Agreements.
20. Other information
21. Operating administration or company

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ANNEX 4

**Need for Coordination of a Space Station in the Fixed-Satellite Service :
in Region 2 (11.7 - 12.2 GHz) with Respect to the Regions 1 and 3 Plan,
in Region 1 (12.5 - 12.7 GHz) and in Region 3 (12.2 - 12.7 GHz)
with Respect to the Region 2 Plan**

(See Article 7)

With respect to paragraph 7.2.1 of Article 7 of this Appendix, coordination of a space station in the fixed-satellite service of Region 2 is required when, under assumed free-space propagation conditions, the power flux-density on the territory of an administration in Region 1 or Region 3 exceeds the value derived from the expressions given below

With respect to paragraph 7.2.1 of Article 7 of this Appendix, coordination of a space station in the fixed-satellite service in Region 1 or 3 is required when, under assumed free-space propagation conditions, the power flux-density on the territory of an administration in Region 2 exceeds the value derived from the same expressions

$$\begin{array}{ll} -147 \text{ dB(W/m}^2\text{ / 27 MHz)} & \text{for } 0^\circ \leq \theta < 0.44^\circ \\ -138 + 25 \log \theta \text{ dB(W/m}^2\text{ / 27 MHz)} & \text{for } 0.44^\circ \leq \theta < 19.1^\circ \\ -106 \text{ dB(W/m}^2\text{ / 27 MHz)} & \text{for } \theta \geq 19.1^\circ \end{array}$$

where θ is:

- the difference in degrees between the longitude of the interfering fixed-satellite space station in Region 2 and the longitude of the affected broadcasting-satellite space station in Regions 1 and 3,
or
- the difference in degrees between the longitude of the interfering fixed-satellite space station in Region 1 or 3 and the longitude of the affected broadcasting-satellite space station in Region 2

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ANNEX 5

Technical Data Used in Establishing the Provisions and Associated Plans and Which Should Be Used for Their Application

1 DEFINITIONS

1.1 Service area

The area on the surface of the Earth in which the administration responsible for the service has the right to demand that the agreed protection conditions be provided.

Note In the definition of service area, it is made clear that within the service area the agreed protection conditions can be demanded. This is the area where there should be at least the wanted power flux-density and protection against interference based on the agreed protection ratio for the agreed percentage of time

1.2 Coverage area

The area on the surface of the Earth delineated by a contour of a constant given value of power flux-density which would permit the wanted quality of reception in the absence of interference.

Note 1 In accordance with the provisions of No 2674 of the Radio Regulations, the coverage area must be the smallest area which encompasses the service area

Note 2 The coverage area, which will normally encompass the entire service area, will result from the intersection of the antenna beam (elliptical or circular) with the surface of the Earth, and will be defined by a given value of power flux-density. For example, in the case of a country with a service

planned for individual reception, it would be the area delineated by the contour corresponding to a level of $-103 \text{ dB(W/m}^2\text{)}$ exceeded for 99% of the worst month in the case of Regions 1 and 3, and $-107 \text{ dB(W/m}^2\text{)}$ exceeded for 99% of the worst month in the case of Region 2. There will usually be an area outside the service area but within the coverage area in which the power flux-density will be at least equivalent to the minimum specified value, however, protection against interference will not be provided in this area

1.3 Beam area

The area delineated by the intersection of the half-power beam of the satellite transmitting antenna with the surface of the Earth

Note The beam area is simply that area on the Earth's surface corresponding to the -3 dB points on the satellite antenna radiation pattern. In many cases the beam area would almost coincide with the coverage area, the discrepancy being accounted for by the permanent difference in path lengths from the satellite throughout the beam area, and also by the permanent variations, if any, in propagation factors across the area. However, for a service area where the maximum dimension as seen from the satellite position is less than 0.6° in Regions 1 and 3, and less than 0.8° in Region 2 (the agreed minimum practicable satellite antenna half-power beamwidths), there could be a significant difference between the beam area and the coverage area

1.4 Nominal orbital position

The longitude of a position in the geostationary-satellite orbit associated with a frequency assignment to a space station in a space radiocommunication service. The position is given in degrees from the Greenwich meridian.

Note Definitions in sections 1.5 to 1.14 are applicable to Region 2

1.5 *Feeder link*

In the Region 2 broadcasting-satellite service Plan, the term "feeder link", as defined in No 109 of the Radio Regulations, is further qualified to indicate a fixed-satellite service link in the frequency band 17.3 - 17.8 GHz from any earth station within the feeder-link service area to the associated space station in the broadcasting-satellite service.

1.6 *Feeder-link area*

The area delineated by the intersection of the half-power beam of the satellite receiving antenna with the surface of the Earth.

1.7 *Feeder-link service area*

The area on the surface of the Earth within the feeder-link beam area within which the administration responsible for the service has the right to locate transmitting earth stations for the purpose of providing feeder links to broadcasting-satellite space stations.

1.8 *Adjacent channel*

The RF channel in the broadcasting-satellite service frequency Plan, or in the associated feeder-link frequency Plan, which is situated immediately higher or lower in frequency with respect to the reference channel.

1.9 *Second adjacent channel*

The RF channel in the broadcasting-satellite service frequency Plan, or in the associated feeder-link frequency Plan, which is situated immediately beyond either of the adjacent channels, with respect to the reference channel.

1.10 *Overall carrier-to-interference ratio*

The overall carrier-to-interference ratio is the ratio of the wanted carrier power to the sum of all interfering RF powers in a given channel including both feeder links and down-links. The overall carrier-to-interference ratio due to interference from the given channel is calculated as the reciprocal of the sum of the reciprocals of the feeder link carrier-to-interference ratio and the down-link carrier-to-interference ratio referred to the satellite receiver input and earth station receiver input, respectively.¹

1.11 *Overall co-channel protection margin*

The overall co-channel protection margin in a given channel is the difference in decibels between the overall co-channel carrier-to-interference ratio and the co-channel protection ratio.

1.12 *Overall adjacent channel protection margin*

The overall adjacent channel protection margin is the difference in decibels between the overall adjacent channel carrier-to-interference ratio and the adjacent channel protection ratio.

¹ There are a total of five overall carrier-to-interference ratios used in the analysis of the Plan for the broadcasting-satellite service in Region 2, namely, co-channel, upper and lower adjacent channels, and upper and lower second adjacent channels.

1.13 Overall second adjacent channel protection margin

The overall second adjacent channel protection margin is the difference in decibels between the overall second adjacent channel carrier-to-interference ratio and the second adjacent channel protection ratio.

1.14 Overall equivalent protection margin

The overall equivalent protection margin M is given in decibels by the expression:

$$M = -10 \log \left(\sum_{i=1}^5 10^{(-M_i/10)} \right) \quad (\text{dB})$$

where

M_1 = overall co-channel protection margin, in dB (as defined in section 1.11 of this Annex);

M_2, M_3 = overall adjacent channel protection margins for the upper and lower adjacent channels respectively, in dB (as defined in section 1.12 of this Annex),

M_4, M_5^1 = overall second adjacent channel protection margins for the upper and lower second adjacent channels respectively, in dB (as defined in section 1.13 of this Annex)

¹ M_4 and M_5 are applicable only for Region 2.

The adjective "equivalent" indicates that the protection margins for all interference sources from the adjacent and second adjacent channels as well as co-channel interference sources have been included.

- 3) Any new orbital position in the Regions 1 and 3 Plan in the range of the orbital arc between 37° W and 10° E associated with a new assignment, or resulting from a modification of an assignment in the Plan, shall be coincident with, or within 1° to the east of, a nominal orbital position in the Region 1 and 3 Plan at the date of entry into force of the Final Acts¹

In the event of a modification to an assignment in the Regions 1 and 3 Plan, the use of a new nominal orbital position not coincident with any nominal orbital position in the Plan at the date of entry into force of the Final Acts¹ shall involve an 8 dB reduction in the eirp compared to that appearing in the Regions 1 and 3 Plan for the assignment before modification

B The Region 2 Plan is based on the grouping of the space stations in nominal orbital positions of +0.2° and -0.2° from the centre of the cluster of satellites. Administrations may locate those satellites within a cluster at any orbital position within that cluster, provided they obtain the agreement of administrations having assignments to space stations in the same cluster (See Section 3.13.1 of Annex 3 to Appendix 30A of the Radio Regulations)

¹ Final Acts of the 1977 Conference, which entered into force on 1 January 1979

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ANNEX 7

Orbital Position Limitations

A In applying the procedure of Article 4 for modifications to the appropriate Regional Plan, administrations should observe the following criteria

- 1) No broadcasting satellite serving an area in Region 1 and using a frequency in the band 11.7 - 12.2 GHz shall occupy a nominal orbital position further west than 37° W or further east than 146° E
- 2) No broadcasting satellite serving an area in Region 2 that involves an orbital position different from that contained in the Region 2 Plan shall occupy a nominal orbital position
 - a) further east than 54° W in the band 12.5 - 12.7 GHz; or
 - b) further east than 44° W in the band 12.2 - 12.5 GHz; or
 - c) further west than 175.2° W in the band 12.2 - 12.7 GHz

However, modifications necessary to resolve possible incompatibilities during the incorporation of the Regions 1 and 3 feeder-link Plan into the Radio Regulations shall be permitted

APPENDIX 30A

**Provisions and Associated Plan for the Feeder Links
for the Broadcasting-Satellite Service (12.2 - 12.7 GHz)
in the Frequency Band 17.3 - 17.8 GHz in Region 2**

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ARTICLE 1

General Definitions

1.1 *Region 2 Feeder-Link Plan* The Plan for the feeder links for the broadcasting-satellite service in the frequency band 17.3 - 17.8 GHz in Region 2 contained in this Appendix together with any modifications resulting from the successful application of the procedure of Article 4 of this Appendix herein referred to as the Plan

1.2 *Frequency assignment in conformity with the Region 2 Feeder-Link Plan* Any frequency assignment for a receiving space station which appears in the Plan or for which the procedure of Article 4 of this Appendix has been successfully applied

1.3 *1983 Conference* Regional Administrative Radio Conference for the Planning in Region 2 of the Broadcasting-Satellite Service in the Frequency Band 12.2 - 12.7 GHz and Associated Feeder Links in the Frequency Band 17.3 - 17.8 GHz, called in short Regional Administrative Conference for the Planning of the Broadcasting-Satellite Service in Region 2 (RARC Sat-R2), Geneva, 1983.

1.4 *1985 Conference* First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It, Geneva, 1985, called in short WARC Orb-85

ARTICLE 2

Frequency Band

2.1 The provisions of this Appendix apply to the feeder links in the fixed-satellite service (Earth-to-space) in the frequency band 17.3-17.8 GHz, for the broadcasting-satellite service in Region 2, and to other services to which this band is allocated in Region 2 so far as their relationship to the fixed-satellite service (Earth-to-space) in this band is concerned.

ARTICLE 3

Execution of the Provisions and Associated Plan

3.1 The Members of the Union in Region 2 shall adopt for their feeder-link space and earth stations in the fixed-satellite service (Earth-to-space) in the frequency band referred to in this Appendix, the characteristics specified in the Plan and its associated provisions.

3.2 Members of the Union in Region 2 shall not change the characteristics specified in the Plan, or bring into use assignments to feeder-link stations in the fixed-satellite service or to stations of the other services to which these frequency bands are allocated, except as provided for in the Radio Regulations and the appropriate Articles and Annexes of this Appendix.

ARTICLE 4

Procedure for Modifications
to the Region 2 Plan (17.3 - 17.8 GHz)

4.1 When an administration intends to make a modification to the Plan, i.e. either

- a) to modify the characteristics of any of its frequency assignments in the fixed-satellite service which are shown in the Plan, or for which the procedure in this Article has been successfully applied, whether or not the station has been brought into use *or*
- b) to include in the Plan a new frequency assignment in the fixed-satellite service *or*
- c) to cancel a frequency assignment in the fixed-satellite service,

the following procedure shall be applied before any notification of the frequency assignment is made to the International Frequency Registration Board (see Article 5 of this Appendix and Resolution 42 (Orb-85))

4.1.1 Before an administration proposes to include in the Plan under the provisions of 4.1 b) a new frequency assignment for reception at a space station¹ or to include in the Plan a new frequency assignment for reception at a space station whose orbital position is not designated in the Plan to this administration, all of the assignments to the service areas involved should normally have been brought into service or have been notified to the Board in accordance with Article 5 of this Appendix. Should this not be the case the administration concerned shall inform the Board of the reasons thereof

¹ The expression "frequency assignment for reception to a space station" wherever it appears in this Article, shall be understood to refer to a frequency assignment associated with a given orbital position

4.2 *Proposed modifications to a frequency assignment in conformity with the Plan or the inclusion in the Plan of a new frequency assignment*

4.2.1 An administration proposing a modification to the characteristics of a frequency assignment in conformity with the Plan or the inclusion of a new frequency assignment in the Plan shall seek the agreement of those administrations

4.2.1.1 of Region 2 having a feeder-link frequency assignment in the fixed-satellite service (Earth-to-space) in the same channel or an adjacent channel, which appears in the Plan or in respect of which proposed modifications to the Plan have already been published by the Board in accordance with the provisions of sections 4.2.3.1 and 4.2.4 of this Article, or

4.2.1.2 having a frequency assignment in the band 17.7-17.8 GHz to an earth station in the fixed-satellite service (space-to-Earth) which is recorded in the Master Register or which has been coordinated or is being coordinated under the provisions of No. 1060 of the Radio Regulations and which is located within the coordination area of the feeder link fixed-satellite earth station;

4.2.1.3 having a frequency assignment in the band 17.7-17.8 GHz to a terrestrial station in use or intended to be brought into use within three years of the projected date of bringing the feeder link modification into use, and which is located within the coordination area of the feeder link fixed-satellite earth station,

4.2.1.4 having an assignment in the fixed-satellite service (Earth-to-space) in Regions 1 or 3 which

- a) is recorded in the Master Register; or
- b) has been coordinated or is being coordinated or has been notified under Articles 11 and 13 of the Radio Regulations, or

- c) appears in a Region 1 and 3 feeder-link Plan to be adopted by a future Administrative Radio Conference, taking account of modifications which may be introduced subsequently, in accordance with the Final Acts of that conference or

- d) is identified in accordance with Resolution 43 (Orb-85)

4.2.1.5 which are considered affected

4.2.1.6 The services of an administration are considered to be affected when the limits shown in Annex 1 to this Appendix are exceeded

4.2.2 The agreement referred to in 4.2.1 is not required when an administration proposes to bring into use, with characteristics appearing in the Plan, a fixed earth station in the band 17.3-17.8 GHz or a transportable earth station in the band 17.3-17.7 GHz. Administrations may communicate to the Board the characteristics of such earth stations in order to include them in the Plan

4.2.3 An administration intending to modify characteristics in the Plan shall send to the Board, not earlier than five years but preferably not later than eighteen months before the date on which the assignment is to be brought into use, the relevant information listed in Annex 2 to this Appendix

4.2.3.1 Where as a result of the intended modification the limits defined in Annex 1 to this Appendix are not exceeded, this fact shall be indicated when submitting to the Board the information required by 4.2.3. The Board shall then publish this information in a special section of its weekly circular

4.2.3.2 In all other cases the administration shall notify the Board of the names of the administrations whose agreement it considers should be sought in order to arrive at the agreement referred to in 4.2.1 as well as of those with which agreement has already been reached

4.2.4 The Board shall determine on the basis of Annex 1 to this Appendix the administrations whose frequency assignments are considered to be affected within the meaning of 4.2.1. The Board shall include the names of those administrations with the information received under 4.2.3.2 and shall

publish the complete information in a special section of its weekly circular. The Board shall immediately send the results of its calculations to the administration proposing the modification to the Plan.

4.2.5 The Board shall send a telegram to the administrations listed in the special section of the weekly circular drawing their attention to the information it contains and shall send them the results of its calculations.

4.2.6 An administration which feels that it should have been included in the list of administrations whose services are considered to be affected may, giving the technical reasons for so doing, request the Board to include its name. The Board shall study this request on the basis of Annex 1 to this Appendix and shall send a copy of the request with an appropriate recommendation to the administration proposing the modification to the Plan.

4.2.7 Any modification to a frequency assignment which is in conformity with the Plan or any inclusion in the Plan of a new frequency assignment which would have the effect of exceeding the limits specified in Annex 1 to this Appendix shall be subject to the agreement of all affected administrations.

4.2.8 The administration seeking agreement or the administration with which agreement is sought may request any additional technical information it considers necessary. The administrations shall inform the Board of such requests.

4.2.9 Comments from administrations on the information published pursuant to 4.2.4 should be sent either directly to the administration proposing the modification or through the Board. In any event the Board shall be informed that comments have been made.

4.2.10 An administration which has not notified its comments either to the administration seeking agreement or to the Board, within a period of four months following the date of the weekly circular referred to in 4.2.3.1 or 4.2.4 shall be understood to have agreed to the proposed modification. This time-limit may be extended by up to three months for an administration which has requested additional information under 4.2.8 or for an

administration which has requested the assistance of the Board under 4.2.18. In the latter case the Board shall inform the administrations concerned of this request.

4.2.11 If, in seeking agreement, an administration modifies its initial proposal, it shall again apply the provisions of 4.2.3 and the consequent procedure with respect to any other administration whose services might be affected as a result of modifications to the initial proposal.

4.2.12 If no comments have been received on the expiry of the periods specified in 4.2.10, or if agreement has been reached with the administrations which have made comments and with which agreement is necessary, the administration proposing the modification may continue with the appropriate procedure in Article 5 of this Appendix and shall inform the Board, indicating the final characteristics of the frequency assignment together with the names of the administrations with which agreement has been reached.

4.2.13 The agreement of the administrations affected may also be obtained in accordance with this Article, for a specified period.

4.2.14 When the proposed modification to the Plan involves developing countries, administrations shall seek all practicable solutions conducive to the economical development of the broadcasting-satellite systems of these countries.

4.2.15 The Board shall publish in a special section of its weekly circular the information received under 4.2.12 together with the names of any administrations with which the provisions of this Article have been successfully applied. The frequency assignment concerned shall enjoy the same status as those appearing in the Plan and will be considered as a frequency assignment in conformity with the Plan.

4.2.16 When an administration proposing to modify the characteristics of a frequency assignment or to make a new frequency assignment receives notice of disagreement from an administration whose agreement it has sought, it should first endeavour to solve the problem by exploring all possible means of meeting its requirement. If the problem still cannot be

solved by such means, the administration whose agreement has been sought should endeavour to overcome the difficulties as far as possible, and shall state the technical reasons for any disagreement if the administration seeking the agreement requests it to do so

4.2.17 If no agreement is reached between the administrations concerned, the Board shall carry out any study that may be requested by these administrations, the Board shall inform them of the result of the study and shall make such recommendations as it may be able to offer for the solution of the problem

4.2.18 An administration may at any stage in the procedure described, or before applying it, request the assistance of the Board, particularly in seeking the agreement of another administration

4.2.19 The relevant provisions of Article 5 of this Appendix shall be applied when frequency assignments are notified to the Board

4.3 *Cancellation of frequency assignments*

When a frequency assignment in conformity with the Plan is no longer required, whether or not as a result of a modification, the administration concerned shall immediately so inform the Board. The Board shall publish this information in a special section of its weekly circular and delete the assignment from the Plan.

4.4 *Master copy of the Plan*

4.4.1 The Board shall maintain an up-to-date master copy of the Plan, including the overall equivalent protection margins of each assignment, taking account of the application of the procedure specified in this Article. This master copy shall contain the overall equivalent protection margins derived from the Plan as established by the 1983 Conference and those derived from all modifications to the Plan as a result of the successful completion of the modification procedure of this Article. The Board shall prepare a document listing the amendments to be made to the Plan as a result of modifications made in accordance with the procedure in this Article

4.4.2 The Secretary-General shall be informed by the Board of modifications made to the Plan and shall publish an up-to-date version of the Plan in an appropriate form when justified by the circumstances.

ARTICLE 5

Notification, Examination and Recording in the Master Register of Frequency Assignments to Feeder-Link Transmitting Earth Stations and Receiving Space Stations in the Fixed-Satellite Service in the Band Between 17.3 and 17.8 GHz in Region 2

5.1 *Notification*

5.1.1 Whenever an administration intends to bring into use a frequency assignment to a transmitting earth station or receiving space station in the fixed-satellite service in the band between 17.3 and 17.8 GHz, it shall notify this frequency assignment to the Board. For this purpose, the notifying administration shall apply the following provisions

5.1.2 For any notification under 5.1.1, an individual notice for each frequency assignment shall be drawn up as prescribed in Annex 2 to this Appendix, the various sections of which specify the basic characteristics to be provided as appropriate. It is recommended that the notifying administration should also supply any other data it may consider useful

5.1.3 Each notice must reach the Board not earlier than three years before the date on which the frequency assignment is to be brought into use. In any case, the notice must reach the Board not later than three months before that date¹

¹ Where appropriate, the notifying administration shall initiate the procedure of Article 4 of this Appendix for modifying the Plan in sufficient time to ensure that this limit is observed

5.1.4 Any frequency assignment the notice of which reaches the Board after the applicable period specified in 5.1.3 shall, where it is to be recorded, bear a remark in the Master Register to indicate that it is not in conformity with 5.1.3

5.1.5 Any notice made under 5.1.1 which does not contain the characteristics specified in Annex 2 to this Appendix shall be returned by the Board immediately by airmail to the notifying administration with the relevant reasons

5.1.6 Upon receipt of a complete notice, the Board shall include its particulars, with the date of receipt, in its weekly circular which shall contain the particulars of all such notices received since the publication of the previous circular

5.1.7 The circular shall constitute the acknowledgement to the notifying administration of the receipt of a complete notice

5.1.8 Complete notices shall be considered by the Board in order of receipt. The Board shall not postpone its finding unless it lacks sufficient data to reach a decision; moreover, the Board shall not act upon any notice which has a technical bearing on an earlier notice still under consideration by the Board until it has reached a finding with respect to such earlier notice

5.2 *Examination and recording*

5.2.1 The Board shall examine each notice

a) with respect to its conformity with the Convention and the relevant provisions of the Radio Regulations (with the exception of those relating to b), c), and d) below), and

b) with respect to its conformity with the Plan; or

c) with respect to its conformity with the Plan, however having characteristics differing from those in the Plan in one or more of the following aspects

- use of a reduced e i r p ,
- use of a reduced coverage area entirely situated within the coverage area appearing in the Plan,
- use of other modulating signals in accordance with the provisions of 3.1.3 of Annex 5 of Appendix 30 (Orb-85),
- use of an orbital position under the conditions specified in paragraph B of Annex 7 of Appendix 30 (Orb-85),
- use of an antenna diameter greater than 5 metres without increasing the on-axis e i r p ,
- use of an antenna diameter greater than 5 metres resulting in a greater on-axis e i r p if the orbital separation with any other space station is greater than 0.5° , or

d) with respect to its conformity with the provisions of Resolution 42 (Orb-85)

5.2.2 Where the Board reaches a favourable finding with respect to 5.2.1 a) and 5.2.1 b), the frequency assignment of an administration shall be recorded in the Master Register. The date of receipt of the notice by the Board shall be entered in Column 2d. In relations between administrations, all frequency assignments brought into use in conformity with the Plan and recorded in the Master Register shall be considered to have the same status irrespective of the dates entered in Column 2d for such frequency assignments

5.2.2.1 Where the Board reaches a favourable finding with respect to 5.2.1 a) and 5.2.1 c) the frequency assignment shall be recorded in the Master Register. The date of receipt of the notice by the Board shall be entered in Column 2d. In relations between administrations, all frequency assignments brought into use in conformity with the Plan and recorded in

the Master Register shall be considered to have the same status irrespective of the dates entered in Column 2d for such frequency assignments. When recording these assignments, the Board shall indicate by an appropriate symbol the characteristics having a value different from that appearing in the Plan.

5.2.2.2 Where the Board reaches 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), it shall examine the notice with respect to the successful application of the provisions of Resolution 42 (Orb-85). A frequency assignment for which the provisions of Resolution 42 (Orb-85) have been successfully applied shall be recorded in the Master Register with an appropriate symbol to indicate its interim status. The date of receipt of the notice by the Board shall be entered in Column 2d. In relations between administrations all frequency assignments brought into use following the successful application of the provisions of Resolution 42 (Orb-85) and recorded in the Master Register shall be considered to have the same status irrespective of the dates entered in Column 2d for such frequency assignments.

5.2.3 Whenever a frequency assignment is recorded in the Master Register, the finding reached by the Board shall be indicated by a symbol in Column 13a.

5.2.4 Where the Board reaches an unfavourable finding with respect to 5.2.1 a), 5.2.1 b) and 5.2.1 c), the notice shall be returned immediately by airmail to the notifying administration with the reasons of the Board for this finding and with such suggestions as the Board may be able to offer with a view to a satisfactory solution of the problem.

5.2.5 Where the notifying administration resubmits the notice and the finding of the Board becomes favourable with respect to the appropriate parts of 5.2.1, the notice shall be treated as in 5.2.2, 5.2.2.1 or 5.2.2.2 as appropriate.

5.2.6 If the notifying administration resubmits the notice without modification and insists on its reconsideration, and if the Board's finding with respect to 5.2.1 remains unfavourable, the notice is returned to the notifying administration in accordance with 5.2.4. In this case, the notifying administration undertakes not to bring into use the frequency assignment until the condition specified in 5.2.5 is fulfilled.

5.2.7 If a frequency assignment notified in advance of bringing into use in conformity with 5.1.3 has received a favourable finding by the Board with respect to the provisions of 5.2.1, it shall be entered provisionally in the Master Register with a special symbol in the Remarks Column indicating the provisional nature of that entry.

5.2.8 When the Board has received confirmation that the frequency assignment has been brought into use, the Board shall remove the symbol in the Master Register.

5.2.9 The date in Column 2c shall be the date of bringing into use notified by the administration concerned. It is given for information only.

5.3 Cancellation of entries in the Master Register

5.3.1 If an administration has not confirmed the bringing into use of a frequency assignment under 5.2.8, the Board will make inquiries of the administration not earlier than six months after the expiry of the period specified in 5.1.3. On receipt of the relevant information, the Board will either modify the date of coming into use or cancel the entry.

5.3.2 If the use of any recorded frequency assignment is permanently discontinued, the notifying administration shall so inform the Board within three months, whereupon the entry shall be removed from the Master Register.

ARTICLE 6

**Procedure Concerning Notification and Recording
in the Master Register of Frequency Assignments to Terrestrial Stations
in Region 2 in the Band 17.7 - 17.8 GHz, when Frequency Assignments
to Feeder-Link Earth Stations for the Broadcasting-Satellite Service
in Conformity with the Region 2 Plan Are Involved**

6.1 Administrations planning to implement assignments for terrestrial stations in the 17.7 - 17.8 GHz band should evaluate the level of interference which might be caused by the closest feeder-link earth station located on the border of the territory of another administration. In cases where the entry in the Plan contains information on specific earth stations, the level of interference shall be assessed on the basis of coordination contours calculated in accordance with Appendix 28 to the Radio Regulations. Should the administration concerned find that interference may be caused by the feeder-link earth stations to its planned terrestrial station, it may request the administration responsible for the feeder-link earth station to indicate the planned actual locations of the feeder-link earth stations.

6.2 An administration which receives a request under 6.1 shall, within a period of three months, indicate the actual locations of its feeder-link earth stations and communicate them to the Board in order to update the Plan.

6.3 If, at the end of a period of three months, the administration responsible for the terrestrial station does not receive a reply, it may request the assistance of the Board.

6.4 If the administration responsible for the feeder-link earth stations does not communicate to the Board, within a period of three months, the actual locations of its feeder-link earth stations, this administration may implement its feeder-link earth station provided it does not cause harmful interference to the terrestrial station under consideration.

ARTICLE 7

**Procedure Concerning Notification and Recording
in the Master Register of Frequency Assignments to Stations
in the Fixed-Satellite Service (Space-to-Earth) in Region 2
in the Band 17.7 - 17.8 GHz, when Frequency Assignments
to Feeder-Link Stations for the Broadcasting-Satellite Service
Appearing in the Region 2 Plan Are Involved**

7.1 The provisions of Articles 11 and 13 and Appendix 29 of the Radio Regulations are applicable to transmitting space stations in the fixed-satellite service of Region 2 in the band 17.7 - 17.8 GHz together with the provisions of Annex 4 to this Appendix, except that in relationship with feeder-link stations in Region 2, the threshold value mentioned in Appendix 29 to the Radio Regulations is replaced by those given in Annex 4 to this Appendix.

7.2 Administrations planning to implement assignments for receiving earth stations in the 17.7 - 17.8 GHz band in the fixed-satellite service (space-to-Earth) should evaluate the level of interference that might be caused by the closest feeder-link earth station located on the border of the territory of another administration. In cases where the entry in the Plan or the Master Register contains information on specific earth stations, the level of interference shall be assessed on the basis of coordination contours calculated in accordance with Annex 4 to this Appendix. Should this administration find that interference may be caused by the feeder-link earth stations to its planned fixed-satellite earth station, it may request the administration responsible for the feeder-link earth station to indicate the planned actual locations of the feeder-link earth stations.

7.3 An administration which receives a request under 7.2 shall, within a period of three months, indicate the actual locations of its earth stations and communicate it to the Board in order to update the Plan.

7.4 If, at the end of the period of three months, the administration responsible for the fixed-satellite receiving earth station does not receive a reply, it may request the assistance of the Board in this matter.

7.5 If the administration responsible for the feeder-link earth stations does not communicate to the Board, within a period of three months, the actual locations of its feeder-link earth stations, this administration may implement its feeder-link earth station provided it does not cause harmful interference to the fixed-satellite earth station under consideration.

ARTICLE 8

Miscellaneous Provisions Relating to the Procedures

Section I. Studies and Recommendations

8.1.1 If it is requested by any administration, the Board, using such means at its disposal as are appropriate in the circumstances, shall conduct a study of cases of alleged contravention or non-observance of these provisions, or of harmful interference.

8.1.2 The Board shall thereupon prepare and forward to the administrations concerned a report containing its findings and recommendations for the solution of the problem.

8.1.3 On receiving the Board's recommendations for the solution of the problem, an administration shall promptly acknowledge the receipt by telegram and shall subsequently indicate the action it intends to take. In cases when the Board's suggestions or recommendations are unacceptable to the administrations concerned, further efforts should be made by the Board to find an acceptable solution to the problem.

8.1.4 In a case where, as a result of a study, the Board submits to one or more administrations suggestions or recommendations for the solution of a problem, and where no answer has been received from one or more of these

administrations within a period of four months, the Board shall consider that the suggestions or recommendations concerned are unacceptable to the administrations which did not answer. If it was the requesting administration which failed to answer within this period, the Board shall close the study.

Section II. Miscellaneous Provisions

8.2.1 If it is requested by any administration, particularly by an administration of a country in need of special assistance, the Board, using such means at its disposal as are appropriate in the circumstances, shall render the following assistance:

- a) computation necessary in the application of Annexes 1, 3 and 4 to this Appendix,
- b) any other assistance of a technical nature for completion of the procedures in this Appendix.

8.2.2 In making a request to the Board under paragraph 8.2.1, the administration shall furnish the Board with the necessary information.

For the interfering feeder-link signal path, clear sky propagation (i.e. including atmospheric absorption only) is assumed

3 BASIC TECHNICAL CHARACTERISTICS

3.1 *Translation frequency and guard bands*

The feeder-link Plan is based on the use of a single frequency translation of 5.1 GHz between the 17 GHz feeder-link channels and the 12 GHz down-link channels. Other values of the translation frequency may be used, provided that the corresponding channels have been assigned to the space station of the administration concerned.

With a single value frequency translation between the feeder-link frequency band (17.3 - 17.8 GHz) and the down-link frequency band (12.2 - 12.7 GHz), the guard bands present in the down-link Plan result in corresponding bandwidths of 12 MHz at the upper and lower feeder-link band edges. These feeder-link guard bands may be used for transmissions in the space operation service.

3.2 *Carrier-to-noise ratio*

Section 3.3 of Annex 5 to Appendix 30 (Orb-85) provides guidance for planning and the basis for the evaluation of the carrier-to-noise ratios of the feeder-link and down-link Plans.

As a guidance for planning, the reduction in quality in the down-link due to thermal noise in the feeder link is taken as equivalent to a degradation in the down-link carrier-to-noise ratio of approximately 0.5 dB not exceeded for 99% of the worst month.

3.3 *Carrier-to-noise ratio*

Section 3.4 of Annex 5 to Appendix 30 (Orb-85) provides guidance for planning for the contribution of the feeder-link co-channel interference to the overall co-channel carrier-to-interference ratio. However, the feeder-link and down-link Plans are evaluated on the overall equivalent protection margin which includes the combined down-link and feeder link contributions. Definitions 1.7, 1.8, 1.9, 1.10 and 1.11 of this Annex and the protection ratios given in Section 3.4 of Annex 5 to Appendix 30 (Orb-85) are used in the analysis of the Plans.

For the adjacent channels, the Plan is based on an orbital separation of 0.4° between nominally co-located satellites having cross-polarized adjacent channel assignments.

For the second adjacent channels, the Plan is based on a 10 dB improvement on the feeder-link carrier-to-interference ratio due to the satellite receive filtering.

3.4 *Transmitting antenna*

3.4.1 *Antenna diameter*

The feeder-link Plan is based on an antenna diameter of 5 metres.

The minimum antenna diameter permitted in the Plan is 2.5 metres. However, the feeder-link carrier-to-noise ratio and carrier-to-interference ratio resulting from the use of antennas with diameters smaller than 5 metres would generally be less than those calculated in the Plan.

The use of antennas larger than 5 metres, with corresponding values of on-axis e.i.r.p. higher than the planned value (indicated in Section 3.4.3) but without augmented off-axis e.i.r.p., is permitted if the orbital separation between the assigned orbital location of the administration and the assigned orbital location of any other administration is greater than 0.5° .

Antennas with diameters larger than 5 metres can also be implemented if the above orbital separation is less than 0.5° and if the e.i.r.p. of the desired feeder-link earth station does not exceed the planned value of e.i.r.p.

If the above orbital separation is less than 0.5° and if the e.i.r.p. of the desired feeder-link earth station exceeds the planned value, agreement between administrations is required.

3.4.2 *Reference patterns of transmitting antennas*

The co-polar and cross-polar reference patterns of transmitting antennas used for planning in Region 2 are given in Figure 3.

3.4.3 *Antenna efficiency*

The Plan is based on an antenna efficiency of 65%. The corresponding on-axis gain for an antenna having a 5-metre diameter is 57.4 dBi at 17.55 GHz, and the corresponding value of e.i.r.p. used for planning purposes is 87.4 dBW.

3.4.4 *Pointing accuracy*

The Plan has been developed to accommodate a loss in gain due to earth station antenna mis-pointing of 1 dB. Under no circumstances shall the Plan allow for a mis-pointing angle greater than 0.1° .

3.5 *Transmit power*

The maximum transmit power delivered to the input of the antenna of the feeder-link earth station is 1000 watts per 24 MHz television channel. This level of power can only be exceeded under certain conditions specified in Section 3.10 of this Annex.

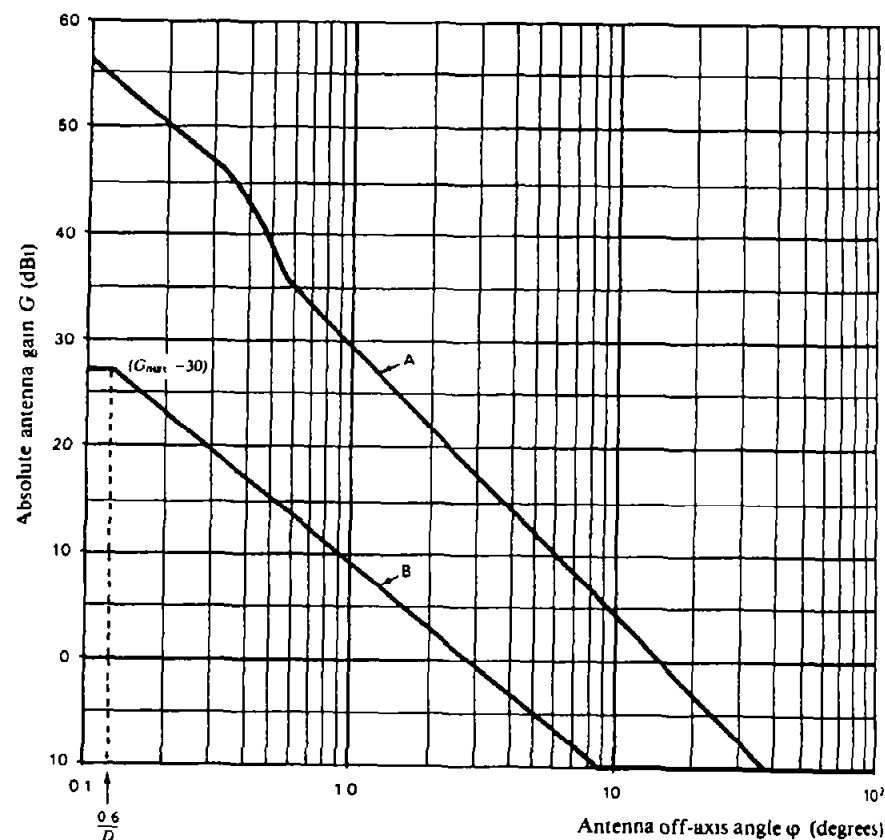


FIGURE 3

Reference patterns for co-polar and cross-polar components
for transmitting antennas for Region 2

Curve A Co-polar component (dBi)

$$36 - 20 \log \varphi \quad \text{for } 0.1^\circ \leq \varphi < 0.32^\circ$$

$$51.3 - 53.2 \varphi^2 \quad \text{for } 0.32^\circ \leq \varphi < 0.54^\circ$$

$$29 - 25 \log \varphi \quad \text{for } 0.54^\circ \leq \varphi < 36^\circ$$

$$-10 \quad \text{for } \varphi \geq 36^\circ$$

Curve B Cross-polar component (dBi)

$$G_{max} - 30 \quad \text{for } \varphi < \left(\frac{0.6}{D}\right)$$

$$9 - 20 \log \varphi \quad \text{for } \left(\frac{0.6}{D}\right) \leq \varphi < 8.7$$

$$-10 \quad \text{for } \varphi \geq 8.7$$

where

φ = off-axis angle referred to the main-lobe axis (degrees)

G_{max} = on axis co-polar gain of the antenna (dBi)

D = diameter of the antenna in metres ($D \geq 2.5$)

Note 1 In the angular range between 0.1° and 0.54° , the co-polar gain must not exceed the reference pattern

Note 2 In the angular range between 0° and $(0.6/D)^\circ$, the cross polar gain must not exceed the reference pattern

Note 3 At the larger off-axis angles and for 90° of all side-lobe peaks in each of the reference angular windows, the gain must not exceed the reference pattern. The reference angular windows are 0.54° to 1° , 1° to 2° , 2° to 4° , 4° to 7° , 7° to 10° , 10° to 20° , 20° to 40° , 40° to 70° , 70° to 100° and 100° to 180° . The first reference angular window for evaluating the cross polar component should be $(0.6/D)^\circ$ to 1° .

3.6 *Receiving antenna*3.6.1 *Cross-section of receiving antenna beam*

Planning has been based on beams of elliptical or circular cross-section. When the assignments are implemented, or when the Plan is modified, administrations may use non-elliptical or shaped beams.

If the cross-section of the receiving antenna beam is elliptical, the effective beamwidth φ_0 is a function of the angle of rotation q between the plane containing the satellite and the major axis of the beam cross-section and the plane in which the beamwidth is required.

The relationship between the maximum gain of an antenna and the half-power beamwidth can be derived from the expression

$$G_m = 27\,843/ab$$

or

$$G_m(\text{dB}) = 44.44 - 10 \log a - 10 \log b$$

where

a and b are the angles (in degrees) subtended at the satellite by the major and minor axes of the elliptical cross-section of the beam.

An antenna efficiency of 55% is assumed

3.6.2 *Minimum beamwidth*

A minimum value of 0.6° for the half-power beamwidth of the receiving antenna has been agreed on for planning

3.6.3 *Reference patterns*

The reference patterns for the co-polar and cross-polar components of the satellite receiving antenna used in preparing the Plan are given in Figure 4

Where it was necessary to reduce interference, the pattern shown in Figure 5 was used, this use will be indicated in the Plan by an appropriate symbol. This pattern is derived from an antenna producing an elliptical beam with fast roll-off in the main lobe. Three curves for different values of φ_0 are shown as examples.

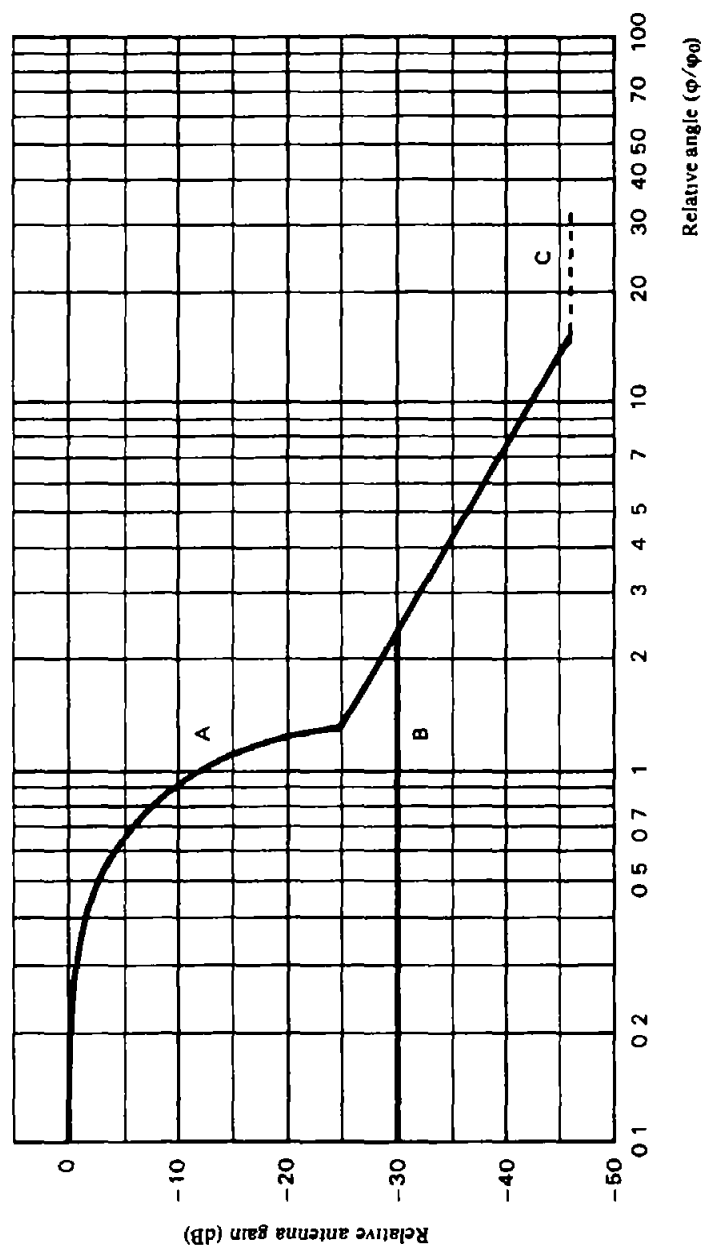


FIGURE 4
Reference patterns for co-polar and cross-polar components
for satellite receiving antenna in Region 2

Curve A Co-polar component (dB relative to main beam gain)

$$-12 (\phi/\phi_0)^2 \quad \text{for } 0 \leq (\phi/\phi_0) \leq 1.45$$

$$-(22 + 20 \log (\phi/\phi_0)) \quad \text{for } (\phi/\phi_0) > 1.45$$

after intersection with Curve C as Curve C'

Curve B Cross-polar component (dB relative to main beam gain)

$$-30 \quad \text{for } 0 \leq (\phi/\phi_0) \leq 2.51$$

after intersection with Curve A as Curve A

Curve C Minus the on-axis gain (Curve C in this figure illustrates the particular case of an antenna with an on axis gain of 46 dB)

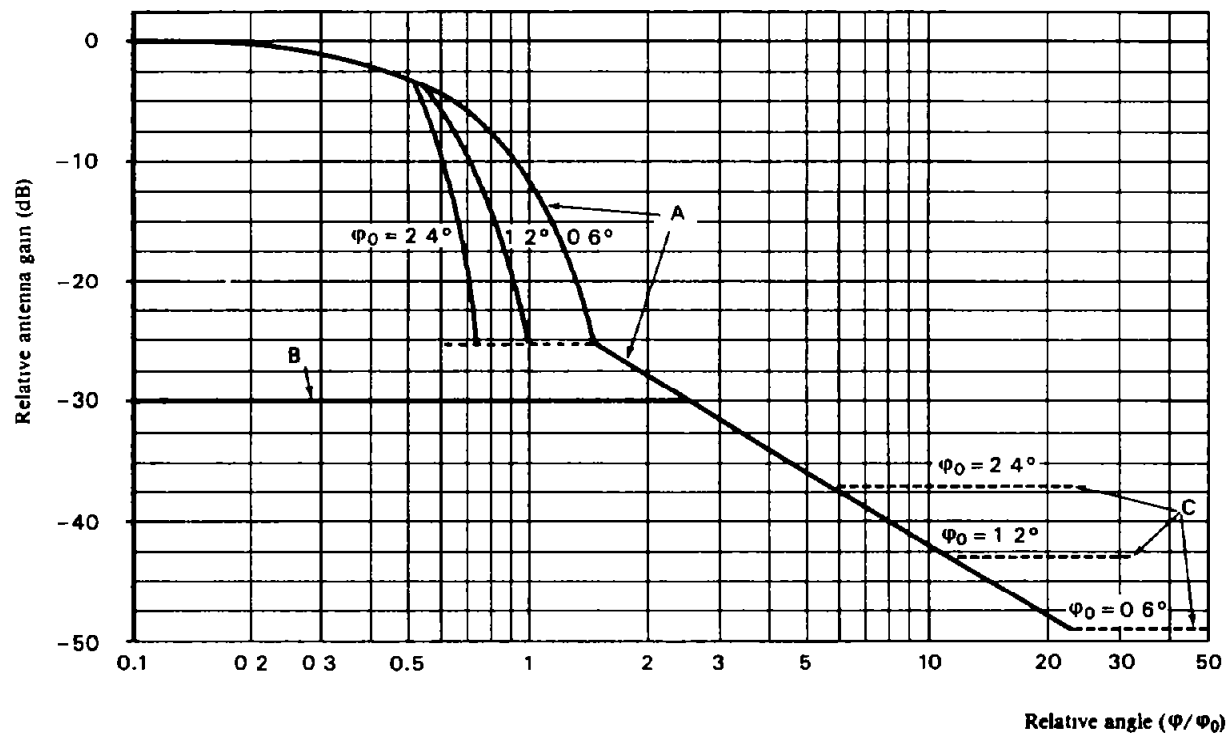


FIGURE 5

*Reference patterns for co-polar and cross-polar components
for satellite receiving antennas with fast roll-off in the main beam
for Region 2*

Curve A Co-polar component (dB relative to main beam gain)

$$\begin{aligned}
 & -12 (\varphi/\varphi_0)^2 && \text{for } 0 \leq \varphi/\varphi_0 \leq 0.5 \\
 & -33.33 \varphi_0^2 (\varphi/\varphi_0 - \kappa)^2 && \text{for } 0.5 < \varphi/\varphi_0 \leq \frac{0.87}{\varphi_0} + \kappa \\
 & -25.23 && \text{for } \frac{0.87}{\varphi_0} + \kappa < \varphi/\varphi_0 \leq 1.413 \\
 & -\left(22 + 20 \log (\varphi/\varphi_0)\right) && \text{for } \frac{\varphi}{\varphi_0} > 1.413
 \end{aligned}$$

after intersection with Curve C as Curve C

Curve B Cross-polar component (dB relative to main beam gain)

$$-30 \quad \text{for } 0 \leq \varphi/\varphi_0 < 2.51$$

after intersection with Curve A as Curve A

Curve C Minus the on-axis gain (Curves A and C represent examples for three antennas having different values of φ_0 as labelled in Figure 5. The on axis gains of these antennas are 37, 43 and 49 dBi, respectively)

where

φ = off-axis angle (degrees)

φ_0 = dimension of the minimum ellipse fitted around the feeder link service area in the direction of interest (degrees)

$$\kappa = 0.5 \left(1 - \frac{0.6}{\varphi_0}\right)$$

3.6.4 *Pointing accuracy*

The deviation of the receiving antenna beam from its nominal pointing direction must not exceed 0.1° in any direction. Moreover, the angular rotation of the receiving beam about its axis must not exceed $\pm 1^\circ$; this latter limit is not necessary for beams of circular cross-section using circular polarization.

3.7 *System noise temperature*

The Plan is based on a value of 1500 K for the satellite system noise temperature.

3.8 *Polarization*

3.8.1 In Region 2, for the purpose of planning the feeder links, circular polarization is used.

3.8.2 In the cases where there are polarization constraints, use of polarization other than circular is permitted only upon agreement of administrations that may be affected.

3.9 *Automatic gain control*

3.9.1 The Plan is based on the use of automatic gain control on board satellites to maintain a constant signal level at the satellite transponder output.

3.9.2 The dynamic range of automatic gain control is limited to 15 dB when satellites are located within 0.4° of each other and operate on cross-polarized adjacent channels serving common or adjacent feeder-link service areas.

3.9.3 The 15 dB limit of automatic gain control does not apply to satellites other than those specified in paragraph 3.9.2 above.

3.10 *Power control*

The Plan has been developed without the use of power control.

The use of transmit power levels higher than those given in Section 3.5 is permitted only when rain attenuation exceeds 5 dB at 17 GHz. In such cases, the transmit power may be increased by the amount that the instantaneous rain attenuation exceeds 5 dB at 17 GHz up to the limit given in Table I.

TABLE I

Transmit radio frequency power (delivered to the input of the feeder-link earth station antenna) permitted in excess of 1000 watts as a function of elevation angle

Elevation angle of feeder-link earth station antenna (degrees)	Transmit power permitted in excess of 1000 watts (dB)
0 to 40	0
40 to 50	2
50 to 60	3
60 to 90	5

3.11 *Site diversity*

Site diversity refers to the alternate use during rain of two or more transmitting earth stations which may be separated by sufficient distance to ensure uncorrelated rainfall conditions.

The use of site diversity is permitted and is considered to be an effective technique for maintaining high carrier-to-noise ratio and carrier-to-interference ratio during periods of moderate to severe rain attenuation. However, the Plan is not based on the use of site diversity.

3.12 *Depolarization compensation*

The Plan is developed without the use of depolarization compensation. Depolarization compensation is permitted only to the extent that interference to other satellites does not increase by more than 0.5 dB relative to that calculated in the feeder-link Plan.

3.13 *Minimum separation between satellites*

Figure 6 illustrates two adjacent clusters of satellites separated by 0.9° between the centres of the clusters. An identifies a satellite of administration η . A cluster is formed by two or more satellites separated by 0.4° and located at two nominal orbital positions as specified in the Plan, one position for right-hand polarized channels and the other position for left-hand polarized channels.

3.13.1 *Satellites of the same cluster*

The Plan is based on an orbital separation of 0.4° between satellites having cross-polarized adjacent channels (i.e. satellites located at $+0.2^\circ$ and -0.2° from the centre of the cluster). However, satellites within a cluster may be located at any orbital position within the cluster, requiring only the agreement of the other administrations having satellites sharing the same cluster. Such orbital positioning of satellites within a cluster is illustrated in Figure 6 by some of the satellites A5, A6 and A7.

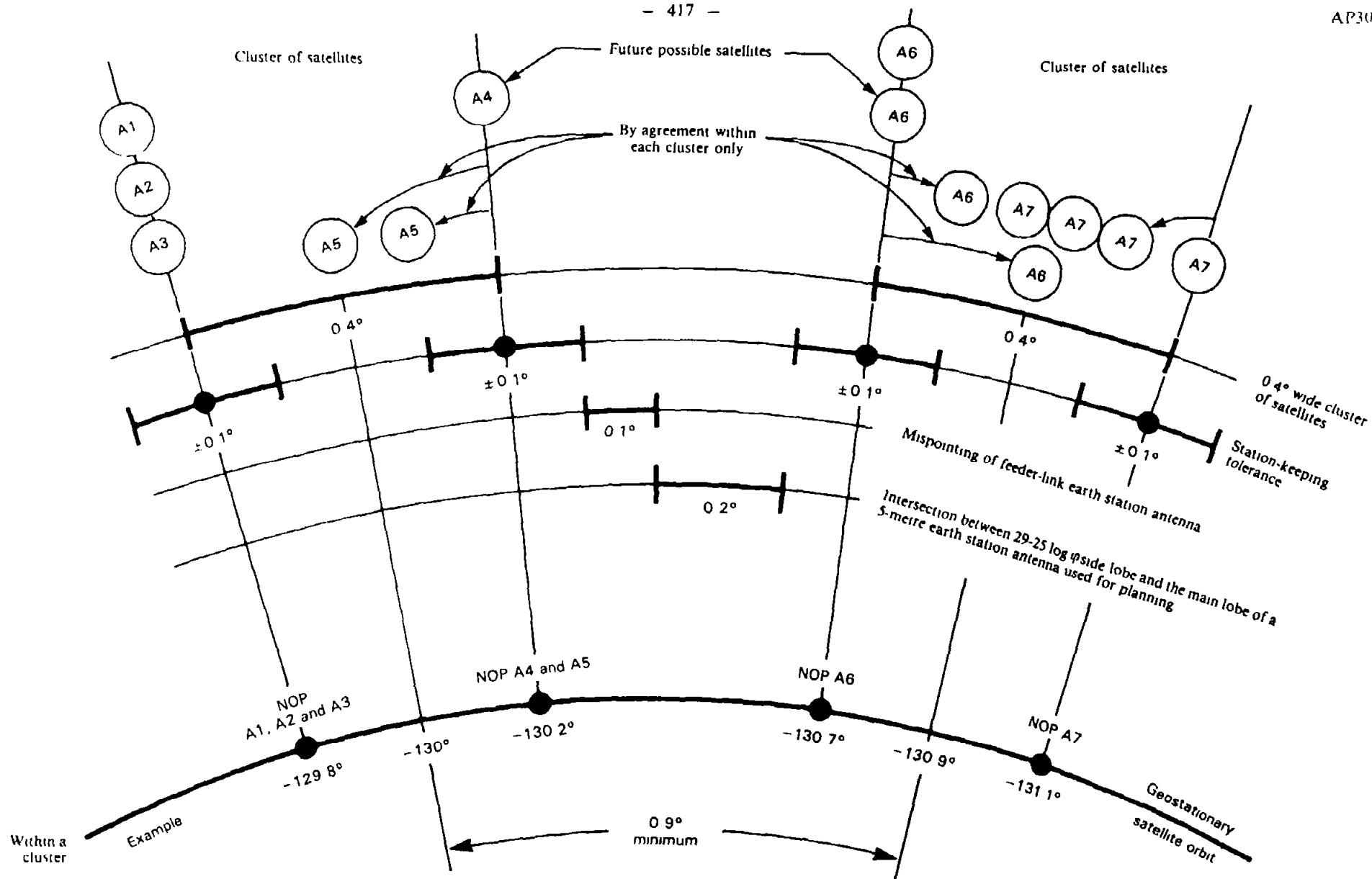
The station-keeping tolerance of $\pm 0.1^\circ$ indicated in Section 3.11 of Annex 5 to Appendix 30 (Orb-85) must be applied to satellites located at any position within the 0.4° wide cluster.

3.13.2 *Satellites of different clusters*

In the Plan, the orbital separation between the centres of adjacent clusters of satellites is at least 0.9° . The value of 0.9° is also the minimum orbital separation to provide flexibility in the implementation of feeder links indicated in Section 3.4.1 of this Annex without the need for an agreement (see Section 3.13.1 of this Annex).

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AP30A



A_n Specific Administration
 NOP 1 Nominal orbital position, right hand polarization
 NOP 2 Nominal orbital position, left hand polarization

FIGURE 6
 Exploded view of geostationary satellite orbit

FINAL PROTOCOL*

At the time of signing the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985), the undersigning delegates take note of the statements made by the following delegations

No 1

Original English

For Papua New Guinea

The Delegation of Papua New Guinea reserves for its Government the right to take such action as it may consider necessary to safeguard its interests should certain Members fail in any way to comply with the requirements of the International Telecommunication Convention (Nairobi, 1982) or its Annexes or the Protocols attached thereto, or these Final Acts, or should reservations by other countries jeopardize the telecommunication services of Papua New Guinea

No 2

Original Spanish

For the Republic of Guatemala

In signing the Final Acts of the First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985), the Delegation of the Republic of Guatemala reserves the right of its Government to take such steps as it may deem necessary, in accordance with its domestic legislation and international law, to protect its national interests should they be affected by decisions taken at this Conference, by reservations entered by other administrations or by failure on the part of other administrations to comply with the provisions of the Final Acts and the annexes thereto approved by this Conference

* *Note by the General Secretariat* The texts of the Final Protocol are shown in the chronological order of their deposit. In the Table of Contents these texts are grouped in the alphabetical order of country names

No 3

*Original French**For Portugal*

The Portuguese Delegation hereby states that it reserves its Government's right to take any measures it might consider necessary to protect its interests if Members of the Union were to fail, in any way, to comply with the provisions contained in the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of the Space Services Utilizing It (Geneva, 1985) (WARC Orb-85) or if reservations by other countries were to jeopardize the operation of its radiocommunication services

No 4

*Original English**For Brunei Darussalam*

The Delegation of Brunei Darussalam hereby

1 reserves for its Government the right to take such action as it may deem necessary to safeguard its interests should any Members fail in any way to comply with the Final Acts of this Conference, or should reservations by other countries jeopardize its telecommunication services,

2. declares that the signature, and possible subsequent approval by the Government of Brunei Darussalam of the Final Acts of this Conference is not valid with respect to Israel, and in no way implies its recognition.

No 5

*Original English**For the Republic of Kenya*

The Delegation of the Republic of Kenya on behalf of its Government reserves the right to take any measures it deems necessary to protect its interests if other countries or administrations fail to observe the provisions contained in the Final Acts and the annexes thereto, as adopted by this Conference

No 6

*Original Spanish**For the Republic of Honduras:*

In signing the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of the Space Services Utilizing It, the Delegation of the Republic of Honduras reserves for its Government the right to take whatever action it considers necessary to safeguard its interests in the event that other countries, administrations or organizations should fail to comply with the provisions of these Final Acts or the annexes thereto, approved by this Conference

Likewise recognizing the importance of the proper use of the orbit/spectrum resource for national development, it declares that

1 Honduras should be guaranteed access to at least one orbital position and an adequate frequency bandwidth should be allotted to meet its fundamental communication requirements in the fixed-satellite service

2 It is anxious that the Second Session of this Conference, WARC Orb(2), should take a decision on the content of Resolution No 2 adopted by the Regional Administrative Conference for the Planning of the Broadcasting-Satellite Service in Region 2 (Sat-83), as expressed in Resolution 42 (Orb-85) of WARC Orb-85

3 Account should be taken of the existence of telecommunication systems using a satellite common to several administrations

Such systems should be adequately planned, without restrictions on their operation since this constitutes for the developing countries the only available means of utilizing the orbit/spectrum resource

4 The CCIR should recommend more appropriate parameters for the broadcasting satellite service (sound), taking account of the fact that this is at present impossible in the suggested band 0.5 to 2.0 GHz owing to the high cost of providing protection to existing systems and incompatibility with those allocated to this band

No 7

*Original Spanish**For Mexico*

Mexico reiterates the declaration set out in Nos 18 and 19 of the Final Protocol to the Final Acts of the Regional Administrative Conference for the Planning of the Broadcasting-Satellite Service in the band 12.2 - 12.7 GHz and of the associated feeder links in the band 17.3 - 17.8 GHz in Region 2 (Geneva, 1983), relating respectively to power-flux density inside the coverage area and the negative protection margins appearing in the Plans

No 8

*Original English**For the Republic of Singapore*

The Delegation of the Republic of Singapore reserves for its Government the right to take such action as it may deem necessary to safeguard its interests should any Member fail in any way to comply with the Final Acts of this Conference, or should reservations by other countries jeopardize its telecommunication services

No 9

Original English

For Malaysia

The Delegation of Malaysia hereby

1 reserves for its Government the right to take such action as it may deem necessary to safeguard its interests should any Member fail in any way to comply with the Final Acts of this Conference, or should reservations by any country jeopardize its telecommunication services.

2 declares that the signature, and possible subsequent approval by the Government of Malaysia of the Final Acts of this Conference, is not valid with respect to the Member appearing under the name of Israel, and in no way implies its recognition

No 10

Original English

For the United Kingdom of Great Britain and Northern Ireland,

In the 1983 Region 2 Broadcasting-Satellite Conference the United Kingdom of Great Britain and Northern Ireland by declaration numbered 27 made reservations concerning the Plans considered and dealt with by that Conference. The United Kingdom of Great Britain and Northern Ireland reiterates and endorses that declaration and those reservations in respect of the same Plans as they have been considered and dealt with by this Conference

No 11

Original English

For the People's Democratic Republic of Algeria, the Kingdom of Saudi Arabia, the State of Bahrain, the Islamic Republic of Iran, the Republic of Iraq, the Hashemite Kingdom of Jordan, the State of Kuwait, the Socialist People's Libyan Arab Jamahiriya, the Kingdom of Morocco, the Sultanate of Oman, the Islamic Republic of Pakistan, the State of Qatar, the Syrian Arab Republic, Tunisia, the People's Democratic Republic of Yemen.

The Delegations of the above-mentioned countries to the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of the Space Services Utilizing It, First Session, (Geneva, 1985), declare that the signature and possible approval by their respective Governments or competent authorities of the Final Acts of this Conference are not valid with respect to the Zionist Entity appearing in Annex 1 of the Convention under the name of the so-called Israel and in no way whatsoever imply its recognition.

No 12

Original English

For the Republic of Indonesia

The Delegation of the Republic of Indonesia to the First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It, (Geneva, 1985) (WARC Orb-85)

1 reserves the rights of its Government to take any action and preservation measures to safeguard its interests should the Final Acts drawn up in this Conference be in contravention with the Constitution, Laws and Rights of the Republic of Indonesia which exist and may result from any principles on International law and those laid down in the Bogota Declaration of 3 December 1976 by Equatorial Countries. In this regard the Government of the Republic of Indonesia will recognize the interests of other countries with a view to enhancing international cooperation in the peaceful uses of space for the benefit of mankind.

2 further reserves the rights of its Government to take any action and preservation measures to safeguard its interests should Members of the Union fail to comply with the requirements in the Final Acts of the Conference or should reservations by other Members jeopardize its rights under the Final Acts

No 13

Original Spanish

For Nicaragua

The Delegation of the Republic of Nicaragua reserves for its Government the right to take any action it may deem necessary consistent with its internal legal system and international law to safeguard its national interests, should reservations by representatives of other States affect its telecommunication services

Similarly, the Delegation of Nicaragua expresses its reservation should the application or interpretation of any provision of the Convention infringe its full rights of sovereignty

No 14

Original English

For Jamaica

In signing the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of the Space Services Utilizing It (Geneva, 1985), the Delegation of Jamaica, reserves for its Government, the right to take whatever action it deems necessary to safeguard its interests, should these interests be jeopardized by the failure of other countries or administrations or agencies to observe the provisions contained in the Final Acts and the annexes thereto, as adopted by this Conference

No 15

*Original: French**For the People's Republic of Angola*

In view of the reservations expressed by several countries concerning certain decisions adopted by this Conference, the Delegation of the People's Republic of Angola reserves for its Government the right to take any action it may deem necessary in the event that the interests of its telecommunication services should be threatened.

No 16

*Original: English**For Thailand*

The Delegation of Thailand reserves the right of its Government to take any action that it deems necessary to safeguard its interests should any country fail, in any way, to comply with the Final Acts of this Conference, or should reservations made by any country jeopardize its telecommunication services

No 17

*Original: Spanish**For the Republic of Bolivia*

In signing the Final Acts of the First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It, Geneva, 1985 (WARC Orb-85), the Delegation of Bolivia reserves for its Government the right to take any action it may deem necessary, in keeping with its internal legal system and international law, to safeguard its national interests in the event that the reservations expressed by representatives of other States might affect Bolivian telecommunication services or the full exercise of its sovereign rights, or in the event that the application or interpretation of any of the resolutions, agreements or recommendations of the Conference should so require

No 18

*Original: English**For Ghana*

In signing the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (WARC Orb-85), Geneva, 1985, the Delegation of Ghana reserves for its Government the right to take any measures it considers necessary to protect its interest should the non-compliance of and the reservations to the Final Acts, or its annexes thereto, by other Members of the International Telecommunication Union, jeopardize the efficient operation of its telecommunication services

No 19

*Original: Spanish**For the Republic of Colombia*

In signing the Final Acts of the First Session of the World Administrative Radio Conference on the Use of the Geostationary Satellite Orbit and the Planning of the Space Services Utilizing It, Geneva, 1985 (WARC Orb-85), the Delegation of Colombia declares that Colombia does not consider itself bound by the acts, agreements or resolutions of this Conference if they imply the assignment to other countries of orbital positions in the Colombian geostationary orbital segment, which require the prior express authorization of Colombia in accordance with its rights as stated at the XXVth United Nations General Assembly in 1975 and spelled out in the Declarations of Bogota (1976) and Quito (1982) and in the Draft Principles for the Use of the Geostationary Orbit submitted to the Committee on Outer Space in conjunction with Ecuador, Indonesia and Kenya (Document A/AC 105/C 2/L 47 of 29 March 1984)

The Delegation of Colombia reserves the right of its Government to adopt such measures as it considers necessary in accordance with its internal legal system and international law to safeguard its national interests in the event that reservations entered by representatives of other States may affect its telecommunication services or encroach upon its full sovereign rights, or that the application or interpretation of any of the resolutions or agreements of the Conference make it necessary to do so

No 20

*Original: Spanish**For Ecuador*

In signing the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985), the Delegation of Ecuador reiterates the content of the Declarations of Bogota (1976) and Quito (1982) and of the Draft Principles for the Use of the Geostationary Orbit submitted to the Committee on Outer Space of the United Nations General Assembly in conjunction with Colombia, Indonesia and Kenya (Document A/AC 105/C 2/L 47 of 29 March 1984), as well as its claims to rights over the segments of the geostationary orbit which correspond to its own mainland and offshore territory

By virtue of the above, Ecuador does not consider itself bound by its signature of the Final Acts, or by the resolutions, agreements or decisions of this Conference concerning the assignment of orbital positions to other countries in the segments of the geostationary orbit corresponding to its territory, which would require its prior express agreement

Furthermore, the Government of Ecuador reserves the right to adopt such measures as it considers appropriate to safeguard its interests in accordance with its own legislation and with international law, should any of the declarations by other States affect its telecommunication services or the exercise of its sovereign rights

No 21

*Original Spanish**For the Republic of Colombia and Ecuador*

The Delegations of Colombia and Ecuador jointly and expressly reserve their rights over the geostationary orbit and reiterate what they have stated in their national reservations, respectively Nos 19 and 20

They also ratify Reservation No 5 expressed at the Regional Administrative Conference for the Planning of the Broadcasting-Satellite Service in Region 2 (Sat-83) (Geneva, 1983) and reiterate its content with respect to the World Administrative Radio Conference of the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985)

No 22

*Original French**For France*

The French Delegation reserves for its Government the right to take any action it may deem necessary to safeguard its interests should any Members fail in any way to comply with the provisions of the Convention and the Regulations annexed thereto, or should reservations by other administrations jeopardize the operation of its radiocommunication services

No 23

*Original English**For the United States of America*

The United States of America believes that planning of broadcasting-satellite service based upon an edge-of-coverage area power flux-density of - 107 dBW per square meter for 99 percent of the worst month places significant constraints upon the development of this service, including the introduction of advanced television services such as High Definition Television (HDTV), and development of lowest possible cost consumer terminals. At the 1983 Broadcasting-Satellite Planning Conference, the United States entered a reservation expressing its concern over the adoption of the specific power flux-density value used for planning. Considering that this Conference does not have the competence to modify the specific entries within the Region 2 Plan, the Administration of the United States believes it appropriate to re-state its reservation made in 1983. The United States of America reserves the right to adjust the e r p of its assignments specified within the Plan so as to produce a power flux-density of - 105 dBW per square meter at the edge of coverage area for 99 percent of the worst month. In the application of this power level, the United States will take all practical measures to minimize the impact of such operation on the systems of other Region 2 administrations operating in accordance with assignments in the Plan. Additionally, the United States will observe the inter-Regional sharing criteria that have been adopted at this present Conference

At the 1983 Broadcasting-Satellite Planning Conference, the United States of America entered a reservation expressing its concern over the failure of the 1983 Conference to consider its request that either sense of polarization be allowed for any given frequency assignment in the Plan. Considering that this Conference does not have the competence to modify the specific entries within the Region 2 Plans, the United States believes it appropriate to re-state its reservation made in 1983. The United States has a need to be able to operate its broadcasting-satellite down-link and feeder-link channel assignment using either sense of polarization (i.e., either "direct" or "indirect" polarization). Therefore, the United States of America reserves the right to operate its assignment within the Region 2 Plans using either sense of polarization. When implementing assignments using a sense of polarization opposite to that specified in the Plans, the United States will take all practicable measures to minimize the impact of such operation on the systems of other Region 2 administrations operating in accordance with assignments in the Plans. Additionally, the United States will observe all of the inter-Regional sharing criteria that have been adopted at this present Conference

No 24

*Original English**For the Republic of Malta*

In signing the Final Acts of the First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985), the Delegation of Malta declares that it reserves its Government's right to take whatever action it considers necessary to safeguard its interests should any country or countries fail to observe the provisions of the Final Acts and the annexes thereto or should the reservations made by other countries prove prejudicial to the proper functioning of Malta's telecommunication and broadcasting services

The Delegation further reserves its Government's rights to take any action required to ensure by whatever means the integrity of its national territory in the face of any form of external interference to its services

No 25

*Original Spanish**For Cuba*

In signing the Final Acts, the delegation of the Republic of Cuba to the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (First Session) wishes, on behalf of its Administration, to denounce the use, yet again, by the Government of the United States, of the radio spectrum as a medium of aggression infringing the sovereignty of other countries, as evidenced by the bringing into service in May of this year of an anti-Cuban transmitter in the medium-wave broadcasting bands, as it did in 1960, 1961 and 1962 with Radio Swan, Radio America and the Voice of the United States of America

In beginning these transmissions, announced as part of the political platform of the Reagan Administration under the so-called Santa Fé programme, the Government of the United States even went so far as to use a name which embodies the purest and noblest ideals of the Cuban nation, José Martí, thereby contracting the provisions of the International Telecommunication Convention (Nairobi, 1982) and the Radio Regulations, in the same way as it violated the NARBA Agreement in the Caribbean area in the 1960s

Following constructive bilateral talks held in Buenos Aires, Havana, Washington and Costa Rica, the fact that these broadcast were recently launched in such a peculiar, devious and - except for a single, terse, hypocritical, self-justifying message transmitted twelve hours beforehand - unexpected manner, has no possible explanation other than the clear intention of replying - clumsily - to the cogent and irrefutable statements by the Cuban Government concerning the critical economic situation of Latin America and the third world, the immoral and unpayable external debt and the merciless economic pillage to which the unjust system of international relations has subjected these countries.

In view of this situation, the Government of the Republic of Cuba issued a declaration in response to this fresh act of senseless, blind and sterile policy on the part of the United States Government, reserving the right to make medium-wave radio broadcasts to the United States in order to state clearly the Cuban viewpoint on the problems of that country and its international policy

No 26

Original Russian

For the Byelorussian Soviet Socialist Republic, the Ukrainian Soviet Socialist Republic and the Union of Soviet Socialist Republics

In signing the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985), the Delegations of the above-mentioned countries hereby state that they reserve their Government's right to take any measures necessary to protect their interests if they are affected by decisions taken by the Conference

No 27

Original English

For the Federal Republic of Nigeria

After having noted the declarations already deposited, and in signing the Final Acts of the First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985), the Delegation of Nigeria reserves for its Government, the right to take any such action it may consider to be in its best interest should certain Members of the Union fail to comply with the requirements of the 1982 Nairobi Convention of the ITU, its Annexes, or the Protocols attached thereto, or these Final Acts or should the actions and declarations by some countries threaten the effectiveness of its telecommunication services

No 28

Original English

For the State of Kuwait

After having noted the declarations already deposited, the Kuwaiti Delegation hereby states that it reserves its Government's right to take any measures it might consider necessary to protect its interests if Members of the Union were to fail, in any way, to comply with the provisions contained in the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985) (WARC Orb-85) or if declarations by other countries were to jeopardize the operation of its radiocommunication services

No 29

Original English

For the Kingdom of Saudi Arabia

After having noted the declarations already deposited, the Kingdom of Saudi Arabia Delegation hereby states that it reserves its Government's right to take any measures it might consider necessary to protect its interests if Members of the Union were to fail, in any way, to comply with the provisions contained in the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985) (WARC Orb-85) or if declarations by other countries were to jeopardize the operation of its radiocommunication services

No 30

Original French

For the Republic of Senegal

After noting the declarations already entered, the Delegation of Senegal reserves its Government's right to take any measures it sees fit in order to safeguard its interests should some countries Members of the ITU fail to comply with the provisions of the International Telecommunication Convention (Nairobi, 1982) or with the annexes or Protocols to these Final Acts or if declarations by other countries were to threaten the proper operation of telecommunication services in the Republic of Senegal

No 31

Original French

For the Gabonese Republic

After noting the declarations already entered, the Gabonese Delegation to the First Session of the WARC Orb-85 reserves its Government's right to take any measures it considers necessary to protect its interests if the use by any country of the planning method adopted and of the associated frequency bands were to threaten its development

No 32

*Original English**For the Democratic Socialist Republic of Sri Lanka*

After having noted the declarations already deposited, the Delegation of the Democratic Socialist Republic of Sri Lanka reserves for its Government the right to take such action as it may consider necessary to safeguard its interests should any Member fail in any way to comply with the Final Acts of this Conference, or should declarations by other countries jeopardize the telecommunication services of Sri Lanka.

No 33

*Original Spanish**For the Republic of Venezuela.*

After noting the declarations already entered, the Delegation of the Republic of Venezuela reserves its Government's right to take the measures necessary to protect its interests should they be affected by the failure of other Members of the International Telecommunication Union to comply with the provisions contained in the Final Acts of the First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (WARC Orb-85), or by the declarations made by other Members

No 34

*Original Spanish**For Cuba*

Having noted the statements made, the Delegation of the Republic of Cuba, in signing the Final Acts of the First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985), reserves its Government's right to adopt whatever measures it may consider necessary to ensure the normal operation of its telecommunication services should other countries fail to comply with the provisions adopted by this Conference or with the associated Plan or with the provision in No. 2674 of the Radio Regulations

No 35

*Original Spanish**For Mexico*

Having noted the declarations entered by a number of countries with respect to the decisions adopted by this Conference, the Delegation of Mexico reserves its Government's right to take whatever measures it may consider necessary to safeguard its interests should other Members fail to respect the provisions of the Final Acts or should the declarations entered by them threaten its telecommunication services.

No 36

*Original English**For the United States of America*

The United States of America, noting the statement entered by the Administration of Cuba, recalls its rights to broadcast to Cuba on appropriate frequencies free of jamming or other wrongful interference and reserves its rights with respect to existing interference and any future interference by Cuba with United States broadcasting

No 37

*Original English**For the State of Israel*

The declarations made by certain delegations in No 11 of the Final Protocol, being in flagrant contradiction to the principles and purposes of the International Telecommunication Union, and therefore void of any legal validity, the Government of Israel wishes to put on record that it rejects these declarations outright and will proceed on the assumption that they can have no validity as to rights and duties of any Member State of the International Telecommunication Union. In any case, the Government of Israel will avail itself of its rights to safeguard its interests should the Governments of these delegations in any way violate any of the provisions of the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985)

The delegation of Israel further notes that declaration No 11 does not refer to the State of Israel by its full and correct name. As such it is totally inadmissible and must be repudiated as a violation of recognized rules of international behaviour

No 38

*Original English**For the Arab Republic of Egypt*

After having noted the declarations already deposited, the Delegation of Egypt reserves the right for its Government to take such action as it may deem necessary to safeguard its interests should any administration fail in any way to comply the provisions of the Final Acts of this Conference and the annexes thereto, or should declarations by other administrations harm its National or International Telecommunication or Radio and Television Broadcasting Services

No 39

Original French

For the Republic of the Ivory Coast

Having noted the statements made, the Delegation of the Republic of the Ivory Coast, in signing the Final Acts of the First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985), reserves its Government's right to adopt whatever decisions it may consider necessary to safeguard its interests should failure on the part of other Members of the International Telecommunication Union to respect these Final Acts and their annexes, or declarations entered by them, threaten the proper operation of its telecommunication services

No 40

Original French

For the Confederation of Switzerland

After noting the statements made, the Swiss Delegation reserves its Government's right to take whatever measures it considers necessary in order to ensure the proper operation of Swiss radiocommunication services if such operation were to be threatened by declarations by other administrations or should some Members fail to comply with the provisions of the Convention or the Regulations annexed thereto.

No 41

Original English

For the Republic of India

In signing the Final Acts of the First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (WARC Orb-85) and after having noted the declarations already deposited, the delegation of the Republic of India reserves for its Government the right to take such action as may be considered necessary to safeguard its interests should any administration fail to comply with the provisions of the Final Acts including those which will form a part of the Radio Regulations

No 42

Original French

For the Socialist Republic of Romania

Having noted the declarations entered by a number of countries with respect to certain decisions reached by this Conference, the Romanian Delegation reserves its Government's right to take whatever measures it may consider necessary should the proper operation of its telecommunication services be threatened.

No 43

Original Spanish

For the Argentine Republic

The Argentine Republic states that it does not accept statement No 10 by the United Kingdom of Great Britain and Northern Ireland. The Argentine Republic repeats and reaffirms in this connection statement No 17 made at the Regional Administrative Conference for the Planning of the Broadcasting-Satellite Service in Region 2 (Sat-83), the terms of which are to be regarded as reiterated in relation to the Plans approved by this Conference

No 44

Original English

For the Federal Republic of Germany, Australia, Austria, Belgium, Canada, Denmark, the United States of America, Finland, France, Greece, Italy, Japan, Luxembourg, Norway, New Zealand, the Netherlands, Papua New Guinea, Portugal, the United Kingdom of Great Britain and Northern Ireland, Sweden, Switzerland

The above mentioned Delegations, referring to the declarations made by the Republic of Indonesia, the Republic of Colombia, and Ecuador, consider that, inasmuch as these statements refer to the Bogota Declaration of 3 December 1976 by equatorial countries and to the claims of those countries to exercise sovereign rights over segments of the geostationary satellite orbit, the claims in question cannot be recognized by this Conference. Further, the above-mentioned Delegations wish to reaffirm the declarations made on behalf of their administrations in this regard when signing the Final Acts of the World Administrative Radio Conference (Geneva, 1979) and the International Telecommunication Convention (Nairobi, 1982) by which the Conference is bound.

The above-mentioned Delegations also wish to state that reference in Article 33 to the "geographical situation of particular countries" does not imply a recognition of claim to any preferential rights to the geostationary orbit.

No 45

Original Spanish

For Peru

Having noted the statement made, the Delegation of the Republic of Peru reserves its Government's right to take whatever measures may be necessary to safeguard its interests should these be threatened by failure on the part of other Members of the International Telecommunication Union to comply with the provisions contained in the Final Acts of the First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (WARC Orb-85) or by the reservations entered by other Members, in accordance with its domestic legislation and the principle of international law.

No 46

*Original: French**For the Republic of Mali*

Having noted the statements made, the Delegation of the Republic of Mali reserves its Government's right to take whatever measures it may consider necessary to safeguard its interests should some countries fail in any way whatever to comply with the provisions contained in the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It, or should declarations entered by other administrations threaten the proper operation of its radiocommunication services

No 47

*Original: English**For Ethiopia*

In signing the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (WARC Orb-85), and after having noted the declarations already deposited, the Delegation of Socialist Ethiopia reserves the right for its Government to take any measure it may deem necessary to protect its telecommunication services should any Members fail to comply with these Final Acts.

No 48

*Original: English**For the Somali Democratic Republic.*

After having noted the declarations already deposited, the Delegation of the Somali Democratic Republic reserves for its Government the right to take any measures it deems necessary to protect its interests if other countries or administrations fail to observe the provisions contained in the Final Acts and the annexes hereto, as adopted by this Conference

No 49

*Original: English**For the Federative Republic of Brazil*

In signing these Final Acts, *Ad Referendum* of its National Congress, and after having noted the declarations already deposited, the Delegation of Brazil reaffirms statement No. 24 made at the time of signing the Final Acts of the Regional Administrative Conference for the Planning of the Broadcasting-Satellite Service in Region 2 (Geneva, 1983) and reserves for its Government the right to adopt such measures as it deems necessary to safeguard its interests, should other Members of the Union fail to comply with the provisions adopted by this Conference

No 50

*Original: French**For the Republic of Cameroon*

The Cameroonian Delegation to WARC Orb-85 has taken note of the declarations by other delegations and declares that the Republic of Cameroon, while attaching particular importance to its international commitments, reserves the right of its Government to take any action it may deem necessary should the application of declarations by other administrations jeopardize the proper operation of its telecommunication services

No 51

*Original: French**For Luxembourg*

Having taken note of the declarations already deposited and in signing the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985), the Luxembourg Delegation reserves for its Government the right to take any action it may deem necessary, in keeping with its legislation and international law, to safeguard its sovereign interests should one or more countries fail to comply with the provisions of the Final Acts or the annexes thereto, should the reservations expressed by other countries jeopardize the proper operation of the telecommunication or radio services of Luxembourg or should the application or interpretation of certain of the resolutions, agreements or recommendations adopted by the Conference so require

No 52

Original: Russian

For the Byelorussian Soviet Socialist Republic, the People's Republic of Bulgaria, the Hungarian People's Republic, the People's Republic of Poland, the German Democratic Republic, the Ukrainian Soviet Socialist Republic, the Union of Soviet Socialist Republics and the Czechoslovak Socialist Republic

The Delegations of the above countries declare that they do not recognize the claims made in the declarations by the Republic of Indonesia, the Republic of Colombia and Ecuador concerning the extension of state sovereignty to segments of the geostationary satellite orbit, since they conflict with the generally recognized international legal status of outer space

No 53

Original: English

For the United Republic of Tanzania

After having noted the declarations already deposited, and in signing the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985), the Delegation of the United Republic of Tanzania on behalf of its Government reserves the right to take any measures it deems necessary to protect its interests if certain Members of the Union or administrations fail in any way to observe the provisions contained in the Final Acts and the annexes thereto, as adopted by this Conference

No 54

Original: English

For the Socialist People's Libyan Arab Jamahiriya.

After having noted the declarations already deposited, and upon signing the Final Acts of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (First Session), the Delegation of the Socialist People's Libyan Arab Jamahiriya states, on behalf of its Administration, that it reserves the Jamahiriya right to take any measures it deems necessary to safeguard its Radio and TV broadcasting interests if they are affected by any decision taken by this Conference

No 55

Original: English

For the Republic of Liberia

The delegation of the Republic of Liberia reserves for its Government the right to take any action it may deem necessary to safeguard its interests, should any Member Administration fail in any way to comply with the annexes and provisions contained in the Final Acts as adopted by the First Session of the World Administrative Radio Conference (Orb-85)

No 56

Original: French

For the Republic of Guinea

The Delegation of the Republic of Guinea to the First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It, having taken note of the declarations already deposited, reserves for its Government the right to take any action it may deem necessary to safeguard its interests should any Member fail to comply with the Final Acts of the present Conference or should the declarations expressed by any administration jeopardize the proper operation of its telecommunication services

No 57

Original: English

For the Islamic Republic of Pakistan

After having noted the declarations already deposited, the Pakistan Delegation reserves for its Government the right to take any action it may deem necessary to safeguard its interests should any Member fail in any way to comply with the provisions of the Convention and Regulations annexed thereto or should reservations or interpretation of any of the resolutions or recommendations expressed by other administrations jeopardize the efficient operation and equitable access to the orbit/spectrum resources

*(The signatures follow)**(The signatures following the Final Protocol are the same as those shown on pages 4 to 17)*

RESOLUTION No 40 (Orb-85)

**Relating to the Recording in the Master International Frequency Register
to the Assignments for Region 2 Contained in
Appendix 30(Orb-85) and Appendix 30A**

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (First Session - Geneva, 1985),

considering

that the provisions and associated Plans adopted by the Regional Administrative Conference for the Planning of the Broadcasting-Satellite Service in Region 2, Geneva, 1983 with the appropriate modifications have been incorporated in the Radio Regulations in Appendix 30(Orb-85) and Appendix 30A;

resolves

that, on the date of signature of the Final Acts of First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It, Geneva, 1985, the frequency assignments in the Plans will be entered in the Master Register. The date of signature of these Final Acts will be entered, together with an appropriate symbol, in Column 13c opposite these assignments.

RESOLUTION No 41 (Orb-85)

**Relating to the Provisional Application of the Partial
Revision of the Radio Regulations as Contained in the Final Acts
of the WARC Orb-85 Prior to its Entry into Force**

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (First Session - Geneva, 1985),

considering

a) that the present session has decided to incorporate in the Radio Regulations the provisions and associated Plans for the broadcasting-satellite service in the band 12.2 - 12.7 GHz and the fixed-satellite service for feeder links in the band 17.3 - 17.8 GHz in Region 2;

b) that during the period preceding the date of entry into force of the partial revision of the Radio Regulations, as contained in the Final Acts of the First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (WARC Orb-85), administrations of countries of Region 2 may wish to bring into use assignments appearing in the Region 2 Plans or to modify them or to bring them into use as an interim system,

c) that there is a need to apply the interregional sharing criteria developed by this session for all Regions,

further considering

that there is a need for procedures to be applied by all administrations and the IFRB during the interim period referred to in b) above,

resolves

1 that during the period preceding the date of entry into force of the partial revision of the Radio Regulations, as contained in the Final Acts of the WARC Orb-85, administrations and the IFRB shall apply the said partial revision on a provisional basis,

2 that on the date of entry into force of the partial revision of the Radio Regulations, as contained in the Final Acts of the WARC Orb-85, the IFRB shall publish the modifications to the Plans introduced in application of *resolves* 1 above, in a Special Section of its weekly circular in order to enter them into the appropriate Regional Plan.

RESOLUTION No 42 (Orb-85)

**Relating to The Provisional Application for Region 2
of Resolution No. 2 (Sat-R2)**

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (First Session – Geneva, 1985),

considering

- a) that the 1983 Conference adopted Resolution No. 2 (Sat-R2) with the intention of enabling the administrations of Region 2 to implement the assignments in the Plans of that Conference according to a phased approach and with due regard for the protection of the services of other administrations;
- b) that assignments in conformity with Resolution No. 2 (Sat-R2) may be implemented only if they are in conformity with the Convention and with the relevant provisions of the Radio Regulations;
- c) that conformity with Resolution No 2 (Sat-R2) requires the agreement of all affected administrations;
- d) that those affected administrations are to be determined in accordance with the limits in Annex 1 to Appendix 30(Orb-85) and Annex 1 to Appendix 30A,
- e) that Resolution 43(Orb-85) also contains provisions concerning systems operating in accordance with Resolution No. 2 (Sat-R2);
- f) that the question of the long-term application of the provisions of Resolution No. 2 (Sat-R2) should be studied further;

resolves

- 1. that the IFRB shall apply the provisions of the annex to Resolution No. 2 (Sat-R2) and shall examine the notifications of the administrations of Region 2, as appropriate, for conformity with that Resolution on a provisional basis until the subject is reviewed by the Second Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (WARC Orb(2)) and a definitive decision is taken on the matter;

- 2 that in the application of the annex to Resolution No. 2(Sat-R2), the references to annexes to Part I and Part II shall be replaced by references to the appropriate annexes to Appendix 30(Orb-85) and Appendix 30A respectively,

invites the Administrative Council

to place on the agenda of WARC Orb(2) an item calling for the review of the possibility of the long-term applicability of Resolution No 2(Sat-R2), and for a definitive decision to be taken on this matter

RESOLUTION No. 43(Orb-85)

Relating to Orbital Position Limitations for the Broadcasting-Satellite Service in Regions 1 and 2 in the Band 12.2 - 12.5 GHz and for the Fixed-Satellite Service (Feeder-Link Stations) in Region 2 for the Band 17.3 - 17.8 GHz

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (First Session - Geneva, 1985),

considering

- a) that there is currently no feeder-link plan for the broadcasting-satellite service in Region 1, operating in the band 11.7 - 12.5 GHz, and that in the absence of such a plan, the usual approach to sharing cannot be applied;
- b) that the 1983 Conference adopted Plans for Region 2 for the Broadcasting-Satellite Service in the band 12.2 - 12.7 GHz and their associated feeder links in the band 17.3 - 17.8 GHz;
- c) that this session has recommended in a draft agenda for the second session the planning of the feeder links for the Regions 1 and 3 Broadcasting-Satellite Service at Second Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (WARC Orb(2)), including the band 17.3 - 18.1 GHz;
- d) that some interaction is possible between the Region 2 Feeder-Link Plan and the Feeder-Link Plan to be established for Regions 1 and 3 at WARC Orb(2);
- e) that there is a need to ensure that any modifications to the Plan for the Regions 1 and 3 Broadcasting-Satellite Service and the Region 2 Broadcasting-Satellite Service and Feeder-Link Plans will not hamper the development of the Regions 1 and 3 Feeder-Link Plan before its incorporation into the Radio Regulations,

resolves

- 1 that until the incorporation of the Regions 1 and 3 Feeder-Link Plan into the Radio Regulations, any administration seeking to modify the Region 2 Plans or to introduce an interim system operating in accordance with Resolution No. 42 (Orb-85) and involving an orbital position further east than 47°W shall obtain the agreement of all administrations having orbital assignments in the Regions 1 and 3 Plan within plus or minus ten degrees of the proposed orbital position,
- 2 that until the incorporation of the Regions 1 and 3 Feeder-Link Plan into the Radio Regulations, any administration seeking a modification to the Regions 1 and 3 Plan for the Broadcasting-Satellite Service in the band 12.2 to 12.5 GHz involving an orbital position further west than 28°W shall obtain the agreement of all administrations having orbital assignments in the Region 2 Plans within plus or minus ten degrees of the proposed orbital position,
- 3 that when the Regions 1 and 3 Feeder-Link Plan is considered for incorporation into the Radio Regulations and recording in the Master International Frequency Register at WARC Orb(2), it will have the same status as the Region 2 Feeder-Link Plan and that the Feeder-Link Plans shall be modified as required to make them compatible