



This electronic version (PDF) was scanned by the International Telecommunication Union (ITU) Library & Archives Service from an original paper document in the ITU Library & Archives collections.

La présente version électronique (PDF) a été numérisée par le Service de la bibliothèque et des archives de l'Union internationale des télécommunications (UIT) à partir d'un document papier original des collections de ce service.

Esta versión electrónica (PDF) ha sido escaneada por el Servicio de Biblioteca y Archivos de la Unión Internacional de Telecomunicaciones (UIT) a partir de un documento impreso original de las colecciones del Servicio de Biblioteca y Archivos de la UIT.

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

此电子版（PDF 版本）由国际电信联盟（ITU）图书馆和档案室利用存于该处的纸质文件扫描提供。

Настоящий электронный вариант (PDF) был подготовлен в библиотечно-архивной службе Международного союза электросвязи путем сканирования исходного документа в бумажной форме из библиотечно-архивной службы МСЭ.



**Documents of the World Administrative Radio Conference on the use of the geostationary-satellite orbit and the planning of the space services utilizing it (2nd session) (WARC ORB-88 (2))
(Geneva, 1988)**

To reduce download time, the ITU Library and Archives Service has divided the conference documents into sections.

- This PDF includes Document DT No. 1-95
- The complete set of conference documents includes Document No. 1-489, DL No. 1-72, DT No. 1-95

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

Document DT/1-E
23 August 1988

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

PLENARY MEETING

Note by the Secretary-General

INDEX OF PROPOSALS
Contained in Documents 1 - 74

The Annex to this document contains an index of the proposals for the work of the Conference.

It is divided into two parts:

PART A - Proposals relating to amendments to the Radio Regulations

PART B - Proposals not directly involving amendments to the provisions of the Radio Regulations (these proposals are classified by agenda item).

R.E. BUTLER
Secretary-General

Annex: 1

A N N E X

Notes on symbols

Col. 1 Nos. of the RR to which the proposals relate.

Col. 2 Symbols indicating the nature of the proposal:

ADD = addition of a new provision
MOD = modification of an existing provision
(MOD) = editorial modification of an existing provision
NOC = provision to be maintained without change
SUP = deletion of the existing provision

Col. 3 Index numbers of proposals concerning the provisions mentioned in Col. 1.

The symbols CEPT-1, CEPT-2 and CEPT-3 used in some index numbers refer to proposals submitted jointly by certain CEPT countries as shown below.

Countries originating proposals	CEPT	CEPT-1	CEPT-2	CEPT-3
Germany (F.R.)	X	X	X	X
Austria	X	X	X	X
Belgium	X	X	X	X
Denmark	X	X	X	X
Spain	X			X
Finland	X	X	X	X
France	X	X		
Ireland	X	X	X	X
Luxembourg	X	X	X	X
Netherlands	X	X	X	X
Portugal	X	X	X	X
United Kingdom	X	X	X	X
Sweden	X	X	X	X
Switzerland	X	X	X	X
Turkey	X	X	X	X

A N N E X E

P A R T I E A

Propositions relatives aux dispositions
du Règlement des radiocommunications

A N N E X

P A R T A

Proposals relating to the provisions
of the Radio Regulations

A N E X O

P A R T E A

Propuestas relativas a las disposiciones
del Reglamento de Radiocomunicaciones

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

PAGE INTENTIONALLY LEFT BLANK

N° RR <u>RR No.</u> N.º RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

ARTICLE 1
Termes et définitions

ARTICLE 1
Terms and Definitions

ARTICULO 1
Términos y definiciones

Section II
Termes spécifiques liés
à la gestion des fréquences

Section II
Specific Terms Related
to Frequency Management

Sección II
Términos específicos
relativos a la gestión
de frecuencias

18 MOD USR/7/11

19 MOD USR/7/11

Section IV
Stations et systèmes
radioélectriques

Section IV
Radio Stations
and Systems

Sección IV
Estaciones y sistemas
radioeléctricos

106 MOD LUX/67/7

Section VII
Partage de fréquences

Section VII
Frequency Sharing

Sección VII
Compartición de frecuencias

168A ADD USA/56/6

168B ADD USA/56/7

168C ADD USA/56/8

Section VIII
Termes techniques
relatifs à l'espace

Section VIII
Technical Terms
Relating to Space

Sección VIII
Términos técnicos relativos
al espacio

169 MOD USA/12/62

183 ADD CAN/60/1

184 ADD CAN/60/2

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

ARTICLE 8
Attribution des bandes
de fréquences

ARTICLE 8
Frequency Allocations

ARTICULO 8
Atribución de bandas
de frecuencias

Section IV
Tableau d'attribution des
bandes de fréquences

Section IV
Table of Frequency
Allocations

Sección IV
Cuadro de atribución de
bandas de frecuencias

391	MOD	B/35/1	
480	MOD	CAN/60/4	
787A	ADD	CAN/60/5	
792A	ADD	J/53/21	CAN/60/6
835	MOD SUP	D/71/1 URS/7/13	
839	MOD SUP	J/54/47 USA/56/9	
839A	ADD	USA/56/10	
839B	ADD	USA/56/11	
858	<u>NOC</u>	J/53/22	J/54/5
863	MOD	CAN/60/6A	
884	MOD	USA/12/16	

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

ARTICLE 11

Coordination des assignations de fréquence aux stations d'un service de radiocommunication spatiale, à l'exception des stations du service de radiodiffusion par satellite, et aux stations de Terre appropriées ¹

ARTICLE 11

Coordination of Frequency Assignments to Stations in a Space Radiocommunication Service Except Stations in the Broadcasting-Satellite Service and to Appropriate Terrestrial Stations ¹

ARTICULO 11

Coordinación de asignaciones de frecuencia a estaciones de un servicio de radiocomunicación espacial, exceptuadas las estaciones del servicio de radiodifusión por satélite, y a las estaciones terrenales pertinentes ¹

Titre/ <u>Titre</u> /Título	MOD F/20/4 voir/ <u>see</u> /véase	CAN/60/7 URS/7/10
Note/ <u>Footnote</u> /Nota A.11.1	MOD J/54/48	CAN/60/12
Note/ <u>Footnote</u> /Nota A.11.2	SUP CAN/60/13 ADD CAN/60/14	

Section I

Procédures pour la publication anticipée de renseignements concernant les réseaux à satellite en projet ²

Section I

Procedures for the Advance Publication of Information on Planned Satellite Networks ²

Sección I

Procedimientos para la publicación anticipada de la información relativa a las redes de satélite en proyecto ²

Titre/ <u>Titre</u> /Título	MOD	CAN/60/8
1041	MOD	CAN/60/9
1042	MOD	F/20/5 CAN/60/10
1042A	ADD	CAN/60/11
1042B	ADD	CAN/60/15

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones	
Col. 1	Col. 2	Col. 3	
1043	MOD	CAN/60/16	
1043A	ADD	F/20/6	CAN/60/17
1043AA	ADD	CAN/60/18	
1043B	ADD	F/20/7	CAN/60/19
1043C	ADD	CAN/60/20	
1043D	ADD	CAN/60/21	
1043E	ADD	CAN/60/22	
1043F	ADD	CAN/60/23	
1043G	ADD	CAN/60/24	
1043GG	ADD	CAN/60/25	
1043H	ADD	CAN/60/26	
1043I	ADD	CAN/60/27	
1043J	ADD	CAN/60/28	
1043K	ADD	CAN/60/29	
1043L	ADD	CAN/60/30	
1043M	ADD	CAN/60/31	
1043N	ADD	CAN/60/32	
1044	MOD SUP	F/20/8 CAN/60/33	
1045	MOD SUP	F/20/9 CAN/60/33	
1045A	ADD	CAN/60/36	
1046	(MOD)	CAN/60/34	
1047	MOD	F/20/10	CAN/60/35
1048	(MOD)	CAN/60/38	

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones		
Col. 1	Col. 2	Col. 3		
1049	MOD	USA/12/17	F/20/11	CAN/60/39
1050	MOD (MOD)	USA/12/18 CAN/60/40		
1051	MOD	USA/12/19	CAN/60/41	
1052	(MOD)	CAN/60/42		
1053	(MOD) MOD	USA/12/20 CAN/60/43		
1053A	ADD	CAN/60/45		
1054	MOD (MOD)	USA/12/21 CAN/60/44		
1054A	ADD	USA/12/22	F/20/13	
1054B	ADD	USA/12/23	F/20/14	
1054C	ADD	USA/12/24	F/20/15	
1054D	ADD	F/20/16		
1055	(MOD)	CAN/60/46		
1055A	ADD	CAN/60/48		
1056	MOD	F/20/17	CAN/60/47	
1057	MOD	F/20/18		
1058	MOD	F/20/19	CAN/60/49	
1058A	ADD	CAN/60/50		

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

Section II

**Coordination des assignations de fréquence à une station spatiale à bord
d'un satellite géostationnaire ou à une station terrienne communiquant
avec une telle station spatiale vis-à-vis des stations appartenant
à d'autres réseaux à satellite géostationnaire**

Section II

**Coordination of Frequency Assignments to a Space Station
on a Geostationary Satellite on an Earth Station
Communicating with Such a Space Station in Relation
to Stations of Others Geostationary-Satellite Networks**

Sección II

**Coordinación de asignaciones de frecuencia a una estación espacial
a bordo de un satélite geoestacionario o a una estación terrena
que comuniquen con dicha estación espacial,
con respecto a estaciones de otras redes de satélites geoestacionarios**

Titre/Title/Título	MOD	USA/12/25	F/20/20	B/35/2
		USA/56/12	CAN/60/51	
		voir/see/véase	URS/7/10	

Note/Footnote/Nota	A.11.3	ADD	USA/56/13
---------------------------	---------------	------------	------------------

1060	MOD	USA/12/26	F/20/21	B/35/3
		CAN/60/52		

1060bis	ADD	CAN/60/53
----------------	------------	------------------

1060A	ADD	CAN/60/54
--------------	------------	------------------

1060.1	ADD	USA/12/27	F/20/22
---------------	------------	------------------	----------------

1061	MOD	F/20/23	CAN/60/55
-------------	------------	----------------	------------------

1062	MOD	F/20/24	CAN/60/56
-------------	------------	----------------	------------------

1063	MOD	CAN/60/57
-------------	------------	------------------

1064	MOD	F/20/25	CAN/60/58
-------------	------------	----------------	------------------

1065	(MOD)	CAN/60/59
-------------	--------------	------------------

1065A	ADD	CAN/60/60
--------------	------------	------------------

N° RR <u>RR No.</u> N.º RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones		
Col. 1	Col. 2	Col. 3		
1066	(MOD)	CAN/60/61		
1067	MOD	F/20/26		
1069	MOD	USA/12/28 CAN/60/62	F/20/27	B/35/4
1070	<u>NOC</u>	CAN/60/63		
1071	<u>NOC</u>	CAN/60/63		
1072	(MOD)	CAN/60/64		
1073	MOD	USA/12/29 CAN/60/65	F/20/28 (Rev.)	B/35/5
1073.1	ADD	USA/56/22		
1073A	ADD	CAN/60/66		
1073B	ADD	CAN/60/67		
1074	MOD	F/20/29	CAN/60/68	

Section IIA
Dispositions spéciales relatives à la coordination du secteur spatial

Section IIA
Special Provisions Relating to the Coordination of the Space Segment

Sección IIA
Disposiciones especiales relativas a la coordinación del segmento espacial

Titre/ <u>Title</u> /Título	ADD	CAN/60/69
1074B	ADD	CAN/60/70
1074C	ADD	CAN/60/71
1074D	ADD	CAN/60/72
1074E	ADD	CAN/60/73
1074F	ADD	CAN/60/74

N° RR <u>RR No.</u> N.º RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones	
Col. 1	Col. 2	Col. 3	
1075	(MOD)	CAN/60/75	
1076	MOD	F/20/30	
1076A	ADD	CAN/60/76	
1077	MOD	CAN/60/77	
1077A	ADD	CAN/60/78	
1077B	ADD	CAN/60/79	
1077C	ADD	CAN/60/80	
1077D	ADD	CAN/60/81	
1077E	ADD	CAN/60/82	
1078	MOD	F/20/31	CAN/60/83
1078A	ADD	F/20/32	
1078B	ADD	F/20/33	
1078C	ADD	F/20/34	
1080	MOD	F/20/35	CAN/60/84
1081	SUP	F/20/36	
1082	SUP (MOD)	F/20/37 CAN/60/85	
1084	MOD	F/20/38	CAN/60/86
1084.1	MOD	CAN/60/87	
1084.2	ADD	USA/56/23	
1085A	ADD	USA/12/30	F/20/39
1085B	ADD	F/20/40	
1085C	ADD	F/20/41	
1085D	ADD	F/20/42	

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones	
Col. 1	Col. 2	Col. 3	
1087	MOD	B/35/6	CAN/60/88
1087A	ADD	CAN/60/89	
1087B	ADD	CAN/60/90	
1087C	ADD	CAN/60/91	
1087D	ADD	CAN/60/92	
1087E	ADD	CAN/60/93	
1087F	ADD	CAN/60/94	
1087G	ADD	CAN/60/95	
1087H	ADD	CAN/60/96	
1089	(MOD)	CAN/60/97	
1090	SUP <u>NOC</u>	F/40/43 CAN/60/98	
1091	MOD <u>NOC</u>	F/40/44 CAN/60/99	
1092	<u>NOC</u>	CAN/60/98	
1093	<u>NOC</u>	CAN/60/98	
1093A	ADD	F/20/45	
1094	(MOD)	CAN/60/99	
1095	(MOD)	CAN/60/100	
1096	SUP (MOD)	F/20/46 CAN/60/101	
1097	MOD	F/20/47	
1098	MOD	F/20/48	
1098A	ADD	F/20/49	

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

1100	MOD	CAN/60/102		
1101	MOD	F/20/50		
1102	MOD	F/20/51	B/35/7	CAN/60/103
1103	MOD	F/20/5	B/35/8	
1105	MOD	F/20/53	B/35/9	CAN/60/104

Section III
Coordination des assignations de fréquence à une station terrienne
vis-à-vis des stations de Terre

Section III
Coordination of Frequency Assignments to an Earth Station
in relation to Terrestrial Stations

Sección III
Coordinación de asignaciones de frecuencia a una estación terrena,
con respecto a estaciones terrenales

Titre/ <u>Title</u> /Título	MOD	CAN/60/105		
1107	MOD	S/55/25	CAN/60/106	
1109	MOD	J/53/9		
1109A	ADD	CAN/60/107		
1110	(MOD)	CAN/60/108		
1111	(MOD)	CAN/60/109		
1111A	ADD	B/35/10	CAN/60/110	
1112	MOD	CAN/60/111		
1113	MOD	CAN/60/112		
1115	(MOD)	CAN/60/113		
1117	(MOD)	CAN/60/114		
1118.1	MOD	CAN/60/115		
1119.1	MOD	CAN/60/115		

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3
1130	(MOD)	CAN/60/116
1146	MOD	CAN/60/117
1148	(MOD)	CAN/60/118
1159	(MOD)	CAN/60/119
1160	(MOD)	CAN/60/120
1162	(MOD)	CAN/60/121
1164	MOD	CAN/60/122
1166	(MOD)	CAN/60/123
1167	(MOD)	CAN/60/124
1169	(MOD)	CAN/60/125
1170	MOD	CAN/60/126
1176	(MOD)	CAN/60/127
1181	MOD	CAN/60/128
1183	MOD	CAN/60/129
1184	(MOD)	CAN/60/130
1189	ADD	CAN/60/131
1190	ADD	CAN/60/132
1191	ADD	CAN/60/133
1192	ADD	CAN/60/134

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

ARTICLE 11A
Procédures améliorées impliquant des réunions de planification
multilatérales pour le service fixe par satellite

ARTICLE 11A
Improved Procedures Involving Multilateral Planning Meetings
for the Fixed-Satellite Service

ARTICULO 11A
Procedimientos mejorados que incluyen reuniones multilaterales
de planificación para el servicio fijo por satélite

ADD CAN/59/1

ARTICLE 12
Notification et inscription dans le Fichier de référence
international des fréquences des assignations de fréquence ¹
aux stations de radiocommunication de Terre ^{2, 3, 4}

ARTICLE 12
Notification and Recording in the Master International Frequency Register
of Frequency Assignments ¹ to Terrestrial Radiocommunication Stations ^{2, 3, 4}

ARTICULO 12
Notificación e inscripción en el Registro Internacional de Frecuencias de
asignaciones de frecuencia ¹ a estaciones de radiocomunicación terrenal ^{2, 3, 4}

Note/Footnote/Nota A.12.4 MOD J/54/48

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

ARTICLE 13

Notification et inscription dans le Fichier de référence international
des fréquences des assignations de fréquence ¹ aux stations de radioastronomie
et aux stations de radiocommunication spatiale à l'exception
des stations du service de radiodiffusion par satellite ²

ARTICLE 13

Notification and Recording in the Master International Frequency Register
of Frequency Assignments ¹ to Radio Astronomy and Space Radiocommunication
Stations Except Stations in the Broadcasting-Satellite Service ²

ARTICULO 13

Notificación e inscripción en el Registro Internacional de Frecuencias
de asignaciones de frecuencia ¹ a estaciones de radioastronomía
y a las de radiocomunicación espacial excepto las estaciones
del servicio de radiodifusión por satélite ²

Titre/ <u>Title</u> /Título	MOD	B/35/11	CAN/60/135
Note/ <u>Footnote</u> /Nota	A.13.1A	ADD	B/35/15
Note/ <u>Footnote</u> /Nota	A.13.2	MOD	J/54/8
Note/ <u>Footnote</u> /Nota	A.13.3	ADD	B/35/16
			CAN/60/137

Section I
Notification des
assignations de fréquence

Section I
Notification of
Frequency Assignments

Sección I
Notificación de
asignaciones de frecuencia

Titre/ <u>Title</u> /Título	MOD	B/35/12
1488	MOD	USA/12/31 F/32/1 B/35/13
1488.1	ADD	USA/12/32 F/32/2
1488.2	ADD	USA/12/33
1489	MOD	B/35/14
1490	MOD	B/35/17

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

1491	MOD	B/35/18
1491A	ADD	B/35/19
1491B	ADD	B/35/20
1491C	ADD	B/35/21
1491D	ADD	B/35/22
1491E	ADD	B/35/23
1493	MOD	B/35/24
1494	MOD	USA/12/34 F/32/3
1494A	ADD	B/35/25
1495	MOD	CAN/60/138
1496	MOD	CAN/60/139
1496.1	SUP	CAN/60/140
1497	MOD	B/35/26

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

Section II
Procédure pour l'examen des fiches de notification et d'inscription des
assignations de fréquence dans le Fichier de référence

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

Sección II
Procedimiento para el examen de las notificaciones y la inscripción de
las asignaciones de frecuencia en el Registro

1498	MOD	CAN/60/141
1501A	ADD	CAN/60/142
1503	MOD	J/53/10
1503A	ADD	CAN/60/143
1504	MOD	USA/12/35
1505	MOD	USA/12/36
1512A	ADD	CAN/60/144
1512B	ADD	CAN/60/145
1513	MOD	CAN/60/146
1516A	ADD	CAN/60/147
1516B	ADD	CAN/60/148
1516C	ADD	CAN/60/149
1516D	ADD	CAN/60/150
1518	<u>NOC</u>	CAN/60/151
1548	MOD	CAN/60/152
1550	MOD	CAN/60/153
1565	MOD	CAN/60/154

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

1570 MOD CAN/60/155

1570A ADD CAN/60/156

1571 MOD CAN/60/157

1572 MOD CAN/60/158

Section VIA

Procédure de remise en service d'une assignation suspendue

Section VIA

Procedure for Bringing a Suspended Assignment Back into Use

Sección VIA

Procedimiento para poner nuevamente en servicio una asignación en suspenso

ADD CAN/60/159

1575A ADD CAN/60/160

Section VIB

Procédure relative à la période de validité des assignations de fréquence à des stations spatiales utilisant l'orbite des satellites géostationnaires

Section VIB

Procedure Relating to the Period of Validity of Frequency Assignments to Space Stations Using the Geostationary-Satellite Orbit

Sección VIB

Procedimiento relativo al periodo de validez de las asignaciones de frecuencia a estaciones espaciales que utilizan la órbita de los satélites geoestacionarios

ADD CAN/60/161

1575B - 1575F ADD CAN/60/162 - CAN/60/166

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

ARTICLE 14

Procédure supplémentaire à appliquer dans les cas où un accord
avec une administration est requis par un renvoi du Tableau
d'attribution des bandes de fréquences

ARTICLE 14

Supplementary Procedure to Be Applied in Cases Where a Footnote in the Table of
Frequency Allocations Requires an Agreement with an Administration

ARTICULO 14

Procedimiento suplementario que ha de aplicarse cuando se requiere el acuerdo de
una administración en una nota del Cuadro de atribución de bandas de frecuencias

Titre/ <u>Title</u> /Título		<u>NOC</u>	USA/12/37		
		MOD	CAN/60/167		
1609A	ADD		CAN/60/168		
1610	MOD	USA/12/38	J/53/11	CAN/60/169	
1610A	ADD	USA/12/39	J/53/12	S/55/1	CAN/60/170
1610B	ADD	USA/12/40	J/53/13	S/55/2	
1610C	ADD	J/53/14			
1610D	ADD	J/53/15			
1610E	ADD	J/53/16			
1610F	ADD	J/53/17			
1610G	ADD	J/53/18			
1610H	ADD	J/53/19			
1610I	ADD	J/53/20			
1611	(MOD)	J/53/21			
1612	MOD	CAN/60/172			

N° RR <u>RR No.</u> N.º RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

1613	MOD	S/55/3	CAN/60/173
1613A	ADD	CAN/60/174	
1613.1	MOD SUP	USA/12/41 S/55/4	CAN/60/175
1614	(MOD) SUP	J/53/22 S/55/5	CAN/60/176
1614A	ADD	CAN/60/177	CAN/60/178
1614B	ADD	CAN/60/179	
1614C	ADD	CAN/60/180	
1614D	ADD	CAN/60/181	
1614E	ADD	CAN/60/183	
1614F	ADD	CAN/60/184	
1614G	ADD	CAN/60/185	
1615	SUP MOD	CAN/60/186 S/55/6	
1615.1	MOD	CAN/60/182	
1616	MOD SUP	USA/12/42 CAN/60/186	S/55/7
1616.1	ADD	USA/12/43	S/55/8
1616.2	ADD	USA/12/44	S/55/9
1616A	ADD	CAN/60/187	
1616B	ADD	CAN/60/188	
1616C	ADD	CAN/60/189	
1616D	ADD	CAN/60/190	

N° RR <u>RR No.</u> N.º RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

1616E	ADD	CAN/60/191		
1616E.1	ADD	CAN/60/192		
1616F	ADD	CAN/60/193		
1616G	ADD	CAN/60/194		
1616H	ADD	CAN/60/195		
1616I	ADD	CAN/60/196		
1616J	ADD	CAN/60/197		
1616K	ADD	CAN/60/198		
1617	MOD	USA/12/45	S/55/10	CAN/60/199
1618	MOD	USA/12/46	S/55/11	CAN/60/200
1619	MOD	USA/12/47	S/55/12	CAN/60/201
1619.1	ADD	USA/12/48	S/55/13	
1619A	ADD	USA/12/49	S/55/14	
1619B	ADD	USA/12/50	S/55/15	
1619C	ADD	USA/12/51	S/55/16	
1619D	ADD	USA/12/52		
1620	MOD	CAN/60/202		
1620.1	SUP	CAN/60/203		
1621	MOD	CAN/60/204		

N° RR <u>RR No.</u> N.º RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

1622	MOD	S/55/17	CAN/60/205
1622A	ADD	S/55/18	CAN/60/206
1622B	ADD	CAN/60/207	
1622C	ADD	CAN/60/208	
1622D	ADD	CAN/60/209	
1622E	ADD	CAN/60/210	
1622F	ADD	CAN/60/211	
1622G	ADD	CAN/60/212	
1622H	ADD	CAN/60/213	
1622I	ADD	CAN/60/214	
1622J	ADD	CAN/60/215	
1622K	ADD	CAN/60/216	
1622L	ADD	CAN/60/217	
1622M	ADD	CAN/60/218	
1622N	ADD	CAN/60/219	
1623	(MOD)	CAN/60/220	
1624	MOD	USA/12/53	S/55/19 CAN/60/221
1624A	ADD	USA/12/54	S/55/20

N° RR <u>RR No.</u> N.º RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

1625	MOD	USA/12/55 S/55/21 CAN/60/222
1626	MOD (MOD)	USA/12/56 S/55/22 CAN/60/223
1627	MOD	CAN/60/224
1628 - 1630	SUP	CAN/60/225 - CAN/60/227
1630.1	SUP	CAN/60/228
1628	ADD	CAN/60/229
1629	ADD	CAN/60/230
1630	ADD	CAN/60/231
1631	ADD	S/55/23 CAN/60/232
1632	ADD	S/55/24 CAN/60/233
1633	ADD	CAN/60/234
1634	ADD	CAN/60/235
1635	ADD	CAN/60/236
1636	ADD	CAN/60/237

N° RR <u>RR No.</u> N.º RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

ARTICLE 15A

Coordination, notification et inscription des assignations de fréquence aux stations du service fixe par satellite (Terre vers espace) dans la bande de fréquences 17,3 - 17,8 GHz (en Région 2) qui assurent les liaisons de connexion associées au service de radiodiffusion par satellite et aux stations des autres services auxquels cette bande est attribuée en Région 2, dans la mesure où leur relation avec le service fixe par satellite (Terre vers espace) dans cette bande est impliquée en Région 2

ARTICLE 15A

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

ARTICULO 15A

Coordinación, notificación e inscripción de asignaciones de frecuencia a las estaciones del servicio fijo por satélite (Tierra-espacio) en la banda de frecuencias 17,3 - 17,8 GHz (en la Región 2) que proporcionan enlaces de conexión asociados al servicio de radiodifusión por satélite y a las estaciones de otros servicios a los cuales está atribuida esta banda en la Región 2, en lo que concierne a su relación con el servicio fijo por satélite (Tierra-espacio) en esta banda en la Región 2

N° RR <u>RR No.</u> N.º RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

ARTICLE 15B

Coordination, notification et inscription des assignations de fréquence aux stations du service fixe dans les bandes de fréquences 4,50 - 4,80 GHz, 6,625 - 6,925 GHz, 10,70 - 10,95 GHz, 11,20 - 11,45 GHz et 12,75 - 13,25 GHz et aux autres services auxquels ces bandes sont attribuées, dans la mesure où leur relation avec le service fixe par satellite dans ces bandes est impliquée

ARTICLE 15B

Coordination, Notification and Recording of Frequency Assignments to Stations in the Fixed-Satellite Service in the Frequency Bands 4.50 - 4.80 GHz, 6.625 - 6.925 GHz, 10.70 - 10.95 GHz, 11.20 - 11.45 GHz and 12.75 - 13.25 GHz and to the Other Services to Which These Bands are Allocated, so far as their Relationship to the Fixed-Satellite Service in these Bands is Concerned

ARTICULO 15B

Coordinación, notificación e inscripción de asignaciones de frecuencia a las estaciones del servicio fijo por satélite en las bandas de frecuencias 4,50 - 4,80 GHz, 6,625 - 6,925 GHz, 10,70 - 10,95 GHz, 11,20 - 11,45 GHz y 12,75 - 13,25 GHz y a los otros servicios a que están atribuidas estas bandas, en lo que concierne a su relación con el servicio fijo por satélite en dichas bandas

N° RR RR No. N.º RR	Symbole Symbol Símbolo	Numéros d'indexage des propositions Index numbers of proposals Números de las proposiciones
Col. 1	Col. 2	Col. 3

ARTICLE 27

Services de radiocommunication de Terre partageant des bandes
de fréquences avec les services de radiocommunication spatiale
au-dessus de 1 GHz

ARTICLE 27

Terrestrial Radiocommunication Services Sharing Frequency Bands
with Space Radiocommunication Services above 1 GHz

ARTICULO 27

Servicios de radiocomunicación terrenal que comparten bandas de
frecuencias con los servicios de radiocomunicación espacial
por encima de 1 GHz

Note*/Footnote*/Nota* MOD CAN/60/239

2510 MOD CAN/60/240

2511 MOD CAN/60/241

2510.2 SUP CAN/60/242

2511.1 SUP CAN/60/243

N° RR <u>RR No.</u> N.° RR	Symbole <u>Symbol</u> Símbolo	Numéros d'indexage des propositions <u>Index numbers of proposals</u> Números de las proposiciones
Col. 1	Col. 2	Col. 3

ARTICLE 29
Dispositions spéciales relatives
aux services de radiocommunication spatiale

ARTICLE 29
Special Rules Relating to
Space Radiocommunication Services

ARTICULO 29
Disposiciones especiales relativas a
los servicios de radiocomunicación espacial

Section III
Maintien en position des
stations spatiales¹

Section III
Station Keeping
of Space Stations¹

Sección III
Mantenimiento en posición de
las estaciones espaciales¹

Note/Footnote/Nota ¹ MOD USA/56/14

ARTICLE 69
Entrée en vigueur du Règlement des radiocommunications

ARTICLE 69
Entry into Force of the Radio Regulations

ARTICULO 69
Entrada en vigor del Reglamento de Radiocomunicaciones

5187	MOD	CAN/60/244
5192	MOD	CAN/60/245
5193.1	SUP	CAN/60/247
5194	ADD	CAN/60/246
5195	ADD	CAN/60/248
5196	ADD	CAN/60/249

APPENDICE 3
Fiches de notification relatives aux stations de
radiocommunication spatiale et de radioastronomie

APPENDIX 3
Notices Relating to Space Radiocommunications and Radioastronomy Stations

APENDICE 3
Notificaciones relativas a estaciones de
radiocomunicación espacial y de radioastronomía

Tout l'Appendice/ <u>All the Appendix</u> / Todo el Apéndice	MOD	F/23/1
	SUP	USA/56/16 (voir/ <u>see</u> /véase USA/56/17: Ap.3A)
Titre/ <u>Title</u> /Título	MOD	CAN/60/251
Section A Instructions générales	Section A General Instructions	Sección A Instrucciones generales
2.	MOD	CAN/60/252
Note/ <u>Note</u> /Nota ¹	ADD	CAN/60/253
4. a)	MOD	CAN/60/254
b)	MOD	CAN/60/255
c)	MOD	CAN/60/256
d)	MOD	CAN/60/257
d)1)	SUP	CAN/60/258
e)	ADD	CAN/60/259
d)2)	MOD	CAN/60/260
d)3)	MOD	CAN/60/261
e)	MOD	CAN/60/262
f)	MOD	CAN/60/263
g)	MOD	CAN/60/264

Appendice/Appendix/Apéndice 3 (cont.)

Section D

Caractéristiques fondamentales à fournir dans le cas de la notification
d'une fréquence d'émission de stations spatiales

Section D

Basic Characteristics to Be Furnished in Notices Relating to
Frequencies Used by Space Stations for Transmitting

Sección D

Características esenciales que deben suministrarse en las notificaciones
relativas a frecuencias utilizadas por estaciones espaciales para la transmisión

Point/Item/Punto 10

f) ADD AUS/49/28

Section E

Caractéristiques fondamentales à fournir dans le cas de la notification
d'une fréquence de réception de stations spatiales

Section E

Basic Characteristics to Be Furnished in Notices Relating to
Frequencies to Be Received by Space Stations

Sección E

Características esenciales que deben suministrarse en las notificaciones
relativas a frecuencias utilizadas por estaciones espaciales para la recepción

Point/Item/Punto 9

f) ADD AUS/49/29

Appendice

Appendix 3A

Apéndice

ADD

USA/56/17

APPENDICE 3A

Fiches de notification relatives aux stations de
radiocommunication spatiale et de radioastronomie

APPENDIX 3A

Notices Relating to Space Radiocommunications and Radio Astronomy Stations

APÉNDICE 3A

Notificaciones relativas a estaciones de radiocomunicación espacial
y de radioastronomía

APPENDICE 4
Renseignements à fournir pour la publication anticipée
relative à un réseau à satellite

APPENDIX 4
Advance Publication Information to Be Furnished for a Satellite Network

APPENDICE 4
Información que ha de facilitarse para la publicación anticipada
relativa a una red de satélite

Section B
Caractéristiques générales à fournir pour un réseau à satellite

Section B
General Characteristics to Be Furnished for a Satellite Network

Sección B
Características generales que han de facilitarse para una red de satélite

Point/ <u>Item</u> /Punto 1A	ADD	F/31/7
Point/ <u>Item</u> /Punto 1A.1	ADD	F/31/8
Point/ <u>Item</u> /Punto 4		
a)	MOD	F/31/9
a) 2 bis)	ADD	F/31/10

Section C
Caractéristiques du réseau à satellite pour le sens "Terre vers Espace"

Section C
Characteristics of the Satellite Network in the Earth-to-Space Direction

Sección C
Características de la red de satélite para el sentido "Tierra-Espacio"

Point/ <u>Item</u> /Punto 4	MOD	F/22/1
a)	MOD	F/22/2
b)	SUP	F/22/3
c)	(MOD)	F/22/4
d)	(MOD)	F/22/5

Appendice/Appendix/Apéndice 4 (cont.)

Nouveau Point/ <u>New Item</u> /Nuevo Punto 5		ADD	F/22/15
Point/ <u>Item</u> /Punto 5	(MOD)		F/22/12A
a)	MOD		F/22/13
e)	ADD		AUS/49/30

Section D
Caractéristiques du réseau à satellite pour le sens "Espace vers Terre"

Section D
Characteristics of the Satellite Network in the Space-to-Earth Direction

Sección D
Características de la red de satélite para el sentido "Espacio-Tierra"

Point/ <u>Item</u> /Punto 4	MOD		F/22/6
a)	MOD		F/22/7
Note/ <u>Note</u> /Nota 1	ADD		F/22/8
Note/ <u>Note</u> /Nota 1	(MOD)		F/22/9
Point/ <u>Item</u> /Punto 5			
a)	MOD		F/22/14
e)	ADD		AUS/49/31
Point/ <u>Item</u> /Punto 6	MOD		F/22/16
Nouveau Point/ <u>New Item</u> /Nuevo Punto 7		ADD	F/22/17

Nouvelle Section E
Caractéristiques globales des liaisons

New Section E
General Link Characteristics

Nueva Sección E
Características globales de los enlaces

ADD F/22/10

Appendice/Appendix/Apéndice 4 (cont.)

Section F
Renseignements supplémentaires (s'ils sont disponibles)

Section F
Supplementary Information (if available)

Sección F
Información suplementaria (de ser posible)

Point/Item/Punto 2

d) e) f)	ADD	USA/56/24
----------	-----	-----------

Point/Item/Punto 3

d) e) f)	ADD	USA/56/25
----------	-----	-----------

Note/ <u>Note</u> /Nota	ADD	USA/56/26
-------------------------	-----	-----------

Annexe à l'Appendice 4/ <u>Annex to Appendix 4/</u> Anexo al Apéndice 4	ADD	F/22/11	F/22/12
---	-----	---------	---------

APPENDICE 28
Méthode de détermination de la zone de coordination
d'une station terrienne dans les bandes de fréquences
comprises entre 1 GHz et 40 GHz partagées entre
services de radiocommunication spatiale et de radiocommunication de Terre

APPENDIX 28
Method for the Determination of the Coordination Area Around
an Earth Station in Frequency Bands Between 1 GHz and 40 GHz
Shared Between Space and Terrestrial Radiocommunication Services

APPENDICE 28
Método para determinar la zona de coordinación de una estación terrena
en bandas de frecuencias comprendidas entre 1 GHz y 40 GHz,
compartidas entre servicios de radiocomunicación espacial y terrenal

Tableau/ <u>Table</u> /Cuadro II	MOD	USA/12/57 - USA/12/58B
----------------------------------	-----	------------------------

APPENDICE 29
Méthode de calcul pour déterminer si une coordination
est nécessaire entre des réseaux à satellite géostationnaire
partageant les mêmes bandes de fréquences

APPENDIX 29
Method of Calculation for Determining if Coordination is Required
Between Geostationary-Satellite Networks Sharing
the Same Frequency Bands

APPENDICE 29
Método de cálculo para determinar si se requiere la coordinación
entre redes de satélite geostacionario que comparten
las mismas bandas de frecuencias

2.1	MOD	F/21/1	
3.1	MOD	USA/12/59	F/21/2
3.2	MOD	USA/12/60	F/21/3

Tableau/ <u>Table</u> /Cuadro 1	ADD	F/21/4
---------------------------------	-----	--------

Tableau/ <u>Table</u> /Cuadro 2	ADD	F/21/5
---------------------------------	-----	--------

Annexe/Annex/Anexo IV :

1.	MOD	F/21/6	
4.	MOD	USA/12/61	F/21/7

APPENDICE 30 (ORB-85)

Dispositions applicables à tous les services et Plans associés
concernant le service de radiodiffusion par satellite
dans les bandes de fréquences 11,7 - 12,2 GHz (dans la Région 3)
11,7 - 12,5 GHz (dans la Région 1) et 12,2 - 12,7 GHz (dans la Région 2)

APPENDIX 30 (ORB-85)

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)

APENDICE 30 (ORB-85)

Disposiciones aplicables a todos los servicios y Planes asociados
para el servicio de radiodifusión por satélite en las
bandas de frecuencias 11,7 - 12,2 GHz (en la Región 3)
11,7 - 12,5 GHz (en la Región 1) y 12,2 - 12,7 GHz (en la Región 2)

Article/Article/Artículo 4

Note/ <u>Note</u> /Nota ¹	MOD	USA/12/75
4.5.2	SUP	USA/12/76
4.6	ADD	USA/12/77

Annexe 1

Limites à prendre en considération pour déterminer si un service d'une
administration est défavorablement influencé par un projet de modification aux
Plans ou, le cas échéant, lorsqu'il faut rechercher l'accord de toute autre
administration conformément au présent appendice (Voir l'article 4)

Annex 1

Limits for Determining Whether a Service of an Administration is Affected by a
Proposed Modification to the Plans or When It is Necessary Under This Appendix
to Seek the Agreement of Any Other Administration (See Article 4)

Anexo 1

Límites que han de tomarse en consideración para determinar si un servicio de
una administración resulta afectado por una modificación propuesta de los
Planes o cuando haya que obtener el acuerdo de cualquier otra administración
de conformidad con el presente apéndice (Véase el artículo 4)

5. a) b) c)	MOD	URS/7/14
-------------	-----	----------

Appendice/Appendix/Apéndice 30 (ORB-85) (cont.)

Annexe 6
Critères de partage entre services

Annex 6
Criteria for Sharing Between Services

Anexo 6
Criterios de compartición entre servicios

Titre/ <u>Title</u> /Título	MOD	KEN/69/23
-----------------------------	-----	-----------

Annexe 7
Restrictions applicables aux positions sur l'orbite

Annex 7
Orbital Position Limitations

Anexo 7
Limitaciones de la posición orbital

3)	MOD	AUS/49/41
4)	ADD	AUS/49/42

APPENDICE 30A

Dispositions et Plan associé pour les liaisons de connexion
du service de radiodiffusion par satellite (12,2 - 12,7 GHz)
dans la bande de fréquences 17,3 - 17,8 GHz dans la Région 2

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

APENDICE 30A

Disposiciones y Plan asociado para los enlaces de conexión
del servicio de radiodifusión por satélite (12,2 - 12,7 GHz)
en la banda de frecuencias 17,3 - 17,8 GHz en la Región 2

Titre/ <u>Title</u> /Título	MOD	USA/12/69	CEPT-1/39/1
Article/ <u>Article</u> /Artículo 1			
	MOD		CEPT-1/39/2 - CEPT-1/39/8
Article/ <u>Article</u> /Artículo 2			
	MOD		CEPT-1/39/9 - CEPT-1/39/10
Article/ <u>Article</u> /Artículo 3			
	MOD		CEPT-1/39/11 - CEPT-1/39/14
Article/ <u>Article</u> /Artículo 4			
	MOD		CEPT-1/39/15 - CEPT-1/39/42
Article/ <u>Article</u> /Artículo 5			
	MOD		CEPT-1/39/43 - CEPT-1/39/46
Article/ <u>Article</u> /Artículo 6			
	MOD		CEPT-1/39/47 - CEPT-1/39/52
Article/ <u>Article</u> /Artículo 7			
	MOD		CEPT-1/39/53 - CEPT-1/39/59
Article/ <u>Article</u> /Artículo 9			
	MOD		CEPT-1/39/60
Article/ <u>Article</u> /Artículo 10			
	MOD		CEPT-1/39/61 - CEPT-1/39/63

Appendice/Appendix/Apéndice 30A (cont.)

Article/Article/Artículo 11

MOD CEPT-1/39/64

Article/Article/Artículo 12

MOD CEPT-1/39/65 - CEPT-1/39/67

Annexe 1

Limites à prendre en considération pour déterminer si un service d'une administration est défavorablement influencé par un projet de modification au Plan ou, le cas échéant, lorsqu'il faut rechercher l'accord de toute autre administration conformément au présent Appendice ¹

Annex 1

Limits for Determining Whether a Service of an Administration Is Considered to Be Affected by a Proposed Modification to the Plan or When It Is Necessary Under This Appendix to Seek the Agreement of Any Other Administration ¹

Anexo 1

Límites que han de tomarse en consideración para determinar si un servicio de una administración se considera afectado por una modificación proyectada del Plan o cuando haya que obtener el acuerdo de cualquier otra administración de conformidad con el presente apéndice ¹

Titre/ <u>Title</u> /Título	MOD	CEPT-1/39/68	
Note/ <u>Note</u> /Nota ¹	SUP	CEPT-1/39/73	
1. (nouveau/ <u>new</u> /nuevo)	ADD	B/8/2 CEPT-1/39/69	CEPT-1/39/70
1.	(MOD) MOD	B/8/3 CEPT-1/39/71	
2.	(MOD) MOD	B/8/3 CEPT-1/39/72	
3.	(MOD) MOD	B/8/3 CEPT-1/39/74	CEPT-1/39/75
Note/ <u>Note</u> /Nota ¹	(MOD)	CEPT-1/39/76	
4.	ADD	USA/12/70	

Appendice/Appendix/Apéndice 30A (cont.)

Annexe 2

Caractéristiques fondamentales à inscrire dans les fiches de notification ¹
relatives aux stations des liaisons de connexion du service fixe par satellite
fonctionnant dans la bande de fréquences 17,3 - 17,8 GHz dans la Région 2

Annex 2

Basic Characteristics to Be Furnished in Notices ¹ Relating
to Feeder-Link Stations in the Fixed-Satellite Service
Operating in the Frequency Band 17.3 - 17.8 GHz in Region 2

Anexo 2

Características esenciales que deben suministrarse en las notificaciones ¹
relativas a estaciones de enlace de conexión del servicio fijo por satélite
que funcionan en la banda de frecuencias 17,3 - 17,8 GHz en la Región 2

Titre/ <u>Title</u> /Título	MOD	CEPT-1/39/77
1.6	MOD	CEPT-1/39/78
Note/ <u>Note</u> /Nota ¹	MOD	CEPT-1/39/80
1.9	(MOD)	CEPT-1/39/79
Note/ <u>Note</u> /Nota ¹	MOD	CEPT-1/39/81
1.11 b)	(MOD)	CEPT-1/39/82
c)	(MOD)	CEPT-1/39/83
d)	(MOD)	CEPT-1/39/84
1.12 g)	(MOD)	CEPT-1/39/85
h)	(MOD)	CEPT-1/39/86
i)	(MOD)	CEPT-1/39/87
Note/ <u>Note</u> /Nota ¹	MOD	CEPT-1/39/89
Note/ <u>Note</u> /Nota ²	MOD	CEPT-1/39/90
2.2	MOD	CEPT-1/39/88
2.9 i)	MOD	CEPT-1/39/91
2.18	(MOD)	CEPT-1/39/92
Note/ <u>Note</u> /Nota ¹	(MOD)	CEPT-1/39/93

Appendice/Appendix/Apéndice 30A (cont.)

Annexe 3

**Données techniques utilisées pour l'établissement des dispositions et
du Plan associé et devant être utilisées pour leur application**

Annex 3

**Technical Data Used in Establishing the Provisions and Associated Plan
and Which Should Be Used for their Application**

Anexo 3

**Datos técnicos utilizados para el establecimiento de las disposiciones y
del Plan asociado y que deberán emplearse para su aplicación**

1.1	MOD	CEPT-1/39/94
Note/ <u>Note</u> /Nota ¹	MOD	CEPT-1/39/96
1.6 bis	ADD	CEPT-1/39/95
1.11	MOD	CEPT-1/39/97
Note/ <u>Note</u> /Nota *	ADD	CEPT-1/39/98
3.	MOD	CEPT-1/39/99

Annexe 4

Critères de partage entre services dans la Région 2

Annex 4

Criteria for Sharing Between Services in Region 2

Anexo 4

Criterios de compartición entre servicios en la Región 2

Titre/ <u>Title</u> /Título	MOD	B/8/4 CEPT-1/39/100	USA/12/71
1.	MOD	USA/12/71	CEPT-1/39/101
2.	ADD	B/8/5	
3.	MOD	B/8/6 B/8/7 CEPT-1/39/102	CEPT-1/39/103
4.	ADD	CEPT-1/39/104	

NOUVEAUX APPENDICES - NEW APPENDICES - NUEVOS APENDICES

Appendice
Appendix 30B ADD USA/12/10
Apéndice

APPENDICE 30B

Plan d'allotissement pour le service fixe par satellite dans les bandes
de fréquences 4 500 - 4 800 MHz, 6 725 - 7 025 MHz, 10,7 - 10,95 GHz,
11,2 - 11,45 GHz et 12,75 - 13,25 GHz

APPENDIX 30B

Allotment Plan for the Fixed-Satellite Service in the Frequency
Band 4 500 - 4 800 MHz, 6 725 - 7 025 MHz, 10.7 - 10.95 GHz,
11.2 - 11.45 GHz and 12.75 - 13.25 GHz

APENDICE 30B

Plan de adjudicación para el servicio fijo por satélite en las bandas
de frecuencias 4 500 - 4 800 MHz, 6 725 - 7 025 MHz, 10,7 - 10,95 GHz,
11,2 - 11,45 GHz y 12,75 - 13,25 GHz

Annexes/
Annexes/ 1 à/to/a 5 USA/56/1 - USA/56/5
Anexos USA/56/21

Voir également/See also/Véase también AUS/49/10 - AUS/49/14
Voir également/See also/Véase también D/70/1
D/72/1 - D/72/2

Appendice
Appendix [45] ADD F/29/1
Apéndice

APPENDICE [45]

Procédures réglementaires associées au Plan d'allotissement

APPENDIX [45]

Associated Regulatory Procedures of the Allotment Plan

APENDICE [45]

Procedimientos reglamentarios asociados al Plan de adjudicación

Appendice
Appendix [ZZ]
Apéndice

ADD

J/53/8

APPENDICE [ZZ]

Dispositions et Plan associé pour le service fixe par satellite
dans les bandes de fréquences 4 500 - 4 800 MHz,
la bande de 300 MHz / (6 425 - 7 075 MHz), 10,70 - 10,95 GHz,
11,20 - 11,45 GHz et 12,75 - 13,25 GHz

APPENDIX [ZZ]

Provisions and Associated Plan for the FSS in Frequency Bands
4 500 - 4 800 MHz, 300 MHz Band / (6 425 - 7 075 MHz),
10.70 - 10.95 GHz, 11.20 - 11.45 GHz and 12.75 - 13.25 GHz

APENDICE [ZZ]

Disposiciones y Plan asociado para el servicio fijo por satélite
en las bandas de frecuencias 4 500 - 4 800 MHz,
banda de 300 MHz / (6 425 - 7 075 MHz), 10,70 - 10,95 GHz,
11,20 - 11,45 GHz y 12,75 - 13,25 GHz

Appendice
Appendix [ZZ]
Apéndice

ADD

CAN/59/3

APPENDICE [ZZ]

Dispositions et Plan associé pour le service fixe par satellite
dans les bandes de fréquences 4 500 - 4 800 MHz, 6 ... - 7 ... MHz,
10,70 - 10,95 GHz, 11,20 - 11,45 GHz et 12,75 - 13,25 GHz

APPENDIX [ZZ]

Provisions and Associated Plan for the FSS in Frequency Bands
4 500 - 4 800 MHz, 6 ... - 7 ... MHz, 10.70 - 10.95 GHz,
11.20 - 11.45 GHz and 12.75 - 13.25 GHz

APENDICE [ZZ]

Disposiciones y Plan asociado para el servicio fijo por satélite
en las bandas de frecuencias 4 500 - 4 800 MHz, 6 ... - 7 ... MHz,
10,70 - 10,95 GHz, 11,20 - 11,45 GHz y 12,75 - 13,25 GHz

RESOLUTION 2(Sat-R2)
relative aux systèmes intérimaires

RESOLUTION 2(Sat-R2)
Relating to Interim Systems

RESOLUCION 2(Sat-R2)
relativa a los sistemas provisionales

Voir/ <u>See</u> /Véase	URS/7/15
MOD	F/27/2
SUP	CEPT-1/41/1 (Voir ADD RES CEPT [N]: CEPT-1/41/1)

RESOLUTION 2
relative à l'utilisation équitable par tous les pays, avec égalité de droits,
de l'orbite des satellites géostationnaires et des bandes de fréquences
attribuées aux services de radiocommunication spatiale

RESOLUTION 2
Relating to the Equitable Use, by All Countries, with Equal Rights,
of the Geostationary-Satellite Orbit and of Frequency Bands
for Space Radiocommunication Services

RESOLUCION 2
relativa a la utilización equitativa por todos los países, con igualdad
de derechos, de la órbita de los satélites geoestacionarios y de las bandas
de frecuencias atribuidas a los servicios de radiocomunicación espacial

NOC CAN/60/268

RESOLUTION 3
relative à l'utilisation de l'orbite des satellites géostationnaires et
à la planification des services spatiaux utilisant cette orbite

RESOLUTION 3
Relating to the Use of the Geostationary-Satellite Orbit and to the Planning of
Space Services Utilizing It

RESOLUCION 3
relativa a la utilización de la órbita de los satélites geoestacionarios
y a la planificación de los servicios espaciales que la utilizan

SUP

CAN/60/269

KEN/69/37

RESOLUTION 4
relative à la durée de validité des assignations de fréquence aux stations
spatiales utilisant l'orbite des satellites géostationnaires

RESOLUTION 4
Relating to the Period of Validity of Frequency Assignments to Space Stations
Using the Geostationary-Satellite Orbit

RESOLUCION 4
relativa a la duración de validez de las asignaciones de frecuencia a las
estaciones espaciales que utilizan la órbita de los satélites geoestacionarios

SUP

CAN/60/270

RESOLUTION 6
relative à la préparation d'un manuel destiné à expliquer et à illustrer
les procédures du Règlement des radiocommunications

RESOLUTION 6
Relating to the Preparation of a Handbook to Explain and Illustrate
the Procedures of the Radio Regulations

RESOLUCION 6
relativa a la preparación de un manual para explicar e ilustrar
los procedimientos del Reglamento de Radiocomunicaciones

NOC CAN/60/271

RESOLUTION 31
relative à l'application de certaines dispositions des Actes finals de
la Conférence administrative mondiale des radiocommunications pour
la radiodiffusion par satellite (Genève, 1977) pour tenir compte
des modifications apportées par la Conférence administrative mondiale
des radiocommunications (Genève, 1979) au Tableau d'attribution des bandes
de fréquences pour la Région 2, dans la bande de fréquences 11,7 - 12,7 GHz

RESOLUTION 31
Relating to the Application of Certain Provisions of the Final Acts of
the World Broadcasting-Satellite Administrative Radio Conference, Geneva, 1977,
to Take into Account Changes Made by the World Administrative Radio Conference,
Geneva, 1979, to the Table of Frequency Allocations for Region 2
in the Band 11.7 - 12.7 GHz

RESOLUCION 31
relativa a la aplicación de ciertas disposiciones de las Actas Finales de
la Conferencia Administrativa Mundial de Radiocomunicaciones para
la Radiodifusión por Satélite (Ginebra, 1977) a fin de tener en cuenta
los cambios introducidos por la Conferencia Administrativa Mundial de
Radiocomunicaciones (Ginebra, 1979) en el Cuadro de atribución de bandas
de frecuencias para la Región 2 en la banda 11,7 - 12,7 GHz

NOC CAN/60/272 KEN/69/38

RESOLUTION 33

relative à la mise en service de stations spatiales du service de radiodiffusion par satellite avant la mise en vigueur d'accords et de plans associés pour le service de radiodiffusion par satellite

RESOLUTION 33

Relating to the Bringing into Use of Space Stations in the Broadcasting-Satellite Service, Prior to the Entry into Force of Agreements and Associated Plans for the Broadcasting-Satellite Service

RESOLUCION 33

relativa a la puesta en servicio de estaciones espaciales del servicio de radiodifusión por satélite antes de que entren en vigor acuerdos sobre el servicio de radiodifusión por satélite y sus planes asociados

SUP KEN/69/39

RESOLUTION 34

relative à l'établissement de services de radiodiffusion par satellite dans la bande 12,5 - 12,75 GHz dans la Région 3 et au partage avec les services spatiaux et de Terre dans les Régions 1, 2 et 3

RESOLUTION 34

Relating to the Establishment of the Broadcasting-Satellite Service in Region 3 in the 12.5 - 12.75 GHz Frequency Band and to Sharing with Space and Terrestrial Services in Regions 1, 2 and 3

RESOLUCION 34

relativa a la introducción del servicio de radiodifusión por satélite en la Región 3 en la banda de frecuencias 12,5 - 12,75 GHz y a la compartición con los servicios espaciales y terrenales en las Regiones 1, 2 y 3

SUP KEN/69/40

RESOLUTION 40 (Orb-85)
relative à l'inscription dans le Fichier de référence international
des fréquences des assignations pour la Région 2 figurant dans
les appendices 30(Orb-85) et 30A .

RESOLUTION 40 (Orb-85)
Relating to the Recording in the Master International Frequency Register
of the Assignments for Region 2 Contained in Appendix 30 (Orb-85)
and Appendix 30A

RESOLUCION 40 (Orb-85)
relativa a la inscripción en el Registro Internacional de Frecuencias de
las asignaciones de la Región 2 contenidas en el apéndice 30(Orb-85)
y en el apéndice 30A

SUP CAN/60/273 KEN/69/41

RESOLUTION 41 (Orb-85)
relative à l'application provisoire de la révision partielle du
Règlement des radiocommunications contenue dans les Actes finals
de la CAMR Orb-85 avant l'entrée en vigueur de ces Actes finals

RESOLUTION 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

RESOLUCION 41 (Orb-85)
relativa a la aplicación provisional de la revisión parcial del
Reglamento de Radiocomunicaciones contenida en las Actas Finales
de la CAMR Orb-85 antes de su entrada en vigor

SUP CAN/60/274 KEN/69/42

RESOLUTION 42 (Orb-85)
relative à l'application provisoire pour la Région 2 de la
Résolution 2 (Sat-R2)

RESOLUTION 42 (Orb-85)
Relating to the Provisional Application for Region 2
of Resolution 2 (Sat-R2)

RESOLUCION 42 (Orb-85)
relativa a la aplicación provisional en la Región 2 de la
Resolución 2 (Sat-R2)

MOD USA/12/78
SUP CAN/60/275

RESOLUTION 43 (Orb-85)
relative aux limitations de la position orbitale pour le service de
radiodiffusion par satellite dans les Régions 1 et 2 dans
la bande 12,2 - 12,5 GHz et pour le service fixe par
satellite (stations de liaison de connexion) dans
la Région 2 dans la bande 17,3 - 17,8 GHz

RESOLUTION 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

RESOLUCION 43 (Orb-85)
relativa a las limitaciones de la posición orbital en el servicio
de radiodifusión por satélite de las Regiones 1 y 2 en
la banda 12,2 - 12,5 GHz y en el servicio fijo por
satélite (estaciones de enlaces de conexión) de
la Región 2 en la banda 17,3 - 17,8 GHz

NOC CAN/60/276
SUP KEN/69/43

RESOLUTION 100
relative à la coordination, la notification et l'inscription dans
le Fichier de référence international des fréquences des
assignations à des stations du service fixe par satellite,
à l'égard des stations du service de radiodiffusion
par satellite dans la Région 2

RESOLUTION 100
Relating to the Coordination, Notification and Recording in
the Master International Frequency Register of Assignments
to Stations in the Fixed-Satellite Service with Respect to
Stations in the Broadcasting-Satellite Service in Region 2

RESOLUCION 100
relativa a la coordinación, notificación e inscripción en el Registro
Internacional de Frecuencias de asignaciones a estaciones
del servicio fijo por satélite con respecto a estaciones
del servicio de radiodifusión por satélite en la Región 2

SUP CAN/60/277

RESOLUTION 101
relative à la conclusion d'accords et à l'établissement des plans
associés pour des liaisons de connexion aux stations spatiales
du service de radiodiffusion par satellite fonctionnant dans
la bande des 12 GHz, conformément au plan adopté par
la Conférence administrative mondiale des radiocommunications
pour la radiodiffusion par satellite (Genève, 1977)
pour les Régions 1 et 3

RESOLUTION 101
Concerning the Drawing Up of Agreements and of the Associated Plans
for Feeder Links to Space Stations in the Broadcasting-Satellite
Service Operating in the 12 GHz Band Under the Plan Adopted by
the World Broadcasting-Satellite Administrative Radio
Conference, Geneva, 1977, for Regions 1 and 3

RESOLUCION 101
relativa a la conclusión de acuerdos y al establecimiento de los planes
asociados para enlaces de conexión con las estaciones espaciales
del servicio de radiodifusión por satélite que funcionan en la
banda de 12 GHz en virtud del Plan adoptado por la Conferencia
Administrativa Mundial de Radiocomunicaciones para
la Radiodifusión por Satélite (Ginebra, 1977)
para las Regiones 1 y 3

MOD URS/7/13

SUP CAN/60/278

KEN/69/44

RESOLUTION 102

relative à la coordination entre administrations des caractéristiques techniques des liaisons de connexion aux stations spatiales du service de radiodiffusion par satellite de la bande 11,7 - 12,5 GHz (Région 1) et 11,7 - 12,2 GHz (Région 3) pour la période comprise entre l'entrée en vigueur des Actes finals de la Conférence administrative mondiale des radiocommunications (Genève, 1979) et l'entrée en vigueur des actes finals de la future conférence de planification des liaisons de connexion à de telles stations spatiales

RESOLUTION 102

Relating to Coordination among Administrations of the Technical Characteristics of Feeder Links to Space Stations in the Broadcasting-Satellite Service in the Band 11.7 - 12.5 GHz (Region 1) and 11.7 - 12.2 GHz (Region 3) during the Period Between the Entry into Force of the Final Acts of the World Administrative Radio Conference, Geneva, 1979, and the Entry into Force of the Final Acts of a Future Conference on the Planning of Feeder Links to Such Space Stations

RESOLUTION 102

relativa a la coordinación entre administraciones de las características técnicas de los enlaces de conexión con las estaciones espaciales del servicio de radiodifusión por satélite en la banda 11,7 - 12,5 GHz (Región 1) y 11,7 - 12,2 GHz (Región 3) para el periodo comprendido entre la entrada en vigor de las Actas Finales de la Conferencia Administrativa Mundial de Radiocomunicaciones (Ginebra, 1979) y la entrada en vigor de las actas finales de la futura conferencia de planificación de los enlaces de conexión con dichas estaciones espaciales

SUP CAN/60/279

RESOLUTION 205 (Mob-83)

relative à la protection de la bande 406 - 406,1 MHz attribuée au service mobile par satellite

RESOLUTION 205 (Mob-83)

Relating to the Protection of the Band 406 - 406.1 MHz Allocated to the Mobile-Satellite Service

RESOLUCION 205 (Mob-83)

relativa a la protección de la banda 406 - 406,1 MHz atribuida al servicio móvil por satélite

NOC CAN/60/280

RESOLUTION 502

relative à la période comprise entre la date d'entrée en vigueur des Actes finals de la Conférence administrative mondiale des radiocommunications pour la radiodiffusion par satellite (Genève, 1977) et la date à laquelle les dispositions et le Plan associé adoptés par cette Conférence seront insérés en annexe au Règlement des radiocommunications

RESOLUTION 502

Relating to the Period Between the Entry into Force of the Final Acts of the World Broadcasting-Satellite Administrative Radio Conference, Geneva, 1977, and the Date on Which the Provisions and Associated Plan Adopted by that Conference Are Annexed to the Radio Regulations

RESOLUCION 502

relativa al periodo entre la fecha de entrada en vigor de las Actas Finales de la Conferencia Administrativa Mundial de Radiocomunicaciones para la radiodifusión por Satélite (Ginebra, 1977) y la fecha en que las disposiciones y el Plan asociado adoptados por dicha Conferencia se anexarán al Reglamento de Radiocomunicaciones

SUP

CAN/60/281

KEN/69/45

RESOLUTION 503

relative à la coordination, la notification et l'inscription dans le Fichier de référence international des fréquences des assignations de fréquence aux stations du service de radiodiffusion par satellite de la Région 2

RESOLUTION 503

Relating to the Coordination, Notification and Recording in the Master International Frequency Register of Frequency Assignments to Stations in the Broadcasting-Satellite Service in Region 2

RESOLUCION 503

relativa a la coordinación, notificación e inscripción en el Registro Internacional de Frecuencias de asignaciones de frecuencia a estaciones del servicio de radiodifusión por satélite de la Región 2

SUP

CAN/60/282

KEN/69/46

RESOLUTION 504
relative aux Actes finals de la Conférence administrative mondiale
des radiocommunications pour la radiodiffusion par satellite
(Genève, 1977) en ce qui concerne la Région 2

RESOLUTION 504
Relating to the Final Acts of the World Broadcasting-Satellite
Administrative Radio Conference, Geneva, 1977, with respect to Region 2

RESOLUCION 504
relativa a las Actas Finales de la Conferencia Administrativa Mundial
de Radiocomunicaciones para la Radiodifusión por Satélite (Ginebra, 1977),
con respecto a la Región 2

SUP CAN/60/283 KEN/69/47

RESOLUTION 505
relative au service de radiodiffusion par satellite (radiodiffusion sonore)
dans la gamme de fréquences de 0,5 GHz à 2 GHz

RESOLUTION 505
Relating to the Broadcasting-Satellite Service (Sound)
in the Frequency Range 0.5 GHz to 2 GHz

RESOLUCION 505
relativa al servicio de radiodifusión por satélite (radiodifusión sonora)
en la gama de frecuencias comprendida entre 0,5 GHz y 2 GHz

SUP CEPT/40/2
 CAN/60/290 (Voir/See/Véase : ADD RES [NN] - CAN/60/290)

MOD AUS/49/43

RESOLUTION 506

relative à l'utilisation de l'orbite des satellites géostationnaires,
à l'exclusion de toute autre orbite, par les stations spatiales
fonctionnant dans les bandes de fréquences des 12 GHz attribuées
au service de radiodiffusion par satellite

RESOLUTION 506

Relating to the Use, by Space Stations Operating in the 12 GHz Frequency
Bands Allocated to the Broadcasting-Satellite Service of the
Geostationary-Satellite Orbit and No Other

RESOLUCION 506

relativa a la utilización de la órbita de los satélites geoestacionarios,
con exclusión de las demás órbitas, por las estaciones espaciales
que funcionan en las bandas de frecuencias de 12 GHz atribuidas
al servicio de radiodifusión por satélite

MOD KEN/69/48

RESOLUTION 507

relative à l'établissement d'accords et de plans associés
pour le service de radiodiffusion par satellite

RESOLUTION 507

Relating to the Establishment of Agreements and Associated Plans
for the Broadcasting-Satellite Service

RESOLUCION 507

relativa al establecimiento de acuerdos y de planes asociados
para el servicio de radiodifusión por satélite

NOC CAN/60/284

RESOLUTION 700

relative au partage entre le service fixe par satellite
dans les Régions 1 et 3 et le service de radiodiffusion
par satellite dans la Région 2, dans la bande 12,2 - 12,7 GHz

RESOLUTION 700

Relating to Sharing Between the Fixed-Satellite Service
in Regions 1 and 3 and the Broadcasting-Satellite Service
in Region 2 in the Band 12.2 - 12.7 GHz

RESOLUCION 700

relativa a la compartición entre el servicio fijo por satélite
en las Regiones 1 y 3 y el servicio de radiodifusión por satélite
en la Región 2, en la banda 12,2 - 12,7 GHz

SUP CAN/60/285

RESOLUTION 701

relative à la convocation d'une conférence administrative régionale
des radiocommunications chargée d'établir un plan détaillé pour
le service de radiodiffusion par satellite dans la bande
des 12 GHz et les liaisons de connexion associées,
dans la Région 2

RESOLUTION 701

Relating to the Convening of a Regional Administrative Radio Conference
for the Detailed Planning of the Broadcasting-Satellite Service in
the 12 GHz Band and Associated Feeder Links in Region 2

RESOLUCION 701

relativa a la convocación de una conferencia administrativa regional
de radiocomunicaciones para la planificación detallada del servicio
de radiodifusión por satélite en la banda de 12 GHz y de los enlaces
de conexión correspondientes en la Región 2

SUP CAN/60/286 KEN/69/49

RESOLUTION 703

relative aux méthodes de calcul et aux critères de brouillage
recommandés par le CCIR en ce qui concerne le partage
des bandes de fréquences entre services de radiocommunication
spatiale et services de radiocommunication de Terre ou entre
services de radiocommunication spatiale

RESOLUTION 703

Relating to the Calculation Methods and Interference Criteria
Recommended by the CCIR for Sharing Frequency Bands Between
Space Radiocommunication and Terrestrial Radiocommunication
Services or Between Space Radiocommunication Services

RESOLUCION 703

relativa a los métodos de cálculo y los criterios de interferencia
recomendados por el CCIR para la compartición de bandas de
frecuencias entre los servicios de radiocomunicación espacial y
los servicios de radiocomunicación terrenal o entre servicios
de radiocomunicación espacial

NOC CAN/60/287

MOD KEN/69/50

NOUVELLES RESOLUTIONS - NEW RESOLUTIONS - NUEVAS RESOLUCIONES

RESOLUTION [X]
relative aux procédures améliorées pour le service fixe par satellite

RESOLUTION [X]
relating to Improved Procedures for the Fixed-Satellite Service

RESOLUCION [X]
relativa a los procedimientos mejorados para el servicio fijo por satélite

ADD USA/12/12

RESOLUTION [A]
relative à la question du choix d'une bande de fréquences adéquate pour le service
de radiodiffusion par satellite, de préférence à l'échelle mondiale, pour
satisfaire les besoins de la télévision à haute définition

RESOLUTION [A]
relating to the Question of a Suitable Frequency Band for the
Broadcasting-Satellite Service, Preferably on a World-Wide Basis,
to Accomodate HDTV

RESOLUCION [A]
relativa a la cuestión de una banda de frecuencias idónea para
el servicio de radiodifusión por satélite, preferiblemente
a escala mundial, para acomodar la TVAD

ADD USA/12/79

RESOLUTION [X]

relative aux réunions de planification multilatérales tenues aux fins de garantir l'accès à l'orbite des satellites géostationnaires pour les stations du service fixe par satellite dans les bandes de fréquences soumises à des procédures améliorées

RESOLUTION [X]

Relating to Multilateral Planning Meetings Held for the Purpose of Guaranteeing Access to the Geostationary-Satellite Orbit for Stations of the Fixed-Satellite Service in Frequency Bands Which are Subject to Improved Procedures

RESOLUCION [X]

relativa a las reuniones de planificación multilaterales celebradas con el fin de garantizar el acceso a la órbita de los satélites geoestacionarios para las estaciones del servicio fijo por satélite en las bandas de frecuencias sometidas a los procedimientos mejorados

ADD F/31/11

RESOLUTION [CEPT N]

relative à l'utilisation de systèmes intérimaires en Région 2 dans les services de radiodiffusion par satellite et fixe par satellite (liaison de connexion) en Région 2 dans les bandes couvertes par l'appendice 30 et l'appendice 30A

RESOLUTION [CEPT N]

Relating to the Use of Interim Systems in Region 2 in the Broadcasting-Satellite and Fixed-Satellite (Feeder Link) Services in Region 2 for the Bands Covered by Appendix 30 and Appendix 30A

RESOLUCION [CEPT N]

relativa a la utilización de sistemas provisionales en la Región 2 para los servicios de radiodifusión por satélite y fijo por satélite (enlaces de conexión) en la Región 2 en las bandas indicadas en el Apéndice 30 y en el Apéndice 30A

ADD CEPT-1/41/1 (remplace/replaces/reemplaza RES 2(Sat-R2))

RESOLUTION [CEPT XXX]
relative à la nécessité d'accorder une attention toute particulière à la
coordination des liaisons de connexion du service fixe par satellite
nécessaires pour les satellites utilisés dans le cadre
du service mobile par satellite

RESOLUTION [CEPT XXX]
Relating to the Provision of Special Consideration for the Coordination
of Feeder Links in the Fixed-Satellite Service for Satellites Operating
in the Mobile Satellite Service

RESOLUCION [CEPT XXX]
relativa a la disposición de consideración especial para la coordinación
de los enlaces de conexión en el servicio fijo por satélite para
satélites que funcionan en el servicio móvil por satélite

ADD CEPT-3/43/1

RESOLUTION [A (ORB-88)]
relative à l'utilisation de la bande 14 - 14,5 GHz (uniquement pour
les pays situés hors d'Europe et pour Malte) pour les liaisons
de connexion aux satellites de radiodiffusion fonctionnant dans
la bande des 12 GHz conformément à l'appendice 30
du Règlement des radiocommunications

RESOLUTION [A (ORB-88)]
Relating to the Use of the Band 14 - 14.5 GHz (Limited to Countries
Outside Europe and to Malta) for Feeder Links to Broadcasting
Satellites Operating in the 12 GHz Band in Accordance with
the Appendix 30 of the Radio Regulations

RESOLUCION [A (ORB-88)]
relativa al uso de la banda 14 - 14,5 GHz (para los países fuera de
Europa y para Malta) para los enlaces de conexión con satélites
de radiodifusión que operan en la banda de 12 GHz de conformidad
con el apéndice 30 del Reglamento de Radiocomunicaciones

ADD J/54/6

RESOLUTION [W]
relative à l'exploitation en orbite incliné de stations spatiales
nominalement géostationnaires

RESOLUTION [W]
Relating to Inclined-Orbit Operation of Nominally Geostationary Space Stations

RESOLUCION [W]
relativa a la explotación con órbita inclinada de estaciones espaciales
nominalmente geoestacionarias

ADD USA/56/20

RESOLUTION [L]
relative au calcul du brouillage entre réseaux à satellite à l'aide
d'une méthode utilisant une largeur de bande pour calculer
la densité moyenne de puissance

RESOLUTION [L]
Relating to the Calculation of Interference between Satellite Networks
Using a Power Density-Averaging Bandwidth Method

RESOLUCION [L]
relativa al cálculo de la interferencia entre redes de satélite utilizando
el método densidad de potencial-anchura de banda promedial

ADD USA/56/27

RESOLUTION [MM]
relative à une modification future de l'article 8 pour
le service de radiodiffusion par satellite (TVHD)

RESOLUTION [MM]
Relating to a Future Change in Article 8 for
the Broadcasting-Satellite Service (HDTV)

RESOLUCION [MM]
relativa a una futura modificación del artículo 8 sobre el servicio
de radiodifusión por satélite (TVAD)

ADD CAN/60/289

RESOLUTION [NN]
relative à une modification future de l'article 8 pour le service
de radiodiffusion par satellite (radiodiffusion sonore) dans
la gamme de fréquences de 470 MHz à 2 690 MHz

RESOLUTION [NN]
Relating to a Future Change in Article 8 for the Broadcasting-Satellite
Service (Sound) in the Frequency Range 470 MHz to 2 690 MHz

RESOLUCION [NN]
relativa a una futura modificación del artículo 8 sobre el servicio
de radiodifusión por satélite (radiodifusión sonora) en la gama
de frecuencias comprendida entre 470 MHz y 2 690 MHz

ADD CAN/60/290 (remplace/replaces/reemplaza RES 505)

RECOMMANDATION 2

relative à l'examen, par les conférences administratives
mondiales des radiocommunications, de l'état d'occupation du spectre
des fréquences dans le domaine des radiocommunications spatiales

RECOMMENDATION 2

Relating to the Examination by World Administrative Radio Conferences
of the Situation with Regard to Occupation of the Frequency Spectrum
in Space Radiocommunications

RECOMENDACION 2

relativa al examen por las conferencias administrativas mundiales
de radiocomunicaciones del grado de ocupación del espectro de frecuencias
para la radiocomunicación espacial

SUP CAN/60/291

RECOMMANDATION 67

relative à la définition des termes
"zone de service" et "zone de couverture"

RECOMMENDATION 67

Relating to the Definitions of
"Service Area" and "Coverage Area"

RECOMENDACION 67

relativa a las definiciones de
"zona de servicio" y "zona de cobertura"

NOC CAN/60/292

RECOMMANDATION 101
relative aux liaisons de connexion dans le
service de radiodiffusion par satellite

RECOMMENDATION 101
Relating to Feeder Links for the
Broadcasting-Satellite Service

RECOMENDACION 101
relativa a los enlaces de conexión para el
servicio de radiodifusión por satélite

SUP CAN/60/293

RECOMMANDATION 102
relative à l'étude des méthodes de modulation pour les faisceaux hertziens
du point de vue du partage des bandes de fréquences avec les systèmes
du service fixe par satellite

RECOMMENDATION 102
Relating to the Study of Modulation Methods for Radio-Relay Systems
in Relation to Sharing with Fixed-Satellite Service Systems

RECOMENDACION 102
relativa al estudio de los métodos de modulación para los sistemas de
relevadores radioeléctricos, desde el punto de vista de la
compartición de bandas de frecuencias con sistemas
del servicio fijo por satélite

NOC CAN/60/294

RECOMMANDATION 405
relative à une étude de l'utilisation du service mobile
aéronautique (R) par satellite

RECOMMENDATION 405
Relating to a Study of the Utilisation of the Aeronautical
Mobile-Satellite (R) Service

RECOMENDACION 405
relativa a un estudio sobre la utilización del servicio móvil
aeronáutico (R) por satélite

NOC CAN/60/295

RECOMMANDATION 508
relative aux antennes d'émission du service de
radiodiffusion par satellite

RECOMMENDATION 508
Relating to Transmitting Antennae for the
Broadcasting-Satellite Service

RECOMENDACION 508
relativa a las antenas transmisoras del servicio de
radiodifusión por satélite

SUP CAN/60/296

RECOMMANDATION 700
relative à l'utilisation et au partage des bandes de fréquences
attribuées aux radiocommunications spatiales

RECOMMENDATION 700
Relating to the Utilization and Sharing of Frequency Bands
Allocated to Space Radiocommunications

RECOMENDACION 700
relativa a la utilización y a la compartición de las bandas de frecuencias
atribuidas a las radiocomunicaciones espaciales

NOC CAN/60/297

RECOMMANDATION 705
relative aux critères à appliquer au partage des fréquences
entre le service de radiodiffusion par satellite
et le service de radiodiffusion de Terre
dans la bande 620 - 790 MHz

RECOMMENDATION 705
Relating to the Criteria to Be Applied for Frequency Sharing
Between the Broadcasting-Satellite Service and the Terrestrial
Broadcasting Service in the Band 620 - 790 MHz

RECOMENDACION 705
relativa a los criterios que deben aplicarse para la compartición
de frecuencias entre el servicio de radiodifusión por satélite
y el servicio de radiodifusión terrenal en la banda 620 - 790 MHz

NOC CAN/60/298

RECOMMENDATION 706

relative au partage des fréquences entre, d'une part, le service d'exploration de la Terre par satellite (détecteurs passifs) et le service de recherche spatiale (détecteurs passifs) et, d'autre part, les services fixe, mobile, sauf mobile aéronautique, et fixe par satellite dans la bande 18,6 - 18,8 GHz

RECOMMENDATION 706

Relating to Frequency Sharing by the Earth Exploration-Satellite Service (Passive Sensors) and the Space Research Service (Passive Sensors) with the Fixed, Mobile, except Aeronautical Mobile, and Fixed-Satellite Services in the Band 18.6 - 18.8 GHz

RECOMENDACION 706

relativa a la compartición de frecuencias entre el servicio de exploración de la Tierra por satélite (detectores pasivos) y el servicio de investigación espacial (detectores pasivos), por un lado, y los servicios fijo, móvil, salvo móvil aeronáutico, y fijo por satélite en la banda 18,6 - 18,8 GHz, por otro

NOC CAN/60/299

RECOMMENDATION 707

relative à l'utilisation de la bande de fréquences 32 - 33 GHz, en partage entre le service inter-satellites et le service de radionavigation

RECOMMENDATION 707

Relating to the Use of the Frequency Band 32 - 33 GHz Shared Between the Inter-Satellite Service and the Radionavigation Service

RECOMENDACION 707

relativa al empleo de la banda de frecuencias 32 - 33 GHz compartida por el servicio entre satélites y el servicio de radionavegación

NOC CAN/60/299

RECOMMANDATION 708
relative aux bandes de fréquences partagées par les services de
radiocommunication spatiale entre eux ainsi qu'entre les services de
radiocommunication spatiale et les services de radiocommunication de Terre

RECOMMENDATION 708
Relating to Frequency Bands Shared Between Space Radiocommunication Services
and Between Space and Terrestrial Radiocommunication Services

RECOMENDACION 708
relativa a las bandas de frecuencias compartidas por servicios
de radiocomunicación espacial entre sí y por los servicios
de radiocomunicación espacial y terrenal

NOC CAN/60/299

RECOMMANDATION 709
relative au partage des bandes de fréquences entre le service mobile
aéronautique et le service inter-satellites

RECOMMENDATION 709
Relating to Sharing Frequency Bands Between the Aeronautical Mobile
Service and the Inter-Satellite Service

RECOMENDACION 709
relativa a la compartición de las bandas de frecuencias entre
el servicio móvil aeronáutico y el servicio entre satélites

NOC CAN/60/299

RECOMMENDATION 710
relative à l'utilisation de radiodétecteurs aéroportés dans les bandes
de fréquences partagées par le service inter-satellites et
le service de radiolocalisation

RECOMMENDATION 710
Relating to the Use of Airborne Radars in the Frequency Bands Shared
Between the Inter-Satellite Service and the Radiolocation Service

RECOMENDACION 710
relativa a la utilización de radares a bordo de aeronaves en las bandas
de frecuencias compartidas por el servicio entre satélites y
el servicio de radiolocalización

NOC CAN/60/299

RECOMMENDATION 712
relative à l'interdépendance entre la conception des récepteurs, le
groupement des canaux et les critères de partage dans le service
de radiodiffusion par satellite

RECOMMENDATION 712
Relating to the Interdependence of Receiver Design, Channel Grouping
and Sharing Criteria in the Broadcasting-Satellite Service

RECOMENDACION 712
relativa a la interdependencia entre el diseño de los receptores,
el agrupamiento de canales y los criterios de compartición en el
servicio de radiodifusión por satélite

SUP CAN/60/230

NOUVELLES RECOMMANDATIONS - NEW RECOMMENDATIONS - NUEVAS RECOMENDACIONES

RECOMMANDATION [X]

Choix d'une bande de fréquences à utiliser à long terme par le service de radiodiffusion par satellite et destinée à la TVHD à bande large, choix d'une bande de fréquences associée pour les liaisons de connexion de la TVHD et dispositions à prendre à ce sujet par une future conférence compétente

RECOMMENDATION [X]

Relating to the Choice of a Frequency Band for Long-term Use by the Broadcasting-Satellite Service for Wide-Band HDTV, the Choice of an Associated Frequency Band for HDTV Feeder Links and the Adoption of Relevant Provisions by a Future Competent Conference

RECOMENDACION [X]

relativa a la elección de una banda de frecuencias para su utilización a largo plazo por el servicio de radiodifusión por satélite y destinada a la TVAD de banda ancha, a la elección de una banda de frecuencias asociada para los enlaces de conexión de la TVAD y a la adopción de las disposiciones al respecto por una futura conferencia competente

ADD

E/37/5

CEPT-2/42/6

RECOMMANDATION [A]

relative à la révision du Tableau d'attribution des bandes de fréquences dans la gamme 0,5 - 3 GHz

RECOMMENDATION [A]

Relating to a Review of Frequency Allocations in the Range 0.5 - 3 GHz

RECOMENDACION [A]

relativa a una revisión de las atribuciones de frecuencia en la gama 0,5 - 3 GHz

ADD

CEPT/40/1

RECOMMANDATION [B/1]
relative à l'amélioration des procédures de l'article 14 et à
l'élaboration de critères techniques pour ses applications

RECOMMENDATION [B/1]
Relating to the Improvement of the Procedures of Article 14
and Development of Technical Criteria for its Applications

RECOMENDACION [B/1]
relativa a la mejora de los procedimientos del artículo 14
y al desarrollo de criterios técnicos para su aplicación

ADD B/47/1

A N N E X E

P A R T I E B

Propositions n'ayant pas trait directement à des modifications
aux dispositions du Règlement des radiocommunications

A N N E X

P A R T B

Proposals not directly involving amendments
to the provisions of the Radio Regulations

A N E X O

P A R T E B

Propuestas no relacionadas directamente con modificaciones
de las disposiciones del Reglamento de Radiocomunicaciones

PAGE LAISSEE EN BLANC INTENTIONNELLEMENT

PAGE INTENTIONALLY LEFT BLANK

Point 1 de l'ordre du jour
Planification des allotissements pour le service fixe par satellite

Item 1 of the agenda
Fixed-Satellite Service Allotment Planning

Punto 1 del orden del día
Planificación de adjudicaciones para el servicio fijo por satélite

TZA/5/1 - TZA/5/3

URS/7/1 - URS/7/6

USA/12/1 - USA/12/10

(voir aussi Partie A / see also Part A / véase también Parte A)

Doc. 29 (F) : voir Partie A / see Part A / véase Parte A

F/33/1 - F/33/3

CEPT/38/1 CEPT/45/1

B/46/1 B/48/1 B/48/2

AUS/49/1 - AUS/49/17

J/53/1

J/53/3 - J/53/8

(voir aussi Partie A / see also Part A / véase también Parte A)

Doc. 56 (USA) : voir Partie A / see Part A / véase Parte A

Doc. 59 (CAN) : voir Partie A / see Part A / véase Parte A

ALG/65/1 - ALG/65/6

LUX/66/1 - LUX/66/10

KEN/69/1 - KEN/69/4

Doc. 72 (D) : voir Partie A / see Part A / véase Parte A

NZL/73/1

Point 2 de l'ordre du jour

Procédures réglementaires améliorées pour le service fixe par satellite
dans certaines parties des bandes 6/4 GHz, 14/11-12 GHz et 30/20 GHz

Item 2 of the agenda

Improved Regulatory Procedures for the Fixed-Satellite Service
in Certain Portions of the 6/4 GHz, 14/11-12 GHz and 30/20 GHz

Punto 2 del orden del día

Procedimientos reglamentarios mejorados para el servicio fijo por satélite en
ciertas partes de las bandas 6/4 GHz, 14/11-12 GHz y 30/20 GHz

TZA/5/4 - TZA/5/9

URS/7/7

USA/12/11

(voir aussi Partie A /

see also Part A /

véase también Parte A

: RES X = USA/12/12)

F/31/1

(voir aussi Partie A / see also Part A / véase también Parte A)

AUS/49/18 - AUS/49/27

ALG/65/7

LUX/67/1 - LUX/67/6

KEN/69/5

NZL/74/1 - NZL/74/11

Point 3 de l'ordre du jour

Normes, paramètres et critères techniques applicables au service fixe
par satellite dans les bandes de fréquences devant être planifiées

Item 3 of the agenda

Technical Standards, Parameters and Criteria for the Fixed-Satellite
Service in the Frequency Bands Subject to Planning

Punto 3 del orden del día

Normas, parámetros y criterios técnicos apropiados para el servicio fijo
por satélite en las bandas de frecuencias sujetas a planificación

URS/7/8 URS/7/9

Doc. 12 (USA)

B/48/3 B/48/4

AUS/49/6 - AUS/49/9

AUS/49/15 - AUS/49/17

AUS/49/27 - AUS/49/31

(voir aussi Partie A / see also Part A / véase también Parte A)

J/53/2

(voir aussi Partie A / see also Part A / véase también Parte A)

KEN/69/7 KEN/69/8

NZL/73/2

Point 4 de l'ordre du jour

Procédures réglementaires et caractéristiques techniques applicables
aux services spatiaux et aux bandes de fréquences ne faisant pas
l'objet d'une planification

Item 4 of the agenda

Regulatory Procedures and Technical Characteristics for the Space Services
and Frequency Bands Not to Be Subject to Planning

Punto 4 del orden del día

Procedimientos reglamentarios y características técnicas de los servicios
espaciales y bandas de frecuencias que no estén sujetos a planificación

URS/7/10

USA/12/13 - USA/12/15

(voir aussi Partie A / see also Part A / véase también Parte A)

Doc. 20 (F) : voir Partie A / see Part A / véase Parte A

Doc. 21 (F) : voir Partie A / see Part A / véase Parte A

Doc. 22 (F) : voir Partie A / see Part A / véase Parte A

Doc. 23 (F) : voir Partie A / see Part A / véase Parte A

Doc. 35 (B) : voir Partie A / see Part A / véase Parte A

Doc. 47 (B) : voir Partie A /)
see Part A /) REC [B/1] - B/47/1
véase Parte A)

AUS/49/28 - AUS/49/31 : voir Partie A / see Part A /
véase Parte A.

AUS/49/32

Doc. 53 (J) : voir Partie A / see Part A / véase Parte A

Doc. 55 (S) : voir Partie A / see Part A / véase Parte A

Doc. 56 (USA) : voir Partie A / see Part A / véase Parte A

Doc. 59 (CAN) : voir Partie A / see Part A / véase Parte A

Doc. 60 (CAN) : voir Partie A / see Part A / véase Parte A

NZL/73/3

Point 5 de l'ordre du jour
Définitions relatives aux services spatiaux

Item 5 of the agenda
Definitions Relating to Space Services

Punto 5 del orden del día
Definiciones relativas a los servicios espaciales

Doc. 7 (URS) : voir Partie A / see Part A / véase Parte A

Doc. 12 (USA) : voir Partie A / see Part A / véase Parte A

AUS/49/10 - AUS/49/14

(voir aussi Partie A / see also Part A / véase también Parte A)

Doc. 60 (CAN) : voir Partie A / see Part A / véase Parte A

Doc. 67 (LUX) : voir Partie A / see Part A / véase Parte A

Doc. 70 (D) : voir Partie A / see Part A / véase Parte A

Point 6 de l'ordre du jour

Plan des liaisons de connexion du service de radiodiffusion par satellite
pour les Régions 1 et 3 dans les bandes 14,5 - 14,8 GHz et 17,3 - 18,1 GHz

Item 6 of the agenda

Broadcasting-Satellite Service Feeder Link Plan for Regions 1 and 3
in the 14.5 - 14.8 GHz and 17.3 - 18.1 GHz Bands

Punto 6 del orden del día

Plan para los enlaces de conexión con estaciones del servicio de radiodifusión
por satélite en las Regiones 1 y 3 en las bandas 14,5 - 14,8 GHz
y 17,3 - 18,1 GHz

URS/7/12

B/8/1

(voir aussi Partie A / see also Part A / véase también Parte A)

USA/12/63 - USA/12/67

(voir aussi Partie A / see also Part A / véase también Parte A)

F/24/1

F/25/1

F/26/1

Doc. 39 (F) : voir Partie A / see Part A / véase Parte A

AUS/49/33 - AUS/49/40

J/54/1 - J/54/6 : voir aussi Partie A /)

see also Part A /) RES [A] - J/54/6
véase también Parte A)

CAN/59/266

KEN/69/9

NZL/73/4

Point 7 de l'ordre du jour
Utilisation bidirectionnelle de la bande de fréquences 10,7 - 11,7 GHz
dans la Région 1

Item 7 of the agenda
Bidirectional Use of the 10.7 - 11.7 GHz Band in Region 1

Punto 7 del orden del día
Utilización bidireccional de la banda de 10,7 - 11,7 GHz en la Region 1

URS/7/13
(voir aussi Partie A / see also Part A / véase también Parte A)

D/71/1
(voir aussi Partie A / see also Part A / véase también Parte A)

Point 8 de l'ordre du jour
Correction des erreurs mineures de la
version révisée de l'appendice 30 (ORB-85)

Item 8 of the agenda
Correction of Minors Errors in the Revision of Appendix 30 (ORB-85)

Punto 8 del orden del día
Corrección de ligeros errores en la revisión del apéndice 30 (ORB-85)

Doc. 7 (URS) : voir Partie A / see Part A / véase Parte A

USA/12/72 - USA/12/73
(voir aussi Partie A / see also Part A / véase también Parte A)

Doc. 49 (AUS) : voir Partie A / see Part A / véase Parte A

J/54/7 - J/54/48

CAN/60/265

KEN/69/10 - KEN/69/36

Point 9 de l'ordre du jour
Radiodiffusion sonore par satellite

Item 9 of the agenda
Satellite Sound-Broadcasting

Punto 9 del orden del día
Radiodifusión sonora por satélite

Doc. 7 (URS)

Doc. 12 (USA)

Doc. 40 (CEPT) : voir aussi Partie A /)
see also Part A /) REC [A] = CEPT/40/1
véase también Parte A)

Doc. 49 (AUS) : voir Partie A / see Part A / véase Parte A

J/54/49

CAN/60/267 : voir aussi Partie A /)
see also Part A /) RES [NN] = CAN/60/290
véase también Parte A)

ALG/65/8

NZL/73/5

Point 10 de l'ordre du jour
Applicabilité à long terme de la Résolution 2 (Sat-R2)

Item 10 of the agenda
Long-term Applicability of Resolution 2 (Sat-R2)

Punto 10 del orden del día
Posibilidad de aplicar a largo plazo la Resolución 2 (Sat-R2)

Doc. 7 (URS) : voir Partie A / see Part A / véase Parte A

Doc. 12 (USA) : voir Partie A /)
see Part A /) MOD RES 42 = USA/12/78
véase Parte A)

F/27/1 - F/27/4 : voir aussi Partie A /)
see also Part A /) RES CEPT[N] = CEPT-1/41/1
véase también Parte A)

Doc. 41 (CEPT-1) : voir Partie A /)
see Part A /) RES CEPT[N] = CEPT-1/41/1
véase Parte A)

B/57/1

CAN/60/288

Point 11 de l'ordre du jour
Télévision à haute définition

Item 11 of the agenda
High Definition Television

Punto 11 del orden del día
Televisión de alta definición

Doc. 12 (USA) : voir Partie A /)
see Part A /) RES A = USA/12/79
véase Parte A)

B/36/1

E/37/1 - E/37/4 : voir aussi Partie A /)
see also Part A /) REC [X] = E/37/5
véase también Parte A)

CEPT-2/42/1 - CEPT-2/42/5 :
voir aussi Partie A /)
see also Part A /) REC [X] = CEPT-2/42/6
véase también Parte A)

AUS/49/44 - AUS/49/45

J/54/50

DOC. 60 (CAN) (2.2.3.2) :
voir aussi Partie A /)
see also Part A /) RES [MM] = CAN/60/289
véase también Parte A)

ALG/65/9

Point 12 de l'ordre du jour
Modifications conséquentes

Item 12 of the agenda
Consequential Amendments

Punto 12 del orden del día
Enmiendas resultantes de las decisiones de la Segunda Reunión

Doc. 32 (F) : voir Partie A / see Part A / véase Parte A
Doc. 35 (B) : voir Partie A / see Part A / véase Parte A
Doc. 53 (J) : voir Partie A / see Part A / véase Parte A

Point 13 de l'ordre du jour
Révision des Résolutions et Recommandations
et mesures prises à ce sujet

Item 13 of the agenda
Revisions and Actions on Resolutions and Recommendations

Punto 13 del orden del día
Revisiones y otras medidas en relación
con Resoluciones y Recomendaciones

Doc. 12 (USA)
Doc. 43 (CEPT-3) : voir Partie A /)
 see Part A /) REC [CEPT XXX] = CEPT-3/43/1
 véase Parte A)
Doc. 44 (CEPT)
Doc. 53 (J) : voir Partie A /)
 see Part A /) REC [A] = J/53/23
 véase Parte A)
Doc. 60 (CAN) : voir Partie A / see Part A / véase Parte A
Doc. 69 (KEN) : voir Partie A / see Part A / véase Parte A

Point 14 de l'ordre du jour
Planification future des bandes 18,10 - 18,30 GHz,
18,30 - 20,20 GHz et 27 - 30 GHz

Item 14 of the agenda
Future Planning of the 18.10 - 18.30 GHz,
18.30 - 20.20 GHz and 27 - 30 GHz Bands

Punto 14 del orden del día
Planificación futura de las bandas 18,10 - 18,30 GHz,
18,30 - 20,20 GHz y 27 - 30 GHz

Doc. 12 (USA)

J/53/24

Point 15 de l'ordre du jour
Radiodiffusion en ondes hectométriques (Révision du
numéro 480 du Règlement des Radiocommunications)

Item 15 of the agenda
MF Broadcasting (Revision of RR 480)

Punto 15 del orden del día
Radiodifusión en ondas hectométricas (Revisión del RR 480)

CAN/60/4

Point 16 de l'ordre du jour
Considérations budgétaires

Item 16 of the agenda
Budget Considerations

Punto 16 del orden del día
Consideraciones presupuestarias

Doc. 12 (USA)

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/2-E
29 August 1988
Original : French

HEADS OF DELEGATIONS

DRAFT AGENDA OF THE

FIRST PLENARY MEETING

Monday, 29 August 1988, at 1430 hrs

(Room I)

Document No.

- | | | |
|-----|---|------|
| 1. | Approval of the agenda | - |
| -2. | Opening of the Conference | - |
| 3. | Election of the Chairman of the Conference | - |
| 4. | Election of the Vice-Chairmen of the Conference | - |
| 5. | Address by the Secretary-General | - |
| 6. | Conference Structure | DT/3 |
| 7. | Election of the Chairmen and Vice-Chairmen
of the Committees | - |
| 8. | Composition of the Conference Secretariat | - |
| 9. | Allocation of documents to Committees | DT/4 |
| 10. | Requests for participation received from
international organizations | 15 |
| 11. | Date by which the Credentials Committee must submit
its conclusions | - |
| 12. | Working hours of the meetings of the Conference | - |
| 13. | Financial responsibilities of administrative conferences | 16 |
| 14. | Other business | - |

R.E. BUTLER
Secretary-General

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

Document DT/3-E

28 August 1988

Original : English

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

PLENARY MEETING

Note by the Secretary-General

DRAFT STRUCTURE OF 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 (ORB-88) (Geneva, 1988)

The agenda of the Conference appears in Resolution No. 953 which was adopted by the Administrative Council at its 41st Session (Geneva, 1986). This Resolution is reproduced in the Annex to Document 1 of the Conference.

Bearing in mind Nos. 464 to 479 inclusive of the International Telecommunication Convention, Nairobi, 1982, the following committees with their terms of reference are suggested. These terms of reference have been drawn up within the framework of the Convention, the Conference Agenda and in the light of experience gained at previous conferences, after analysis of the replies of Administrations.

Committee 1 - Steering Committee

Terms of Reference :

To coordinate all matters connected with the smooth execution of work and to plan the order and number of meetings, avoiding overlapping wherever possible in view of the limited number of members of some delegations (Nos. 468 and 469 of the International Telecommunication Convention, Nairobi, 1982).

Committee 2 - Credentials Committee

Terms of Reference :

To verify the credentials of delegations and to report on its conclusions to the Plenary Meeting within the time specified by the latter (Nos. 390 and 471 of the International Telecommunication Convention, Nairobi, 1982).

Committee 3 - Budget Control Committee

Terms of Reference :

1. To determine the organization and the facilities available to the delegates, to examine and approve the accounts of expenditure incurred throughout the duration of the Second Session of the Conference and to report to the Plenary Meeting the estimated total expenditure of the Second Session as well as the estimated costs entailed by the execution of the decisions of the Conference (Nos. 476 to 479 inclusive of the International Telecommunication Convention, Nairobi, 1982 and Nairobi Resolution 48).
2. Furthermore, to evaluate the financial impact of the Conference's decisions upon the budget of the Union, in accordance with No. 627 and other pertinent provisions of the International Telecommunication Convention, Nairobi, 1982 (item 16 of the Agenda).

Committee 4 - Allotment Planning and Associated Procedures Committee

Terms of Reference :

On the basis of proposals from administrations, the Report of the First Session and taking into account the reports on the inter-sessional work carried out by the IFRB and the CCIR, as well as the requirements for the allotment Plan submitted by administrations :

1. To consider for adoption the appropriate technical standards, parameters and criteria pertaining to the fixed-satellite service in the frequency bands:

4 500 - 4 800 MHz and 300 MHz to be selected in the band
6 425 - 7 075 MHz; and

10.70 - 10.95 GHz, 11.20 - 11.45 GHz and 12.75 - 13.25 GHz,

(agenda item 3).

2. To establish the allotment Plan and the associated regulatory procedures¹⁾ for the fixed-satellite service in the above-mentioned bands according to the principles and methods established at the First Session (agenda item 1).
3. To prepare such consequential amendments in the Radio Regulations as may be necessitated from the viewpoint of allotment planning (agenda item 12).
4. To consider, from the allotment planning point of view, revise as necessary, and take other appropriate action upon the relevant Resolutions and Recommendations (agenda item 13).

¹⁾ The establishment of the Allotment Plan and the associated regulatory procedures may require the review of the regulatory procedures applicable to services sharing the same frequency bands with the fixed-satellite service.

Committee 5 - Broadcasting Satellite Service (BSS) Matters and
Associated Procedures Committee

Terms of Reference :

On the basis of proposals from administrations, the Report of the First Session and taking into account the reports on the inter-sessional work carried out by the IFRB and the CCIR:

1. To establish the provisions²⁾ and associated Plan for feeder links, in the bands 14.5 - 14.8 GHz (for countries outside Europe and for Malta) and 17.3 - 18.1 GHz, to stations in the broadcasting-satellite service in Regions 1 and 3 operating in accordance with Appendix 30 (Orb-85) to the Radio Regulations, and to incorporate these decisions in the Radio Regulations, revising the Radio Regulations, as well as related Resolutions and Recommendations, only for these purposes as necessary (agenda item 6).
2. To consider, on the basis of a list submitted by the IFRB after consultation with administrations, the possible correction of minor errors in the revision of Appendix 30 (Orb-85). Such corrections shall be made without impact on either Plan, on the interactions between the two Plans, or on the balance of the provisions relating to the various services in different Regions (agenda item 8).
3. In accordance with Recommendation 2 of the First Session, to consider the results of the various up-to-date studies and, in reviewing the situation prevailing at that time, take appropriate decisions concerning the results of various studies and regarding the allocation of a suitable frequency band for satellite sound-broadcasting systems as outlined in Resolution 505 of WARC-79 (agenda item 9).
4. To review the possibility of the long-term applicability of Resolution 2 (Sat-R2), and to take a definitive decision on this matter (agenda item 10).
5. In accordance with Recommendation 3 of the First Session of the Conference, and without prejudice to the present BSS allocation in the 22.5 - 23 GHz band in Regions 2 and 3, to consider the question of a suitable frequency band for the broadcasting-satellite service, preferably on a world-wide basis, to accommodate HDTV, including possible action as appropriate on the necessary changes to Article 8 at a later competent conference (agenda item 11);
6. To prepare such consequential amendments in the Radio Regulations as may be necessitated from the viewpoint of broadcasting satellite matters (agenda item 12).
7. To consider and, if appropriate, revise No. 480 of the Radio Regulations only to the extent necessary to ensure that implementation of broadcasting stations in Region 2 in the band 1 605 - 1 705 kHz is without prejudice to the regional broadcasting Plan adopted at the Second Session of RARC BC-R2 (agenda item 15).

2) These will include appropriate technical standards, parameters and criteria.

Committee 6 - Regulatory Procedures (other than for Allotment Planning and
BSS Feeder-Links) Committee

Terms of Reference :

On the basis of proposals from administrations, the Report of the First Session and taking into account the reports on the inter-sessional work carried out by the IFRB and the CCIR, as well as the relevant advice of the Working Group of the Plenary, as appropriate:

1. To establish the improved regulatory procedures¹⁾ for the fixed-satellite service in the bands:

3 700 - 4 200 MHz

5 850 - 6 425 MHz

10.95 - 11.20 GHz

11.45 - 11.70 GHz

11.70 - 12.20 GHz in Region 2²⁾

12.50 - 12.75 GHz in Regions 1 and 3²⁾

14.00 - 14.50 GHz

18.10 - 18.30 GHz²⁾

18.30 - 20.20 GHz

27.00 - 30.00 GHz

according to the principles and methods established at the First Session (agenda item 2).

2. To review and revise, as necessary, the regulatory procedures pertaining to space services and frequency bands not to be subject to planning (agenda item 4).
3. To prepare such consequential amendments in the Radio Regulations as may be necessitated from the viewpoint of the improved regulatory procedures developed (agenda item 12).

¹⁾ The establishment of improved regulatory procedures may require the review of the regulatory procedures applicable to services sharing the same frequency bands with the FSS.

²⁾ In these bands the improved procedures shall apply between networks of the FSS only.

Committee 6 (contd)

4. To review and revise, as necessary, the definitions relating to space services (agenda item 5).
5. To consider, subject to the adoption of a suitable feeder-link assignment Plan for Region 1, the amendment of the relevant Articles of the Radio Regulations and associated Resolutions and Recommendations, if it is appropriate, to permit the use of the band 10.7 - 11.7 GHz (Earth-to-space) in Region 1 for all modes of fixed-satellite service operation, taking into account the frequency bands identified for planning under items 1 and 2 of the agenda (agenda item 7).
6. To consider, in the light of the decisions taken under paragraphs 1 to 5 above, revise as necessary, and take other appropriate action upon the relevant Resolutions and Recommendations (agenda item 13).

Working Group of the Plenary (Technical and Miscellaneous Matters)

Terms of Reference :

On the basis of proposals from administrations, the Report of the First Session and taking into account the reports on the inter-sessional work carried out by the IFRB and the CCIR:

1. To consider for adoption the appropriate technical standards, parameters and criteria pertaining to the fixed-satellite service in the frequency bands:

3 700 - 4 200 MHz
5 850 - 6 425 MHz

10.95 - 11.20 GHz
11.45 - 11.70 GHz
11.70 - 12.20 GHz in Region 2
12.50 - 12.75 GHz in Regions 1 and 3
14.00 - 14.50 GHz

18.10 - 18.30 GHz
18.30 - 20.20 GHz
27.00 - 30.00 GHz

(agenda item 3).

2. To review and revise, as necessary, appropriate technical standards, parameters and criteria pertaining to space services and frequency bands not to be subject to planning (agenda item 4).
3. To consider the technical characteristics of the fixed-satellite service in the bands 18.10 - 18.30 GHz, 18.30 - 20.20 GHz and 27.00 - 30.00 GHz, and make appropriate recommendations to the Plenary with a view to taking a decision on the future planning of these bands by a future competent Conference (agenda item 14).

Working Group of the Plenary (contd)

4. To consider, in the light of the decisions taken under paragraphs 1 to 3 above, revise as necessary, and take other appropriate action upon the relevant Resolutions and Recommendations (agenda item 13).

Committee 7 - Editorial Committee

Terms of Reference :

To perfect the form of the texts to be included in the Final Acts of the Conference, without altering the sense, for submission to the Plenary Meeting (Nos. 473 and 474 of the International Telecommunication Convention, Nairobi, 1982).

NOTE: The Working Group of the Plenary may give technical advice, as necessary, to the substantive committees at their request.

R.E. BUTLER
Secretary-General

SEANCE PLENIERE /
PLENARY MEETING /
SESION PLENARIA

Note du Secrétaire général / Note by the Secretary-General /
Nota del Secretario General

ATTRIBUTION DES DOCUMENTS / ALLOCATION OF DOCUMENTS /
ATRIBUCION DE LOS DOCUMENTOS

Séance plénière / Plenary Meeting / Sesión plenaria : 1, 15

C2 - Pouvoirs / Credentials / Credenciales : 2

C3 - Contrôle budgétaire / Budget Control / Control del presupuesto :
16, 61, 62, 63, 64

C4 - Planification des allotissements et procédures associées /
Allotment Planning and Associated Procedures /
Planificación de adjudicaciones y procedimientos asociados: 3, 5, 7, 12,
13, 19, 28, 29, 33, 34, 38, 45, 46, 48,
49, 53, 56, 59, 65, 66, 69, 70, 72, 73

C5 - Questions relatives au service de radiodiffusion par satellite (SRS) et
procédures associées /
Broadcasting-Satellite Service (BSS) Matters and Associated Procedures /
Cuestiones relacionadas con el servicio de radiodifusión por satélite (SRS)
y los procedimientos asociados: 3, 6, 7, 8, 9, 12, 14, 17, 19, 24, 25,
26, 27, 34, 36, 37, 39, 40, 41, 42, 43,
44, 49, 51, 52, 54, 57, 58, 59, 60, 65,
69, 73

C6 - Procédures réglementaires (à l'exclusion de la planification des
allotissements du SFS et des liaisons de connexion du SRS) /
Regulatory Procedures (other than for FSS Allotment Planning
and BSS Feeder Links) /
Procedimientos reglamentarios (distintos de los correspondientes
a la planificación de las adjudicaciones del SFS y los enlaces
de conexión con el SRS): 3, 4, 7, 9, 10, 11, 12, 18, 19, 20,
21, 22, 23, 30, 31, 32, 34, 35, 44,
47, 49, 53, 55, 56, 58, 59, 60, 65,
67, 68, 69, 70, 71, 73, 74, 75, 76, 77

./...

GT/WG-PL - Questions techniques et diverses /
Technical & Miscellaneous /

Cuestiones técnicas y otras: 3, 6, 7, 10, 12, 13, 19, 21, 22, 23,
34, 48, 49, 53, 56

R.E. BUTLER
Secrétaire général

SEANCE PLENIERE /

PLENARY MEETING /

SESION PLENARIA

Note du Secrétaire général / Note by the Secretary-General /

Nota del Secretario General

ATTRIBUTION DES DOCUMENTS / ALLOCATION OF DOCUMENTS /
ATRIBUCION DE LOS DOCUMENTOS

Séance plénière / Plenary Meeting / Sesión plenaria : 1, 15

C2 - Pouvoirs / Credentials / Credenciales : 2

C3 - Contrôle budgétaire / Budget Control / Control del presupuesto : 16, 61,
62, 63, 64

C4 - Planification des allotissements et procédures associées/
Allotment Planning and Associated Procedures/
Planificación de adjudicaciones y procedimientos asociados: 3, 5, 7, 12,
13, 19, 28, 29, 33, 34, 38, 45, 46, 48,
49, 53, 56, 59, 65, 66, 69, 70, 72, 73

C5 - Questions relatives au service de radiodiffusion par satellite (SRS) et
procédures associées /
Broadcasting-Satellite Service (BSS) Matters and Associated Procedures /
Cuestiones relacionadas con el servicio de radiodifusión por satélite (SRS)
y los procedimientos asociados: 3, 6, 7, 8, 9, 12, 14, 17, 19, 24, 25,
26, 27, 34, 36, 37, 39, 40, 41, 42, 43,
44, 49, 51, 52, 54, 57, 58, 59, 60, 65,
69, 73

C6 - Procédures (à l'exclusion de la planification des allotissements du SFS et
des liaisons de connexion du SRS) /
Procedures (other than for FSS Allotment Planning and BSS Feeder Links) /
Procedimientos (distintos de los correspondientes a la planificación de las
adjudicaciones del SFS y los enlaces de conexión con el SRS: 3, 4, 7, 9,
10, 11, 12, 18, 19, 20, 21, 22, 23, 30,
31, 32, 34, 35, 44, 47, 53, 55, 56, 58,
59, 60, 67, 68, 69, 70, 71, 73, 74, 75,
76, 77

- 2 -
ORB(2)/DT/3-F/E/S

GT/WG-PL - Questions techniques et diverses /
Technical & Miscellaneous /
Cuestiones técnicas y otras : 3, 6, 7, 10, 12, 13, 19, 21, 23, 34,
48, 53, 56

R.E. BUTLER
Secrétaire général

COMMITTEE 4

DRAFT ORGANIZATION OF THE WORK OF COMMITTEE 4

It is proposed that the main decisions on planning be taken at the Committee level, taking into account the Conference timetable for developing the Allotment Plan.

Hence, Committee 4 should as soon as possible agree upon:

- requirements: TZA/5/1,2; URS/7/2; USA/12/2-5; F/33/1,2; B/48/1,2;
AUS/49/1-3,5; J/53/5,6; NZL/73/1
- existing systems: URS/7/3; F/33/3; J/53/3,4
- sub-regional beams: TZA/5/3; USA/12/5
- pre-determined arcs: URS/7/2; USA/12/6,7; J/53/1
- multi-band or separate band plan: URS/7/2; USA/12/9; B/48/1;
AUS/49/4; ALG/65/2

Ad-hoc or drafting groups will be set up as required. Initially only one working group will be established and will deal with technical issues. Working groups on the Allotment Plan and the associated regulatory procedures will be created after the fundamental decisions on the items mentioned above have been taken.

Working Group 4A: Technical Criteria for Planning

Agenda items : 3

Chairman : / Box

Documents : 3 (CCIR) + Corr.1; 7 (URS); 49 (AUS); 53
(J); 56 (USA); 59 (CAN)

Consider for adoption the appropriate technical standards, parameters and criteria pertaining to the fixed-satellite service in the allotment Plan frequency bands (including choice of 300 MHz in the band 6425 - 7075 MHz).

Working Group 4B: Allotment Plan

Agenda items : 1

Chairman : / Box

Documents : 3 (CCIR) + Corr.1; 5 (TZA); 7 (URS); 12 (USA); 13 (IFRB); 19 (IFRB); 28 (IFRB); 33 (F); 38 (CEPT); 46 (B); 48 (B); 49 (AUS); 53 (J); 66 (LUX)

Establish the allotment Plan for the fixed-satellite service in the frequency bands:

- 4500-4800 MHz and 300 MHz to be selected in the band 6425-7075 MHz; and

- 10.70-10.95 GHz, 11.20-11.45 GHz and 12.75-13.25 GHz

according to the principles and methods established by the First Session.

Working Group 4C: Procedures Associated with the Plan

Agenda items : 1, 12 and 13

Chairman : / Box

Documents : 7 (URS); 12 (USA); 29 (F); 45 (CEPT); 53 (J); 56 (USA); 59 (CAN)

Establish the associated regulatory procedures for the fixed-satellite service in the allotment Plan bands according to the principles and methods established by the First Session (agenda item 1); prepare such consequential amendments in the RR as may be necessitated from the viewpoint of allotment planning (agenda item 12); consider, from the allotment planning point of view, revise as necessary, and take other appropriate action upon the relevant Resolution and Recommendations (agenda item 13).


S. PINHEIRO
Chairman of Committee 4

COMMITTEE 5

DRAFT ORGANIZATION OF THE WORK

It is proposed to set up two Working Groups with the following terms of reference.

Working Group 5-A

Establishment of the Plan and associated technical standard parameters and criteria for feeder link:

- to determine the technical parameters to be used for the development of the Plan;
- to establish the requirements to be used;
- to prepare the Plan.

List of documents allocated:

- 3, 7, 12, 17, 19, 24, 25, 39, 49, 51, 54, [60], 73.

Working Group 5-B

- to establish the regulatory provisions associated to the Plan and to examine the technical criteria other than those used in preparing the Plan;
- to deal with points 2 to 7 of the Committee 5 terms of reference (DT/3).

List of documents allocated:

- 3, 7, 8, 9, 12, 14, 26, 27, 34, 36, 37, 39, 40, 41, 42, 49, 51, 52, 54, 57, 58, 59, 60, 65, 69, 73.

D. SAUVET GOICHON
Chairman of Committee 5

CONF\ORB-2\DT\006E.TXS

COMMITTEE 6

Draft

STRUCTURE OF COMMITTEE 6
AND
PRELIMINARY ATTRIBUTION OF DOCUMENTS

Working Group 6-A: Improved Procedures

Agenda items: 2 and 12

Chairman : /Box

Documents: 3(CCIR) + Corr.1; 5(TZA); 7(URS); 12(USA); 31(F); 34(F); 49(AUS);
58(CITEL); 59(CAN); 65(ALG); 67(LUX); 69(KEN); 73(NZL); 74(NZL).

To establish the improved regulatory procedures³ for the fixed-satellite
service in the bands:

3 700 - 4 200 MHz

5 850 - 6 425 MHz

10.95 - 11.20 GHz

11.45 - 11.70 GHz

11.70 - 12.20 GHz in Region 2⁴

12.50 - 12.75 GHz in Regions 1 and 3⁴

14.00 - 14.50 GHz

18.10 - 18.30 GHz⁴

18.30 - 20.20 GHz

27.00 - 30.00 GHz

according to the principles and methods established at the First Session
(agenda item 2).

To prepare such consequential amendments in the Radio Regulations as may be
necessitated from the viewpoint of the improved regulatory procedures developed
(agenda item 12).

-
- 3 The establishment of improved regulatory procedures may require the review of the
regulatory procedures applicable to services sharing the same frequency bands with
the FSS.
- 4 In these bands the improved procedures shall apply between networks of the FSS
only.

Working Group 6-B: Simplified Procedures

Agenda items: 4 and 12

Chairman : /Box

Documents: 3(CCIR) + Corr.1; 4(IFRB); 7(URS); 10(IFRB) + Corr.1; 11(IFRB);
12(USA); 18(IFRB); 20(F); 22(F); 23(F); 30(IFRB); 31(F); 32(F);
34(F); 35(B); 47(B); 49(AUS); 53(J); 55(S); 56(USA); 59(CAN);
60(CAN); 68(IFRB); 75(USA); 76(USA); 77(USA).

To review and revise, as necessary, the regulatory procedures pertaining to space services and frequency bands not to be subject to planning (agenda item 4).

To prepare such consequential amendments in the Radio Regulations as may be necessitated from the viewpoint of the improved regulatory procedures developed (agenda item 12).

Working Group 6-C: General Issues

Agenda items: 5, 7 and 13

Chairman : /Box

Documents: 6(Rev.)(S.G.); 7(URS); 11(IFRB); 12(USA); 35(B); 43(CEPT);
44(CEPT); 49(AUS); 56(USA); 57(B); 58(CITEL); 60(CAN); 67(LUX);
68(IFRB); 69(KEN); 70(D); 71(D); 111(IFRB).

To review and revise, as necessary, the definitions relating to space services (agenda item 5).

To consider, subject to the adoption of a suitable feeder-link assignment Plan for Region 1, the amendment of the relevant Articles of the Radio Regulations and associated Resolutions and Recommendations, if it is appropriate, to permit the use of the band 10.7 - 11.7 GHz (Earth-to-space) in Region 1 for all modes of fixed-satellite service operation, taking into account the frequency bands identified for planning under items 1 and 2 of the agenda (agenda item 7).

To consider, in the light of the decisions taken under paragraphs 1 to 5 above, revise as necessary, and take other appropriate action upon the relevant Resolutions and Recommendations (agenda item 13).

Editorial Group:

To align the texts to be presented to Committee 6 by the above mentioned Working Groups without changing the sense of the substance of the text.

J.F. BROERE
Chairman of Committee 6

WORKING GROUP
OF THE PLENARY

DRAFT NOTE FROM THE CHAIRMAN OF THE WORKING GROUP OF THE PLENARY
TO THE CHAIRMAN OF COMMITTEE 6

After presenting the documents related to Appendix 3 and Appendix 4 of the Radio Regulations, the Working Group of the Plenary has a common feeling that this Working Group would appreciate some guidelines from Committee 6 on their regulatory aspects (see annex). Therefore, the Working Group of the Plenary expresses its wishes that Committee 6 give priority consideration to the documents related to Appendix 3 and Appendix 4 of the Radio Regulations, in order that our Working Group may proceed to deal with technical aspects as soon as possible.

R. RYVOLA

Chairman of the Working Group of the Plenary

Annex: 1

ANNEX

Specific questions and comments concerning Appendices 3 and 4

1. Will Appendices 3 and 4 to the Radio Regulations be merged?
 2. If answer is yes, to what extent would the combined appendix be used? (Advance publication, coordination, notification, $\Delta T/T$, C/I, S/N.)
 3. If answer to item 1 above is no (Appendices 3 and 4 will be separated), what function would they serve in the Improved Procedures and Simplified Procedures and to what extent would they be used? (See item 2 above.)
 4. To be advised as early as possible on the decision concerning the principle of coordination at network level and the use of typical earth stations.
 5. To be advised on the expression of views concerning amendments to Appendices 3 and 4 to the Radio Regulations as given in Documents 22 and 23.
-

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/8-E

30 August 1988

Original: English

WORKING GROUP
OF THE PLENARY

DRAFT NOTE FROM THE CHAIRMAN OF THE WORKING GROUP OF THE PLENARY TO THE CHAIRMAN OF COMMITTEE 6

After presenting the documents related to Appendix 3 and Appendix 4 of the Radio Regulations, the Working Group of the Plenary has a common feeling that this Working Group would appreciate some guidelines from Committee 6 on their regulatory aspects. Therefore, the Working Group of the Plenary expresses its wishes that Committee 6 give priority consideration to the documents related to Appendix 3 and Appendix 4 of the Radio Regulations, in order that our Working Group may proceed to deal with technical aspects as soon as possible.

R. RYVOLA

Chairman of Working Group of the Plenary

CONF\ORB-2\DT\008E.TXS

WORKING GROUP 5-A

REQUIREMENTS FOR THE NEXT PLANNING EXERCISE

1. Which frequency band(s) to be used (SWG 5-II)
2. Confirmation of requirements (SWG 5-I)
3. Adjacent channel protection ratio (SWG 5-II)
4. Calculation of OAPM (SWG 5-II)
5. Allowance for ULPC (SWG 5-I)
6. Sense of polarization (SWG 5-II)
7. Pointing error (SWG 5-II)
8. Technical parameters (SWG 5-II)

Other:

9. Translation frequencies (linear or non-linear) (SWG 5-I)
10. Variation of e.i.r.p. (SWG 5-I)

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/9-E
30 August 1988
Original: English

WORKING GROUP 5-A

DRAFT ORGANIZATION OF THE WORK

It is proposed that two Sub-Working Groups be established with the following terms of reference:

Sub-Working Group 5-A-1

- Establish the requirements for the Plan;
- prepare the Plan.

List of documents allocated: 3, 7, 12, 17, 19, 54, 73.

Sub-Working Group 5-A-2

- Determine the technical parameters to be used for the development of the Plan;
- prepare guidelines for the use of u.l.p.c.

List of documents allocated: 3, 7, 12, 19, 24, 25, 39, 49, 51, 54.

R.M. BARTON
Chairman of Working Group 5-A

CONF\ORB-2\DT\009E.TXS

COMMITTEE 5

Draft proposal

FEEDER-LINK REQUIREMENTS

1. The feeder-link requirements submitted for the broadcasting-satellite service in Regions 1 and 3 and used during the second series of planning exercises (Annex 2 of Document 17) have been published on microfiche only (Annex 1 of Document 17).
2. To facilitate the work of Delegations, the requirements of each administration have also been printed on paper and one copy of these national requirements will be distributed to the Delegation concerned.
3. This distribution to Delegations will take place today, Wednesday, 31 August 1988 at 1400 hours on level D of the CICG. One Member of the Delegation will be asked to acknowledge receipt on behalf of the Delegation.
4. Delegations are invited to review the requirement used. Any correction or modification necessary or requested (in particular columns 19 and 22 concerning the rain climatic zone) shall be appropriately indicated on a copy of the hand-out referred to in paragraph 3. Such a marked-up copy of the requirement only shall be returned to the D level in the CICG by [Monday, 5 September 1988, 1800 hours]. Timely return of the marked copy will ensure the inclusion of the modifications in the planning exercise to be carried out later in week two. In the absence of any requested modification, the requirements as published in Document 17 will be used.
5. In the case where an administration wishes to submit a new requirement, it is invited to apply the provisions of IFRB Circular-letter No. 664 of 5 August 1988, i.e. the procedure used to establish the initial list of requirements.

D. SAUVET-GOICHON
Chairman of Committee 5

CONF\ORB-2\DT\010E.TXS

Draft

STANDARDIZED TECHNICAL PARAMETERS TO BE USED
IN THE ALLOTMENT PLANNING EXERCISES

1. Introduction

The IFRB, in the development of allotment planning exercises, uses a generalized C/I as the basis for planning and a set of standardized parameters. The key to achieving a successful Plan rests upon the selection of these parameters and the technical characteristics of the existing systems.

In this paper, a specific set of values are proposed for the standardized parameters which should lead to a successful Plan.

2. Standardized parameter values

2.1 Carrier-to-noise (C/N) ratio

A total C/N value of 14 dB has been used by the IFRB, with an aggregate C/I of 26 dB. Based on this value of C/N, the transmitting power of most of the earth stations in the Plan is in the order of 100 mW/MHz or, equivalently, 3.6 W/36 MHz for the 6/4 GHz systems using 7 to 5 m antenna diameters. This power, when compared to present operational systems, is unusually low for these sizes of antennas. Therefore, it is recommended that the total C/N value be increased to 17 dB, which would result in improving the signal quality of the systems in the Plan.

The ratio of up-link to down-link C/N of 6 dB used by the IFRB is supported. Thus, the recommended up-link C/N is 24 dB and the down-link C/N is 18 dB.

These new recommended values of C/N will provide a greater range of services and greater protection from intersatellite or other sources of interference.

The earth station transmitter power requirements are governed by the up-link characteristics of the system, and is particularly influenced by the satellite antenna receive gain. To avoid large variations in up-link power and the attendant interference problems, it is proposed that the minimum transmitter power into the earth station antenna be 10 W/36 MHz or -5 dBW per MHz. Furthermore, power averaged over the carrier bandwidth should be used on all occasions.

2.2 Carrier-to-interference (C/I) ratio

The aggregate C/I value of 26 dB used by the IFRB appears to be relatively consistent with the old CCIR Recommendations if the ratio of single entry interference to aggregate interference is approximately 6 dB. Although this appears to be overly conservative, it is recommended that this value of aggregate C/I be used in the exercises at present. However, if successful exercises are not achieved with this figure, it is recommended that a lower value of C/I be used, especially considering use of the C/N value depicted in § 2.1.

The most important performance factor in a communication system is to achieve a satisfactory $C/(N + I)$ value. In the interference dominant environment associated with the allotment Plan, the C/I value above can be reduced as long as the $C/(N + I)$ value meets design objectives. From the above, it appears that a ratio of C/N to aggregate C/I between 9 and 6 dB should result in satisfactory performances.

2.3 Earth station antenna

a) Earth station antenna size

The sizes of the earth station antennas used by the IFRB in their exercises (7 m at 6/4 GHz and 3 m at 14/11 - 12 GHz) appear to be adequate for many services. Considering the constraints of time and other factors which are involved with the running of the software, it is recommended that these values be used in the planning exercises conducted hereafter. It is suggested that antenna size variations be avoided in these exercises.

b) Earth station antenna pattern

The earth station antenna pattern shown in Appendix 29, and currently used by the IFRB for the planning exercises, appears adequate.

The composite pattern, referred to in the CCIR report and proposed by some administrations, cannot be incorporated in the IFRB software at the present time due to schedule constraints. If the composite pattern can be included in an analysis program, the results of the synthesis process associated with the existing IFRB software can be checked to determine the impact of the composite pattern versus a single pattern.

It is proposed that that side-lobe pattern of $32 - 25 \log \theta$ be used for all satellite systems except for those systems intending to use improved side-lobe characteristics, such as $29 - 25 \log \theta$.

c) Earth station receiving system noise temperature

It is proposed that the receive system temperature be:

140°K for 4 GHz and
200°K for 11 - 12 GHz.

[This is not an especially sensitive parameter with regard to allotment planning.]

2.4 Space station

2.4.1 Antenna characteristics

It is proposed that the space station antenna characteristics used by the IFRB and depicted in the SAT-83 report be used for the planning exercises.

If a shaped beam pattern is required for large service areas in order to achieve a satisfactory plan, it is proposed that the JIWP reference (page 50 of the English text) antenna pattern be used in the exercises. It is agreed that the present use of 0.8° for 14/11 - 12 GHz and 1.6° for 6/4 GHz for minimum size spacecraft antenna beamwidths is appropriate.

2.4.2 Receiving system noise temperature

The receive system noise temperature proposed for the space station is:

1000°K for 6 GHz
1500°K for 14 GHz.

2.5 Antenna efficiency

The present antenna efficiencies used by the IFRB in their planning exercises appear adequate. They are:

70% for the earth station antennas
55% for the space station antennas.

2.6 Space station antenna pointing error

The use of 0.1° vs. 0.2° in antenna pointing error does not influence the allotment planning results in any significant manner. Therefore, whichever of these values is currently in the IFRB software regarding this parameter appears to be acceptable.

2.7 Rain attenuation

In the present IFRB planning exercises, rain attenuation, for up to 10 dB is taken into consideration by increasing the transmitter power sufficiently to achieve the objective C/N values. However, interference is calculated under clear sky conditions with this "increased" transmitter power. This produces excess power during clear sky conditions. Thus, a great deal of inhomogeneity is created, resulting in inefficient utilization of the orbit. In normal practice, satellite system operators would not use excess powers as high as 10 dB during clear sky conditions. Alternatively they use other countermeasures to compensate for high levels of rain attenuation such as:

- 1) up-link power control in the high rain rate areas;
- 2) larger earth station antennas in the high rain rate areas;

- 3) use of shaped or spot beam antennas on the spacecraft;
- 4) suitable minimum elevation angles such as (ref. Document 48)

10° for A to K climates
20° for L to M climates
30° for N to P climates.

Therefore, it is proposed that the maximum increase in transmitter power for the allotment planning systems due to rain attenuation be limited to 5 dB. Thus, a 10 dB total rain margin is made available with a 5 dB transmit power margin plus 5 dB from among the above-mentioned items.

Y. ITO
Chairman of Working Group 4-A

DraftSTANDARDIZED TECHNICAL PARAMETERS TO BE USED
IN THE ALLOTMENT PLANNING EXERCISES1. Introduction

The IFRB, in the development of allotment planning exercises, uses a generalized C/I as the basis for planning and a set of standardized parameters. The key to achieving a successful Plan rests upon the selection of these parameters and the technical characteristics of the existing systems.

In this paper, a specific set of values are proposed for the standardized parameters which should lead to a successful Plan.

2. Standardized parameter values2.1 Carrier-to-noise (C/N) ratio

A C/N value of 14 dB has been used by the IFRB, with an aggregate C/I of 26 dB. Based on the value of C/N, the transmitting power of most of the earth stations in the Plan is in the order of 100 mW/MHz or, equivalently, 3.6 W/36 MHz for the 6/4 GHz systems using 7 to 5 m antenna diameters. This power, when compared to present operational systems, is unusually low for these sizes of antennas. Therefore, it is recommended that the C/N value be increased to 17 dB, which would result in improving the signal quality of the systems in the Plan.

The ratio of up-link to down-link C/N of 6 dB used by the IFRB is supported. Thus, the recommended up-link C/N is 24 dB and the down-link C/N is 18 dB.

These new recommended values of C/N will provide a greater range of services and greater protection from intersatellite or other services of interference.

The earth station transmitter power requirements are governed by the up-link characteristics of the system, and is particularly influenced by the satellite antenna receive gain. To avoid large variations in up-link power and the attendant interference problems, it is proposed that the minimum transmitter power into the earth station antenna be 10 W/36 MHz or -5 dBW per MHz. Furthermore, power averaged over the bandwidth should be used on all occasions.

2.2 Carrier-to-interference (C/I) ratio

The aggregate C/I value of 26 dB used by the IFRB appears to be relatively consistent with the old CCIR Recommendations if the ratio of single entry interference to aggregate interference is approximately 6 dB. Although this appears to be overly conservative, it is recommended that this value of aggregate C/I be used in the

exercises at present. However, if successful exercises are not achieved with this figure, it is recommended that a lower value of C/I be used, especially considering use of the C/N value depicted in § 2.1.

The important performance factor in a communication system is to achieve a satisfactory C/(N + I) value. In the interference dominant environment associated with the allotment Plan, the C/I value above can be reduced as long as the C/(N + I) value meets design objectives. From the above, it appears that a ratio of C/N to aggregate C/I between 9 and 6 dB should result in satisfactory performances.

2.3 Earth station antenna

a) Earth station antenna size

The sizes of the earth station antennas used by the IFRB in their exercises (7 m at 6/4 GHz and 3 m at 14/11 - 12 GHz) appear to be adequate for many services. Considering the constraints of time and other factors which are involved with the running of the software, it is recommended that these values be used in the planning exercises conducted hereafter. It is suggested that antenna size variations be avoided in these exercises.

b) Earth station antenna pattern

The earth station antenna pattern shown in Appendix 29, and currently used by the IFRB for the planning exercises, appears adequate.

The composite pattern, referred to in the CCIR report and proposed by some administrations, cannot be incorporated in the IFRB software at the present time due to schedule constraints. If the composite pattern can be included in an analysis program, the results of the synthesis process associated with the existing IFRB software can be checked to determine the impact of the composite pattern versus a single pattern.

It is proposed that that side-lobe pattern of $32 - 25 \log \theta$ be used for all satellite systems except for those systems intending to use improved side-lobe characteristics, such as $29 - 25 \log \theta$.

c) Earth station receiving system noise temperature

It is proposed that the receive system temperature be:

140°K for 4 GHz and
200°K for 11 - 12 GHz.

[This is not an especially sensitive parameter with regard to allotment planning.]

2.4 Space station

2.4.1 Antenna characteristics

It is proposed that the space station antenna characteristics used by the IFRB and depicted in the SAT-83 report be used for the planning exercises.

If a shaped beam pattern is required for large service areas in order to achieve a satisfactory plan, it is proposed that the JIWP reference (page 50 of the English text) antenna pattern be used in the exercises. It is agreed that the present use of 0.8° for 13/10 - 11 GHz and 1.6° for 6/4 GHz for minimum size spacecraft antenna beams is appropriate.

2.4.2 Receiving system noise temperature

The receive system noise temperature proposed for the space station is:

1000°K for 6 GHz
1500°K for 13 GHz.

2.5 Antenna efficiency

The present antenna efficiencies used by the IFRB in their planning exercises appear adequate. They are:

70% for the earth station antennas
55% for the space station antennas.

2.6 Space station antenna pointing error

The use of 0.1° vs. 0.2° in antenna pointing error does not influence the allotment planning results in any significant manner. Therefore, whichever of these values is currently in the IFRB software regarding this parameter appears to be acceptable.

2.7 Rain attenuation

In the present IFRB planning exercises, rain attenuation is taken into consideration up to 10 dB by increasing the transmitter power sufficiently to achieve the objective C/N values. However, interference is calculated under clear sky conditions with these "increased" powers. Thus, a great deal of inhomogeneity is created in the system parameters resulting in inefficient utilization of the orbit. In normal practice, satellite system operators would not use excess powers in the order of 10 dB during clear weather conditions. Some practical countermeasures to compensate for rain attenuation are:

- 1) up-link power control in the high rain rate areas;
- 2) larger earth station antennas in the high rain rate areas;
- 3) use of shaped or spot beam antennas on the spacecraft;
- 4) suitable elevation angles such as (ref. Document 48)

10° for A to K climates
20° for L to M climates
30° for N to P climates.

Therefore, it is proposed that the maximum increase in transmitter power for the allotment planning systems due to rain attenuation be limited to 5 dB. If more power is required, it is assumed that the techniques mentioned above would be used, as is done in current satellite system operations.

Y. ITO
Chairman of Working Group 4-A

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

Document DT/12-E
31 August 1988
Original: English

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

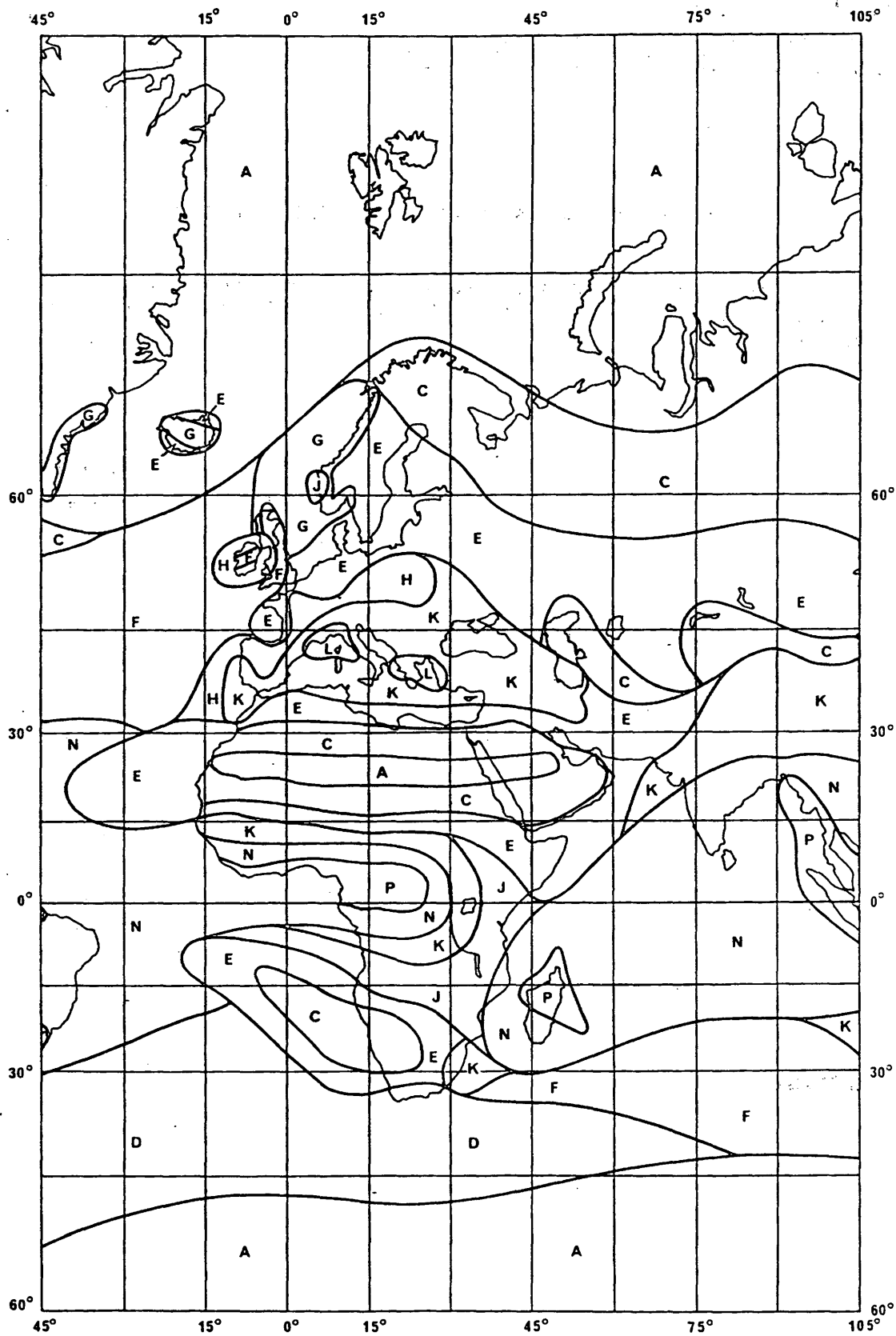
WORKING GROUP 5-A

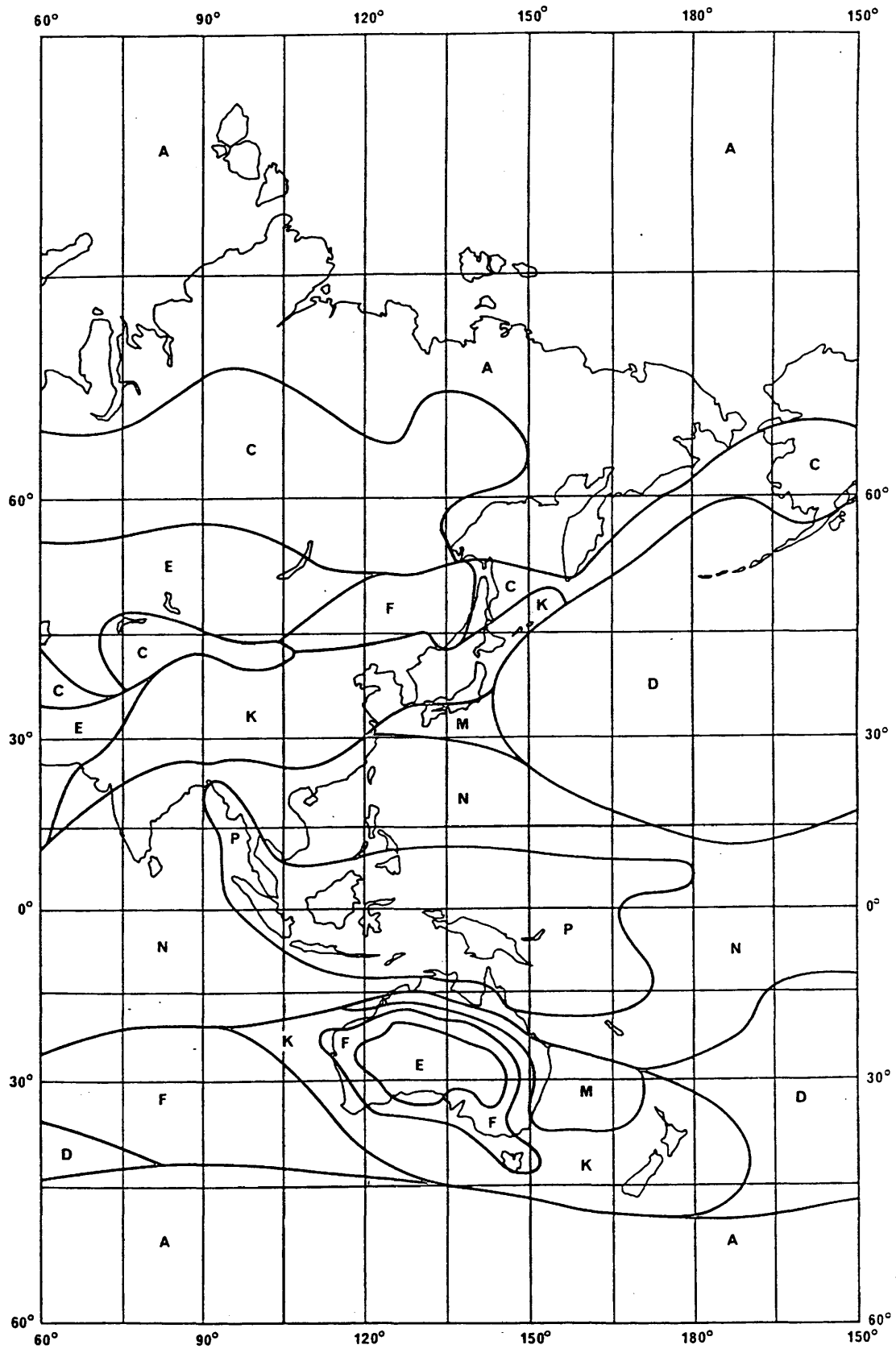
DRAFT NOTE OF THE CHAIRMAN OF WORKING GROUP 5-A

At the request of Working Group 5-A, the attached rain maps for Regions 1 and 3, taken from CCIR Report 563-3 (Dubrovnik, 1986) are presented for information.

R.M. BARTON
Chairman of Working Group 5-A

Attachments: 2





INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/13-E
31 August 1988
Original: English

SUB-WORKING GROUP 5-A-1

Draft

TERMS OF REFERENCE OF THE AD HOC GROUP 5-A-1

1. To examine together with the IFRB the submitted requirements with the aim to identify missing data and errors, if it is the case.
2. To identify the cases of incompatibilities in the Plan produced by the IFRB.
3. To contact the administrations concerned in order to find satisfactory solutions.

L. TOMATI
Chairman of Sub-Working Group 5-A-1

CONF\ORB-2\DT\013E.TXS

SOUS-GROUPE DE TRAVAIL 6-B-1

Page 1, remplacer A. CAREW, Président du Groupe de travail 6-B par
L. SONESSON, Président du Sous-Groupe de travail 6-B-1.

SUB-WORKING GROUP 6-B-1

On page 1, please replace A. CAREW, Chairman of Working Group 6-B with
the following: L. SONESSON, Chairman of Sub-Working Group 6-B-1.

SUBGRUPO DE TRABAJO 6-B-1

Página 1, sustitúyase A. CAREW, Presidente del Grupo de Trabajo 6-B por
L. SONESSON, Presidente del Subgrupo de Trabajo 6-B-1.

CONF\ORB-2\DT\014C1F.TXS

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/14-E
1 September 1988
Original: English

SUB-WORKING GROUP 6-B-1

Draft

PROPOSALS FROM ADMINISTRATIONS TO THE CONFERENCE ON
AGENDA ITEM 4 (SIMPLIFIED PROCEDURES) IN CONNECTION
WITH ARTICLE 11

A. CAREW
Chairman of Working Group 6-B

RR11-1

ARTICLE 11

Coordination of Frequency Assignments to Stations in a Space Radiocommunication Service Except Stations in the Broadcasting- Satellite Service and to Appropriate Terrestrial Stations ¹

MOD F/20/4, VEN/92/6, CAN/60/7

ADD

SUP

Section I. Procedures for the Advance Publication of Information on Planned Satellite Networks ²

MOD CAN/60/8

ADD

SUP

A.11.1 ¹ For the coordination of frequency assignments to stations in the
Orb-35 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.

MOD CAN/60/12

ADD

SUP

A.11.2 ² These procedures may be applicable to stations on board satellite
launching vehicles.

MOD

ADD CAN/60/14

SUP CAN/60/13

1041 *Publication of Information*

MOD CAN/60/9

ADD

SUP

1042 § 1. (1) An administration (or one acting on behalf of a group of named administrations) which intends to establish a satellite system shall, prior to the coordination procedure in accordance with No. 1060 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.

MOD F/20/5, CAN/60/10, USA/76/1

ADD CAN/60/11, CAN/60/15

SUP

1043 (2) Any amendments to the information sent concerning a planned satellite system in accordance with No. 1042 shall also be sent to the Board as soon as they become available.

MOD CAN/60/16

ADD F/20/6-7, CAN/60/17-32

SUP

1044 (3) The Board shall publish the information sent under Nos. 1042 and 1043 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.

MOD F/20/8

ADD

SUP CAN/60/33

- 1045** (4) If the information is found to be incomplete, the Board shall publish it under No. **1044** and immediately seek, from the administration concerned, any clarification and information not provided. In such cases, the period of four months specified in No. **1047** shall count from the date of publication, under No. **1044**, of the complete information.

MOD F/20/9

ADD

SUP CAN/60/33

1046 *Comments on Published Information*

MOD CAN/60/34

ADD

SUP

- 1047** § 2. . . If, after studying the information published under No. **1044**, any administration is of the opinion that interference which may be unacceptable may be caused to its existing or planned space radiocommunication services, it shall, within four months after the date of the weekly circular publishing the complete information listed in Appendix 4, 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 satellite network(s) of that system on which details have been published.

MOD F/20/10, CAN/60/35, VEN/92/7

ADD CAN/60/36 - 37

SUP

1048 *Resolution of Difficulties*

MOD CAN/60/38

ADD

SUP

- 1049** § 3. (1) An administration receiving comments sent in accordance with No. **1047** shall endeavour to resolve any difficulties that may arise and shall provide any additional information that may be available.

MOD USA/12/17, F/20/11, CAN/60/39

ADD

SUP

- 1050** (2) In case of difficulties arising when any planned satellite network of a system is intended to use the geostationary-satellite orbit:

MOD USA/12/18, CAN/60/40

ADD

SUP

- 1051** a) the administration responsible for the planned system shall first explore all possible means of meeting its requirements, taking into account the characteristics of the geostationary-satellite networks of other systems, and without considering the possibility of adjustment to systems of other administrations. If no such means can be found, the administration concerned is then free to apply to other administrations concerned to solve these difficulties;

MOD USA/12/19, CAN/60/41, VEN/92/8

ADD

SUP

- 1052** b) an administration receiving a request under No. **1051** shall, in consultation with the requesting administration, explore all possible means of meeting the requirements of the requesting administration, for example, by relocating one or more of its own geostationary space stations involved, or by changing the emissions, frequency usage (including changes in frequency bands) or other technical or operational characteristics;

MOD CAN/60/42

ADD

SUP

- 1053** c) if after following the procedure outlined in Nos. **1051** and **1052** there are unresolved difficulties, the administrations concerned shall together make every possible effort to resolve these difficulties by means of mutually acceptable adjustments, for example, to geostationary space station locations and to other characteristics of the systems involved in order to provide for the normal operation of both the planned and existing systems.

MOD USA/12/20, CAN/60/43

ADD

SUP

- 1054** (3) In their attempts to resolve the difficulties mentioned above administrations may seek the assistance of the Board.

MOD USA/12/21, CAN/60/44, VEN/92/9

ADD USA/12/22-24, F/20/13-16, CAN/60/45, VEN/92/10

SUP

1055 *Results of Advance Publication*

MOD CAN/60/46

ADD

SUP

- 1056** § 4. An administration on behalf of which details of planned satellite networks have been published in accordance with the provisions of Nos. **1042** to **1044** shall, after the period of four months specified in No. **1047**, inform the Board whether or not comments provided for in No. **1047** have been received and of the progress made in resolving any 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 of the 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.

MOD F/20/17, CAN/60/47

ADD CAN/60/48

SUP

1057 *Commencement of Coordination or Notification Procedures*

MOD F/20/18

ADD

SUP

- 1058** § 5. In complying with the provisions of Nos. 1049 to 1054, an administration responsible for a planned satellite system shall, if necessary, defer its commencement of the coordination procedure, or, where this is not applicable, the sending of its notices to the Board, by six months after the date of the weekly circular containing the information listed in Appendix 4 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 six months mentioned above.

MOD F/20/19, CAN/60/49

ADD CAN/60/50

SUP

**Section II. Coordination of Frequency Assignments to a Space Station
on a Geostationary Satellite or an Earth Station Communicating with
Such a Space Station in Relation to Stations of Other
Geostationary-Satellite Networks**

MOD USA/12/25, F/20/20, B/35/2, USA/56/12, CAN/60/51

ADD USA/56/13

SUP

1059 *Requirement for Coordination*

MOD

ADD

SUP

1060 § 6. (1) Before an administration (or, in the case of a space station, one acting on behalf of a group of named administrations) notifies to the Board or brings into use any frequency assignment to a space station on a geostationary satellite or to an earth station that is to communicate with a space station on a geostationary satellite, it shall, except in the cases described in Nos. **1066** to **1071**, effect coordination of the assignment with any other administration whose assignment, for a space station on a geostationary satellite or for an earth station that communicates with a space station on a geostationary satellite, might be affected.

MOD USA/12/26, F/20/21, B/35/3, CAN/60/52, VEN/92/11

ADD USA/12/27, F/20/22, CAN/59/2, CAN/60/53-54, USA/75/1

SUP

1061 (2) Frequency assignments to which the provisions of No. **1060** are applicable are those:

MOD F/20/23, CAN/60/55

ADD

SUP

1062 a) in the same frequency band as the planned assignment and in conformity with No. 1503; *and*

MOD F/20/24, CAN/60/56

ADD

SUP

1063 b) either recorded in the Master Register, or coordinated under the provisions of this Section; *or*

MOD CAN/60/57

ADD

SUP

1064 c) to be taken into account for coordination with effect from the date of receipt by the Board, in accordance with No. 1074, of the relevant information as annotated in Appendix 3; *or*

MOD F/20/25, CAN/60/58

ADD

SUP

1065 *d)* notified to the Board without any coordination in those cases where Nos. **1066** to **1071** apply.

MOD CAN/60/59

ADD CAN/60/60

SUP

1066 (3) No coordination under No. **1060** is required:

MOD CAN/60/61

ADD

SUP

1067 *a)* when the use of a new frequency assignment will cause, to any service of another administration, an increase in the noise temperature of any space station receiver or earth station receiver, or an increase in the equivalent satellite link noise temperature, as appropriate, calculated in accordance with the method given in Appendix 29, which does not exceed the threshold value defined therein;

MOD F/20/26

ADD

SUP

1068 *b)* when the interference resulting from a modification to a frequency assignment which has previously been coordinated will not exceed that value agreed during coordination;

MOD

ADD

SUP

- 1069** c) when an administration proposes to notify or bring into use a new earth station within a service area of an existing satellite network, provided that the new earth station would not cause interference of a level greater than that which would be caused by an earth station pertaining to the same satellite network and whose characteristics have been published, together with the information concerning the space station, in accordance with No. 1078;

MOD USA/12/28, F/20/27, B/35/4, CAN/60/62, VEN/92/12

ADD

SUP

- 1070** d) when, for a new frequency assignment to a receiving station, the notifying administration states that it accepts the interference resulting from the frequency assignments referred to in Nos. 1061 to 1065;

MOD

ADD

SUP

- 1071** e) between earth stations using frequency assignments in the same direction (either Earth-to-space or space-to-Earth).

MOD

ADD

SUP

1072 *Coordination Data*

MCD CAN/60/64

ADD

SUP

1073 § 7. (1) For the purpose of effecting coordination, the administration requesting coordination shall send to any other administration concerned under No. **1060** all the information listed in Appendix 3 required for the coordination. The request concerning coordination of a space station or an associated earth station may specify all or some of the frequency assignments expected to be used by that space station, but thereafter each assignment shall be dealt with individually.

MOD USA/12/29, F/20/28(Rev.), B/35/5, CAN/60/65, VEN/92/13

ADD CAN/60/66-67, USA/56/22

SUP

1074 (2) The administration requesting coordination shall at the same time send to the Board a copy of the request for coordination, with all the information listed in Appendix 3 required for coordination and the name(s) of the administration(s) with which coordination is sought. An administration believing that the provisions of Nos. **1066** to **1071** apply to its planned assignment may send to the Board the relevant information listed in Appendix 3, either under this provision or in accordance with Nos. **1488** to **1491**. In the latter case, the Board shall immediately inform all administrations by circular telegram.

MOD F/20/29, CAN/60/68

ADD CAN/60/69-74

SUP

1075 § 8. On receipt of the information referred to in No. **1074**, the Board shall:

MOD CAN/60/75

ADD

SUP

1076 a) immediately examine this information with respect to its conformity with No. **1503** and, as soon as possible, send a telegram to all administrations indicating the identity of the satellite network, its findings with respect to No. **1503** and the date of receipt of the information; this date shall be considered as the date from which the assignment will be taken into account for coordination;

MOD F/20/30

ADD CAN/60/76

SUP

- 1077** *b)* examine the information received with a view to identifying those administrations whose services might be affected, in accordance with No. **1060**, and inform the administrations concerned by telegram;

MOD CAN/ 60/77

ADD CAN/60/78 - 82

SUP

- 1078** *c)* publish in a special section of its weekly circular the information received under No. **1074** and the result of the examination under Nos. **1076** and **1077**, together with a reference to the weekly circular in which details of the satellite network 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.

MOD F/20/31, CAN/60/83

ADD F/20/32-34

SUP

1079 *Requests for Inclusion in the Coordination Procedure*

MOD

ADD

SUP

- 1080** § 9. An administration believing that it should have been included in the coordination procedure under No. **1060** shall have the right to request that it be brought into the coordination procedure. Such a request shall be sent to the administration initiating the coordination procedure, with a copy to the Board, as soon as possible.

MOD F/20/35, CAN/60/84

ADD

SUP

1081 *Acknowledgement of Receipt of Coordination Data*

MOD

ADD

SUP F/20/36

1082 § 10. An administration with which coordination is sought under No. **1060** shall acknowledge receipt of the coordination data immediately by telegram. If no acknowledgement is received within thirty days after the date of the weekly circular publishing the information under No. **1078**, the administration seeking coordination shall dispatch a telegram requesting acknowledgement, to which the receiving administration shall reply within a further period of fifteen days.

MOD CAN/60/85

ADD

SUP F/20/37

1083 *Examination of Coordination Data and Agreement Between Administrations*

MOD

ADD

SUP

1084 § 11. (1) On receipt of the coordination data, an administration shall promptly examine the matter with regard to interference¹ which would be caused to the service rendered by its stations in respect of which coordination is sought under No. **1060** or caused by these stations. In so doing, it shall have regard to the proposed date of bringing into use of the assignment for which coordination was requested. It shall then, within four months from the date of the relevant weekly circular, notify the administration requesting coordination of its agreement. If, however, 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, including those relevant characteristics contained in Appendix 3 which have not previously been notified to the Board, and make such suggestions as it is 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.

MOD F/20/38, CAN/60/86

ADD USA/56/23

SUP

1085 (2) Either the administration seeking coordination or an administration with which coordination is sought may request additional information which it may require to assess the interference to the services concerned.

MOD

ADD USA/12/30, F/20/39-42

SUP

1084.1 ¹ The calculation methods and the criteria to be employed in evaluating the interference should be based on relevant CCIR Recommendations agreed by the administrations concerned either as a result of Resolution 703 or otherwise. In the event of disagreement on a CCIR Recommendation or in the absence of such Recommendations, the methods and criteria shall be agreed between the administrations concerned. Such agreements shall be concluded without prejudice to other administrations.

MOD CAN/60/87

ADD

SUP

1086 *Results of Coordination*

MOD

ADD

SUP

- 1087** § 12. An administration which has initiated a coordination procedure under the provisions of Nos. **1060** to **1074** shall communicate to the Board, on expiry of the period of four months following the date of the relevant weekly circular mentioned in No. **1078**, the names of the administrations with which an agreement has been reached and any changes in the characteristics of its frequency assignment. It shall also inform the Board of the progress made in effecting coordination with the other administrations or of any difficulties. Such a communication shall be made to the Board every six months after the above-mentioned period. The Board shall publish this information in a special section of its weekly circular and, when the weekly circular contains information on changes in the characteristics published, it shall so inform all administrations by circular telegram.

MOD B/35/6, CAN/60/88

ADD CAN/60/89-96

SUP

1088 *Requests to the IFRB for Assistance in Effecting Coordination*

MOD

ADD

SUP

- 1089** § 13. (1) An administration seeking coordination may request the Board to endeavour to effect coordination in those cases where:

MOD CAN/60/97

ADD

SUP

- 1090** a) an administration with which coordination is sought under No. **1060** fails to acknowledge receipt, under No. **1082**, within forty-five days after the date of the weekly circular publishing the information relating to the request for coordination;

MOD

ADD

SUP F/20/43

- 1091** b) an administration has acknowledged receipt under No. **1082**, but fails to give a decision within four months from the date of the relevant weekly circular;

MOD F/20/44

ADD USA/75/2

SUP

- 1092** c) there is disagreement between the administration seeking coordination and an administration with which coordination is sought as to the acceptable interference;
or

MOD

ADD

SUP

- 1093** d) coordination between administrations is not possible for any other reason.

MOD

ADD F/20/45

SUP

- 1094** (2) In so doing, the administration shall furnish the necessary information to enable the Board to endeavour to effect such coordination.

MOD CAN/60/99

ADD

SUP

1095 *Action to Be Taken by the IFRB*

MOD CAN/60/100

ADD

SUP

1096 § 14. (1) Where the Board receives a request under No. 1090, it shall forthwith send a telegram to the administration concerned requesting immediate acknowledgement.

MOD CAN/60/101

ADD

SUP F/20/46

1097 (2) Where the Board receives an acknowledgement following its action under No. 1096, or where the Board receives a request under No. 1091, it shall forthwith send a telegram to the administration concerned requesting an early decision in the matter.

MOD F/20/47

ADD

SUP

1098 (3) Where the Board receives a request under No. 1093, it shall endeavour to effect coordination in accordance with the provisions of No. 1060. The Board shall also act in accordance with Nos. 1075 to 1078. Where the Board receives no acknowledgement to its request for coordination within the periods specified in No. 1082 it shall act in accordance with No. 1096.

MOD USA/75/3, F/20/48

ADD F/20/49

SUP

1099 (4) Where necessary, as part of the procedure under Nos. 1089 to 1094, the Board shall assess the interference. In any case, the Board shall inform the administrations concerned of the results obtained.

MOD

ADD

SUP

- 1100** (5) The Board may request additional information which it may require to assess the interference to the services concerned.

MOD CAN/60/102

ADD

SUP

- 1101** (6) Where an administration fails to reply within thirty days of dispatch of the Board's telegram requesting an acknowledgement sent under No. 1096, or fails to give a decision in the matter within thirty days of dispatch of the Board's telegram of request under No. 1097, it shall be deemed that the administration with which coordination was sought has undertaken:

MOD USA/75/4, F/20/50

ADD

SUP

- 1102** a) that no complaint will be made in respect of any harmful interference which may be caused to the services rendered by its space radiocommunication stations by the use of the assignment for which coordination was requested;

MOD B/35/7, F/20/51, CAN/60/103

ADD

SUP

- 1103** b) that its space radiocommunication stations will not cause harmful interference to the use of the assignment for which coordination was requested.

MOD B/35/8, F/20/52

ADD

SUP

1104 *Notification of Frequency Assignments in the Event of Continuing Dis-
agreement*

MOD

ADD

SUP

1105 § 15. In the event of continuing disagreement between an adminis-
tration seeking to effect coordination and one with which coordination
has been sought, the administration seeking coordination shall, except
in the cases where the assistance of the Board has been requested, defer
the submission of its notice concerning the proposed assignment by six
months from the date of publication of the request for coordination
under No. 1078, taking into consideration the provisions of No. 1496.

MOD B/35/9, F/20/53, CAN/60/104

ADD

SUP

**Section III. Coordination of Frequency Assignments to an Earth Station
in Relation to Terrestrial Stations**

MOD CAN/60/105

ADD

SUP

1106 *Requirement for Coordination*

MOD

ADD

SUP

1107 § 16. (1) Before an administration notifies to the Board or brings into use any frequency assignment to an earth station, whether for transmitting or receiving, in a particular band allocated with equal rights to space and terrestrial radiocommunication services in the frequency spectrum above 1 GHz, it shall, except in the cases described in Nos. 1108 to 1111, effect coordination of the assignment with each administration whose territory lies wholly or partly within the coordination area¹ of the planned earth station. The request for coordination concerning an earth station may specify all or some of the frequency assignments of the associated space station, but thereafter each assignment shall be dealt with individually.

MOD S/55/25, CAN/60/106

ADD

SUP

1108 (2) No coordination under No. 1107 is required when an administration proposes:

MOD

ADD

SUP

1107.1 ¹ Appendix 28, which shall be used for the calculation of the coordination area, contains criteria relating only to coordination between earth stations and stations in the fixed or mobile services. The criteria relating to other terrestrial radiocommunication services should be based on relevant CCIR Recommendations agreed by the administrations concerned either as a result of Resolution 703 or otherwise.

In the event of disagreement on a CCIR Recommendation or in the absence of such Recommendations, the methods and criteria shall be agreed between the administrations concerned. Such agreements shall be concluded without prejudice to other administrations.

MOD

ADD

SUP

1109

- a) to bring into use an earth station the coordination area of which does not include any of the territory of any other country;

MOD J/53/9

ADD CAN/60/107

SUP

1110

- b) to change the characteristics of an existing assignment in such a way as not to increase the interference to or from the terrestrial radiocommunication stations of other administrations;

MOD CAN/60/108

ADD

SUP

1111

- c) to operate a mobile earth station. However, if the coordination area associated with the operation of such a mobile earth station, in a frequency band referred to in No. 1107, includes any of the territory of another country, the operation of such a station shall be subject to agreement on coordination between the administrations concerned. This agreement shall apply to the characteristics of the mobile earth station(s), or to the characteristics of a typical mobile earth station, and shall apply to a specified service area. Unless otherwise stipulated in the agreement, it shall apply to any mobile earth stations in the specified service area provided that interference caused by them shall not be greater than that caused by a typical earth station for which the technical characteristics appear in the notice and have been or are being submitted in accordance with No. 1494.

MOD CAN/60/109

ADD B/35/10, CAN/60/110

SUP

1112 *Coordination Data*

MOD CAN/60/111

ADD

SUP

- 1113** § 17. For the purpose of effecting coordination, the administration requesting coordination shall send to each administration concerned under No. 1107 a copy of diagrams drawn to an appropriate scale indicating for both transmission and reception the location of the earth station and its associate coordination areas, or the coordination area related to the service area in which it is intended to operate the mobile earth station, and the data on which the diagrams are based, including all pertinent information concerning the proposed frequency assignment as listed in Appendix 3, and an indication of the approximate date on which it is planned to begin operations. A copy of this information with the date of dispatch of the request for coordination shall also be sent for the information of the Board.

MOD CAN/60/112

ADD

SUP

1114 *Acknowledgement of Receipt of Coordination Data*

MOD

ADD

SUP

- 1115** § 18. An administration with which coordination is sought under No. 1107 shall acknowledge receipt of the coordination data immediately by telegram. If no acknowledgement is received within thirty days of dispatch of the coordination data, the administration seeking coordination shall dispatch a telegram requesting acknowledgement, to which the receiving administration shall reply within a further period of fifteen days.

MOD CAN/60/113

ADD

SUP

1116 *Examination of Coordination Data and Agreement Between Administrations*

MOD

ADD

SUP

1117 § 19. (1) On receipt of the coordination data an administration shall, having regard to the proposed date of bringing into use of the assignment for which coordination was requested, promptly examine the matter with regard to both:

MOD CAN/60/114

ADD

SUP

- 1118** a) interference¹ which would be caused to the service rendered by its terrestrial radiocommunication stations operating in accordance with the Convention and these Regulations, or to be so operated prior to the planned date of bringing the earth station assignment into service, or within the next three years, whichever is the longer; *and*

MOD

ADD

SUP

- 1119** b) interference¹ which would be caused to reception at the earth station by the service rendered by its terrestrial radiocommunication stations operating in accordance with the Convention and these Regulations, or to be so operated prior to the planned date of bringing the earth station assignment into service, or within the next three years, whichever is the longer.

MOD

ADD

SUP

- 1120** (2) The periods referred to in Nos. **1118** and **1119** may be extended by agreement between the administrations concerned in order to take planned terrestrial networks into account.

MOD

ADD

SUP

- 1118.1 } ¹ The calculation methods and the criteria to be employed in evaluating the interference should be based on relevant CCIR Recommendations agreed by the administrations concerned either as a result of Resolution 703 or otherwise. In the event of disagreement on a CCIR Recommendation or in the absence of such Recommendations, the methods and criteria shall be agreed between the administrations concerned. Such agreements shall be concluded without prejudice to other administrations.**
1119.1 }

MOD CAN/60/115

ADD

SUP

- 1121** (3) The administration with which coordination is sought shall, within four months from dispatch of the coordination data:

MOD

ADD

SUP

- 1122** a) notify the administration requesting coordination of its agreement with a copy to the Board, indicating, where appropriate, the part of the allocated frequency band containing the coordinated frequency assignments; *or*

MOD

ADD

SUP

- 1123** b) send to that administration a request for inclusion in coordination of the terrestrial radiocommunication stations mentioned in Nos. 1118 and 1119; *or*

MOD

ADD

SUP

- 1124** c) notify that administration of its disagreement.

MOD

ADD

SUP

- 1125** (4) In the cases mentioned in Nos. 1123 and 1124, the administration with which coordination is sought shall send to the administration requesting coordination a copy of a diagram drawn to an appropriate scale indicating the location of those terrestrial radiocommunication stations which are or will be within the coordination area of the earth transmitting or receiving station, as appropriate, together with all other relevant basic characteristics and make such suggestions as it may be able to offer with a view to a satisfactory solution of the problem.

MOD

ADD

SUP

- 1126 (5) When the administration with which coordination is sought sends to the administration seeking coordination the information required in the case of No. 1124, a copy thereof shall also be sent to the Board. The Board shall consider as notifications in accordance with Section I of Article 12 only that information relating to existing terrestrial radiocommunication stations or to those to be brought into use within the next three months.

MOD

ADD

SUP

- 1127 (6) When an agreement on coordination is reached, as a consequence of Nos. 1121 to 1125, the administration responsible for the terrestrial stations may send to the Board the information concerning those terrestrial stations covered by the agreement which are intended to be notified in accordance with Section I of Article 12. The Board shall consider as notifications in accordance with that Section only that information relating to existing terrestrial radiocommunication stations or to those to be brought into use within the next three years.

MOD

ADD

SUP

- 1128 (7) The administration seeking coordination or an administration with which coordination is sought may request additional information which it may require to assess the interference to the services concerned.

MOD

ADD

SUP

- 1129 *Requests to the IFRB for Assistance in Effecting Coordination*

MOD

ADD

SUP

1130 § 20. (1) An administration seeking coordination may request the Board to endeavour to effect coordination in those cases where:

MOD CAN/60/116

ADD

SUP

1131 a) an administration with which coordination is sought under No. 1107 fails to acknowledge receipt, under No. 1115, within forty-five days of dispatch of the coordination data;

MOD

ADD

SUP

1132 b) an administration has acknowledged receipt under No. 1115, but fails to give a decision within four months from dispatch of the coordination data under No. 1113;

MOD

ADD

SUP

1133 c) there is disagreement between the administration seeking coordination and an administration with which coordination is sought as to the acceptable interference;
or

MOD

ADD

SUP

1134 d) coordination between administrations is not possible for any other reason.

MOD

ADD

SUP

- 1135** (2) In so doing, the administration shall furnish the necessary information to enable the Board to endeavour to effect such coordination.

MOD

ADD

SUP

- 1136** *Action to Be Taken by the IFRB*

MOD

ADD

SUP

- 1137** § 21. (1) Where the Board receives a request under No. 1131, it shall forthwith send a telegram to the administration concerned requesting immediate acknowledgement.

MOD

ADD

SUP

- 1138** (2) Where the Board receives an acknowledgement following its action under No. 1137, or where the Board receives a request under No. 1132, it shall forthwith send a telegram to the administration concerned requesting an early decision in the matter.

MOD

ADD

SUP

- 1139** (3) Where the Board receives a request under No. 1134, it shall endeavour to effect coordination in accordance with the provisions of No. 1107. Where the Board receives no acknowledgement to its request for coordination within the periods specified in No. 1115 it shall act in accordance with No. 1137.

MOD

ADD

SUP

- 1140** (4) Where necessary, as part of the procedure under Nos. **1130** to **1135**, the Board shall assess the interference. In any case, the Board shall inform the administrations concerned of the results obtained.

MOD

ADD

SUP

- 1141** (5) The Board may request additional information which it may require to assess the interference to the services concerned.

MOD

ADD

SUP

- 1142** (6) Where an administration fails to reply within thirty days of dispatch of the Board's telegram requesting an acknowledgement sent under No. **1137**, or fails to give a decision in the matter within thirty days of dispatch of the Board's telegram of request under No. **1138**, it shall be deemed that the administration with which coordination was sought has undertaken:

MOD

ADD

SUP

- 1143** a) that no complaint will be made in respect of any harmful interference which may be caused to the services rendered by its terrestrial stations by the use of the assignment for which coordination was requested;

MOD

ADD

SUP

- 1144** b) that its terrestrial stations will not cause harmful interference to the use of the assignment for which coordination was requested.

MOD

ADD

SUP

1145 *Notification of Frequency Assignments in the Event of Continuing Dis-
agreement*

MOD

ADD

SUP

1146 § 22. In the event of continuing disagreement between an adminis-
tration seeking to effect coordination and one with which coordination
has been sought, the administration seeking coordination shall, except
in the cases where the assistance of the Board has been requested, defer
the submission of its notice concerning the proposed assignment by six
months from the date of the request for coordination, taking into con-
sideration the provisions of No. 1496.

MOD CAN/60/117

ADD

SUP

**Section IV. Coordination of Frequency Assignments to a Terrestrial Station
for Transmission in Relation to an Earth Station**

MOD

ADD

SUP

1147 *Requirement for Coordination*

MOD

ADD

SUP

- 1148** § 23. (1) Before an administration notifies to the Board, or brings into use any frequency assignment to a terrestrial station within the coordination area¹ of an earth station, in a band above 1 GHz allocated with equal rights to terrestrial radiocommunication services and space radiocommunication services (space-to-Earth), excepting the broadcasting-satellite service, it shall, except in cases described in Nos. **1155** to **1158**, effect coordination of the proposed assignment with the administration responsible for the earth station with respect of the frequency assignments which are:

MOD CAN/60/118

ADD

SUP

- 1149** a) in conformity with No. 1503; and

MOD

ADD

SUP

- 1150** b) either coordinated under No. 1107; or

MOD

ADD

SUP

- 1148.1** ¹ Appendix 28, which shall be used for the calculation of the coordination area, contains criteria relating only to coordination between earth stations and stations in the fixed or mobile services. The criteria relating to other terrestrial radiocommunication services should be based on relevant CCIR Recommendations agreed by the administrations concerned either as a result of Resolution 703 or otherwise.

In the event of disagreement on a CCIR Recommendation or in the absence of such Recommendations, the methods and criteria shall be agreed between the administrations concerned. Such agreements shall be conducted without prejudice to other administrations.

MOD

ADD

SUP

- 1151 c) to be taken into account for coordination with effect from the date of communication of the information referred to in No. 1107; *or*

MOD

ADD
SUP

- 1152 d) recorded in the Master Register with a favourable finding with respect to No. 1505; *or*

MOD

ADD

SUP

- 1153 e) recorded in the Master Register with an unfavourable finding with respect to No. 1505 and a favourable finding with respect to No. 1509; *or*

MOD

ADD

SUP

- 1154 f) recorded in the Master Register with an unfavourable finding with respect to Nos. 1505 and 1509, the notifying administration having stated that it has accepted the interference resulting from the existing terrestrial stations located within the coordination area of the earth station on the date of its recording.

MOD

ADD

SUP

- 1155 (2) No coordination under Nos. 1148 to 1154 is required when an administration proposes:

MOD

ADD

SUP

1156

- a) to bring into use a terrestrial station which is located, in relation to an earth station, outside the coordination area;

MOD

ADD

SUP

1157

- b) to change the characteristics of an existing assignment in such a way as not to increase the interference to the earth stations of other administrations;

MOD

ADD

SUP

1158

- c) to bring into use a terrestrial station within the coordination area of an earth station, provided that the proposed terrestrial station assignment is outside any part of a frequency band coordinated under No. 1122 for reception by that earth station.

MOD

ADD

SUP

1159

Coordination Data

MOD CAN/60/119

ADD

SUP

- 1160** § 24. For the purpose of effecting coordination, the administration requesting coordination shall send to any other administration concerned under Nos. 1148 to 1154, by the fastest possible means, a copy of a diagram drawn to an appropriate scale indicating the location of the terrestrial station and all other pertinent details of the proposed frequency assignment, and the approximate date on which it is planned to bring the station into use. The request for coordination may specify all or some of the frequency assignments expected to be used within the next three years by stations of a terrestrial network wholly or partly within the coordination area of the earth station. This period may be extended by agreement between the administrations concerned. Thereafter each assignment shall be dealt with individually.

MOD CAN/60/120

ADD

SUP

1161 *Acknowledgement of Receipt of Coordination Data*

MOD

ADD

SUP

- 1162** § 25. An administration with which coordination is sought under Nos. 1148 to 1154 shall acknowledge receipt of the coordination data immediately by telegram. If no acknowledgement is received within thirty 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 within a further period of fifteen days.

MOD CAN/60/121

ADD

SUP

1163 *Examination of Coordination Data and Agreement Between Administrations*

MOD

ADD

SUP

- 1164** § 26. (1) On receipt of the coordination data, the administration with which coordination is sought shall promptly examine the matter with regard to interference¹ which would be caused to the services rendered by its earth stations covered by Nos. 1148 to 1154, which are operating, or are to be operated, within the next three years.

MOD CAN/60/122

ADD

SUP

- 1165** (2) In so doing, the administration may take into account any frequency assignment communicated to it for use more than three years in advance.

MOD

ADD

SUP

- 1166** (3) The administration with which coordination is sought shall, within an overall period of four months² from dispatch of the coordination data, either notify the administration requesting coordination of its agreement to the proposals or, if this is not possible, 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.

MOD CAN/60/123

ADD

SUP

- 1164.1** ¹ The calculation methods and the criteria to be employed in evaluating the interference should be based on relevant CCIR Recommendations agreed by the administrations concerned either as a result of Resolution 703 or otherwise. In the event of disagreement on a CCIR Recommendation or in the absence of such Recommendations, the methods and criteria shall be agreed between the administrations concerned. Such agreements shall be concluded without prejudice to other administrations.

MOD

ADD

SUP

- 1166.1** ² This period may be extended with the agreement of the administration which requested the coordination.

MOD

ADD

SUP

1167 § 27. Either the administration seeking coordination or the administration with which coordination is sought may request additional information which it may require to assess the interference to the services concerned.

MOD CAN/60/124

ADD

SUP

1168 *Requests to the IFRB for Assistance in Effecting Coordination*

MOD

ADD

SUP

1169 § 28. (1) An administration seeking coordination may request the Board to endeavour to effect coordination in those cases where:

MOD CAN/60/125

ADD

SUP

1170 a) an administration with which coordination is sought under Nos. 1148 to 1154 fails to acknowledge receipt under No. 1162 within thirty days of dispatch of the coordination data;

MOD CAN/60/126

ADD

SUP

1171 b) an administration has acknowledged receipt under No. 1162 but fails to give a decision within four months of dispatch of the coordination data;

MOD

ADD

SUP

c) there is disagreement between the administration seeking coordination and an administration with which coordination is sought as to the acceptable interference;
or

SUP

d) coordination between administrations is not possible for any other reason.

SUP

(2) In so doing, the administration shall furnish the necessary information to enable the Board to endeavour to effect such coordination.

SUP

Action to Be Taken by the IFRB

SUP

§ 29. (1) Where the Board receives a request under No. 1170, it shall forthwith send a telegram to the administration concerned requesting immediate acknowledgement.

SUP

- 1177** (2) Where the Board receives an acknowledgement following its action under No. 1176, or where the Board receives a request under No. 1171, it shall forthwith send a telegram to the administration concerned requesting an early decision in the matter.

MOD

ADD

SUP

- 1178** (3) Where the Board receives a request under No. 1173, it shall endeavour to effect coordination in accordance with the provisions of Nos. 1148 to 1154. Where the Board receives no acknowledgement of its request for coordination within the period specified in No. 1162, it shall act in accordance with No. 1176.

MOD

ADD

SUP

- 1179** (4) Where necessary, as part of the procedure under Nos. 1169 to 1174, the Board shall assess the interference. In any case, the Board shall inform the administrations concerned of the results obtained.

MOD

ADD

SUP

- 1180** (5) The Board may request additional information which it may require to assess the interference to the services concerned.

MOD

ADD

SUP

- 1181** (6) Where an administration fails to reply within thirty days of dispatch of the Board's telegram sent under No. 1176 requesting an acknowledgement, or fails to give a decision in the matter within two months of dispatch of the Board's telegram of request sent under No. 1177, it shall be deemed that the administration with which coordination was sought has 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 by its earth station.

MOD CAN/60/128

ADD

SUP

- 1182** *Notification of Frequency Assignments in the Event of Continuing Disagreement*

MOD

ADD

SUP

- 1183** § 30. In the event of continuing disagreement between an administration seeking to effect coordination and one with which coordination has been sought, the administration seeking coordination shall, except in the cases where the assistance of the Board has been requested, defer the submission of its notice concerning the proposed assignment by six months from the date of the request for coordination, taking into consideration the provisions of Nos. 1230 and 1496.

MOD CAN/60/129

ADD

SUP

Section V. Special Assistance by the IFRB

MOD

ADD

SUP

1184 § 31. (1) If it is requested by an 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:

MOD CAN/60/130

ADD

SUP

1185 a) computation of the increases in noise temperatures in accordance with No. 1066;

MOD

ADD

SUP

1186 b) preparation of diagrams showing the coordination areas as in No. 1113;

MOD

ADD

SUP

1187 c) any other assistance of a technical nature for completion of the procedures in this Article.

MOD

ADD

SUP

1188 (2) In making a request to the Board under Nos. 1184 to 1187, the administration shall furnish the Board with the necessary information.

MOD

ADD

SUP

1189
to NOT allocated.
1213

MOD CAN/60/131-134

ADD

SUP

A N N E X 1

NOC

ARTICLE 11

F/20/4

MOD

Coordination of Frequency Assignments to Stations
in a Space Radiocommunication Service Using the Frequency
Bands Other than those Used for the Planning of the
Space Services of the Fixed-Satellite Service.
Except Stations in the Broadcasting-Satellite Service
and to Appropriate Terrestrial Stations¹

CAN/60/7

MOD

Coordination of Frequency Assignments to Stations in
Space Radiocommunication Service Except Stations in
the Broadcasting Satellite Service and to Appropriate
Terrestrial Stations 1,2

CAN/60/8

MOD

Section I. Procedures for the Advance Publication of
Information on Planned Satellite Networks ²

USA PROPOSALS

USA/12/17 MOD 1049

§3. (1) An administration receiving comments sent in
accordance with No. 1047 and administrations
sending such comments shall endeavor to resolve
any difficulties that may arise and shall provide any
additional information that may be available.

USA/12/18 MOD 1050

(2) In case of difficulties arising when any planned
satellite network of a system is intended to use the
geostationary-satellite orbit, and taking into account
the relevant CCIR Recommendations:

USA/12/19 MOD 1051

a) the administration responsible for the planned
system shall first explore all possible means of
meeting its requirements, taking into account
the characteristics of the geostationary-
satellite networks of other systems, and
without considering the possibility of adjust-
ment to systems of other administrations. If
no such means can be found, the administra-
tion concerned is then free to apply to other
administrations concerned individually or collectively
in order to mutually resolve ~~solve~~ these difficulties;
either through bilateral or multilateral consultations;

USA/12/20 (MOD) 1053 c) if after following the procedure outlined in Nos. MOD 1051 and 1052 there are unresolved difficulties, the administrations concerned shall together make every possible effort to resolve these difficulties by means of mutually acceptable adjustments, for example, to geostationary space station locations and to other characteristics of the systems involved in order to provide for the normal operation of both the planned and existing systems.

USA/12/21 MOD 1054 (3) In their attempts to resolve the difficulties mentioned above, administrations may seek the assistance of the Board- to aid in:

USA/12/22 ADD 1054A a) evaluating the levels of interference;

USA/12/23 ADD 1054B b) defining, with the agreement of the administrations concerned, the technical criteria to be used;

USA/12/24 ADD 1054C c) making administrative arrangements to facilitate joint discussions as mutually agreed by the administrations concerned.

F PROPOSALS

F/20/5

MOD 1042 § 1. (1) An administration (or one acting on behalf of a group of named administrations) which intends to establish a satellite system having to use the frequency bands not adopted for planning shall, prior to the coordination procedure in accordance with No. 1060 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.

NOC 1043

F/20/6

ADD 1043A (3) On receiving the information referred to in Nos. 1042 and 1043, the Board:

F/20/7

ADD 1043B a) For planned geostationary-satellite networks, examine the information received to identify administrations whose services may be affected. The satellite networks involved in the examination to be carried out by the Board comprise any network using a same frequency band as the planned network for which the Board has received relevant information, such as that specified in Appendix 4, on the date of receipt of the information on the planned network.

NOC A.11.1
Orb-85

NOC A.11.2

F/20/8

MOD 1044

- ~~(3)~~ b) ~~The Board shall publish~~ Publish the information sent under Nos. 1042 and 1043, as well as the results of the examination carried out under No. 1043B for geostationary-satellite networks, within six weeks from the date on which the Board receives the complete information specified in No. 1042, 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. If the Board is unable to meet the above-mentioned deadline for the publication of the information, it shall notify the administrations as soon as possible by telegram indicating: the identity of the satellite network, the frequency bands to be used, the date of receipt of the information, the reasons why the deadline for publication has not been met and, in the case of a planned satellite network intending to use the geostationary-satellite orbit, the orbital position of the space station.

F/20/9

MOD 1045

- (4) If the information is found to be incomplete, the Board shall ~~publish it under No. 1044~~ and immediately seek, from the administration concerned, any clarification and information not provided. In such cases, the period of four months specified in No. 1047, and the period of six months specified in No. 1076, shall count from the date of publication, under No. 1044, of the complete information.

NOC 1046

F/20/10

MOD 1047

- § 2. If, after studying the information published under No. 1044, any administration, or an administration not included in the list published under No. 1043B in the case of a geostationary-satellite network, is of the opinion that interference which may be unacceptable may be caused to its existing or planned space radiocommunication services, it shall, within four months after the date of the weekly circular publishing the complete information listed in Appendix 4, send its comments to the administration concerned. A copy of these comments shall also be sent to the Board. The Board shall publish its comments in a special section of the weekly circular. If no such comments are received from an administration or the Board within the period mentioned above, or if, in the case of a geostationary-satellite network, no network is identified by the Board under No. 1043B, it

may be assumed that ~~that~~ no administration has ~~no~~ any basic objections to the planned satellite network(s) of that system on which details have been published.

NOC 1048

F/20/11

MOD 1049

§ 3. (1) With regard to networks identified under Nos. 1043B or 1047, An the ~~administration receiving comments sent in accordance with No. 1047~~ shall endeavour to resolve any difficulties that may arise and shall provide any additional information that may be available.

NOC 1050

NOC 1051

NOC 1052

F/20/12 NOC 1053;

NOC 1054

F/20/13

ADD 1054A

This assistance by the Board may consist in:

F/20/14

ADD 1054B

a) evaluating the levels of interference caused to the services concerned;

F/20/15

ADD 1054C

b) determining, with the agreement of the administrations concerned, the methods and criteria to be applied;

F/20/16

ADD 1054D

c) taking administrative steps to facilitate any discussions mutually acceptable to the administrations concerned.

NOC 1055

F/20/17

MOD 1056

§ 4. An administration on behalf of which details of planned satellite networks have been published in accordance with the provisions of Nos. 1042 to 1044 shall, after the period of four months specified in No. 1047, inform the Board whether or not comments provided for in No. 1047 have been received and of the progress made in resolving any 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 of the notices to the Board. The Board shall publish this information by updating the in a special section of its weekly circular specified in No. 1044 and shall also, when the weekly circular contains such information, so inform all administrations by circular telegram.

F/20/18

MOD 1057 Commencement of ~~Coordination or~~ Notification Procedures

F/20/19

MOD 1058 § 5. In complying with the provisions of Nos. 1049 to 1054D 1054, an administration responsible for a planned satellite system shall, if necessary, defer ~~its commencement of the coordination procedure, or, where this is not applicable,~~ the sending of its notices to the Board, by six months after the date of the weekly circular containing the information listed in Appendix 4 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 six months mentioned above.~~

CAN PROPOSALS

CAN/60/9
MOD

1041 ~~Publication-of-Information~~
Information Required for Advanced Publication

CAN/60/10
MOD

1042 . S 1.(1) An administration (or one acting
on behalf..etc... planned system...except as provided
for in No. 1043G...listed in Section 1 of
Appendix 4[3/4].

CAN/60/11
ADD

1042A (2) If the information submitted involves the
use of a steerable beam by a space station, the
equivalent boresight area shall be specified. If the
steerable beam is intended to be pointed at two or
more non-adjacent areas, the network shall be
considered to have two or more beams.

CAN/60/12
MOD

A.11.1 Delete existing text and add simple reference
to Articles 15 and 15A.

CAN/60/13
SUP

A.11.2.

CAN/60/14
ADD

A.11.2 ²For the coordination of frequency
assignments to stations in the fixed-satellite service
see also Articles 11A and 15B.

CAN/60/15
ADD
CAN/60/16
(MOD)

1042B Amendments to Advance Publication Information

1043 § 2 (2) (1) Any amendments to the information sent Administrations shall send all amendments to the information concerning a planned satellite system sent in accordance with No. 1042 shall also be sent to the Board as soon as they become available.

CAN/60/17
ADD

1043A (2) If the modifications involve: an orbital position outside the published service arc; an extended service arc, frequency range or service area, or, a date of bringing into service greater than seven years from the date of the advance publication of information, the procedure shall be applied again from the start with respect to the modified network.

CAN/60/18
ADD

1043AA (3) In any case, if such modifications result in the identification of other networks which might be affected in the application of No. 1043I, the period specified in No. 1045 for the sending of comments shall be extended by an additional four months from the date of publication of the amendments with respect to any additional administration which might thus be affected.

CAN/60/19
ADD
CAN/60/20
ADD

1043B Simultaneous Submission of Coordination Data

1043C § 3.(1) The information required for coordination under the provisions of No. 1073 may be sent to the Board at the same time as the information under No. 1042.

CAN/60/21
ADD

1043D (2) When the information sent in accordance with No. 1043C is received by the Board at the same time as the information sent in accordance with

No. 1042, it shall be taken into account by the Board for network protection purposes only after the advanced publication procedure has been completed. (See No. 1055A).

CAN/60/22
ADD

1043E When submitting information in accordance with Nos. 1042, 1043, 1043C and 1073, administrations shall take into account the time constraints associated with the submission of frequency assignment notices in No. 1496.

CAN/60/23
ADD
CAN/60/24
ADD

1043F Extension of Bringing Networks into Use

1043G § 4.(1) The projected date of bringing a satellite network into use may be extended on request of the notifying administration by eighteen months. In the case where the administration states that, due to exceptional circumstances, it needs a further extension of this period, such extension may be granted, but the overall period should not exceed twenty-four months from the original projected date of bringing into use. Extensions beyond twenty-four months will only be approved by the Board with the agreement of any other administration which may be affected.

CAN/60/25
ADD

1043GG (2) Where the projected date of bringing into use of a satellite network is less than five years, then a maximum time-frame of seven years shall be applied by the Board when considering requests for extension.

CAN/60/26

ADD

1043H Action by the Board

CAN/60/27

ADD

1043I § 5.(1) Upon receipt of the information sent in accordance with No. 1042 and 1043C, the Board shall identify the administrations whose satellite networks are considered to be affected in accordance with the provisions of Appendix 29 of the Radio Regulations. The networks to be taken into consideration are those for which complete information was sent under No. 1042 and published by the Board under No. 1043J.

CAN/60/28

ADD

1043J (2) The Board shall publish the information sent under Nos. 1042 and 1043C in a special section of its weekly circular. Only one special section shall be published for each satellite network. It will be updated, if necessary, as the definition of the network becomes more precise in accordance with the information sent under Nos. 1043, 1043C and 1074.

CAN/60/29

ADD

1043K (3) When the weekly circular contains such information, the Board shall so advise all administrations by telegram. The telegram shall include the frequency bands to be used and, in the case of a geostationary satellite, the proposed orbital position of the satellite.

CAN/60/30

ADD

1043L (4) In the case of a geostationary satellite, the information published in accordance with No. 1043J shall contain the names of the administrations whose satellite network(s) are considered to be affected. The publication will contain sufficient details to identify clearly such networks.

CAN/60/31

ADD

1043M (5) If the information is found to be incomplete, the Board shall publish it under No. 1043J and immediately seek, from the administration concerned, any information not provided. In such case the period of four months specified in No. 1045 shall count from the date of publication, under No. 1043J, of the complete information.

CAN/60/32

ADD

1043N (6) If no reply is received within three months from the date on which the information was requested, the documents received under No. 1042 or 1043C shall be returned to the administration. The Board shall inform all administrations accordingly. Thereafter, the procedure will have to be re-applied from the beginning.

CAN/60/33

SUP

1044-1045

CAN/60/34
(MOD)
CAN/60/35
MOD

1046 1044 Comments on Published Information

1047 1045 § 2.(1) If, after studying the information published under No. 1044 1043J, any administration is of the opinion that interference which may be unacceptable may be caused to its existing or planned space radiocommunications services satellite network(s) on which complete information was sent to the Board under No. 1042, it shall, within four months after the date of the weekly circular publishing containing the complete information listed in the applicable section of Appendix 4 [3/4], send its comments to the administration concerned with respect to the advanced information. A copy of ... have been published.

CAN/60/36
ADD

1045A (2) In exceptional cases, an administration with which agreement is sought may choose to send its comments directly to the Board. In this case, the Board shall so advise the administration seeking agreement and publish the information received.

CAN/60/37
ADD

1046 (2) If no comments are received from an administration within the periods mentioned in No. 1045, it shall be assumed that that administration has no objections to the information contained in the advanced publication.

CAN/60/38
(MOD)

1048 1047 Resolution of Difficulties

CAN/60/39
MOD

1049 1048 § 3.(1) An administration receiving comments sent in accordance with No. 1047 1045 shall endeavour to resolve...may be available.

CAN/60/40
(MOD)

1050 1049 (2) In case of difficulties ... geostationary-satellite orbit:

CAN/60/41
MOD

1051 1050 a) the administration...of other systems on which complete information has been published by the Board under No. 1043J, and without...If no such means can be found, the administration concerned is then free to may then request apply to other administrations concerned to solve these difficulties, help resolve the difficulties;

CAN/60/42
(MOD)
CAN/60/43
(MOD)

~~1052~~ 1051 b) an administration ... operational characteristics:

~~1053~~ 1052 c) if, after following the procedure outlined in Nos. ~~1051~~ 1050 and ~~1052~~ 1051 there are unresolved difficulties, the administrations concerned... to geostationary space station ~~locations~~ positions; to other...end existing systems.

CAN/60/44
(MOD)
CAN/60/45
ADD

~~1054~~ 1053 (3) In their attempts ... of the Board.

1053A In seeking the assistance of the Board, the administration(s) concerned shall send details of the comments which have given rise to the difficulties and make any suggestions that it may consider useful. In any case, the Board shall communicate the results of its investigations to the concerned administrations at the earliest date possible.

CAN/60/46
(MOD)
CAN/60/47
(MOD)

~~1055~~ 1054 Results of Advance Publication

~~1056~~ 1055 § 4.(1) An administration on behalf of which information on details of planned satellite networks ~~have~~ has been published in accordance with the provisions of Nos. ~~1042 to 1044~~ No. 1043J, shall, after the period of four months specified in No. ~~1047~~ 1045, inform the Board whether or not the comments provided for in No. ~~1047~~ 1045 have been received...by circular telegram.

CAN/60/48
ADD

1055A (2) If the coordination information was also published under No. 1043J, the Board shall, at the appropriate time in the application of the procedures, and upon request from the administration concerned, advise all administrations of the date on which the network is to be taken into account for network protection purposes and of the formal commencement of the coordination procedure.

NOC

1057

CAN/60/49

MOD

1058 § 5 In complying with the provisions of Nos. 1048 to 1053 an administration responsible for a planned satellite system shall if necessary requested to do so by the Board, as a result of a request by the objecting administration(s) based on potential incompatibilities, defer its commencement...containing the information listed in Section 1 of Appendix [3/4] Appendix 4 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 six months mentioned above period.

CAN/60/50

ADD

1058A If the administration responsible for the planned satellite system does not submit the information required for coordination under No. 1060 within six and one-half years from the date of publication of the advanced information prescribed by No. 1043J, the proposed system shall be deemed to be cancelled. If the administration later decides to implement the system, the advanced publication procedure will be re-applied.

VEN PROPOSALS

VEN/92/6

ARTICLE 11

MOD

Coordination of Frequency Assignments to Stations in a Space
Radiocommunication Service Using Frequency Bands Other Than Those
Used for the Allotment Plan for the Fixed-Satellite Service
Except Stations in the Broadcasting-Satellite Service
and to Appropriate Terrestrial Stations¹

Section I. Procedures for the Advance Publication of
Information Planned Satellite Networks²

VEN/92/7

1046 Comments on Published Information

MOD

1047

§ 2. If, after studying the information published under No. 1044, any administration is of the opinion that interference which may be unacceptable may be caused to its existing or planned space radiocommunication services, it shall, within four months after the date of the weekly circular publishing the complete information listed in Appendix 4, send its comments to the administration concerned. A copy of these comments shall also be sent to the Board. The Board shall publish its comments in a special section of its weekly circular. 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 satellite network(s) of that system on which details have been published.

VEN/92/8

MOD 1051

- a) the administration responsible for the planned system shall first explore all possible means of meeting its requirements, taking into account the characteristics of the geostationary-satellite networks of other systems, and without considering the possibility of adjustment to systems of other administrations. If no such means can be found, the administration concerned is then free to apply to other administrations concerned to solve these difficulties, through informal bilateral or multilateral consultations;

VEN/92/9

MOD 1054

(3) In their attempts to resolve the difficulties mentioned above administrations may seek the assistance of the Board. Once the difficulties have been resolved, the administrations shall inform the Board of the agreements reached, which must be published in a special section of the weekly circular if international recognition is sought.

VEN/92/10

ADD 1054A

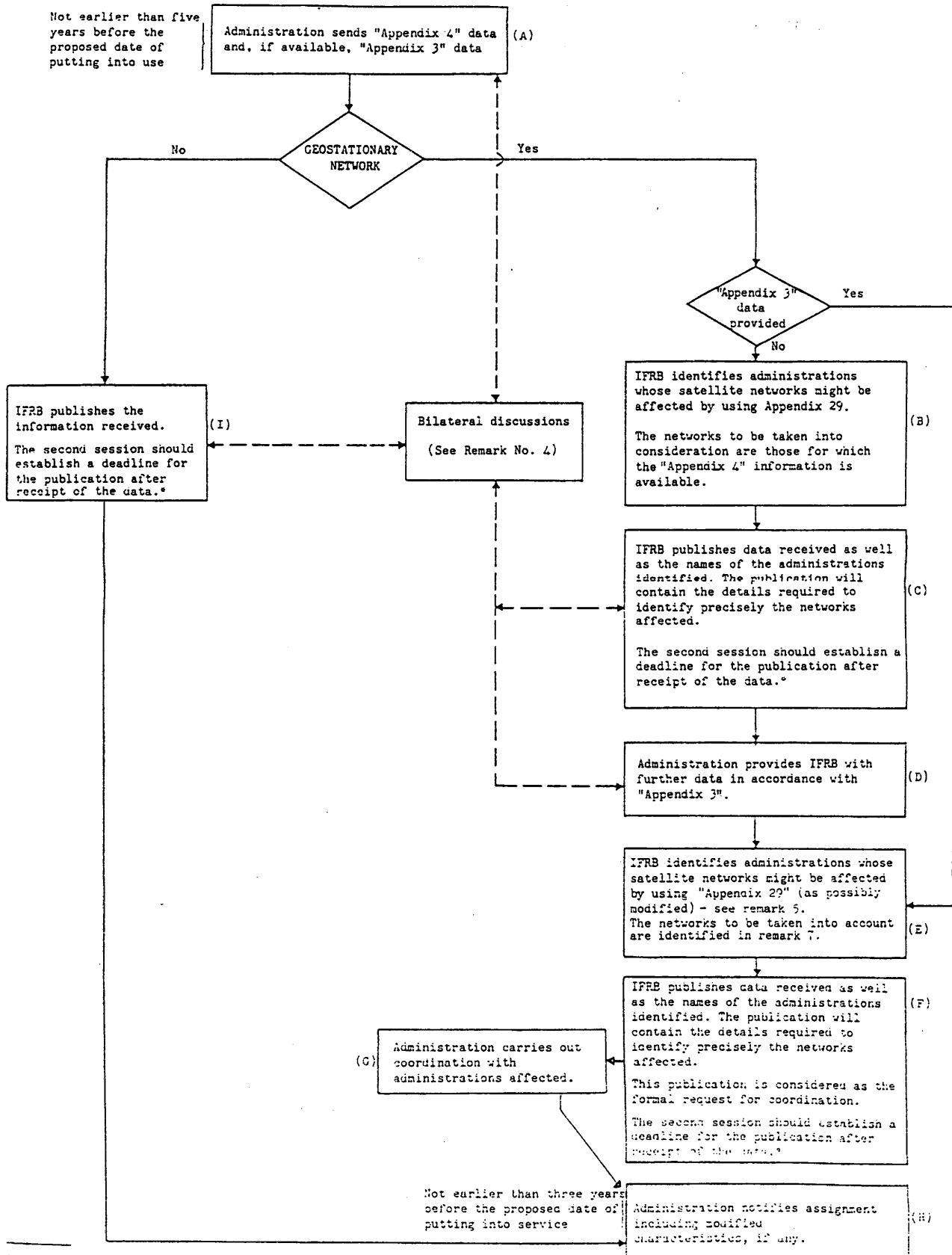
The Board shall provide the assistance referred to in No. 1054 MOD, especially with regard to:

- definition of technical criteria;
- evaluation of interference levels;
- administrative measures to expedite discussions between the administrations concerned.

Guidelines for regulatory procedures for space services and frequency bands not identified for planning

4.1 Section I: Guidelines concerning Sections I and II of Article 11

4.1.1 The First Session of the Conference recommends that the Second Session should revise Sections I and II of Article 11 of the Radio Regulations in accordance with the following flowchart and associated remarks.



Remarks relating to the flowchart

1. Appendices 3 and 4 are merged in order to avoid duplication of information. The first section of the merged appendix contains the information required for advance publication (referred to as "Appendix 4" data); the second section contains the information required to carry out detailed and precise calculations (referred to as "Appendix 3" data). The use of the merged Appendix in application of Article 14 should also be considered.

2. The coordination procedure between satellite networks should be carried out on the basis of a satellite network and not on an assignment-by-assignment basis.

The coordination of an earth station with a space station will only be required when its characteristics exceed those taken into account in the coordination procedure (i.e. when application of "Appendix 29" shows coordination to be necessary).

3. Only one special section is published per satellite network. It will be updated, if necessary, as the definition of the characteristics becomes more precise.

4. Bilateral discussions at the advance publication stage are presently covered by RR 1047 to RR 1053. These provisions do not specify which existing and planned assignments should be taken into account; the Second Session should consider these provisions and modify them if so decided. The Second Session is also requested to provide for the assistance the IFRB may give in the framework of the advance publication (RR 1054).

5. An "improved Appendix 29" (to be used in box (E)) might permit more precise identification of the networks affected, and so reduce the number of cases in which coordination is required.

6. When an administration communicates "Appendix 4" and "Appendix 3" data at the same time, they may be published at the same time: the "Appendix 4" data are then considered as the advance publication and the "Appendix 3" data as the request for coordination.

7. The satellite networks to be taken into account in box (E) are:

- any satellite network for which at least one assignment is recorded in the Master Register;
- any satellite network, the detailed characteristics of which ("Appendix 3" data) have been received by the IFRB. However, when this information is received by the Board at the same time as the "Appendix 4" information, or less than six months after the date of the advance publication, the satellite network will be taken into account only at the expiry of this period of six months.

8. The Second Session of the Conference shall consider retaining the principle contained in RR 1080 when reviewing Article 11.

Note - The Second Session of the Conference should consider how to deal with any modification to the characteristics communicated under the advance publication or the coordination procedures.

4.1.2 The First Session of the Conference noted that a change of orbit location may lead to a situation where a given satellite may be afforded protection in more than one orbit location, thus causing difficulties for other administrations in the planning, coordination and notification of their space systems. It is therefore recommended that the Second Session of this Conference should study the problem and make an appropriate decision on the matter, which may also concern Article 13.

4.1.3 The First Session of the Conference noted that in some instances different networks with overlapping time frames may be notified in a single orbit location by the same administration. This situation could lead to excessive coordination difficulties and inefficient use of the orbit/spectrum resource. The Second Session should therefore consider this problem and take an appropriate decision on this matter.

Source: 138

WORKING GROUP 6-A

Draft

PROPOSALS FOR THE WORK OF
WORKING GROUP 6-A

Introduction

The following document is a collection of the proposals contained in the documents attributed to this Working Group. There has been no attempt to include the support information supplied by the administrations as this is already available in the basic documents.

There are a number of documents that contain information relative to the work of the Working Group but do not contain specific proposals. These are:

3 (CCIR) + Corr.1;

34 (F);

58 (CITEL);

73 and 74 (NZL).

G.H. RAILTON
Chairman of Working Group 6-A

2.4 Multilateral Planning Meetings (MPM)

TZA/5/4

Administrations running multi-administrative systems should be allowed to participate in the multilateral planning meetings to safeguard the interests of their satellite systems. It will not be in the best interests of participating administrations for a single country to represent the multilateral administrative system.

2.5 Participation in MPM

Multilateral planning meetings (MPM) as proposed in WARC ORB(1) can achieve its goals if all affected parties are in attendance.

TZA/5/5

In order to ensure this, provisions may have to be made by the ITU to ensure such attendance.

2.6 Schedule for MPM

TZA/5/6

The holding of multilateral meetings should be as regular as possible to avoid creating delays of requests to access the orbit, preferably, bi-annually.

2.7 Bilateral coordination

TZA/5/7

The number of issues that requires coordination prohibits the possibility of reaching agreement on coordination in an MPM gathering. It seems necessary, therefore, that bilateral coordination should remain but with a modified Article 2 of the Radio Regulations.

2.8 Burden sharing

TZA/5/8

The issue of burden-sharing between existing and incoming satellite systems in the geostationary orbit is a most important one in any coordination process. It is therefore of utmost importance that all participants accept this responsibility.

URS/7/7

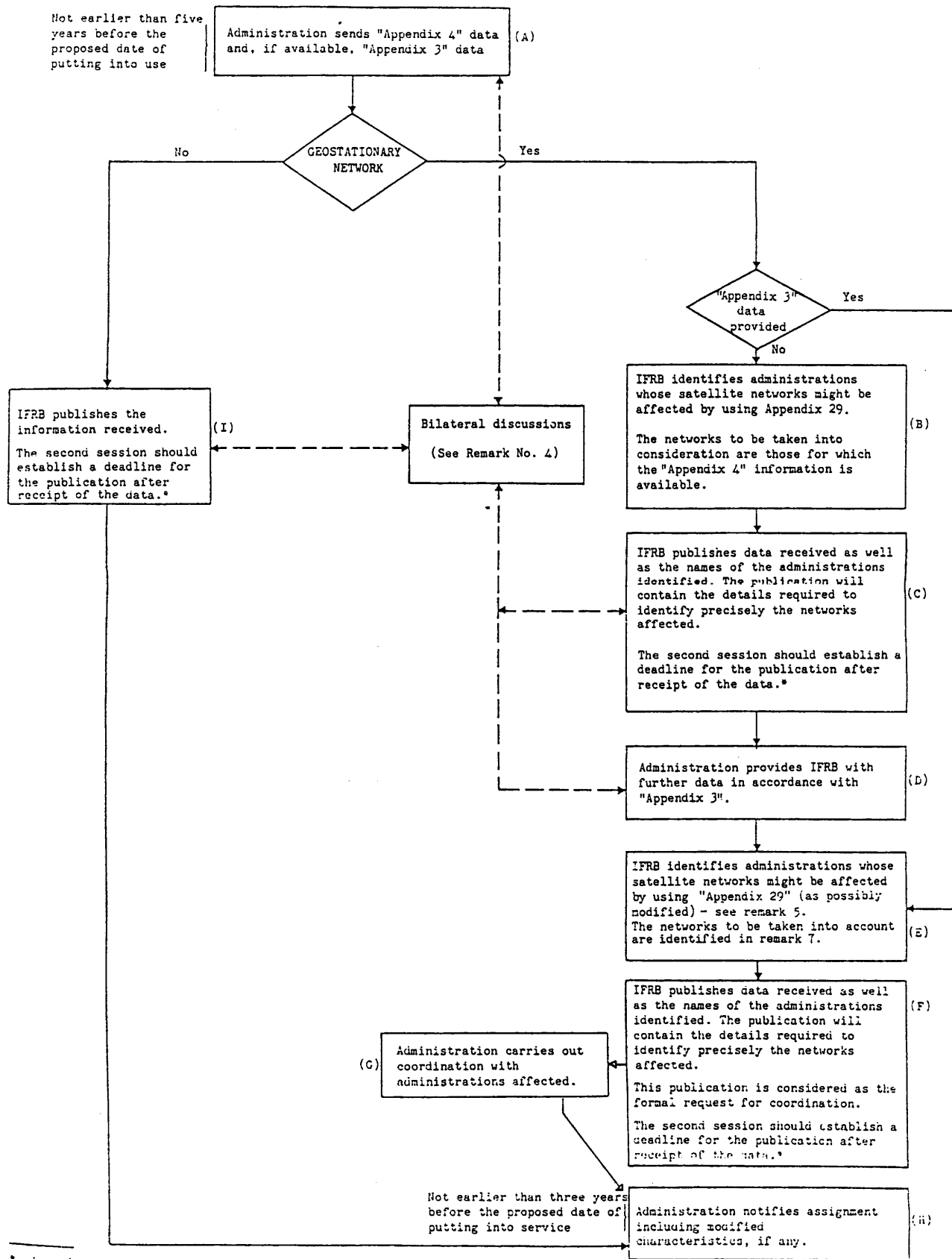
When the First Session of the Conference considered a method of FSS planning by improved regulatory procedures, it was assumed that the basis for such procedures would be the convening of periodic multilateral planning meetings. The nature of these meetings and the status of their decisions should be considered by the Second Session. The First Session listed factors that ought to be considered by administrations in the intersessional study period with a view to submitting proposals to the Second Session. Having studied these factors, the USSR Administration considers that a special compulsory procedure for the convening of periodic multilateral planning meetings of representatives of ITU Members' Administrations to plan and coordinate FSS systems could seriously hinder the process of establishing such systems. If, for example, such multilateral meetings were to be called regularly every four years, then if any particular problem could not be resolved at a forthcoming meeting, the administration concerned might have to wait another four years, i.e., the delay could come to eight years in all. Even if multilateral meetings were convened every two years, which is hardly feasible, in view of the ITU's financial limits, it could take four or more years to deal with a question concerning the coordination of a satellite network, which might be unacceptable to administrations. The USSR Administration therefore proposes that an improved and simplified regulatory procedure should be worked out for coordinating FSS systems that are subject to planning, under which multilateral meetings of administration representatives would only be convened when necessary in particularly complicated cases. Such meetings should be called at the initiative of the administrations concerned, or at the proposal of the IFRB supported by those administrations. The participants in such multilateral meetings should be representatives of the administrations concerned, and the decisions should be taken solely by consensus, so that the interests of individual countries do not suffer. The decisions should not affect the interests of administrations not invited to the meetings.

It is proposed that the improved regulatory procedure should be based on the flow-chart of the revised procedure for sections I and II of Article 11 adopted by the First Session (cf. Report of the First Session, Chapter 4, section I), dropping the procedure relating to non-geostationary satellites (box (I)) and including a reference to the possible convening of multilateral meetings when necessary in particularly difficult cases in box (G).

4.1 Section I: Guidelines concerning Sections I and II of Article 11

4.1.1 The First Session of the Conference recommends that the Second Session should revise Sections I and II of Article 11 of the Radio Regulations in accordance with the following flowchart and associated remarks.

Not earlier than five years before the proposed date of putting into use



* A period of six weeks was proposed.

USA/12/ 11 Finally, as discussed under Agenda Item 14, the USA proposes that the 30/20 GHz bands not be included in any planning method, including an "improved procedures" method, at this time.

USA/12/ 12 ADD Resolution [X]

Relating to Improved Procedures for the Fixed-Satellite Service

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It, Geneva, 1988

considering

(a) that the concept of multilateral planning meetings as a mechanism to provide access to the Geostationary-Satellite Orbit (GSO)/spectrum resource in certain Fixed-Satellite Service frequency bands has been studied;

(b) that the Article 11 provisions have been modified to clarify that all affected administrations will be responsible for resolving any difficulties in the coordination of satellites;

(c) that the provisions of Article 11 currently permit multilateral consultations among affected administrations as a mechanism to achieve access to the GSO/spectrum resource for space radio services;

(d) that the CCIR is continuously studying and updating technical guidelines to facilitate the coordination of satellite networks;

(e) that changes in the regulatory procedures should avoid increased costs, additional administrative burdens and delays in implementing satellite networks;

recognizing

(1) that coordination is a process of negotiation among affected administrations having networks using or seeking to use the GSO;

(2) that the coordination of each network presents unique circumstances and requirements;

(3) that any detailed coordination requires the cooperation and good will of the affected administrations in order to reach a successful conclusion;

(4) that, at the conclusion of a coordination of a satellite system, a balance of interests of each affected administration is achieved;

(5) that undue delays in reaching agreement in the coordination process can affect the implementation of satellite systems;

emphasizing

that administrations need flexibility in the regulatory process to address unique circumstances and requirements within the coordination process in order to reach agreement in a cooperative, timely and efficient manner;

believing

that implementation of a formal mandatory multilateral planning meeting structure within the Radio Regulations would impede administrations' access to both the GSO and spectrum, and would place unacceptable administrative and financial burdens on the Union and its Membership;

resolves

1. that the provisions of Articles 11 and 13 permit administrations to effect coordination through bilateral and multilateral consultations;
2. that, as modified by this conference, Articles 11 and 13 will facilitate administrations' ability to obtain equitable access, in practice, to the GSO;
3. that, in view of resolves 1. and 2., Articles 11 and 13 as modified continue to be the normal means of achieving access to the GSO for the fixed-satellite service in all frequency bands except as provided for in the fixed-satellite service allotment plan.

Reason: To facilitate the obtaining in practice of equitable access to the GSO and to confirm that consultations can be conducted on a multilateral basis.

ARTICLE 11

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

Section I. Procedures for the Advance Publication of
Information on Planned Satellite Networks²

- USA/12/17 MOD 1049 §3. (1) An administration receiving comments sent in accordance with No. 1047 and administrations sending such comments shall endeavor to resolve any difficulties that may arise and shall provide any additional information that may be available.
- Reason: To further elaborate the burden sharing provisions of the Radio Regulations.
- USA/12/18 MOD 1050 (2) In case of difficulties arising when any planned satellite network of a system is intended to use the geostationary-satellite orbit, and taking into account the relevant CCIR Recommendations:
- Reason: To facilitate the resolution of difficulties.
- USA/12/19 MOD 1051 a) the administration responsible for the planned system shall first explore all possible means of meeting its requirements, taking into account the characteristics of the geostationary-satellite networks of other systems, and without considering the possibility of adjustment to systems of other administrations. If no such means can be found, the administration concerned is then free to apply to other administrations concerned individually or collectively in order to mutually resolve ~~solve~~ these difficulties; either through bilateral or multilateral consultations;
- USA/12/20 (MOD) 1053 c) if after following the procedure outlined in Nos. MOD 1051 and 1052 there are unresolved difficulties, the administrations concerned shall together make every possible effort to resolve these difficulties by means of mutually acceptable adjustments, for example, to geostationary space station locations and to other characteristics of the systems involved in order to provide for the normal operation of both the planned and existing systems.

Reason: Consequential to MOD 1049.

USA/12/21 MOD 1054 (3) In their attempts to resolve the difficulties mentioned above, administrations may seek the assistance of the Board to aid in:

- USA/12/22 ADD 1054A a) evaluating the levels of interference;
- USA/12/23 ADD 1054B b) defining, with the agreement of the administrations concerned, the technical criteria to be used;
- USA/12/24 ADD 1054C c) making administrative arrangements to facilitate joint discussions as mutually agreed by the administrations concerned.

Reason: Consequential to MOD 1049.

USA/12/25 MOD

**Section II. Coordination
of Frequency Assignments to a Space Station
on a Geostationary Satellite or ~~an~~ and Earth Stations Communicating with
Such a Space Station in Relation to Stations of Other
Geostationary-Satellite Networks**

USA/12/ 26 MOD 1060 §6. (1) Before an administration¹ (~~or, in the case of a space station,~~ one acting on behalf of a group of named administrations) notifies to the Board or brings into use any frequency assignment to a space station on a geostationary satellite or to an earth station that is to communicate with a space station on a geostationary satellite, it shall, except in the cases described in Nos. 1066 to 1071, effect coordination of the assignment with any other administration whose assignment, for a space station on a geostationary satellite or for an earth station that communicates with a space station on a geostationary satellite, might be affected.

Reason: To implement the network coordination/notification concept.

USA/12/ 27 ADD 1060.1 ¹The administration responsible for the space station shall also be responsible for performing the coordination for earth stations associated with the space station pursuant to the provisions of this section.

Reason: To reduce the amount of unproductive paperwork in the network-to-network coordination process, while retaining each administration's full sovereignty in the process, it is in keeping with the Board's comments if the administration responsible for the space station also coordinates the communicating earth stations. This implements the network coordination/notification concept.

Article 11

USA/12/28 MOD 1069

c) when an administration proposes to notify or bring into use a new earth station within a service area of an existing satellite network, provided that the new earth station would not cause interference of a level greater than that which would be caused by an earth station pertaining to the same satellite network and whose network characteristics including typical earth stations with their service area have been published, ~~together with the information concerning the space station,~~ in accordance with No. 1078 or notified to the Board without coordination in those cases where Nos. 1066 to 1071 apply in which case the Form of Notice shall be suitably annotated.

Reason: This will provide for the simplification without loss of protection inherent in using typical earth station parameters, as well as eliminating the number of perfunctory checks required of the Board's Specialized Secretariat. Also consequential to MOD 1060.

USA/12/29 MOD 1073

§7. (1) For the purpose of effecting coordination, the administration requesting coordination shall send to any other administration concerned under No. 1060 all the information listed in Section B of MOD Appendix 3 required for the coordination including associated typical earth stations and their service area. The request concerning coordination of a ~~network space station or an associated earth station~~ may specify all or some of the frequency assignments expected to be used by that satellite network space station, but thereafter each assignment shall be dealt with individually.

Reason: Consequential to MOD 1060.

USA/12/30 ADD 1085A

(3) Affected administrations as well as the administration seeking coordination shall mutually resolve any difficulties.

Reason: To make more explicit that all administrations involved are required to fully cooperate in mutually resolving any incompatibilities between networks identified during coordination.

F/31/1

France proposes that the Conference should adopt the modifications to Sections I and II of Article 11 set out in Annex 1 to this document (proposals F/31/2 to F/31/6), the modifications to Appendix 4 set out in Annex 2 (proposals F/31/7 to F/31/10) and the draft Resolution contained in Annex 3 (proposal F/31/11).

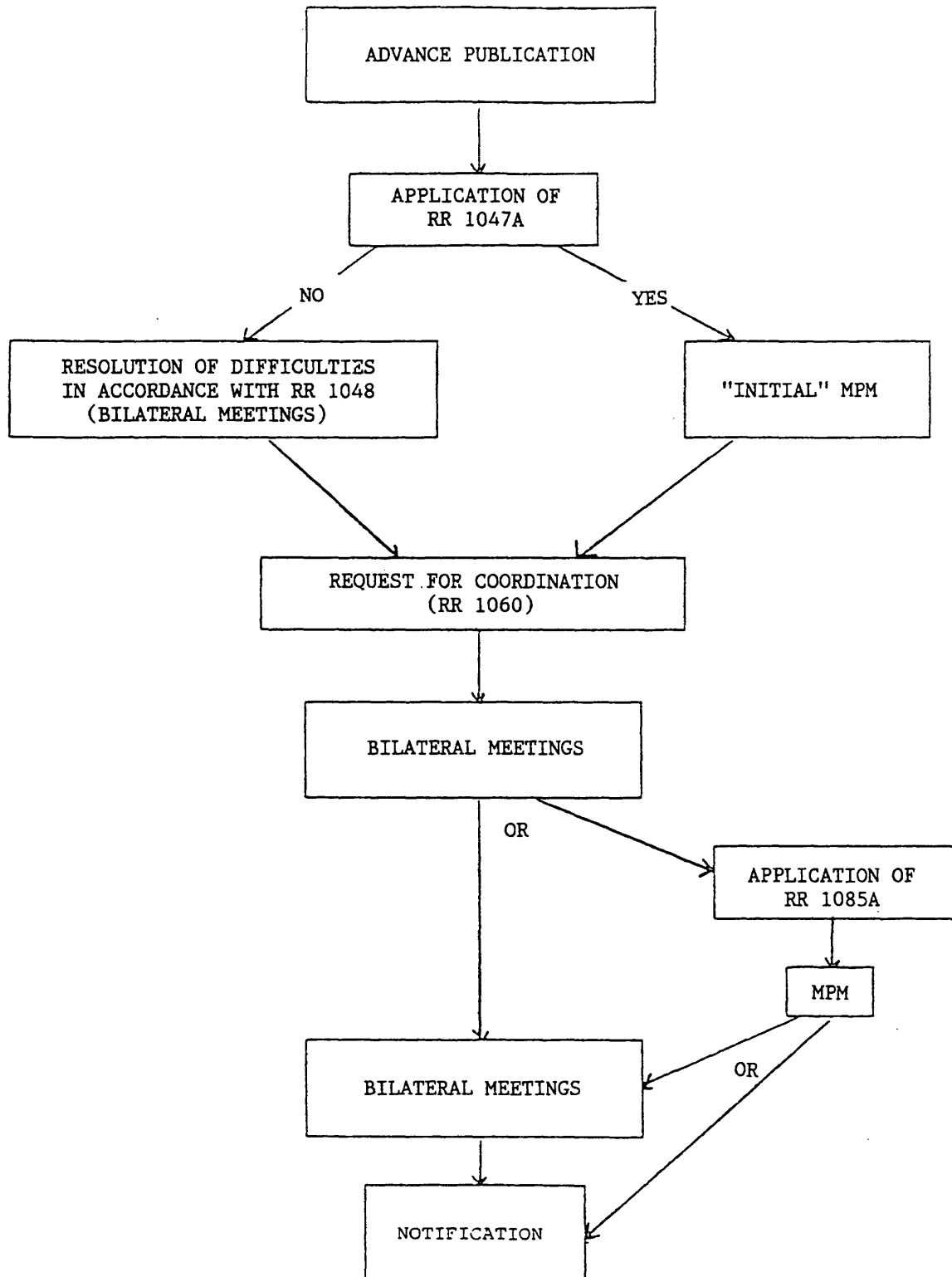


FIGURE 1

Flowchart outlining the improved procedures

NOC

ARTICLE 11

F/31/2

MOD

Coordination of Frequency Assignments to
Stations in a Space Radiocommunication
Service Using Frequency Bands Other than
Those Covered by the Fixed-Satellite Service
Allotment Plan, Except Stations in the
Broadcasting-Satellite Service, and
to Appropriate Terrestrial Stations

F/31/3

ADD 1047A

If any of the planned satellite networks of a system
are to use the geostationary-satellite orbit in the frequency
bands specified in No. 1047A.1, the administration responsible for
the system may also apply the provisions of Resolution No. [X] and
call for the convening of a multilateral planning meeting.

F/31/4

ADD 1047A.1

The frequency bands to which these provisions apply are
3 700 - 4 200 MHz, 5 850 - 6 425 MHz, 10.95 - 11.20 GHz,
11.45 - 11.70 GHz, 11.70 - 12.20 GHz in Region 2 a),
12.50 - 12.75 GHz in Regions 1 and 3 a), 14.00 - 14.50 GHz.

a) In these bands, the procedures will only apply between
fixed-satellite service networks.

F/31/5

MOD

Section II. Coordination of Frequency
Assignments to ~~a Space Station on a
Geostationary Satellite or an Earth Station
Communicating with Such a Space Station~~
Stations of a Geostationary-Satellite
Network Utilizing Frequency Bands not
Covered by the Allotment Plan in
Relation to Stations of Other
Geostationary-Satellite Networks

F/31/6

ADD 1085A

An administration which has initiated a coordination
procedure under No. 1060 for its planned satellite network using
the frequency bands specified in No. 1047A.1 shall have the right
to call for the convening of a multilateral planning meeting to
resolve difficulties of any nature which may occur. The
administration calling for an MPM shall do so by informing the
Board as soon as possible, forwarding at the same time any
revision of the Appendix 3 data sent under No. 1073.

ANNEX 3

F/31/11

RESOLUTION No. [X]

Relating to Multilateral Planning Meetings Held
for the Purpose of Guaranteeing Access to the
Geostationary-Satellite Orbit for Stations of the
Fixed-Satellite Service in Frequency
Bands Which are Subject to Improved Procedures¹

The World Administrative Radio Conference on the Use of the
Geostationary-Satellite Orbit and the Planning of Space Services Utilizing
it, Geneva, 1988,

considering

- a) that this Conference has established an Allotment Plan with associated procedures to guarantee and regulate access to the geostationary-satellite orbit for stations of the fixed-satellite service in selected frequency bands;
- b) that in all other bands allocated for use by the fixed-satellite service access to the geostationary-satellite orbit is to be guaranteed and regulated by applying the modified procedure of Article 11 of the Radio Regulations;
- c) that in modifying Article 11 this Conference has introduced provision for the possible holding of "Multilateral Planning Meetings" (MPM), in the bands specified [RR 1047A.1] in which the improved procedures apply;
- d) that the MPM is a new and untried concept and some aspects should not be expressed in detailed provisions of the Radio Regulations in order to preserve flexibility and allow the concept to evolve into its optimum form to serve all administrations equally in the various frequency bands;
- e) that some guidelines must nevertheless be laid down to clarify the concept of the MPM, to help administrations and the permanent organs of the Union in the establishment and operation of MPMs, and to maximize their potential value in different situations;

¹ This Resolution applies to the fixed-satellite service in the following frequency bands:

- 3 700 - 4 200 MHz
- 5 850 - 6 425 MHz
- 10.95 - 11.20 GHz
- 11.45 - 11.70 GHz
- 11.70 - 12.20 GHz in Region 2 (a)
- 12.50 - 12.75 GHz in Regions 1 and 3 (a)
- 14.00 - 14.50 GHz

(a) In these bands, the improved procedures only apply between FSS networks.

resolves

1. that from the date of entry into force of the Final Acts of this Conference the concept of Multilateral Planning Meetings (MPM), referred to in this Resolution, shall apply in accordance with the provisions contained in the annex to this Resolution;
2. that in order to avoid any additional costs to the budget of the Union, MPMs shall be financed by the administrations and other organizations attending, in accordance with rules to be established by the Administrative Council;

further resolves

3. that all administrations shall comply with resolves 1;
4. that the permanent organs of the Union shall comply with resolves 1;
5. that the Secretary-General shall place this Resolution before the Administrative Council;

invites the Administrative Council

to establish the rules for the financing of MPMs in accordance with resolves 2.

2.1. Multilateral Coordination

AUS/49/18 As part of the improved regulatory procedures for the FSS, the Radio Regulations should cater for coordination which is obtained as a result of multilateral negotiation. However, any associated

multilateral meetings should not be given the powers of an ITU Administrative Conference, nor be of a regularly scheduled or formal nature. Any agreement made at such a meeting should not infringe upon the rights of non-attending administrations.

AUS/49/19 The provisions relating to the role, function, and working methods of multilateral coordination meetings should be contained within a Resolution or Recommendation. These provisions should be reviewed by the next competent WARC.

AUS/49/20 The improved regulatory procedures for the FSS should minimize any additional costs to the ITU.

AUS/49/21 The initiating administration shall normally be responsible for convening any multilateral planning meeting and for making the associated arrangements.

AUS/49/22 Arrangements for any ITU supporting services that are required for a multilateral coordination meeting should be agreed between the convening administration and the Secretary General prior to the meeting.

AUS/49/23 Regional or sub-regional multilateral coordination meetings should be financed by participating administrations on mutually agreed terms.

AUS/49/24 The improved regulatory procedures should not exclude administrations coordinating and notifying their planned satellite systems by means of bilateral negotiations.

2.2. Coordination methods for 12 GHz downlinks in Region 3

AUS/49/25 Noting that:

(i) in Region 3, some operational and future systems operating in the fixed-satellite service make use of the 550 MHz bandwidth of the 12.2-12.75 GHz band for downlinks, paired with 14.0-14.5 GHz for uplinks; and

(ii) the band 12.5-12.75 GHz was identified by ORB(1) as being subject to improved procedures, while the band 12.2-12.5 GHz is not subject to improved procedures;

the WARC ORB(2), in its development of improved procedures, should:

a) take account of the special circumstances of those fixed-satellite systems which operate under the provisions of RR845 and use the complete band 12.2 - 12.75 GHz; and

b) ensure that such procedures do not complicate or create difficulties for the coordination and implementation of those systems.

2.3. Multi-Service Satellite Coordination

AUS/ 49 /26 For the bands subject to improved regulatory procedures, the procedures developed should make provision for, and recognize the particular characteristics and constraints of, multi-service (multi-purpose) satellites. Such constraints include increased difficulty and complexity in coordination and satellite relocation.

2.1.4.1 ARTICLE 11A
CAN/59/1
ADD IMPROVED PROCEDURES INVOLVING MULTILATERAL
 PLANNING MEETINGS FOR THE FIXED-SATELLITE SERVICE

1. Application

- 1.1 This Article prescribes the procedures for Multilateral Planning Meetings (MPMs), the purpose of which is to provide guaranteed access to the orbit/spectrum resources in the bands designated at 2.1 for an administration's first or second satellite networks using these bands. The procedure may also be used for the replacement of satellite networks using these bands by an administration having a maximum of two such satellite networks. MPMs may not be used by an administration which has two or more satellites in the bands at 2.1 in seeking the coordination of additional satellite networks in these bands.
- 1.2 Before using the procedures of this Article, an administration will use all possible means to effect coordination under Article 11.

2. Frequency Bands

- 2.1 The provisions of this Article apply to the fixed-satellite service in the following frequency bands:

- 3 700 - 4 200 MHz,
5 850 - 6 425 MHz and
- 10.95 - 11.20 GHz,
11.45 - 11.70 GHz,
11.70 - 12.20 GHz in Region 2,*
12.50 - 12.75 GHz in Regions 1 and 3,*
14.00 - 14.50 GHz.

* In these bands the improved procedures shall apply between networks of the FSS only.

CAN/59/1 (contd.)

3. Role and Composition of the MPM

3.1 The MPM provides a forum for the resolution of difficulties encountered in effecting coordination under Article 11 of these satellite networks to which the provisions of 1.1 apply.

3.2 The MPM will comprise:

- a) the administrations which are parties to the coordination process;
- b) other administrations which may be affected as a result of adjustments to the characteristics of the satellite network which may be made in the process of coordination, specifically those which, using the procedures of Appendix 29, could be affected from any point within the visible arc of the proposed network;
- c) IFRB members and an MPM secretariat to be formed by the ITU from existing resources.

4. Request for an MPM

4.1 The MPM will be convened by the ITU at the request of an administration which is seeking the coordination of a satellite network using the bands at 2.1, when the administrations have been unable to effect coordination under Article 11.

5. Action by the ITU to Convene an MPM

5.1 The IFRB will verify that the request meets the criteria of 1.1. It will then schedule the MPM in conjunction with the General Secretariat to take place not earlier than four months, nor later than six months, from the date of receipt of the request.

5.2 The IFRB will publish the basic details of the MPM in a special section of its weekly circular. The special section will give the date, duration and place of the MPM and identify inter alia:

- a. the network concerned;
- b. the nature of the disagreement;
- c. the requesting and affected administrations.

CAN/59/1 (contd.)

- 5.3 Suitable extracts of this information will also be sent to all administrations by circular telegram.
- 5.4 All administrations concerned will confirm attendance to the ITU at least one month before the meeting date. The ITU will publish this information in a special section and inform all administrations by circular telegram of the details.

6. Participation

- 6.1 An administration which has requested consideration of its network at an MPM must be present in order for its network to be considered.
- 6.2 As specified in Section 3.2, administrations with existing or planned systems in any band being considered by a particular MPM should be present.
- 6.3 In the event that an affected administration is unable to be present, and has not designated another administration to represent it, its interest will be taken into account to the maximum extent possible by the MPM.
- 6.4 The IFRB will provide technical assistance, as required, to administrations and to the MPM.

7. Organization

- 7.1 The MPM will organize itself to deal effectively with the work to be carried out.

8. Conduct of the MPM

8.1 Aim and Scope

- 8.1.1 Each MPM will establish at the outset the problems which it is to resolve. These will normally comprise:
 - a. identification of a suitable orbital position for a given frequency band and service area; and, as applicable,
 - b. the resolution of detailed coordination relating to system characteristics and traffic arrangements.

CAN/59/1 (contd.)

8.2 Resolution of Difficulties by the MPM

8.2.1 The MPM will attempt to accommodate each proposed network without affecting, to the extent possible, the planned or operating satellite networks of other administrations. If necessary it may seek a solution on the basis of possible increased levels of permissible interference or such technical adjustments as may be feasible.

8.2.2 The MPM will seek an appropriate solution using the following criteria:

- a. The MPM will first try to satisfy the requirement by technical or operational adjustments which will not cause unacceptable interference to, or impose undue restrictions on, other systems;
- b. If this cannot be achieved, the MPM will try to find a solution which will satisfy, to the extent possible, the requirement of the coordinating administration, while mitigating, to the maximum extent possible, any harmful effects on another administration;
- c. In seeking a solution, account will be taken of the relative stage of development of the networks concerned and of the possibility that full service requirements may be satisfied through changes to either network or traffic parameters.

9. Burden Sharing

9.1 If the foregoing procedures establish that the requirements of an administration cannot be accommodated by means of voluntary adjustments, the MPM may seek a solution through burden sharing among the requesting administration and the administrations affected.

10. Results of the MPM

10.1 At the conclusion of the MPM, the IFRB will publish the results in a special section of its weekly circular and so inform all administrations by circular telegram.

10.2 The decision of the MPM will comprise:

- a) an orbit location and designation of the frequency band for the new satellite network;

CAN/59/1 (contd.)

- b) a list of administrations with which the requesting administration must coordinate;
- c) a recommended list of actions which should effect coordination, such as changes to the characteristics of the network concerned or to other networks.

10.3 If the requesting administration is unable to effect the coordination outlined in the decision of the MPM, the requesting administration may request a second MPM and this second MPM shall effect coordination.

11. Notification

11.1 Where the administration has completed the coordination of a new network, it may notify the assignments to the IFRB. Notifications shall be submitted to the IFRB not later than three months before the assignments are to be brought into use.

11.2 Upon receipt of the notification, the IFRB will confirm that the information is in conformity with the Radio Regulations and, where applicable, the decision of the MPM. The information will be entered in the MIFR with, if applicable, a notation indicating its agreement by the MPM.

11.3 Following an MPM, the IFRB will change those existing entries in the MIFR as directed by the MPM to accommodate new networks. These shall also bear a symbol indicating MPM approval. The IFRB will also note such changes in its weekly circular and in a circular telegram to all administrations.

12. Convening and Venue

12.1 In accordance with 4.1, the MPM will be convened under the auspices of the ITU.

12.2 The MPM will be held in Geneva or another suitable location.

13. Expenses

13.1 Each administration will be responsible for the expenses of the members of its delegation and for its related costs.

14. Organization

14.1 Each MPM will, at this opening session, elect a chairman and vice chairman.

14.2 The MPM will organize itself to carry out its work as expeditiously as possible.

CAN/59/2

Consequential Amendments to Article 11

ADD

1060bis. The procedures of Article 11A, relating to the convening of Multilateral Planning Meetings, may be applied to those satellite networks in the bands at [2.1 of Article 11A] which meet the requirements of that Article. An administration having a network to which the procedures of Article 11A apply, will use all possible efforts to effect coordination under this present section before requesting the application of Article 11A.

ALG/65/7

The Algerian Administration proposes that the Report of the First Session should be disregarded as far as MPMs are concerned and that the Second Session should concentrate its efforts on improving the existing procedures in Articles 11 and 13 of the Radio Regulations.

LUX/67/1

The normal process for gaining access to the geostationary orbit/spectrum resource shall be by the application of improved Article 11 and 13 procedures.

Luxembourg believes that MPM's should be convened when necessary. Regularly scheduled MPM's may cause problems especially for smaller administrations for the following reasons :

- i) administrations may have to wait too long before their problems are addressed by an MPM;
- ii) the coordination process will be delayed because in formalizing it the steps to be taken will be specified in great detail;
- iii) the very structure of a formal meeting is not as conducive to solving a problem as is an informal meeting;
- iv) the cost of a formal meeting is higher than the cost of an informal meeting; and,
- v) additional manpower will be required due to the delays and additional work described above.

LUX/67/2 To facilitate coordination and the evolution of satellite systems Luxembourg proposes that a satellite system be described on a network basis rather than a frequency basis only and that the concept of typical earth station be used. To this end Luxembourg proposes a modification of the definition of satellite network to include the concept of satellite beam.

LUX/67/3 To reduce the volume of coordination that the present procedures of Appendix 29 requires Luxembourg proposes that coordination should be triggered using the normalized delta T/T method. This method is based on the present technique given in Appendix 29 but the threshold of 4 % is replaced by thresholds which depend on the carrier involved. Coordination will be necessary between networks if, for any pair of interfering and wanted carrier, the satellite link noise temperature increase exceeds the threshold of the carrier type under investigation.

LUX/67/4 If administrations involved in the coordination process specified by the improved Article 11 cannot reach an agreement then an MPM may be called at the request of that administration provided it operates less than four satellites. Only administrations concerned shall participate in this MPM.

LUX/67/5 The MPM shall reach a solution by consensus based on a form of proportional burden-sharing. This means that the administration with the larger number of satellites in operation must share a larger proportion of the burden in accommodating an administration with a smaller number of satellites. This type of burden sharing should ensure equitable access to the orbit/spectrum resource.

KEN/69/5 3.1 Having examined in detail the relevant provisions of the ITU Convention and of the Radio Regulations, the Kenya Administration feels that there is no mechanism currently existing for carrying out the planning activities within the framework of MPMS. Hence the Conference will be in difficulty to complete its work in the absence of a clear definition in this regard. WARC-ORB (88) may therefore wish to adopt a recommendation for the 1989 ITU Plenipotentiary Conference to define the status of MPMS in the Convention as appropriate.

KEN/69/6

3.2 The salient points for such a recommendation which the Conference may wish to consider are as follows:

3.2.1 The Multilateral Planning Meetings shall be the normal process for gaining access to the G.S.O in the bands subject to planning by improved procedures. During such meetings, all members of ITU will consider the related Pre-MPM activities which may have been undertaken by the affected administrations or the IFRB.

3.2.2 In order to preclude the risk of a few members making a decision for the majority, all members of the Union shall be invited to attend MPMS.

3.2.3 All Intergovernmental Organizations shall be accorded the opportunity to attend the MPMS on observer status.

3.2.4 The ITU shall participate in MPMS as follows:-

- (a) Provides the necessary secretariat support;
- (b) The IFRB attends and provides advice to the meeting including the necessary computer support;
- (c) CCIR provides any technical advice as may be necessary.

From the foregoing, the financing of MPMS shall form an integral part of the ITU regular budget.

3.2.5 The MPMS shall safeguard the interest of non-participating administrations and of those not directly affected by the business of that particular Multilateral Planning Meeting.

3.2.6 The scope and form of requirements and the stage at which they will be submitted to IFRB shall be based on Appendix 3 and/or 4 data as may be possibly revised by the Conference.

3.2.7 All members shall be guaranteed equitable access to the G.S.O. regardless of the date when their requirements are defined. It is imperative that all members agree on the burden sharing criteria in order to accommodate new systems to the G.S.O.

3.2.8 The MPMS should be held on regular four-yearly basis. Once the cycle has started they shall be included in the ITU Programme of Conferences and Meetings.

ARTICLE 11

USA/75/1

ADD 1060A

Any administration, which is required to effect coordination of an assignment with any other administration whose assignment for a space station on a geostationary satellite might be affected, may use correspondence, telephonic communication or bilateral or multilateral meetings with the affected administrations as necessary to effect coordination of the assignment.

Reasons: To clarify that an administration may use available communications including bilateral and multilateral meetings in order to effect coordination of specific assignments.

USA/75/2

ADD 1091A

b bis) Any affected administration fails to agree to participate in bilateral or multilateral meetings under No. 1060A.

Reasons: To clarify that the IFRB may be requested to assist in effecting coordination under 1060 and ADD 1060A in particular to have affected administrations attend such bilateral or multilateral meetings.

USA/75/3

MOD(3) 1098

Where the Board receives a request under Nos. 1091A and 1093, it shall endeavour to effect coordination in accordance with the provisions of Nos. 1060 and 1060A. The Board shall also act in accordance with Nos. 1075 to 1078. Where the Board receives no acknowledgement to its request for coordination within the periods specified in No. 1082, it shall act in accordance with No. 1096.

Reasons: To clarify that the Board may be requested to assist in effecting coordination under No. 1060A in particular to assist in setting up bilateral and multilateral meetings.

USA/75/4

MOD(6) 1101

Where an administration fails to reply within thirty days of dispatch of the Board's telegram requesting acknowledgement sent under No. 1096, or fails to give a decision in the matter within thirty days of dispatch of the Board's telegram of request under No. 1097, or fails to attend bilateral or multilateral meetings under No. 1060A in response to the request from the Board under 1098 it shall be deemed that the administration with which coordination was sought has undertaken:

Reasons: To insure that affected administrations will attend bilateral or multilateral meetings to effect coordination.

UTI/81/2

establishment of improved regulatory procedures involving the convening of multilateral planning meetings (MPM) in the bands:

3 700 - 4 200 MHz,
5 850 - 6 425 MHz
10.95 - 11.20 GHz
11.45 - 11.70 GHz
11.70 - 12.20 GHz in Region 2
12.50 - 12.75 GHz in Regions 1 and 3
14.00 - 14.50 GHz
18.10 - 20.20 GHz
27.00 - 30.00 GHz.

This two-part planning method is the result of a last-minute compromise reached after five weeks of lengthy and difficult negotiations. There remain a number of essential questions which it was not possible to settle for lack of time. At the Second Session, therefore, the Conference has to take the necessary decisions in order to adopt the Allotment Plan and draw up the associated procedures.

SEN/85/1

Multilateral planning meetings shall be convened by resolution of the Administrative Council when it is acknowledged that a meeting is required. To this end, all the Member countries of the ITU may be consulted in order to ensure that the majority is in favour.

The principles governing the convening of MPMs will be set out in the Radio Regulations.

SEN/85/2

The meetings may be held at least once every three years, for a reasonable duration in the light of the agenda.

SEN/85/3

The decisions of the meetings are multilateral agreements which shall have the same status as the provisions of the Radio Regulations.

SEN/85/4

The interests of countries not present at the MPMs must be safeguarded. All their existing or planned assignments shall enjoy international recognition and thus absolute protection.

SEN/85/5

The requirements to be planned shall be communicated to all the administrations in order to inform them of the existence of a planned satellite system, with all the system's technical characteristics. To enable the administrations to check effectively that the system in question does not interfere with their existing stations, the ITU will have to publish the information relating to the planned system prior to the MPM and in a standardized form.

SEN/85/6

Systems common to more than one administration shall be allowed to participate fully in the MPMs in order to defend their interests directly.

VEN/88/7

Having analysed all these aspects, our Administration considers that the improved procedures should be based on the improvement and simplification of Article 11, since the main idea is to improve the planning and coordination of fixed-satellite service systems in the bands used for these procedures, which might be complicated in the event of multilateral meetings, if these are considered binding, since it would reduce flexibility of access to the orbit/spectrum resource (see the document "Improved procedures").

VEN/92/1

Having studied all these questions, our Administration considers that the improved procedures should be based on the improvement and simplification of Article 11, since the main objective is to expedite the planning and coordination of fixed-satellite service systems in the bands in which the procedures will apply; the convening of compulsory multilateral planning meetings could complicate matters, making access to the orbit/spectrum resource less flexible.

Our Administration further considers that the MPM mechanism would constitute a financial burden for administrations and might prolong administrative delays.

VEN/92/5

Venezuela proposes that the improved version of Article 11 should continue to apply to the bands of the fixed-satellite service, except where otherwise stipulated for the service in the Allotment Plan.

VEN/92/6

ARTICLE 11

MOD

Coordination of Frequency Assignments to Stations in a Space Radiocommunication Service Using Frequency Bands Other Than Those Used for the Allotment Plan for the Fixed-Satellite Service
Except Stations in the Broadcasting-Satellite Service and to Appropriate Terrestrial Stations¹

Section I. Procedures for the Advance Publication of Information Planned Satellite Networks²

1046 Comments on Published Information

VEN/92/7

MOD 1047

§ 2. If, after studying the information published under No. 1044, any administration is of the opinion that interference which may be unacceptable may be caused to its existing or planned space radiocommunication services, it shall, within four months after the date of the weekly circular publishing the complete information listed in Appendix 4, send its comments to the administration concerned. A copy of these comments shall also be sent to the Board. The Board shall publish its comments in a special section of its weekly circular. 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 satellite network(s) of that system on which details have been published.

VEN/92/8
MOD 1051

- a) the administration responsible for the planned system shall first explore all possible means of meeting its requirements, taking into account the characteristics of the geostationary-satellite networks of other systems, and without considering the possibility of adjustment to systems of other administrations. If no such means can be found, the administration concerned is then free to apply to other administrations concerned to solve these difficulties, through informal bilateral or multilateral consultations;

VEN/92/9
MOD 1054

(3) In their attempts to resolve the difficulties mentioned above administrations may seek the assistance of the Board. Once the difficulties have been resolved, the administrations shall inform the Board of the agreements reached, which must be published in a special section of the weekly circular if international recognition is sought.

VEN/92/10
ADD 1054A

The Board shall provide the assistance referred to in No. 1054 MOD, especially with regard to:

- definition of technical criteria;
- evaluation of interference levels;
- administrative measures to expedite discussions between the administrations concerned.

VEN/92/11
MOD 1060

§ 6. (1) Before an administration (or, ~~in the case of a space station,~~ one acting on behalf of a group of named administrations) notifies to the Board or brings into use each ~~any~~ frequency assignment to a ~~space stations on a geostationary satellite or to an earth station that is to communicate with a space station on of~~ a geostationary satellite network, it shall, except in the cases described in Nos. 1066 to 1071, effect coordination of ~~the each~~ assignment with any other administration ~~whose assignment for a space station on a geostationary satellite or for an earth station that communicates with a space station on a geostationary satellite, might be affected, whose satellite network has at least one station with an assignment that might be affected.~~

VEN/92/12
MOD 1069

- c) when an administration proposes to notify or bring into use a new earth station within a service area of an existing satellite network, provided that the new earth station would not cause interference of a level greater than that which would be caused by an earth station pertaining to the same satellite network and whose network characteristics have been published, ~~together with the information concerning the space station,~~ in accordance with No. 1078.

VEN/92/13
MOD 1073

§ 7. (1) For the purpose of effecting coordination, the administration requesting coordination shall send to any other administration concerned under No. 1060 all the information listed in Appendix 3 required for the coordination. The request concerning coordination of a network ~~space station or an associated earth station~~ may specify all or some of the frequency assignments expected to be used by that ~~space station, but~~ thereafter each assignment shall be dealt with individually.. network.

2.1 Multilateral planning meetings

VTN/95/7

Developing countries have difficulties in participating in the multilateral planning meetings because of their technical level and financial limitations. Therefore, this Conference should approve a procedure allowing the countries which do not participate in a meeting to depute the power to one Member country of the IFRB or one satellite telecommunication organization to safeguard their interests. The procedure also allows these countries to reserve their interests in some limitations.

2.2 Improved regulatory procedure

Efficiency of the procedure depends on the accurate determination of the networks to be interfered with and on how to carry out the principles of burden sharing.

In the future, there will be a lot of satellites in orbit. Calculating the networks to be effected and the level of interference is not a simple task. This should be studied and experienced by the IFRB and the CCIR. While there are no results of these studies, the determination of the effected networks should be carried out carefully.

VTN/95/8

The principles of burden sharing should be concretized clearly by provisions at the WARC ORB-88 in order to ensure equity and efficiency.

CHN/118/4

1. Objectives of planning by improved procedures

The improved procedures which will be developed at WARC ORB(2) must fully embody the planning principles approved by WARC ORB(1) and should guarantee equitable access of requirements to geostationary orbit and spectrum.

CHN/118/5

2. Preparations before multilateral planning meetings

Prior to the convening of the MPM (at least no less than six months), the administration should submit to the IFRB information on satellite networks or

modified networks to be put into service within five years. The information should enable the Board to identify the affected administrations and to publish in the IFRB Weekly Circular. Upon receiving the Circular, the relevant administrations should endeavour to make bilateral or multilateral coordination by various means and approaches. If the problems involving a number of administrations can not be solved through the efforts on their part, solutions could be sought by convening MPM. Thus the pressure on MPM can be lessened and the expenditure of the administrations be reduced.

3. Considerations of several important factors relating to MPM

CHN/118/6

3.1 Time period

When necessary, MPM is normally convened every two years.

CHN/118/7

3.2 Participation

The participants of MPM should be the administrations which submit the requirements and modify their satellite networks as well as those affected administrations. The other administrations of Member countries of the ITU and inter-governmental satellite organizations can attend MPM in the capacity of observers on a voluntary basis.

CHN/118/8

3.3 Sponsorship

The ITU is a specialized inter-governmental organization under the auspices of the United Nations. The time, place and related matters of MPM should be settled through consultations of the ITU Secretariat with relevant administrations, and necessary preparations should be made by the ITU. The Chairman of the meeting should be selected from the administrations participating in the meeting.

CHN/118/9

3.4 Legal status

The procedures developed at WARC ORB(2) for MPM should be incorporated into the Radio Regulations and become an integrated part of the Radio Regulations, enjoying their due legal status. In the approved procedures, it should be provided that the relevant countries including all those which have received invitations but cannot attend the meeting should likewise abide by the decisions and agreements made by MPM.

CHN/118/10

4. The role of the IFRB

The IFRB should provide possible assistance in technology and other aspects including accepting and processing the information on satellite networks submitted by the administrations, carrying out planning exercises with computers, giving advice and reporting the results of MPM. If necessary, the IFRB should assist the relevant administrations in implementing the agreements reached at MPM.

CHN/118/11

5. Burden sharing

In order to guarantee equitable access of actual requirements to orbit/spectrum, it is necessary to make some adjustments in the existing systems and the planned satellite networks. The degree of adjustment will be determined by the different stages of the initial concept and design, construction and operation of satellites, as well as by the technical and economic conditions of different countries, and the burden of interference entailed by the adjustment should be shared by all concerned administrations. However, due consideration should be given to those developing countries without or with very few satellite networks.

CLM/120/6

1. The procedures to be adopted by the Conference should stipulate that the prior coordination required under Article 11 of the Radio Regulations must be effected whenever satellite networks are set up.

CLM/120/7

2. Multilateral planning meetings should be instituted for the planning of satellite systems on a regional basis, and the Conference should specify the periodicity of such meetings, which should be held in a country of the region concerned.

CLM/120/8

3. The improved procedures should include systems for which the IFRB received advanced publication information before the starting date of WARC ORB(2) in 1988.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/16(Rev.1)-E

7 September 1988

Original: English

WORKING GROUP 4-C

Draft Note of the Chairman of Working Group 4-C

LIST OF DOCUMENTS CONTAINING PROPOSALS FOR THE PROCEDURES ASSOCIATED WITH THE PLAN

In order to assist the Working Group with the discussion of the procedures for the Allotment Plan, following is a list of proposals for specific procedures. This list does not include proposals which only urge that the procedures include a particular feature, and do not propose specific text.

<u>Document number</u>	<u>Proposal number (page)</u>
7 (USSR)	URS/7/4, URS/7/5, URS/7/6
12 (USA)	USA/12/10 (pages 7-17)
29 (F)	F/29/1 (pages 3-14)
45 (CEPT)	CEPT/45/1 (pages 1-2)
53 (J)	J/53/8 (pages 30-57)
56 (USA)	USA/56/1 (pages 6-8), USA/56/2 (pages 9-23), USA/56/3 (pages 24-26), USA/56/4 (pages 27-28), USA/56/5 (page 29)
59 (CAN)	CAN/59/3 (pages 14-45)
72 (D)	D/70/1, D/72/1, D/72/2
81 (CTI)	CTI/81/3, CTI/81/4, CTI/81/9 to CTI/81/21
89 (VEN)	VEN/89/9 (pages 3-12)
118 (CHN)	CHN/118/2
141 (IND)	IND/141/6, IND/141/7, IND/141/8, IND/141/9

E.D. DUCHARME
Chairman of Working Group 4-C

CONF\ORB-2\DT\016R1E.TXS

WORKING GROUP 4-CDraft Note of the Chairman of Working Group 4-CLIST OF DOCUMENTS CONTAINING PROPOSALS FOR THE PROCEDURES
ASSOCIATED WITH THE PLAN

In order to assist the Working Group with the discussion of the procedures for the Allotment Plan, following is a list of proposals for specific procedures. This list does not include proposals which only urge that the procedures include a particular feature, and do not propose specific text.

<u>Document number</u>	<u>Proposal number (page)</u>
7 (USSR)	URS/7/4, URS/7/5, URS/7/6
12 (USA)	USA/12/10 (pages 7-17)
29 (F)	F/29/1 (pages 3-14)
45 (CEPT)	CEPT/45/1 (pages 1-2)
53 (J)	J/53/8 (pages 30-57)
56 (USA)	USA/56/2 (pages 9-23)
	USA/56/3 (pages 24-26)
	USA/56/5 (page 29)
59 (CAN)	CAN/59/3 (pages 14-45)
72 (D)	D/72/1, D/72/2
81 (CTI)	CTI/81/3, CTI/81/4
89 (VEN)	VEN/89/9 (pages 3-12)

E.D. DUCHARME
Chairman of Working Group 4-C

CONF\ORB-2\DT\016E.TXS

Draft

PROPOSALS CONCERNING ARTICLE 8 FREQUENCY ALLOCATIONS

2.1.2.3 RR 787A
CAN/60/5
ADD 787A The use of the bands 3 700 - 4 200 MHz,
5 850 - 6 425 MHz, 10.95 - 11.2 GHz, 11.45 - 11.7 GHz,
11.7 - 12.2 GHz (in Region 2 only), 12.5 - 12.75 GHz (in Regions 1
and 3 only) and 14 - 14.5 GHz by the fixed-satellite service shall
be in accordance with the provisions of Article 11A.

2.1.2.4 RR 792A
CAN/60/6
ADD 792A Frequency assignments to stations in the fixed-
satellite service in the bands 4 500 - 4 800 MHz, [6 GHz],
10.7 - 10.95 MHz, 11.2 - 11.45 MHz and 12.45 - 13.25 MHz shall be
made in accordance with Appendix ZZ.

J/53/21
ADD 792A.1 The use of the band 4 500 - 4 800 MHz,
[6 425 - 7 075 MHz]; 10.70 - 10.95 GHz, 11.20 - 11.45 GHz and
12.75 - 13.25 GHz by the fixed-satellite service shall follow the
procedure specified in Appendix ZZ.

Reason: It is necessary to cohere with our proposed Appendix ZZ in which
regulatory procedures for the Allotment Plan bands are provided.

J/54/47
5.1 Correction to RR 839

Japan supports the Board's proposal that the second
limit "11.7 - 12.2 GHz by the broadcasting-satellite service"
should read "12.2 - 12.7 GHz by the broadcasting-satellite
service".

USA/56/9
SUP 839

USA/56/10
ADD 839A The use of the band 11.7 - 12.2 GHz by the fixed-
satellite service in Region 2 is subject to agreement obtained
under the procedures set forth in Article 14 with those affected
administrations in Region 2 having or planning a terrestrial
service of the primary category. Affected administrations shall be
those on whose territory the power flux-density at the surface of
the Earth exceeds any of the values:

- 148 dB(W/m²) in any 4 kHz band for angles of arrival between 0 and 5 degrees above the horizontal plane;
- $148 + 0.5(o-5)$ dB(W/m²) in any 4 kHz band for angles of arrival o (in degrees) between 5 and 25 degrees above the horizontal plane;
- 138 dB(W/m²) in any 4 kHz band for angles of arrival between 25 and 90 degrees above the horizontal plane.

These values relate to the power flux-density which would be obtained under assumed free-space propagation conditions.

USA/56/11

ADD 839B

For the use of the band 12.2 - 12.7 GHz by the broadcasting-satellite service in Region 2, see Article 15.

Reasons: This is consequential to the actions of WARC ORB-85 which incorporated a Plan for the broadcasting-satellite service in Region 2 into the Radio Regulations. For simplification, clarification and readability, RR 839 has been divided according to the space services involved.

J/53/22

NOC 858

The band 14 - 14.5 GHz may be used, within the fixed-satellite service (Earth-to-space), for feeder links for the broadcasting-satellite service, subject to coordination with other networks in the fixed-satellite service. Such use of feeder links is reserved for countries outside Europe and for Malta.

J/54/5

Proposal No. 858 of the Radio Regulations should be maintained as it is.

Reasons: 1) There is an administration that is using the band for feeder links for the broadcasting-satellite service.

2) It was decided to select the frequency bands 17.3 - 18.1 GHz and 14.5 - 14.8 GHz (for countries outside Europe and for Malta) for the feeder links assignment plan for the 12 GHz broadcasting-satellite service. The band 12.5 - 12.75 GHz allocated to community reception for the broadcasting-satellite service in Region 3 is not subject to the feeder links assignment plan. It is desirable that the transmitting and receiving frequencies are adjacent for assuring the same transmitting and receiving service areas with a common antenna. Therefore, use of the 14.0 - 14.5 GHz for feeder links for the broadcasting-satellite service should be maintained.

CAN/60/4A

2.1.2.2
MOD 863

In Regions 1 and 3, the use of the band 14.5 - 14.8 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. This use is reserved for countries outside Europe and for Malta.

Reasons: WARC ORB(1) adopted Appendix 30A for Region 2 BSS feeder links, which were chosen to be in the band 17.3 - 17.8 GHz. Consequently, the restriction imposed by WARC 79 on the band 14.5 -14.8 GHz to facilitate feeder link planning is no longer needed in Region 2, and the band may now be made available for other FSS uses. This change will make a valuable contribution to the reduction of the inequality of allocated up- and down-link bandwidths in the frequency range 10 GHz to 15 GHz.

USA/12/16

MOD 884

In the band 31 - 31.3 GHz the power flux-density limits specified in No. 2542 2582 shall apply to the space research service.

Reasons: To correct a typographical error in the provision, noting that No. 2542 does not specify a power flux-density limit.

L. PALMER
Chairman of Working Group 6-C

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/18-E

1 September 1988

Original: English

WORKING GROUP 6-C

Draft

PROPOSED NOTE TO COMMITTEE 6 FOR CONSIDERATION BY COMMITTEE 4 ON PROPOSED DEFINITIONS DEALING WITH THE ALLOTMENT PLAN

1. Working Group 6-C, as part of its terms of reference, includes the review of definitions under agenda item 5. Several proposals have been submitted under Article 1 of the Radio Regulations or in a new Appendix for the Allotment Plan. Since the latter definitions apply more directly to the work of Committee 4 under agenda item 1, it is proposed that Committee 6 request that these proposals be treated in conjunction with the Allotment Plan in Committee 4.

2. The proposals identified thus far are:

URS/7/11	(MOD RR 18 and 19)
AUS/49/10	(Service Area)
AUS/49/11	(International Satellite System)
AUS/49/12	(Regional Satellite System)
AUS/49/13	(Domestic Satellite System)
AUS/49/14	(Multi-Administration Satellite System)
VEN/88/13	(Plan Allotment)

3. The attention of Committee 4 should also be drawn to proposal D/70/1 (Allotment within the FSS Allotment Plan)

L.M. PALMER
Chairman of Working Group 6-C

WORKING GROUP 6-B

Draft

PRINCIPLE OF COORDINATION OF SATELLITE SYSTEMS
ON A NETWORK BASIS

At its first meeting, Working Group 6-B, having considered administrations' proposals concerning the possibility of introducing coordination and notification of satellite systems on a network basis rather than on the basis of individual frequency assignments, tentatively concluded that the coordination and notification procedure should be modified in accordance with the following basic principles:

1. Coordination in accordance with No. 1060 of the Radio Regulations may be carried out on a network basis using the information relating to the space station including its service area and the parameters of one or more typical earth stations including their specific service area which may cover all or part of the space station service area.
2. The notification under Article 13 and the recording of the space station shall indicate the parameters of the associated typical earth stations.
3. Specific earth stations do not have to be coordinated with other satellite networks if the actual values of their parameters do not cause interference exceeding the interference level produced by the typical earth station which has been coordinated. Otherwise, the administration on whose territory the earth station is located has to effect coordination in accordance with No. 1060 of the Radio Regulations.
4. Coordination of the earth station with the terrestrial services of other administrations and its notification have to be effected in accordance with the existing procedures laid down in the Radio Regulations (Articles 11, 13 and Appendix 28), since the proposal to introduce notification on the basis of a typical earth station cannot be adopted at the present Conference due to the fact that it affects the interests of other services and therefore exceeds the terms of reference of the present Conference.

A.V. CAREW
Chairman of Working Group 6-B

CONF\ORB-2\DT\019R1E.TXS

WORKING GROUP 6-B

Draft

PRINCIPLE OF COORDINATION OF SATELLITE SYSTEMS
ON A NETWORK BASIS

At its first meeting, Working Group 6-B, having considered administrations' proposals concerning the possibility of introducing coordination and notification of satellite systems on a network basis rather than on the basis of individual frequency assignments, tentatively concluded that the coordination and notification procedure should be modified in accordance with the following basic principles:

1. Coordination of satellite systems in accordance with No. 1060 of the Radio Regulations should be carried out on a network basis, using the information relating to the space station, including its service area and the parameters of a typical earth station which may be located at any point within that service area.
2. When the space station is notified, the administration responsible for the space station notifies it together with the parameters of a typical earth station.
3. Specific earth stations do not have to be coordinated with other satellite networks if the actual values of their parameters do not cause interference exceeding the interference level produced by the typical earth station which has been coordinated. Otherwise, the administration on whose territory the earth station is located has to effect coordination in accordance with No. 1060 of the Radio Regulations.
4. Coordination of the earth station with the terrestrial services of other administrations and its notification have to be effected in accordance with the existing procedures laid down in the Radio Regulations (Articles 11, 13 and Appendix 28), since the proposal to introduce notification on the basis of a typical earth station cannot be adopted at the present Conference due to the fact that it affects the interests of other services and therefore exceeds the terms of reference of the present Conference.

A.V. CAREW
Chairman of Working Group 6-B

WORKING GROUP 6-C

Draft

PROPOSALS CONCERNING DEFINITIONS IN
ARTICLES 1 AND 8 OF THE RADIO REGULATIONS

PRG/106/

ADD 20A

Space service: A telecommunication service which uses space radiocommunications.

Such a service may also be regarded as including links from and to deep space by means of electromagnetic waves having wavelengths with frequencies above 3 000 GHz.

PRG/106/2

MOD 105

Satellite system: A space system generally using one or more artificial ~~earth~~ satellites.

Reasons: To adopt the change suggested by the CCIR, which broadens the concept in that, under the proposed wording, any planet may comprise the satellite system.

It will be understood that earth satellites are implied unless the name of a planet is mentioned.

LUX/67/7

MOD 106 4.49 Satellite Network: A satellite system or a part of a satellite system, consisting of only one satellite and the cooperating earth stations located within the service areas of an uplink and associated downlink satellite beams.

Reason: To facilitate the description of satellite systems on a network basis.

F/117/1

MOD 109

Liaison de connexion: feeder link: enlace de connexion:

A radio link from an earth station at a ~~specified fixed point~~
given location to a space station, or vice versa, conveying
information for a space radiocommunication service other than for
the fixed-satellite service.

The given location may be at a specified fixed point,
or within specified areas, coordinated according to the Radio
Regulations.

USA/12/ 62MOD 169 Deep Space: Space at distances from the Earth
~~approximately equal to, or greater than, the distance~~
~~between the Earth and the Moon 2×10^6 kilometers.~~

Reason: To conform with the definition adopted by the
CCIR. This change will require spacecraft
in highly elliptic earth orbits and those
with halo orbits around the L1 and L2
LaGrangian points to use frequencies only
in space research bands which are not
restricted to deep space links.

PRG/106/1

MOD 169

Deep space: Space at distances from the Earth
~~approximately equal to, or greater than, the distance between the~~
~~Earth and the Moon 2×10^6 km.~~

Reasons: The proposed amendment is consistent with the new CCIR definition
in Recommendation 610 and Report 986. The new definition is more in
keeping with technological progress.

USA/56/7 ADD 168B 7.9B Equivalent boresight area: The area
within which the boresight of a steerable
beam can be pointed at any time anywhere.

CAN/60/1

ADD 183

8.15 Equivalent Boresight Area

The contiguous area within which the
boresight of a steerable beam is intended to be
pointed.

USA/56/8 ADD 168C 7.9C Equivalent antenna gain contours:
Antenna gain contours corresponding to a steerable beam that are the envelopes of original gain contours resulting from moving the main beam axis along the limit of the equivalent boresight area. The limit of the equivalent boresight area will determine the equivalent antenna gain contour corresponding to the maximum antenna gain which is considered to remain constant with this contour.

Reason: These terms are now used in the proposed revision of Appendix 3.

CAN/60/2
ADD 184 8.16 Steerable Beam

A satellite beam that is capable of being pointed at any location within its equivalent boresight area.

Terms and Definitions

Section VII. Frequency Sharing

USA/56/6 ADD 168A 7.9A Steerable beam antenna: Any space station antenna of fixed gain and radiation pattern or of variable gain and radiation pattern for which its main beam(s) axis(es) can be repositioned over a given service area.

B/35/1
MOD 391 § 1. In all documents of the Union where the terms allocation, allotment and assignment are to be used, they shall have the meaning given them in Nos. 17 to 19, the terms used in the three working languages being as follows:

Frequency distribution to	French	English	Spanish
Services	Attribution (attribuer)	Allocation (to allocate)	Atribución (atribuir)
Areas or countries	Allotissement (allotir)	Allotment (to allot)	Adjudicación (atjudicar)
Stations	Assignation (assigner)	Assignment (to assign)	Asignación (asignar)
<u>Satellite network</u>	<u>Assignation</u> <u>(assigner)</u>	<u>Assignment</u> <u>(to assign)</u>	<u>Asignación</u> <u>(asignar)</u>

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/21-E
2 September 1988
Original: English

WORKING GROUP 6-B

Draft

CONSOLIDATED PROPOSALS FOR THE WORK OF WORKING GROUP 6-B

Introduction

Specific proposals relating to Article 14 received from the administrations are presented in this document. The first part contains the text of the present provision of the Radio Regulations under which the proposals received from the administrations are referenced. The annex contains the text of the proposals which are grouped by administrations.

A. CAREW
Chairman of Working Group 6-B

ARTICLE 14

Supplementary Procedure to Be Applied in Cases Where a Footnote in the Table of Frequency Allocations Requires an Agreement with an Administration

MOD CAN/60/167

ADD CAN/60/168

SUP

- 1610** § 1. (1) Before an administration notifies to the Board a frequency assignment in accordance with any footnote in the Table of Frequency Allocations which makes reference to this Article, it shall obtain the agreement of any other administration whose services may be affected. In the case of a footnote concerning a space radiocommunication service, this procedure may be initiated before or at the same time as the application of the provisions of Article 11.

MOD J/53/11, USA/12/38, CAN/60/169

ADD S/55/1-2, J/53/12-20, USA/12/39-40, CAN/60/170

SUP

- 1611** (2) The administration seeking such an agreement shall, sufficiently early before the planned date of putting the assignment into service, send to the Board:

MOD CAN/60/171

ADD

SUP

- 1612** a) for terrestrial radiocommunication services, the basic characteristics of the planned assignment listed in the appropriate section of Appendix 1;

MOD CAN/60/172

ADD

SUP

- 1613** b) for space radiocommunication services, the characteristics of the planned assignment listed in Appendix 4, or Appendix 3 when the latter are available¹.

MOD S/55/3, CAN/60/173
ADD CAN/60/174
SUP

- 1614** (3) The administration seeking agreement may, when sending its information to the Board, also identify those other administrations that are believed to have services which may be affected.

MOD CAN/60/176
ADD CAN/60/177-181, CAN/60/183-185
SUP S/55/5

- 1615** § 2. (1) The Board shall publish the information sent under Nos. 1611 to 1614 in a special section of its weekly circular² and shall also, when the weekly circular contains such information, so advise administrations by circular telegram.

MOD
ADD
SUP CAN/60/186

-
- 1613.1** ¹ The information in Appendix 3 or 4 submitted to the Board under Article 11 may also be used for the purpose of this procedure.

MOD USA/12/41
ADD
SUP S/55/4, CAN/60/175

- 1615.1** ² In the case of a space radiocommunication service, the administration submitting the information listed in Appendix 3 or 4 in accordance with the provisions of Article 11 may also ask the Board to apply this information in pursuance of this procedure and the Board shall indicate in the appropriate special section of its weekly circular that agreement under this Article is also sought.

MOD CAN/60/182
ADD
SUP

1616 (2) The Board shall endeavour to identify administrations whose services may be affected, and shall include the names of those administrations it is able to identify in the special section of its weekly circular and in the circular telegram mentioned under No. 1615.

MOD S/55/7, USA/12/42

ADD S/55/8-9, USA/12/43-44, CAN/60/187-198

SUP CAN/60/186

1617 § 3. (1) Any administration, upon receipt of this information and believing that the planned assignment may affect its services operating in accordance with the Table of Frequency Allocations or planned to be so operated, shall, within four months of the date of the relevant weekly circular, so inform the administration requesting agreement and the Board.

MOD S/55/10, USA/12/45, CAN/60/199

ADD

SUP

1618 (2) Any administration not having commented within the period specified in No. 1617 shall be regarded as unaffected by the planned assignment.

MOD S/55/11, USA/12/46, CAN/60/200

ADD

SUP

1619 (3) Any administration responding under No. 1617 to a request for agreement shall, if possible at the same time, give at least the relevant basic characteristics of its stations whose services may be affected, and shall make such suggestions as it may be able to offer with a view to a satisfactory solution of the problem. A copy of all this information shall simultaneously be sent to the Board.

MOD S/55/12, USA/12/47, CAN/60/201

ADD S/55/13-16, USA/12/48-52

SUP

1620 § 4. The administration requesting agreement under Nos. 1611 to 1613 and the administration responding under No. 1617 shall together¹ make every possible effort to resolve the problem before the date of bringing into use of the planned assignment.

MOD CAN/60/202

ADD

SUP

1621 § 5. Either administration may request from the other additional information which may be required to resolve the problem. A copy of such a request and of any information given in response shall be sent to the Board.

MOD CAN/60/204

ADD

SUP

1622 § 6. Either administration may request the assistance of the Board in an attempt to resolve the problem.

MOD S/55/17, CAN/60/205

ADD S/55/18, CAN/60/206-219

SUP

1620.1 ¹ In the absence of appropriate CCIR Recommendations or IFRB Technical Standards, the technical criteria to be used in such a case shall be agreed between the administrations concerned.

MOD

ADD

SUP CAN/60/203

- 1623** § 7. Following resolution of the problem, the administration which sought agreement shall inform the Board to that effect.

MOD CAN/60/220

ADD

SUP

- 1624** § 8. An administration having sought agreement under Nos. 1611 to 1613 and having received no response under No. 1617 from any administration shall inform the Board thereof and shall then be regarded as having successfully completed the procedure of this Article.

MOD S/55/19, USA/12/53, CAN/60/221

ADD S/55/20, USA/12/54

SUP

- 1625** § 9. An administration having sought agreement under Nos. 1611 to 1613, having received one or more responses under No. 1617, and having informed the Board under No. 1623 of the resolution of the problem, shall be regarded as having obtained agreement in accordance with the relevant footnote in the Table of Frequency Allocations.

MOD S/55/21, USA/12/55, CAN/60/222

ADD

SUP

- 1626** § 10. The Board, following receipt of advice under No. 1624 or 1625 as to the completion of this procedure, shall publish this information in the appropriate special section of the weekly circular.

MOD S/55/22, USA/12/56, CAN/60/223

ADD

SUP

1627 § 11. An administration seeking agreement or an administration with which agreement is sought or any other administration whose services might be affected may request the assistance of the Board in applying any of the steps of this procedure, particularly in:

MOD CAN/60/224

ADD

SUP

1628 a) identifying administrations whose services might be affected;

MOD

ADD CAN/60/229

SUP CAN/60/225

1629 b) evaluating the levels of interference;

MOD

ADD CAN/60/230

SUP CAN/60/226

1630 c) defining, with the agreement of the administrations concerned, the technical criteria to be used¹.

MOD

ADD CAN/60/231

SUP CAN/60/227

1630.1 ¹ In the absence of appropriate CCIR Recommendations or IFRB Technical Standards, the technical criteria to be used in such a case shall be agreed between the administrations concerned.

MOD

ADD

SUP CAN/60/228

1631
to NOT allocated.
1655

MOD

ADD S/55/23, CAN/60/232-237

SUP

ANNEX

Proposals from CAN

CAN/60/167
MOD (title) **Supplementary Procedure to be Applied in Cases where
a Footnote in the Table of Frequency Allocations
Requires an Agreement with an Administration**

CAN/60/168
ADD **1609A Requirement for Agreement**

CAN/60/169
MOD **1610 Section 1. (1) Before an administration
notifies to the Board...this procedure ~~may~~ shall be
initiated ~~before~~ ~~or~~ at the same time as the
application of the provisions of Article 11.**

CAN/60/170
ADD
CAN/60/171
MOD

1610A Information to be Provided to the Board

1611 § 2. (2) (1) The administration seeking such an agreement shall, sufficiently early before the planned date of putting the assignment into service, send to the Board:

CAN/60/172
MOD

1612 a) for terrestrial radiocommunication services... of Appendix 1, sufficiently early before the planned date of putting the assignment into use.

CAN/60/173
MOD

1613 b) for space radiocommunication services, the characteristics of the planned assignment network listed in Appendix 4, or Appendix 3 when the latter are available Section I or II of Appendix [3/4].

CAN/60/174
ADD

1630A c) In cases where information in accordance with Section I is provided, the administration seeking agreement shall also provide information on the specific frequencies and necessary bandwidth to be used for its network stations as well as the coordinates or service area of the earth station(s).

CAN/60/175
SUP

1613.1

CAN/60/176
MOD
CAN/60/177
ADD
CAN/60/178
ADD

1614 ~~(3)~~ (2)

1614A Action by the Board

§ 3. (1) On receipt of the information referred to in No. 1613, the Board shall:

CAN/60/179
ADD

1614B a) examine the information received with a view to identifying those administrations whose existing or planned assignments in accordance with the Table might be affected, including those assignments for which the procedure has been successfully applied and meriting protection, and, inform the administrations concerned by telegram;

CAN/60/180
ADD

1614C b) if, due to unavoidable circumstances, the examination of information sent under No. 1613 is expected to take longer than three weeks, the Board shall immediately send a telegram to the administration concerned indicating the reason for the delay and when the examination is expected to be completed.

CAN/60/181
ADD

1614D c) publish in a special section of its weekly circular¹ the information received under No. 1613 and the results of the examination under No. 1614B.

CAN/60/182
MOD

~~1615-1~~ 1614D.1 ~~2~~ 1 In the case of a space radiocommunication service, the administration submitting the information listed in Section I or II of Appendix 3 or 4 [3/4] in accordance with the provisions of Article II may also ask the Board to apply this information in pursuance of this procedure. and the Board shall indicate in the appropriate special section of its weekly circular that agreement under this Article is also sought.

CAN/60/183
ADD
CAN/60/184
ADD

1614E Procedure in Case of Incomplete Information

1614F § 4. (1) If the request for agreement sent under No. 1611 does not contain all of the information required under No. 1613, it shall be regarded as incomplete. A telegram requesting the missing information shall be sent to the responsible administration by the Board.

CAN/60/185
ADD

1614G (2) If no reply is received by the Board within three months after the date on which it was requested, the information received under No. 1611 shall be returned to the administration.

CAN/60/186
SUP

1615-1616

CAN/60/187
ADD
CAN/60/188
ADD

1616A Networks to be Taken into Account

1616B § 5. Networks to be taken into account when applying the Article 14 procedures are those:

CAN/60/189
ADD

1616C a) having an existing or planned assignment in accordance with the Table in the same, or adjacent, frequency band as the planned assignment(s) and in conformity with No. 1503; and which could be affected.

CAN/60/190
ADD

1616D b) for which the Article 14 procedure has been successfully applied.

CAN/60/191
ADD

1616E § 6. In the case of space radiocommunication services, the Board shall apply the technical criteria used in establishing compatibility under the other provisions of the Radio Regulations in determining the services in accordance with the Table which might be affected. In special cases, where no appropriate technical criteria has been established in the Radio Regulations, CCIR Recommendations or the Technical Standards of the Board shall be used as appropriate.

CAN/60/192
ADD

1616E.1 In the absence of appropriate CCIR Recommendations or IFRB Technical Standards, the technical criteria to be used shall be agreed between the administrations concerned.

CAN/60/193
ADD
CAN/60/194
ADD

1616F Exemption from the Article 14 Procedure

1616G § 7. No agreement under No. 1610 is required when:

CAN/60/195
ADD

1616H a) an assignment subject to the Article 14 procedure will be used for reception only and the administration concerned accepts any interference which may be caused by stations operating in accordance with the Table or for which the provisions of this Article have been successfully applied, if appropriate;

CAN/60/196
ADD

1616I b) a modification is proposed to a network for which the procedure has been successfully completed, if the modification would not increase the potential interference;

CAN/60/197
ADD

1616J c) an assignment subject to the procedure will be notified under the provisions of No. 342.

CAN/60/198
ADD
CAN/60/199
MOD

1616K: Action by the Administrations Concerned

1617 ~~§ 3~~ 8. (1) Any administration upon receipt of ~~this~~ the information referred to in No. 1614D and believing that...and the Board.

CAN/60/200
MOD

1618 (2) Any administration not having commented within the period specified in No. 1617 shall be regarded as unaffected by the planned assignment network.

CAN/60/201
MOD

1619 (3) Any administration responding under No. 1617 to a request for agreement shall, ~~if possible~~ at the same time,...

CAN/60/202
MOD

1620 ~~§ 4~~ (4) The administration requesting agreement under Nos. 1611 to 1613 and the administration responding under No. 1617 shall together^t make every ~~possible~~ effort to resolve...the planned assignment.

CAN/60/203
SUP

1620.1

CAN/60/204
MOD

1621 ~~§ 5~~ (5) Either administration may request from the other additional information which may be required to resolve the problem. A copy of such a request and of any information given in response shall be sent to the Board.

- CAN/60/205
MOD 1622 ~~s-6~~ (6) Either administration may request the assistance of the Board in an attempt to resolve the problem.
- CAN/60/206
ADD 1622A Amendments to the Information Sent to the Board
- CAN/60/207
ADD 1622B § 9. a) Either the administration seeking agreement Or the administration(s) having existing or proposed assignments which might be affected may modify the characteristics of its networks.
- CAN/60/208
ADD 1622C b) Information pertaining to any modifications made to the network(s) of the administration seeking agreement shall be sent to the Board.
- CAN/60/209
ADD 1622D c) The Board shall examine the modifications with a view to identifying any additional administrations whose networks may now be affected.
- CAN/60/210
ADD 1622E d) The Board shall publish the information sent under No. 1622C in a special section of its weekly circular including the results of its examination under No. 1622D.
- CAN/60/211
ADD 1622F e) The Board shall also inform by telegram any administration it may be able to identify whose assignments might be affected.
- CAN/60/212
ADD 1622G f) Any administration upon receipt of the information specified in No. 1622E and believing that its existing or planned networks in accordance with the Table might be affected, or for which the provisions of this Article have been successfully applied, if appropriate, shall, within four months of the date of the relevant weekly circular, so inform the administration requesting agreement and the Board.

CAN/60/213

ADD

CAN/60/214

ADD

1622H Resolution of Difficulties

1622I § 10. a) In the event of continuing disagreement between the administration seeking agreement and the administration with which coordination is sought, the Board shall, at the request of either administration, assess the interference to the services considered to be affected and shall inform the administrations concerned of the results obtained.

CAN/60/215

ADD

1622J The Board may request additional information which it may require to assess the interference to the services concerned.

CAN/60/216

ADD

1622K b) if the disagreement involves planned assignments, the basic characteristics of these assignments shall be communicated to the Board within three months of the date of request for same by the Board.

CAN/60/217

ADD

1622L c) the Board shall determine if the disagreement is based on valid technical grounds which demonstrate non-compatibility.

CAN/60/218

ADD

1622M d) if the Board's examination reveals that the disagreement is based on valid technical grounds, and, if planned assignments are involved, the administration with which agreement was sought shall notify these assignments as having been brought into use within five years of the date of the unfavourable finding by the Board in the case of assignments involving satellite networks.

CAN/60/219

ADD

1622N e) if notices pertaining to the assignments in question are not communicated to the Board within the period specified in No. 1622M, it shall be assumed that the objection made on the basis of use of such assignments is no longer valid and the administration seeking agreement is considered to have successfully completed the procedure with respect to that administration.

CAN/60/220
(MOD)

1623 ~~§ 7~~ § 11.

CAN/60/221
MOD

1624 ~~§ 8~~ § 12. An administration having sought agreement under Nos. 1611 to 1613 and 1622C having received no response under Nos. 1617 or 1622G from any administration...of this Article.

CAN/60/222
MOD

1625 ~~§ 9~~ § 13. An administration having sought agreement under Nos. 1611 to 1613 and 1622C having received one or more responses under No. 1617 or 1622G, and having informed the Board...in the Table of Frequency Allocations.

CAN/60/223
(MOD)

1626 ~~§ 10~~ § 14.

CAN/60/224
MOD

1627 ~~§ 11~~ § 15. An administration... of this procedure particularly in

CAN/60/225
SUP

1628

CAN/60/226
SUP

1629

CAN/60/227
SUP

1630

CAN/60/228
SUP

1630.1

CAN/60/229
ADD

1628 § 16. Where modifications are made to a network for which the Article 14 procedure has been successfully completed, the procedure need not be applied again, if, in the case of a transmitting station in a satellite network, the proposed modification does not increase the potential for interference and, if, in the case of a receiving earth station, the administration accepts the probability of increased interference to its assignment(s).

CAN/60/230
ADD

1629 Notification of Frequency Assignments in the Event of Continuing Disagreement

CAN/60/231
ADD

1630 § 17. In the event of continuing disagreement between an administration seeking agreement and one with which coordination is sought, the administration seeking agreement, may submit its frequency assignment notices to the Board for recording in the MIFR.

CAN/60/232
ADD

1631 § 18. A satellite network for which the Article 14 procedure has been successfully completed, shall be taken into account by an administration applying the procedure at a later date for an assignment which would achieve the same status after successful completion.

CAN/60/233
ADD

1632 § 19. a) In their bilateral relationships, administrations may accord an assignment for which the Article 14 procedure has been successfully completed, a status higher than that which would be obtained under this Article. Such a status shall not, however, prejudice the interests of any other administration.

CAN/60/234
ADD

1633 b) An administration applying the procedure may agree to protect stations of a secondary service of the administration with which the agreement is sought in the case where the assignment(s) subject to the procedure would attain higher status. In the absence of such an agreement, however, the procedure will be considered as having been successfully completed.

CAN/60/235
ADD

1634 § 20. The procedure shall be considered as successfully completed with all administrations except those with which agreement could not be reached on valid technical grounds.

CAN/60/236

ADD

1635 § 21. In the case of assignments used for reception only, except as provided for in No. 1622N, the procedure shall not be considered as complete with respect to any administration who has objected on the basis of its existing or planned assignments in accordance with the Table or for which the procedures of this Article have been successfully applied in cases where the status of such assignments merit protection. An appropriate entry shall be made in the Master Register to indicate the situation.

CAN/60/237

ADD

1636 § 22. In the case of a modification to an assignment for which the procedure had been successfully completed, the procedure shall be applied again but only with respect to the modified parameters.

Proposals from J

J/53/11

MOD 1610 §1. (1) Before an administration notifies to the Board a frequency assignment to be used for transmission or reception in accordance with any footnote in the Table of Frequency Allocations which makes reference to this Article, it shall obtain the agreement of any other administration whose services may be affected. In the case of a footnote concerning a space radiocommunication service, this procedure may be initiated before or at the same time as the application of the provisions of Article 11.

- J/53/12 ADD 1610.A (1A) In the case of a footnote concerning a space radiocommunication service, no agreement under No.1610 is required:
- J/53/13 ADD 1610.B a) when the use of a new frequency assignment will cause to any service of another administration, an increase in the noise temperature of any space station receiver or earth station receiver, or an increase in the equivalent satellite link noise temperature, as appropriate, calculated in accordance with the method given in Appendix 29, which does not exceed the threshold value defined therein;
- J/53/14 ADD 1610.C b) when the use of interference resulting from a modification to a frequency assignment which has previously been coordinated will not exceed that value agreed during coordination:
- J/53/15 ADD 1610.D c) when an administration proposes to notify or bringing into use a new earth station within a service area of an existing satellite network, provided that the new earth station would not cause interference of a level greater than that which would be caused by an earth station pertaining to the same satellite network and whose characteristics have been published, together with the information concerning the space station, in accordance with No.1078:
- J/53/16 ADD 1610.E d) when, for a new frequency assignment to a receiving station, the notifying administration states that it accepts the interference resulting from the frequency assignments referred to in Nos. 1061 to 1065:
- J/53/17 ADD 1610.F e) between earth stations using frequency assignments in the same direction (either Earth-to-space or space-to-Earth).
- J/53/18 ADD 1610.G f) when an administration proposes to bring into use an earth station or to change the location of an earth station, when the coordination area includes any of the territory of any other country, the coordination area is included in the coordination area of which has previously been completed in accordance with No.1107 :
- J/53/19 ADD 1610.H g) when an administration proposes to change the characteristics of an existing assignment in such a way as not to increase the interference to or from the terrestrial radiocommunication stations of other administrations:

J / 53 / 20

ADD 1610.I h) when an administration proposes to operate a mobile earth station. However, if the coordination area associated with the operation of such a mobile earth station, in a frequency band referred to in No.1107, includes any of the territory of another country, the operation of such a station shall be subject to agreement on coordination between the administrations concerned. This agreement shall apply to the characteristics of the mobile earth station(s), or to the characteristics of a typical mobile earth station, and shall apply to a specified service area. Unless otherwise stipulated in the agreement, it shall apply to any mobile earth stations in the specified service area provided that interference caused by them shall not be greater than that caused by a typical earth station for which the technical characteristics appear in the noise and have been or are being submitted in accordance with No.1494.

Proposals from S

S/55/1

ADD 1610A

(1A) In the case of a footnote concerning a space radiocommunication service, agreement under this Article to frequency assignments of a proposed geostationary-satellite network shall not be required from other administrations with respect to their geostationary-satellite networks.

S/55/2

ADD 1610B

(1B) In case of earth station assignments, in the frequency spectrum above 1 GHz, an administration having successfully completed the procedure of Article 11, Section III, shall not be required to complete the procedure of Article 14 with respect to the terrestrial services of other administrations.

S/55/3

MOD 1613

- b) for space radiocommunication services, the characteristics listed in Appendix ~~4-or-Appendix~~ 3, required for the agreement ~~when-the-latter-are-~~ available

S/55/4

SUP 1613.1

S/55/5

SUP 1614

S/55/6

MOD 1615 § 2. (1) The Board shall publish the information sent under Nos. 1611 to ~~1614~~ 1613 in a special section of its weekly circular and shall also, when the weekly circular contains such information, so advise administrations by circular telegram.

S/55/7

MOD 1616 (2) The Board shall endeavour to identify ^{1,2} administrations whose services may be affected, and shall include the names of those administrations it is able to identify in the special section of its weekly circular and in the circular telegram mentioned under No 1615.

S/55/8

ADD 1616.1 ¹As regards earth station coordination with terrestrial stations in the bands between 1 and 40 GHz, see ADD 1610B. For other bands and services, the Board will have to establish its own rules and criteria, based on the method described in Appendix 28 and on relevant CCIR Recommendations. See also Nos. 1001 and 1001.1.

S/55/9

ADD 1616.2 ²Observance of the power flux-density limits of Article 28, where specified for a given band, precludes the requirement for further coordination according to Article 14 in case of links where terrestrial services may be affected by a transmitting space station.

S/55/10 MOD 1617 §3. (1) Any administration, upon receipt of this information ~~and believing that the planned assignment may affect its services~~ shall examine the matter with respect to services rendered by its radiocommunication stations operating in accordance with the Table of Frequency Allocations or ~~planned to be so operated within the next five years.~~ If this examination reveals potential adverse effects, then shall within four months of the date of the relevant weekly circular, the administration shall ~~so~~ inform both the administration requesting agreement and the Board.

S/55/11 MOD 1618 (2) Any administration not having commented within the period of four months specified in No 1617 shall be regarded as unaffected by the planned assignment

S/55/12 MOD 1619 (3) Any administration responding under No. 1617 to a request for agreement and which cannot give its agreement to the request shall, ~~if possible at the same time,~~ give at least the relevant basic characteristics³ of its stations whose services may be affected, and shall make such suggestions as it may be able to offer with a view to a satisfactory solution of the problem. A copy of all this information shall simultaneously be sent to the Board.

S/55/13 ADD 1619.1 ³ Characteristics of stations in terrestrial services shall be along the lines of Appendix 1, but sufficiently detailed to permit an evaluation of any incompatibility. Characteristics of stations in space radiocommunication services shall be in accordance with Appendix 3 or 4

- S/55/14 ADD 1619A (3A) If the administration which cannot give its agreement to the request does not provide the basic characteristics of its affected stations within the period of four months specified in No. 1617, the administration requesting agreement may request the Board to endeavour to obtain the characteristics.
- S/55/15 ADD 1619B (3B) Where the Board receives a request under No. 1619A, it shall forthwith send a telegram to the administration concerned requesting the relevant basic characteristics.
- S/55/16 ADD 1619C (3C) When an administration fails to provide the characteristics of its affected stations within three months of dispatch of the Board's telegram of request under No. 1619B, it shall be deemed that the administration agrees to the request for agreement.
- S/55/17 MOD 1622 §6. Either administration may request the assistance of the Board in an attempt to resolve the problem. In this situation administrations should adhere to the time limits set by the Board in responding to its communications. In any case, the Board's intervention should be completed within a time frame of 4 months, whereafter No. 1624A applies.
- S/55/18 ADD 1622A §6A. When the request for agreement concerns assignments to receiving stations, and the administration seeking agreement declares that it accepts interference from assignments for which the relevant basic characteristics have been provided by an affected administration, notification of this acceptance shall constitute an agreement.

S/55/19

MOD 1624 §8. An administration having sought agreement under Nos. 1611 to 1613 and having received either no response or only responses of agreement under No. 1617 from any administration shall, on the expiry of the period of four months following the date of the relevant weekly circular mentioned in No 1615, inform the Board thereof and shall then be regarded as having successfully completed the procedure of this Article.

S/55/20

MOD 1624A §8A. An administration having sought agreement under Nos. 1611 to 1613 and having received one or more responses of disagreement under No. 1617 shall, on the expiry of the period of four months following the date of the relevant weekly circular mentioned in No. 1615, inform the Board of the disagreement, the progress made in reaching agreement, or of any difficulties. Such communication shall be made, as necessary, to the Board every six months after the above mentioned period

S/55/21

MOD 1625 §9. An administration having sought agreement under Nos. 1611 to 1613, having received one or more responses of disagreement under No. 1617, and having informed the Board under No 1623 of the resolution of the problem, shall be regarded as having obtained agreement in accordance with the relevant footnote in the Table of Frequency Allocations.

S/55/22

MOD 1626 §10. The Board, following receipt of advice under Nos. 1624, 1624A, or 1625 as to the completion of this procedure, shall publish this information in the appropriate section of the weekly circular.

S/55/23

ADD 1631 In case of a transmitting station, if the modification results in a reduction of potential

interference, and if, in the case of a receiving station, the administration accepts the probability of increased interference to its assignment, then Article 14 need not to be reapplied in respect of the modified network.

S/55/24

ADD 1632

An assignment which has successfully completed the Article 14 procedure, is to be taken into account by an administration applying the procedure at a later date for an assignment which should achieve the same status after successful completion.

S/55/25

MOD 1107

§16. (1) Before an administration notifies to the Board or brings into use any frequency assignment to an earth station, whether for transmitting or receiving, in a particular band allocated with ~~equal-rights~~ to space and terrestrial radiocommunication services in the frequency spectrum above 1 GHz, it shall, except in the cases described in Nos. 1108 to 1111, effect coordination of the assignment with each administration whose territory lies wholly or partly within the coordination area¹ of the planned earth station. The request for coordination concerning an earth station may specify all or some of the frequency assignments of the associated space station, but thereafter each assignment shall be dealt with individually.

Proposals from USA

USA/12/38 MOD 1610

(1) Before an administration (or one acting on behalf of a group of named administrations) notifies to the Board a frequency assignment in accordance with any footnote in the Table of Frequency Allocations which makes reference to this Article, it shall obtain the agreement of any other administration whose services may be affected. In the case of a footnote concerning a space radio-communication service, this procedure may be initiated before or at the same time as the application of the provisions of Article 11.

USA/12/39 ADD 1610A

(1A) In the case of a footnote concerning a space radiocommunication service, agreement under this Article to frequency assignments of a proposed geostationary-satellite network shall not be required from other administrations with respect to their geostationary-satellite networks.

USA/12/40 ADD 1610B

(1B) In the case of earth station assignments, an administration having successfully completed the procedure of this Article will be regarded as having successfully completed the procedure of Article 11, Section III.

USA/12/41 MOD 1613.1

¹The information in Appendix 3 or 4 submitted to the Board under Article 11 may also be used for the purpose of this procedure. The information submitted shall be sufficiently detailed to permit the application of Article 14 for the planned assignment to a satellite network.

USA/12/42 MOD 1616

(2) The Board shall endeavour to identify administrations whose services may be affected, and shall include the names of those administrations it is able to identify in the special section of its weekly circular and in the circular telegram mentioned under No. 1615^{1,2}.

- USA/12/43 ADD 1616.1 1As regards earth station coordination with terrestrial stations, the method described in Appendix 28 will serve to identify the administrations whose agreement is necessary in the bands between 1 and 40 GHz which are shared between space radiocommunication services and terrestrial radiocommunication services.
- USA/12/44 ADD 1616.2 2Observance of the power flux-density limits of Article 28, where specified for a given band, precludes the requirement for further coordination according to Article 14 in the case of links where terrestrial services may be affected by a transmitting space station.
- USA/12/45 MOD 1617 3. (1) ~~Any administration, upon receipt of this information and believing that the planned assignment may affect its services~~ On receipt of this request for agreement, an administration shall examine the matter with respect to service rendered by its radiocommunication stations operating in accordance with the Table of Frequency Allocations or planned to be so operated, shall, to be so operated within the next five years. If this examination reveals potential adverse effects, then within four months of the date of the relevant weekly circular, the administration shall so inform both the administration requesting agreement and the Board.
- USA/12/46 MOD 1618 (2) Any administration not having commented within the period of four months specified in No. 1617 shall be regarded as unaffected by the planned assignment.
- USA/12/47 MOD 1619 (3) Any administration responding under No. 1617 to a request for agreement and which cannot give its agreement to the request shall, if possible at the same time, give at least the relevant basic characteristics¹ of its stations whose services may be affected, and shall make such suggestions as it may be able to offer with a view to a satisfactory solution of the problem. A copy of all this information shall simultaneously be sent to the Board.
- USA/12/48 ADD 1619.1 ¹Characteristics of stations in terrestrial services shall be in accordance with Appendix 1, and characteristics of stations in space services shall be in accordance with Appendix 3 or 4.

- USA/12/49ADD 1619A (3A) If an administration seeking agreement of a receiving assignment is willing to accept interference from assignments of an affected administration based on relevant basic characteristics provided by the affected administration, notification of this acceptance shall constitute an agreement.
- USA/12/50ADD 1619B (3B) If the administration which cannot give its agreement to the request does not provide the basic characteristics of its affected stations within the period of four months specified in No. 1617, the administration requesting agreement may request the Board to endeavor to obtain the characteristics.
- USA/12/51 ADD 1619C (3C) Where the Board receives a request under No. 1619B, it shall forthwith send a telegram to the administration concerned requesting the relevant basic characteristics.
- USA/12/52 ADD 1619D (3D) When an administration fails to provide the characteristics of its affected stations within three months of dispatch of the Board's telegram of request under No. 1619C, it shall be deemed that the administration agrees to the request.
- USA/12/53 MOD 1624 8. An administration having sought agreement under Nos. 1611 to 1613 and having received either no response or only responses of agreement under No. 1617 from any administration shall, on the expiry of the period of four months following the date of the relevant weekly circular mentioned in No. 1615, inform the Board thereof and shall then be regarded as having successfully completed the procedure of this Article.
- USA/12/54 ADD 1624A 8A. An administration having sought agreement under Nos. 1611 to 1613 and having received one or more responses of disagreement under No. 1617 shall, on the expiry of the period of four months following the date of the relevant weekly circular mentioned in No. 1615, inform the Board of the disagreement, the progress made in reaching agreement, or of any difficulties. Such communication shall be made, as necessary, to the Board every six months after the above mentioned period.
- USA/12/55 MOD 1625 9. An administration having sought agreement under Nos. 1611 to 1613, having received one or more responses of disagreement under No. 1617, and having informed the Board under No. 1623 of the resolution of the problem, shall be regarded as having obtained agreement in accordance with the relevant footnote in the Table of Frequency Allocations.

USA/12/56 MOD 1626 10. The Board, following receipt of advice under Nos. 1624, 1624A, or 1625 as to the completion of this procedure, shall publish this information in the appropriate special section of the weekly circular.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/22-E

5 September 1988

Original: English

WORKING GROUP 6-C

Draft

PROPOSALS CONCERNING AGENDA ITEM 7

URS/7/13

For these reasons the USSR Administration proposes that in the Table of Frequency Allocations, under Region 1, "10.7 - 11.7", the words "Earth-to-space" in brackets and the figure "835" should be deleted, together with the text of No. 835 and that the band 10.7 - 11.7 GHz should be deleted in Resolution No. 101.

D/71/1

The footnote 835 in Article 8 of the Radio Regulations and the corresponding allocation for the fixed-satellite service in the direction Earth-to-space in the band 10.7 - 11.7 GHz should be retained without any change. This should be taken into account if Resolution No. 101 of WARC-79 is amended by the Second Session of WARC ORB.

L.M. PALMER

Chairman of Working Group 6-C

CONF\ORB-2\DT\022E.TXS

DRAFT PROPOSALS CONCERNING ARTICLE 27

Terrestrial Radiocommunication Services Sharing
Frequency Bands with Space Radiocommunication Services
above 1 GHz.

CAN/60/239 2502.1 *For provisions governing the mobile
MOD services....., see:

Special services related to safety
.....
.....

Land mobile service and land mobile-satellite
service.

Reason: Consequential to the decisions of MOB-87 to
add provisions for the land mobile-satellite service
in Chapter XII.

CAN/60/240 2510 (6) The limits given...fixed or mobile service:
MOD

10.7 - 11.7 GHz 1,2
.....
.....

14.5 - 14.8 GHz²

CAN/60/241 2511 (7) The limits given...fixed or mobile service:
MOD

17.7 - 18.1 GHz²
.....
27.5 - 29.5 GHz

Reason: Consequential to the suppression of
Resolution No. 101 and the proposed modification of
FN 863.

CAN/60/242 2510.2
SUP

CAN/60/243 2511.1
SUP

Reason: Resolution No. 101 will be superseded by
decisions of the Conference.

L.M. PALMER
Chairman Working Group 6-C

Draft

PROPOSALS CONCERNING ARTICLE 69

Entry into Force of the Radio Regulations

CAN/60/244

MOD 5187

These Regulations, which are ... except as specified in
Nos. 5188, 5189, ~~and~~ 5193, 5194, 5195 and 5196.

Reasons: To refer to the partial revision of the Radio Regulations
contained in the Final Acts of World Administrative Radio Conferences
including the Second Session of the Space WARC.

CAN/60/245

MOD 5192

(Text will require modification if Appendix 30 becomes
an Article in the Radio Regulations.)

CAN/60/246

ADD 5194

§ 8. Text as adopted by MOB-87 as follows:

§ 8.1 The partial revision of the Radio Regulations contained
in the Final Acts of WARC MOB-87 shall enter into force on
3 October 1989 at 0001 hours UTC, except for:

a) those provisions relating to the frequency band
4 000 - 27 500 kHz which are contained in:

- Articles 8 and 12,
- Articles 60, 62 and 65, and
- Appendices 16, 25 and 31 to 35; and

b) Chapters IX and N IX of the Radio Regulations

which shall enter into force on 1 July 1991 at 0001 hours UTC.

§ 8.2 The use of the frequency bands as listed in Nos. 532
and 544 of the Radio Regulations by the maritime mobile service
shall commence on 1 July 1991 at 0001 hours UTC under the
conditions specified in Resolution No. COM4/6 (MOB-87).

CAN/60/247
SUP 5193.1

Reasons: The Final Acts of WARC ORB-85 have now entered into force and Appendix 30 will be reviewed again by ORB-88. Therefore, the text is redundant.

CAN/60/248
ADD 5195 § 9. The partial revision of the Radio Regulations contained in the Final Acts of WARC HFBC-87 shall enter into force on 1 September 1988 at 0001 hours UTC.

CAN/60/249
ADD 5196 § 10. The partial revision of the Radio Regulations contained in the Final Acts of WARC ORB-88 shall enter into force on 1 January 1989 at 0001 hours UTC.

L.M. PALMER
Chairman of Working Group 6-C

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/25-E
5 September 1988
Original: English

SUB-WORKING GROUP 5-A-2

Draft

NOTE FROM THE CHAIRMAN OF SUB-WORKING GROUP 5-A-2

ORB-88 FEEDER-LINK SYSTEM

As requested by Sub-Working Group 5-A-2, data related to the antenna parameters used in the second planning exercise (May 1988) is included. These parameter set keys are the pointers into a section of code that defines each of the antenna patterns used by the interference model. (Re: ORB-88 Document 19-E, Annex 1 to Chapter 5).

The antenna keys A881-A887 refer to antenna characteristics as shown in the attached figures.

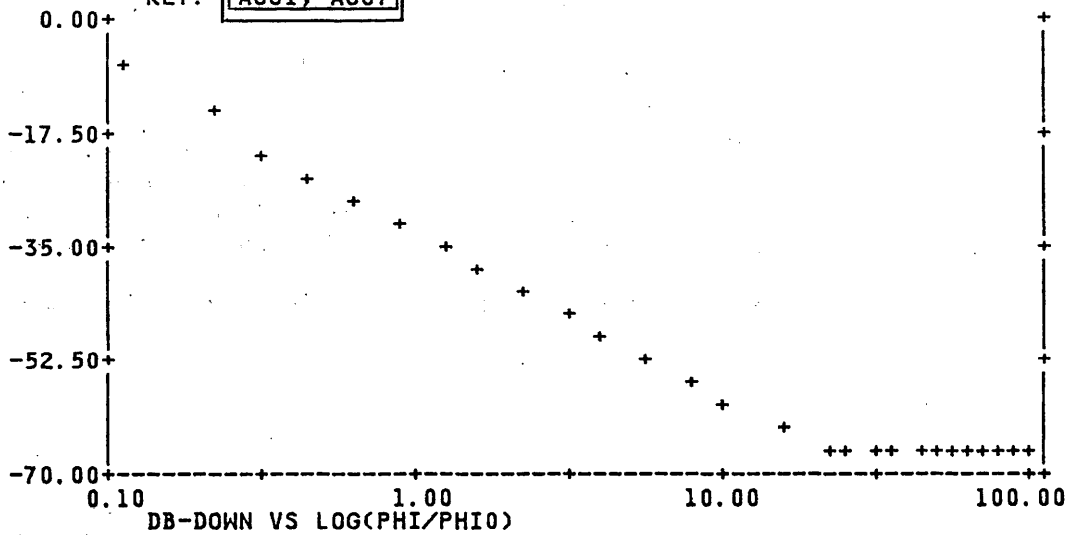
T. KOMOTO
Chairman of Sub-Working Group 5-A-2

ORB-88 FEEDER-LINK SYSTEM

PAG. 2

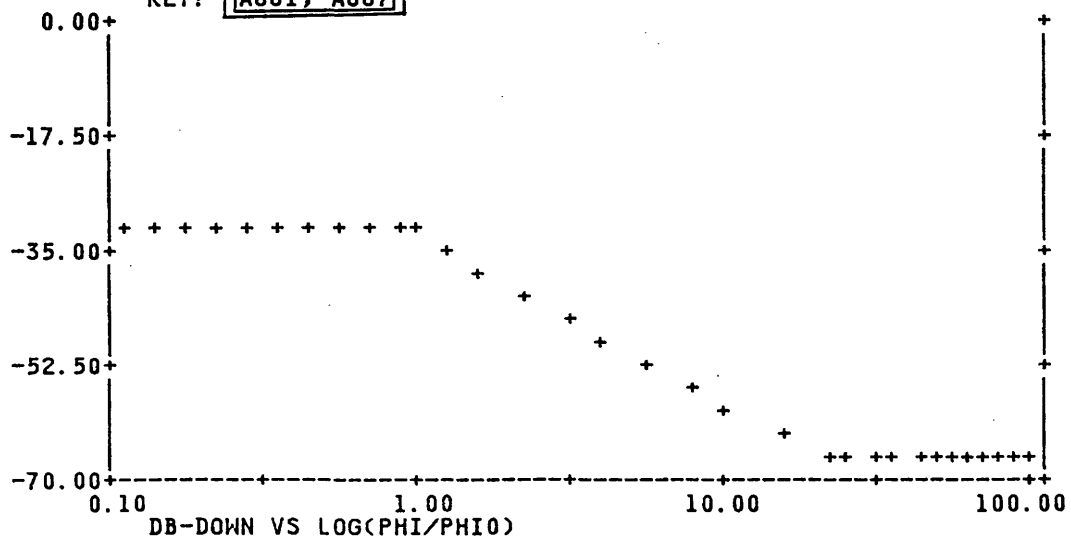
ORB-85: FEEDER-LINK COPOLAR EARTH XMIT (GC20)

KEY: [A881, A887]



ORB-85: FEEDER-LINK X-POLAR EARTH XMIT (GX20)

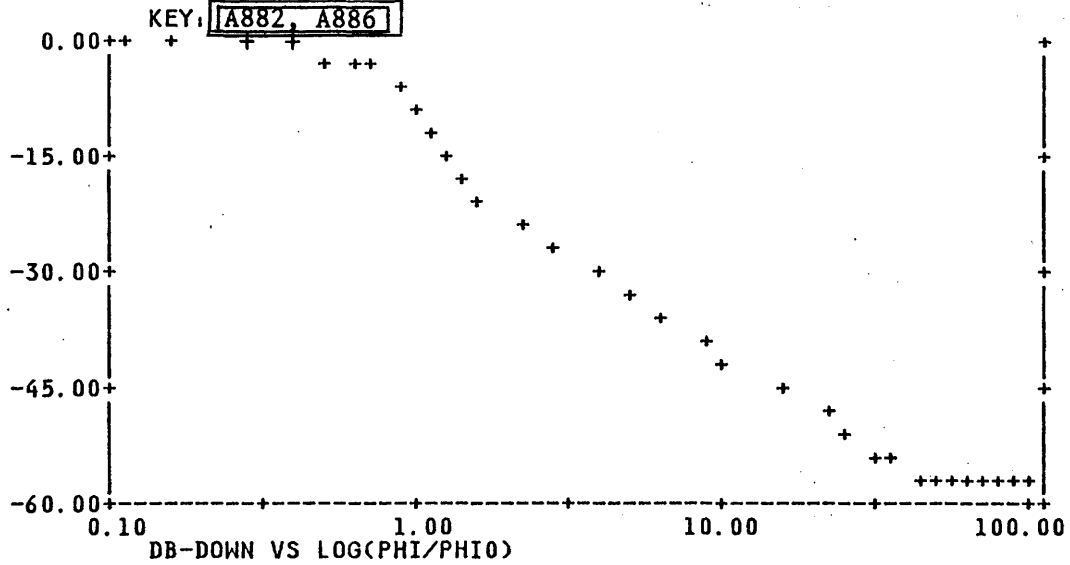
KEY: [A881, A887]



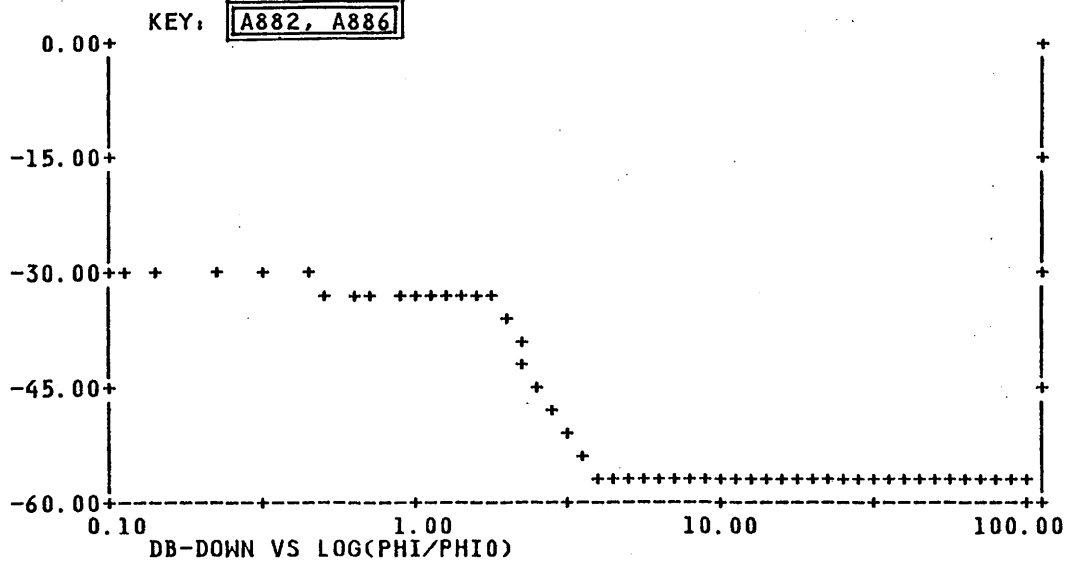
ORB-88 FEEDER-LINK SYSTEM

PAG. 3

ORB85: FEEDER-LINK REC CO-POLAR REG13 (GC12)



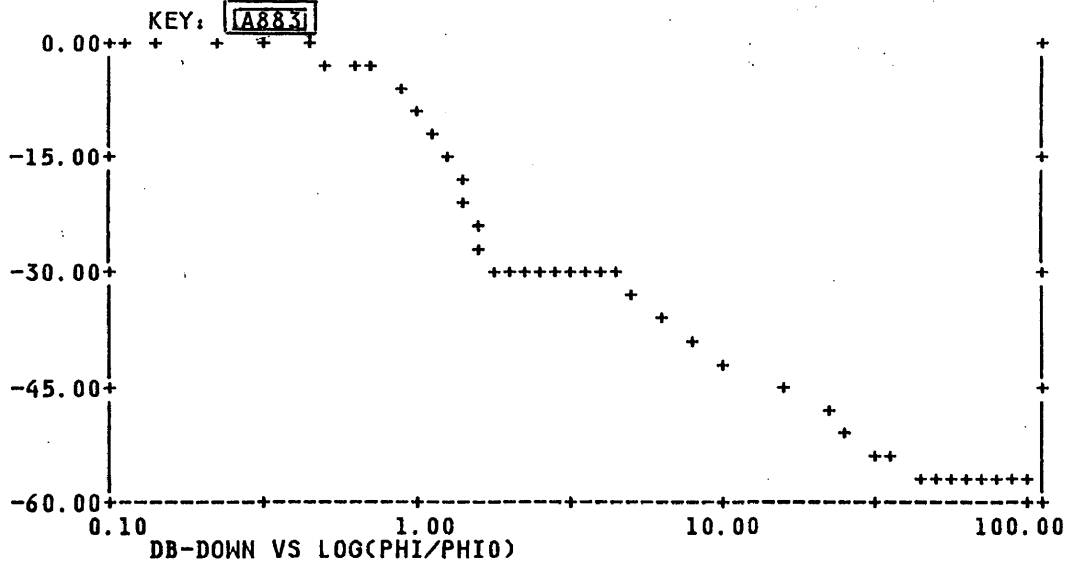
ORB-85: FEEDER-LINK X-POLAR SAT RECEIVE (GX12)



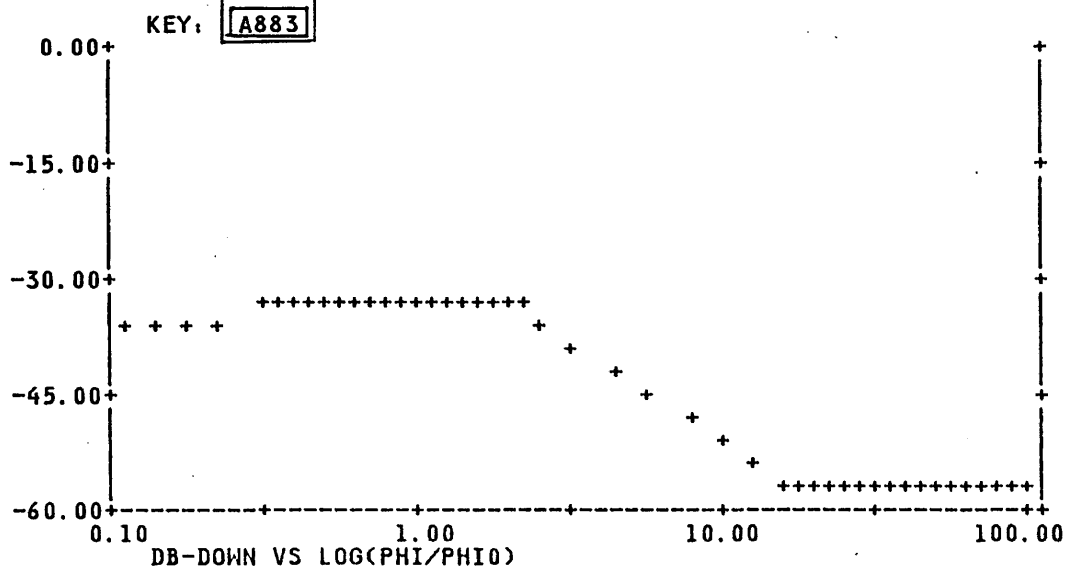
ORB-88 FEEDER-LINK SYSTEM

PAG. 4

WARC77: DOWN-LINK XMIT CO-POLAR REG13 (GWC5)



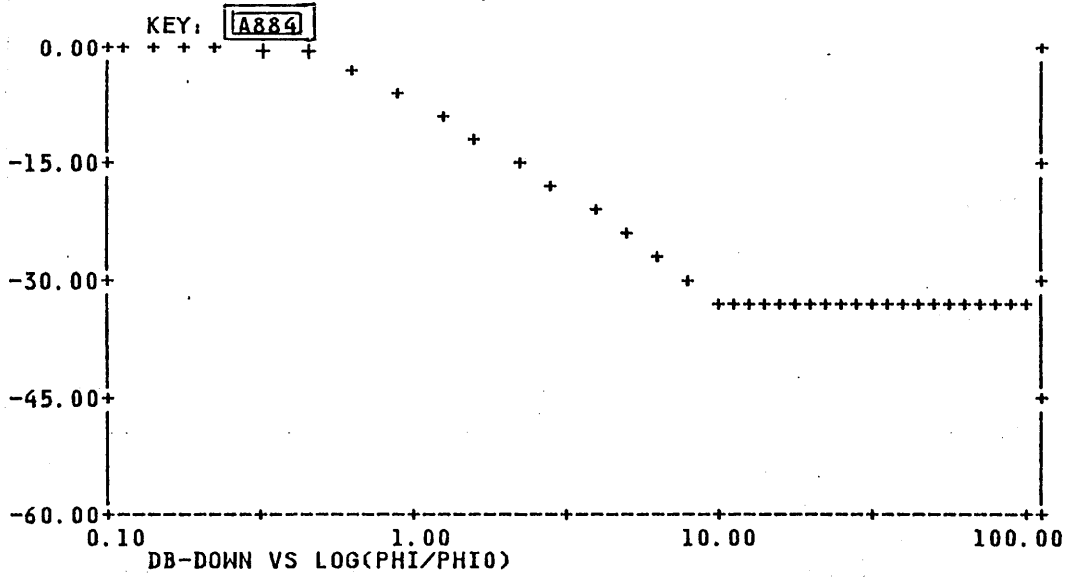
WARC77: DOWN-LINK XMIT CROSS-POLAR REG13 (GWX5)



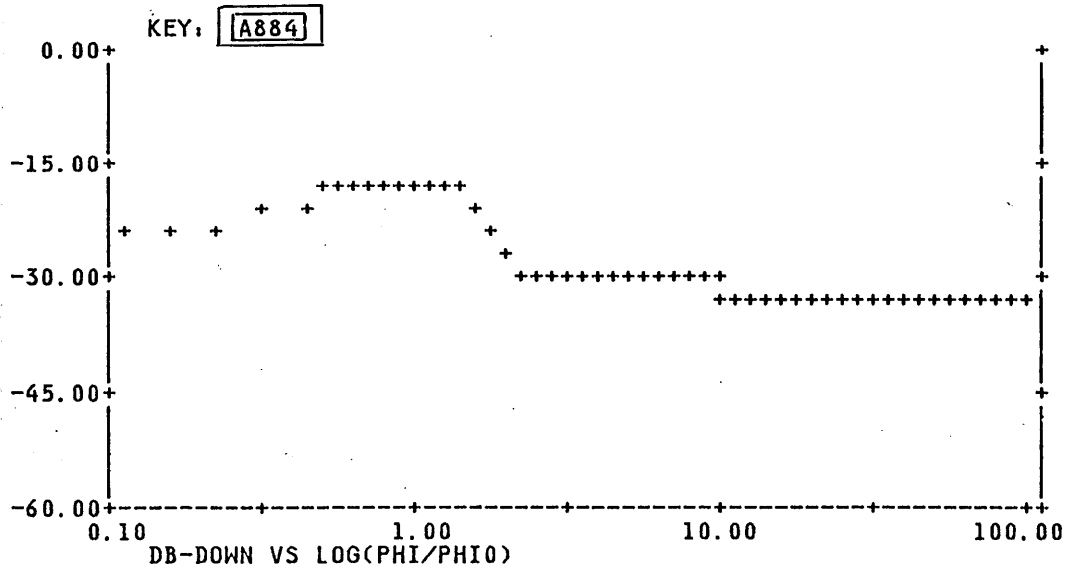
ORB-88 FEEDER-LINK SYSTEM

PAG. 5

WARC77: DOWN-LINK REC CO-POLAR REG13 (GPC4)



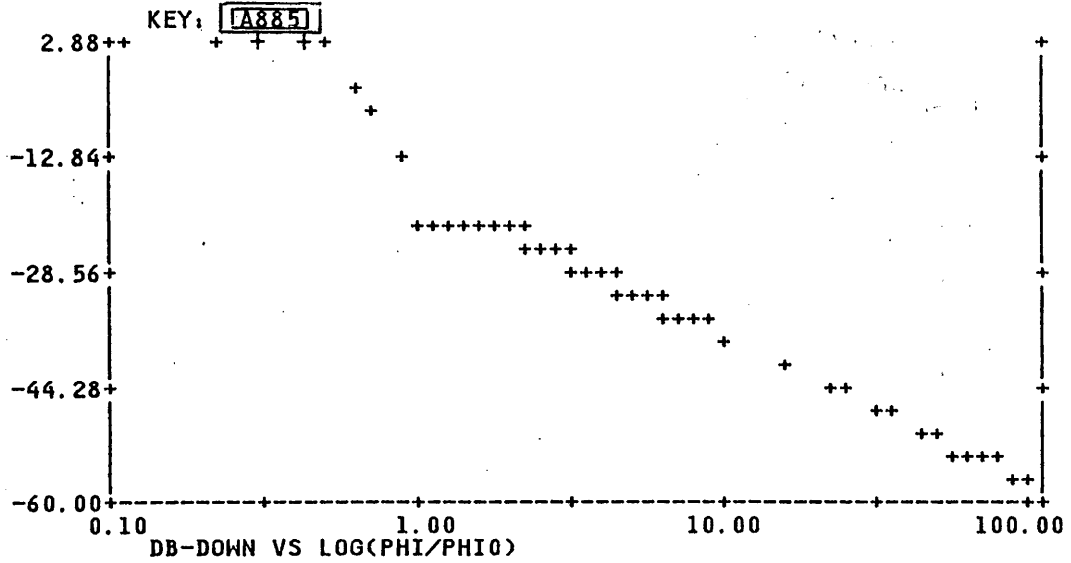
WARC77: DOWN-LINK REC CROSS-POLAR REG13 (GPX4)



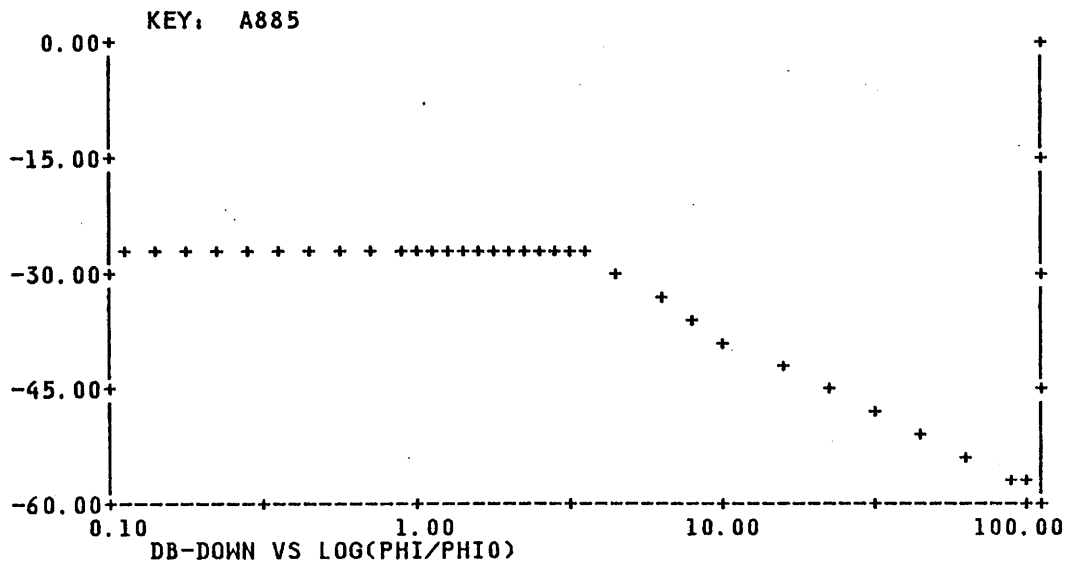
ORB-88 FEEDER-LINK SYSTEM

PAG. 6

ARC83: FEEDER-LINK REC CO-POLAR - FAST ROLL-OFF (GYC3)



ARC83: FEEDER-LINK REC X-POLAR - FAST ROLL-OFF (GYX3)



Draft

PROPOSALS CONCERNING ARTICLE 29

Special Rules Relating to
Space Radiocommunication Services

Section III. Station Keeping of Space Stations¹

USA/56/14

MOD A.29

¹ In the case of space stations on board nominally geostationary ~~geosynchronous~~ satellites with orbits having an angle of inclination no greater than 15 ~~5~~ degrees the positional tolerance shall relate to the nodal point.

Reasons: To clarify the permissible inclinational excursions of geostationary satellites.

KEN/69/36

§ 4.1 The + 0.1 degree E-W station keeping limits currently established in RR Article 29 may be retained. The CCIR may continue studies on N-S limits as mentioned in the paragraph 3.8.3.2 of the CCIR Report to the Second Session. This information should be specified in the Final Acts.

L.M. PALMER
Chairman of Working Group 6-C

WORKING GROUP
OF THE PLENARY

Draft

FIRST REPORT OF THE WORKING GROUP OF THE PLENARY TO THE PLENARY
ON THE MODIFICATIONS TO APPENDIX 29 OF THE RADIO REGULATIONS

1. Following detailed discussion of the need to revise the threshold value for determining if coordination is required under provision RR 1060 and consideration of existing CCIR texts concerning methods of calculating interference between carriers, and particularly the case of FM-TV and SCPC, the Working Group of the Plenary agreed to the following amendments to Appendix 29:

1.1 to raise the threshold value of increase to the equivalent satellite link noise temperature from "4%" to "6%". The necessary changes to Appendix 29 are at:

paragraph 3.1
paragraph 3.2.a
paragraph 3.2.b
Annex IV, Paragraph 4.

1.2 to change the title of section 4 to read "Consideration of narrow-band and FM-TV carriers";

1.3 to add a new paragraph as the third paragraph of section 4 (between the existing second and third paragraphs):

"For this special case administrations are referred to relevant CCIR texts for guidance in facilitating subsequent coordination.";

1.4 to change the reference at the end of the paragraph of section 2.2.1.2 by deleting "2.3" and inserting "3.2".

2. Reservation

France has reserved its position relating to sub-paragraph 1.1 above.

R. RYVOLA
Chairman of the Working Group
of the Plenary

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/28-E
6 September 1988
Original: English

COMMITTEE 4

DRAFT NOTE ON THE CONSIDERATION OF EXISTING SYSTEMS

The idea in this document is to provide elements for a possible compromise solution to the problems related to the consideration of existing systems.

By examining the latest results available on planning exercises considering requirements and existing systems, without entering into the merits of whether or not existing systems should constitute allotments in the Plan, it becomes clear that the chances to have existing systems included in the Plan as allotments would be very small. A possible solution to this problem would be to divide the Plan into two parts. A part A, containing the allotments (national requirements) and another part B, containing the set of existing systems. In its part A, the Plan would contain one allotment (single coverage through one or more beams or orbital positions) per country. These allotments would be those resulting from the planning process adopted by the Conference.

Initially, a plan will be developed, taking into consideration only the national requirements. This would guarantee the access to the orbit for all national requirements (Part A of the Plan). An analysis will then be done to identify incompatibilities between part A and B of the Plan.

The Conference will try to resolve these incompatibilities aiming at a possible improvement of such a plan, which can be adopted by the Conference as the Allotment Plan.

The interaction between parts A and B of the Plan will be governed by regulatory procedures associated with the Plan.

S. PINHEIRO
Chairman of Committee 4

CONF\ORB-2\DT\028E.TXS

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/29E
6 September 1988
Original: French

WORKING GROUP 4-B

DRAFT NOTE FROM THE CHAIRMAN OF WORKING GROUP 4-B

The following points, which have not yet been discussed and which require a decision, are submitted for the attention of Working Group 4-B:

- requirements with a fixed orbital position,
- requirements with a preferred service arc,
- requirements with coverage extending beyond their territory,
- coverage with several beams with the same characteristics.

C.T. N'DIONGUE
Chairman of Working Group 4-B

CONF\ORB-2\DT\029E.TXS

For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked to bring their copies to the meeting since no others can be made available.

Source: Document: DL/7

WORKING GROUP
OF THE PLENARY

DRAFT INFORMATION TEXTS TO COMMITTEE 6 ON THE
LIST OF TECHNICAL ISSUES RELATING TO APPENDICES 3 AND 4

At the request of the Working Group of the Plenary, I would like to transmit for your information, the following list of technical issues relating to Appendices 3 and 4 which have been identified and will be discussed in our Group before receiving any guidance from your Committee:

- 1) Power density averaging bandwidth (56)
- 2) Steerable beams (49, section 2.5, 18)
- 3) Circular geosynchronous inclined orbits (3, section 3.13.11, DT/26)
- 4) Satellite networks and typical earth stations (56)
- 5) Standardized projection for the footprints (127, section D.3.d, 22, Annex 4)
- 6) Objective values for C/N (23, section D.9.g)
- 7) Diameter of earth station antennas if radiation patterns are not available (22, Annex 5)
- 8) Relationship between frequency bands of the up-links and down-links (22, Annex 3)

R. RYVOLA
Chairman of the Working Group
of the Plenary

Draft

FEEDER LINK PLANNING

MODIFICATION OF REQUIREMENTS

In future exercises, the attached form is to be used for any modification to the feeder link requirements registered. Any suggested modification must be collected by the Chairman of Sub-Working Group 5-A-1 ad hoc, Mr. Tomati, or an appointed representative. A form, completed in the described manner, will then be processed in time so that the modified requirement will be used in the next planning exercise.

Timely before each planning exercise, the form will be made available in a colour specific for that exercise (yellow for No. 1, blue for No. 2, green for No. 3 etc).

L. TOMATI

Chairman of Sub-Working Group 5-A-1

IFRB/ORB(2)

FEEDER LINK PLANNING

FORMULAIRE DE SOUMISSION D'UNE MODIFICATION A L'INVENTAIRE DES BESOINS

FORM FOR SUBMISSION OF A MODIFICATION TO THE INVENTORY OF REQUIREMENTS

FORMULARIO PARA PRESENTACION DE UNA MODIFICACION AL INVENTARIO DE NECESIDADES

BEAM IDENTIFICATION No.

--	--	--	--	--	--	--	--	--	--

--	--	--

Proposing Admin.

Signature/Firma

--	--	--

Case No.

Box No.

Casilla No.

Date/Fecha

Administrations having agreed

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

PARTIE RESERVEE AU SECRETARIAT TECHNIQUE/
FOR USE BY THE TECHNICAL SECRETARY/
PARA USO DE LA SECRETARIA TECNICA

Date de réception

Date of receipt

Fecha de recepcion

Président du Groupe de planification 5-A-1 ad hoc

Chairman of Planning Group

Presidente del Grupo de Planificacion

Date de traitement

Date of processing

Fecha de tramitacion

Observations

Remarks

Observaciones

Mesure prise

Action

Accion

} MOD traitée
processed
tramitada
}
} MOD retournée
returned
devuelta

--

--

by

BEAM IDENTIFICATION

ADMINISTRATION

FEEDER-LINK CHANNELS

_____ 17 GHZ

_____ 14 GHZ

FEEDER-LINK

POLARIZATION EIRP
(1 or 2)

_____ 17 GHZ

_____ 14 GHZ

FEEDER-LINK ELLIPSE PARAMETERS

Boresight
Longitude E/W Latitude N/S

Major Axis Minor Axis Orientation

FEEDER-LINK TEST POINTS (max. ten)

	Longitude	E/W	Latitude	N/S	Hgt above Sea Level (m)	Rain Zone (Doc. 174)
1.	_____	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____	_____
6.	_____	_____	_____	_____	_____	_____
7.	_____	_____	_____	_____	_____	_____
8.	_____	_____	_____	_____	_____	_____
9.	_____	_____	_____	_____	_____	_____
10.	_____	_____	_____	_____	_____	_____

Draft

FEEDER LINK PLANNING

MODIFICATION OF REQUIREMENTS

In future exercises, the attached form is to be used for any modification to the feeder link requirements registered. Any suggested modification needs written approval from the Chairman of Sub-Working Group 5-A-1 ad hoc, Mr. Tomati, or an appointed representative. A form, completed in the described manner, will then be processed in time so that the modified requirement will be used in the next planning exercise.

Timely before each planning exercise, the form will be made available in a colour specific for that exercise (yellow for No. 1, blue for No. 2, green for No. 3 etc).

L. TOMATI

Chairman of Sub-Working Group 5-A-1

IFRB/ORB(2)

FEEDER LINK PLANNING

FORMULAIRE DE SOUMISSION D'UNE MODIFICATION A L'INVENTAIRE DES BESOINS

FORM FOR SUBMISSION OF A MODIFICATION TO THE INVENTORY OF REQUIREMENTS

FORMULARIO PARA PRESENTACION DE UNA MODIFICACION AL INVENTARIO DE NECESIDADES

BEAM IDENTIFICATION No.

--	--	--	--	--	--	--	--

--	--	--

Proposing Admin.

Signature/Firma

--	--	--

Case No.

Box No.

Casilla No.

Date/Fecha

Administrations having agreed

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

--	--	--

PARTIE RESERVEE AU SECRETARIAT TECHNIQUE/
FOR USE BY THE TECHNICAL SECRETARY/
PARA USO DE LA SECRETARIA TECNICA

Date de réception
Date of receipt
Fecha de recepción

Président du Groupe de planification 5-A-1 ad hoc
Chairman of Planning Group
Presidente del Grupo de Planificación

Date de traitement
Date of processing
Fecha de tramitación

Observations
Remarks
Observaciones

Mesure prise Action Acción	{	MOD	traitée	<input type="checkbox"/>
			processed	
			tramitada	
	{	MOD	retournée	<input type="checkbox"/>
		returned		
		devuelta		

by

BEAM IDENTIFICATION

ADMINISTRATION

FEEDER-LINK CHANNELS

_____ 17 GHZ

_____ 14 GHZ

FEEDER-LINK

POLARIZATION EIRP
(1 or 2)

_____ 17 GHZ

_____ 14 GHZ

FEEDER-LINK ELLIPSE PARAMETERS

Boresight
Longitude E/W Latitude N/S

Major Axis Minor Axis Orientation

FEEDER-LINK TEST POINTS (max. ten)

	Longitude	E/W	Latitude	N/S	Hgt above Sea Level (m)	Rain Zone (Doc. 174)
1.	_____	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____	_____
6.	_____	_____	_____	_____	_____	_____
7.	_____	_____	_____	_____	_____	_____
8.	_____	_____	_____	_____	_____	_____
9.	_____	_____	_____	_____	_____	_____
10.	_____	_____	_____	_____	_____	_____

Draft

RESOLUTION [COM6/1]

**Improvement of the Accuracy of the Master International Frequency Register,
the International Frequency List, and List VIIIA**

The World Administrative Radio Conference on the Use of the
Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It
(Second Session - Geneva, 1988),

considering

- a) that an accurate and updated Master International Frequency Register is essential for the application of all the relevant procedures in the Radio Regulations;
- b) that there is a need to improve the accuracy and reliability of the Master International Frequency Register;
- c) the importance to administrations of an accurate and up-to-date record in the Master International Frequency Register, the International Frequency List, and List VIIIA for the efficient use of the radio frequency spectrum and geostationary orbit;
- d) that previous initiatives of the IFRB have shown that, with the cooperation of administrations, substantial improvements can be made in the accuracy and reliability of the Master International Frequency Register;
- e) that the application of the periodical inquiry procedure in Article 13 by the IFRB has encountered difficulties;

recognizing

- a) that only vigorous and cooperative world-wide action on this problem will lead to a solution;
- b) that a procedure involving the mutual cooperation of all administrations and the IFRB is required for the purpose of revising parts of the Master International Frequency Register;

resolves

1. that administrations are urged to observe the time limits prescribed in the Radio Regulations concerning modification, cancellation and review of entries in the Master International Frequency Register;
2. that administrations are urged to cooperate fully with the IFRB in the application of the provisions of the Radio Regulations relating to the cancellation of assignments no longer in use and to the notification of suspended use of assignments to space and earth stations.

L.M. PALMER
Chairman of Working Group 6-C

Draft

RESOLUTION [COM 6/1]

Improvement of the Accuracy of the Master Register, the
International Frequency List, and List VIIIA

The World Administrative Radio Conference on the Use of the
Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It
(Second Session, Geneva, 1988),

considering

- a) that an accurate, clean and updated Master Register is absolutely essential for the application of all the relevant procedures in the Radio Regulations;
- b) that there is a need to improve the accuracy and reliability of the Master International Frequency Register;
- c) the importance to administrations of an accurate and up-to-date record in the Master Register, the International Frequency List, and List VIIIA for the efficient use of the radio frequency spectrum and geostationary orbit;
- d) that previous initiatives of the IFRB have shown that, with the cooperation of administrations, substantial improvements can be made in the accuracy and reliability of the Master Register;
- e) that however certain difficulties have been encountered by the IFRB in implementing the provisions of RR 1569;

recognizing

- a) that only a vigorous and cooperative world-wide attack on this problem will lead to a solution;
- b) that a procedure involving the mutual cooperation of all administrations and the IFRB is required for the purpose of revising parts of the Master Register;

resolves

- 1. that administrations be urged to implement the provisions of RR 1573 within the time limit prescribed therein;

2. that administrations be urged to cooperate fully with the IFRB in application of the provisions of RR 1570 and RR 1574 in order to enable it to cancel all those assignments not in use, from the Master Register;
3. that the IFRB shall apply the relevant provisions of Section VI of Article 13 in full.

L.M. PALMER
Chairman of Working Group 6-C

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/33-E
7 September 1988
Original: English

WORKING GROUP OF
THE PLENARY

Draft

THIRD REPORT OF THE WORKING GROUP OF THE PLENARY
TO THE PLENARY

AMENDMENTS TO APPENDIX 28 OF THE RADIO REGULATIONS

Based on the consideration of Documents 3 and 12, the Working Group of the Plenary has decided to modify Table II of Appendix 28 to the Radio Regulations as follows:

TABLE II

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

SUP				ADD				SUP				ADD			
Space Radiocommunication Service Designation				Space Research		Space Research				Space Research		Space Research			
				Near Earth	Deep Space Manned					Near Earth	Deep Space				
Frequency Bands (GHz)				1.700-1.710 2.290-2.300		1.700-1.710 2.200-2.290		2.200-2.290 2.290-2.300		8.400-8.500		8.400-8.500			
Modulation at Earth Station (2)				-	-	-	-	-	-	-	-	-	-		
Interference Parameters and Criteria	f_0 (%)	0.1	0.001	0.1	0.001	0.001	0.1	0.001	0.001	0.1	0.001	0.1	0.001		
	n	2	1	1 (9)	1	1	2	1	1	2	1	2	1		
	p (%)	0.05	0.001	0.1 (9)	0.001	0.001	0.05	0.001	0.001	0.05	0.001	0.05	0.001		
	J (dB)	-	-	-	-	-	-	-	-	-	-	-	-		
	$M_0(p_0)$ (dB)	-	-	-	-	-	-	-	-	-	-	-	-		
	M' (dB)	-	-	-	-	-	-	-	-	-	-	-	-		
Terrestrial Station Parameters	E (dBW) $\ln B$ (*)	62(4)(6)	62(4)(6)	62(4)(6)	62(4)(6)	62(4)(6)	25 (4)	25 (4)	25 (4)	25 (4)	25 (4)	25 (4)	25 (4)		
	P_f (dBW) $\ln B$	10(4)(6)	10(4)(6)	10(4)(6)	10(4)(6)	10(4)(6)	-17 (4)	-17 (4)	-17 (4)	-17 (4)	-17 (4)	-17 (4)	-17 (4)		
	ΔG (*)	10 (6)	10 (6)	10 (6)	10 (6)	10 (6)	0	0	0	0	0	0	0		
Reference Bandwidth (7)	B (Hz)	1	1	1	1	1	1	1	1	1	1	1	1		
Permissible Interference Power	$P_f(p)$ (dBW) $\ln B$	-220	-222	-216	-216	-222	-220	-220	-220	-216	-220				

(9) n is taken to be 1 for earth station supporting low orbit satellites. For earth stations supporting geostationary satellites, n takes on a value of 2 and p becomes 0.05.

R. RYVOLA
Chairman of the Working Group of the Plenary

WORKING GROUP 6-C

Draft

PROPOSALS CONCERNING MULTISERVICE SATELLITE
COORDINATION PROCEDURES

AUS/49/26

For the bands subject to improved regulatory procedures, the procedures developed should make provision for, and recognize the particular characteristics and constraints of, multiservice (multi-purpose) satellites. Such constraints include increased difficulty and complexity in coordination and satellite relocation.

Reasons: An increasing number of countries make use of a common satellite to provide a range of services. For example, the Australian Aussat system is designed to provide fixed-satellite, broadcasting-satellite, and mobile-satellite services, as well as scientific packages on the one spacecraft.

The coordination of multiservice satellites brings additional complications and potential problems. The Report of the CCIR to the Conference in section 3.4.2 identifies some of these problems. For example, the report notes the need to apply different procedures to the different services, and the resultant possibility of incompatible conclusions.

The relocation of a multiservice satellite may also be particularly difficult because of the conflicting requirements of the different services.

NZL/73/3

While supporting the planning approaches established at the First Session, New Zealand would urge administrations to recognize the need for multiservice, multi-function satellite systems. Recognition of the advantages to be gained from a regulatory regime which takes into account systems which operate in more than one frequency bands will further enhance the ability of administrations to take advantage of space communications.

USA/77/1
ADD

RECOMMENDATION [COM6/A]

**Relating to the Coordination of Satellite Networks Using the
Geostationary Orbit that are Subject to Multiple Procedures**

The World Administrative Radio Conference, on the Use of the
Geostationary-Satellite Orbit and the Planning of Space Services Utilizing
It, Geneva 1988,

considering

- a) that there are several different regulatory mechanisms for obtaining international recognition for space radiocommunication satellite services using the Geostationary-Satellite Orbit (GSO);
- b) that there are GSO satellites with one or more networks using multiple frequency bands which may be subject to more than one regulatory procedure;
- c) that it is desirable to clarify and simplify the relation of these procedures in obtaining international recognition for the use of frequencies and geostationary-satellite orbital positions by satellite networks subject to more than one procedure;
- d) that each procedure has equal status in its own right for specific frequency bands allocated to specific radiocommunication satellite services;

recommends

that when planning a satellite network administrations avoid using, if possible, combinations of frequency bands, such that more than one regulatory procedure applies to the network;

further recommends

that concerning GSO satellites which may be subject to more than one procedure the following guidelines be applied:

- a) an administration seeking coordination for such a satellite network must assume the risk that the coordination can be more difficult and possibly unsuccessful for certain bands;
- b) an administration responsible for such a satellite network cannot expect another administration with which it must participate in the coordination process to accept as a factor in coordination, constraints imposed due to procedures applied in another band;
- c) an administration having such a satellite network should make every effort to apply the procedures independently to the frequencies concerned;
- d) the plan modification procedures and satellite assignment and allotment plans should be used as an aid in the resolution of difficulties.

L.M. PALMER
Chairman of Working Group 6-C

GROUPE DE TRAVAIL 4-B

PROJET DE MANDAT DU SOUS-GROUPE DE TRAVAIL 4-B-1 (PLANIFICATION)

Le mandat suivant est proposé :

Etablir, à l'intention de la Commission 4, et en tenant compte des besoins soumis par les administrations et des décisions prises par la Commission 4, un Plan d'allotissement pour le service fixe par satellite dans les bandes :

4 500 - 4 800 MHz et 6 725 - 7 025 MHz; et

10,70 - 10,95 GHz, 11,20 - 11,45 GHz et 12,75 - 13,25 GHz.

En élaborant ce Plan, le Groupe doit envisager et analyser des solutions permettant d'améliorer les résultats obtenus.

WORKING GROUP 4-B

DRAFT TERMS OF REFERENCE OF SUB-WORKING GROUP 4-B-1 (PLANNING)

The following terms of reference are proposed :

To prepare for consideration of Committee 4, taking into account the requirements submitted by the administrations and the decisions taken by Committee 4, an Allotment Plan for the fixed-satellite service in the bands :

4 500 - 4 800 MHz and 6 725 - 7 025 MHz; and

10.70 - 10.95 GHz, 11.20 - 11.45 GHz and 12.75 - 13.25 GHz.

In preparing this Allotment Plan, the Group should consider and analyse alternatives to improve the results obtained.

GRUPO DE TRABAJO 4-B

PROYECTO DE MANDATO DEL SUBGRUPO DE TRABAJO 4-B-1 (PLANIFICACION)

Se propone el siguiente mandato:

Preparar para examen de la Comisión 4, teniendo en cuenta las necesidades presentadas por las administraciones y las decisiones tomadas por la Comisión 4, un Plan de adjudicaciones para el servicio fijo por satélite en las bandas:

4 500 - 4 800 MHz y 6 725 - 7 025 MHz; y

10,70 - 10,95 GHz, 11,20 - 11,45 GHz y 12,75 - 13,25 GHz.

Al proceder a la preparación de este Plan de adjudicaciones, el Grupo debe considerar y analizar las soluciones alternativas posibles a fin de mejorar los resultados.

Draft

ORGANIZATION OF WORK AND SUMMARY OF PROPOSALS

The majority of proposals attributed to this Working Group addressed in some way, the concept of MPMs, however, the perception of what is an MPM differed greatly.

A number of administrations have addressed improvements in Article 11 as it applies to the bands under consideration.

Two administrations have addressed the applicability of the improved procedures to specific frequency bands.

One administration has proposed a change in Article 10 of the Radio Regulations.

Legal advice has been received from one administration on the difficulties in deciding on the formal MPM issue. Further legal advice has been received from the Secretary-General (Document 165).

There appeared to be a commonality in three aspects:

- a) there was general acceptance for the concept of some type of MPM though three administrations questioned the value and practical aspects of such a procedure;
- b) with some significant differences, the majority of the proposals suggest that an MPM is either:
 - 1) a meeting of administrations which would be convened on request of an administration with the purpose of facilitating the coordination of new and proposed networks; or
 - 2) a formal meeting structure, convened on a regular basis with the ability to make binding decisions;
- c) there appeared to be recognition that some burden sharing will be needed to achieve equitable access.

With the above in mind it is proposed that the Working Group proceed in the following manner:

- a) as a first task, the Working Group examine the concept of MPMs;
- b) once the MPM concept is well defined the Article 11 considerations will need to be addressed;

- c) the proposals on the frequency bands would follow;
- d) finally the consequential amendments to the Radio Regulations will need to be addressed.

To assist the Working Group, a list of headings under which the various proposals and concerns of administrations could be addressed, has been prepared. It is suggested that this be used as a basis for discussion.

- 1) Purpose of MPMs
 - a) Why are they necessary?
 - b) How can they be realized?
 - c) When would they take place?
- 2) Legal and Financial Concerns
 - a) What are the legal constraints on this Conference deciding on the implementation of MPMs?
 - b) What would be the status of decisions of an MPM?
 - c) How could MPMs be financed?
- 3) Participation
 - a) Who can participate in an MPM?
 - b) What are the rights of non-participants?
 - c) What is the role of the Union?
 - d) How can multinational systems be addressed?
 - e) What proxy arrangements are required?
- 4) Venue
 - a) Where would meetings be held?
- 5) Organization and conduct of meetings
 - a) How would a meeting be called?
 - b) Who would organize it?
 - c) How would it be conducted?
- 6) Relationship to the Radio Regulations

G. RAILTON
Chairman of Working Group 6-A

SUB-WORKING GROUP 2
OF THE WORKING GROUP
OF THE PLENARY

Draft

PROPOSALS FOR THE WORK OF SUB-WORKING GROUP 2
OF THE WORKING GROUP OF THE PLENARY

The following document is a collection of the proposals contained in the documents attributed to this Sub-Working Group.

J.B. POTTS
Chairman of Sub-Working Group 2
of the Working Group of the Plenary

APPENDIX 4

**Advance Publication Information to Be Furnished
for a Satellite Network**

(See Article 11)

Section A. General Instructions

- Item 1* Information shall be provided separately for each satellite network.
- Item 2* Information to be furnished for each satellite network shall include general characteristics (Section B), and, as applicable, characteristics in the Earth-to-space direction (Section C), characteristics in the space-to-Earth direction (Section D), and characteristics for space-to-space relay (Section E). In addition, the administration, or one acting on behalf of a group of named administrations submitting the advance information, may provide, as supplementary information, data for interference calculations for the purpose of inter-network coordination (Section F).

**Section B. General Characteristics to Be Furnished for
a Satellite Network**

- Item 1* Identity of the satellite network

Clearly identify the satellite network and, if applicable, identify the satellite system of which it will form a part.

- Item 2* Date of bringing into use¹

Indicate the date by which the satellite network is expected to be brought initially into use.

¹ See also Resolution 4.

Item 3 Administration or group of administrations submitting the advance information

Give the name of the administration or the names of the administrations in the group submitting the advance information on the satellite network and the postal and telegraphic addresses of the administration(s) to which any communication should be sent.

Item 4 Orbital information relating to the space station(s)

a) In the case of a space station aboard a geostationary satellite, give the planned nominal geographical longitude on the geostationary-satellite orbit and the planned longitudinal tolerance and inclination excursion. Indicate also:

- 1) the arc of the geostationary-satellite orbit over which the space station is visible, at a minimum angle of elevation of 10° at the Earth's surface, from its associated earth stations or service areas;
- 2) the arc of the geostationary-satellite orbit within which the space station could provide the required service to its associated earth stations or service areas;
- 3) in the event that the arc defined in paragraph 2) above is less than the arc defined in paragraph 1) above, provide the reasons therefor.

Note: The arcs specified in 1) and 2) will be indicated by the geographical longitude of the extremes of these arcs on the geostationary-satellite orbit.

b) In the case of space station(s) aboard non-geostationary satellite(s), indicate the angle of inclination of the orbit, the period, the altitudes in kilometres of the apogee and perigee of the space station(s) and the number of satellites used having the same characteristics.

**Section C. Characteristics of the Satellite Network
in the Earth-to-Space Direction**

Item 1 Earth-to-space service area(s)

Indicate the service area(s) on the Earth associated with each receiving antenna of the space station.

Item 2 Class of stations and nature of service

For each Earth-to-space service area, indicate the class of the stations in the satellite network and the nature of the service to be performed, using the symbols shown in Appendix 10.

Item 3 Frequency range

For each Earth-to-space service area, indicate the frequency range within which the carriers will be located.

Item 4 Power characteristics of the transmitted wave

a) For each Earth-to-space service area indicate the maximum spectral power density (dB(W/Hz)) to be delivered to the antenna of the transmitting earth stations (the bandwidth over which this is averaged depends on the nature of the service concerned) for each size of transmitting earth station antenna and, if available, the total peak envelope power (dBW) and the necessary bandwidth of this emission.

b) If available, indicate, for each Earth-to-space service area, the actual radiation pattern (relative to isotropic) of the transmitting earth station antenna having the highest off-beam equivalent isotropically radiated spectral power density for each size of transmitting earth station antenna.

c) If available, for television carriers and for each Earth-to-space service area, indicate the peak envelope power to be delivered to the input of the earth station transmitting antenna.

d) If available, indicate the minimum carrier power delivered to the antenna of the earth station for narrow-band carriers.

F/187/2

Section C, item 4

ADD e) If available, indicate, for each Earth-to-space service area, the types of carriers involved² and, for each type, the maximum spectral power density (dB(W/Hz))¹ to be delivered to the antenna of the transmitting earth station (the bandwidth over which this is averaged depends on the nature of the service concerned) for each size of transmitting earth station antenna.

Item 5 Characteristics of space station receiving antennae

For each Earth-to-space service area:

a) in the case of a space station aboard a geostationary satellite, indicate the maximum gain of the space station receiving antenna and the gain contours plotted on a map of the Earth's surface

F/187/4

ADD

² See Resolution [XY], Table 1.

F/187/5

NOC

¹ The most recent version of CCIR Report 792 should be used to the extent applicable in calculating the maximum power density per Hz.

preferably using a radial projection from the satellite in a plane perpendicular to the axis from the centre of the Earth to the satellite. The isotropic or absolute gain at each contour which corresponds to a gain of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter, as necessary, below the maximum gain, shall be indicated. Whenever possible the estimated gain contours of the space station receiving antenna should also be provided in the form of a numerical equation or in a tabular form;

- b) in the case of a space station aboard a non-geostationary satellite, indicate the isotropic or absolute gain of the space station receiving antenna in the direction of maximum radiation and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- c) if available, for each space station receiving antenna, indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149);
- d) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the estimated gain of the space station receiving antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth by means of a diagram showing estimated antenna gain versus orbit longitude.

Item 6 Noise temperature of the receiving space station

For each Earth-to-space service area, when other than a simple frequency-changing transponder is used aboard the space station, indicate the lowest total receiving system noise temperature referred to the output of the receiving antenna.

Item 7 Necessary bandwidth

If available, in the case of narrow-band carriers, indicate the necessary bandwidth.

Item 8 Modulation characteristics

If available, in the case of television carriers, indicate the characteristics of energy dispersal such as the peak-to-peak frequency deviation (MHz) and the sweep frequency (kHz) of the energy dispersal waveform.

Section D. Characteristics of the Satellite Network
in the Space-to-Earth Direction

Item 1 Space-to-Earth service area(s)

Indicate the service area(s) on the Earth associated with each transmitting antenna of the space station.

Item 2 Class of stations and nature of service

For each space-to-Earth service area, indicate the class of the stations in the satellite network and the nature of the service to be performed, using the symbols shown in Appendix 10.

Item 3 Frequency range

For each space-to-Earth service area, indicate the frequency range within which the carriers will be located.

Item 4 Power characteristics of the transmission

a) For each space-to-Earth service area, indicate the maximum spectral power density (dB(W/Hz))¹ to be delivered to the transmitting antenna of the space station (the bandwidth over which this is averaged depends on the nature of the service concerned) and, if available, the total peak envelope power (dBW) and the necessary bandwidth of this emission.

b) If available, for narrow-band carriers and for television carriers, indicate the peak envelope power to be delivered to the input of the space station transmitting antenna.

c) If available, indicate the minimum carrier power delivered to the antenna of the space station for narrow-band carriers.

F/187/3

Section D, item 4

ADD e) If available, indicate, for each space-to-Earth service area, the types of carriers involved² and for each type, the maximum spectral power density (dB(W/Hz))¹ to be delivered to the transmitting antenna of the space station (the bandwidth over which this is averaged depends on the nature of the service concerned).

Notes to Sections C and D

F/187/4

ADD

² See Resolution [XY], Table 1.

F/187/5

MOD

¹ The most recent version of CCIR Report 792 should be used to the extent applicable in calculating the maximum power density per Hz.

Item 5 Characteristics of space station transmitting antennae

For each space-to-Earth service area:

- a) in the case of a space station aboard a geostationary satellite, indicate the maximum gain of the space station transmitting antenna and the gain contours plotted on a map of the Earth's surface, preferably in a radial projection from the satellite in a plane perpendicular to the axis from the centre of the Earth to the satellite. The isotropic or absolute gain at each contour which corresponds to a gain of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter as necessary, below the maximum gain, shall be indicated. Whenever possible, the estimated gain contours of the space station transmitting antenna should also be provided in the form of a numerical equation or in tabular form;
- b) in the case of a space station aboard a non-geostationary satellite, indicate the isotropic or absolute gain of the space station transmitting antenna in the direction of maximum radiation and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- c) if available, for each space station transmitting antenna, indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149);
- d) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the estimated gain of the space station transmitting antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth by means of a diagram showing estimated antenna gain versus orbit longitude.

Item 6 Characteristics of receiving earth stations

- a) For each space-to-Earth service area, when other than a simple frequency-changing transponder is used aboard the space station, indicate the lowest total receiving system noise temperature on the earth stations referred to the output of the receiving antenna.

For each space-to-Earth service area and for each projected usage¹ when simple frequency-changing transponders are used on the space station, indicate:

- 1) the lowest equivalent satellite link noise temperature and the associated value of transmission gain; *and*
 - 2) the values of transmission gain and associated equivalent link noise temperature that correspond to the highest ratio of transmission gain to equivalent satellite link noise temperature. The transmission gain is evaluated from the output of the receiving antenna of the space station to the output of the receiving antenna of the earth station. For each projected usage, indicate also the receiving antenna(e) of the space station to which each simple frequency-changing transponder will be connected.
- b) If available, indicate for each space-to-Earth service area the actual radiation pattern (relative to isotropic) of the receiving earth station for each size of receiving earth station antenna having the highest off-beam level. When simple frequency-changing transponders are used on the space station, indicate also, if available, the pattern associated with each equivalent satellite link noise temperature indicated above.

Item 7 Necessary bandwidth

If available, in the case of narrow-band carriers, indicate the necessary bandwidth.

Item 8 Modulation characteristics

If available, in the case of television carriers, indicate the characteristics of energy dispersal such as the peak-to-peak frequency deviation (MHz) and the sweep frequency (kHz) of the energy dispersal waveform.

**Section E. Characteristics to Be Furnished
for Space-to-Space Relays**

Where the satellite network is connected to one or more satellite networks by means of space-to-space relay, indicate the following:

- a) identity or identities of the other satellite network(s) to which the satellite network is connected;
- b) transmit and receive frequency bands;
- c) classes of emission;
- d) nominal equivalent isotropically radiated power(s) (e.i.r.p.) on the beam axis.

¹ A different usage will be considered to take place when different types of carriers are employed (different by virtue of maximum power spectral density), or when different types of receiving earth stations are employed (different by virtue of receiving antenna gain).

Section F. Supplementary Information (if available)

Item 1 General

Supplementary information may be provided by an administration or one acting on behalf of a group of named administrations who so desire. This information may be used for interference calculations associated with the advance publication process. The information may consist of part or all of the data contained in the following items which are not exhaustive but provide an indication of the type of information which may be supplied.

Item 2 Earth-to-space direction

For each Earth-to-space service area, the following information may be provided:

- a) class of emission, necessary bandwidth and modulation characteristics (including energy dispersal if employed) for each type of carrier transmitted;
- b) earth station e.i.r.p. for each type of carrier associated with each type and diameter of earth station antenna;
- c) technical description and system parameters of telecommand (except for coding data).

USA/56/24

ADD in Section F, Item 2

d)¹ The total peak envelope power (in dBW) delivered to the antenna of the transmitting earth stations that would be used to meet the up-path performance objectives of the network for each contiguous satellite bandwidth. For a satellite transponder, this corresponds to the bandwidth of each transponder and the peak envelope power necessary to produce saturation.

Item 3 Space-to-Earth direction

For each space-to-Earth service area, the following information may be provided:

- a) class of emission, necessary bandwidth and modulation characteristics (including energy dispersal if employed) for each type of carrier;
- b) satellite transmitter power to be delivered to the satellite transmitting antenna for each type of carrier;

USA/56/26
ADD Footnote

1) The method of making calculations using this information may be found in the Annex to Resolution (L) and CCIR texts.

- c) technical description and system parameters of beacon and space telemetry emissions (except for coding data).

USA/56/25

ADD in Section F, Item 3

d)¹ The maximum total peak envelope power (in dBW) delivered to the transmitting antenna of the space station for each contiguous satellite bandwidth. For a satellite transponder, this corresponds to the saturated peak envelope power and the bandwidth of each transponder.

Item 4 Any other information which may be useful

USA/56/26

ADD Footnote

- 1) The method of making calculations using this information may be found in the Annex to Resolution (L) and CCIR texts.
-

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

Document DT/38-E
8 September 1988
Original: English

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

SUB-WORKING GROUP 5-A-2

DRAFT NOTE OF THE CHAIRMAN OF SUB-WORKING GROUP 5-A-2

The attached propagation model for Regions 1 and 3 is presented for information, taken from the Report to the Second Session of the Conference.

T. KOMOTO
Chairman of Sub-Working Group 5-A-2

PROPAGATION MODEL FOR FEEDER LINKS

6.2.2.17 Propagation

The propagation model for feeder links is based on the value of rain attenuation exceeded for one per cent of the worst month.

6.2.2.17.1 Attenuation

For calculation, the following data are needed:

$R_{0.01}$: point rainfall rate for the location exceeded for 0.01% of an average year (mm/h)

h_0 : The height above mean sea level of the earth station (km)

θ : the elevation angle (degrees)

f : frequency (GHz)

ζ : latitude of earth station (degrees)

Mean frequencies will be used for calculations for the two bands, i.e. 17.7 GHz and 14.65 GHz.

Step 1 - The mean zero-degree isotherm height h_F is:

$$h_F = 5.1 - 2.15 \log \left(1 + 10^{\frac{(\zeta/ - 27)}{25}} \right) \quad (\text{km})$$

Step 2 - The rain height h_R is:

$$h_R = C \cdot h_F$$

where:

$$C = 0.6 \text{ for } 0^\circ \leq \zeta / < 20^\circ$$

$$C = 0.6 + 0.02 (\zeta / - 20) \text{ for } 20^\circ \leq \zeta / < 40^\circ$$

$$C = 1 \text{ for } \zeta / \geq 40^\circ$$

Step 3 - The slant-path length, L_s , below the rain height is:

$$L_s = \frac{2 (h_R - h_0)}{\left(\sin^2 \theta + 2 \left(\frac{h_R - h_0}{R_e} \right)^{1/2} + \sin \theta \right)} \quad (\text{km})$$

where:

R_e is the effective radius of the Earth (8,500 km)

Step 4 - The horizontal projection, L_G , of the slant-path is:

$$L_G = L_s \cos \theta \quad (\text{km})$$

Step 5 - The rain path reduction factor $r_{0.01}$, for 0.01% of the time is:

$$r_{0.01} = \frac{90}{90 + 4 L_G}$$

Step 6 - The specific attenuation, γ_R , is determined from:

$$\gamma_R = k (R_{0.01})^\alpha \text{ (dB/km)}$$

where:

$R_{0.01}$ is given in Table 6-4, frequency dependent coefficients k and α in Table 6-5 and rain climatic zones in Figures 6-4 and 6-5,* respectively.

TABLE 6-4

Rainfall intensity (R) for the rain climatic zones
(exceeded for 0.01% of an average year)

Rain-clim- atic zone	A	B	C	D	E	F	G	H	J	K	L	M	N	P
Rainfall intensity (mm/h)	8	12	15	19	22	28	30	32	35	42	60	63	95	145

TABLE 6-5

Frequency dependent coefficients

Frequency (GHz)	k	α
14.65	0.0327	1.149
17.7	0.0531	1.110

Frequency dependent coefficients are calculated using the following formulas and Table 6-6,

$$k = [k_H + k_V + (k_H - k_V) \cos^2 \theta \cos 2\tau]/2$$

$$\alpha = [k_H \alpha_H + k_V \alpha_V + (k_H \alpha_H - k_V \alpha_V) \cos^2 \theta \cos 2\tau]/2k$$

where θ is the path elevation angle and τ is the polarization tilt angle relative to the horizontal ($\tau = 45^\circ$ for circular polarization).

The formulas for k and α are general. In the case of circular polarization, the third terms in both equations are equal to zero, so that for circular polarization the formulas for k and α may be written:

$$k = (k_H + k_V)/2$$

$$\alpha = (k_H \alpha_H + k_V \alpha_V)/2k$$

* This figure is replaced by Document 174.

TABLE 6-6
Regression coefficients for estimating
specific attenuation

Frequency (GHz)	k_H	k_V	α_H	α_V
12	0.0188	0.0168	1.217	1.200
15	0.0367	0.0335	1.154	1.128
20	0.0751	0.0691	1.099	1.065

Step 7 - The attenuation exceeded for 1% of the worst month is:

$$A_{1\%} = 0.223 \gamma_R L_s r_{0.01} \text{ (dB)}$$

6.2.2.17.2 Depolarization

Rain and ice can cause depolarization of radio frequency signals. The level of the co-polar component relative to the depolarized component is given by the cross-polarization discrimination (XPD) ratio. For the feeder link, the XPD ratio, in dB, not exceeded for 1% of the worst month, is given by:

$$XPD = 30 \log f - 40 \log (\cos \theta) - V \log A_p \text{ (dB) for } 5^\circ \leq \theta \leq 60^\circ$$

where

$$V = 20 \text{ for } 14.5 - 14.8 \text{ GHz}$$

and

$$V = 23 \text{ for } 17.3 - 18.1 \text{ GHz}$$

where

A_p : co-polar rain attenuation exceeded for 1% of the worst month,

f : frequency (GHz),

θ : elevation angle (degrees).

For values of θ greater than 60° , use $\theta = 60^\circ$ in the above equation.

Draft

USA/56/20
ADD

RESOLUTION [COM6/2]

**Relating to Inclined-Orbit Operation
of Nominally Geostationary Space Stations**

The World Administrative Radio Conference on the Use of the
Geostationary-Satellite Orbit and the Planning of Space Services Utilizing
It, Geneva, 1988,

considering

- a) that station-keeping fuel on current geostationary space stations constitutes a major fraction of in-orbit mass and tends to be the limiting factor of a space station's geostationary in-orbit life;
- b) that north-south station-keeping consumes about 90% of the total fuel;
- c) that some administrations may find it desirable and operationally feasible to dispense with north-south station-keeping to preserve fuel or extend in-orbit space station life;
- d) that, in the absence of north-south station-keeping, the orbital inclination of a nominally geostationary space station is subject to only moderate annual change, no more than about 0.9°/year, and will never exceed a maximum of about 15°;
- e) that internetwork interference is generally not significantly increased by inclined-orbit operation and that the tolerance of a network to an increasing orbital inclination of its space station is limited by operational considerations;
- f) that, nevertheless, administrations need to be in a position to assess the effects of inclined-orbit operation on internetwork interference;

resolves

- 1. that the use, by any space service, of nominally geostationary space stations in inclined orbits should not place additional regulatory constraints on other services which share the same frequency band(s);

2. that an administration intending operation of or with a nominally geostationary space station in an inclined orbit should coordinate the involved station(s) under its jurisdiction pursuant to the relevant provisions of the Radio Regulations;
3. that an administration whose services may be affected by another administration's operation of or with a nominally geostationary space station in an inclined orbit should accede to a request for coordination under the relevant provisions of the Radio Regulations;
4. that the limit on the orbital inclination of a nominally geostationary space station should be $[15^{\circ}]^*$;

invites the CCIR

to continue its study of the technical aspects of inclined-orbit operation of nominally geostationary space stations, with emphasis on the development of appropriate and simple interference prediction and evaluation methods.

L.M. PALMER
Chairman of Working Group 6-C

* Awaiting decision from the Working Group of the Plenary.

Draft

J/53/23

ADD

RECOMMENDATION [COM6/B]

Relating to International Space Monitoring

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It, Geneva, 1988,

considering

- a) that it is necessary to ensure efficient and economical use of the radio frequency spectrum and the geostationary-satellite orbit, and to promote to eliminate harmful interference;
- b) that in spite of Recommendation 30 (Geneva, 1979) relating to international monitoring, the space monitoring is not in a sufficiently developed condition because of technical and economic problems;
- c) that the requirements for assignment of the orbital position and the frequencies for the space radiocommunication services are increasing and the necessity for efficient use of the orbital position and the frequencies is increasing;
- d) the provisions of the Radio Regulations (Geneva, 1979), under which the International Frequency Registration Board shall review the entries in the Master International Frequency Register with a view to bringing them into conformity, to the maximum extent practicable, with the actual use being made of the radio spectrum;
- e) Recommendation 2 (Geneva, 1979) relating to the examination by world administrative radio conferences of the situation with regard to occupation of the frequency spectrum in space radiocommunications;

recognizing

- a) the provisions of the Radio Regulations (Geneva, 1988) to prepare the Allotment Plan for specific bands and improved or revised procedures for other bands;
- b) the importance of getting the future vision concerning the use of these bands for efficient use of the orbital position and the frequencies for space services;

c) the necessity for grasping the actual and future circumstances of the use of the orbital position and the frequency spectrum;

invites the CCIR

in collaboration with the Board, to study and make technical recommendations concerning the additional facilities (terrestrial and satellite) for space monitoring;

and invites administrations

1. to make every effort to promote the development of the space monitoring facilities according to the aim of Article 20 of the Radio Regulations;
2. to inform the Board of the extent to which they are prepared to cooperate in such space monitoring programmes as may be requested by the Board.

L.M. PALMER
Chairman of Working Group 6-C

WORKING GROUP 4-B

SPECIAL ALLOTMENT REQUIREMENTS

At my request, the IFRB has prepared the attached report on the special allotment requirements submitted by the administrations before 1200 hours on 9 September 1988.

C.T. N'DIONGUE
Chairman of Working Group 4-B

SPECIAL REQUIREMENTS RECEIVED
BEFORE NOON, 9 SEPTEMBER 1988

Fixed orbital position(s)

<u>ADM</u>	<u>POSITION</u>	<u>ADM</u>	<u>POSITION</u>
ALG	-25°	IRN	34°
B	-70°, -65°, -61°	LUX	19.2°
CLM	-75°	MCO	-37°
CUB	-89.2°	MEX	-113°
D	28.5°	MRC	-25°
E	-31°	NZL	158°
EQA	-94.8°	POR	-31°
ETH	23°	PNG	167.45°
GAB	1°	ROU	-1°
I	13° or -19°	SYR	11°
IND	56° or 68°	URG	-71.7°
INS	108°	YUG	-7°
IRL	-31°		

Preferred orbital arc

<u>ADM</u>	<u>ARC</u>	<u>ADM</u>	<u>ARC</u>
B	-70° to -60°	INS	101° to 135°
CAN	-120° to -90°	KRE	110° to 150°
CLM	-75.58° to -70.05°	PAK	34° to 62°
D	23° to 34°	SUI	-20° to 35°
DNK	-57° to -20°		

Minimum elevation angle

<u>ADM</u>	<u>ANGLE</u>	<u>ADM</u>	<u>ANGLE</u>
AFG	35°	KRE	40°
ARG	30° for points 6,7,8,9	LIE	30°
E	30°	MRC	25°
ETH	30°	PAK	35°
GAB	40°	SNG	40°
GRC	Between 30° and 40°	SYR	30°
IRQ	30° for points 3,4,5	TUR	30°
		VTN	40°

Modification of the test points

AUT, ZWE

Modification of rain zones

IRQ, LBY

Minimum beam size and boresight

PAK: $2.3^{\circ} \times 2.16^{\circ}$ - 69.6° E, 29.5° N.

WORKING GROUP 6-B

Draft

SECOND REPORT OF WORKING GROUP 6-B TO COMMITTEE 6

1. Working Group 6-B has held four meetings and there are no major problems to report. Work is progressing satisfactorily at the Working Group level and in the Sub-Groups.

Coordination is still required between Committee 6 and the Working Group of the Plenary on the questions raised in Document 147 and the information provided to Working Group 6-B in Document 232(+ Corr.1) from its ad hoc 1 Group dealing with Appendices 3 and 4. Working Group 6-B ad hoc 2 chaired by Mr. Williams (United States) has now completed its work on the principle of coordination and notification of satellite systems on a network basis and the decisions are contained in Document 238.

2. Sub-Working Group 6-B-1 has held six meetings and has made good progress in the consideration of many proposals to amend Section I of Article 11. Since the work on network coordination and notification principles is now completed in terms of suggestions of the Working Group, Working Group 6-B established a Drafting Group under the chairmanship of Mr. Bates (United Kingdom) to consider the relevant texts in Article 11 which will need consequential amendments. The results of this Drafting Group will be submitted to the Chairman of Sub-Working Group 6-B-1. A Drafting Group comprised of Canada, France and the IFRB has been provisionally established to decide on general presentation of Article 11 once these provisions are adopted. Mr. J. Christensen (Luxembourg) has assumed responsibility for chairing 6-B ad hoc 1 on the matters relating to Appendices 3 and 4.

3. Sub-Working Group 6-B-1 set up an ad hoc Group chaired by Mr. Y. Henri (France) to develop provisions concerning the role of the IFRB at the advanced publication stage of Article 11. This Group has now completed its work. A Drafting Group (United States/Canada) was established to prepare text to modify the provisions of No. 1051 of the Radio Regulations. This task has also been completed.

4. Administrations making proposals concerning Article 14 of the Radio Regulations (i.e., the procedure for obtaining agreement for "footnote" allocations) have agreed to meet to consider formulation of a "joint" proposal to the Conference. The Working Group has taken note of this intention. Document DL/20 contains the concerns raised by various delegations when the proposals concerning Article 14 were presented.

A.V. CAREW
Chairman of Working Group 6-B

CONF\ORB-2\DT\042E.TXS

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Addendum 1 to
Document DT/43(Rev.2)-E
14 September 1988
Original: EnglishWORKING GROUP 4-BADDITIONAL SPECIAL REQUIREMENTS RECEIVED BEFORE
1800 HRS OF 14 SEPTEMBER 1988

Admin.	Fixed Orbital Position	Preferred Orbital Arc	Min. Elevation Angle	Reason
ALG	-22	-	30°	Operational
ARS	-	20° to 60°	-	Mountains
AUT	-	-	25°	Mountains
CTI	-	East of -15°	48°	Mountains/rain
DNK	-	-50° to -53°	-	Latitude
E	-	-31.1° to 24.3°	-	Mountains
EGY	-	-	30°	
EQA	-	-104° to -94°	-	Rain
IND	74° (replacing 56° or 68°)	-	-	Operational
IRL	-31°	-	-	Improvement to the Plan
IRN	34°	20° to 50°	-	Mountains
IRQ	-	-	30° (for points 3, 4, 5)	Mountains
ISR	-	-	30°	Mountains
	44°	-	-	Operational
KEN	-	-	30°	Mountains
KRE	-	110° to 150°	-	Mountains
LBY	-	-	30°	Mountains
	-19°	-	-	Operational

ADDITIONAL SPECIAL REQUIREMENTS RECEIVED BEFORE
1800 HRS OF 14 SEPTEMBER 1988 (contd.)

Admin.	Fixed Orbital Position	Preferred Orbital Arc	Min. Elevation Angle	Reason
LIE	-	-30° to 15°	-	Mountains
LUX	-19.2°	-	-	Improvement to the Plan
MLI	-37°	-	-	Operational
MRC	-28°	-	-	Operational
NZL	-	131° to 175°	30° (for points 1 to 9 of NZL1)	Latitude
	158°	-	-	Operational
POR	-	-	30°	Mountains
	-31°	-	-	Operational
ROU	-1°	-	-	Operational
	-	-1° to 51°	-	Mountains
SDN	-	-7° to 15°	-	Rain
	-7°	-	-	Operational
SYR	-	10° to 70°	-	
TUN	-	-	30°	Geography
VTN	-	85° to 125°	-	Operational

C.T. N'DIONGUE
Chairman of Working Group 4-B

WORKING GROUP 4-B

DRAFT NOTE BY THE CHAIRMAN OF WORKING GROUP 4-B

On the basis of Document DT/41 and of the discussions which took place at the sixth meeting of Working Group 4-B, special requirements are classified in the following three categories:

1. Particular geographical situation

Special requirements for a preferred orbital arc or a minimum elevation angle, on the basis of a particular geographical situation (special latitudes; mountains; rain zones).

	Minimum elevation angle	Preferred orbital arc
Special latitudes	ARG: 20° (points 3, 4, 5 of beam ARGINSUL)	-
Mountains	ARG: 30° (points 6, 7, 8, 9 of beam ARG00000); AFG: 35°; E: 30°; GRC: 30° to 40°; IRQ: 30° (points 3, 4, 5); KRE: 40°; LIE: 30°; MRC: 25°; PAK: 35°; SYR: 30°; TUR: 30°.	KRE: 100° to 150° PAK: 34° to 62° SUI: -20° to 35°
Rain zones	ETH: 30°	B: -70° to -60°

- Special requirements relating to a visibility problem are considered a priori by the software (CAN: -120° to -90°; DNK: -57° to -20°).
- Some countries have requested a minimum elevation angle or a preferred orbital arc which are in any case already allowed for by the fact that these countries are in zones N or P (30° or 40°) (INS: 101° to 135°; SNG: 40°; VTN: 40°; GAB: 40°).
- Some countries (PAK; KRE) have requested both a preferred orbital arc and a minimum elevation angle owing to mountainous areas.

2. Technical operation

Specific requirements for a preferred orbit arc or a fixed orbital position in order to combine the allotment with other networks.

Fixed orbital position	Preferred orbital arc
ALG: -25°; B: -70°, -65°, -61°; CLM: -75°; CUB: -89.2°; D: 28.5°; E: -31°; EQA: -94.8°; ETH: 23°; GAB: -1°; I: 13° or -19°; IND: 56° or 68°; INS: 108°; IRN: 34°; MCO: -37°; MEX: -113°; MRC: -25°; NZL: 158°; POR: -31°; ROU: -1°; SYR: 11°; URG: -71.7°; YUG: -7°	D: 23° to 34° CLM: -75.58° to -70.05°

3. Improved Plan

Special requirements for a fixed orbital position or a preferred orbital arc to improve the results of the Allotment Plan or to reduce possible incompatibilities between Parts A and B of the Plan.

	Fixed orbital position	Preferred orbital arc
Improvement of the Allotment Plan	D: 28.5°(*) LUX: 19.2°(*)	D: 23° to 34° (*)
Reduction of possible incompatibilities between Parts A/B	PNG: 167.45° IRL: -31°	

(*): In cases where allowance can be made for special requirements, D and LUX would relinquish the frequency band 6/4 GHz of their allotments.

C.T. N'DIONGUE
Chairman of Working Group 4-B

WORKING GROUP 4-B

DRAFT NOTE BY THE CHAIRMAN OF WORKING GROUP 4-B

On the basis of Document DT/41 and of the discussions which took place at the sixth meeting of Working Group 4-B, special requirements are classified in the following three categories:

1. Particular geographical situation

Special requirements for a preferred orbital arc or a minimum elevation angle, on the basis of a particular geographical situation (special latitudes; mountains; rain zones).

	Minimum elevation angle	Preferred orbital arc
Special latitudes	ARG: 30° and 20°(*)	-
Mountains	AFG: 35°; E: 30°; GRC: 30° to 40°; IRQ: 30° (points 3, 4, 5); KRE: 40°; LIE: 30°; MRC: 25°; PAK: 35°; SYR: 30°; TUR: 30°.	KRE: 100° to 150° PAK: 34° to 62° SUI: -20° to 35°.
Rain zones	ETH: 30°	B: -70° to -60°

(*): 30° for points 6, 7, 8 and 9 of the first beam and 20° for points 3, 4 and 5 of the second beam.

- Special requirements relating to a visibility problem are considered a priori by the software (CAN: -120° to -90°; DNK: -57° to -20°).
- Some countries have requested a minimum elevation angle or a preferred orbital arc which are in any case already allowed for by the fact that these countries are in zones N or P (30° or 40°) (INS: 101° to 135°; SNG: 40°; VTN: 40°; GAB: 40°).
- Some countries (PAK; KRE) have requested both a preferred orbital arc and a minimum elevation angle owing to mountainous areas.

2. Technical operation

Specific requirements for a preferred orbit arc or a fixed orbital position in order to combine the allotment with other networks.

Fixed orbital position	Preferred orbital arc
ALG: -25°; B: -70°, -65°, -61°; CLM: -75°; CUB: -89.2°; D: 28.5°; E: -31°; EQA: -94.8°; ETH: 23°; GAB: -1°; I: 13° or -19°; IND: 56° or 68°; INS: 108°; IRN: 34°; MCO: -37°; MEX: -113°; MRC: -25°; NZL: 158°; POR: -31°; ROU: -1°; SYR: 11°; URG: -71.7°; YUG: -7°	D: 23° to 34° CLM: -75.58° to -70.05°

3. Improved Plan

Special requirements for a fixed orbital position or a preferred orbital arc to improve the results of the Allotment Plan or to reduce possible incompatibilities between Parts A and B of the Plan.

	Fixed orbital position	Preferred orbital arc
Improvement of the Allotment Plan	D: 28.5°(*)	D: 23° to 34° (*)
Reduction of possible incompatibilities between Parts A/B	LUX: 19.2° PNG: 167.45° IRL: -31°	

(*): In cases where allowance can be made for special requirements, D would relinquish the frequency band 6/4 GHz of its allotment.

C.T. N'DIONGUE
Chairman of Working Group 4-B

WORKING GROUP 4-B

DRAFT NOTE BY THE CHAIRMAN OF WORKING GROUP 4-B

On the basis of Document DT/41, special requirements are classified in the following four categories:

1. Particular geographical situation

Special requirements for a preferred orbital arc or a minimum elevation angle, on the basis of a particular geographical situation (special latitudes; mountains; rain zones).

	Minimum elevation angle	Preferred orbital arc
Special latitudes	ARG: 30° and 20°(*)	-
Mountains	AFG: 35°; E: 30°; GRC: 30° to 40°; IRQ: 30° (points 3, 4, 5); KRE: 40°; LIE: 30°; MRC: 25°; PAK: 35°; SYR: 30°; TUR: 30°.	KRE: 100° to 150° PAK: 34° to 62° SUI: -20° to 35°.
Rain zones	ETH: 30°	B: -70° to -60°

(*): 30° for points 6, 7, 8 and 9 of the first beam and 20° for points 3, 4 and 5 of the second beam.

- Special requirements relating to a visibility problem are considered a priori by the software (CAN: -120° to -90°; DNK: -57° to -20°).
- Some countries have requested a minimum elevation angle or a preferred orbital arc which are in any case already allowed for by the fact that these countries are in zones N or P (30° or 40°) (INS: 101° to 135°; SNG: 40°; VTN: 40°; GAB: 40°).
- Some countries (PAK; KRE) have requested both a preferred orbital arc and a minimum elevation angle owing to mountainous areas.

2. Technical operation

Specific requirements for a preferred orbit arc or a fixed orbital position in order to combine the allotment with other networks.

Fixed orbital position	Preferred orbital arc
ALG: -25°; B: -70°, -65°, -61°; CLM: -75°; CUB: -89.2°; D: 28.5°; E: -31°; EQA: -94.8°; ETH: 23°; GAB: -1°; I: 13° or -19°; IND: 56° or 68°; INS: 108°; IRL: -31°; IRN: 34°; MCO: -37°; MEX: -113°; MRC: -25°; NZL: 158°; POR: -31°; ROU: -1°; SYR: 11°; URG: -71.7°; YUG: -7°	D: 23° to 34° CLM: -75.58° to -70.05°

3. Requirements submitted late

Requirements which might have been taken into account as a matter of course in the first draft plan but which were submitted after the deadline of 1200 hours on Thursday, 8 September 1988 (AUT; IRQ; LBY: ZWE, for modifications of test points and rain zone).

4. Improved Plan

Special requirements for a fixed orbital position or a preferred orbital arc to improve the results of the Allotment Plan or to reduce possible incompatibilities between Parts A and B of the Plan.

	Fixed orbital position	Preferred orbital arc
Improvement of the Allotment Plan	D: 28.5°(*)	D: 23° to 34° (*)
Reduction of possible incompatibilities between Parts A/B	LUX: 19.2° PNG: 167.45°	

(*): In cases where allowance can be made for special requirements, D would relinquish the frequency band 6/4 GHz of its allotment.

C.T. N'DIONGUE
Chairman of Working Group 4-B

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/44(Rev.1)-E

13 September 1988

Original: French

WORKING GROUP 4-B

DRAFT NOTE BY THE CHAIRMAN OF WORKING GROUP 4-B

After the deadline of 1200 hours on 9 September 1988, the IFRB received specific requirements which are summarized below for the attention of Working Group 4-B.

- 1) IRN
 - minimum elevation angle: 30°
 - preferred orbital arc: 20° to 50°
- 2) USA
 - modification of test points to change a single beam into two beams
- 3) EGY
 - minimum elevation angle: 30°
- 4) ALG
 - minimum elevation angle: 30°
- 5) AUT
 - minimum elevation angle: 25°
- 6) ARS
 - preferred orbital arc: 20° to 60°
- 7) MLI
 - fixed orbital position: -37°
- 8) SDN
 - preferred orbital arc: -15° to 15°

C.T. N'DIONGUE
Chairman of Working Group 4-B

CONF\ORB-2\DT\044R1E.TXS

For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked to bring their copies to the meeting since no others can be made available.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/44-E
12 September 1988
Original: French

WORKING GROUP 4-B

DRAFT NOTE BY THE CHAIRMAN OF WORKING GROUP 4-B

After the deadline of 1200 hours on 9 September 1988, the IFRB received specific requirements which are summarized below for the attention of Working Group 4-B.

- 1) IRN
 - minimum elevation angle: 30°
 - preferred orbital arc: 20° to 50°
- 2) USA
 - modification of test points to change a single beam into two beams
- 3) EGY
 - minimum elevation angle: 30°.

C.T. N'DIONGUE
Chairman of Working Group 4-B

CONF\ORB-2\DT\044E.TXS

WORKING GROUP 4-C

DRAFT GUIDELINES FOR THE PROCEDURES FOR THE
INTERACTION BETWEEN PART A AND PART B OF THE PLAN

1. Provision shall be made for existing systems to operate [for a fixed term] [for the notified period of validity of the assignments].
2. By agreement between the administration which has an existing system and the administration(s) which have the affected allotment(s), the period of validity of the existing assignments may be extended for a fixed period.
3. Existing systems will remain in Part B, and there will be no provisions to move the listing of these systems from Part B to Part A.
4. Administrations which have existing systems will, depending on the stage of development of their systems, take all possible measures to remove incompatibilities at the planning, design and implementation stages. Administrations which have allotments which are affected will assist with the resolution of incompatibilities.
5. After the end of the period of validity of the assignment for an existing system, such existing systems shall be removed from Part B and the requirements of the administration which had the existing system may be dealt with in accordance with the Plan in the case of national requirements and by the related procedures annexed to the Plan in the case of international systems.

E.D. DUCHARME
Chairman of Working Group 4-C

CONF\ORB-2\DT\045R1E.TXS

WORKING GROUP 4-C

DRAFT PROCEDURES FOR THE RELATIONSHIP BETWEEN PART A
AND PART B OF THE PLAN

1. Provision shall be made for existing systems to operate [for a fixed term] [for the notified period of validity of the assignments].
2. By agreement between the administration which has an existing system and the administration(s) which have the affected allotment(s), the lifetime of the existing assignments may be extended for a fixed period.
3. Existing systems will remain in List B, and there will be no provisions to move the listing of these systems to List A.
4. Administrations which have existing systems and those with possibly affected allotments will take all possible measures to remove incompatibilities at the planning, design and implementation stages.
5. After the expiry of the period of validity of the assignment for an existing system, the requirements of the administration which had the existing system shall be dealt with in accordance with the Plan or its related procedures.

E.D. DUCHARME
Chairman of Working Group 4-C

GROUPE DE TRAVAIL 6-C

WORKING GROUP 6-C

GRUPO DE TRABAJO 6-C

Projet

EXAMEN DES RESOLUTIONS ET DES RECOMMANDATIONS

(Point 13 de l'ordre du jour)

On trouvera ci-après une liste récapitulative des titres des Résolutions et des Recommandations attribuées au Groupe de travail 6-C, ainsi que les propositions associées.

Draft

REVIEW OF RESOLUTIONS AND RECOMMENDATIONS

Agenda item 13

A consolidated list of the titles of Resolutions and Recommendations attributed to Working Group 6-C, along with the associated proposals, is reproduced below.

Proyecto

REVISION DE RESOLUCIONES Y RECOMENDACIONES

(Punto 3 del orden del día)

A continuación figura una lista refundida de los títulos de las Resoluciones y Recomendaciones atribuidas al Grupo de Trabajo 6-C, junto con las propuestas asociadas.

RESOLUTION 4

relative à la durée de validité des assignations de fréquence aux stations spatiales utilisant l'orbite des satellites géostationnaires

RESOLUTION 4

Relating to the Period of Validity of Frequency Assignments to Space Stations Using the Geostationary-Satellite Orbit

RESOLUCION 4

relativa a la duración de validez de las asignaciones de frecuencia a las estaciones espaciales que utilizan la órbita de los satélites geoestacionarios

SUP CAN/60/270, MEX/103/2

MOD PRG/109/3

RESOLUTION 6

relative à la préparation d'un manuel destiné à expliquer et à illustrer les procédures du Règlement des radiocommunications

RESOLUTION 6

Relating to the Preparation of a Handbook to Explain and Illustrate the Procedures of the Radio Regulations

RESOLUCION 6

relativa a la preparación de un manual para explicar e ilustrar los procedimientos del Reglamento de Radiocomunicaciones

NOC CAN/60/271, MEX/103/

RESOLUTION 34

relative à l'établissement de services de radiodiffusion par satellite dans la bande 12,5 - 12,75 GHz dans la Région 3 et au partage avec les services spatiaux et de Terre dans les Régions 1, 2 et 3

RESOLUTION 34

Relating to the Establishment of the Broadcasting-Satellite Service in Region 3 in the 12.5 - 12.75 GHz Frequency Band and to Sharing with Space and Terrestrial Services in Regions 1, 2 and 3

RESOLUCION 34

relativa a la introducción del servicio de radiodifusión por satélite en la Región 3 en la banda de frecuencias 12,5 - 12,75 GHz y a la compartición con los servicios espaciales y terrenales en las Regiones 1, 2 y 3

MOD KEN/69/40, PRG/109/7

NOC MEX/103/ CAN/60/

RESOLUTION 100
relative à la coordination, la notification et l'inscription dans
le Fichier de référence international des fréquences des
assignations à des stations du service fixe par satellite,
à l'égard des stations du service de radiodiffusion
par satellite dans la Région 2

RESOLUTION 100
Relating to the Coordination, Notification and Recording in
the Master International Frequency Register of Assignments
to Stations in the Fixed-Satellite Service with Respect to
Stations in the Broadcasting-Satellite Service in Region 2

RESOLUCION 100
relativa a la coordinación, notificación e inscripción en el Registro
Internacional de Frecuencias de asignaciones a estaciones
del servicio fijo por satélite con respecto a estaciones
del servicio de radiodifusión por satélite en la Región 2

SUP CAN/60/277, MEX/103/7, PRG/109/12

RESOLUTION 205 (Rev.Mob-87)
relative à la protection de la bande 406 - 406,1 MHz
attribuée au service mobile par satellite

RESOLUTION 205 (Rev.Mob-87)
Relating to the Protection of the Band 406 - 406.1 MHz
Allocated to the Mobile-Satellite Service

RESOLUCION 205 (Rev.Mob-87)
relativa a la protección de la banda 406 - 406,1 MHz
atribuida al servicio móvil por satélite

NOC MEX/103/.. CAN/60/280

ORB(2)/DT/46-F/E/S

RESOLUTION 208 (COM4/14)

**relative à l'extension des bandes de fréquences attribuées
au service mobile par satellite et aux services mobiles
et à leurs conditions d'utilisation**

RESOLUTION 208 (COM4/14)

**Relating to the Extension of the Frequency Bands Allocated to
the Mobile-Satellite and Mobile Services and Their Conditions of Use**

RESOLUCION 208 (COM4/14)

**relativa a la ampliación de las bandas de frecuencias atribuidas
al servicio móvil por satélite y a los servicios móviles
y a las condiciones de su utilización**

RECOMMANDATION 2

**relative à l'examen, par les conférences administratives
mondiales des radiocommunications, de l'état d'occupation du spectre
des fréquences dans le domaine des radiocommunications spatiales**

RECOMMENDATION 2

**Relating to the Examination by World Administrative Radio Conferences
of the Situation with Regard to Occupation of the Frequency Spectrum
in Space Radiocommunications**

RECOMENDACION 2

**relativa al examen por las conferencias administrativas mundiales
de radiocomunicaciones del grado de ocupación del espectro de frecuencias
para la radiocomunicación espacial**

SUP CAN/60/291, MEX/103/16, PRG/109/25
NOC KEN/69/

RECOMMANDATION 67

**relative à la définition des termes
"zone de service" et "zone de couverture"**

RECOMMENDATION 67

**Relating to the Definitions of
"Service Area" and "Coverage Area"**

RECOMENDACION 67

**relativa a las definiciones de
"zona de servicio" y "zona de cobertura"**

NOC CAN/60/292, MEX/103/..

RECOMMANDATION 700
relative à l'utilisation et au partage des bandes de fréquences
attribuées aux radiocommunications spatiales

RECOMMENDATION 700
Relating to the Utilization and Sharing of Frequency Bands
Allocated to Space Radiocommunications

RECOMENDACION 700
relativa a la utilización y a la compartición de las bandas de frecuencias
atribuidas a las radiocomunicaciones espaciales

NOC CAN/60/297, KEN/69/..., MEX/103/..

Le Président du Groupe de travail 6-C
L.M. PALMER

WORKING GROUP 6-A

Draft

SECOND REPORT OF WORKING GROUP 6-A
TO COMMITTEE 6

Working Group 6-A met in September for its second meeting. It was agreed that the first report (Document 175) be presented to Committee 6.

The Working Group agreed to proceed with the task attributed to it as follows:

- a) as a first task, the Working Group examined the concept of MPMs;
- b) once the MPM concept is well defined, the Article 11 considerations will need to be addressed;
- c) the proposals on the frequency bands will follow;
- d) finally, the consequential amendments to the Radio Regulations will need to be addressed.

The Working Group has started its discussions on the concept of MPMs by addressing the following subjects:

- 1) purpose of MPMs
- 2) legal and financial concerns
- 3) participation
- 4) venue
- 5) organization and conduct of meetings
- 6) relationship to the Radio Regulations.

From the initial discussions two types of MPM have been identified:

- 1) a meeting of administrations which would be convened on request of an administration, with the purpose of facilitating the coordination of new and proposed networks, or;
- 2) a formal meeting structure, convened on a regular basis with the ability to make binding decisions.

It should be noted that these are not the only possibilities which may evolve from the considerations, however, they are being used simply as models to focus discussion.

During the discussion on the legal and financial concerns, the Working Group concluded the following:

For an MPM which could be a meeting of administrations which would be convened on request of an administration with the purpose of facilitating the coordination of new and proposed networks

- a) this Conference is competent to make such changes and additions to the Radio Regulations as may be necessary to implement MPMs of this type;
- b) decisions of such MPMs would have the status of coordination agreements;
- c) administrations participating would fund the MPM. The services of the ITU would be on request and possibly on a contractual basis.

For an MPM which could be a formal meeting structure, convened on a regular basis with the ability to make binding decisions

- a) this Conference is not competent to implement this type of MPM and the issue would need to be addressed to the next Plenipotentiary Conference;
- b) decisions of this type of MPM would have the binding status of an international agreement;
- c) funding would be from the regular budget of the Union as determined by the Plenipotentiary Conference.

The work is proceeding with the goodwill and constructive participation of all members.

G.H. RAILTON
Chairman of Working Group 6-A

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/48-E
13 September 1988
Original: English

COMMITTEE 5

DRAFT NOTE OF THE CHAIRMAN OF COMMITTEE 5

It was approved at the third Plenary Meeting to add the following item to the terms of reference of Committee 5:

8. To consider, in the light of the decisions taken under paragraphs 1 to 7 above, revise as necessary, and take other appropriate action upon the relevant Resolutions and Recommendations (agenda item 13).

As a consequence the following list of Resolutions and Recommendations will have to be examined by the Working Group 5-B:

<u>Resolution</u>	<u>Recommendation</u>
101	101
102	2(Orb-85)
502	3(Orb-85)
503	1-7(SAT-R2-83)
504	
505	
506	
507	
700	
701	
1-9(SAT-R2-83)	
40(Orb-85)	
41(Orb-85)	
42(Orb-85)	
43(Orb-85)	

D. SAUVET-GOICHON
Chairman of Committee 5

CONF\ORB-2\DT\048E.TXS

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

Document DT/49(Rev.1)-E

14 September 1988

Original: English

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

WORKING GROUP 4-C

Draft

NOTE FROM THE CHAIRMAN OF WORKING GROUP 4-C

According to requests made during the sixth meeting of Working Group 4-C, the information on the period of validity and the date of bringing into use (2-C) for the existing systems is presented in the annex.

E.D. DUCHARME
Chairman of Working Group 4-C

Annex: 1

ANNEX

SATELLITE SYSTEM	SATELLITE NETWORK	LONGITUDE	NOTIFYING ADM.	PERIOD OF VALIDITY	FREQUENCY BAND (GHz)					SITUATION	DATE 2C	REMARKS
					4.5-4.8	6.425-7.075	10.7-10.95	11.2-11.45	12.75-13.25			
ROCK ¹⁾	1	13.5W	URS	15							30/04/85	
	2	80E		15							30/05/84	
	3	168W		--							30/06/85	
					NOT USED IN THE PLANNING EXERCISES							
SIMISQUAR	D1	26.5W	URS	20	X	X				C	30/06/88	AR11/C/1168
	D2	170W		20	X	X				C	30/06/88	AR11/C/1169
	D3	35E		20	X	X				C	30/06/88	AR11/C/1170
	D4	45E		20	X	X				C	30/06/88	AR11/C/1171
	D5	85E		20	X	X				C	30/06/88	AR11/C/1172
	D6	128E		20	X	X				C	30/06/88	AR11/C/1173
ROCN	1	15W	URS	10	X	X				A	01/06/90	AR11/A/235
	2	81.5E		10	X	X				C	01/06/90	AR11/C/1015
	3	169.5W		10	X	X				A	01/06/90	AR11/A/237
INSAT	2A	83E	IND	20	X	X				C	31/01/90	AR11/C/1081
	2B	93.5E		20	X	X				C	31/03/90	AR11/C/1082
	2C	74E		20	X	X				C	31/07/90	AR11/C/1083
USASAT	13D	56W	USA	10			X			C	30/07/88	AR11/C/701
	13E	58W		10			X			C	30/07/88	AR11/C/702
	13H	57W		10		X	X			A	30/09/87	AR11/A/177
	13I	45W		10		X	X			C	01/01/89	AR11/C/866
EIRSAT	1	31W	IRL	12			X		X	A	31/12/87	AR11/A/182
GSL	4	20W	ILK	25		X	X	X		C	31/01/89	AR11/C/610
	5	1E		25		X	X	X		C	31/08/87	AR11/C/612
	6	19.2E		25		X (2)	X	X		N	30/09/88	AR11/C/614

(1) These networks utilize the band 4.5 - 4.8 GHz for the Earth-to-space direction

(2) Under coordination

ANNEX (continued)

SATELLITE SYSTEM	SATELLITE NETWORK	LONGITUDE	NOTIFYING AGENCY	PERIOD OF VALIDITY	FREQUENCY BAND (GHz)					STATION	DATE 2C	SUBSCRIPTION
					4.5-4.8	6.425-7.075	10.7-10.95	11.2-11.45	12.75-13.25			
SIS	CSRN	95E	URS	20			X	X		N	01/11/85	AR11/C/69
	ESRN	160W		20			X	X		N	01/10/86	AR11/C/72
	WERN	16W		20			X	X		N	27/06/86	AR11/C/67
SSFO-2	CSFO-2	77E	URS	20				X		N	17/10/89	AR11/A/188
	VSSFO-2	167E		20				X		N	17/10/89	AR11/A/187
	ZSSFO-2	16W		20				X		C	17/10/89	AR11/C/80
SIRIO *	SIRIO	68E	I		NOT USED IN THE PLANNING EXERCISES			X (3)			01/04/83	
L-SAT	L-SAT	19W	F/ESA	10					X	N	01/07/86	AR11/C/782
MEAT	MEAT	106.5W	CAN	10					X (3)	A	05/04/88	AR11/A/56 ADD-1
FACSTAR	1	167.0E	ENG	20		X				C	01/11/89	AR11/C/1179
	2	175.0W		20		X				C	01/05/90	AR11/C/1180
EUROSAT	I	10.0E	F/ESA	17				X (3)		C	01/07/86	AR11/C/444
	I-2	13.0E		17				X (3)		C	15/02/86	AR11/C/445
	I-3	7E		17				X (3)		N	01/11/84	AR11/C/446
	I-4	16.0E		11				X (3)		C	01/07/87	AR11/C/874
PAKSAT	1	38E	PAK	15				X		A	871231	AR11/A/90
	2	41E	PAK	15				X		A	871231	AR11/A/91

- * This network was notified to be brought into use on 30 June 1983 and to be operated for a period of normally one year. The Board is consulting the administrations on the need to retain it as an existing network.
- (3) Only for TT and C

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/49-E
13 September 1988
Original: English

WORKING GROUP 4-C

Draft

NOTE FROM THE CHAIRMAN OF WORKING GROUP 4-C

According to requests made during the sixth meeting of Working Group 4-C, information on the period of validity and the date of bringing into use (2-C) for the existing systems is presented in the annex.

E.D. DUCHARME
Chairman of Working Group 4-C

Annex: 1

ANNEX

SATELLITE SYSTEM	SATELLITE NETWORK	LONGITUDE	NOTIFYING AVM.	PERIOD OF VALIDITY	FREQUENCY BAND (GHz)					SITUATION	DATE 2C	SUBSCRIPTION
					4.5- 4.8	6.425-7.075	10.7-10.95	11.2-11.45	12.75-13.25			
ROCK ¹⁾	1	13.5W	URS	15							30/04/85	
	2	80E		15							30/05/84	
	3	168W		--							30/06/85	
STARSAT						NOT USED	IN THE	PLANNING	EXERCISES			
	D1	26.5W	URS	20	X	X				C	30/06/88	AR11/C/1168
	D2	170W		20	X	X				C	30/06/88	AR11/C/1169
	D3	35E		20	X	X				C	30/06/88	AR11/C/1170
	D4	45E		20	X	X				C	30/06/88	AR11/C/1171
	D5	85E		20	X	X				C	30/06/88	AR11/C/1172
FOICN												
	1	15W	URS	10	X	X				A	01/06/90	AR11/A/235
	2	81.5E		10	X	X				C	01/06/90	AR11/C/1015
INSAT												
	3	169.5W		10	X	X				A	01/06/90	AR11/A/237
INSAT	2A	83E	IND	20	X	X				C	31/01/90	AR11/C/1081
	2B	93.5E		20	X	X				C	31/03/90	AR11/C/1082
	2C	74E		20	X	X				C	31/07/90	AR11/C/1083
USASAT												
	13D	58W	USA	10			X			C	30/07/88	AR11/C/701
	13E	58W		10			X			C	30/07/88	AR11/C/702
	13H	57W		10		X	X			A	30/09/87	AR11/A/177
EURESAT												
	13I	45W		10		X	X			C	01/01/89	AR11/C/866
EURESAT	1	31W	IRL	12			X		X	A	31/12/87	AR11/A/182
GL												
	4	20W	ILK	25		X	X	X		C	31/01/89	AR11/C/610
	5	1E		25		X	X	X		C	31/08/87	AR11/C/612
GL												
	6	19.2E		25		X (2)	X	X		N	30/09/88	AR11/C/614

(1) These networks utilize the band 4.5 - 4.8 GHz for the Earth-to-space direction

(2) Under coordination

ANNEX (continued)

SATELLITE SYSTEM	SATELLITE NETWORK	LONGITUDE	NOTIFYING ADM.	PERIOD OF VALIDITY	FREQUENCY BAND (GHz)					STATION	DATE 2C	SUBSCRIPTION
					4.5-4.8	6.425-7.075	10.7-10.95	11.2-11.45	12.75-13.25			
SRS	CSRN	95E	URS	20			X	X		N	01/11/85	AR11/C/69
	ESRN	160W		20			X	X		N	01/10/86	AR11/C/72
	WSRN	16W		20			X	X		N	27/06/86	AR11/C/67
SSRO-2	CSSRO-2	77E	URS	20				X		N	17/10/89	AR11/A/188
	VSSRO-2	167E		20				X		N	17/10/89	AR11/A/187
	ZSSRO-2	16W		20				X		C	17/10/89	AR11/C/880
SIRIO *	SIRIO	65E	I		NOT USED IN THE PLANNING EXERCISES			X (3)			01/04/83	
L-SAT	L-SAT	19W	F/ESA	10					X	N	01/07/86	AR11/C/782
MSAT	MSAT	106.5W	CAN	10					X (3)	A	05/04/88	AR11/A/56 ADD-1
FACSTAR	1	167.0E	ENG	20		X				C	01/11/89	AR11/C/1179
	2	175.0W		20		X				C	01/05/90	AR11/C/1180
EUROSTAT	I	10.0E	F/ESA	17				X (3)		C	01/07/86	AR11/C/444
	I-2	13.0E		17				X (3)		C	15/02/86	AR11/C/445
	I-3	7E		17				X (3)		N	01/11/84	AR11/C/446
	I-4	16.0E		11				X (3)		C	01/07/87	AR11/C/874

* This network was notified to be brought into use on 30 June 1983 and to be operated for a period of normally one year. The Board is consulting the administrations on the need to retain it as an existing network.
(3) Only for TT and C

Draft

CROSS-REFERENCE OF ITEMS OF APPENDIX 3
TO THOSE OF RELEVANT PROPOSALS

The following document is the draft cross-reference of items of Appendix 3 to those of relevant proposals for your information.

R. RYVOLA
Chairman of Working Group
of the Plenary

APPENDIX 3

Notices Relating to Space Radiocommunications
and Radio Astronomy Stations

Section 1

(See Articles 11 and 13)

Section A. General Instructions	LIJX/127	USA/56	F/23	CAN/60
<p>1. A separate notice shall be sent to the International Frequency Registration Board for notifying:</p> <ul style="list-style-type: none"> — each new frequency assignment to an earth station for transmitting or to be received or a space station for transmitting or to be received; — any change in the characteristics of a frequency assignment recorded in the Master International Frequency Register (hereinafter called the <i>Master Register</i>); — any total deletion of a frequency assignment recorded in the Master Register. 	A1 (MOD)	A1 (MOD)	A1 (NOC)	A1 (NOC)
<p>2. When submitting notices under Nos. 1488 to 1491 for frequency assignments to an earth or space station for transmitting or for frequency assignments to be used for reception by an earth or space station, separate notices shall be submitted to the Board for each assignment. In each of these cases where the basic characteristics are identical, with the exception of the frequency, a single notice may be submitted covering all basic characteristics and listing the assigned frequencies. In the case of a reflecting satellite system, only earth transmitting and receiving assignments shall be notified.</p>	A2 (MOD)	-	A2 (NOC)	A2 (MOD)
<p>3. In the case of a satellite system employing multiple space stations with the same general characteristics, a separate notice shall be submitted to the Board for each space station for transmitting or receiving assignments:</p> <ul style="list-style-type: none"> — when it is aboard a geostationary satellite; — when it is aboard a non-geostationary satellite except when a number of satellites have the same radio frequency characteristics and orbital characteristics (excluding the ascending node position); in the latter case, one notice covering all such space stations may be submitted to the Board. 	A3 (NOC)	-	A3 (NOC)	A3 (NOC)
<p>4. The following basic information shall be shown on the notice:</p> <p>a) the serial number of the notice and the date on which the notice is sent to the Board;</p>	A4 A4a (MOD)	A3 A3(a) (NOC)	A4 (NOC)	A4 A4a (MOD)

Section 1

Section A (continued)	LUX/127	USA/56	F/23	CAN/60
<p>b) the name of the notifying administration;</p> <p>c) sufficient data to identify the particular satellite network in which the earth or space station will operate, including in the case of a geostationary satellite its orbital position;</p> <p>d) whether the notice reflects:</p> <p>1) the first use of a frequency by a station;</p> <p>2) a change in the characteristics of a frequency assignment recorded in the Master Register (indicate whether the change is a replacement, addition or deletion of existing characteristics);</p> <p>3) a deletion of an assignment in all of its notified characteristics;</p> <p>e) reference to the IFRB weekly circular providing the advance publication information required in accordance with No. 1042;</p> <p>f) basic characteristics as outlined in Section B, C, D, E, or F as appropriate;</p> <p>g) any other information which the administration considers to be relevant, e.g., any factors taken into account when applying Appendix 28 for determination of the coordination area and also any indication that the assignment concerned would be operating in accordance with No. 342, information concerning the use of the notified frequency if such use is restricted, or, in the case of notices pertaining to space stations, if the transmissions of the station are to be permanently switched off after a certain period.</p> <p>Additional items</p>	<p>A4b (MOD)</p> <p>A4c (NOC)</p> <p>A4d (NOC)</p> <p>A4e (MOD)</p> <p>A4f (NOC)</p> <p>A4g (NOC)</p>	<p>A3(b) (NOC)</p> <p>A3(c) (MOD)</p> <p>A3(d) (NOC)</p> <p>A3(h) (MOD)</p> <p>A3(i) (NOC)</p> <p>A2 (ADD)</p> <p>A3e, (ADD)</p> <p>A3f, (ADD)</p> <p>A3g, (ADD)</p>		<p>A4b (MOD)</p> <p>A4c (MOD)</p> <p>A4d (MOD)</p> <p>A4e (MOD)</p> <p>A4f (MOD)</p> <p>A4g (MOD)</p>

EARTH-TO-SPACE

Section 2B

Section B. Basic Characteristics to Be Furnished in Notices Relating to Frequencies Used by Earth Stations for Transmitting	IUX/127	USA/56	F/23	
<p><i>Item 1</i> Assigned frequency (frequencies)</p> <p>Indicate the assigned frequency (frequencies), as defined in Article 1 (see No. 142), in kHz up to 28 000 kHz inclusive, in MHz above 28 000 kHz to 10 500 MHz inclusive and in GHz above 10 500 MHz.</p>	C1a (MOD)	BII4 (NOC)	C3a (MOD)	
<p><i>Item 2</i> Assigned frequency band</p> <p>Indicate the bandwidth of the assigned frequency band in kHz (see No. 141).</p>	C1b (NOC)	BII5 (NOC)	C3b (NOC)	
<p><i>Item 3</i> Date of bringing into use</p> <p><i>a)</i> In the case of a new assignment, indicate the date (actual or foreseen, as appropriate) of bringing the frequency assignment into use.</p> <p><i>b)</i> Whenever the assignment is changed in any of its basic characteristics, as shown in this Section (except in the case of a change in <i>Item 4 a)</i>), the date to be given shall be that of the latest change (actual or foreseen, as appropriate).</p>	<p>B2a (NOC)</p> <p>B2b (MOD)</p>	<p>BI2 (NOC) BI2(1) (NOC)</p> <p>BI2(2) (NOC)</p>	<p>B2² B2a (NOC)</p> <p>B2b (MOD)</p>	
<p><i>Item 4</i> Identity and location of the transmitting earth station</p> <p><i>a)</i> Indicate the name by which the station is known or the name of the locality in which it is situated.</p> <p><i>b)</i> Indicate the country or geographical area in which the station is located. Symbols from the Preface to the International Frequency List should be used.</p> <p><i>c)</i> Indicate the geographical coordinates of the transmitter site (longitude and latitude in degrees and minutes). Indicate also the seconds¹ with an accuracy of one-tenth of a minute.</p>	<p>C3a (NOC)</p> <p>C3b (NOC)</p> <p>C3c (MOD)</p>	(SUP)	(SUP)	
<p><i>Item 5</i> Station(s) with which communication is to be established</p> <p>Identify the associated receiving space station(s) by reference to the notification thereof or in any other appropriate manner, or, in the case of a reflecting satellite, the identity of the satellite and the location of the associated receiving earth station(s). In the case of a geostationary satellite, indicate also its orbital position.</p>		(SUP)		

EARTH-TO-SPACE

Section 2B

Section B (continued)	IUX/127	USA/56	F/23	
<p><i>Item 6</i> Class of station and nature of service</p> <p>Indicate the class of station and nature of service performed, using the symbols shown in Appendix 10.</p>	C2 (NOC)	BIII2 (NOC)	C2 (MOD)	
<p><i>Item 7</i> Class of emission, necessary bandwidth and description of transmission</p> <p>In accordance with Article 4 and Appendix 6:</p> <p>a) indicate the class of emission;</p> <p>b)¹ indicate the carrier frequency or frequencies of the emission(s);</p> <p>c)¹ indicate, for each carrier, the class of emission, necessary bandwidth and description of transmission;</p> <p>d)¹ indicate for the carrier having the smallest bandwidth of assignments in the system the class of emission, necessary bandwidth and a description of the transmission.</p>	<p>C8a (NOC)</p> <p>C8b (NOC)</p> <p>C8c (NOC)</p> <p>(SUP)</p>	<p>BIII4</p> <p>BIII4(a) (NOC)</p> <p>BIII4(b)² (NOC)</p> <p>BIII4(c)² (NOC)</p> <p>BIII4(d)² (NOC)</p>	<p>C8 (MOD)</p> <p>C8a (NOC)</p> <p>C8b¹ (NOC)</p> <p>C8c¹ (NOC)</p> <p>C8d¹ (NOC)</p>	
<p><i>Item 8</i> Power characteristics of the transmission</p> <p>a)¹ Indicate for each carrier the peak envelope power (dBW) supplied to the input of the antenna.</p> <p>b) Indicate the total peak envelope power (dBW) and the maximum power density per Hz (dB(W/Hz))² supplied to the input of the antenna averaged over the worst 4 kHz band for carriers below 15 GHz, or averaged over the worst 1 MHz band for carriers above 15 GHz.</p> <p>c)¹ Indicate for each carrier the minimum value of the peak envelope power supplied to the input of the antenna.</p>		<p>BIII5</p> <p>BIII5(a)² (NOC)</p> <p>BIII5(b) (NOC)</p> <p>BIII5(c)² (NOC)</p>	<p>C4a¹ (NOC)</p> <p>(C4b (MOD))</p> <p>(C4c (MOD))</p>	
<p><i>Item 9</i> Transmitting antenna characteristics</p> <p>a) Indicate the isotropic or absolute gain (dB) of the antenna in the direction of maximum radiation (see No. 154).</p> <p>b) Indicate the beamwidth in degrees between the half power points (describe in detail if not symmetrical).</p> <p>c) Either attach the measured radiation diagram of the antenna (taking as a reference the direction of maximum radiation) or indicate the reference radiation diagram to be used for coordination.</p>	<p>C4a (NOC)</p> <p>C4b (NOC)</p> <p>C4c (NOC)</p>	<p>BIII6</p> <p>BIII6(a) (NOC)</p> <p>BIII6(b) (NOC)</p> <p>BIII6(c) (NOC)</p>	<p>C5a (NOC)</p> <p>C5b (NOC)</p> <p>C5c (MOD)</p>	

EARTH-TO-SPACE

Section 2B

Section B (continued)	IUX/127	USA/56	F/23	
d) Indicate graphically the horizon elevation angle for each azimuth around the earth station.	C4d (NOC)	(SUP)	C5d (NOC)	
e) Indicate in degrees from the horizontal plane the planned minimum operating angle of elevation of the antenna in the direction of maximum radiation.	C4e (NOC)	(SUP)	C5e (NOC)	
f) Indicate in degrees, clockwise from True North, the planned range of operating azimuthal angles for the direction of maximum radiation.	C4f (NOC)	(SUP)	C5f (NOC)	
g) ¹ Indicate the type of polarization of the transmitted wave in the direction of maximum radiation; also indicate the direction in the case of circular polarization and the plane in the case of linear polarization. (See Nos. 148 and 149.)	C4g (NOC)	(SUP)	C5g ¹ (NOC)	
h) Indicate the altitude (metres) of the antenna above mean sea level.	C4h (NOC)	(SUP)	C5h (NOC)	
Item 10 ¹ Modulation characteristics		BIII7 ²		
For each carrier, according to the nature of the signal modulating the carrier and the type of modulation, indicate the following characteristics:	C9 (NOC)		C9 (NOC)	
a) carrier frequency modulated by a frequency-division multi-channel telephony baseband (FDM/FM) or by a signal that can be represented by a multi-channel telephony baseband: indicate the lowest and highest frequencies of the baseband and the r.m.s. frequency deviation of the test tone as a function of baseband frequency;	C9a (NOC)	BIII7(a) ² (NOC)	C9a (NOC)	
b) carrier frequency modulated by a television signal: indicate the standard of the television signal (including, where appropriate, the standard used for colour), the frequency deviation for the reference frequency of the pre-emphasis characteristic and the pre-emphasis characteristic itself. Also indicate, where applicable, the characteristics of the multiplexing of the video signal with the sound signal(s) or other signals;	C9b (NOC)	BIII7(b) ² (NOC)	C9b (MOD)	
c) carrier phase-shift modulated by a pulse code modulation signal (PCM/PSK): indicate the bit rate and the number of phases;	C9c (NOC)	BIII7(c) ² (NOC)	C9c (NOC)	
d) amplitude modulated carrier (including single-side-band): indicate as precisely as possible the nature of the modulating signal and the kind of amplitude modulation used;	C9d (NOC)	BIII7(d) ² (NOC)	C9d (NOC)	

EARTH-TO-SPACE

Section 2B

Section B (continued)	IUX/127	USA/56	F/23	
e) for all other types of modulation, provide such particulars as may be useful for an interference study;	C9e (NOC)	BIII7(e) ² (NOC)	C9e (NOC)	
f) for any type of modulation as applicable, indicate the characteristics of energy dispersal, such as the peak-to-peak frequency deviation (MHz) and the sweep frequency (kHz) of the energy dispersal wave form.	C9f (NOC)	BIII7(f) ² (NOC)	C9f (NOC)	
Item 11 Regular hours of operation Indicate, in UTC, the regular hours of operation on the frequency of each carrier.	(SUP)	BI3 (NOC)	C10 (NOC)	
Item 12 Coordination Give the name of any administration with which the use of this frequency has been successfully coordinated in accordance with Nos. 1060 and 1107 and, if appropriate, the name of any administration with which coordination has been sought but not effected.	E1 (NOC)	BVI1 (NOC)	G2 (MOD)	
Item 13 Agreements Give, if appropriate, the name of any administration with which agreement has been effected to exceed the limits prescribed in these Regulations, and the contents of such agreement.	E2 (NOC)	BVI2 BVI2(a) (ADD) BVI2(b) (MOD)	G3 (MOD)	
Item 14 Operating administration or company Give the name of the operating administration or company and the postal and telegraphic addresses of the administration to which communications should be sent on urgent matters regarding interference, quality of emissions and questions referring to the technical operation of stations (see Article 22).	B3 (NOC)	BVI3 (NOC)	B3 (NOC)	

EARTH-TO-SPACE

Section 2B

Section E. Basic Characteristics to Be Furnished in Notices Relating to Frequencies to Be Received by Space Stations	LUX/127	USA/56	F/23	
<p><i>Item 1</i> Assigned frequency (or frequencies)</p> <p>Indicate the assigned frequency (frequencies), as defined in Article I (see No. 142), in kHz up to 28 000 kHz inclusive, in MHz above 28 000 kHz to 10 500 MHz inclusive and in GHz above 10 500 MHz. At least one separate assignment notice should be made out for each antenna radiation beam.</p> <p><i>Item 2</i> Assigned frequency band</p> <p>Indicate the bandwidth of the assigned frequency band in kHz (see No. 141).</p> <p><i>Item 3</i> Date of bringing into use¹</p> <p>a) In the case of a new assignment, indicate the date (actual or foreseen, as appropriate) when reception of the assigned frequency begins.</p> <p>b) Whenever the assignment is changed in any of its basic characteristics, as shown in this Section (except in the case of a change in <i>Item 4</i>), the date to be given shall be that of the latest change (actual or foreseen, as appropriate).</p> <p><i>Item 4</i> Identity of the receiving space station(s)</p> <p>Indicate the identity of the receiving space station(s).</p> <p><i>Item 5</i> Orbital information</p> <p>a) In the case of a space station aboard a geostationary satellite, indicate the planned nominal geographical longitude on the geostationary-satellite orbit and the planned longitudinal tolerance and inclination excursion. Indicate also in the case where a geostationary satellite is intended to communicate with an earth station:</p> <p>1) the arc of the geostationary-satellite orbit over which the space station is visible, at a minimum angle of elevation of 10° at the Earth's surface, from its associated earth stations or service areas;</p> <p>2) the arc of the geostationary-satellite orbit within which the space station could provide the required service to its associated earth stations or service areas;</p>	<p>C1a (MOD)</p> <p>C1b (NOC)</p> <p>B2a (NOC)</p> <p>B2b (MOD)</p> <p>(SUP)</p> <p>B6a) (MOD)</p> <p>B6a1 (NOC)</p> <p>B6a2 (NOC)</p>	<p>Same as BII4 (NOC)</p> <p>Same as BII5 (NOC)</p> <p>Same as BI2 (NOC) Same as BI2(1) (NOC)</p> <p>Same as BI2(2) (NOC)</p> <p>(SUP)</p> <p>BI4 (MOD)</p> <p>BI4(1) (NOC)</p> <p>BI4(2) (NOC)</p>	<p>C3a (NOC)</p> <p>C3b (NOC)</p> <p>B2² B2a (NOC)</p> <p>B2b (MOD)</p> <p>(SUP)</p> <p>B4a (NOC)</p> <p>B4a1 (NOC)</p> <p>B4a2 (NOC)</p>	

EARTH-TO-SPACE

Section 2B

Section E (continued)	LUX/127	USA/56	F/23	
<p>3) in the event that the arc defined in paragraph 2) above is less than the arc defined in paragraph 1) above, provide the reasons therefor.</p> <p><i>Note:</i> The arcs specified in 1) and 2) will be indicated by the geographical longitude of the extremes of these arcs on the geostationary-satellite orbit.</p> <p>b) In the case of space station(s) aboard non-geostationary satellite(s), indicate the angle of inclination of the orbit, the period, the altitudes in kilometres of the apogee and perigee of the space station(s) and the number of satellites used.</p> <p><i>Item 6</i> Associated transmitting earth station(s) or space station(s)</p> <p>Identify the associated transmitting earth station(s) or space station(s) by reference to the notifications thereof or in any other appropriate manner.</p> <p><i>Item 7</i> Class of station and nature of service</p> <p>Indicate the class of station and nature of service performed, using the symbols shown in Appendix 10.</p> <p><i>Item 8</i> Class of emission, necessary bandwidth and description of the transmission(s) to be received</p> <p>In accordance with Article 4 and Appendix 6:</p> <p>a) indicate the class of emission of the transmission(s) to be received;</p> <p>b)¹ indicate the carrier frequency or frequencies of the transmission(s) to be received;</p> <p>c)¹ indicate, for each carrier to be received, the class of emission, necessary bandwidth and description of the transmission(s) to be received.</p>	<p>B6a3 (NOC)</p> <p>(NOC)</p> <p>B6b (MOD)</p> <p>C2 (NOC)</p> <p>C8 (MOD)</p> <p>C8a (MOD)</p> <p>C8b (MOD)</p> <p>C8c (MOD)</p>	<p>BI4(3) (NOC)</p> <p>(SUP)</p> <p>(SUP)</p> <p>BII6 (NOC)</p> <p>BII9</p> <p>BII9(a) (NOC)</p> <p>BII9(b)² (NOC)</p> <p>BII9(c)² (NOC)</p> <p>BII9(d)² (ADD)</p>	<p>B4a3 (NOC)</p> <p>(NOC)</p> <p>B4b (NOC)</p> <p>(SUP)</p> <p>C2 (NOC)</p> <p>C8 (MOD)</p> <p>C8a (NOC)</p> <p>C8b¹ (NOC)</p> <p>C8c¹ (NOC)</p> <p>C8d¹ (ADD)</p>	

EARTH-TO-SPACE

Section 2B

Section E (continued)	IUX/127	USA/56	F/23	
<p>Item 9 Space station receiving antenna characteristics</p> <p>For each receiving beam:</p> <p>a) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station, indicate the maximum gain of the space station receiving antenna and the 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 axis from the centre of the Earth to the satellite. The isotropic or absolute gain at each contour which corresponds to a gain of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter, as necessary, below the maximum gain, shall be indicated. Whenever possible the gain contours of the space station receiving antenna should also be provided in the form of a numerical equation or in tabular form;</p> <p>b) in the case of a space station aboard a geostationary satellite in which the antenna radiation beam is directed towards another satellite, or in the case of a space station aboard a non-geostationary satellite, indicate the isotropic or absolute gain of the space station receiving antenna in the direction of maximum radiation and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;</p> <p>c)¹ indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149). In the case of linear polarization, indicate the angle (in degrees) measured anticlockwise in a plane normal to the beam axis from the equatorial plane to the electric vector of the wave as seen from the satellite. Indicate also if consent is given to the general use of this information in the determination of the need for coordination with other satellite networks according to Appendix 29;</p> <p>d) indicate, for a geostationary satellite, the pointing accuracy of the antenna;</p> <p>e) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the gain of the space station receiving antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth, by means of a diagram showing estimated antenna gain versus orbit longitude.</p>	<p>C6a (MOD)</p> <p>C6b (NOC)</p> <p>C6c (NOC)</p> <p>C6d (NOC)</p> <p>C6e (NOC)</p>	<p>BII8</p> <p>BII8(a) (MOD)</p> <p>BII8(b) (MOD)</p> <p>BII3² (NOC)</p> <p>BII2 (MOD)</p> <p>BII8(C) (MOD)</p>	<p>C6a (MOD)</p> <p>C6b (MOD)</p> <p>C6c¹ (NOC)</p> <p>C6d (NOC)</p> <p>C6e (NOC)</p>	

EARTH-TO-SPACE

Section 2B

Section E (continued)	LUX/127	USA/56	F/23	
<p><i>Item 10</i> Noise temperature</p> <p>Indicate, in kelvins, the total receiving system noise temperature referred to the output of the receiving antenna of the space station.</p>	C7 (NOC)	BII10 (NOC)	C7 (NOC)	
<p><i>Item 11</i> Regular hours of reception</p> <p>Indicate, in UTC, the regular hours of reception on the frequency of each carrier.</p>	(SUP)	Same as BI3 (NOC)	C10 (NOC)	
<p><i>Item 12</i> Coordination</p> <p>Give the name of any administration or group of administrations with which the use of the satellite network to which the space station belongs has been successfully coordinated in accordance with No. 1060.</p>	E1 (MOD)	Same as BVI (NOC)	G1 (MOD)	
<p><i>Item 13</i> Agreements</p> <p>Give also, if appropriate, the name of any administration with which agreement has been effected to exceed the limits prescribed in these Regulations and the contents of such agreement.</p>	E2 (MOD)	Same as BVI2 BVI2(a) (ADD) BVI2(b) (MOD)	G3 (NOC)	
<p><i>Item 14</i> Operating administration or company</p> <p>Give the name of the operating administration or company and the postal and telegraphic addresses of the administration to which communications should be sent on urgent matters regarding interference and questions referring to the technical operation of stations (see Article 22).</p>	B3 (MOD)	Same as BVI3 (NOC)	B3 (NOC)	
<p>Additional items</p> <p>- if a "typical" earth station is used, indicate the coordinates (maximum 10) or e.i.r.p. contour plotted on a radial sattelentric projection delineating the service area;</p> <p>- indicate the identity of the satellite network and the name of the associate space station.</p>	C3d (ADD) B1 (ADD)	 - Identity of the network BII (ADD)	 - Identity of the satellite network B1 (ADD)	

EARTH-TO-SPACE

Section 2B

	LUX/127	USA/56	F/23	
<p><u>Additional items</u> (continued):</p> <ul style="list-style-type: none"> - Indicate in dB, the value of the target C/N ratio required for each carrier - Up-link and down-link beams of the satellite network Indicate the names or designations given to the up-link and down-link beams - Translation frequency Indicate the translation frequency in kHz - Service area or transmitting station(s) - Type of associated station(s) 	<p>B4 (ADD)</p> <p>B5 (ADD)</p>	<ul style="list-style-type: none"> - Receiving sat. antenna beam name BIII1 (ADD) BII7 (ADD) BIII1 (ADD) 	<p>C9g (ADD)</p>	

SPACE-TO-EARTH

Section 2C

Section D. Basic Characteristics to Be Furnished in Notices Relating to Frequencies Used by Space Stations for Transmitting	LUX/127	USA/56	F/23	
<p><i>Item 1</i> Assigned frequency (frequencies)</p> <p>Indicate the assigned frequency (frequencies), as defined in Article 1 (see No. 142), in kHz up to 28 000 kHz inclusive, in MHz above 28 000 kHz to 10 500 MHz inclusive and in GHz above 10 500 MHz. At least one separate assignment notice should be made out for each antenna radiation beam.</p>	D1a (MOD)	BIV4 (NOC)	D3a (NOC)	
<p><i>Item 2</i> Assigned frequency band</p> <p>Indicate the bandwidth of the assigned frequency band in kHz (see No. 141).</p>	D1b (NOC)	BIV5 (NOC)	D3b (NOC)	
<p><i>Item 3</i> Date of bringing into use¹</p> <p>a) In the case of a new assignment, indicate the date (actual or foreseen, as appropriate) of bringing the frequency assignment into use.</p> <p>b) Whenever the assignment is changed in any of its basic characteristics as shown in this Section (except in the case of a change in <i>Item 4</i>), the date to be given shall be that of the latest change (actual or foreseen, as appropriate).</p>	B2 (NOC) B2a (NOC)	BI2 (NOC) BI2(1) (NOC)	B2 ² (NOC) B2a (NOC)	
<p><i>Item 4</i> Identity of the space station(s)</p> <p>Indicate the identity of the space station(s).</p>		(SUP)		
<p><i>Item 5</i> Orbital information</p> <p>a) In the case of a space station aboard a geostationary satellite indicate the nominal geographical longitude on the geostationary-satellite orbit and the planned longitudinal tolerance and inclination excursion. Indicate also in the case where a geostationary satellite is intended to communicate with an earth station:</p> <p>1) the arc of the geostationary-satellite orbit over which the space station is visible, at a minimum angle of elevation of 10° at the Earth's surface, from its associated earth stations or service areas;</p> <p>2) the arc of the geostationary-satellite orbit within which the space station could provide the required service to its associated earth stations or service areas;</p>	B6 (MOD) B6a1 (NOC) B6a2 (NOC)	BI4 (MOD) BI4(1) (NOC) BI4(2) (NOC)	B4 (NOC) B4a (NOC) B4a1 (NOC) B4a2 (NOC)	

SPACE-TO-EARTH

Section 2C

Section D (continued)	LUX/127	USA/56	F/23	
<p>3) in the event that the arc defined in paragraph 2) above is less than the arc defined in paragraph 1) above, provide the reasons therefor.</p> <p><i>Note:</i> The arcs specified in 1) and 2) will be indicated by the geographical longitude of the extremes of these arcs on the geostationary-satellite orbit.</p> <p>b) In the case of space station(s) aboard non-geostationary satellite(s), indicate the angle of inclination of the orbit, the period, the altitudes in kilometres of the apogee and perigee of the space station(s) and the number of satellites used.</p>	<p>B6a3 (NOC)</p> <p>B6a3 (NOC)</p> <p>B6b (MOD)</p>	<p>BI4(2) (NOC)</p> <p>(SUP)</p> <p>BV3</p> <p>BV3(a) (NOC)</p>	<p>B4a3 (NOC)</p> <p>B4b (NOC)</p>	
<p><i>Item 6</i> Service area or receiving station(s)</p> <p>a) In the case where the associated receiving stations are earth stations, indicate the service area or areas on the Earth or the name of the locality and country or geographical area in which each receiving station is located.</p> <p>b) In the case where the associated receiving stations are space stations, identify each station by reference to the notification thereof or in any other appropriate manner.</p>	<p>D3 (MOD)</p> <p>D3a (MOD)</p>			
<p><i>Item 7</i> Class of station and nature of service</p> <p>Indicate the class of station and nature of service performed, using the symbols shown in Appendix 10.</p>	<p>D2 (NOC)</p>	<p>BIV6(NOC)</p>	<p>D2 (NOC)</p>	
<p><i>Item 8</i> Class of emission, necessary bandwidth and description of transmission</p> <p>In accordance with Article 4 and Appendix 6:</p> <p>a) indicate the class of emission of the transmission;</p> <p>b)¹ indicate the carrier frequency or frequencies of the transmission;</p> <p>c)¹ indicate, for each carrier, the class of emission, necessary bandwidth and description of transmission;</p> <p>d)¹ indicate, for the carrier having the smallest bandwidth of assignments in the system, the class of emission, necessary bandwidth and a description of the transmission.</p>	<p>D8 (NOC)</p> <p>D8a (MOD)</p> <p>D8b (MOD)</p> <p>D8c (MOD)</p>	<p>BIV9</p> <p>BIV9(a) (MOD),</p> <p>BIV9(b)^{2,4} (MOD),</p> <p>BIV9(c)^{2,4} (MOD),</p> <p>BIV9(d)^{2,4} (MOD),</p>	<p>D8 (MOD)</p> <p>D8a (NOC)</p> <p>D8b (NOC)</p> <p>D8c¹ (NOC)</p> <p>D8d¹ (NOC)</p>	

SPACE-TO-EARTH

Section 2C

Section D (continued)	LUX/127	USA/56	F/23	
<p><i>Item 9</i> Power characteristics of the transmission</p> <p>a)¹ Indicate for each carrier the peak envelope power (dBW) supplied to the input of the antenna.</p> <p>b) Indicate the total peak envelope power (dBW) and the maximum power density per Hz (dB(W/Hz))² at the input of the antenna, averaged over the worst 4 kHz band for carriers below 15 GHz or averaged over the worst 1 MHz band for carriers above 15 GHz.</p> <p>c)¹ Indicate for each carrier the minimum value of the peak envelope power supplied to the input of the antenna.</p> <p><i>Item 10</i> Space station transmitting antenna characteristics</p> <p>For each service area or antenna radiation beam:</p> <p>a) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station, indicate the maximum gain of the space station transmitting antenna and the 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 axis from the centre of the Earth to the satellite. The isotropic or absolute gain at each contour which corresponds to a gain of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter, as necessary, below the maximum gain, shall be indicated. Whenever possible the gain contours of the space station transmitting antenna should also be provided in the form of a numerical equation or in tabular form;</p> <p>b) in the case of a space station aboard a geostationary satellite in which the antenna radiation beam is directed towards another satellite, or in the case of a space station aboard a non-geostationary satellite, indicate the isotropic or absolute gain of the space station transmitting antenna in the direction of maximum radiation and the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;</p>	<p>D4 (MOD)</p> <p>D4a (NOC)</p> <p>D4b (NOC)</p> <p>D4c (NOC)</p> <p>D5 (NOC)</p> <p>D5a (MOD)</p> <p>D5b (NOC)</p>	<p>BIV10</p> <p>BIV10(a)^{2,4} (MOD)</p> <p>BIV10(b) (NOC)</p> <p>BIV10(c)^{2,4} (MOD)</p> <p>BIV8</p> <p>BIV8(a) (MOD)</p> <p>BIV8(b) (MOD)</p>	<p>D4 (MOD)</p> <p>D4a¹ (NOC)</p> <p>D4b) (MOD) D4c)</p> <p>D4d³ (NOC)</p> <p>D5 (NOC)</p> <p>D5a (NOC)</p> <p>D5b (MOD)</p>	

SPACE-TO-EARTH

Section 2C

Section D (continued)	LUX/127	USA/56	F/23	
<p>c)¹ indicate the type of polarization of the radiation emitted by the antenna. In the case of circular polarization, indicate the direction of polarization</p> <p>(see Nos. 148 and 149). In the case of linear polarization, indicate the angle (in degrees) measured anticlockwise in a plane normal to the beam axis from the equatorial plane to the electric vector of the wave as seen from the satellite;</p> <p>d) for a geostationary satellite, indicate the pointing accuracy of the antenna;</p> <p>e) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the gain of the space station transmitting antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth, by means of a diagram showing estimated antenna gain versus orbit longitude.</p>	<p>D5c (NOC)</p>	<p>BIV3² (MOD)</p>	<p>D5c¹ (NOC)</p>	
<p>Item 11¹ Modulation characteristics</p> <p>For each carrier, according to the nature of the signal modulating the carrier and the type of modulation, indicate the following characteristics:</p> <p>a) carrier frequency modulated by a frequency-division multi-channel telephony baseband (FDM/FM) or by a signal that can be represented by a multi-channel telephony baseband: indicate the lowest and highest frequencies of the baseband and the r.m.s. frequency deviation of the test tone as a function of baseband frequency;</p> <p>b) carrier frequency modulated by a television signal: indicate the standard of the television signal (including, where appropriate, the standard used for colour), the frequency deviation for the reference frequency of the pre-emphasis characteristic and the pre-emphasis characteristic itself. Also indicate, where applicable, the characteristics of the multiplexing of the video signal with the sound signal(s) or other signal(s);</p>	<p>D9 (NOC)</p>	<p>BIV11^{2,4}</p>	<p>D9 (NOC)</p>	
	<p>D9a (NOC)</p>	<p>BIV11(a) (NOC)</p>	<p>D9a</p>	
	<p>D9b (NOC)</p>	<p>BIV11(b) (NOC)</p>	<p>D9b¹ (MOD)</p>	

SPACE-TO-EARTH

Section 2C

Section D (continued)	IUX/127	USA/56	F/23	
c) carrier phase-shift modulated by a pulse code modulation signal (PCM/PSK): indicate the bit rate and the number of phases;	D9c (NOC)	BIV11(c) (NOC)	D9c (NOC)	
d) amplitude modulated carrier (including single-side-band): indicate as precisely as possible the nature of the modulating signal and the kind of amplitude modulation used;	D9d (NOC)	BIV11(d) (NOC)	D9d (NOC)	
e) for all other types of modulation, provide such particulars as may be useful for an interference study;	D9e (NOC)	BIV11(e) (NOC)	D9e (NOC)	
f) for any type of modulation as applicable, indicate the characteristics of energy dispersal.	D9f (NOC)	BIV11(f) (MOD)	D9f (MOD)	
Item 12 Regular hours of operation Indicate in UTC the regular hours of operation on the frequency of each carrier.		BI3 (NOC)	D10 (NOC)	
Item 13 Coordination Give the name of any administration or group of administrations with which the use of the satellite network to which the space station belongs has been successfully coordinated in accordance with No. 1060.	E1 (MOD)	BVI1 (NOC)	G1 (NOC)	
Item 14 Agreements Give also, if appropriate, the name of any administration with which agreement has been effected to exceed the limits prescribed in these Regulations and the contents of such agreement.	E2 (MOD)	BVI2 BVI2(a) (ADD) BVI2(b) (MOD)	G3 (NOC)	
Item 15 Operating administration or company Give the name of the operating administration or company and the postal and telegraphic addresses of the administration to which communications should be sent on urgent matters regarding interference, quality of emissions and questions referring to the technical operation of stations (see Article 22).	B3 (NOC)	BVI3 (NOC)	B3 (NOC)	

SPACE-TO-EARTH

Section 2C

Section C. Basic Characteristics to Be Furnished in Notices Relating to Frequencies to Be Received by Earth Stations	IUX/127	USA/56	F/23	
<p><i>Item 1</i> Assigned frequency (or frequencies)</p> <p>Indicate the assigned frequency (frequencies), as defined in Article I (see No. 142), of the emission to be received, in kHz up to 28 000 kHz inclusive, in MHz above 28 000 kHz to 10 500 MHz inclusive and in GHz above 10 500 MHz.</p>	D1a (MOD)	Same as BIV4 (NOC)	D3a (NOC)	
<p><i>Item 2</i> Assigned frequency band</p> <p>Indicate the bandwidth of the assigned frequency band in kHz (see No. 141).</p>	D1b (NOC)	Same as BIV5 (NOC)	D3b (NOC)	
<p><i>Item 3</i> Date of bringing into use</p> <p>a) In the case of a new assignment, indicate the date (actual or foreseen, as appropriate) when reception of the assigned frequency begins.</p> <p>b) Whenever the assignment is changed in any of its basic characteristics, as shown in this Section (except in the case of a change in <i>Item 4 a</i>), the date to be given shall be that of the latest change (actual or foreseen, as appropriate).</p>	B2a (NOC)	Same as BI2 (NOC) Same as BI2(1) (NOC)	B2 ² (NOC) B2a (MOD)	
<p><i>Item 4</i> Identity and location of the receiving earth station</p> <p>a) Indicate the name by which the receiving earth station is known or the name of the locality in which it is situated.</p> <p>b) Indicate the country or geographical area in which the station is located. Symbols from the Preface to the International Frequency List should be used.</p> <p>c) Indicate the geographical coordinates of the receiver site (longitude and latitude in degrees and minutes). Indicate also the seconds ¹ with an accuracy of one-tenth of a minute.</p>	B2b (MOD)	Same as BI2(2) (NOC)	B2b (MOD)	
<p><i>Item 5</i> Station(s) with which communication is to be established</p> <p>Identify the associated transmitting space station(s) by reference to the notification thereof or in any other appropriate manner, or, in the case of a reflecting satellite, the identity of the satellite and the associated transmitting earth station(s). In the case of a geostationary satellite, indicate also its orbital position.</p>	D3a (NOC)	(SUP)	(SUP)	
	D3b (NOC)			
	D3c (MOD)			
		(SUP)		

SPACE-TO-EARTH

Section 2C

Section C (continued)	IUX/127	USA/56	F/23	
<p><i>Item 6</i> Class of station and nature of service</p> <p>Indicate the class of station and nature of service performed, using the symbols shown in Appendix 10.</p>	D2 (NOC)	BV2 (NOC)	D2 (NOC)	
<p><i>Item 7</i> Class of emission, necessary bandwidth and description of the transmission to be received</p> <p>In accordance with Article 4 and Appendix 6:</p> <p>a) indicate the class of emission of the transmission to be received;</p> <p>b)¹ indicate the carrier frequency or frequencies of the transmission to be received;</p> <p>c)¹ indicate, for each carrier to be received, the class of emission, necessary bandwidth and description of the transmission.</p>	<p>D8 (MOD)</p> <p>D8a (MOD)</p> <p>D8b (MOD)</p> <p>D8c (MOD)</p>	<p>BV4</p> <p>BV4(a) (NOC)</p> <p>BV4(b)² (NOC)</p> <p>BV4(c)² (NOC) BV4(d)² (ADD)</p>	<p>D8 (MOD)</p> <p>D8a (MOD)</p> <p>D8b (MOD)</p> <p>D8c¹ (MOD) D8d¹ (ADD)</p>	
<p><i>Item 8</i> Earth station receiving antenna characteristics</p> <p>a) Indicate the isotropic or absolute gain (dB) of the antenna in the direction of maximum radiation (see No. 154).</p> <p>b) Indicate the beamwidth in degrees between the half power points (describe in detail if not symmetrical).</p> <p>c) Either attach the measured radiation diagram of the antenna (taking as a reference the direction of maximum radiation) or indicate the reference radiation diagram to be used for coordination.</p> <p>d) Indicate graphically the horizon elevation angle for each azimuth around the earth station.</p> <p>e) Indicate in degrees from the horizontal plane the planned minimum operating angle of elevation of the antenna in the direction of maximum radiation.</p> <p>f) Indicate in degrees, clockwise from True North, the planned range of operating azimuthal angles for the direction of maximum radiation.</p> <p>g) Indicate the altitude (metres) of the antenna above mean sea level.</p>	<p>D6 (NOC)</p> <p>D6a (NOC)</p> <p>D6b (NOC)</p> <p>D6c (NOC)</p> <p>D6d (NOC)</p> <p>D6e (NOC)</p> <p>D6f (NOC)</p> <p>D6g (NOC)</p>	<p>BV5</p> <p>BV5(a) (NOC)</p> <p>BV5(b) (NOC)</p> <p>BV5(c) (NOC)</p> <p>(SUP)</p> <p>(SUP)</p> <p>(SUP)</p> <p>(SUP)</p>	<p>D6 (NOC)</p> <p>D6a (NOC)</p> <p>D6b (NOC)</p> <p>D6c (MOD)</p> <p>D6d (NOC)</p> <p>D6e (NOC)</p> <p>D6f (NOC)</p> <p>D6g (NOC)</p>	

SPACE-TO-EARTH

Section 2C

Section C (continued)	IUX/127	USA/56	F/23	
<p><i>h₁</i>¹ Indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149). In the case of linear polarization, indicate the plane of polarization. Indicate also if consent is given to the general use of this information in the determination of the need for coordination with other satellite networks according to Appendix 29.</p>	D6h (NOC)	(SUP)	D6h ¹ (NOC)	
<p><i>Item 9</i> Noise temperature, link noise temperature and transmission gain</p> <p><i>a)</i> Indicate, in kelvins, the lowest total receiving system noise temperature referred to the output of the receiving antenna of the earth station under "quiet sky conditions". This value shall be indicated for the nominal value of the angle of elevation when the associated transmitting station is aboard a geostationary satellite and, in other cases, for the minimum value of angle of elevation.</p> <p><i>b)</i> When simple frequency-changing transponders are used on the associated space station, indicate the lowest equivalent satellite link noise temperatures under the conditions of <i>Item 9 a)</i> for each assignment (see No. 168).</p> <p><i>c)</i> Indicate the value of transmission gain associated with each equivalent satellite link noise temperature given in <i>Item 9 b)</i>. The transmission gain is evaluated from the output of the receiving antenna of the space station to the output of the receiving antenna of the earth station.</p>	D7 (NOC)	BV6		
	D7a (NOC)	BV6(a) (MOD)	D7 (NOC)	
	D7b (NOC)	BV6(b) (MOD)	E2; E2a (MOD)	
	D7c (NOC)	BV6(c) (NOC) BV6(d) (ADD) BV6(e) (ADD)	E2b (MOD)	
<p><i>Item 10</i> Regular hours of reception</p> <p>Indicate, in UTC, the regular hours of reception on the frequency of each carrier.</p>		Same as BI3 (NOC)	D10	
<p><i>Item 11</i> Coordination</p> <p>Give the name of any administration with which the use of this frequency has been successfully coordinated in accordance with Nos. 1060 and 1107 and, if appropriate, the name of any administration with which coordination has been sought but not effected.</p>	E1 (NOC)	Same as BVI1 (NOC)	G2 (NOC)	
<p><i>Item 12</i> Agreements</p> <p>Give also, if appropriate, the name of any administration with which agreement has been effected to exceed the limits prescribed in these Regulations, and the contents of such agreement.</p>	E2 (MOD)	Same as BVI2 BVI2(a) (ADD) BVI2(b) (MOD)	G3 (NOC)	

SPACE-TO-EARTH

Section 2C

Section C (continued)	IUX/127	USA/56	F/23	
<p><i>Item 13</i> Operating administration or company</p> <p>Give the name of the operating administration or company and the postal and telegraphic addresses of the administration to which communications should be sent on urgent matters regarding interference and questions referring to the technical operation of stations (see Article 22).</p>	B3 (MOD)	Same as BVI3 (NOC)	B3 (MOD)	
<p>Additional items:</p> <ul style="list-style-type: none"> - identity of the network - transmitting sat. beam name - type of associated station(s) - down-link service area - indicate the geographical coordinates (longitude and latitude in degrees and minutes) - if a "typical" earth station is used indicate the coordinates (maximum 10) or e.i.r.p. contour plotted on a radial sattelentric projection delineating the service area - correspondence between up-link and down-link frequency bands 	<p>B1 (ADD)</p> <p>D3 (ADD)</p> <p>D3c (ADD)</p> <p>D3d (ADD)</p>	<p>BI1 (ADD)</p> <p>BIV1 (ADD)</p> <p>BV1 (ADD)</p> <p>- service area or transmitting station(s)</p> <p>BIV7 (ADD)</p>	<p>B1 (ADD)</p> <p>E1 (ADD)</p>	

COMMITTEE 6

Draft

NOTE FROM THE CHAIRMAN OF COMMITTEE 6 TO
THE CHAIRMEN OF WORKING GROUPS 6-A, 6-B AND 6-C

REVIEW OF RESOLUTIONS AND RECOMMENDATIONS

After a perusal of new and existing Resolutions and Recommendations submitted to Committee 6, it is requested to treat them as follows:

A. New Resolutions and Recommendations

1. Working Group 6-A: Resolutions USA/12/12 and F/31/11;
2. Working Group 6-B: Resolutions B/47/1 and USA/144/1;
3. Working Group 6-C: Resolutions USA/77/1, CEPT/43/1, J/53/23, USA/56/20 and Document 6.

B. Existing Resolutions and Recommendations

1. Working Group 6-B: Resolutions 3, 4, and 642;
2. Working Group 6-C: Resolutions 6, 15, 34, 100, 205(Mob-87) and 208(Mob-87), Recommendations 2, 67 and 700.

J.F. BROERE
Chairman of Committee 6

CONF\ORB-2\DT\051E.TXS

WORKING GROUP 6-B

Draft

NOTE BY THE CHAIRMAN OF WORKING GROUP 6-B IN RELATION TO
THE IMPACT OF THE NETWORK COORDINATION AND NOTIFICATION
PRINCIPLE ON ARTICLE 13

1. At the present stage of discussion in Committee 6, it has been decided that coordination (RR 1060) of space radiocommunication stations may be effected on a network basis (i.e., transmitting and receiving space station including characteristics of typical earth stations).
2. For notification, under Article 13, of space radiocommunication stations the following shall apply.
 - 2.1 The space station (transmitting and receiving) is notified by the administration responsible for the space station, indicating the characteristics of the associated typical earth stations.
 - 2.2 Typical earth stations requiring RR 1107 coordination shall be notified individually as specific earth stations, after necessary coordination.
 - 2.3 An administration intending to use a typical earth station located on its territory (coordinated under RR 1060) which does not require RR 1107 coordination may notify it if the administration so wishes.
 - 2.4 Specific earth stations have to be coordinated under RR 1060 with other satellite networks if the actual values of their parameters could cause or suffer interference exceeding the interference level produced by the typical earth stations which have been coordinated. This coordination, as well as the coordination under No. 1107, if required, and the notification shall be made by the administration on the territory of which the earth station is located.

A. CAREW
Chairman of Working Group 6-B

CONF\ORB-2\DT\052R1E.TXS

WORKING GROUP 6-B

Draft

NOTE BY THE CHAIRMAN OF WORKING GROUP 6-B IN RELATION TO
THE IMPACT OF THE NETWORK COORDINATION AND NOTIFICATION
PRINCIPLE ON ARTICLE 13

1. At the present stage of discussion in Committee 6, it has been decided that coordination (RR 1060) of space radiocommunication stations should normally be done on a network basis (i.e., transmitting and receiving space station including characteristics of typical earth stations).
2. For notification, under Article 13, of space radiocommunication stations the following shall apply.
 - 2.1 The space station (transmitting and receiving) is notified by the administration responsible for the space station, indicating the characteristics of the associated typical earth stations.
 - 2.2 Non-typical earth stations shall be coordinated under RR 1060 and RR 1107, as required, and notified by the administration on the territory of which the earth station is located.
 - 2.3 An administration intending to use a typical earth station (coordinated under RR 1060) which does not require RR 1107 coordination may notify it if the administration so wishes.
 - 2.4 Typical earth stations requiring RR 1107 coordination shall be notified individually as specific earth stations.

A. CAREW
Chairman of Working Group 6-B

CONF\ORB-2\DT\052E.TXS

Draft

PROPOSAL FROM THE CHAIRMAN

RESOLUTION [COM5/2]

**Relating to Experiments with Satellite Sound-Broadcasting
Systems that Permit Individual Reception by Portable and
Automobile Receivers**

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Second Session - Geneva, 1988),

considering

- a) that WARC ORB-88 in its Resolution [COM5/1] has resolved that a band (or bands) of frequencies in the range 500 MHz to 3 000 MHz be allocated for broadcasting-satellite service (sound) to permit individual reception with portable and automobile receivers;
- b) that it is desirable to obtain information from actual satellite sound-broadcasting system experiments, using satellites in geostationary orbit, to validate theoretical analyses and terrestrial demonstrations regarding systems performance and sharing options, and that the dissemination of the results obtained from these experiments would be of value to all administrations;
- c) that the procedures of Article 11 do not apply to the broadcasting-satellite service, and the procedures specified in Section A of Resolution 33 for coordination between space stations in the broadcasting-satellite service and terrestrial stations apply only in bands already allocated to the broadcasting-satellite service;
- d) this Article 34 of the Radio Regulations is intended for experimental transmissions in any band, however, no provision of the Radio Regulations or of Resolution 33 permits the use of broadcasting space stations in a frequency band other than the bands allocated to the broadcasting-satellite service;
- e) that a provisional procedure is needed to ensure that these experiments, when carried out in bands not already allocated to the broadcasting-satellite service, are conducted in a manner that is compatible with radiocommunication services operating in conformity with the Radio Regulations;

resolves

1. that administrations are encouraged to carry out experiments with satellite sound-broadcasting systems within the frequency band 500 MHz to 3 000 MHz in appropriately placed narrow sub-bands, and such experiments are to be conducted in conformity with Article 34 of the Radio Regulations;
2. that administrations who plan to conduct satellite sound-broadcasting system experiments shall, prior to initiating such experiments, communicate to the International Frequency Registration Board the characteristics of the planned space station(s) as listed in [Appendix 3, Section D], with a reference to this Resolution;
3. that the Board, on receiving the information referred to in resolves 2 above, shall publish this information in a special section of its weekly circular;
4. that any administration, upon receipt of this information and believing that the planned experiment may cause harmful interference to its services operating in accordance with the Table of Frequency Allocations, shall within four months of the date of the relevant weekly circular so inform the administration responsible for the experiment and the Board;
5. that any administration not having commented within the period specified in 4 shall be regarded as not having basic objections to the planned experiment;
6. that any administration responding to 4 shall provide to both the administration responsible for the experiment and the Board characteristics of the stations whose services may be affected, and shall make such suggestions as it may be able to offer with a view to a satisfactory solution of the problem;
7. that administrations are encouraged to resolve potential interference problems identified and the Board shall provide such assistance as an administration may request;
8. that following resolution with another administration of a problem identified in 4, the administration responsible for the experiment shall inform the Board to that effect;
9. that the administration responsible for the experiment shall inform the Board of the resolution of all problems identified, and shall request the Board to publish this information in the appropriate special section of the weekly circular;
10. that should actual harmful interference be caused by an experimental satellite sound-broadcasting system to any station operating in conformity with the Radio Regulations despite the application of this Resolution the administration responsible for the experimental broadcasting system must upon receipt of advice thereof immediately eliminate this harmful interference;
11. that following the application of the above procedure:
 - a) the administration intending to carry out experiments shall notify its assignments in accordance with paragraph 4.1 of Resolution 33;
 - b) the Board shall record this assignment without a finding or any date in column 2; and

- c) the recording shall bear a reference to this Resolution and a symbol to indicate that the proposed experiment shall in no way prejudice the decision of a future competent conference dealing with the allocation of a frequency band to the broadcasting-satellite service (sound);

invites the CCIR

to initiate work on the development of appropriate technical criteria taking into account the available results of the experiments performed, for the establishment of the technical basis required in the application of this Resolution;

invites all administrations

to perform studies or experiments relevant to satellite sound broadcasting, and to provide the results of their work to the CCIR for inclusion in its report to the Conference referred to in Resolution [COM5/1] WARC ORB-88.

R. ZEITOUN
Chairman of Sub-Working Group 5-B-2

Draft

PROPOSAL FROM THE CHAIRMAN

RESOLUTION [COM5/2]

**Relating to Experiments with Satellite Sound-Broadcasting
Systems that Permit Individual Reception by Portable and
Automobile Receivers**

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Second Session - Geneva, 1988),

considering

- a) that WARC ORB-88 in Resolution [COM5/1] has resolved that a band (or bands) of frequencies in the range 500 MHz to 3 000 MHz be allocated for broadcasting-satellite service (sound) to permit individual reception with portable and automobile receivers;
- b) that it is desirable to obtain information from actual satellite sound-broadcasting system experiments, using satellites in geostationary orbit, to support theoretical analyses regarding systems performance and sharing options, and that the dissemination of the results obtained from these experiments would be of value to all administrations;
- c) that the procedures of Article 11 do not apply to the broadcasting-satellite service, and the procedures specified in Section A of Resolution 33 for coordination between space stations in the broadcasting-satellite service and terrestrial stations apply only in bands already allocated to the broadcasting-satellite service;
- d) that procedures are needed to assure that these experiments are conducted in a manner that is compatible with existing radiocommunication services;

resolves

- 1. that administrations are encouraged to carry out experiments with satellite sound-broadcasting systems within the frequency band [500 MHz to 3 000 MHz] in appropriately placed narrow sub-bands, and such experiments are to be conducted in conformity with Article 34 of the Radio Regulations;

2. that administrations who plan to conduct satellite sound-broadcasting system experiments which might affect the services of other administrations shall, prior to initiating such experiments, provide to the International Frequency Registration Board the characteristics of the planned space station(s) as listed in [Appendix 3, Section D], clearly indicating that this notification is being provided in accordance with this Resolution;
3. that the Board, on receiving notification of the space station characteristics for a satellite sound-broadcasting system experiment, shall publish this information in a special section of its weekly circular;
4. that any administration, upon receipt of this information and believing that the planned experiment may cause harmful interference to its services operating in accordance with the Table of Frequency Allocations, shall within four months of the date of the relevant weekly circular so inform the notifying administration and the Board;
5. that any administration not having commented within the period specified in (4) shall be regarded as being of the view that no harmful interference will be caused to any of its assignments by the planned experiment;
6. that any administration responding to (4) shall provide to both the notifying administration and the Board characteristics of the stations whose services may be affected, and shall make such suggestions as it may be able to offer with a view to a satisfactory solution of the problem;
7. that administrations are encouraged to resolve potential interference problems identified and the Board shall provide such assistance as an administration may request;
8. that following resolution with another administration of a problem identified in (4), the notifying administration shall inform the Board to that effect;
9. that a notifying administration after a) having received no response under (4), or b) having informed the Board under (8) of the resolution of all problems identified, shall request the Board to publish this fact in the appropriate special section of the weekly circular;
10. irrespective of the application of this Resolution, should actual harmful interference be caused by an experimental satellite sound-broadcasting system to any station operating in conformity with No. 1503, the notifying administration must upon receipt of advice thereof immediately eliminate this harmful interference;

invites the CCIR

to initiate work on the development of appropriate technical criteria required to establish coordination procedures relative to experimental and operational satellite sound-broadcasting systems;

requests the IFRB

to use the weekly circular for distributing to all administrations the details of the proposed plans for satellite sound-broadcasting system experiments submitted by notifying administrations under this Resolution;

invites all administrations

to perform studies or experiments relevant to satellite sound-broadcasting, and to provide the results of their work to the CCIR for inclusion in its report to the Conference referred to in Resolution [COM5/1] WARC ORB-88.

R. ZEITOUN
Chairman of Sub-Working Group 5-B-2

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/54-E
14 September 1988
Original: English

WORKING GROUP 4-B

DRAFT NOTE FROM THE CHAIRMAN OF WORKING GROUP 4-B

From September 15 to September 20, Sub-Working Group 4-B-1 would be dealing with the problem of accommodating special requirements related to particular geographical situations. The work of the group concerning this matter would probably include a synthesis run of the ORBIT II program and several manual synthesis followed by a complete analysis. At the end of this phase, two results could be envisaged:

- (i) - special requirements related to particular geographical situations could not be accommodated
- (ii) - special requirements related to particular geographical situations could be accommodated

In the first case, it is clear that, once special requirements related to particular geographical situations could not be accommodated, that would also be true for most of the remaining special requirements.

In the second case, if all special requirements related to particular geographical situations could be accommodated, the trial for including the remaining special requirements, although probably difficult, will be done in the period September 21 to September 22.

• From September 23 to September 28, Sub-Working Group 4-B-1 would then be dealing with the compatibility between Parts A and B of the Plan. Probably, the Plans that would have been developed at that time will present incompatibilities between their Parts A and B. It would then be necessary to develop new Plans, bearing in mind the compatibility between Parts A and B of the Plan. Concerning this matter, the work of the Group would possibly include a synthesis run of the ORBIT II program and several manual synthesis followed by a complete analysis.

The following time schedule is then proposed:

Sep.15 to Sep.20 - Special requirements related to particular
geographical situations

Sep.21 to Sep.22 - Remaining special requirements

Sep.23 to Sep.28 - Compatibility between Parts A and B of
the Plan.

C.T. N'DIONGUE
Chairman of Working Group 4-B

WORKING GROUP 4-C

DRAFT PROCEDURES FOR THE REGULATION OF THE
INTERACTIONS BETWEEN ENTRIES IN PART A
AND PART B OF THE PLAN

Following the third discussion of the draft procedures by the Working Group, the Chairman has made a final revision of the draft procedures which are attached at annex.

E.D. DUCHARME
Chairman of Working Group 4-C

Annex: 1

ANNEX

Draft procedures for the regulation of the interactions between
entries in Part A and Part B of the Plan

101. The existing systems listed in Part B of the Plan may continue in service for a maximum period of 20 years from the date of entry into force of the Final Acts.

102. During the lifetime of an existing system, the recorded characteristics of the related space station and earth station assignments shall not be altered in any way as to affect any allotments or assignments made in accordance with the Plan. Changes in the recorded characteristics of an existing system which do not affect allotments or assignments made in accordance with the Plan shall be communicated to the IFRB. The Board shall publish such changes in a special section of its weekly circular and shall update the Plan accordingly.

103. For the purpose of assuring access to the geostationary-satellite orbit, whenever an administration initiates the procedure for the conversion of its allotment in Part A of the Plan to an assignment (see Section [...]), with the assistance of the IFRB, if requested, administrations will be identified, whose existing systems may affect the conversion of the allotment to an assignment.

104. Recognizing the need for equitable treatment of allotments in Part A of the Plan and existing systems in Part B of the Plan, all administrations involved in the application of these procedures are urged to cooperate fully to ensure the effective and efficient operation of both.

105. In the process of resolving any difficulties identified under 103:

- a) the administration responsible for the existing system shall, depending on the stage of development of their systems, take all technically and operationally possible measures to remove incompatibilities at the planning, design and implementation stages in order to accommodate the requirements of the administration seeking to convert its allotment into an assignment;
- b) the administrations which have allotments which are affected will assist with the resolution of incompatibilities;
- c) both administrations, with the assistance of the IFRB, if requested, shall cooperate in reaching an equitable agreement, taking into account the respective stages of development of their systems and recognizing that a means must be found to convert the allotment into an assignment which is acceptable to both parties.

106. Any agreement concluded in accordance with the steps foreseen in No. 105 shall be communicated to the IFRB which, if appropriate, shall ensure that other allotments and assignments made in accordance with the Plan remain unaffected. The Board shall publish the agreement in a special section of its weekly circular and shall, if necessary, update the Plan.

107. Following the steps foreseen in No. 105, the determination of any effects on the original allotment by the administration having the existing system, shall be considered in terms of the effects on the assignment which resulted from the conversion procedure.

108. In the event of the partial or complete cessation of operation of an existing system listed in Part B of the Plan, this shall be communicated to the Board. The Board shall publish this information in a special section of its weekly circular and shall update the Plan accordingly.

109. Following the action foreseen in No. 108, the Board shall re-calculate the C/I values of the allotments in Part A of the Plan and of any assignments made following conversion of an original allotment. The Board shall publish the results for the information of all administrations and shall update the Plan accordingly.

WORKING GROUP 4-C

DRAFT PROCEDURES FOR THE REGULATION OF THE
INTERACTIONS BETWEEN ENTRIES IN PART A
AND PART B OF THE PLAN

Following the second discussion of the draft procedures by the Working Group, the Chairman has made a second revision of the draft procedures which are attached at annex.

The Chairman recognizes that parts of the annex are in square brackets (101, 102, 103, 107(c)) and that there has not been a full discussion of other parts of the annex (108, 109, 110, 111). Therefore, if there is time in the schedule of the Working Group, there will be a further discussion.

E.D. DUCHARME
Chairman of Working Group 4-C

Annex: 1

ANNEX

Draft procedures for the regulation of the interactions between
entries in Part A and Part B of the Plan

101. The existing systems listed in Part B of the Plan may continue in service for a maximum period of [20 years from [8 August 1985] [5 October 1988] [the date of entry into force of the Final Acts]] [or that period of the notified assignments for the related space stations, whichever is less. The period of validity of the assignments to stations of the existing systems shall be that communicated to the IFRB before [29 August 1988]].

102. Thereafter, such systems may continue in service for a further period only by agreement with any administration which has an allotment in Part A or has assignments made in accordance with Part A of the Plan which are affected.

103. Any agreement to the extension of the period of service of an existing system made in accordance with No. 102 shall be reported to the IFRB, individually or collectively, by the administrations involved. The Board shall publish this agreement in a special section of its weekly circular and shall revise Part B of the Plan accordingly.

104. During the lifetime of an existing system, whether or not it is extended, the recorded characteristics of the related space station and earth station assignments shall not be altered in any way as to affect any allotments or assignments made in accordance with the Plan. Changes in the recorded characteristics of an existing system which do not affect allotments or assignments made in accordance with the Plan shall be communicated to the IFRB. The Board shall publish such changes in a special section of its weekly circular and shall update the Plan accordingly.

105. For the purpose of assuring access to the geostationary-satellite orbit, whenever an administration initiates the procedure for the conversion of its allotment in Part A of the Plan to an assignment (see Section [...]), with the assistance of the IFRB, if requested, administrations will be identified, whose existing systems may affect the conversion of the allotment to an assignment.

106. Recognizing the need for equitable treatment of allotments in Part A of the Plan and existing systems in Part B of the Plan, all administrations involved in the application of these procedures are urged to cooperate fully to ensure the effective and efficient operation of both.

107. In the process of resolving any difficulties identified under 105:

- a) the administration responsible for the existing system shall, depending on the stage of development of their systems, take all technically and operationally possible measures to remove incompatibilities at the planning, design and implementation stages in order to accommodate the requirements of the administration seeking to convert its allotment into an assignment;
- b) the administration seeking to convert its allotment will assist with the resolution of incompatibilities;
- c) both administrations, with the assistance of the IFRB, if requested, shall cooperate in reaching an equitable agreement, taking into account the respective stages of development of their systems and recognizing that a means must be found to convert the allotment into an assignment with an acceptable impact on the operation of the existing system.

108. Any agreement concluded in accordance with the steps foreseen in No. 107 shall be communicated to the IFRB which, if appropriate, shall ensure that other allotments and assignments made in accordance with the Plan remain unaffected. The Board shall publish the agreement in a special section of its weekly circular and shall, if necessary, update the Plan.

109. Following the steps foreseen in No. 107, the determination of any effects on the original allotment by the administration having the existing system, shall be considered in terms of the effects on the assignment which resulted from the conversion procedure.

110. In the event of the partial or complete cessation of operation of an existing system listed in Part B of the Plan, this shall be communicated to the Board. The Board shall publish this information in a special section of its weekly circular and shall update the Plan accordingly.

111. Following the action foreseen in No. 110, the Board shall re-calculate the C/I values of the allotments in Part A of the Plan and of any assignments made following conversion of an original allotment. The Board shall publish the results for the information of all administrations and shall update the Plan accordingly.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/55(Rev.1)-E

19 September 1988

Original: English

WORKING GROUP 4-C

DRAFT PROCEDURES FOR THE REGULATION OF THE INTERACTIONS BETWEEN ENTRIES IN PART A AND PART B OF THE PLAN

Following the discussion of the draft procedures by the Working Group, the Chairman has revised the draft procedures which are attached at annex for the further consideration by the Working Group.

E.D. DUCHARME
Chairman of Working Group 4-C

Annex: 1

ANNEX

Draft procedures for the regulation of the interactions between
entries in Part A and Part B of the Plan

101. The existing systems listed in Part B of the Plan may continue in service for a maximum period of [20 years from [8 August 1985] [5 October 1988] [the date of entry into force of the Final Acts]] [or that period of the notified assignments for the related space stations, whichever is less. The period of validity of the assignments to stations of the existing systems shall be that communicated to the IFRB before [29 August 1988]].

102. Thereafter, such systems may continue in service for a further period only by agreement with any administration which has an allotment in Part A or has assignments made in accordance with Part A of the Plan which are affected. (The term "affected" will be defined in a technical annex.)

103. Any agreement to the extension of the period of service of an existing system made in accordance with No. 102 shall be reported to the IFRB, individually or collectively, by the administrations involved. The Board shall publish this agreement in a special section of its weekly circular and shall revise Part B of the Plan accordingly.

104. During the lifetime of an existing system, whether or not it is extended, the recorded characteristics of the related space station and earth station assignments shall not be altered in any way as to affect any allotments or assignments made in accordance with the Plan. Changes in the recorded characteristics of an existing system which do not affect allotments or assignments made in accordance with the Plan shall be communicated to the IFRB. The Board shall publish such changes in a special section of its weekly circular and shall update the Plan accordingly.

105. For the purpose of assuring access to the geostationary-satellite orbit, whenever an administration initiates the procedure for the conversion of its allotment in Part A of the Plan to an assignment (see Section [...]), with the assistance of the IFRB, if requested, administrations will be identified, whose existing systems may affect the conversion of the allotment to an assignment.

106. Recognizing the need for equitable treatment of allotments in Part A of the Plan and existing systems in Part B of the Plan, all administrations involved in the application of these procedures are urged to cooperate fully to ensure the effective and efficient operation of both.

107. In the process of resolving any difficulties identified under 105:

- a) the administration responsible for the existing system shall make every possible effort to accommodate the requirements of the administration seeking to convert its allotment into an assignment;
- b) the administration seeking to convert its allotment shall make efforts to resolve any residual difficulties;
- c) both administrations, with the assistance of the IFRB, if requested, shall cooperate in reaching a mutually acceptable agreement, taking into account the respective stages of development of their systems and recognizing that a means must be found to convert the allotment into an assignment with an acceptable impact on the operation of the existing system.

108. Any agreement concluded in accordance with the steps foreseen in No. 107 shall be communicated to the IFRB which, if appropriate, shall ensure that other allotments and assignments made in accordance with the Plan remain unaffected. The Board shall publish the agreement in a special section of its weekly circular and shall, if necessary, update the Plan.

109. Following the steps foreseen in No. 107, the determination of any effects on the original allotment by the administration having the existing system, shall be considered in terms of the effects on the assignment which resulted from the conversion procedure.

110. In the event of the partial or complete cessation of operation of an existing system listed in Part B of the Plan, this shall be communicated to the Board. The Board shall publish this information in a special section of its weekly circular and shall update the Plan accordingly.

111. Following the action foreseen in No. 110, the Board shall re-calculate the C/I values of the allotments in Part A of the Plan and of any assignments made following conversion of an original allotment. The Board shall publish the results for the information of all administrations and shall update the Plan accordingly.

WORKING GROUP 4-C

DRAFT PROCEDURES FOR THE REGULATION OF THE
INTERACTIONS BETWEEN ENTRIES IN PART A
AND PART B OF THE PLAN

Following the preliminary discussion of this subject by the Working Group, the Chairman has revised DT/45 and, for the consideration of the Working Group, has prepared detailed procedures which are attached at annex.

E.D. DUCHARME
Chairman of Working Group 4-C

Annex: 1

ANNEX

Draft procedures for the regulation of the interactions between
entries in Part A and Part B of the Plan

101. The existing systems listed in Part B of the Plan may continue in service for a maximum period of 20 years or that period of the notified assignments for the related space stations, whichever is less. The period of validity of the assignments to stations of the existing systems shall be that communicated to the IFRB before 29 August 1988.

102. Thereafter, such systems may continue in service for a further period only by agreement with any administration which has an allotment in Part A or has assignments made in accordance with Part A of the Plan which are affected. (The term "affected" will be defined in a technical annex.)

103. Any agreement to the extension of the period of service of an existing system made in accordance with No. 102 shall be reported to the IFRB, individually or collectively, by the administrations involved. The Board shall publish this agreement in a special section of its weekly circular and shall revise Part B of the Plan accordingly.

104. During the lifetime of an existing system, whether or not it is extended, the recorded characteristics of the related space station and earth station assignments shall not be altered in any way as to affect any allotments or assignments made in accordance with the Plan. Any other changes in the recorded characteristics of an existing system shall be communicated to the IFRB. The Board shall publish such changes in a special section of its weekly circular and shall revise Part B of the Plan accordingly.

105. Whenever an administration initiates the procedure for the conversion of its allotment in Part A of the Plan to an assignment (see Section [...]), it shall simultaneously identify any administrations which have existing systems whose assignments reduce the C/I value of the allotment to less than [26 dB]. The assistance of the IFRB shall, if requested, be given in this process of identification.

106. Thereafter, the administration initiating the conversion procedure shall seek the assistance of the administration responsible for the existing system which has been identified under No. 105, for the purpose of resolving the difficulties.

107. Recognizing the need for equitable treatment of allotments in Part A of the Plan and existing systems in Part B of the Plan, all administrations involved in the application of these procedures are urged to cooperate fully to ensure the effective and efficient operation of both.

108. In the process of resolving such difficulties:

109. a) the administration responsible for the existing system shall make every possible effort to accommodate the requirements of the administration seeking to convert its allotment into an assignment;
110. b) the administration seeking to convert its allotment shall make efforts to resolve any residual difficulties;
111. c) both administrations shall cooperate in reaching a mutually acceptable agreement, taking into account their respective stages of developing and implementing their systems.

112. The assistance of the IFRB shall, if requested, be given in the steps foreseen under No. 111.

113. Any agreement concluded in accordance with the steps foreseen in Nos. 108-111 shall be communicated to the IFRB which, if appropriate, shall ensure that the steps taken are in accordance with the procedures for a modification to the Plan (Article [...]). The Board shall publish the agreement in a special section of its weekly circular and shall update the Plan if necessary.

114. Following the steps foreseen in Nos. 108-111, the determination of any effects on the original allotment by the administration having the existing system, shall be considered in terms of the effects on the assignment which resulted from the conversion procedure.

115. In the event of the partial or complete cessation of operation of an existing system listed in Part B of the Plan, this shall be communicated to the Board. The Board shall publish this information in a special section of its weekly circular and shall revise Part B of the Plan accordingly.

116. Following the action foreseen in No. 115, the Board shall re-calculate the C/I values of the allotments in Part A of the Plan and of any assignments made following conversion of an original allotment. The Board shall publish the results for the information of all administrations and shall update the Plan accordingly.

117. Regardless of any increases resulting from the action under Nos. 115 and 116 in the C/I ratio of allotments in Part A of the Plan, or of any assignments in Part A resulting from conversion of an allotment, or of any subregional system brought into operation following the procedures of Section [...], the protection level for all subsequent actions under these procedures shall remain at [26 dB].

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/56-E
15 September 1988
Original: English

WORKING GROUP 6-C

Draft

ITEMS REMAINING FOR TREATMENT BY WORKING GROUP 6-C

1. A review has been made of all the documents attributed to Working Group 6-C by Document 138(Rev.1). Taking into account the results of the Working Group thus far, the following is a list of those items requiring treatment by the Working Group. Recent proposals not previously reviewed have also been included.

2. Modifications to Article 1 (Document DT/20)

2.1 IND/141/28 and 37 - dependent upon discussion in Working Group 6-B. See 2.4 in Document 197; and

2.2 RR 22 (Resulting from MOD RR 109 in the annex to Document 197).

3. Modifications to Article 8 (Document DT/17)

3.1 IND/141/38 and 39 (see also 4. in Document 233);

3.2 CAN/60/5;

3.3 CAN/60/6 and J/53/21;

3.4 J/54/47 and USA/56/9-11 (+ Document 56(Corr.3));

3.5 MLT/217/1 and TUR/257/1 (see annex to Document 188 resulting from J/53/22 and J/54/5); and

3.6 CAN/60/4A (see annex in Document 188), MLT/217/2 (see paragraph 2 in Document 244) and TUR/257/2.

4. Modifications to Article 27 (Document DT/23)

4.1 CAN/60/240 and CAN/60/242; and

4.2 CAN/60/241 and CAN/60/243.

(In both cases pending discussions in Committee 5. See 3.2 in Document 197.)

5. Modifications to Article 29 (Document DT/26)
 - 5.1 USA/56/14; and
 - 5.2 KEN/69/36

(In both cases pending advice from the Working Group of the Plenary. See Documents 193, 4.1 in 197, 210 and 5. in 249.)
6. Proposals concerning multi-service satellite coordination procedures
(Document DT/34)

(See 7. in Document 249.)
7. Draft Recommendation [COM6/B] Relating to International Space Monitoring
(Document DT/40)

Awaiting results of Working Group 6-C ad hoc 3. See 2.3 in Documents 249 and 267.
8. Proposals concerning agenda item 7 (Document DT/22)

(See 6. in Document 249.)
9. Proposals concerning inclined-orbit operation of nominally geostationary space stations (Document DT/39)

Pending advice from the Working Group of the Plenary. See 5. in Document 249.
10. Proposals concerning feeder links for the mobile-satellite service

See Documents 6, 43, AUS/49/27, 6. in 188, and 198.
11. Proposals concerning existing Resolutions and Recommendations
(Document DT/46)

See Document DT/46 and Resolution 15 - Resolution 4 and Document DT/51.

L.M. PALMER
Chairman of Working Group 6-C

Draft

SYNTHESIS OF DISCUSSIONS ON MPM MODELS B1 AND B2-

1. From discussion in the Working Group on the purpose of MPMs the Working Group has identified two models for focussing discussion. These models are by no means the only possibilities.

- b1 a meeting of administrations which would be convened on request of an administration with the purpose of facilitating the coordination of new and proposed networks.
- b2 a formal meeting structure, convened on a regular basis with the ability to make binding decisions.

Note - These models and the synthesis of the legal and financial considerations have already been presented to Committee 6 (Document 256).

LEGAL AND FINANCIAL CONCERNS

- | | | |
|----|---|--|
| 2. | b1 | b2 |
| | a) this Conference is competent to make such changes and additions to the Radio Regulations as may be necessary to implement MPMs of this type; | a) this Conference is not competent to implement this type of MPM and the issue would need to be addressed to the next Plenipotentiary Conference; |
| | b) decisions of such MPMs would have the status of coordination agreements; | b) decisions of this type of MPM would have the binding status of an international agreement; |
| | c) administrations participating would fund the MPM. The services of the ITU would be on request and possibly on a contractual basis. | c) funding would be from the regular budget of the Union as determined by the Plenipotentiary Conference. |

PARTICIPATION

3. b1

b2

a) Who can participate in an MPM?

Those administrations who consider they are affected.

Participation is governed by the Convention (Article 61).

b) What are the rights of non-participants?

The requirements of parties affected by the network under consideration but who cannot attend will need to be taken into account.

The existing practices for Conferences and meetings of the Union would apply.

c) What is the role of the Union?

The support services of the Union would be on request and possibly on a contractual basis.

As determined by the Convention.

d) How can multinational systems be addressed?

Where a multinational system is affected it should be invited to participate in order to achieve coordination.

Multinational system participation shall be by the normal rules governing Conferences and meetings.

e) What proxy arrangements are needed?

Proxy arrangements for affected administrations will be needed.

The provisions of the Convention shall apply (391).

VENUE

4. a) Where would the meeting be held?

In Geneva or any other place as determined by the participating administrations.

Article 62 of the Convention would apply including consultation by the Secretary-General with the administration.

ORGANIZATION AND CONDUCT OF MEETINGS

5. a) How would a meeting be called?

When an administration identifies that it has a problem at any stage obtaining access to the GSO, it may invite the other affected administrations to hold an MPM.

Meetings would be part of the normal Conference programme as determined by the Plenipotentiary Conference.

The Board's assistance can be sought in this regard.

- b) Who would organize it?

The requesting administration in consultation with the other participants.

The Union in accordance with the Convention.

- c) How would it be conducted?

As determined by the participating administrations

Under the normal rules of procedure as provided for in the Convention.

- d) How many MPMs would be called?

The number of MPMs needed would depend on ability to reach coordination.

The duration and frequency would be determined by the Plenipotentiary Conference.

6. Relationship to the Radio Regulations advice from the IFRB

Working Group 6-A requested the Board's representative to indicate what would be the relationship between the Radio Regulations and the decisions of MPM. The Board's comments are given below in a summarized form:

- 1) in the case of MPM of b1 type, the results of the meeting should be notified to the Board and will be treated in accordance with Article 13;
- 2) in the case of MPM of b2 type which is considered as a new ITU organ of the same nature as an administrative radio conference, the decisions of the meeting have to be included in an official document which may be a revision of the Radio Regulations, a special protocol or any other form. This would result in having in a given band two types of assignments:
 - assignments that could be coordinated through the bilateral process and recorded in the Master Register following a finding by the Board;
 - assignments coordinated by the MPM and included in a document adopted by a formal meeting of administrations.

This would lead to having in the same bands two different types of assignments with different status. If this situation is to be avoided, each MPM would have to establish a list of all networks which have been coordinated either through the normal process or through the MPM, thus giving the same status to all uses. This may be considered as a periodical planning of a band.

G.H. RAILTON
Chairman of Working Group 6-A

WORKING GROUP 5-A

Draft

FORMAT OF THE FEEDER-LINK PLAN

ARTICLE [9A]

**Plan for the Feeder Links in the Fixed-Satellite Service
in the Frequency Bands 14.5 - 14.8 and 17.3 - 18.1 GHz in Regions 1 and 3**

[9.1] COLUMN HEADINGS OF THE PLAN

- | | |
|---------|---|
| Col. 1 | Beam identification (Column 1 contains the symbol designating the country or the geographical area taken from Table B1 of the Preface to the International Frequency List followed by the symbol designating the service area). |
| Col. 2 | Nominal orbital position, in degrees. |
| Col. 3 | Channel number (see Tables 2A and 2B showing channel numbers and corresponding assigned frequencies). |
| Col. 4 | Boresight geographical coordinates, in degrees and hundredths of a degree. |
| Col. 5 | Antenna beamwidth. This column contains two figures corresponding to the major axis and the minor axis respectively of the elliptical cross-section half-power beam, in degrees and hundredths of a degree. |
| Col. 6 | Orientation of the ellipse determined as follows: in a plane normal to the beam axis, the direction of a major axis of the ellipse is specified as the angle measured anti-clockwise from a line parallel to the equatorial plane to the major axis of the ellipse to the nearest degree. |
| Col. 7 | Polarization (1 = direct, 2 = indirect). |
| Col. 8 | E.i.r.p. |
| Col. 9 | Permitted increase in earth station e.i.r.p. for purpose of power control (see []). |
| Col. 10 | Remarks. |

R. BARTON
Chairman of Working Group 5-A

TABLE 2A

Table showing correspondence between channel numbers
and assigned frequencies in the BSS R1, 3 Plan in the
frequency band 17.3 GHz to 18.1 GHz

Channel No.	Feeder assignm. (MHz)	Channel No.	Feeder assignm. (MHz)
1	17 327.48	21	17 711.08
2	17 346.66	22	17 730.26
3	17 365.84	23	17 749.44
4	17 385.02	24	17 768.62
5	17 404.20	25	17 787.80
6	17 423.38	26	17 806.98
7	17 442.56	27	17 826.16
8	17 461.74	28	17 845.34
9	17 480.92	29	17 864.52
10	17 500.10	30	17 883.70
11	17 519.28	31	17 902.88
12	17 538.46	32	17 922.06
13	17 557.64	33	17 941.24
14	17 576.82	34	17 960.42
15	17 596.00	35	17 979.60
16	17 615.18	36	17 998.78
17	17 634.36	37	18 017.96
18	17 653.54	38	18 037.14
19	17 672.72	39	18 056.32
20	17 691.90	40	18 075.50

TABLE 2B

Table showing correspondence between channel numbers
and assigned frequencies for the feeder links in the
frequency band 14.5 - 14.8 GHz

Channel No.	Feeder assignm. (MHz)
1	14 525.30
2	14 544.48
3	14 563.66
4	14 582.84
5	14 602.02
6	14 621.20
7	14 640.38
8	14 659.56
9	14 678.74
10	14 697.92
11	14 717.10
12	14 736.28
13	14 755.46
14	14 774.64

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

Document DT/59(Rev.1)-E

21 September 1988

Original: English

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

WORKING GROUP
OF THE PLENARY

Draft

REVISIONS TO APPENDICES 3 AND 4 CONCERNING STEERABLE BEAMS
AND ANTENNA GAIN CONTOURS

The following document shows the draft revisions to Appendices 3 and 4 concerning the steerable beams, for your information.

R. RYVOLA

Chairman of the Working Group of the Plenary

NOC

APPENDIX 3

NOC

Notices Relating to Space Radiocommunications
and Radio Astronomy Stations

NOC

Section D. Basic Characteristics to Be Furnished
in Notices Relating to Frequencies Used
by Space Stations for Transmitting

NOC Item 10 Space station transmitting antenna characteristics

SUP

~~For each service area or antenna radiation beam:~~

ADD

Provide information for each transmitting satellite antenna beam:

ADD

a) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station, indicate whether the transmitting antenna beam will be pointing in a fixed direction or has a steerable beam (see ADD No. 168A) capability;

ADD

b) indicate the name of the satellite antenna beam by a three character code. For steerable beams, the last character shall be an "R"~~{for repositionable}~~;

MOD

c) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station via a transmitting antenna pointing in a fixed direction, indicate the maximum isotropic gain (in dBi) ~~of the space station transmitting antenna~~ and the 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 axis from the centre of the Earth to the satellite. The space station antenna gain contours shall be drawn as isolines of the isotropic gain at least for -2, -4, -6, -10, and -20 dB and at 10 dB intervals thereafter, as necessary, relative to the maximum antenna gain when any of these contours is located either totally or partially anywhere within the limit of visibility of the Earth from the given geostationary satellite. The antenna gain contours shall include effects of the planned longitudinal tolerance, inclination excursion and pointing accuracy of antenna. Whenever possible the gain contours of the space station transmitting antenna should also be provided in the form of a numerical equation;

ADD

d) in the case where a steerable beam is used, data on the radiation characteristics shall be provided as follows:

ADD

- 1) in the case of the equivalent boresight area (see ADD No. 168B) being identical with the global or nearly global service area, provide only the maximum isotropic antenna gain (in dBi). The maximum antenna gain is applicable to all points on the Earth's visible surface;

- 2) in the case of the equivalent boresight area (see ADD No. 168B) being less than the global or nearly global service area, provide the maximum antenna gain and the equivalent antenna gain contours (see ADD No. 168C). These contours shall be provided as defined in item 10c) above and including also effects of repointing of the steerable beam.
- (MOD) ~~b)~~ e1) in the case of a space station aboard a geostationary satellite in which the antenna radiation beam is directed towards another satellite also indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- (ADD) e2) in the case of a space station aboard a non-geostationary satellite, indicate the isotropic gain of the space station transmitting antenna in the direction of maximum radiation (in dBi) and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- (MOD) ~~c)~~¹ f)¹ indicate the type of polarization of the radiation emitted by the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149). In the case of linear polarization, indicate the angle (in degrees) measured anticlockwise in a plane normal to the beam axis from the equatorial plane to the electric vector of the wave as seen from the satellite;
- (MOD) ~~d)~~ g) for a geostationary satellite, indicate the pointing accuracy of the antenna;
- (MOD) ~~e)~~ h) in the case of a space station aboard a geostationary-satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the gain of the space station transmitting antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth, by means of a diagram showing estimated antenna gain versus orbit longitude.

**Section E. Basic Characteristics to Be Furnished
in Notices Relating to Frequencies to Be Received
by Space Stations**

Item 9 Space Station receiving antenna characteristics

SUP ~~For each receiving beam:~~

Provide information for each receiving satellite antenna beam:

- ADD ~~f)~~ a) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station, indicate whether the receiving antenna beam will be pointing in a fixed direction or has a steerable beam (see ADD No. 168A) capability;

¹ This information need only be furnished when such information has been used as a basis to effect coordination with another administration.

- ADD b) indicate the name of the satellite antenna beam by a three character code. For steerable beams, the last character shall be an "R" [for repositionable];
- MOD ~~a)~~ c) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station via a receiving antenna pointing in a fixed direction, indicate the maximum isotropic gain (in dBi) and the 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 axis from the centre of the Earth to the satellite. The space station antenna gain contours shall be drawn as isolines of the isotropic or absolute gain at least for -2, -4, -6, -10, and -20 dB and at 10 dB intervals thereafter, as necessary, relative to the maximum antenna gain when any of these contours is located either totally or partially anywhere within the limit of visibility of the Earth from the given geostationary satellite. The antenna gain contours shall include effects of the planned longitudinal tolerance, inclination excursion and pointing accuracy of antenna. Whenever possible the gain contours of the space station receiving antenna should also be provided in the form of a numerical equation. Whenever possible the gain contours of the space station receiving antenna should also be provided in the form of a numerical equation;
- ADD d) in the case where a steerable beam is used, data on the radiation characteristics shall be provided as follows:
- ADD 1) in the case of the equivalent boresight area (see ADD No. 168B) being identical with the global or nearly global service area, provide only the maximum isotropic antenna gain (in dBi). The maximum antenna gain is applicable to all points on the Earth's visible surface;
- 2) in the case of the equivalent boresight area (see ADD No. 168B) being less than the global or nearly global service area, provide the maximum antenna gain and the equivalent antenna gain contours (see ADD No. 168C). These contours shall be provided as defined in item 9c) above and including also effects of repointing of the steerable beam.
- (MOD) ~~b)~~ e1) in the case of a space station aboard a geostationary satellite in which the antenna radiation beam is directed towards another satellite also indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- ADD e2) in the case of a space station aboard a non-geostationary satellite, indicate the isotropic gain of the space station receiving antenna in the direction of maximum radiation (in dBi) and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;

- (MOD) ~~e)~~[±] f)¹ indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149). In the case of linear polarization, indicate the angle (in degrees) measured anticlockwise in a plane normal to the beam axis from the equatorial plane to the electric vector of the wave as seen from the satellite. Indicate also if consent is given to the general use of this information in the determination of the need for coordination with other satellite networks according to Appendix 29;
- (MOD) ~~d)~~ g) indicate, for a geostationary-satellite, the pointing accuracy of the antenna;
- (MOD) ~~e)~~ h) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the gain of the space station receiving antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth, by means of a diagram showing estimated antenna gain versus orbit longitude;

NOC

APPENDIX 4

NOC

**Advance Publication Information to Be Furnished
for a Satellite Network**

NOC

**Section C. Characteristics of the Satellite Network
in the Earth-to-Space Direction**

NOC Item 5 Characteristics of space station receiving antennas

SUP

~~For each Earth-to-space service area:~~

ADD

Provide information for each receiving satellite antenna beam:

ADD

~~f)~~ a) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station, indicate whether the receiving antenna beam will be pointing in a fixed direction or has a steerable beam (see ADD No. 168A) capability.

ADD

b) indicate the name of the satellite antenna beam by a three character code. For steerable beams, the last character shall be an "R" ~~[for repositionable];~~

¹ This information need only be furnished when such information has been used as a basis to effect coordination with another administration.

MOD a) c) in the case of a space station aboard a geostationary satellite employing a receiving antenna pointing in a fixed direction, indicate the maximum isotropic gain (in dBi) of the space station receiving antenna and the gain contours plotted on a map of the Earth's surface preferably using a radial projection from the satellite in a plane perpendicular to the axis from the centre of the Earth to the satellite. The space station antenna gain contours shall be drawn as isolines of the isotropic or absolute gain at least for -2, -4, -6, -10, and -20 dB and at 10 dB intervals thereafter, as necessary, relative to the maximum antenna gain when any of these contours is located either totally or partially anywhere within the limit of visibility of the Earth from the given geostationary satellite. The antenna gain contours shall include effects of the planned longitudinal tolerance, inclination excursion and pointing accuracy of antenna. Whenever possible the gain contours of the space station receiving antenna should also be provided in the form of a numerical equation;

ADD d) in the case where a steerable beam is used, data on the radiation characteristics shall be provided as follows:

- ADD 1) in the case of the equivalent boresight area (see ADD No. 168B) being identical with the global or nearly global service area, provide only the maximum isotropic antenna gain (in dBi). The maximum antenna gain is applicable to all points on the Earth's visible surface;
- 2) in the case of the equivalent boresight area (see ADD No. 168B) being less than the global or nearly global service area, provide the maximum antenna gain and the equivalent antenna gain contours (see ADD No. 168C). These contours shall be provided as defined in item 5c) above and including also effects of the steerable beam;

(MOD) ~~b)~~ e1) in the case of a space station aboard a geostationary satellite in which the antenna radiation beam is directed towards another satellite ~~{, or in the case of a space station aboard a non-geostationary satellite}~~, also indicate {the isotropic or absolute gain of the space station receiving antenna in the direction of maximum radiation and} the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;

(ADD) e2) in the case of a space station aboard a non-geostationary satellite, indicate the isotropic gain of the space station receiving antenna in the direction of maximum radiation (in dBi) and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;

(MOD) ~~c)~~ f) if available, for each space station receiving antenna, indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149);

(MOD) ~~a)~~ g) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the estimated gain of the space station receiving antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth by means of a diagram showing estimated antenna gain versus orbit longitude.

NOC **Section D. Characteristics of the Satellite Network
 in the Space-to-Earth Direction**

NOC Item 5 Characteristics of space station transmitting antennas

SUP ~~For each space-to-Earth service area: -~~

ADD Provide information for each transmitting satellite antenna beam:

ADD a) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station, indicate whether the transmitting antenna beam will be pointing in a fixed direction or has a steerable beam (see ADD No. 168A) capability;

ADD b) indicate the name of the satellite antenna beam by a three character code. For steerable beams, the last character shall be an "R" [for repositionable].

MOD ~~a)~~ c) in the case of a space station aboard a geostationary satellite, employing a transmitting antenna pointing in a fixed direction, indicate the maximum isotropic gain (in dBi) and the gain contours plotted on a map of the Earth's surface, preferably in a radial projection from the satellite in a plane perpendicular to the axis from the centre of the Earth to the satellite. The space station antenna gain contours shall be drawn as isolines of the isotropic or absolute gain at least for -2, -4, -6, -10, and -20 dB and at 10 dB intervals thereafter, as necessary, relative to the maximum antenna gain when any of these contours is located either totally or partially anywhere within the limit of visibility of the Earth from the given geostationary satellite. The antenna gain contours shall include effects of the planned longitudinal tolerance, inclination excursion and pointing accuracy of antenna. Whenever possible the gain contours of the space station transmitting antenna should also be provided in the form of a numerical equation;

ADD d) in the case where a steerable beam is used, data on the radiation characteristics shall be provided as follows:

ADD 1) in the case of the equivalent boresight area (see ADD No. 168B) being identical with the global or nearly global service area, provide only the maximum isotropic antenna gain (in dBi). The maximum antenna gain is applicable to all points on the Earth's visible surface;

- 2) in the case of the equivalent boresight area (see ADD No. 168B) being less than the global or nearly global service area, provide the maximum antenna gain and the equivalent antenna gain contours (see ADD No. 168C). These contours shall be provided as defined in item 10c) above and including also effects of repointing of the steerable beam.

(MOD) ~~b)~~ e1) in the case of a space station aboard a geostationary satellite in which the antenna radiation beam is directed towards another satellite also indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;

ADD e2) in the case of a space station aboard a non-geostationary satellite, indicate the isotropic gain of the space station transmitting antenna in the direction of maximum radiation (in dBi) and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;

(MOD) ~~e)~~ f) if available, for each space station transmitting antenna, indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149);

(MOD) ~~d)~~ g) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the estimated gain of the space station receiving antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth by means of a diagram showing estimated antenna gain versus orbit longitude.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/59-E
16 September 1988
Original: English

WORKING GROUP
OF THE PLENARY

Draft

REVISIONS TO APPENDICES 3 AND 4
CONCERNING STEERABLE BEAMS

The following document shows the draft revisions to Appendices 3 and 4 concerning the steerable beams, for your information.

R. RYVOLA
Chairman of the Working Group of the Plenary

NOC

APPENDIX 3

NOC

Notices Relating to Space Radiocommunications
and Radio Astronomy Stations

NOC

Section D. Basic Characteristics to Be Furnished
in Notices Relating to Frequencies Used
by Space Stations for Transmitting

NOC Item 10 Space station transmitting antenna characteristics

SUP

~~For each service area or antenna radiation beam;~~

ADD

Provide information for each transmitting satellite antenna beam:

ADD

a) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station, indicate whether the transmitting antenna beam will be pointing in a fixed direction or has a steerable beam (see ADD No. 168A) capability;

ADD

b) indicate the name of the satellite antenna beam by a three character code. For steerable beams, the last character shall be an "R" for repositionable.

MOD

c) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station via a transmitting antenna pointing in a fixed direction, indicate the maximum gain of the space station transmitting antenna and the 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 axis from the centre of the Earth to the satellite. This isotropic or absolute gain at each contour which corresponds to a gain of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter, as necessary, below the maximum gain, shall be indicated. Whenever possible the gain contours of the space station transmitting antenna should also be provided in the form of a numerical equation or in tabular form;

ADD

d) in the case where a satellite beam is used, data on the radiation characteristics shall be provided as follows:

ADD

- 1) in the case of the equivalent boresight area (see ADD No. 168B) being identical with the global or nearly global service area, provide only the maximum antenna gain. The maximum antenna gain is applicable to all points on the Earth's visible surface;
- 2) in the case of the equivalent boresight area (see ADD No. 168B) being less than the global or nearly global service area, provide only the equivalent antenna gain contours (see ADD No. 168C) which correspond to a gain decrement of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter, as necessary, below the maximum gain.

- (MOD) ~~b)~~ e) in the case of a space station aboard a geostationary satellite in which the antenna radiation beam is directed towards another satellite, or in the case of a space station aboard a non-geostationary satellite, indicate the isotropic or absolute gain of the space station transmitting antenna in the direction of maximum radiation and the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- (MOD) ~~c)~~¹ f)¹ indicate the type of polarization of the radiation emitted by the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149). In the case of linear polarization, indicate the angle (in degrees) measured anticlockwise in a plane normal to the beam axis from the equatorial plane to the electric vector of the wave as seen from the satellite;
- (MOD) ~~d)~~ g) for a geostationary satellite, indicate the pointing accuracy of the antenna;
- (MOD) ~~e)~~ h) in the case of a space station aboard a geostationary-satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the gain of the space station transmitting antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth, by means of a diagram showing estimated antenna gain versus orbit longitude.

**Section E. Basic Characteristics to Be Furnished
in Notices Relating to Frequencies to Be Received
by Space Stations**

Item 9 Space Station receiving antenna characteristics

SUP ~~For each receiving beam:~~

Provide information for each receiving satellite antenna beam:

- ADD ~~f)~~ a) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station, indicate whether the receiving antenna beam will be pointing in a fixed direction or has a steerable beam (see ADD No. 168A) capability.
- ADD b) indicate the name of the satellite antenna beam by a three character code. For steerable beams, the last character shall be an "R" for repositionable;

¹ This information need only be furnished when such information has been used as a basis to effect coordination with another administration.

- MOD ~~a)~~ c) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station via a receiving antenna pointing in a fixed direction, indicate the maximum gain of the space station receiving antenna and the 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 axis from the centre of the Earth to the satellite. The isotropic or absolute gain at each contour which corresponds to a gain of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter, as necessary, below the maximum gain, shall be indicated. Whenever possible the gain contours of the space station receiving antenna should also be provided in the form of a numerical equation or in tabular form;
- ADD d) in the case where a steerable beam is used, data on the radiation characteristics shall be provided as follows:
- ADD 1) in the case of the equivalent boresight area (see ADD No. 168B) being identical with the global or nearly global service area, provide only the maximum antenna gain. The maximum antenna gain is applicable to all points on the Earth's visible surface;
- ADD 2) in the case of the equivalent boresight area (see ADD No. 168B) being less than the global or nearly global service area, provide only the equivalent antenna gain contours (see ADD No. 168C) which correspond to a gain decrement of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter, as necessary, below the maximum gain.
- (MOD) ~~b)~~ e) in the case of a space station aboard a geostationary satellite in which the antenna radiation beam is directed towards another satellite, or in the case of a space station aboard a non-geostationary satellite, indicate the isotropic or absolute gain of the space station receiving antenna in the direction of maximum radiation and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- (MOD) ~~e)~~¹ f)¹ indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149). In the case of linear polarization, indicate the angle (in degrees) measured anticlockwise in a plane normal to the beam axis from the equatorial plane to the electric vector of the wave as seen from the satellite. Indicate also if consent is given to the general use of this information in the determination of the need for coordination with other satellite networks according to Appendix 29;
- (MOD) ~~d)~~ g) indicate, for a geostationary-satellite, the pointing accuracy of the antenna;

¹ This information need only be furnished when such information has been used as a basis to effect coordination with another administration.

(MOD) ~~c)~~ h) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the gain of the space station receiving antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth, by means of a diagram showing estimated antenna gain versus orbit longitude;

NOC APPENDIX 4

NOC Advance Publication Information to Be Furnished
for a Satellite Network

NOC Section C. Characteristics of the Satellite Network
in the Earth-to-Space Direction

NOC Item 5 Characteristics of space station receiving antennas

SUP ~~For each Earth-to-space service area;~~

ADD Provide information for each receiving satellite antenna beam:

ADD ~~f)~~ a) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station, indicate whether the receiving antenna beam will be pointing in a fixed direction or has a steerable beam (see ADD No. 168A) capability.

ADD b) indicate the name of the satellite antenna beam by a three character code. For steerable beams, the last character shall be an "R" for repositionable;

MOD ~~a)~~ c) in the case of a space station aboard a geostationary satellite employing a receiving antenna pointing in a fixed direction, indicate the maximum gain ~~of the space station receiving antenna~~ and the gain contours plotted on a map of the Earth's surface preferably using a radial projection from the satellite in a plane perpendicular to the axis from the centre of the Earth to the satellite. The isotropic or absolute gain at each contour which corresponds to a gain of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter, as necessary, below the maximum gain, shall be indicated. Whenever possible the estimated gain contours of the space station receiving antenna should also be provided in the form of a numerical equation or in a tabular form;

- ADD d) in the case where a steerable beam is used, data on the radiation characteristics shall be provided as follows:
- ADD 1) in the case of the equivalent boresight area (see ADD No. 168B) being identical with the global or nearly global service area, provide only the maximum antenna gain. The maximum antenna gain is applicable to all points on the Earth's visible surface;
- ADD 2) in the case of the equivalent boresight area (see ADD No. 168B) being less than the global or nearly global service area, provide the maximum antenna gain and, to the extent practicable, the equivalent antenna gain contours (see ADD No. 168C) which correspond to a gain decrement of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter, as necessary, below the maximum gain. If the gain contours are not provided, then the maximum antenna gain is applicable to all points on the Earth's visible surface.
- (MOD) ~~b)~~ e) in the case of a space station aboard a non-geostationary satellite, indicate the isotropic or absolute gain of the space station receiving antenna in the direction of maximum radiation and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- (MOD) ~~c)~~ f) if available, for each space station receiving antenna, indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149);
- (MOD) ~~d)~~ g) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the estimated gain of the space station receiving antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth by means of a diagram showing estimated antenna gain versus orbit longitude.

NOC **Section D. Characteristics of the Satellite Network
in the Space-to-Earth Direction**

NOC Item 5 Characteristics of space station transmitting antennas

SUP ~~For each space-to-Earth service area:~~

ADD Provide information for each transmitting satellite antenna beam:

- ADD a) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station, indicate whether the transmitting antenna beam will be pointing in a fixed direction or has a steerable beam (see ADD No. 168A) capability;
- ADD b) indicate the name of the satellite antenna beam by a three character code. For steerable beams, the last character shall be an "R" for repositionable.

- MOD ~~a)~~ c) in the case of a space station aboard a geostationary satellite, employing a transmitting antenna pointing in a fixed direction, indicate the maximum gain ~~of the space station transmitting antenna~~ and the gain contours plotted on a map of the Earth's surface, preferably in a radial projection from the satellite in a plane perpendicular to the axis from the centre of the earth to the satellite. The isotropic or absolute gain at each contour which corresponds to a gain of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter as necessary, below the maximum gain, shall be indicated. Whenever possible, the estimated gain contours of the space station transmitting antenna should also be provided in the form of a numerical equation or in tabular form;
- ADD d) in the case where a steerable beam is used, data on the radiation characteristics shall be provided as follows:
- ADD 1) in the case of the equivalent boresight area (see ADD No. 168B) being identical with the global or nearly global service area, provide only the maximum antenna gain. The maximum antenna gain is applicable to all points on the Earth's visible surface;
- ADD 2) in the case of the equivalent boresight area (see ADD No. 168B) being less than the global or nearly global service area, provide the maximum antenna gain and, to the extent practicable, the equivalent antenna gain contours (see ADD No. 168C) which correspond to a gain decrement of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter, as necessary, below the maximum gain. If the gain contours are not provided, then the maximum antenna gain is applicable to all points on the Earth's visible surface.
- (MOD) ~~b)~~ e) in the case of a space station aboard a non-geostationary satellite, indicate the isotropic or absolute gain of the space station receiving antenna in the direction of maximum radiation and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- (MOD) ~~e)~~ f) if available, for each space station transmitting antenna, indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149);
- (MOD) ~~d)~~ g) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the estimated gain of the space station receiving antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth by means of a diagram showing estimated antenna gain versus orbit longitude.

WORKING GROUP 5-B

DRAFT REPORT TO COMMITTEE 5

RESULTS OF THE STUDY OF THE APPLICATION OF APPENDIX 30

1. Working Group 5-B has studied the application of Appendix 30 and has identified several issues of concern using Documents 18, 9 and all relevant input documents from administrations. This work was done under agenda item 8. For each item, the Sub-Working Group was asked to find a solution which does not imply a modification to the Radio Regulations. It was found that solutions were in the following cases made possible by offering comments on the IFRB's Rules of Procedure relating to Appendix 30, which are contained in Document 18. All references are to sections of Appendix 30. Paragraph numbers relate to the cases where there is more than one paragraph in Document 18 referring to the section.

a) 4.3.1.4

The Board should also apply this provision to any area in Region 2 where there is a primary allocation to terrestrial services in the band 11.7 - 12.2 GHz (paragraph 2).

b) 4.3.1.5

In applying Section 6 of Annex 1 to Appendix 30, the $-160 \text{ dB(W/m}^2/4 \text{ kHz)}$ limit should be used in the case of the 12.2 - 12.5 GHz band in Region 3 (paragraph 4).

c) 5.2.1b)

The intention to employ same or greater energy dispersal as given in Section 3.18 of Annex 5 should not require a modification to the Plan.

2. The following issues may not be solved by offering comment to the IFRB. However, in some cases further discussion may solve these issues without a modification to the Radio Regulations.

a) 4.3.5

A provision may be required for extending the date of bringing a modification of the Plan into service, at least in the case of Regions 1 and 3, to align with possible changes to Appendix 30A. Since this matter was the subject of extensive discussion at the 1983 Region 2 BSS Planning Conference, many administrations consider it to be unnecessary to modify this provision in the case of Region 2.

b) AP30(Orb-85)

In Article 11, paragraph 11.1 Column Headings of the Plan, Add an asterisk against column 1 after Country symbol, as well as the associated footnote:

* The Secretary-General is authorized to deal with changes in the country symbols used in the Plan.

Consequently, when publishing the Radio Regulations, a note by the General Secretariat will be added reflecting the latest available status of the country symbols used in the Plan.

For the purposes of the next updating of the Radio Regulations the following note will be inserted:

Note by the General Secretariat:

The symbols designating the country or the geographical area contained in column 1 have been updated as follows:

<u>Former symbol</u>	<u>Current symbol</u>
CKN	CKH
AFI	DJI
GNP	GNB
HVO	BFA
IFR 135	ZWE
NHB	VUT
TGK	TZA

c) Annex 1, Section 8a

The reference to Section 5 in this section should be to sections a) and b) of Section 5 only. This matter requires further discussion to identify the best way to accomplish this, and to insure that all delegations agree.

d) 5.2.6

Time limited modifications to plans should be available to all regions. This requires the elimination of the reference to Regions 1 and 3 in this section. This may also be accomplished by referring to Regions 1, 2 and 3.

e) 4.5.1b)

The Sub-Working Group may wish to consider a reduction in the documents required to be distributed by this section. This issue may be solved by providing comments to the Board, but this requires further discussion.

f) Annex 1, Section 4

The reference in line 1 should be to paragraph 4.3.1.4.

g) Annex 5, Section 3.7.2

The formula for curve A for Regions 1 and 3 in the angular range $1.26\varphi_0 < \varphi \leq 9.55\varphi_0$ only should be corrected to include the term $25 \log (\varphi/\varphi_0)$ instead of $20 \log (\varphi/\varphi_0)$.

S. SELWYN

Chairman of Sub-Working Group 5-B

SUB-WORKING GROUP 5-B-1

DRAFT REPORT TO WORKING GROUP 5-B

RESULTS OF THE STUDY OF THE APPLICATION OF APPENDIX 30

1. Sub-Working Group 5-B-1 has studied the application of Appendix 30 and has identified several issues of concern using Documents 18, 9 and all relevant input documents from administrations. This work was done under agenda item 8. For each item, the Sub-Working Group was asked to find a solution which does not imply a modification to the Radio Regulations. It was found that solutions were in the following cases made possible by offering comments on the IFRB's Rules of Procedure relating to Appendix 30, which are contained in Document 18. All references are to sections of Appendix 30.

a) 4.3.1.4

The Board should also apply this provision to any area in Region 2 where there is a primary allocation to terrestrial services in the band 11.7 - 12.2 GHz.

b) 4.3.1.5

In applying paragraph 3 of section 6 of Annex 1 to Appendix 30, the -160 dB(W/m²/4 kHz) limit should be used in the case of the 12.2 - 12.5 GHz band in Region 3.

c) 4.3.9

The agreements referred to in this paragraph should be the agreement of the administrations identified in 4.3.1 or 4.3.3.

d) 4.3.15

This provision should be applied to all regions.

e) 5.2.1b)

The intention to employ same or greater energy dispersal as given in section 3.18 of Annex 5 should not require a modification to the Plan.

2. The following issues cannot be solved without a modification to the Radio Regulations:

a) 4.3.5

A provision is required for extending the date of bringing a modification of the Plan into service, the text of RR 1550 could be considered.

b) Article 11 (the Plan)

The symbols designating the country or the geographical area contained in column 1 have been updated as follows:

<u>Old</u>	<u>New</u>
CKN	CKH
AFI	DJI
GNP	GNB
HVO	BFA
IFR 135	ZWE
NHB	VUT
TGK	TZA

The Secretary-General shall update this note as necessary.

c) Annex 1, section 8a

The reference to section 5 in this section should be to sections a) and b) of section 5 only.

d) 5.2.6

Time limited modifications to plans should be available to all regions. This requires the elimination of the reference to Regions 1 and 3 in this section.

e) 4.5.1b)

The Sub-Working Group may wish to consider a reduction in the documents required to be distributed by this section.

f) 5.2.6

This provision should be divided into two sections, each dealing with a single aspect. The section should be divided at the point where time limited modifications are discussed.

g) Annex 1, section 4

The reference in line 1 should be to paragraph 4.3.1.4.

h) Annex 5, section 3.7.2

The formula for curve A for Regions 1 and 3 should be corrected to include the term $25 \log (\varphi/\varphi_0)$ instead of $20 \log (\varphi/\varphi_0)$.

S. SELWYN
Chairman of Sub-Working Group 5-B-1

WORKING GROUP 6-ADraft

THIRD REPORT OF WORKING GROUP 6-A

Working Group 6-A met on 14 and 16 September 1988 and discussed the two models of MPMs as presented already to Committee 6. The outcome of these discussions is as follows:

1. From discussion in the Working Group on the purpose of MPMs the Working Group has identified two models for focussing discussion. These models are by no means the only possibilities.

- b1 a meeting of administrations which would be convened on request of an administration with the purpose of facilitating the coordination of new and proposed networks.
- b2 a formal meeting structure, convened on a regular basis with the ability to make binding decisions.

Note - These models and the synthesis of the legal and financial considerations have already been presented to Committee 6 (Document 256).

LEGAL AND FINANCIAL CONCERNS

- | | | |
|----|---|--|
| 2. | b1 | b2 |
| | a) this Conference is competent to make such changes and additions to the Radio Regulations as may be necessary to implement MPMs of this type; | a) this Conference is not competent to implement this type of MPM and the issue would need to be addressed to the next Plenipotentiary Conference; |
| | b) decisions of such MPMs would have the status of coordination agreements; | b) decisions of this type of MPM would have the binding status of an international agreement; |
| | c) administrations participating would fund the MPM. The services of the ITU would be on request and possibly on a contractual basis. | c) funding would be from the regular budget of the Union as determined by the Plenipotentiary Conference. |

PARTICIPATION

- | | | |
|----|---|---|
| 3. | b1 | b2 |
| | a) Who can participate in an MPM? | |
| | Those administrations who consider they are affected. | Participation is governed by the Convention (Article 61). |
| | b) What are the rights of non-participants? | |
| | The requirements of parties affected by the network under consideration but who cannot attend will need to be taken into account. | The existing practices for Conferences and meetings of the Union would apply. |
| | c) What is the role of the Union? | |
| | The support services of the Union would be on request and possibly on a contractual basis. | As determined by the Convention. |
| | d) How can multiadministration systems be address? | |
| | Where a multiadministration system is affected its representatives may participate in order to achieve coordination. | Multiadministration system participation shall be by the normal rules governing Conferences and meetings. |
| | e) What proxy arrangements are needed? | |
| | Proxy arrangements for affected administrations will be needed. | The provisions of the Convention shall apply (391). |

VENUE

- | | | |
|----|--|---|
| 4. | a) Where would the meeting be held? | |
| | As determined by the participating administrations, including the Headquarters of the Union. | Article 62 of the Convention would apply including consultation by the Secretary-General with the administration. |

ORGANIZATION AND CONDUCT OF MEETINGS

5. a) How would a meeting be called?

When an administration identifies that it has a problem of obtaining access to the GSO, it may invite the other affected administrations to hold an MPM.

The Board's assistance can be sought in this regard.

Meetings would be part of the normal Conference programme as determined by the Plenipotentiary Conference.

b) Who would organize it?

The requesting administration in consultation with the other participants.

The Union in accordance with the Convention.

c) How would it be conducted?

As determined by the participating administrations

Under the normal rules of procedure as provided for in the Convention.

d) How many MPMs would be called?

It is foreseen that, in view of the cost of such meetings, the number of MPMs should be held to the minimum necessary to resolve the questions.

The duration and frequency would be determined by the Plenipotentiary Conference.

6. Relationship to the Radio Regulations. Advice from the IFRB.

Working Group 6-A requested the Board's representative to indicate what would be the relationship between the Radio Regulations and the decisions of MPM. The Board's comments are given below in a summarized form:

- 1) in the case of MPM of b1 type, the results of the meeting should be notified to the Board and will be treated in accordance with Article 13;
- 2) in the case of MPM of b2 type which is considered as a new ITU organ of the same nature as an administrative radio conference, the decisions of the meeting have to be included in an official document which may be a revision of the Radio Regulations, a special protocol or any other form. This would result in having in a given band two types of assignments:
 - assignments that could be coordinated through the bilateral process and recorded in the Master Register following a finding by the Board;
 - assignments coordinated by the MPM and included in a document adopted by a formal meeting of administrations.

This would lead to having in the same bands two different types of assignments with different status. If this situation is to be avoided, each MPM would have to establish a list of all networks which have been coordinated either through the normal process or through the MPM, thus giving the same status to all uses. This may be considered as a periodical planning of a band.

From discussion of the two models, the Working Group agreed that:

- a) this Conference should adopt appropriate provisions to introduce MPMs as one of the methods for ensuring equitable access to the GSC;
- b) such provisions should reflect the principles adopted at the First Session (3.3.5);
- c) the provisions should also reflect as far as possible, the proposals and concerns of administrations and the discussions on the two models.

The Working Group agreed that the Chairman prepare a document to enable all aspects to be addressed, upon which the text for the provisions shall be based.

One Delegation raised the question of whether multiadministration systems included subregional systems.

The Secretary-General advised that this issue will be discussed elsewhere in the Conference. The IFRB indicated that it has already published its view in this regard.

G.H. RAILTON
Chairman of Working Group 6-A

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/62-E
19 September 1988
Original: English

WORKING GROUP 6-A

Draft

ADDITIONAL FACTORS TO BE CONSIDERED IN THE PREPARATION OF FINAL TEXTS

1. At what stage or stages in the process of obtaining access to the geostationary orbit can an administration request an MPM?
2. How can the principle of burden sharing be incorporated in the MPM process and what provisions would be needed?
3. How are the results of an MPM incorporated in the access process?
4. What happens when an MPM cannot resolve the questions and what provisions are needed in this regard?
5. What parts of the MPM process are required to be included in the Radio Regulations?

G.H. RAILTON
Chairman of Working Group 6-A

CONF\ORB-2\DT\062E.TXS

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/63-E
19 September 1988
Original: English

WORKING GROUP 6-B

Draft

NOTE FROM THE CHAIRMAN OF WORKING GROUP 6-B TO COMMITTEE 6 CONCERNING THE CONSOLIDATED REVISION OF ARTICLE 11

1. This note contains the introductory texts to the fifth report of Working Group 6-B to Committee 6. The fifth report contains a consolidation of all of the texts adopted by the Working Group pertaining to Article 11 including the material contained in the third and fourth reports.
2. The Delegation of France has reserved its position regarding the word value(s) in MOD 1067 pending decisions in the Technical Working Group of the Plenary.
3. The Delegation of Canada has reserved its position regarding the word "multilateral" in ADD 1085B pending decision-making in Working Group 6-A.
4. The Working Group re-activated the Drafting Group under the chairmanship of Mr. Bates (United Kingdom) with revised terms of reference to consider the impact of the regulatory principles adopted in Working Group 6-B on the various provisions of Article 13.
5. A Drafting Group, chaired by Mr. Carew (Canada) with representatives from the United States, France and the IFRB was established by Sub-Working Group 6-B-1 to develop text for Sections I and II of Article 11 to accommodate the principle of simultaneous submission of the advanced information and the coordination information. As well, the Group was to consider, in the same context, appropriate provisions for the notification of non-geostationary satellite networks. This Group has now completed its work.
6. When proposals concerning the modification to systems under coordination were being examined the IFRB representative suggested that a small group commence at a later date to discuss the question of how to encourage administrations to modify systems to overcome coordination difficulties.
7. Committee 6 is requested to take note of the different wording in the texts adopted for MOD 1042 (Document 234) and MOD 1060 (Document 273) with a view to their possible alignment.
8. The representative from the Board agreed to review the use, in Article 11, of the terms "interference to a service", "interference to an assignment", "interference to a station", etc., with a view to the adoption of standardized wording.

9. Due to the temporary absence of Mr. Sonesson, Chairman of Sub-Working Group 6-B-1, a Sub-Working Group (6-B-2), under the chairmanship of Mr. Bates (United Kingdom), was established to consider proposals to revise Article 13 taking into account the input received from the Drafting Group referred to in item 4 above.

A.V. CAREW
Chairman of Working Group 6-B

COMMITTEE 4

DRAFT NOTE OF THE CHAIRMAN OF COMMITTEE 4
ON PREDETERMINED ARCS

As already envisaged by decisions of the First Session, a predetermined arc would be associated to each allotment as a means of increasing the flexibility of the Plan. Flexibility is then a key element for the procedures aiming at accommodating subregional systems, modifications to the Plan, interactions between Parts A and B etc.

Several definitions of predetermined arc were considered in the IFRB and CCIR intersessional works as well as different proposals on the subject were presented to the Conference. After a thorough appreciation of all these possible options and taking into account discussions already carried out in Working Group 4-B and Committee 4, the following approach is proposed:

- a) To consider the concept of progressive reduction of the predetermined arc. Under this concept, an orbital arc would be associated with each allotment and would be progressively reduced depending upon the degree of implementation of the allotment.
- b) The predetermined arc associated with an allotment shall be within the limits of the service arc as resulting from the consideration of the corresponding particular geographical requirement utilized in the development of the Plan.
- c) Systems in the operational stage would be requested to be moved only to the minimal amount of orbital arc, if any, unless otherwise agreed to by the administration concerned.
- d) An orbital position can only be displaced within the PDA of its allotment if a new protected position ($C/I \geq 26$ dB) can be found within this PDA.
- e) An administration will not be considered to be affected if:
 - to provide an allotment to a new Member of the Union;
 - to accommodate a subregional system (as provided for in paragraph 3.3.4 of the Report to the Second Session);

- to improve the compatibility between parts A and B of the Plan;
or
- to modify the Plan in order to implement an allotment specifically
provided for in the Plan;

the orbital position of that administration is moved within the
corresponding PDA while keeping a $C/I \geq 26$ dB.

S. PINHEIRO
Chairman of Committee 4

COMMITTEE 4

DRAFT NOTE OF THE CHAIRMAN OF COMMITTEE 4
ON PREDETERMINED ARCS

As already envisaged by decisions of the First Session, a predetermined arc would be associated to each allotment as a means of increasing the flexibility of the Plan. Flexibility is then a key element for the procedures aiming at accommodating subregional systems, modifications to the Plan, interactions between Parts A and B etc.

Several definitions of predetermined arc were considered in the IFRB and CCIR intersessional works as well as different proposals on the subject were presented to the Conference. After a thorough appreciation of all these possible options and taking into account discussions already carried out in Working Group 4-B and Committee 4, the following approach is proposed:

- a) To consider the concept of progressive reduction of the predetermined arc. Under this concept, an orbital arc would be associated with each allotment and would be progressively reduced depending upon the degree of implementation of the allotment.
- b) The predetermined arc associated with an allotment shall be within the limits of the service arc as resulting from the consideration of the corresponding particular geographical requirement utilized in the development of the Plan.
- c) Systems in the operational stage would be requested to be moved only to the minimal amount of orbital arc, if any, unless otherwise agreed to by the administration concerned.
- d) A relationship would exist between an allotment or assignment considered to be affected and its associated predetermined arc.

S. PINHEIRO
Chairman of Committee 4

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

Document DT/65(Rev.1)-E

21 September 1988

Original: English

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Source: Document DL/45.

SUB-WORKING GROUP 5-B-1

Draft

The attached draft of Appendix 30A (Articles 1-12 and Annex 1) as prepared and discussed by Sub-Working Group 5-B-1 is submitted for consideration.

S. SELWYN

Chairman of Sub-Working Group 5-B-1

Attachment

APPENDIX 30A

**Provisions and Associated Plans for the Feeder Links
for the Broadcasting-Satellite Service (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) in the Frequency Bands 14.5 - 14.8 GHz¹
and 17.3 - 18.1 GHz in Regions 1 and 3,
and 17.3 - 17.8 GHz in Region 2**

ARTICLE 1

General Definitions

1.1 Regions 1 and 3 feeder link Plan: The Plan for the feeder links in the frequency bands 14.5 - 14.8 GHz¹ and 17.3 - 18.1 GHz for the broadcasting-satellite service in Regions 1 and 3 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 Regions 1 and 3 Plan.

1.2 Region 2 feeder link Plan: The Plan for the feeder links in the frequency band 17.3 - 17.8 GHz for the broadcasting-satellite service 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 Region 2 Plan.

1.3 Frequency assignment in conformity with the Plans: Any frequency assignment for a receiving space station or transmitting earth station 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.

1.4 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.

1.5 1985 Conference: First Session of the World Administrative Radio Conference of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It, Geneva, 1985, called in short WARC ORB-85.

1.6 1988 Conference: Second Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It, Geneva, 1988, called in short WARC ORB-88.

¹ The use of the band 14.5 - 14.8 GHz is reserved for countries outside Europe [and for Malta.]

ARTICLE 2

Frequency Bands

2.1 The provisions of this Appendix apply to the feeder links in the fixed-satellite service (Earth-to-space) in the frequency bands 14.5 - 14.8 GHz and 17.3 - 17.8 GHz for the broadcasting-satellite service in Regions 1 and 3, and 17.3 - 17.8 GHz for the broadcasting-satellite service in Region 2 and to other services to which these bands are allocated in Regions 1, 2 and 3 so far as their relationship to the fixed-satellite service (Earth-to-space) in these bands is concerned.

ARTICLE 3

Execution of the Provisions of Associated Plans

3.1 The Members of the Union in Regions 1, 2 and 3 shall adopt for their feeder-link space and earth stations in the fixed-satellite service (Earth-to-space) in the frequency bands referred to in this Appendix the characteristics specified in the appropriate Regional Plan and the associated provisions.

3.2 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 receiving space stations or transmitting earth 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.

3.3 In Region 2, the procedures for the use of interim systems for feeder links in the fixed-satellite service for the bands covered by Appendix 30A are given in Resolution [MOD Res.42(Orb-85)].

ARTICLE 4

Procedure for Modifications to the Plans

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

- a) to modify the characteristics of any of its frequency assignments in the fixed-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 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 [MOD Res.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 that 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.

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

For Regions 1 and 3

4.2.1 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:

4.2.1.1 of Regions 1 and 3 having a feeder link frequency assignment in the fixed-satellite service (Earth-to-space) in the same channel or an adjacent channel, in the same orbit position or adjacent orbit positions [in the range +12.5°], 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 paragraphs 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 - 18.1 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 [and/or which has been or is being coordinated under Article 7 of this Appendix] 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 bands 14.5 - 14.8 GHz or 17.7 - 18.1 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 for feeder links in the fixed-satellite service (Earth-to-space) 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 feeder link Plan, or in respect of which proposed modifications to the Plan have already been published by the Board in accordance with the provisions of paragraphs 4.2.3.1 and 4.2.4 of this Article; or

4.2.1.5 which are considered affected.

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

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

4.2.1bis 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 or a transportable earth station at specified fixed points in the bands 14.5 - 14.8 GHz or 17.3 - 18.1 GHz,

For Region 2

4.2.2 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:

4.2.2.1 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 paragraphs 4.2.3.1 and 4.2.4 of this Article; or

4.2.2.2 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 in 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;

4.2.2.3 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;

4.2.2.4 having an assignment for feeder links in the fixed-satellite service (Earth-to-space) 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 feeder link Plan, or in respect of which proposed modifications to the Plan have already been published by the Board in accordance with the provisions of paragraphs 4.2.3.1 and 4.2.4 of this Article; or

4.2.2.5 which are considered affected.

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

4.2.2bis The agreement referred to in 4.2.2 is not required when an administration proposes to bring into use, with characteristics appearing in the Plan, a fixed feeder-link earth station in the band 17.3 - 17.8 GHz or a transportable feeder-link 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 one of the Regional Plans shall send to the Board, not earlier than [eight] 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.

4.2.3bis If an administration wishes to modify its assignments in Appendix 30 and Appendix 30A, the eight year period of this provision will be applicable in lieu of the five year period specified in 4.3.5 of Appendix 30.

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 and 4.2.2 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 and 4.2.2. 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 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 Plan.

4.4 Master copies of the Plans

4.4.1 The Board shall maintain up-to-date master copies of the Plans as well as master copies of the margin reports, including the overall equivalent protection margins in respect of Region 2 and the equivalent protection margins in respect of Regions 1 and 3 of each assignment, taking account of the application of the procedure specified in this Article. Each master copy shall contain the overall equivalent protection margins derived from the Plan as established by the 1983 Conference in the case of Region 2 and the equivalent protection margins for the 1988 Conference in the case of Regions 1 and 3 and those derived from all modifications to the Plans 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 Plans 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 any modifications made to the Regional Plans and shall publish up-to-date versions of the Plans in an appropriate form when justified by the circumstances.

ARTICLE 5

Notification, Examination and Recording in the Master Register of Frequency Assignment to Feeder Link Transmitting Earth Stations and Receiving Space Stations in the Fixed-Satellite Service

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 bands between 14.5 and 14.8 GHz and between 17.3 and 18.1 GHz in Regions 1 and 3, and between 17.3 and 17.8 GHz in Region 2, 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.

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.

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.

5.1.6 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 appropriate Regional Plan; or
- c) with respect to its conformity with the appropriate Regional 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,
 - in the case of Region 2 use of an orbital position under the conditions specified in paragraph B of Annex 7 of Appendix 30,
 - use of an antenna diameter greater than 5 metres for 17 GHz and 6 metres for 14 GHz without increasing the on-axis e.i.r.p.,
 - in the case of Region 2 a 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) for Region 2 with respect to its conformity with the provisions of Resolution [MOD Res.42(Orb-85)].

NOC 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.

NOC 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 Concerning Region 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 [MOD Resolution 42(Orb-85)]. A frequency assignment for which the provisions of [MOD 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 [MOD 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. [If the finding with respect to 5.2.1 d) is unfavourable the notice shall be returned immediately by airmail to the notifying administration.]

[Concerning Regions 1 and 3, 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 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.]

5.2.3 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 [within 30 days in accordance with RR 1554].

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 Coordination Notification and Recording in the Master Register of Frequency Assignments to Receiving Terrestrial Stations in Regions 1 and 3 in the Bands 14.5 - 14.8 GHz and 17.7 - 18.1 GHz, and in Region 2 in the Band 17.7 - 17.8 GHz, when Frequency Assignments to Feeder-Link Transmitting Earth Stations for the Broadcasting-Satellite Service in Conformity with the Regions 1 and 3 Plan or the Region 2 Plan are Involved

6.1 Administrations planning to implement assignments for terrestrial stations in Regions 1 and 3 in the bands 14.5 - 14.8 GHz and 17.7 - 18.1 GHz, and in Region 2 in the 17.7 - 17.8 GHz band should evaluate the level of interference assessed on the basis of coordination contours calculated in accordance with Appendix 28 to the Radio Regulations, which might be caused by the closest feeder-link earth station located on the border of the territory of another administration. Should the administration planning terrestrial stations find that interference may be caused by the feeder-link earth station, it may request the administration responsible for the feeder-link earth station to indicate the geographical coordinates, antenna characteristics and the elevation angle of the horizon around its actual and planned feeder-link earth stations.

6.2 In Region 2 where the entry in the Plan contains information on specific earth stations, this shall be used in the interference calculations mentioned in 6.1 above. In Region 2 where such information is not contained in the Plan an administration which receives a request under 6.1 shall, within a period of three months, provide the details of the feeder-link earth stations and communicate them to the administration planning the terrestrial station and to the Board in order to update the Plan.

6.3 In Regions 1 and 3 an administration which receives a request under 6.1 shall within a period of three months provide the details of the feeder link stations and communicate them to the administration planning the terrestrial station and to the Board for information.

6.4 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.

6.5 If the administration responsible for the feeder-link earth station does not communicate to the Board, within a period of three months the information requested under 6.1, this administration shall only implement its feeder-link earth station provided it does not cause harmful interference to the terrestrial station under consideration.

ARTICLE 7

Procedure Concerning Coordination Notification and Recording
in the Master Register of Frequency Assignments to Stations
in the Fixed-Satellite Service (Space-to-Earth)
in Regions 1 and 3 in the Band 17.7 - 18.1 GHz and
in Region 2 in the band 17.7 - 17.8 GHz, when Frequency Assignments
to Feeder Links for Broadcasting Satellite
Stations Appearing in the Regions 1 and 3 Plan or 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 in the band 17.7 - 18.1 GHz together with the provisions of Annex 4 to this Appendix, except that in relationship with feeder-link stations, the threshold value mentioned in Appendix 29 to the Radio Regulations is replaced by those given in Section [1] of Annex 4 to this Appendix.

7.2 Administrations planning to implement assignments for receiving earth stations in Regions 1 and 3 in the band 17.7 - 18.1 GHz and in Region 2 in the 17.7 - 17.8 GHz band in the fixed-satellite service (space-to-Earth) should evaluate the level of interference assessed on the basis of coordination contours calculated in accordance with [Section 3 of] Annex 4 to this Appendix, that might be caused by the closest feeder-link earth station located on the border of the territory of another administration. Should the administration planning receiving earth stations find that interference may be caused by the feeder-link earth station it may request the administration responsible for the feeder-link earth stations to indicate the geographical coordinates, antenna characteristics and the elevation angle of the horizon around its actual and planned feeder-link earth stations.

7.3 In Region 2 where the entry in the Plan contains information on specific earth stations this shall be used in the interference calculations mentioned in 7.2 above. In Region 2 where such information is not contained in the Plan an administration which receives a request under 7.2 shall, within a period of three months, provide the details of the feeder-link earth stations and communicate them to the administration planning the receiving earth station and to the Board in order to update the Plan.

7.4 In Regions 1 and 3 an administration which receives a request under 7.2 shall within a period of three months provide the details of the feeder-link earth stations and communicate them to the administration planning the receiving earth station and to the Board for information.

7.5 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.

7.6 If the administration responsible for the feeder-link earth stations does not communicate to the Board, within a period of three months, the information requested under 7.2, this administration shall only 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 to 8.2.2

ARTICLE 9

The Plan for the Feeder Links in the Fixed-Satellite Service
in the Frequency Band 17.3 - 17.8 GHz in Region 2

COLUMN HEADINGS OF THE PLAN

MOD [Modify heading of column 9 to read "Remarks". Remove column 10.
The location of earth stations along with antenna characteristics and
elevation angle of the horizon should be given as an annex to the Plans.]

NOC 9.2 TEXT FOR SYMBOLS IN REMARKS COLUMN OF THE PLAN

NOC 1 to 8

MOD 9/GR... This assignment is part of a group, the number of which follows
the symbol. The group consists of the beams and has the number of channels
assigned to it as indicated in the table below.

- a) The overall equivalent protection margin to be used for the
application of Article 4 and Resolution [MOD Res.42(Orb-85)]
shall be calculated on the following basis:
- for the calculation of interference to assignments that are
part of a group, only the interference contributions from
assignments that are not part of the same group are to be
included; and
 - for the calculation of interference from assignments belonging
to a group of assignments that are not part of that same group,
only the worst interference contribution from that group shall
be used on a test point to test point basis.
- b) If an administration notifies the same frequency in more than one
beam of a group for use at the same time, the aggregated C/I
produced by all emissions from that group shall not exceed the C/I
calculated on the basis of a) above.

NOC TABLE 1

NOC Country symbols

NOC TABLE 2

NOTE

The Plan is not reproduced in this draft document.

ARTICLE 10

**The Plan for the Feeder Links in the Fixed-Satellite Service
in the Frequency Band 14.5 - 14.8 GHz and
17.3 - 18.1 GHz in Regions 1 and 3**

10.1 COLUMN HEADINGS OF THE PLAN

- | | |
|-------|---|
| Col 1 | Beam identification (Column 1 contains the symbol designating the country or the geographical area taken from Table B1 of the Preface to the International Frequency List followed by the symbol designating the service area). |
| Col 2 | Nominal orbital position, in degrees and hundredths of a degree. |
| Col 3 | Channel number (see Table showing channel numbers and corresponding assigned frequencies). |
| Col 4 | Boresight geographical coordinates, in degrees and hundredths of a degree. |
| Col 5 | Antenna beamwidth. This column contains two figures corresponding to the major axis and the minor axis respectively of the elliptical cross section half-power beam, in degrees and hundredths of a degree. |
| Col 6 | Orientation of the ellipse determined as follows: in a plane normal to the beam axis, the direction of a major axis of the ellipse is specified as the angle measured anti-clockwise from a line parallel to the equatorial plane to the major axis of the ellipse to the nearest degree. |
| Col 7 | Polarization (1 - direct, 2 - indirect). ¹ |
| Col 8 | Earth station e.i.r.p. in the direction of maximum radiation, in dBW. |
| Col 9 | Remarks |

10.2 TEXT FOR SYMBOLS IN REMARKS COLUMN OF THE PLAN

[Details to be inserted later when Plan is completed]

¹ See Annex 3 (paragraph [3.8]) to this Appendix.

ARTICLE 11

Interference

11.1 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.

ARTICLE 12

Period of Validity of the Provisions and Associated Plans

12.1 The provisions and associated Plans have been prepared in order to meet the requirements for feeder links for the broadcasting-satellite service in the bands concerned for a period extending until at least 1 January 1994.

12.2 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.

ANNEX 1

MOD Limits for Determining Whether a Service of an Administration is Considered to be Affected by a Proposed Modification to One of the Regional Plans When It Is Necessary Under This Appendix to Seek the Agreement of Any Other Administration

NOC 1. Limits applicable to protect a frequency assignment in the band 17.7 - 18.1 GHz to an earth station in the fixed-satellite service (space-to-Earth) (see 4.2.1.2 and 4.2.2.2 of Article 4)

NOC An administration shall be considered as being affected if, upon application of the procedures of Section 3 of Annex 4 to this Appendix, that administration is included in the coordination area of the frequency assignment to a transmitting feeder-link earth station.

NOC For this purpose, the parameters of the transmitting feeder-link earth station, as may be modified from those parameters given in Annex 3 to this Appendix, shall be used.

NOC 2. Limits applicable to protect a terrestrial station in the bands 14.5 - 14.8 GHz and 17.7 - 18.1 GHz (see 4.2.1.3 and 4.2.2.3 of Article 4)

NOC An administration shall be considered as being affected if, upon application of the procedures of Appendix 28 to the Radio Regulations, that administration is included in the coordination area of the frequency assignment to a transmitting feeder-link earth station.

NOC For this purpose, the parameters of the transmitting feeder-link earth station, as may be modified from those parameters given in Annex 3 to this Appendix, shall be used.

NOC 3. Limits to the change in the overall equivalent protection margin with respect to frequency assignments in conformity with the Region 2 Plan¹

MOD With respect to the modification to the Plan and when it is necessary under this Appendix to seek the agreement of any other administration, except in cases covered by [MOD Resolution 42(Orb-85)], an administration shall be considered as being affected if the overall equivalent protection margin² corresponding to a test point of its entry in the Plan, including the cumulative effect of any previous modification to the Plan or any previous agreement, falls more than 0.25 dB below 0 dB, or, if already negative, more than 0.25 dB below the value resulting from:

- the Plan as established by the 1983 Conference; or
- a modification of the assignment in accordance with this Appendix; or
- a new entry in the Plan under Article 4 of this Appendix; or
- any agreement reached in accordance with this Appendix except for [MOD Resolution 42(Orb-85)].

4. Limits to the change in the feeder-link equivalent protection margin with respect to frequency assignments in conformity with the Regions 1 and 3 Plan³

With respect to the modification to the Plan and when it is necessary under this Appendix to seek the agreement of any other administration, an administration shall be considered as being affected if the feeder-link equivalent protection margin⁴ corresponding to a test point of its entry in the Plan including the cumulative effect of any

(MOD) ¹ With respect to section 3 the limit specified relates to the overall equivalent protection margin calculated in accordance with Section [1.11 of Annex 3 to this Appendix].

NOC ² For the definition of the overall equivalent protection margin, see Section 1.14 of Annex 5 to Appendix 30 (ORB-85).

(MOD) ³ With respect to section 4 the limit specified relates to the feeder-link equivalent protection margin calculated in accordance with [Section 1.6bis of Annex 3 to this Appendix].

(NOC) ⁴ For the definition of the equivalent protection margin, see [].

previous modification to the Plan or any previous agreement, falls more than 0.25 dB below 0 dB, or, if already negative, more than 0.25 dB below the value resulting from:

- the Plan as established by the 1988 Conference; or
 - a modification of the assignment in accordance with this Appendix; or
 - a new entry in the Plan under Article 4 of this Appendix; or
 - any agreement reached in accordance with this Appendix.
5. Limits applicable to protect a frequency assignment in the band 17.3 - 18.1 GHz (Regions 1 and 3) and 17.3 - 17.8 GHz (Region 2) to a receiving space station in the fixed-satellite service (Earth-to-space)

An administration in Regions 1 and 3 shall be considered affected by a proposed modification in Region 2 or vice-versa (including cases covered by Resolution 42) when the power flux-density arriving at the receiving space station of a broadcasting-satellite feeder-link station exceeds a threshold value of $(\Delta T/T)'$ corresponding to 3%,

where:

$(\Delta T/T)'$ is calculated in accordance with the method given in Appendix 29 for $\Delta T/T$, except that the maximum power densities are replaced by power densities averaged over the total RF bandwidth of the feeder-link carriers (24 MHz for Region 2 and 27 MHz for Regions 1 and 3). The calculation shall be made for faded conditions, that is, the value of $(\Delta T/T)'$ shall correspond to the value not exceeded for more than 1% of the worst month.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Addendum 1 to
Document DT/66-E
20 September 1988
Original: English

WORKING GROUP 6-B
AD HOC 1

Proposed additional section to new Appendix 3, concerning the notification of typical earth stations is given in the annex.

J. CHRISTENSEN
Chairman of Working Group 6-B ad hoc 1

Annex: 1

CONF\ORB-2\DT\066A1E.TXS

ANNEX

S E C T I O N 6

Notices relating to Notification of
Typical Earth stations.

(See Article13)

6A. General characteristics to be provided for an earth station.

- B.4 Identity of the satellite network.
- B.14 Operating administration or company.
- B.6 Class of station and nature of service.
- B.12 Coordination.
- B.13 Agreements.

6B. Characteristics of the Typical transmitting earth station.

- Name of the satellite receive beam
- Type or identity of the Typical earth station.
- B.1 Assigned frequency (frequencies).
- B.2 Assigned frequency band.
- B.7 Class of emission, necessary bandwidth.
- B.8 Power characteristics of the transmission.
- B.9 Transmitting antenna characteristics.
- B.10 Modulation characteristics.

6C. Characteristics of the Typical receiving earth station.

- Name of the satellite beam.
- Type or identity of the Typical earth station.
- C.1 Assigned frequency (frequencies).
- C.2 Assigned frequency band.
- C.7 Class of emission, necessary bandwidth and description of the transmission.
- C.8 Receiving antenna characteristics.
- C.9 Noise temperature of the receiving station.
Transmission gain.
Equivalent link noise temperature.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/66-E
19 September 1988
Original: English

Source: Document DL/39 (Rev.1)

WORKING GROUP 6-B
AD HOC 1

Draft

FIRST REPORT OF WORKING GROUP 6-B AD HOC 1
TO WORKING GROUP 6-B

J. CHRISTENSEN
Chairman of Working Group 6-B ad hoc 1

INDEX

APPENDIX 3

**Notices Relating to Space Radiocommunication
and Radioastronomy Stations**

(see Articles 11, 13 and 14)

SECTION 1

General Instructions

(Text to be presented later)

SECTION 2

**Notices Relating to Coordination of Satellite Networks
and Notification of Space Stations**

A. General characteristics to be provided for the satellite network

- 2.A.1 D4 Identity of the [satellite network]
- 2.A.2 D3 [Date of bringing into use]
- 2.A.3 D15 Operating administration or company
- 2.A.4 D5 Orbital information
- 2.A.5 D13 Coordination
- 2.A.6 D14 Agreements

B. Characteristics of the satellite network for reception at the space station

[All these items are to be provided for each satellite beam if a network is to be coordinated or notified.]

Information related to satellite receive beam

- 2.B.1 Name of satellite receive beam
- 2.B.2 Service area or associated transmitting stations
- 2.B.3 E1 Assigned frequency (frequencies)
- 2.B.4 E2 Assigned frequency band
- 2.B.5 E7 Class of station(s) and nature of service
- 2.B.6 E9 Space station receiving antenna characteristics

2.B.7 E10 [Receiving system] noise temperature

Information related to associated transmitting station(s)

2.B.8 Type and identity of associated [transmitting] station³

2.B.9 E7 B6 Class of station and nature of service³

2.B.10 B9 Earth station transmitting antenna characteristics³

2.B.11 B7 Class of emission, necessary bandwidth and description of the transmission³

2.B.12 B8 Power characteristics of the [earth station] transmission³

2.B.13 B10 Modulation characteristics³

C. Characteristics of the satellite network for transmission from the space station

[All these items are to be provided for each satellite beam if a network is to be coordinated or notified.]

Information related to satellite transmitting beams

2.C.1 Name of satellite transmitting beam

2.C.2 Service area or associated receiving stations

2.C.3 D10 Space station transmitting antenna characteristics

2.C.4 D1 Assigned frequency (frequencies)

2.C.5 D2 Assigned frequency band

2.C.6 D7 Class of station[s] and nature of service

2.C.7 D8 Class of emission, necessary bandwidth and description of this transmission⁴

² Not required for network coordination

³ Required for each [type] of station

⁴ Required for each [type] of station

2.C.8 D9 Power characteristics of the transmission⁴

2.C.9 D11 Modulation characteristics⁴

Information related to associated receiving stations

2.C.10 Type and identity of associated receiving station⁴

2.C.11 C6 Class of station[s] and nature of service⁴

2.C.12 C8 Earth station receiving antenna characteristics⁴

2.C.13 C9 Noise temperature of the associated receiving station(s)⁴

[2.C.14² C5 Space stations with which communication is to be established]

D. Overall link characteristics

For the case of simple frequency changing transponders the following information is to be provided:

2.D.1 E1 as F/23

2.D.2 E2 as F/23 Associated with Tables I and II. F/23 page 26.

SECTION 3

**Notices Relating to Coordination [Under No. 1107]
and Notification of Specific [and Typical] Earth Stations**

A. General characteristics to be provided for an earth station

3.A.1 B4 Identity and location of the earth station

3.A.2 B5 Date of bringing into use

3.A.3 B14 Operating administration or company

3.A.4 B6 Class of station and nature of service

3.A.5 B5 Space stations with which communication is to be established

3.A.6 B12 Coordination

3.A.7 B13 Agreements

² Not required for network coordination

⁴ Required for each [type] of station

B. Characteristics of the transmitting earth station

- [3.B.1 Name of satellite receiving beam]⁷
- 3.B.2 B1 Assigned frequency (frequencies)
- 3.B.3 B2 Assigned frequency band
- 3.B.4 B7 Class of emission, necessary bandwidth and description of transmission
- 3.B.5 B8 Power characteristics of the transmission
- 3.B.6 B9 Transmitting antenna characteristics
- [3.B.7 B10 Modulation characteristics]⁷

C. Characteristics of the receiving earth station

- [3.C.1 Name of satellite transmitting beam]⁷
- 3.C.2 C1 Assigned frequency (frequencies)
- 3.C.3 C2 Assigned frequency band
- 3.C.4 C7 Class of emission, necessary bandwidth and description of the transmission to be received
- 3.C.5 C8 Receiving antenna characteristics
- 3.C.6 C9 [Receiving system] noise temperature, [link noise temperature and transmission gain]⁷

⁷ Not required for coordination under No. 1107

SECTION 4

**Notices Relating to Frequencies to be Received
by Radioastronomy Stations**

A. General characteristics to be provided for the radioastronomy station

- 4.A.1 F2 Date of bringing into use
- 4.A.2 F3 Name and location of the station
- 4.A.3 F6 Regular hours of reception
- 4.A.4 F9 Operating

B. Characteristics of the frequencies to be received

- 4.B.1 F1 Observed frequency
- 4.B.2 F4 Bandwidth
- 4.B.3 F5 Antenna characteristics
- 4.B.4 F7 Noise temperature
- 4.B.5 F8 Class of observations

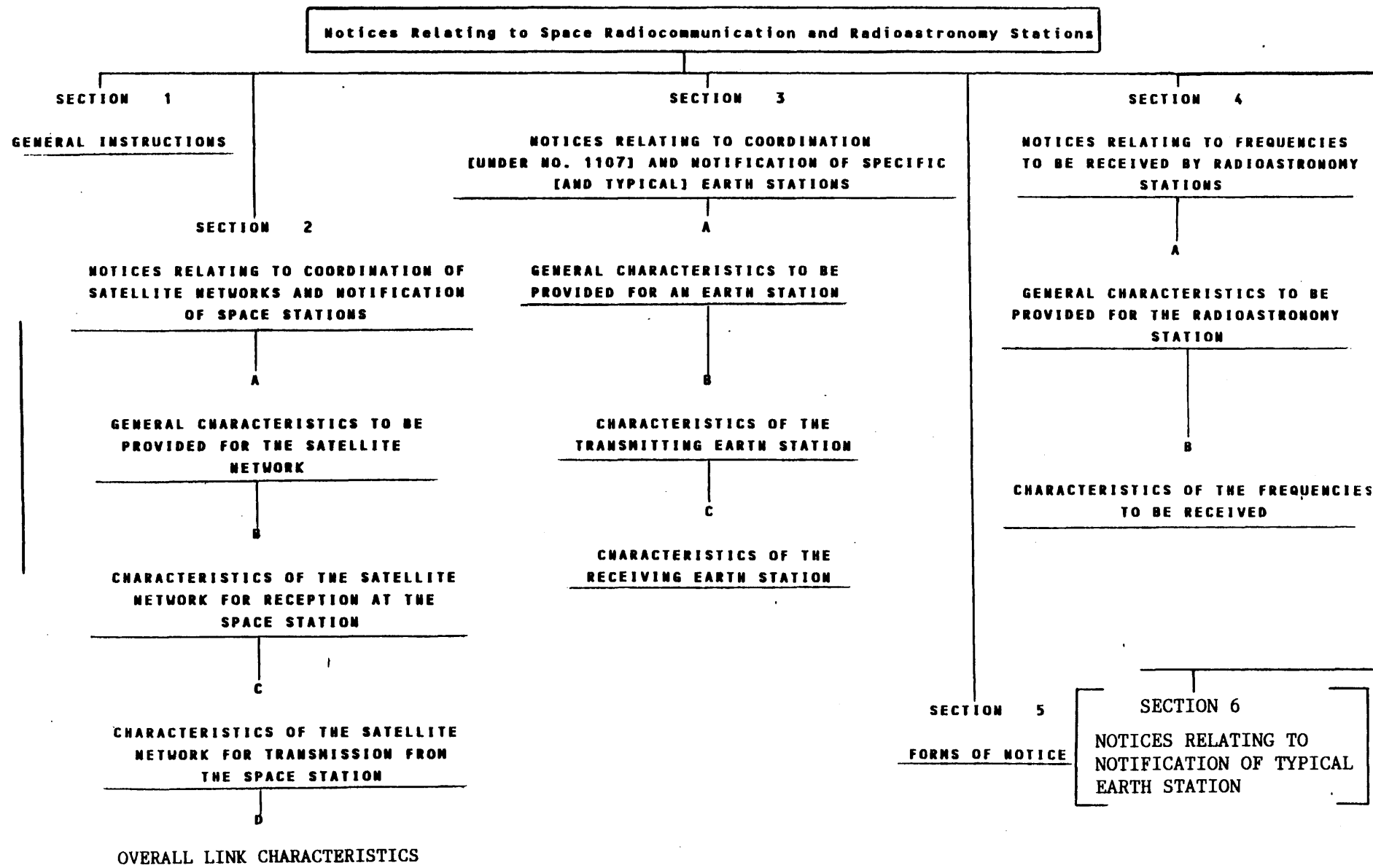
SECTION 5

Forms of Notice

- 5.1 MOD Section G
- SUP Section H

ANNEX

APPENDIX 3 based on the Network Approach



INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Addendum 1 to

Document DT/67-E

21 September 1988

Original: English

SUB-WORKING GROUP 5-B-1

During the discussions in Sub-Working Group 5-B-1 a conclusion was reached on the following Resolutions and Recommendations:

Proposed decision

Resolution 40	SUP
Resolution 41	SUP
Resolution 43	SUP*
Resolution 100	SUP
Resolution 703	NOC
Recommendation 67	NOC
Recommendation 712	NOC

S. SELWYN

Chairman of Sub-Working Group 5-B-1

* Suppression should be affected at the same time as the modification of Appendix 30A as decided by this Conference.

CONF\ORB-2\DT\067A1E.TXS

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/67-E
20 September 1988
Original: Spanish

SUB-WORKING GROUP 5-B-1

DRAFT

The attached document relating to Recommendations and Resolutions relevant to the work of Committee 5, which was prepared by Ms. G.B. Mealla, is submitted for consideration.

S. SELWYN
Chairman, Sub-Working Group 5-B-1

Annex

ANNEX

Resolutions and Recommendations
(Agenda item 13)

1. This document, Annex I of which contains a comparative table of the proposals submitted by administrations, has been drawn up at the request of the Chairman of Committee 5 and on the basis of Document DT/48 and the wishes expressed by various administrations.

2. To expedite the work, it may be useful to consider the Resolutions and Recommendations in the following order:

2.1 Resolutions and Recommendations already considered in various ways:

- a) Resolution 505: see DL/32 and Annex I
- b) Resolution 42(Orb-85): see DL/31 and Annex I
- c) Resolution 2(Sat-R2-83): see DL/31.

2.2 Resolutions 1-9 (Sat-R2-83) and Recommendations 1-7 (Sat-R2-83)

Note 1 - These Resolutions and Recommendations are not included in the Radio Regulations. They form part of the Final Acts of RAC-SAT-R2-83.

Note 2 - Resolution 2(Sat-R2-83): see DL/31.

2.3 Resolutions and Recommendations to be considered

2.3.1 Similar proposals

a) Resolutions

NOC Resolution 32
NOC Resolution 33 (provisionally on account of KEN/69/39 and PRG/109/6)
NOC Resolution 34 (provisionally on account of KEN/69/40 and PRG/109/7)
NOC Resolution 507

b) Recommendations

NOC Recommendation 505
NOC Recommendation 506
NOC Recommendation 507
NOC Recommendation 705

2.3.2 Proposals NOC-SUP-MOD

a) Resolutions

NOC-SUP Resolution 31
SUP-MOD Resolution 101
NOC-SUP-MOD Resolution 506

2.3.3 Proposals SUP

a) Resolutions

SUP Resolution 102
SUP Resolution 502
SUP Resolution 503
SUP Resolution 504

b) Recommendations

SUP Recommendation 101
SUP Recommendation 508
SUP Recommendation 705

2.3.4 Resolutions and Recommendations ORB-85

No proposals apart from Resolution 42(Orb-85): see Annex I.

Note - MOD Resolution 42(Orb-85): see Document DL/31.

Annex I

RESOLUTIONS

No.	NOC	SUP	MOO
31	CAN/60/272 KEN/69/38	MEX/163/3 PRG/109/5 KEN/69/38 (res.5)	
32	MEX/103/3 CAN/60/272		
33	MEX/103/3 CAN/60/272	KEN/69/39	PRG/109/6
34	MEX/103/4 CAN/60/272 KEN/69/40 (Res. 2-3)	KEN/69/40 (res.1) PRG/109/7	
101		CAN/60/278 KEN/69/44 MEX/103/8 PRG/109/13	J/54/6
102		CAN/60/299 MEX/103/9	PRG/109/14
502		CAN/60/281 KEN/69/45 MEX/103/10 PRG/109/15	
503		CAN/60/282 KEN/69/46 MEX/103/11 PRG/109/18	

RESOLUTIONS

No.	NOC	SUP	MOD
504		CAN/60/283 KEN/69/47 MEX/103/12	
505	PRG/109/18	PRG/109/17 CEPT/40/2 CAN/60/290 (ADD RES NN)	AUS/49/43 (Rev. 505) ALG/65/8
506	KEN/69/48 MEX/103/13	CAN/60/283	KEN/69/48 PRG/109/19
507	CAN/60/284 MEX/103/13 PRG/109/20		
700		CAN/60/285 MEX/103/14 PRG/109/21	
701		CAN/60/286 KEN/69/49 MEX/103/15 PRG/109/22	

SAT- R2 -83

1	
2	Ver/See DL/31
3	
4	
5	
6	
7	
8	
9	

RECOMMENDATIONS

No.	NOC	SUP	MOD
ORB-85			
40			
41			
42	Ver/See	DL/31...	VEN/94/1 USA/12/70
43			B/57/1
101		CAN/60/293 MEX/103/17 PRG/109/26	
505	MEX/103/17 PRG/109/27		
506	MEX/103/17 PRG/109/27		
507	MEX/103/17 PRG/109/27		
508		CAN/60/296 MEX/109/18 PRG/109/28	
705	CAN/60/298 MEX/103/18		
712		CAN/60/300 MEX/103/19	
ORB-85			
2			
3			
SAT-R2-83			
1			
2			
3			
4			
5			
6			
7			

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/68(Rev.1)-E

21 September 1988

Original: English

Source: Documents 8, 12, 39, 185, DL/42

SUB-WORKING GROUP 5-B-1

Draft

ANNEX 4 OF APPENDIX 30A

The attached text is presented for consideration, having drawn upon those proposals directed at Annex 4 to Appendix 30A in the cited references.

S. SELWYN

Chairman of Sub-Working Group 5-B-1

Attachment: 1

ANNEX 4 (OPTION 1)

Criteria for Sharing Between Services

1. Threshold values for determining when coordination is required between a transmitting space station in the fixed-satellite service and a receiving space station in the feeder-link Plans in the 17.7 - ~~17.8~~ 18.1 GHz (Regions 1 and 3) and 17.7 - 17.8 GHz (Region 2)

With respect to paragraph 7.1, Article 7 of this Appendix, coordination of a transmitting space station in the fixed-satellite service with a broadcasting satellite feeder-link in the Regions 1 and 3 Plan or the Region 2 Plan is required, for inter-satellite geocentric angular separations of less than ~~10°~~ 3° or greater than 150°, when the power flux-density arriving at the receiving space station of a broadcasting-satellite feeder-link station of another administration would cause an increase in the noise temperature of the feeder-link space station which exceeds a threshold value of $(\Delta T/T)'$ corresponding to ~~10%~~ 4% i.e. $C/I = 38$ dB and with C/N ratio on the feeder-link equal to 24 dB. $(\Delta T/T)'$ is calculated in accordance with the method given in Appendix 29 for $\Delta T/T$ except that:

- i) the maximum power densities are replaced by power densities averaged over the total RF bandwidth of the feeder-link carriers (24 MHz for Region 2 and 27 MHz for Regions 1 and 3);
- ii) the calculation shall be made for faded conditions, that is, the value of $(\Delta T/T)'$ shall correspond to the value not exceeded for more than 1% of the worst month.

The above provision does not apply when the geocentric angular separation, between a transmitting space station in the fixed-satellite service and a receiving space station in the feeder-link Plan, exceeds 150° of arc and the free-space power flux-density of the transmitting space station in the fixed-satellite service does not exceed a value of -123 dB ($W/m^2/24$ MHz) for Region 2 and -123 dB ($W/m^2/27$ MHz for Regions 1 and 3 on the Earth's surface at the equatorial Earth limb.

2. Not used.

ANNEX 4 (OPTION 2)

Criteria for Sharing Between Services

1. Threshold values for determining when coordination is required between a transmitting space station in the fixed-satellite service and a receiving space station in the feeder-link Plans in the 17.7 - ~~17.8~~ 18.1 GHz (Regions 1 and 3) and 17.7 - 17.8 GHz (Region 2)

With respect to paragraph 7.1, Article 7 of this Appendix, coordination of a transmitting space station in the fixed-satellite service with a broadcasting satellite feeder-link in the Regions 1 and 3 Plan or the Region 2 Plan is required, for inter-satellite geocentric angular separations of less than 10° 3° or greater than 150° , when the power flux-density arriving at the receiving space station of a broadcasting-satellite feeder-link station of another administration would cause an increase in the noise temperature of the feeder-link space station which exceeds a threshold value of $(\Delta T/T)'$ corresponding to ~~10° 4°~~ i.e. $C/I = 48$ dB and with C/N ratio on the feeder-link equal to 34 dB. $(\Delta T/T)'$ is calculated in accordance with the method given in Appendix 29 for $\Delta T/T$ except that the maximum power densities are replaced by power densities averaged over the total RF bandwidth of the feeder-link carriers (24 MHz for Region 2 and 27 MHz for Regions 1 and 3).

The above provision does not apply when the geocentric angular separation, between a transmitting space station in the fixed-satellite service and a receiving space station in the feeder-link Plan, exceeds 150° of arc and the free-space power flux-density of the transmitting space station in the fixed-satellite service does not exceed a value of -123 dB $(W/m^2/24$ MHz) for Region 2 and -123 dB $(W/m^2/27$ MHz) for Regions 1 and 3 on the Earth's surface at the equatorial Earth limb.

2. Not used.

3. Method for the determination of the coordination area around a feeder-link transmitting earth station of the Region 2 and Regions 1 and 3 Plans with respect to receiving earth stations in the fixed-satellite service in the frequency band 17.7 - 18.1 GHz.

3.1 Introduction

In the frequency band 17.7 - 17.8 GHz in Region 2 and 17.7 - 18.1 GHz in Regions 1 and 3, which is allocated to the fixed-satellite service, in both the Earth-to-space direction (for broadcasting-satellite service feeder links only), and the space-to-Earth direction, emissions from transmitting feeder-link earth stations may cause interference at receiving earth stations in the fixed-satellite service.

Electromagnetic coupling of an emission originating at a feeder-link earth station into a receiving earth station may occur through two propagation mechanisms or "modes":

Propagation mode (1): coupling along a great circle tropospheric interference horizon path;

Propagation mode (2): coupling through scatter from hydrometeors.

The determination of whether emissions from a feeder-link earth station may cause unacceptable interference in a receiving earth station is by means of coordination contours drawn around a feeder-link earth station on a map. When a receiving earth station is located within either or both coordination contours, i.e., within the coordination area, there is a possibility of unacceptable interference.

The procedure for the determination of the coordination area for a feeder-link earth station in relation to a receiving earth station in the fixed-satellite service is similar to that described in Appendix 28 but differs from it in the details described below.

3.2 - 3.7 No change.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

Document DT/68-E
20 September 1988
Original: English

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Source: Documents 8, 12, 39, 185, DL/42

SUB-WORKING GROUP 5-B-1

Draft

ANNEX 4 OF APPENDIX 30A

The attached text is presented for consideration, having drawn upon those proposals directed at Annex 4 to Appendix 30A in the cited references.

S. SELWYN
Chairman of Sub-Working Group 5-B-1

Attachment: 1

ANNEX 4 OF APPENDIX 30A

CEPT-1/39/100
MOD

Criteria for Sharing Between Services

CEPT-1/39/101
USA/12/71

- MOD 1. Threshold values for determining when coordination is required between a transmitting space station in the fixed-satellite service and a receiving space station in the feeder-link Plan in the frequency band 17.7 - ~~17.8 GHz~~ 18.1 GHz (Regions 1 and 3) and 17.7 - 17.8 GHz (Region 2).

With respect to paragraph [7.1, Article 7] of this Appendix, coordination of a transmitting space station in the fixed-satellite service with a broadcasting satellite feeder link in the Region 2 and Regions 1 and 3 Plans is required, for inter-satellite geocentric angular separations of less than 3° 10° [or greater than 150°], when the power flux-density arriving at the receiving space station of a broadcasting satellite feeder-link station of another administration would cause an increase in the noise temperature of the feeder-link space station which, calculated in accordance with the method given in Appendix 29, exceeds a threshold value of $(\Delta T/T)'$ corresponding to ~~10% 4%~~ (i.e. $C/I = 38$ dB), under faded conditions, that is rain attenuation not exceeded for more than 1% of the worst month and with a C/N ratio on the feeder links equal to 24 dB assuming maximum power densities are replaced by power densities averaged over the total RF bandwidth of the feeder-link carriers (24 MHz for Region 2 and 27 MHz for Regions 1 and 3). ~~[The above provision does not apply when the geocentric angular separation, between a transmitting space station in the fixed satellite service and a receiving space station in the feeder link Plan, exceeds 150° of arc and the free space power flux-density of the transmitting space station in the fixed satellite service does not exceed a value of $123 \text{ dB(W/m}^2/24 \text{ MHz)}$ on the Earth's surface at the equatorial Earth limb.]~~

B/8/5

2. [Not used.] [Threshold values for determining when an interregional coordination is required...]

CEPT-1/39/102

- MOD 3. Method for the determination of the coordination area around a feeder-link transmitting earth station of the Region 2 and Regions 1 and 3 Plans with respect to receiving earth stations in the fixed-satellite service ~~in Region 2~~ in the frequency band 17.7 - ~~17.8 GHz~~ 18.1 GHz.

Region 2:

NOC 3.1 to 3.7

Regions 1 and 3:

CEPT-1/39/103

ADD

CCIR Report 448 provides a means of determination of the interference potential between earth stations and terrestrial stations.

CCIR Report 999 provides a means of evaluating the locus on worst case possibilities indicating a need for co-ordination.

CCIR Report 1010 provides a means of evaluating the coupling in practical cases, with separations as low as 10 km implied for 1 per cent worst month.

Source: Document DL/43(Rev.1)

WORKING GROUP OF THE PLENARY

DRAFT RESOLUTION [GT-PLN/2]

**Interim Provisions for the Coordination of Satellites
in Circular Geosynchronous Orbits**

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Second Session - Geneva, 1988),

considering

- a) that Article 1 of the Radio Regulations contains a definition of geosynchronous satellite;
- b) that Article 1 of the Radio Regulations also contains a definition of geostationary satellite identifying it as a geosynchronous satellite with its circular orbit in the plane of the Earth's Equator (see RR 181);
- c) that the Radio Regulations do not provide pertinent technical parameters for distinguishing between geostationary and other groups of geosynchronous satellites;
- d) that the IFRB adopted in its Rules of Procedure a provisional limit of 5° inclination in considering a geosynchronous satellite in all satellite services as a geostationary satellite;
- e) that the provisions governing the operation of non-geostationary space stations are given in RR 2613;
- f) that a void exists in the regulatory procedures for dealing with circular geosynchronous satellites using inclined orbits that exceed 5°;
- g) that the CCIR has not yet studied in detail the technical matters concerning inclined circular geosynchronous satellites and will be determining the need for inclination limits for the orbits of geostationary satellites (see Resolution [... Document 295]);
- h) that the satellite services share many frequency bands with other services;
- i) that the power flux-density limits specified in Article 28 apply to satellites in circular geosynchronous orbits with an inclination exceeding 5°;
- j) that the power flux-density limits specified in Article 28 have been developed assuming a specific scenario of space station distribution and associated angles of arrival above the horizontal plane;
- k) that the limits specified in Article 27 apply to terrestrial services with the view to protect regions around the geostationary-satellite orbit;

1) that sufficient technical information and interference studies are not available relating to space stations operating with inclined geosynchronous circular orbits and some guidance is required for administrations and the IFRB;

resolves

1. that the use by any space service of space stations in inclined circular geosynchronous orbits should not place additional regulatory and technical constraints on other services which share the same frequency bands;

2. that administrations and the IFRB should apply the procedures contained in Articles 11 and 13, to frequency assignments for satellites in circular geosynchronous orbits with inclinations greater than 5°;

3. that the need to coordinate between space stations in inclined geosynchronous circular orbits and geostationary space stations should be based on the worst case assumption relating to the minimum topocentric angle between the satellites concerned taking into account the planned longitudinal tolerance and the variation in satellite antenna gain on the surface of the Earth due to orbit inclination;

4. that the need to coordinate between satellite networks using inclined circular geosynchronous orbits should be effected by taking into account topocentric worst case angle and the variation in satellite antenna gain on the surface of the Earth due to orbit inclination;

5. that these interim provisions should take into account the results of the latest CCIR studies arising from Resolution [...] [see Document 295];

requests

that the IFRB participate in the work of the CCIR (see Resolution ... [Document 295]) and consider inclusion of the results in its Rules of Procedure at the earliest opportunity.

R. RYVOLA
Chairman of the Working Group
of the Plenary

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/70-E
20 September 1988
Original: English

Source: Document DL/31

SUB-WORKING GROUP 5-B-1

Draft

The attached draft Resolution is submitted to Sub-Working Group 5-B-1 for its consideration.

S. SELWYN
Chairman of Sub-Working Group 5-B-1

Attachment: 1

Draft

RESOLUTION [42(MOD)]

**Relating to the Use of Interim Systems in Region 2 in the
Broadcasting-Satellite and Fixed-Satellite (Feeder Link)
Services in Region 2 for the Bands Covered by
Appendix 30 and Appendix 30A**

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of the Space Services Utilizing It (Second Session - Geneva, 1988),

considering

- a) that the Regional Administrative Radio Conference for the Planning of the Broadcasting-Satellite Service in Region 2, Geneva, 1983, prepared a Plan for the broadcasting-satellite service in the band 12.2 - 12.7 GHz and a Plan for the associated feeder links in the band 17.3 - 17.8 GHz with the provision of implementing Interim Systems in accordance with Resolution 2 (SAT-R2);
- b) that in the implementation of their assignments in the Plans, administrations of Region 2 may find it more appropriate to adopt a phased approach and initially use characteristics different from those appearing in the appropriate Region 2 Plan;
- c) that some administrations of Region 2 may cooperate in the joint development of a space system with a view to covering two or more service areas from the same orbital position or to use a beam which would encompass two or more service areas;
- d) that some administrations of Region 2 may cooperate in the joint development of a space system with a view to using two or more feeder-link service areas from the same orbital position or to use a beam which encompasses two or more feeder-link service areas;
- e) that interim systems shall not adversely affect the Plans nor hamper the implementation and evolution of the Plans;
- f) that the number of assignments to be used in an interim system shall not in any case exceed the number of assignments appearing in the Region 2 Plan which are to be suspended;
- g) that the interim systems shall not in any case use orbital positions that are not in the Region 2 Plan;
- h) that an interim system shall not be introduced without the agreement of all administrations whose space and terrestrial services are considered to be affected;

resolves

that administrations and the IFRB shall apply the procedure contained in the Annex to this Resolution.

ANNEX TO RESOLUTION [42(MOD)]

1. An administration or a group of administrations in Region 2 may, after successful application of the procedure contained in this Annex and with the agreement of the affected administrations, use an interim system during a specified period not exceeding ten years in order;

1.1 for an interim system in the broadcasting-satellite service

- a) to use an increased e.i.r.p. in any direction relative to that appearing in the Region 2 Plan provided that the power flux-density does not exceed the limits given in Annex 5 of Appendix 30;
- b) to use modulation characteristics¹ different from those appearing in the Annexes to the Region 2 Plan and resulting in an increased probability of harmful interference or in a wider assigned bandwidth;
- c) to change the coverage area by displacing boresight, or by increasing the major or minor axis or by rotating them, from an orbital position which shall be one of the corresponding orbital positions appearing in the Region 2 Plan;
- d) to use a coverage area appearing in the Region 2 Plan or a coverage area encompassing two or more coverage areas appearing in the Region 2 Plan from an orbital position which shall be one of the corresponding positions appearing in the Region 2 Plan;
- e) to use a polarization different from that in the Region 2 Plan,

1.2 for an interim feeder-link system

- a) to use an increased e.i.r.p. in any direction relative to that appearing in the Region 2 feeder-link Plan;
- b) to use modulation characteristics¹ different from those appearing in the Annexes to the Plan and resulting in an increased probability of harmful interference or in a wider assigned bandwidth;
- c) to change the feeder-link beam area by displacing the boresight, or by increasing the major or minor axis or by rotating them, in relation to an orbital position which shall be one of the corresponding orbital positions appearing in the Region 2 feeder-link Plan
- d) to use a feeder-link beam area appearing in the Region 2 feeder-link Plan or a feeder-link beam area encompassing two or more feeder-link beam areas appearing in the Region 2 feeder-link Plan in relation to an orbital position which shall be one of the corresponding orbital positions appearing in the Region 2 feeder-link Plan;
- e) to use a polarization different from that in the Region 2 feeder-link Plan.

¹ For example, modulation with sound channels frequency-multiplexed within the bandwidth of a television channel, digital modulation of sound and television signals, or other pre-emphasis characteristics.

2. [.....]

2.1 In all cases, an interim system shall correspond to assignments in the appropriate Region 2 Plan; the number of assignments to be used in an interim system shall not in any case exceed the number of assignments appearing in the Region 2 Plan which are to be suspended. During the use of an interim system, the use of the corresponding assignments in the Region 2 Plan is suspended; they shall not be brought into use before the cessation of the use of the interim system. However, the suspended assignments, but not the interim system's assignments, of an administration shall be taken into account when other administrations apply the procedure of Article 4 of Appendix 30 and of Appendix 30A, as appropriate, in order to modify the Plans, or the procedure of this Annex in order to bring an interim system into use. The assignments of interim systems shall not be taken into account in applying the procedure of Article 6 or Article 7 of Appendix 30 and the procedure of Article 6 or Article 7 of Appendix 30A.

2.2 As a specific consequence of paragraph 2.1 above, Region 2 interim systems' assignments shall not obtain protection from, or cause harmful interference to, new or modified assignments appearing in the Regions 1 and 3 Plans following the successful application of the procedures of Article 4 of Appendix 30 or Appendix 30A as appropriate, even if such a modification is concluded and becomes operational within the time-limit specified in paragraph 3(a).

3. When an administration proposes to use an assignment in accordance with paragraph 1, it shall communicate to the IFRB the information listed in Annex 2 of Appendix 30 or Appendix 30A as appropriate not earlier than five years but, preferably, not later than twelve months before the date of bringing into use. The administration shall also indicate:

- a) the maximum specified period during which the interim assignment is intended to remain in use;
- b) the assignments in the Region 2 Plans the use of which will remain suspended for the duration of the use of the corresponding interim assignment;
- c) the names of the administrations with which an agreement for the use of the interim assignment has been reached, together with any comment relating to the period of use so agreed and the names of administrations with which an agreement may be required but has not yet been reached.

4. Administrations are considered to be affected as follows:

4.1 for an interim system in the broadcasting-satellite service

- a) an administration of Region 2 is considered to be affected if any overall equivalent protection margin of one of its assignments in the Region 2 Plan, calculated in accordance with Annex 5 to Appendix 30 including the cumulative effect of all interim use during the maximum specified period of use of the interim system, but excluding the corresponding suspended assignments (paragraph 3 b)), becomes negative or a former negative value is made more negative;

- b) an administration of Region 1 or 3 is considered to be affected if it has an assignment which is in conformity with the Regions 1 and 3 Plan contained in Appendix 30 to the Radio Regulations or in respect of which proposed modifications have already been published by the Board in accordance with the provisions of Article 4 of that Appendix with a necessary bandwidth which falls within the necessary bandwidth of the proposed interim assignment and the appropriate limits of Section 1 of Annex 1 of Appendix 30 are exceeded;
- c) an administration of Region 1 or 3 is considered to be affected if it has a frequency assignment 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 under Article 7 of Appendix 30 or which has been published in accordance with No. 1044 of the Radio Regulations or of paragraph 7.1.3 of Appendix 30 and the appropriate limits of Section 6 of Annex 1 of Appendix 30 are exceeded;
- d) an administration of Region 1 or 3 is considered to be affected if, although having no frequency assignment in the appropriate Region 1 or 3 Plan in the channel concerned, it nevertheless would receive on its territory a power flux-density value which exceeds the limits given in Section 8a) of Annex 1 of Appendix 30 as a result of the proposed interim assignment, or if it has such an assignment for which its associated service area does not cover the whole of the territory of the administration, and in its territory outside that service area the power flux-density from the interim system space station exceeds the above-mentioned limits;
- e) an administration of Region 2 is considered to be affected if, although having no frequency assignment in the appropriate Region 2 Plan in the channel concerned, it nevertheless would receive on its territory a power flux-density value which exceeds the limits given in Section 8b) of Annex 1 of Appendix 30 as a result of the proposed interim assignment, or if it has such an assignment for which its associated service area does not cover the whole of the territory of the administration, and in its territory outside that service area the power flux-density from the interim system space station exceeds the above-mentioned limits;
- f) an administration of Region 3 is considered to be affected if it has a frequency assignment to a space station in the broadcasting-satellite service in the band 12.5 - 12.7 GHz with a necessary bandwidth any portion of which falls within the necessary bandwidth of the proposed assignment, and which:
- is recorded in the Master Register; or
 - has been coordinated or is being coordinated under the provisions of Resolution 33 of the World Administrative Radio Conference, Geneva, 1979; or
 - appears in a Region 3 Plan to be adopted at a future administrative radio conference, taking account of modifications which may be introduced subsequently in accordance with the Final Acts of that Conference,

and the limits of Section 6, paragraph 3 expressed in a 4 kHz band, Annex 1 to Appendix 30 are exceeded.

4.2 for interim feeder-link systems

- a) an administration of Region 2 is considered to be affected if any overall equivalent protection margin of one of its assignments in the Plan, calculated in accordance with Annex 3 to Appendix 30A including the cumulative effect of all interim uses during the maximum specified period of use of the interim system, but excluding the corresponding suspended assignment(s) (paragraph 3b)), becomes negative or a former negative value is made more negative;
- b) an administration in Regions 1 or 3 is considered to be affected if any equivalent protection margin of one of its assignments in the Plan, calculated in accordance with Annex 3 to Appendix 30A including the cumulative effect of all interim uses during the maximum specified period of use of the interim system, but excluding the corresponding suspended assignment(s) (paragraph 3b)), becomes negative or a former negative value is made more negative;
- c) if it has a frequency assignment 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 the appropriate limits of Section 1 of Annex 1 to Appendix 30A are exceeded;
- d) if it has 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 into use of the feeder-link earth station, which is located within the coordination area of the feeder-link earth station concerned and the limits of Section 2 of Annex 1 to Appendix 30A are exceeded;

5. The Board shall publish in a special section of its weekly circular the information received under paragraph 3, together with the names of the administrations the Board has identified in application of paragraph 4.

6. When the Board finds that the suspended assignment of an administration having an interim system is not affected, it shall examine the projected interim system with respect to the interim system of that administration and if there is an incompatibility, it shall request the two administrations concerned to adopt any measures that may enable the new interim system to be operated.

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.

8. Any administration not listed in the special section which considers that its planned interim assignment may be affected shall so inform the administration responsible for the interim system and the Board, and the two administrations shall endeavour to resolve the difficulty before the proposed date of bringing the interim assignment into use.

9. An administration which has not sent 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 5 shall be understood as having agreed to the proposed interim use.

10. On the expiry of four months following the date of publication of the weekly circular referred to in paragraph 5, the Board shall review the matter, and, depending on the results obtained, shall inform the administration proposing the interim assignment that:

- a) it may notify its proposed use under Article 5 of Appendix 30 or Article 5 of Appendix 30A, as appropriate, if no agreement is required or the required agreement has been obtained from the administrations concerned. In this case the Board shall update the Interim List;
- b) it may not bring into use its interim system before having obtained the agreement of the administrations affected, either directly or by applying the procedure described in Article 4 of Appendix 30 or Article 4 of Appendix 30A, as appropriate, as a means of obtaining that agreement.

11. The Board include all the interim assignments in an Interim List in two parts, one each for the broadcasting-satellite service and the feeder-link assignments, and shall update it in accordance with this Annex. The Interim List shall be published together with the Region 2 Plans but does not constitute part of them.

12. One year prior to the expiry of the interim period, the Board shall draw the attention of the administration concerned to this fact and request it to notify in due time the deletion of the assignment from the Master Register and the Interim List.

13. If, notwithstanding the reminders by the Board, an administration does not reply to its request sent in application of paragraph 12, the Board shall, at the termination of the interim period:

- a) enter a symbol in the Remarks Column of the Master Register to indicate the lack of response and that the entry is for information only;
- b) not take into account that assignment in the Interim List;
- c) inform the administrations concerned and affected of its action.

14. Where an administration confirms the termination of the use of the interim assignment, the Board shall delete the assignment concerned from the Interim List and the Master Register. Any corresponding assignment in the Plan(s), suspended earlier, may then brought into use.

15. An administration which considers that its interim system may continue to be used after the expiry of the interim period may extend it by not more than four years and to this effect shall apply the procedure described in this Annex.

16. Where an administration applies the procedure in accordance with paragraph 15, but was unable to obtain the agreement of one or more affected administrations, the Board shall indicate this situation by inserting an appropriate symbol in the Master Register. Upon receipt of a complaint of harmful interference, the administration shall immediately cease operation of the interim assignment.

17. Where an administration, having been informed of a complaint of harmful interference, does not cease transmission within a period of thirty days after the receipt of complaint, the Board shall apply the provisions of paragraph 13.

WORKING GROUP 4-C

DRAFT PROCEDURE FOR CONVERSION OF A
PLANNED ALLOTMENT INTO AN ASSIGNMENT

This procedure is based on the Plan comprising two parts:

- a) Part A - the national allotments;
- b) Part B - existing systems.

In addition, in order to provide a means for easy and precise reference, and to assist the IFRB with the task of maintaining accurate records, consideration should be given to the identification of two lists in the Regulations:

- | | | |
|---|--|---|
| [| <ul style="list-style-type: none">a) List 1 - assignments made in accordance with the Plan;b) List 2 - assignments made after the successful application of the procedure for additional users. |] |
|---|--|---|

E.D. DUCHARME
Chairman of Working Group 4-C

Annex: 1

ANNEX

Procedure for Conversion of a Planned
Allotment into an Assignment

Section A - Initial action by the notifying administration

- 001 1. When an administration intends to bring into operation a satellite network which is to employ all or part of an allotment listed in its name in Part A of the Plan, it shall convert that allotment into an assignment in accordance with the following procedure.
- 002 2. Not earlier than [3] years and not later than [3] months before the planned date of bringing the planned satellite networks into service, the administration shall send to the IFRB the details of the planned network in the form of a completed Appendix [3]. In addition, the administration may send other information on the proposed network as may assist the Board in its examination of the matter.

Section B - Initial action by the IFRB

- 003 3. Upon receipt of a notice sent under No. 002, the IFRB shall promptly verify that it is complete.
- 004 4. In the event of receipt of an incomplete notice sent under No. 002, the Board shall return it to the notifying administration and shall draw attention to the information required to complete the notice.
- 005 5. The Board may request any other information that would facilitate its examination of the matter.
- 006 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.
- 007 7. The circular shall constitute the acknowledgement to the notifying administration of the receipt of a complete notice.
- 008 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.

Section C - Examination and recording by the IFRB

- 009 9. Upon receipt of a complete notice, the Board shall examine each notice with respect to:
- 010 a) its conformity with the Convention and the relevant provisions of the Radio Regulations;

- 011 b) its conformity with the listing of the allotment for the
 notifying administration in Part A of the Plan;
- 012 c) its conformity with the generalized parameters for the Plan
 listed in Annex [...].
- 013 10. Where the Board reaches a favourable finding with respect to
 Nos. 010, 011 and 012, the frequency assignment shall be recorded in
 List 1.
- 014 11. Where the Board reaches an unfavourable finding with respect to
 Nos. 010, 011 and 012, the notice shall be returned immediately to the
 notifying administration with the reasons of the Board for this finding and
 with such suggestions as the Board is able to offer with a view to a
 satisfactory solution of the problem.

Section D - Action by the notifying administration when an unfavourable finding is
received for a planned network which exceeds the parameters of the Plan

- 015 12. When the notifying administration receives an unfavourable finding it
 may:
- 016 a) modify the characteristics of its system to conform with the
 listing in Part A of the Plan and then amend the notice and
 resubmit it under No. 002; or;
- 017 b) apply the provisions of Appendix [...] to modify its listing in
 Part A of the Plan and, if successful, resubmit the notice under
 No. 002.
- 018 13. An administration may request the assistance of the Board in applying
 the provisions of this Article.
-

WORKING GROUP 4-C

DRAFT PROCEDURE FOR CONVERSION OF A
PLANNED ALLOTMENT INTO AN ASSIGNMENT

This procedure is based on the Plan comprising two parts:

- a) Part A - the national allotments;
- b) Part B - existing systems.

In addition, in order to provide a means for easy and precise reference, and to assist the IFRB with the task of maintaining accurate records, consideration should be given to the identification of two lists in the Regulations:

- a) List 1 - assignments made in accordance with the Plan;
- b) List 2 - assignments made after the successful application of the procedure for additional users.

E.D. DUCHARME
Chairman of Working Group 4-C

Annex: 1

ANNEX

Procedure for Conversion of a Planned
Allotment into an Assignment

Section A - Initial action by the notifying administration

- 001 1. When an administration intends to bring into operation a satellite network which is to employ all or part of an allotment listed in its name in Part A of the Plan, it shall convert that allotment into an assignment in accordance with the following procedure.
- 002 2. Not earlier than [...] years and not later than [...] years before the planned date of bringing the planned satellite networks into service, the administration shall send to the IFRB the details of the planned network in the form of a completed Appendix [...]. In addition, the administration may send other information on the proposed network as may assist the Board in its examination of the matter.

Section B - Initial action by the IFRB

- 003 3. Upon receipt of a notice sent under No. 002, the IFRB shall promptly verify that it is complete.
- 004 4. In the event of receipt of an incomplete notice sent under No. 002, the Board shall return it to the notifying administration and shall draw attention to the information required to complete the notice.
- 005 5. The Board may request any other information that would facilitate its examination of the matter.

Section C - Examination and recording by the IFRB

- 006 6. Upon receipt of a complete notice, and having obtained any additional information required to facilitate its examination of the matter, the Board shall examine each notice with respect to its conformity with:
- 007 a) the listing for the notifying administration in Part A of the Plan;
- 008 b) the system parameters for the Plan listed in Annex [...].
- 009 7. Where the Board reaches a favourable finding with respect to Nos. 006, 007, and 008, the frequency assignment shall be recorded in List 1.
- 010 8. Where the Board reaches an unfavourable finding with respect to Nos. 006, 007 and 008, the notice shall be returned immediately to the notifying administration with the reasons of the Board for this finding and with such suggestions as the Board is able to offer with a view to a satisfactory solution of the problem.

Section D - Action by the notifying administration when an unfavourable finding is received

- 011 9. When the notifying administration receives an unfavourable finding it may:
- 012 a) modify the characteristics of its system to conform with the listing in Part A of the Plan and then amend the notice and resubmit it under No. 002; or;
- 013 b) apply the provisions of Appendix [...] to modify its listing in Part A of the Plan and, if successful, resubmit the notice under No. 002.
- 014 10. An administration may request the assistance of the Board in applying the provisions of this Article.
-

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/72-E
21 September 1988
Original: English

WORKING GROUP 5-A

Draft

POWER CONTROL

Further to the discussion on Document 297 relating to the matter of power control, attached, as an annex, is a proposal to cover the procedural aspects.

R.M. BARTON
Chairman of Working Group 5-A

Annex: 1

ANNEX

APPENDIX 30A

ARTICLE 5

Add 5.x.x

When an administration wishes to use, at a specific location, an amount of power control which is in excess of that contained in Column 9 of the Regions 1 and 3 feeder-link Plan, it shall request the Board to determine the amount of permissible power control (not to exceed 10 dB) using the procedure contained in section [3.10 of Annex 3] to this Appendix.

ANNEX 3

APPENDIX 30A

Add to paragraph 3.10

4. Procedures

4.1 An administration wishing to introduce power control may use a value not exceeding that given in Column 9 of the Plan or it may request the use of a higher value for a specific earth station location. In this latter case, it shall request the IFRB to calculate the maximum permissible value for that site. The administration shall provide to the Board, the coordinates of the station, the proposed antenna characteristics including the off-axis co-polar and cross-polar characteristics, and the rain climatic zone.

4.2 The IFRB will calculate the permissible increase in power using the method described in [3.10.1].

4.3 The IFRB will communicate the results of the calculations to the requesting administrations as well as to those administrations whose EPM is reduced.

In any case the permitted increase in e.i.r.p. about that shown in Column 8 of the Plan shall not exceed 10 dB.

4.4 In the case of modifications to the Plan, the IFRB shall recalculate the value of power control for the assignment subject to the modification and insert in Column 9 of the Plan for that assignment the appropriate value. A modification to the Plan shall not require the adjustment of the values of permissible power increase of other assignments in the Plan.

Source: Documents 292, 302 and 304

WORKING GROUP 6-A

Draft

PROPOSED CHANGES TO THE RADIO REGULATIONS AND DRAFT RESOLUTION

Attached are the proposed changes to the Radio Regulations from the comments and decisions of the third, fourth and fifth meetings of Working Group 6-A.

The revised text of Working Group 6-B in Document 304 has been used for the Article 11 considerations.

Annex 1 is a draft Resolution based on Document 292 from India, Indonesia and Mexico amended with the decisions outlined in Document 302.

G.H. RAILTON
Chairman of Working Group 6-A

Attachment: 1

Annex: 1

MOD 1051

- a) the administration responsible for the planned network shall first explore all possible means of meeting its requirements, taking into account the characteristics of the geostationary-satellite networks of other systems, and without considering the possibility of adjustment to networks of other administrations. If no such means can be found, the administration concerned may then request other administrations, either bilaterally or multilaterally, including in exceptional circumstances through the convening of multilateral meetings similar to that provided for in N 1085C, to mutually help resolve these difficulties.

ADD 1085C

In exceptional cases the multilateral coordination among the administrations concerned of networks in the FSS operating in the frequency bands, as listed below, may take the form of Multilateral Planning Meeting [MPM] as provided for by Resolution [XX].

3 700 - 4 200 MHz
5 850 - 6 425 MHz
10.95 - 11.20 GHz
11.45 - 11.70 GHz
11.70 - 12.20 GHz in Region 2¹
12.50 - 12.75 GHz in Region 1 and Region 3¹
14.00 - 14.50 GHz

Towards this end, the administration seeking coordination may initiate action to convene an MPM to resolve mutually the difficulties and effect the coordination of the satellite network.

ADD 1087B

When the coordination process takes the form of MPM [see Resolution XX] the administration which sought the coordination of its satellite network shall communicate to the Board and to all other administrations concerned the following information:

- a) the names of administrations with which coordination has been completed and an agreement reached;

¹ In these bands the improved procedures shall apply between networks of the fixed-satellite service only.

[and including the FSS in the band referred to Footnote 845 for Region 3].

- b) any changes agreed upon in the characteristics of frequency assignments of all satellite networks considered by the MPM.

The Board shall publish the information communicated as above by the special section of its weekly circular.

ADD 1189 § 32. (1) If requested by an administration participating in an MPM, the Board, using such means at its disposal as are appropriate in the circumstances, shall render technical assistance for the completion of the procedures of Section II of this Article.

ADD 1190 (2) In making such a request the initiating administration of the MPM shall furnish the Board with all necessary information.

ANNEX

RESOLUTION [COM6/3]

**Relating to Improved Procedures for the
Fixed-Satellite Service**

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Second Session - Geneva, 1988),

considering

- a) that the process of coordination of space services was initially laid down by EARC-63, improved by WARC-71 and further expanded by WARC-79;
- b) that Resolution 2 of WARC-79 reiterated the equitable use by all countries with equal rights of the GSO and the frequency bands allocated to space services, first embodied in Resolution Spa2-1 of WARC-71;
- c) that Resolution 3 of WARC-79 resolved on the need to guarantee in practice for all countries equitable access to GSO and the frequency bands allocated to space services and for this purpose decided on convening the World Administrative Radio Conference to be held in two sessions;
- d) that the First Session of the Conference (ORB-85) agreed on the need for improved regulatory procedures as one of the methods for the planning of FSS and stipulated certain guidelines for this purpose;

noting

that Articles 11 and 13 as well as Article 14 of the Radio Regulations have elements of bilateral and multilateral consultations for coordinating the space systems and networks, which administrations plan to bring into use;

noting further

that the concept of Multilateral Planning Meetings (MPMs) as a part of a mechanism to provide equitable access to the GSO and spectrum resource in certain fixed-satellite service frequency bands has been examined by this Conference;

recognizing

1. that the coordination of technical characteristics of each satellite network presents unique circumstances and requirements;
2. that success in such coordination and resolution of the problems of new satellite networks could in some cases necessitate appropriate burden sharing among administrations concerned;
3. that any coordination process requires the cooperation and goodwill of all concerned administrations so as to realise a balance of interests of all parties;
4. the need and obligation of all administrations concerned to reach mutually acceptable solutions in regard to the characteristics of the systems involved in the coordination process;
5. that the provisions of Article 11 as amended by this Conference foresee bilateral and multilateral discussions at any stage in the process of obtaining access to the GSO and spectrum resource;
6. that in some circumstances the convening of Multilateral Planning Meetings (MPMs) as a part of the process of obtaining access to the GSO and spectrum resource could become an effective means of resolving complex problems;
7. that the IFRB can assist administrations seeking to resolve complex problems under the provisions [1088 - 1094] of the Radio Regulations;

resolves

1. that the MPMs shall also be a part of the process of coordination for the fixed-satellite service in the band;

- 3 700 - 4 200 MHz
- 5 850 - 6 425 MHz
- 10.95 - 11.20 GHz
- 11.45 - 11.70 GHz
- 11.70 - 12.20 GHz in Region 2¹
- 12.50 - 12.75 GHz in Regions 1 and 3¹
- 14.00 - 14.50 GHz

2. that the convening of such MPMs would be appropriate in exceptional cases where the other processes of coordination are unlikely to yield results, satisfactory to all parties;

¹ In these bands the improved procedures shall apply between networks of the fixed-satellite service only.
[and including the FSS in the band referred to Footnote 845 for Region 3].
applicable;

3. that any Member country of the Union seeking the coordination of a satellite network has the right to propose to the administrations concerned the holding of an MPM;
4. that the representatives of concerned multi-administration systems may also participate in the MPM;
5. that all parties affected shall make every effort to participate in the MPM;
6. that all parties affected shall make every effort for the success of the MPM;
7. that any party which cannot attend an MPM may delegate another party to represent it;
8. that if one or more of the affected parties are unable to attend an MPM for any reason, then the regular provisions of [the Radio Regulations, Article 11] shall be
9. that the provisions 1088 to 1094 and associated provisions shall also apply;
10. that the administration initiating the MPM convey the results of the MPM to the IFRB in accordance with [1087] of the Radio Regulations;
11. that the MPM may be convened at a place determined by the participating administrations;
12. that the cost of an MPM shall be borne by the participants according to the arrangements agreed upon by all participants;

resolves further

1. that at the request of the administrations, the Secretary-General may supply secretarial services under contractual arrangements in accordance with No. 286 of the Nairobi Convention;
2. that administration(s) may call upon the permanent organs of the Union (General Secretariat, IFRB and CCIR) for any technical advice as they deem necessary;

urges administrations

to hold bilateral or multilateral discussions at any stage of the process of obtaining access to the GSO and spectrum resource, when it is expected that such discussions will assist resolution of foreseen problems;

calls upon

all administrations concerned to cooperate and resolve mutually coordination problems in a spirit of international understanding, so as to uphold the principles of equal rights and equitable access to the GSO and the frequency bands allocated to space services for all administrations;

invites

the Administrative Council to monitor the progress in the application of this Resolution and, if difficulties arise in the assurance of equitable access in practice, to propose that the MPM process be reviewed by a future competent conference.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/73-E
21 September 1988
Original: English

Source: Documents 292, 302 and 304

WORKING GROUP 6-A

Draft

PROPOSED CHANGES TO THE RADIO REGULATIONS AND DRAFT RESOLUTION

Attached are the proposed changes to the Radio Regulations from the comments and decisions of the third, fourth and fifth meetings of Working Group 6-A.

The revised text of Working Group 6-B in Document 304 has been used for the Article 11 considerations.

Annex 1 is a draft Resolution based on Document 292 from India, Indonesia and Mexico amended with the decisions outlined in Document 302.

G.H. RAILTON
Chairman of Working Group 6-A

Attachment: 1

Annex: 1

MOD 1051

- a) the administration responsible for the planned network shall first explore all possible means of meeting its requirements, taking into account the characteristics of the geostationary-satellite networks of other systems, and without considering the possibility of adjustment to networks of other administrations. If no such means can be found, the administration concerned may then request other administrations, either bilaterally or multilaterally, including in exceptional circumstances through the convening of multilateral meetings similar to that provided for in N 1085C, to mutually help resolve these difficulties.

ADD 1085C

In exceptional cases the multilateral coordination among the administrations concerned of networks in the FSS operating in the frequency bands, as listed below, may take the form of Multilateral Planning Meeting [MPM] as provided for by Resolution [XX].

3 700 - 4 200 MHz
5 850 - 6 425 MHz
10.95 - 11.20 GHz
11.45 - 11.70 GHz
11.70 - 12.20 GHz in Region 2¹
12.50 - 12.75 GHz in Region 1 and Region 3¹
14.00 - 14.50 GHz

Towards this end, the administration seeking coordination may initiate action to convene an MPM to resolve mutually the difficulties and effect the coordination of the satellite network.

ADD 1087B

When the coordination process takes the form of MPM [see Resolution XX] the administration which sought the coordination of its satellite network shall communicate to the Board and to all other administrations concerned the following information:

- a) the names of administrations with which coordination has been completed and an agreement reached;
- b) any changes agreed upon in the characteristics of frequency assignments of all satellite networks considered by the MPM.

The Board shall publish the information communicated as above by the special section of its weekly circular.

¹ In these bands the improved procedures shall apply between networks of the fixed-satellite service only.

- ADD 1189 § 32. (1) If requested by an administration participating in an MPM, the Board, using such means at its disposal as are appropriate in the circumstances, shall render technical assistance for the completion of the procedures of Section II of this Article.
- ADD 1190 (2) In making such a request the initiating administration of the MPM shall furnish the Board with all necessary information.

ANNEX 1

PROPOSAL TO THE WORK OF THE CONFERENCE

RESOLUTION [COM6/3]

Relating to Improved Procedures for the
Fixed-Satellite Service

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Second Session - Geneva, 1988),

considering

- a) that the process of coordination of space services was initially laid down by EARC-63, improved by WARC-71 and further expanded by WARC-79;
- b) that Resolution 2 of WARC-79 reiterated the equitable use by all countries with equal rights of the GSO and the frequency bands allocated to space services, first embodied in Resolution Spa 2-1 of WARC-71;
- c) that Resolution 3 of WARC-79 resolved on the need to guarantee in practice for all countries equal access to GSO and the frequency bands allocated to space services and for this purpose decided on convening the World Administrative Radio Conference to be held in two Sessions;
- d) that the First Session of the Conference (ORB-85) agreed on the need for improved regulatory procedures as one of the methods for the planning of FSS and stipulated certain guidelines for this purpose;

noting

that Articles 11 and 13 as well as Article 14 of the Radio Regulations have elements of bilateral and multilateral consultations for coordinating the space systems and networks, which administrations plan to bring into use;

noting further

that the concept of Multilateral Planning Meetings (MPMs) is a part of a mechanism to provide equitable access to the GSO and spectrum resource;

recognizing

- 1. that the coordination of technical characteristics of each satellite network presents unique circumstances and requirements;
- 2. that success in such coordination and resolution of the problems of new satellite networks could in some cases necessitate appropriate burden sharing among administrations concerned;
- 3. that any coordination process requires the cooperation and goodwill of all concerned administrations so as to realise a balance of interests of all parties;
- 4. the need and obligation of all administrations concerned to reach mutually acceptable solutions in regard to the characteristics of the systems involved in the coordination process;

5. that the provisions of Article 11 as amended by this Conference foresee bilateral and multilateral discussions at any stage in the process of obtaining access to the GSO and spectrum resource;
6. that in some circumstances the convening of Multilateral Planning Meetings (MPMs) as a part of the process of obtaining access to the GSO and spectrum resource could become an effective means of resolving complex problems;
7. that the IFRB can assist administrations seeking to resolve complex problems under the provisions [1088 - 1094] of the Radio Regulations;

resolves

1. that the MPMs shall also be a part of the process of coordination for the fixed-satellite service in the band;
 - 3 700 - 4 200 MHz
 - 5 850 - 6 425 MHz
 - 10.95 - 11.20 GHz
 - 11.45 - 11.70 GHz
 - 11.70 - 12.20 GHz in Region 2¹
 - 12.50 - 12.75 GHz in Regions 1 and 3¹
 - 14.00 - 14.50 GHz
2. that the convening of such MPMs would be appropriate in exceptional cases where an administration identifies that it has a problem in obtaining access to the GSO. This administration may then invite other affected administrations to participate;
3. that the representatives of concerned multi-administration systems may also participate in the MPM;
4. that the MPM may be convened at a place determined by the participating administrations with the Headquarters of the Union as one possibility;
5. that all parties concerned have a responsibility for the success of the MPM and shall make every effort to participate in the MPM;
6. that parties which may not be in a position to attend the MPM, may be represented by another party;
7. that provisions [1088 - 1094] shall also apply to MPMs;
8. that the administration initiating the MPM convey the results of the MPM to the IFRB in accordance with 1087 of the Radio Regulations;
9. that the cost of the MPM be borne by all participating parties;

¹ In these bands the improved procedures shall apply between networks of the fixed-satellite service only.

resolves further

1. that at the request of the administrations, the Secretary-General may supply secretarial services under contractual arrangements in accordance with No. 286 of the Nairobi Convention;
2. that administration(s) may call upon the permanent organs of the Union (General Secretariat, IFRB and CCIR) for any technical advice as they deem necessary;

urges administrations

to hold bilateral or multilateral discussions at any stage of the process of obtaining access to the GSO and spectrum resource, when it is expected that such discussions will assist resolution of foreseen problems;

calls upon

all administrations concerned to cooperate and resolve mutually coordination problems in a spirit of international understanding, so as to uphold the principles of equal rights and equitable access to the GSO and the frequency bands allocated to space services for all administrations;

invites

the Administrative Council to monitor the progress in the application of this resolution and, if difficulties arise in the assurance of equitable access in practice, to propose that the MPM process be reviewed by a future competent conference.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/74-E
21 September 1988
Original: English

WORKING GROUP
OF THE PLENARY

Draft

MODIFICATIONS TO APPENDIX 3

The attached texts contain modifications to Appendix 3 with regard to the power characteristics of the transmission.

R. RYVOLA

Chairman of the Working Group of the Plenary

Revisions to Appendix 3

Section B

Item 8 Power characteristics of the earth station transmission

NOC a), b) and c)

ADD d)¹ Indicate for each carrier type³, the maximum power density per Hz (dB(W/Hz))² at the input of the antenna, averaged over the worst 4 kHz band for carriers below 15 GHz, or averaged over the worst 1 MHz band for carriers above 15 GHz.

Section D

Item 9 Power characteristics of the space station transmission

NOC a)

MOD b) Indicate the maximum power density per Hz (dB(W/Hz))² at the input to the antenna, averaged over the worst 4 kHz band for carriers below 15 GHz, or averaged over the worst 1 MHz band for carriers above 15 GHz.

NOC c)

ADD d) Indicate the maximum total peak envelope power (in dBW) at the input of the antenna for each contiguous satellite bandwidth and this bandwidth. For a satellite transponder, this corresponds to the maximum saturated peak envelope power and the bandwidth of each transponder.

ADD e)¹ Indicate for each carrier type³, the maximum power density per Hz (dB(W/Hz))² at the input of the antenna, averaged over the worst 4 kHz band for carriers below 15 GHz, or averaged over the worst 1 MHz band for carriers above 15 GHz.

Section E

Item 8 Basic characteristics to be furnished in notices relating to frequencies to be received by space stations

NOC a), b) and c)

ADD d)¹ Indicate the maximum power flux-density (dBW/Hz/m²) at the satellite, averaged over each contiguous satellite bandwidth and this bandwidth. For a satellite transponder, this corresponds to the power flux-density necessary to produce transponder saturation (maximum output power of the transponder) and the bandwidth of each transponder.

Footnotes

MOD (appears in many places)

¹ This information need only be furnished when such information has been used as a basis to effect coordination with another administration. This information may be optionally provided in a request for coordination under RR 1073, see Resolution (GT-PLN/3).

NOC ²

ADD (in appropriate places)

³ For types of carriers, see relevant CCIR texts.

RESOLUTION [GT-PLN/3]

**Relating to the Estimation of Interference between
Satellite Networks Using Simplified Methods**

The World Administrative Radio Conference on the Use of the
Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It
(Second Session - Geneva, 1988),

considering

- a) that CCIR texts contain information on simplified methods which may be used to provide a significant improvement in the accuracy of interference estimates when compared with Appendix 29 calculations;
- b) that an improvement in the accuracy of interference estimates would facilitate the coordination process and thereby relieving administrations of an administrative burden and unnecessary costs;
- c) that most of the data requirements for these methods are identified in Appendix 3;

resolves

to invite the CCIR to continue studies on simplified methods for estimating interference between satellite networks and to recommend a preferred method or methods;

encourages

administrations to participate in the studies of the CCIR to assure full consideration of all potential methods, to use these methods and to provide the necessary data.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/75-E
22 September 1988
Original: English

Source: Document DL/32

SUB-WORKING GROUP 5-B-2

The attached draft Resolution as adopted by Sub-Working Group 5-B-2 ad hoc 1 is submitted for consideration.

R. ZEITOUN
Chairman of Sub-Working Group 5-B-2

Attachment

Draft

[RESOLUTION] [COM5/1]

**Relating to a Future Change in Article 8 for the
Broadcasting-Satellite Service (Sound) In the
Frequency Range 500 MHz to 3 000 MHz**

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Second Session - Geneva, 1988),

considering

a) that the subject of the broadcasting-satellite service (sound) has been under consideration within the Union for a quarter of a century and that Resolution 505 of the WARC, Geneva 1979 resolved;

that the next world administrative radio conference dealing with space radiocommunication services in general or with a specific space radiocommunication service shall be authorized to consider the results of various studies and to take appropriate decisions regarding the allocation of a suitable frequency band;

and that Recommendation 2 of the First Session of this Conference recommended that the Second Session of this Conference should consider the results of the various up-to-date studies and in reviewing the situation prevailing at that time take appropriate decisions concerning the various aspects of this system as outlined in Resolution 505;

b) that, at the CPM (1984), the CCIR indicated that further work would be needed to define the system parameters;

that the CCIR has provided this Conference with a report on its studies into the broadcasting-satellite service (sound);

and that the broadcasting-satellite service (sound) is technically feasible;

c) that there is a need by a number of administrations for broadcasting-satellite services (sound) for individual reception with low cost, portable and mobile receivers with simple antennas, in rural and urban areas;

that a number of administrations consider existing services have high importance and should be protected;

that the frequency bands presently allocated to the broadcasting-satellite service do not provide the possibility of individual reception of sound programmes by portable receivers and receivers installed in automobiles;

that several administrations made proposals to the WARC-79 concerning frequency band allocations for broadcasting-satellite service (sound) in the range 500 MHz to 2 000 MHz;

d) that, based on technical characteristics of the systems and on propagation factors, as studied by the CCIR up to now, the band 500 to 2 000 MHz would be preferable for the implementation of the service, the lower end at approximately 500 MHz because of increasing man-made noise and transmit antenna size with decreasing frequency, and the upper end at approximately 2 000 MHz because of the decreasing effective area of the receiving antenna and reduced diffraction round obstacles with increasing frequency;

e) that studies to date have shown that accommodation of the broadcasting-satellite service (sound) in the frequency range 500 to 2 000 MHz or nearby will cause considerable sharing difficulties with other services and that extensive use of this frequency range is now being made by many services making difficult the allocation of a band to the broadcasting-satellite service (sound);

f) that recent studies and developments included in the Report of the CCIR to this Session of the Conference have shown that the use of FM modulation techniques in low latitudes, the application of advanced digital modulation techniques in higher latitudes and the possibilities of sharing on the basis of geographical separation may, under the conditions specified in the CCIR Report, facilitate band-sharing with other radio services; and by considering the extended band from 500 MHz to 3 000 MHz the possibility of identifying a new frequency band for the broadcasting-satellite service (sound) is enhanced, and that in general it is not easy for a broadcasting-satellite service (sound) to share a frequency band with other services, and for this reason the CCIR reports that an exclusive band allocation would be preferred;

g) that due consideration should also be given to the provision of the necessary associated feeder links to the broadcasting-satellite service (sound);

h) that more time is required to design and plan a sound-broadcasting system which might be introduced in the early part of the next century and, where necessary to plan and effect the re-accommodation of existing services for those countries interested in these services;

considering also, as regards the work of the CCIR

a) that the frequency range now being considered is 500 to 3 000 MHz;

- b) that experiments have confirmed certain postulations made in theoretical studies and further, that an experimental system using advanced digital modulation techniques has been identified;
- c) that advanced digital modulation systems have amongst others the advantage of low transmitting powers and, consequently, a possibility of sharing with other services although further studies are required;
- d) that further system studies are necessary before the implementation of operational systems;
- e) that the CCIR has conducted studies concerning this service in accordance with Study Programme 2K-1/10 and 11;
- f) that the appropriate frequency range for the service is limited by man-made noise, the size of both the transmit and receive antennas, by propagation factors, satellite transmit power, and by sharing (including sharing on a geographic basis);
- g) that the bandwidth requirements of the broadcasting-satellite service (sound) will depend on the extent of the possibilities of frequency reuse;

noting

that the World Administrative Radio Conference for High Frequency Broadcasting, Second Session, Geneva, 1987, has in Recommendation COM5/A already raised the question of a future world administrative radio conference to review and as necessary revise the Table of Frequency Allocations in the high frequency portion of the spectrum; and that the World Administrative Radio Conference for the Mobile Services, Geneva, 1987 in Recommendation COM4/14 has also raised the question of a world administrative radio conference to be held not later than 1992 to consider a partial revision of the frequency allocation table in the range 1 000 to 3 000 MHz;

[resolves]

- a) that a band (or bands) of frequencies in the range 500 MHz to 3 000 MHz be sought with a view to a possible allocation to the broadcasting-satellite service (sound);
- b) that appropriate provisions be made for the associated feeder links;
- c) that appropriate provisions be made to regulate the sharing wherever applicable of any bands identified in resolves a) and b) with other radio services;

d) that the appropriate provisions be developed to protect existing services and, if necessary, to re-accommodate in other bands assignments to the stations of existing services that may be affected in those countries in which the broadcasting-satellite service (sound) will be allocated;

[resolves to recommend]

that the Plenipotentiary Conference in 1989 should include in the programme of conferences the subject of the Revision of the Table of Frequency Allocations in Article 8, as referred to in "noting", with a preference for the Conference proposed in Recommendation COM4/14 by the WARC-MOB, Geneva, 1987 provisions, in order to provide if possible for the necessary allocation to the broadcasting-satellite service (sound) within the frequency range 500 - 3 000 MHz and the appropriate provisions to accommodate the associated feeder links;

invites the CCIR

to continue further its technical studies on the broadcasting-satellite service (sound) in the frequency range 500 - 3 000 MHz, especially on the following issues:

- a) the impact of choice of frequency on system parameters, especially satellite power requirements, the characteristics of transmit and receive antennas and on propagation characteristics;
- b) the bandwidth required by the service;
- c) the technical aspects of sharing between services with special consideration to geographic sharing,

and to provide a report to the Conference referred to in resolves to recommend above;

invites the Secretary-General

to bring this Resolution to the attention of the Plenipotentiary Conference, 1989, and to the subsequent meeting of the Administrative Council.

Draft

OPTIONS TO PERMIT MOBILE, AND
SHIP EARTH STATION OPERATIONS WITHIN ADDITIONAL SERVICES

1. At the sixth meeting of Working Group 6-C on 20 September 1988, it was agreed that possible options would be developed, resulting from discussions on the United States proposal in Document 283 concerning modifications to RR 66 and RR 73. The following options have been developed and are presented to the Working Group for consideration.

2. Option A

Stand-alone definitions of mobile earth stations in the additional services.

2.1 Earth exploration-satellite mobile earth station

An earth station of the earth exploration-satellite service intended to be used while in motion or during halts at unspecified points.

2.2 Space research mobile earth station

An earth station of the space research service intended to be used while in motion or during halts at unspecified points.

2.3 Space operations mobile earth station

An earth station of the space operations service intended to be used while in motion or during halts at unspecified points.

2.4 Radiodetermination-satellite mobile earth station

An earth station of the radiodetermination-satellite service intended to be used while in motion or during halts at unspecified fixed points.

3. Option B

Add to Footnote 2 in Article 11.

3.1 ADD A.11.2 These procedures may be applicable to stations on board satellite launching vehicles and, in some services, stations on board ships and other mobile platforms.

4. In addition, regardless of the option selected, the following service document symbols should be added to Appendix 10:

TJ Mobile earth station in the earth exploration-satellite service

TO Mobile earth station in the space research service

TQ Mobile earth station in the space operations service

L.M. PALMER
Chairman of Working Group 6-C

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/77-E
22 September 1988
Original: English

WORKING GROUP 5-A

DRAFT REVISION OF ATTACHMENT 2 TO DOCUMENT 313

Further to the discussion on Document 313 relating to Annex 3 of Appendix 30A, a draft revision of paragraph 1.6bis and paragraph 3.13 is submitted for consideration.

R.M. BARTON
Chairman of Working Group 5-A

1.6bis Replace the formulae for calculation of M_1 , M_2 and M_3 with the following:

$$M_1 = \left(\frac{\text{wanted power}}{\text{sum of the co-channel interfering powers}} \right) (\text{dB}) - \text{co-channel protection ratio (dB)}$$

$$M_2 = \left(\frac{\text{wanted power}}{\text{sum of the upper adjacent channel interfering powers}} \right) (\text{dB}) - \text{adjacent channel protection ratio (dB)}$$

$$M_3 = \left(\frac{\text{wanted power}}{\text{sum of the lower adjacent channel interfering powers}} \right) (\text{dB}) - \text{adjacent channel protection ratio (dB)}$$

Footnote 1

Modify footnote 1 to read as:

¹ In Region 2 there are a total of five overall carrier-to-interference ratios used in the analysis of the Plan, namely, co-channel, upper and lower adjacent channels and upper and lower second adjacent channels. In Regions 1 and 3, three ratios are used, namely, co-channel and upper and lower adjacent channels; furthermore, it was decided to assess the relative contributions of the feeder links and down-links separately.

3.13 Orbit positions

The Plan is based on the use of regular arrangements of 6° from 37°W to 29°E and from 38°E to 160°W. The orbital positions are those given in the Plan plus the 116°E, 164°E, 176°E, 178°W, 166°W.

The nominal positions are defined in integer degrees; specific assignments may be located up to $\pm 0.2^\circ$ from the integer degree value and are specified in degrees and tenths of degrees to determine the satellite location to which Annex 5 Appendix 30, 3.11 is referenced.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/78-E
22 September 1988
Original: English

WORKING GROUP 5-B

MODIFICATION TO RESOLUTION 506

It is proposed to modify Resolution 506 as follows:

C. DOSCH
Chairman of Working Group 5-B

Attachment: 1

RESOLUTION 506

MOD b) that a similar Plan for Region 2 has been adopted
 by the Regional Administrative Conference for the
 Planning of the Broadcasting-Satellite Service in
 Region 2 (SAT-83), Geneva, 1983.

ADD b)bis that the Plans referred to in considerings a) and
 b) above were consolidated into the Radio
 Regulations at 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).

Source: Document DL/41

WORKING GROUP 5-B

Draft

ANNEX 2 OF APPENDIX 30A

The attached text which is a proposed revision of Annex 2 of Appendix 30A is presented for consideration by the Working Group.

The documents submitted to Committee 5 have been examined for proposals related to this matter. The only specific proposals identified are those in Document 39 viz: CEPT/39/77 to CEPT/39/93.

The present text of Annex 2 has been revised to:

- take account of these proposals;
- ensure consistency with the technical details of the feeder-link plan and with Annex 3 of Appendix 30A;
- improve readability by clearly separating system, earth station (transmit), and space station (receive), characteristics;
- expand the scope of the annex to encompass feeder-link plans for Regions 1, 2, and 3.

C. DOSCH
Chairman of the Working Group 5-B

Attachment

ANNEX 2

**Basic Characteristics to be Furnished in Notices¹
Relating to Feeder-Link Stations in the Fixed-Satellite
Service Operating in the Frequency Bands
14.5 - 14.8 GHz and 17.3 - 18.1 GHz²**

1. The following information shall be provided in notices relating to both transmitting earth stations and receiving space stations³.
 - 1.1 Country and beam identification.
 - 1.2 Assigned frequency or channel number.
 - 1.3 Assigned frequency band.
 - 1.4 Date of bringing into use.
 - 1.5 Designation of emission (as per Article 4 of the Radio Regulations).
 - 1.6 Modulation characteristics:
 - a) type of modulation;
 - b) pre-emphasis characteristics;
 - c) TV system;
 - d) sound-broadcasting characteristics;
 - e) frequency deviation;

¹ The Board shall develop and keep up-to-date forms of notice to meet fully the statutory provisions of this Annex. The Board is further invited to consider the feasibility of a single notice for feeder-link earth stations operating within more than one feeder-link service area.

² Only those notices relating to frequency assignments for space stations and earth stations used for telecommand and tracking purposes associated with the Plan shall be furnished in accordance with Appendix 3.

³ Where notices for earth and space stations are submitted at the same time [this information need only be supplied once.]

- f) composition of the baseband;
- g) type of multiplexing of the video and sound signals;
- h) energy dispersal characteristics.

2. The following additional information shall be provided in notices relating to transmitting earth stations.

2.1 Identity of the transmitting feeder-link station.

2.2 Geographical coordinates of the feeder-link earth station transmitting in the bands 14.5 - 14.8 GHz or 17.7 - 18.1 GHz.

2.3 Feeder-link service area for a feeder-link earth station transmitting in the band 17.3 - 17.7 GHz identified

by a set of geographical coordinates of the polygon points of the feeder-link service area

[or alternatively

by a set of feeder-link test points [up to ten test points]

2.4 Identity of the space station with which communication is to be established.

2.5 Rain-climatic zone⁴.

2.6 Power characteristics of the transmission:

a) The following information is required for each assigned frequency:

- transmit power (dBW) supplied to the input of the antenna;

- for the band 17.3 - 18.1 GHz, the maximum power density per MHz, supplied to the antenna;

- for the band 14.5 - 14.8 GHz, the maximum power density per 4 kHz, averaged over the worst 1 MHz band, supplied to the antenna.

⁴ This information as defined in Annex 3 is required for frequency assignments in the bands 14.5 - 14.8 GHz and [17.3] - 18.1 GHz.

- b) Additional information required if power control is used (see Parts 3.10 and 4.10 of Annex 3 to this Appendix):
 - mode of control;
 - range, expressed in dB, above the transmit power used in a) above.
- c) Additional information required if site diversity is used (see Parts 3.11 and 4.11 of Annex 3 to this Appendix):
 - identity of other earth station with which diversity operation is to be employed.
- [d) Additional information required if depolarization compensation is used (see Parts 3.12 and 4.12 of Annex 3 to this Appendix):
 - characteristics.]

2.7 Transmitting antenna characteristics:

- a) antenna diameter (metres);
- b) gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi);
- c) beamwidth in degrees between the half-power points (describe in detail if not symmetrical);
- d) the measured radiation diagram of the antenna (taking as a reference the direction of maximum radiation), or the reference radiation diagram to be used for coordination;
- e) type of polarization;
- f) sense of polarization;
- g) the horizon elevation angle in degrees and the antenna gain in the direction of the horizon for each azimuth^[5] around the earth station^[6];
- h) altitude of the antenna above mean sea level in metres^[6];
- i) minimum elevation angle in degrees^[6].

[5] At suitable increments, e.g. every five degrees, in tabular or graphic form.

[16] This information is required for frequency assignments in the bands
[14.5 - 14.8 GHz and [17.7] - 18.1 GHz.]

2.8 Regular hours of operation (UTC).

2.9 Coordination.

2.10 Agreements.

2.11 Other information.

2.12 Operating administration or company.

3. The following information shall be provided in notices relating to receiving space stations.

3.1 Orbital position (xxx.xx degrees [East West] from the Greenwich Meridian).

3.2 Identity of the space station.

3.3 Class of station.

3.4 Antenna characteristics:

- a) gain of the antenna in the direction of maximum radiation referred to an isotropic radiator (dBi);
- b) shape of the beam (circular, elliptical or other);
- c) pointing accuracy;
- d) type of polarization;
- e) sense of polarization;
- f) for circular beams, indicate the following:
 - half-power beamwidth (degrees);
 - co-polar and cross-polar radiation patterns;
 - nominal intersection of the antenna beam axis with the Earth; (boresight longitude and latitude);
- 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;
 - nominal intersection of the antenna beam axis with the Earth;
(boresight longitude and latitude);
- 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 axis 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;
- i) for an assignment in the bands 14.5 - 14.8 GHz or 17.7 - 18.1 GHz, the gain in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth. Use a diagram showing estimated gain versus orbit longitude.
- 3.5 Receiver system noise temperature referred to the output of the antenna.
- 3.6 Station-keeping accuracy.
- 3.7 Regular hours of operation (UTC).
- 3.8 Coordination.
- 3.9 Agreements.
- 3.10 Other information.
- 3.11 Operating administration or company.
- 3.12 Range of automatic gain control^[7].

[7] See Part 3.9 of Annex 3 to this Appendix.

Source: Documents DT/72, DT/77

WORKING GROUP 5-A

Draft

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5-A
TO THE CHAIRMAN OF WORKING GROUP 5-B

The text in Attachment 1 is proposed for amendment of Appendix 30A, Annex 3 - 3.13 to replace that contained in Document 313.

The revised text was approved as meeting the identified technical concerns of Committee 5. It is submitted to your Working Group for adjustment, as necessary, for the regulatory requirements as proposed by the Chairman of Committee 5.

The texts in Attachment 2 are proposed for consideration of your Working Group in providing suitable provisions for power control in the Radio Regulations.

Working Group 5-A ad hoc 2, (Chairman Mr. R. Bedford) is preparing additional texts to submit directly to your Working Group following additional concerns expressed in Working Group 5-A.

R.M. BARTON
Chairman of Working Group 5-A

Attachments: 2

Attachment 1

3.13 Orbit positions

The Plan is based on the use of regular arrangements of 6° from 37°W to 29°E and from 38°E to 160°W. The orbital positions are those given in the Plan plus the 116°E, 164°E, 176°E, 178°W, 166°W.

The nominal positions are defined in integer degrees; specific assignments may be located up to $\pm 0.2^\circ$ from the integer degree value and are specified in degrees and tenths of degrees to determine the satellite location to which Annex 5 Appendix 30, 3.11 is referenced.

Attachment 2

ANNEX

APPENDIX 30A

ARTICLE 5

Add [5.x.x]

When an administration wishes to determine whether it is possible to use, at a given location, an amount of power control which is in excess of that contained in Column 9 of the Regions 1 and 3 feeder-link Plan, it shall request the Board to determine the amount of permissible power control (not to exceed 10 dB) from that given location using the procedure contained in section [3.10 of Annex 3] to this Appendix.

ANNEX 3

APPENDIX 30A

Add to paragraph 3.10

4. Procedures

4.1 An administration wishing to introduce power control may use a value not exceeding that given in Column 9 of the Plan or it may request, whether it is possible, the use of a higher value for a given earth station location. In this latter case, it shall request the IFRB to calculate the maximum permissible value for that site. The administration shall provide to the Board, the coordinates of the station, the proposed antenna characteristics including the off-axis co-polar and cross-polar characteristics, and the rain climatic zone.

4.2 The IFRB will calculate the permissible increase in power using the method described in [3.10.1].

4.3 The IFRB will communicate the results of the calculations to the requesting administrations as well as to those administrations whose feeder link equivalent protection margin is reduced.

In any case the permitted increase in e.i.r.p. above that shown in Column 8 of the Plan shall not exceed 10 dB.

4.4 In the case of modifications to the Plan, the IFRB shall recalculate the value of power control for the assignment subject to the modification and insert in Column 9 of the Plan for that assignment the appropriate value. A modification to the Plan shall not require the adjustment of the values of permissible power increase of other assignments in the Plan.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

Document DT/81-E
23 September 1988
Original: English

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Source: Document 278

WORKING GROUP 6-C

Draft

As discussed in Working Group 6-C in its seventh meeting a revised draft of Recommendation [COM6/D] is attached for consideration.

RECOMMENDATION [COM6/D]

**Relating to Multi-band and Multiservice
Satellite Networks Using the Geostationary Satellite Orbit**

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Second Session - Geneva, 1988),

considering

- a) that for economic and practical reasons, administrations may find it desirable to utilize geostationary satellites having one or more networks using multiple frequency bands and services (for example: FSS, BSS, and MSS);
- b) that there may be several different regulatory mechanisms covering the services provided by multi-band and multiservice satellites and that some of these regulatory mechanisms are associated with plans that include fixed orbital positions;
- c) that the need to apply separate regulatory procedures may lead to incompatible results for the different bands or services concerned;
- d) that the application of these procedures to bands and services with equal category of allocation shall normally result in equal rights for the networks concerned;

recognizing

- a) that an administration having a satellite network subject to more than one procedure will need to apply the procedures independently;
- b) that an administration attempting to bring into use a satellite network subject to more than one procedure may find that the process can be difficult but may be facilitated by the sequence in which the coordination procedures are initiated;
- c) that additionally there is less flexibility when one of the procedures includes a plan with fixed orbital positions;
- d) that it may be practicable to use modification provisions of satellite service plans as an aid in the resolution of difficulties;
- e) that it is desirable to simplify the process for bringing into use multi-band and multiservice satellite networks;

recommends

- a) that administrations should take into account the above considerings and recognizings when planning and implementing multi-band and multiservice satellite networks;
- b) that administrations cooperate to overcome the particular problems of bringing into use multi-band and multiservice satellite networks, subject to multiple procedures;

invites

- 1. the CCIR to continue its technical studies into the efficient use of the geostationary satellite orbit as it pertains to multi-band and multiservice satellite networks;
- 2. the Administrative Council, in the light of experience with the bringing into use of multi-band and multiservice satellites, to place on the agenda of a future competent world administrative radio conference, if necessary, a review of the process for bringing into use multi-band and multiservice satellite networks.

L.M. PALMER
Chairman of Working Group 6-C

PROPOSAL BY THE CHAIRMAN

The following amendments/additions are proposed to Document DT/65(Rev.1) concerning Appendix 30A:

- MOD 6.1 Administrations planning to implement assignments for terrestrial stations in Regions 1 and 3 in the bands 14.5 - 14.8 GHz and 17.7 - 18.1 GHz, and in Region 2 in the 17.7 - 17.8 GHz band should evaluate the level of interference assessed on the basis of coordination contours calculated in accordance with Appendix 28 to the Radio Regulations¹, which might be caused by the closest feeder-link earth station which could be located on the border of the territory of another administration. Should the administration planning terrestrial stations find that interference may be caused by such a feeder-link earth station, it may request the administration responsible for the feeder-link earth station to indicate the geographical coordinates, antenna characteristics and the elevation angle of the horizon around its actual and planned feeder-link earth stations.
- ADD 6.6 If as a result of the application of this Article, an agreement is reached with the administrations responsible for the feeder-link earth station or no comments have been received the administration responsible for the terrestrial station may notify under Article 12 of the Radio Regulations this station for recording in the master international frequency register. A remark shall be included indicating that either an agreement has been reached or that no comments have been received.
- ADD 7.7 If as a result of the application of this Article, an agreement is reached with the administrations responsible for the feeder-link earth station or no comments have been received the administration responsible for the terrestrial station shall notify under Article 13 of the Radio Regulations this station for recording in the master international frequency register. A remark shall be included indicating that either an agreement has been reached or that no comments have been received.

ADD ¹ For Regions 1 and 3, the value to be used for the feeder-link power is that of column 8 of the Plan.

MOD 4.2.1bis The agreement referred to in 4.2.1 is not required when an administration proposes to bring into use, with characteristics¹ appearing in the Plan, a fixed feeder-link earth station or a transportable feeder-link earth station in the bands 14.5 - 14.8 GHz or 17.3 - 18.1 GHz.

C. DOSCH
Chairman of Working Group 5-B

ADD ¹ Power are those specified in columns 8 and 9 of the Plan.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/83-E
24 September 1988
Original: English

Source: Document DT/68(Rev.1)

WORKING GROUP 5-B

Draft

ANNEX 4 OF APPENDIX 30A

The attached text is presented for consideration, having drawn upon those proposals directed at Annex 4 to Appendix 30A in the cited references.

C. DOSCH
Chairman of Working Group 5-B

Attachment

ANNEX 4

Criteria for Sharing Between Services

1. Threshold values for determining when coordination is required between a transmitting space station in the fixed-satellite service and a receiving space station in the feeder-link Plans in the 17.7 - 17.8 18.1 GHz (Regions 1 and 3) and 17.7 - 17.8 GHz (Region 2)

With respect to paragraph 7.1, Article 7 of this Appendix, coordination of a transmitting space station in the fixed-satellite service with a broadcasting satellite feeder-link in the Regions 1 and 3 Plan or the Region 2 Plan is required, for inter-satellite geocentric angular separations of less than $\pm 3^\circ$ or greater than 150° , when the power flux-density arriving at the receiving space station of a broadcasting-satellite feeder-link station of another administration would cause an increase in the noise temperature of the feeder-link space station which exceeds a threshold value of $(\Delta T/T)'$ corresponding to $\pm 4\%$. $(\Delta T/T)'$ is calculated in accordance with Case II of the method given in Appendix 29 for $\Delta T/T$.

The above provision does not apply when the geocentric angular separation, between a transmitting space station in the fixed-satellite service and a receiving space station in the feeder-link Plan, exceeds 150° of arc and the free-space power flux-density of the transmitting space station in the fixed-satellite service does not exceed a value of -123 dB (W/m²) on the Earth's surface at the equatorial Earth limb.

2. Not used.
3. Method for the determination of the coordination area around a feeder-link transmitting earth station of the Region 2 and Regions 1 and 3 Plans with respect to receiving earth stations in the fixed-satellite service in the frequency band 17.7 - 18.1 GHz

3.1 Introduction

In the frequency band 17.7 - 17.8 GHz in Region 2 and 17.7 - 18.1 GHz in Regions 1 and 3, which is allocated to the fixed-satellite service, in both the Earth-to-space direction (for broadcasting-satellite service feeder links only), and the space-to-Earth direction, emissions from transmitting feeder-link earth stations may cause interference at receiving earth stations in the fixed-satellite service.

Electromagnetic coupling of an emission originating at a feeder-link earth station into a receiving earth station may occur through two propagation mechanisms or "modes":

- Propagation mode (1): coupling along a great circle tropospheric interference horizon path;
- Propagation mode (2): coupling through scatter from hydrometeors.

The determination of whether emissions from a feeder-link earth station may cause unacceptable interference in a receiving earth station is by means of coordination contours drawn around a feeder-link earth station on a map. When a receiving earth station is located within either or both coordination contours, i.e., within the coordination area, there is a possibility of unacceptable interference.

The procedure for the determination of the coordination area for a feeder-link earth station in relation to a receiving earth station in the fixed-satellite service is similar to that described in Appendix 28 but differs from it in the details described below.

3.2 - 3.7 No change.

3.8 For Regions 1 and 3 the e.i.r.p. to be assumed is that given in column 8 of the Plan.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/84-E
24 September 1988
Original: English

WORKING GROUP 5-B

The attached document contains some additions to the draft of Appendix 30A
(Document 65(Rev.1)) and is submitted for consideration.

S. SELWYN
Chairman of Working Group 5-B ad hoc 1

Attachment

- i) Add to 5.2.1 c) of Appendix 30A a new indent after No. 4.
- in the case of Regions 1 and 3, the use of an orbital position under the conditions specified in [Annex 3 of Appendix 30A]¹;

- ii) ADD ANNEX 5 TO APPENDIX 30A

Orbital Positions in the Regions 1 and 3 Plan

The Regions 1 and 3 Plan is based on the grouping of space stations in nominal orbital positions of $\pm 0.2^\circ$ from the centre of the cluster.

Generally, the space stations are shown in the Plan in the centre of the cluster, however, in some cases, the space stations are shown at the edge of the cluster. Administrations may locate those satellites within a cluster at any orbital position within that cluster, provided they obtain the agreement of other administrations having assignments to space stations in the same cluster.

- iii) Delete the last sentence of 3.13 of Document 313.

¹ The Board shall also apply this provision to 5.2.1 c) of Appendix 30 for Regions 1 and 3.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/85-E
24 September 1988
Original: English

WORKING GROUP 6-B

Draft

CONSOLIDATION OF AMENDMENTS TO APPENDIX 4 OF THE RADIO REGULATIONS
AS CONTAINED IN DOCUMENTS 225, 324 + CORR.1, 327 FROM THE
WORKING GROUP OF THE PLENARY AND IN PROPOSALS FROM ADMINISTRATIONS

A.V. CAREW
Chairman of Working Group 6-B

APPENDIX 4

Advance Publication Information to Be Furnished for a Satellite Network

(See Article 11)

Section A. General Instructions

- Item 1* Information shall be provided separately for each satellite network.
- Item 2* Information to be furnished for each satellite network shall include general characteristics (Section B), and, as applicable, characteristics in the Earth-to-space direction (Section C), characteristics in the space-to-Earth direction (Section D), and characteristics for space-to-space relay (Section E). In addition, the administration, or one acting on behalf of a group of named administrations submitting the advance information, may provide, as supplementary information, data for interference calculations for the purpose of inter-network coordination (Section F).

Section B. General Characteristics to Be Furnished for a Satellite Network

- Item 1* Identity of the satellite network

Clearly identify the satellite network and, if applicable, identify the satellite system of which it will form a part.

- Item 2* Date of bringing into use¹

Indicate the date by which the satellite network is expected to be brought initially into use.

¹ See also Resolution 4.

Item 3 Administration or group of administrations submitting the advance information

Give the name of the administration or the names of the administrations in the group submitting the advance information on the satellite network and the postal and telegraphic addresses of the administration(s) to which any communication should be sent.

Item 4 Orbital information relating to the space station(s)

a) In the case of a space station aboard a geostationary satellite, give the planned nominal geographical longitude on the geostationary-satellite orbit and the planned longitudinal tolerance and inclination excursion. Indicate also:

- 1) the arc of the geostationary-satellite orbit over which the space station is visible, at a minimum angle of elevation of 10° at the Earth's surface, from its associated earth stations or service areas;
- 2) the arc of the geostationary-satellite orbit within which the space station could provide the required service to its associated earth stations or service areas;
- 3) in the event that the arc defined in paragraph 2) above is less than the arc defined in paragraph 1) above, provide the reasons therefor.

Note: The arcs specified in 1) and 2) will be indicated by the geographical longitude of the extremes of these arcs on the geostationary-satellite orbit.

b) In the case of space station(s) aboard non-geostationary satellite(s), indicate the angle of inclination of the orbit, the period, the altitudes in kilometres of the apogee and perigee of the space station(s) and the number of satellites used having the same characteristics.

**Section C. Characteristics of the Satellite Network
in the Earth-to-Space Direction**

Item 1 Earth-to-space service area(s)

Indicate the service area(s) on the Earth associated with each receiving antenna of the space station.

Item 2 Class of stations and nature of service

For each Earth-to-space service area, indicate the class of the stations in the satellite network and the nature of the service to be performed, using the symbols shown in Appendix 10.

Item 3 Frequency range

For each Earth-to-space service area, indicate the frequency range within which the carriers will be located.

Proposal:

VEN/91/2

- ADD b) For every transmitting antenna, indicate the assigned frequency (or frequencies) as defined in Article 1 (see No. 142), in kHz up to 28 000 kHz inclusive, in MHz above 28 000 kHz up to 10 500 MHz inclusive, and in GHz above 10 500 MHz.

VEN/91/3

- ADD c) Assigned frequency band in kHz (see No. 142).

Item 4 Power characteristics of the transmitted wave

- a) For each Earth-to-space service area indicate the maximum spectral power density (dB(W/Hz))¹ to be delivered to the antenna of the transmitting earth stations (the bandwidth over which this is averaged depends on the nature of the service concerned) for each size of transmitting earth station antenna and, if available, the total peak envelope power (dBW) and the necessary bandwidth of this emission.

- b) If available, indicate, for each Earth-to-space service area, the actual radiation pattern (relative to isotropic) of the transmitting earth station antenna having the highest off-beam equivalent isotropically radiated spectral power density for each size of transmitting earth station antenna.
- c) If available, for television carriers and for each Earth-to-space service area, indicate the peak envelope power to be delivered to the input of the earth station transmitting antenna.
- d) If available, indicate the minimum carrier power delivered to the antenna of the earth station for narrow-band carriers.

Item 5 Characteristics of space station receiving antennae

For each Earth-to-space service area:

- a) in the case of a space station aboard a geostationary satellite, indicate the maximum gain of the space station receiving antenna and the gain contours plotted on a map of the Earth's surface preferably using a radial projection from the satellite in a plane perpendicular to the axis from the centre of the Earth to the satellite. The isotropic or absolute gain at each contour which corresponds to a gain of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter, as necessary, below the maximum gain, shall be indicated. Whenever possible the estimated gain contours of the space station receiving antenna should also be provided in the form of a numerical equation or in a tabular form;
- b) in the case of a space station aboard a non-geostationary satellite, indicate the isotropic or absolute gain of the space station receiving antenna in the direction of maximum radiation and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;

¹ The most recent version of CCIR Report 792 should be used to the extent applicable in calculating the maximum power density per Hz.

- c) if available, for each space station receiving antenna, indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149);
- d) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the estimated gain of the space station receiving antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth by means of a diagram showing estimated antenna gain versus orbit longitude.

Working Group of the Plenary - Document 324

NOC Item 5 Characteristics of space station receiving antennas

SUP ~~For each Earth-to-space service area:~~

ADD Provide information for each receiving satellite antenna beam:

ADD ~~f)~~ a) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station, indicate whether the receiving antenna beam will be pointing in a fixed direction or has a steerable beam (see ADD No. 168A) capability.

MOD b) indicate the name of the satellite antenna beam by a three character code. For steerable beams, the last character shall be an "R" ~~{for repositionable};~~

MOD ~~a)~~ c) in the case of a space station aboard a geostationary satellite employing a receiving antenna pointing in a fixed direction, indicate the maximum isotropic gain (in dBi) of the space station receiving antenna and the gain contours plotted on a map of the Earth's surface preferably using a radial projection from the satellite in a plane perpendicular to the axis from the centre of the Earth to the satellite. The space station antenna gain contours shall be drawn as isolines of the isotropic or absolute gain at least for -2, -4, -6, -10, and -20 dB and at 10 dB intervals thereafter, as necessary, relative to the maximum antenna gain when any of these contours is located either totally or partially anywhere within the limit of visibility of the Earth from the given geostationary satellite. The antenna gain contours shall include effects of the planned longitudinal tolerance, inclination excursion and pointing accuracy of antenna. Whenever possible the gain contours of the space station receiving antenna should also be provided in the form of a numerical equation;

ADD d) in the case where a steerable beam is used, data on the radiation characteristics shall be provided as follows:

- ADD 1) in the case of the equivalent boresight area (see ADD No. 168B) being identical with the global or nearly global service area, provide only the maximum isotropic antenna gain (in dBi). The maximum antenna gain is applicable to all points on the Earth's visible surface;
- MOD 2) in the case of the equivalent boresight area (see ADD No. 168B) being less than the global or nearly global service area, provide the maximum antenna gain and, to the extent practicable, the equivalent antenna gain contours (see ADD No. 168C). These contours shall be provided as defined in item 5c) above. If the gain contours are not provided, then the maximum antenna gain is applicable to all points on the Earth's visible surface.
- (MOD) ~~b)~~ e1) in the case of a space station aboard a geostationary satellite in which the antenna radiation beam is directed towards another satellite ~~[, or in the case of a space station aboard a non-geostationary satellite], also indicate [the isotropic or absolute gain of the space station receiving antenna in the direction of maximum radiation and]~~ the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- (ADD) e2) in the case of a space station aboard a non-geostationary satellite, indicate the isotropic gain of the space station receiving antenna in the direction of maximum radiation (in dBi) and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- (MOD) ~~e)~~ f) if available, for each space station receiving antenna, indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149);
- (MOD) ~~d)~~ g) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the estimated gain of the space station receiving antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth by means of a diagram showing estimated antenna gain versus orbit longitude.

Item 6 Noise temperature of the receiving space station

For each Earth-to-space service area, when other than a simple frequency-changing transponder is used aboard the space station, indicate the lowest total receiving system noise temperature referred to the output of the receiving antenna.

Item 7 Necessary bandwidth

If available, in the case of narrow-band carriers, indicate the necessary bandwidth.

Item 8 Modulation characteristics

If available, in the case of television carriers, indicate the characteristics of energy dispersal such as the peak-to-peak frequency deviation (MHz) and the sweep frequency (kHz) of the energy dispersal waveform.

Proposal:

VEN/91/4

ADD *Item 9* Identity and location on the transmitting earth station(s)

- a) Indicate the name by which the station is known or the name of the locality in which it is situated.
- b) Indicate the geographical coordinates of the transmitter site (longitude and latitude in degrees and minutes).

**Section D. Characteristics of the Satellite Network
in the Space-to-Earth Direction**

Item 1 Space-to-Earth service area(s)

Indicate the service area(s) on the Earth associated with each transmitting antenna of the space station.

Item 2 Class of stations and nature of service

For each space-to-Earth service area, indicate the class of the stations in the satellite network and the nature of the service to be performed, using the symbols shown in Appendix 10.

Item 3 Frequency range

For each space-to-Earth service area, indicate the frequency range within which the carriers will be located.

Proposal:

VEN/91/5

MOD Item 3 Frequency range

NOC a)

VEN/91/6

ADD b) For each transmitting antenna, indicate the assigned frequency (or frequencies) as defined in Article 1 (see No. 142), in kHz up to 28 000 kHz inclusive, in MHz above 28 000 kHz up to 10 500 MHz inclusive, and in GHz above 10 500 MHz.

VEN/91/7

ADD c) Assigned frequency band in kHz (see No. 142).

Item 4 Power characteristics of the transmission

a) For each space-to-Earth service area, indicate the maximum spectral power density (dB(W/Hz))¹ to be delivered to the transmitting antenna of the space station (the bandwidth over which this is averaged depends on the nature of the service concerned) and, if available, the total peak envelope power (dBW) and the necessary bandwidth of this emission.

b) If available, for narrow-band carriers and for television carriers, indicate the peak envelope power to be delivered to the input of the space station transmitting antenna.

c) If available, indicate the minimum carrier power delivered to the antenna of the space station for narrow-band carriers.

Item 5 Characteristics of space station transmitting antennae

For each space-to-Earth service area:

a) in the case of a space station aboard a geostationary satellite, indicate the maximum gain of the space station transmitting antenna and the gain contours plotted on a map of the Earth's surface, preferably in a radial projection from the satellite in a plane perpendicular to the axis from the centre of the Earth to the satellite. The isotropic or absolute gain at each contour which corresponds to a gain of 2, 4, 6, 10 and 20 dB and at 10 dB intervals thereafter as necessary, below the maximum gain,

¹ The most recent version of CCIR Report 792 should be used to the extent applicable in calculating the maximum power density per Hz.

shall be indicated. Whenever possible, the estimated gain contours of the space station transmitting antenna should also be provided in the form of a numerical equation or in tabular form;

- b) in the case of a space station aboard a non-geostationary satellite, indicate the isotropic or absolute gain of the space station transmitting antenna in the direction of maximum radiation and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- c) if available, for each space station transmitting antenna, indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149);
- d) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the estimated gain of the space station transmitting antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth by means of a diagram showing estimated antenna gain versus orbit longitude.

Working Group of the Plenary - Document 324

NOC Item 5 Characteristics of space station transmitting antennas

SUP ~~For each space-to-Earth service area:~~

ADD Provide information for each transmitting satellite antenna beam:

ADD a) in the case of a space station aboard a geostationary satellite that is intended to communicate with an earth station, indicate whether the transmitting antenna beam will be pointing in a fixed direction or has a steerable beam (see ADD No. 168A) capability;

ADD b) indicate the name of the satellite antenna beam by a three character code. For steerable beams, the last character shall be an "R" [for repositionable].

- MOD ~~a)~~ c) in the case of a space station aboard a geostationary satellite, employing a transmitting antenna pointing in a fixed direction, indicate the maximum isotropic gain (in dBi) and the gain contours plotted on a map of the Earth's surface, preferably in a radial projection from the satellite in a plane perpendicular to the axis from the centre of the Earth to the satellite. The space station antenna gain contours shall be drawn as isolines of the isotropic or absolute gain at least for -2, -4, -6, -10, and -20 dB and at 10 dB intervals thereafter, as necessary, relative to the maximum antenna gain, when any of these contours is located either totally or partially anywhere within the limit of visibility of the Earth from the given geostationary satellite. The antenna gain contours shall include effects of the planned longitudinal tolerance, inclination excursion and pointing accuracy of antenna. Whenever possible the gain contours of the space station transmitting antenna should also be provided in the form of a numerical equation;
- ADD d) in the case where a steerable beam is used, data on the radiation characteristics shall be provided as follows:
- ADD 1) in the case of the equivalent boresight area (see ADD No. 168B) being identical with the global or nearly global service area, provide only the maximum isotropic antenna gain (in dBi). The maximum antenna gain is applicable to all points on the Earth's visible surface;
- 2) in the case of the equivalent boresight area (see ADD No. 168B) being less than the global or nearly global service area, provide the maximum antenna gain and the equivalent antenna gain contours (see ADD No. 168C). These contours shall be provided as defined in item 10c) above and including also effects of repointing of the steerable beam.
- (MOD) ~~b)~~ e1) in the case of a space station aboard a geostationary satellite in which the antenna radiation beam is directed towards another satellite also indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- ADD e2) in the case of a space station aboard a non-geostationary satellite, indicate the isotropic gain of the space station transmitting antenna in the direction of maximum radiation (in dBi) and indicate the antenna radiation pattern, taking the gain in the direction of maximum radiation as a reference;
- (MOD) ~~c)~~ f) if available, for each space station transmitting antenna, indicate the type of polarization of the antenna. In the case of circular polarization, indicate the direction of polarization (see Nos. 148 and 149);
- (MOD) ~~d)~~ g) in the case of a space station aboard a geostationary satellite operating in a band allocated in the Earth-to-space direction and in the space-to-Earth direction, also indicate the estimated gain of the space station receiving antenna in the direction of those parts of the geostationary-satellite orbit which are not obstructed by the Earth by means of a diagram showing estimated antenna gain versus orbit longitude.

Item 6 Characteristics of receiving earth stations

a) For each space-to-Earth service area, when other than a simple frequency-changing transponder is used aboard the space station, indicate the lowest total receiving system noise temperature on the earth stations referred to the output of the receiving antenna.

For each space-to-Earth service area and for each projected usage ¹ when simple frequency-changing transponders are used on the space station, indicate:

- 1) the lowest equivalent satellite link noise temperature and the associated value of transmission gain; *and*
- 2) the values of transmission gain and associated equivalent link noise temperature that correspond to the highest ratio of transmission gain to equivalent satellite link noise temperature. The transmission gain is evaluated from the output of the receiving antenna of the space station to the output of the receiving antenna of the earth station. For each projected usage, indicate also the receiving antenna(e) of the space station to which each simple frequency-changing transponder will be connected.

b) If available, indicate for each space-to-Earth service area the actual radiation pattern (relative to isotropic) of the receiving earth station for each size of receiving earth station antenna having the highest off-beam level. When simple frequency-changing transponders are used on the space station, indicate also, if available, the pattern associated with each equivalent satellite link noise temperature indicated above.

Item 7 Necessary bandwidth

If available, in the case of narrow-band carriers, indicate the necessary bandwidth.

¹ A different usage will be considered to take place when different types of carriers are employed (different by virtue of maximum power spectral density), or when different types of receiving earth stations are employed (different by virtue of receiving antenna gain).

Working Group of the Plenary - Document 327

NOC Item 6 Characteristics of receiving earth stations

NOC a) For each space-to-Earth service area, when other than a simple frequency-changing transponder is used aboard the space station, indicate the lowest total receiving system noise temperature on the earth stations referred to the output of the receiving antenna.

MOD For each space-to-Earth service area and for each projected usage¹ when simple frequency-changing transponders are used on the space station, indicate preferably in tabular form:

NOC 1) the lowest equivalent satellite link noise temperature and the associated value of transmission gain; and

NOC 2) the values of transmission gain and associated equivalent link noise temperature that correspond to the highest ratio of transmission gain to equivalent satellite link noise temperature. The transmission gain is evaluated from the output of the receiving antenna of the space station to the output of the receiving antenna of the earth station. For each projected usage, indicate also the receiving antenna(s) of the space station to which each simple frequency-changing transponder will be connected.

NOC b) If available, indicate for each space-to-Earth service area the actual radiation pattern (relative to isotropic) of the receiving earth station for each size of receiving earth station antenna having the highest off-beam level. When simple frequency-changing transponders are used on the space station, indicate also, if available, the pattern associated with each equivalent satellite link noise temperature indicated above.

Item 7 Necessary bandwidth

If available, in the case of narrow-band carriers, indicate the necessary bandwidth.

Item 8 Modulation characteristics

If available, in the case of television carriers, indicate the characteristics of energy dispersal such as the peak-to-peak frequency deviation (MHz) and the sweep frequency (kHz) of the energy dispersal waveform.

MOD ¹ A different usage will be considered to take place when different types of carriers are employed (different by virtue of maximum power spectral density), or when different types of receiving earth stations are employed (different by virtue of receiving antenna gain), or when up-link beams are connected to different down-link beams with their respective associated frequency bands.

**Section E. Characteristics to Be Furnished
for Space-to-Space Relays**

Where the satellite network is connected to one or more satellite networks by means of space-to-space relay, indicate the following:

- a) identity or identities of the other satellite network(s) to which the satellite network is connected;
- b) transmit and receive frequency bands;
- c) classes of emission;
- d) nominal equivalent isotropically radiated power(s) (e.i.r.p.) on the beam axis.

Section F. Supplementary Information (if available)

Item 1 General

Supplementary information may be provided by an administration or one acting on behalf of a group of named administrations who so desire. This information may be used for interference calculations associated with the advance publication process. The information may consist of part or all of the data contained in the following items which are not exhaustive but provide an indication of the type of information which may be supplied.

Item 2 Earth-to-space direction

For each Earth-to-space service area, the following information may be provided:

- a) class of emission, necessary bandwidth and modulation characteristics (including energy dispersal if employed) for each type of carrier transmitted;
- b) earth station e.i.r.p. for each type of carrier associated with each type and diameter of earth station antenna;
- c) technical description and system parameters of telecommand (except for coding data).

Item 3 Space-to-Earth direction

For each space-to-Earth service area, the following information may be provided:

- a) class of emission, necessary bandwidth and modulation characteristics (including energy dispersal if employed) for each type of carrier;
- b) satellite transmitter power to be delivered to the satellite transmitting antenna for each type of carrier;
- c) technical description and system parameters of beacon and space telemetry emissions (except for coding data).

Proposal: Document 225

ADD Item 3bis Administrations attention is also drawn to techniques for assessing potential interference which may facilitate reaching an agreement between administrations under the provisions of this appendix. These techniques may be found in the relevant CCIR texts.

Item 4 Any other information which may be useful

Working Group of the Plenary - Document 330

**Section G. Forms of Notice for Provision
 of Advance Publication Information**

ADD 1. The Board shall develop and keep up to date forms of notice to meet fully the statutory provisions of this Appendix and related decisions of future conferences.

BUDGET CONTROL
COMMITTEE

DRAFT
REPORT OF THE BUDGET CONTROL COMMITTEE
TO THE PLENARY MEETING

The following modifications should be brought to the Draft Report of the Budget Control Committee to the Plenary Meeting published in Document DT/86.

Page 1, No. 2

Replace the present text by the following :

"The Committee took note of the fact that no delegation had made any comments on the subject of the organization, facilities and administrative arrangements made by the Secretary-General. The Committee thanked the Secretary-General and the Union's organs for the excellent organization and the facilities provided for the Conference which had been entirely satisfactory."

Page 3, No. 7

Add to the end of the third paragraph the following phrase :

"These contributions are to be considered as income in the Union's budget."

Page 5 to be replaced by the enclosed page.

Page 12 - Annex 4

Replace in front of
European Space Agency (ESA) **) by 1/2 unit

ANNEX 1

Situation of accounts for WARC ORB on 25 September 1988

Title	Budget approved by the A.C.	Budget adjust. at 01.09.88	Expendit. on actual commit. estim.	25.09.88 total	
col.	1	2	3	4	5

- in thousands of Swiss francs					

Subhead II	Staff expenditure				
Salaries and related expeenses	1480	1635	64	1331	1395
Travel (recruitment)	150	150	3	48	51
Insurance	39	39	2	14	16
	1669	1824	69	1393	1462

Subhead III	Premises and equipment costs				
Premises, furniture, machines	90	90	2	133	135
Document production	50	50	87	201	288
Office supplies and expenses	50	50	36	14	50
PTT	120	120	54	39	93
Technical installations	20	20	0	18	18
Sundry and unforeseen	12	12	5	7	12
	342	342	184	412	596

Subhead IV	Other expenditure				
Final Acts of the Conference	72	72	0	72	72

Subhead VI	Intersessional work and post-conference work up to 31.12.1988				
Staff expenses	459	461	346	118	464
Supernumerary staff	18	18	1	9	10
Other staff costs	56	56	28	8	36
Insurance	77	73	55	18	73
Computer facilities	200	200	150	43	193
Mission expenses	27	27	24	0	24
Premises, furniture, machines	50	50	68	9	77
Information meeting	30	30	10	1	11
	917	915	682	206	888

TOTAL SECTION 11.5	3000	3153	935	2083	3018
=====					
Margin in relation to the budget	135				

BUDGET CONTROL
COMMITTEE

DRAFT
REPORT OF THE BUDGET CONTROL COMMITTEE
TO THE PLENARY MEETING

The Budget Control Committee held five meetings during the Conference and examined the questions arising from its terms of reference.

Under Nos. 475 to 479 of the International Telecommunication Convention (Nairobi, 1982), the Committee's terms of reference are :

- a) to determine the organization and the facilities available to delegates ;
- b) to examine and approve the accounts for expenditure incurred throughout the duration of the Conference ;
- c) to estimate the costs that may be entailed by the execution of the decisions taken by the Conference.

In addition, the Administrative Council at its 43rd Session (June/July 1988) examined the IFRB's requirements for post-Conference work in 1989 and decided that the allocation entered in the 1989 budget could not be used without the prior agreement of the Budget Control Committee of the present Conference.

2. Determination of the organization and facilities available to delegates

The Committee expressed the view that the organization and the arrangements made by the Secretary-General were entirely satisfactory.

3. Conference budget

The Budget Control Committee examined the Conference budget, including expenditure on intersessional work and post-Conference work up to 31 December 1988, as approved by the Administrative Council at its 42nd Session, 1987, amounting to 3,000,000 Swiss francs.

The Committee noted that the budget for the Conference and for intersessional and post-Conference work had been adjusted to take into account changes in the common system of the United Nations and the specialized agencies with regard to the salaries and allowances and fluctuations in the rate of exchange between the US dollar and the Swiss franc, as required by Administrative Council Resolution No. 647. These adjustments raised the budget for the Conference and for intersessional and post-Conference work to 3,153,400 Swiss francs, i.e. an increase of 153,400 Swiss francs.

The Committee noted that the budget did not include expenditure incurred for the Conference in respect of supernumerary staff for the common services of the General Secretariat, which is included in a special section of the ordinary budget of the ITU. This expenditure was evaluated at 1,167,000 Swiss francs.

4. Final Acts

Under the terms of Administrative Council Resolution No. 83 (amended),

"... if a conference or meeting prints, for its own use, documents of which the typographical composition can subsequently be used, in whole or in part, for the printing of the Final Acts, it must bear a percentage of the composition costs and the whole of the printing costs of the said document ;"

"... the percentage of the composition costs ... shall be decided by the Plenary Meeting of the conference or meeting."

As all the documents which can be used as a basis for the sales edition of the Final Acts of the Conference are prepared using word processing systems, no expenditure under this heading need be charged to the supplementary publications budget. All expenditure are included in the conference budget.

In accordance with the provisions of Nos. 119 and 122 of the Convention (Nairobi, 1982), the costs of translating the Final Acts of the Conference into the six official languages are charged to the Conference.

5. Situation of Conference expenditure

Under No. 478 of the Convention, the Budget Control Committee has to submit a report to the Plenary Meeting showing, as accurately as possible, the estimated total expenditure of the Conference.

Accordingly, Annex 1 contains a statement showing the budget for the Conference and for intersessional and post-Conference work, as approved by the Administrative Council and adjusted under Administrative Council Resolution No. 647, together with a breakdown of credits among the budget subheads and items, as well as the actual expenditure incurred as at 25 September 1988. There is also an indication of the expenditure committed up to that date and an estimate of expenditure up to the end of the financial year 1988.

The above statement shows that the total amount to be charged to the ordinary budget for WARC-ORB(2) is estimated at 3,018,000 Swiss francs, i.e. 135,000 Swiss francs less than the amount allocated by the Administrative Council. It can therefore be assumed that the 1988 expenditure will remain within the limits laid down.

Annexes 2.1, 2.2, 2.3, 2.4 and 2.5 to this document show, for the Plenary meeting's information, the situation of expenditure for the ORB Conference in the years 1983 to 1987.

6. Expenditure limit fixed by Additional Protocol I to the International Telecommunication Convention (Nairobi, 1982)

The Committee considered the situation of the accounts for the First Session, 1985, the preparatory and intersessional work and the credits approved by the Administrative Council for 1988 and 1989, in relation to the expenditure limit fixed by the Plenipotentiary Conference (Nairobi, 1982) in Additional Protocol I (see Annex 3 to this document).

The tables in Annex 3 show that :

- the limit laid down is	11,100,000 Swiss francs
- actual expenditure for 1983 to 1987 and the credits earmarked for 1988 and 1989 are	10,864,600 Swiss francs

In relation to the limit laid down, there is thus a margin of 235,400 Swiss francs

In view of the expected margin of 135,000 Swiss francs between the budget and expenditure of the Conference, the total margin is estimated at 370,400 Swiss francs.

7. Recognized private operating agencies and international organizations taking part in the Conference

Under Article 16 of the Financial Regulations, the report of the Budget Control Committee must include a list of the recognized private operating agencies and international organizations which contribute to the expenses of the Conference. To this shall be added a list of the international organizations which have been exempted from payment in accordance with Resolution No. 925 of the Administrative Council.

The list is found in Annex 4 to this document.

It should be noted that, on the basis of the provisions of No. 623 of the Convention (Nairobi, 1982), the contributory unit for recognized private operating agencies and international organizations not exempt under Administrative Council Resolution 925 amounts to 15,700 Swiss francs.

8. Post-Conference expenditure for 1989

At its 43rd Session, 1988, the Administrative Council approved the Union budget for 1989. However, it was obviously not possible for the Council to take into account the financial requirements for post-Conference work following the decisions of WARC-ORB(2).

The Administrative Council therefore provided for an allocation of 615,000 Swiss francs in the 1989 budget in order to maintain resources for post-Conference work at the same level as those in the 1988 budget for intersessional work and immediate post-Conference work up to 30 September 1989, namely :

1.	Continuation of five posts in the IFRB for 9 months in 1989	428,000 Swiss francs
2.	Computer equipment, terminals, disk capacity ; rental up to 30 September 1989	150,000 Swiss francs
3.	Premises, furniture and office supplies	37,000 Swiss francs
		<hr/> 615,000 Swiss francs <hr/>

In approving the 1989 budget, the Administrative Council decided that the allocation of 615,000 Swiss francs could not be used without the prior authorization of the Budget Control Committee of this Conference.

It should be noted that the sum of 615,000 Swiss francs (value 1 January 1988), or 595,000 Swiss francs (value 1 September 1982) was taken into account in calculating the margin in relation to the expenditure limit referred to in section 5 above.

In view of the above, the Budget Control Committee therefore decided

to be completed later

9. Additional expenditure to be envisaged for the implementation of the decisions of the Conference

to be completed later

* * * * *

The Plenary meeting is requested to examine and approve this report. This report, together with the comments of the Plenary meeting, will then be transmitted to the Secretary-General for submission to the Administrative Council at its next annual meeting.

Dr. M.K. RAO
Chairman of the Budget Control Committee

ANNEX 1

Situation of accounts for WARC-ORB(2) and for intersessional
and post-Conference work in 1988

to be completed later

Extract from Document 346 (ORB-85)

ANNEX 2.1

Preparatory work in 1983 for the
World Administrative Radio Conference ORB-85

Items		1983 Budget	1983 Accounts
<u>Subhead 1</u> <u>Preparatory work</u>			
11.511	CCIR preparatory work	150,000.-	44,485.05
<u>Section 17</u> <u>Common Services (share)</u>		110,000.-	5,000.--
		260,000.-	49,485.05
Total, value on 01.09.1982 (expenditure ceiling)		262,000.-	49,000.--

Extract from Document 346 (ORB-85)

ANNEX 2.2

Preparatory work in 1984 for the
World Administrative Radio Conference ORB-85

Items	1984 Budget	1984 Accounts
<u>CPM CCIR meeting / IFRB preparatory work</u>		
<u>Subhead 1 - Staff expenditure</u>		
11.501 Salaries and related expenses	669,000.-	818,126.05
11.502 Travel (recruitment)	108,000.-	26,541.--
11.503 Insurance	13,000.-	23,063.10
	790,000.-	867,730.15
<u>Subhead 2 - Premises and equipment</u>		
11.504 Premises, furniture, machines	10,000.-	21,972.80
11.505 Document production	38,000.-	68,272.60
11.506 Office supplies and overheads	16,000.-	15,551.35
11.507 Postage, telephone calls, telegrams	40,000.-	1,835.75
11.508 Renting of electronic equipment	-	55,000.--
11.509 Sundry and unforeseen	10,000.-	7,399.15
	114,000.-	170,031.65
<u>Subhead 3 - Other expenses</u>		
11.511 IFRB preparatory work	117,600.-	153,968.15
11.519 Additional credit	250,000.-	-
Total expenditure under Section 11.5	1,271,600.-	1,191,729.95
Section 17 - Common Services (share)	299,000.-	443,000.-
	1,570,600.-	1,634,729.95
Total, value on 01.09.1982 (expenditure ceiling)	1,483,000.-	1,527,100

Extract from Document 6443/CA41

ANNEX 2.3

World Administrative Radio Conference ORB-85

Items	Budget 1985	Expenditure 1985
	- Swiss Francs -	
Subhead I Preparatory work for ORB-85		
11.521 IFRB preparatory work	160,800	168,568.75
Subhead II Staff expenses		
11.531 Salaries and related expenses	1,557,000	1,465,431.35
11.532 Travel (recruitment)	107,000	104,246.45
11.533 Insurance	41,000	6,359.30
	1,705,000	1,576,037.10
Subhead III Premises and equipment		
11.541 Premises, furniture, machines	90,000	114,515.53
11.542 Document production	120,000	159,159.40
11.543 Office supplies and overheads	40,000	57,705.45
11.544 PTT	165,000	41,500.80
11.545 Technical installations	20,000	24,542.25
11.546 Sundry and unforeseen	10,000	17,410.35
	445,000	414,833.78
Subhead IV Other expenses		
11.551 Report to the second session	20,000	6,670.00
Total, Section 11.5	2,330,800	2,166,109.63
Section 17 - Common Services (share)	1,492,000	1,238,000.--
	3,822,800	3,404,109.63

Total, value on 01.09.1982
(expenditure ceiling)

3,105,000 3,222,000

Extract from the balance-sheet as at 31 December 1986

ANNEX 2.4

Intersessional work in 1986 for the
World Administrative Radio Conference
WARC-ORB

Items		Budget 1986	Expenditure 1986
		<u>- Swiss francs -</u>	
Sub-head I	CCIR intersessional work		
11.562	Staff expenses	127,000	127,000.00
11.562	Premises and equipment	75,000	117,835.23
11.562	Final report	20,000	20,000.00
11.562	Supernumerary staff	28,000	28,000.00
		250,000	292,835.23
Sub-head II	IFRB Supernumerary staff under Res. 889		
11.561	Staff expenses	150,000	111,014.40
11.561	Premises, furniture, machines	0	6,689.87
		150,000	117,704.27
Sub-head III	Necessary software for feeder- link planning in Regions 1 and 3		
11.564	Staff expenses - recurrent	250,000	225,709.90
11.564	Staff expenses - non-recurrent	60,000	0.00
		310,000	225,709.90
Sub-head IV	Software for the fixed-satellite service		
11.565	Staff expenses	150,000	105,997.70
11.565	Premises, furniture, machines	0	4,901.18
		150,000	110,898.88
Sub-head V	Computer requirements for planning		
11.564	Computer requirements	40,000	37,664.79
11.564	Premises, furniture, machines	0	9,418.88
		40,000	47,083.67
	Total for Section 11.5	900,000	794,231.67
Section 17.	Common services (share)	-	14,000.--
		900,000	808,231.95

Total, value 01.09.1982 (expenditure ceiling)

- 806,000.--

Extract from the balance-sheet as at 31 December 1987

ANNEX 2.5

World Administrative Radio Conference (WARC-ORB-85)
Intersessional work

Items	Budget 1987	Expenditure 1987
	<u>- Swiss francs -</u>	
Sub-head VI.1 IFRB intersessional work		
11.561.11 Staff expenses	593,100	520,877.80
11.561.31 Non-recurrent expenses	50,000	73,921.55
11.561.61 Premises	44,000	45,317.80
11.561.50 Computer facilities	196,000	196,208.55
11.561.71 Information meeting	27,000	11,157.70
	910,100	847,483.40
Sub-head VI.2 CCIR intersessional work	0	0.00
Total for Section 11.5	910,100	847,483.40
Section 17. Common services (share)	106,000	94,000.--
	1,016,000	941,483.40

Total, value 01.09.1982 (expenditure ceiling)	979,000	941,483.40
---	---------	------------

ANNEX 3

EXPENDITURE LIMIT FOR THE ORB (2) CONFERENCE

A. Limit set by Additional Protocol I to the Nairobi Convention (1982)

	Conferences	Prep./inter-sessional work		Total per year
		IFRB	CCIR	
Limit 1983	-	-	300,000	300,000
1984	-	405,000	1,445,000	1,850,000
1985	3,835,000	365,000	-	4,200,000
1986	-	450,000	-	450,000
1987	-	300,000	-	300,000
1988	3,720,000	280,000	-	4,000,000
1989	-	-	-	-
	7,555,000	1,800,000	1,745,000 3,545,000	11,100,000

B. Actual expenditure - value 1.9.1982 - and amounts included in the 1988 and 1989 budgets

	Conferences	Prep./inter-sessional work		Total per year
		IFRB	CCIR	
Expenditure 1983	-	-	49,000	49,000
" 1984	-	180,100	1,347,000	1,527,100
" 1985	3,062,700	159,300	-	3,222,000
" 1986	-	507,000	299,000	806,000
" 1987	-	844,500	-	844,500
Budget 1988	2,955,000	866,000	-	3,821,000
" 1989	-	595,000	-	595,000
	6,017,700	3,151,900	1,695,000 4,846,900	10,864,000

ANNEX 4

List of recognized private operating agencies and international organizations
contributing to the expenses of the Conference

Number of
contributory units

I. Recognized private operating agencies

none

II. International organizations

II.1 United Nations

*)

II.2 Specialized agencies

International Civil Aviation Organization (ICAO)

*)

World Meteorological Organization (OMM)

*)

II.3 Regional telecommunication organizations

European Conference of Postal and

Telecommunications Administrations (CEPT)

*)

Arab Telecommunication Union (ATU)

*)

Panafrican Telecommunication Union (PATU)

*)

II.4 Other international organizations

European Space Agency (ESA)

**)

Association of State telecommunication

undertakings of the Andean Sub-Regional

Agreement (ASETA)

*)

Inter-Union Commission on Frequency Allocations for

Radio Astronomy and Space Science (IUCAF)

*)

Arab Satellite Communications Organization (ARABSAT)

**)

European Telecommunications Satellite

Organization (EUTELSAT)

**)

International Radio and Television Organization (OIRT)

*)

International Maritime Satellite Organization (INMARSAT)

1/2 unit

International Telecommunications Satellite

Organization (INTELSAT)

1/2 unit

International Organization of Space

Communications (INTERSPUTNIK)

**)

Arab States Broadcasting Union (ASBU)

*)

European Broadcasting Union (UER)

*)

International Amateur Radio Union (IARU)

*)

*) Exempt from any contribution in accordance with Administrative Council
Resolution No. 925.

**) The Secretary-General has not been informed of the class of contribution.

COMMITTEE 2

Draft

REPORT OF COMMITTEE 2 TO THE PLENARY MEETING

(CREDENTIALS)

1. Terms of reference

The terms of reference of the Committee are set out in Document 114.

2. Meetings

The Committee met twice, on 1 and 28 September 1988.

At its first meeting, it set up a Working Group consisting of the Chairman and Vice-Chairman of the Committee and one delegate from Argentina, from Indonesia and from Switzerland to verify Delegations' credentials in accordance with Article 67 of the International Telecommunication Convention, Nairobi (1982).

3. Conclusions

The conclusions reached by the Committee are reproduced in the annex attached hereto and submitted to the Plenary Meeting for approval.

4. Final remark

The Committee recommends that the Plenary Meeting authorize the Chairman and the Vice-Chairman of Committee 2 to verify the credentials received after the date of the present report and to submit their conclusions to the Plenary Meeting on the matter.

S. SISSOKO
Chairman of Committee 2

Annex: 1

ANNEX

1. Credentials found to be in order, deposited by the Delegations of countries having the right to vote

Afghanistan (Republic of)
Albania (Socialist People's Republic of)
Algeria (People's Democratic Republic of)
Germany (Federal Republic of)
Antigua and Barbuda
Saudi Arabia (Kingdom of)
Argentine Republic
Australia
Bahamas (Commonwealth of the)
Bahrain (State of)
Belgium
Benin (People's Republic of)
Byelorussian Soviet Socialist Republic
Brunei Darussalam
Bulgaria (People's Republic of)
Burkina Faso
Cameroon (Republic of)
Canada
Chile
China (People's Republic of)
Cyprus (Republic of)
Vatican City State
Colombia (Republic of)
Korea (Republic of)
Côte d'Ivoire (Republic of)
Cuba
Denmark
Egypt (Arab Republic of)
United Arab Emirates
Spain
United States of America
Ethiopia (People's Democratic Republic of)
Finland
France
Gabonese Republic
Ghana
Greece
Hungarian People's Republic
India (Republic of)
Indonesia (Republic of)
Iran (Islamic Republic of)
Iraq (Republic of)
Iceland
Israel (State of)
Italy
Japan
Jordan (Hashemite Kingdom of)
Kenya (Republic of)
Kuwait (State of)
Lebanon
Liechtenstein (Principality of)

Luxembourg
Malaysia
Mali (Republic of)
Malta (Republic of)
Monaco
Mongolian People's Republic
Norway
New Zealand
Oman (Sultanate of)
Pakistan (Islamic Republic of)
Papua New Guinea
Paraguay (Republic of)
Netherlands (Kingdom of the)
Poland (People's Republic of)
Portugal
Qatar (State of)
Syrian Arab Republic
German Democratic Republic
Democratic People's Republic of Korea
Ukrainian Soviet Socialist Republic
United Kingdom of Great Britain and Northern Ireland
San Marino (Republic of)
Senegal (Republic of)
Singapore (Republic of)
Sweden
Switzerland (Confederation of)
Tanzania (United Republic of)
Czechoslovak Socialist Republic
Thailand
Togolese Republic
Tonga (Kingdom of)
Trinidad and Tobago
Tunisia
Turkey
Union of Soviet Socialist Republics
Uruguay (Eastern Republic of)
Venezuela (Republic of)
Viet Nam (Socialist Republic of)
Yugoslavia (Socialist Federal Republic of)
Zambia (Republic of)
Zimbabwe (Republic of)

Conclusion: The Delegations of these countries are entitled to vote and to sign the Final Acts.

2. Credentials found to be in order, deposited by the Delegations of countries which do not have the right to vote (see Document 79(Rev.))

Angola (People's Republic of)
Austria
Brazil (Federative Republic of)
Burundi (Republic of)
Central African Republic
Guinea (Republic of)
Ireland
Liberia (Republic of)
Libya (Socialist People's Libyan Arab Jamahiriya)
Morocco (Kingdom of)

Mauritania (Islamic Republic of)
Nigeria (Federal Republic of)
Romania (Socialist Republic of)

Conclusion: The Delegations of these countries are not entitled to vote, but may sign the Final Acts.

3. Delegations attending the Conference which have not deposited credentials

*Bolivia (Republic of)
Congo (People's Republic of the)
*Costa Rica
Djibouti (Republic of)
Ecuador
*Guatemala (Republic of)
*Honduras (Republic of)
Jamaica
Madagascar (Democratic Republic of)
Mexico
*Peru
Rwandese Republic
*Somali Democratic Republic
*Sudan (Republic of the)

Conclusion: The Delegations of these countries are entitled neither to vote nor to sign the Final Acts.

* Included in the list of countries which have lost the right to vote (see Document 79(Rev.)).

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/88-E
26 September 1988
Original: English

COMMITTEE 5

Draft

NOTE FROM THE CHAIRMAN OF COMMITTEE 5 TO THE CHAIRMAN OF COMMITTEE 6

As a result of the incorporation of the Regions 1 and 3 feeder-link Plan in Appendix 30A, Committee 5 has identified some consequential modifications to Articles 11, 12, 13 and 15A to the Radio Regulations. Committee 5 suggests the changes shown in the annex to this note.

D. SAUVET-GOICHON
Chairman of Committee 5

Annex: 1

ANNEX

ARTICLE 11

**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

¹ For the coordination 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 coordination of frequency assignments to feeder-link stations utilizing the fixed-satellite service (Earth-to-space) in the frequency bands 17.3 - 17.8 GHz (in Region 2) and other services in these bands and in the frequency bands 14.5 - 14.8 GHz and 17.3 - 18.1 GHz in Regions 1 and 3 and the other services in these bands in Regions 1 and 3, see also Article 15 and Article 15A respectively.

ARTICLE 12

Orb-85

Notification and Recording in the Master
International Frequency Register of
Frequency Assignments¹ to Terrestrial
Radiocommunication Stations^{2, 3, 4}

MOD A.12.4

⁴ For the notification and recording of frequency assignments to terrestrial stations in the frequency bands 14.5 - 14.8 GHz in Regions 1 and 3, 17.7 - 17.8 GHz (in Region 2), and 17.8 - 18.1 GHz (in Regions 1 and 3), so far as their relationship to the fixed-satellite service (Earth-to-space) in this band is concerned, see also Article 15A.

ARTICLE 13

Notification and Recording in the Master International
Frequency Register of Frequency Assignments¹ to
Radioastronomy 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 bands 14.5 - 14.8 GHz in Region 1 (see No. 858) and Region 3, 17.3 - 18.1 GHz in Regions 1 and 3, and 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.

Orb-85

ARTICLE 15A

MOD Coordination, Notification and Recording of
 Frequency Assignments to Stations in the
 Fixed-Satellite Service (Earth-to-Space) in the
Frequency Bands 14.5 - 14.8 GHz (in Regions 1 and 3),
17.3 - 18.1 GHz (in Regions 1 and 3) and
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 these Bands are
Allocated ~~in Region 2~~, so far as their Relationship
to the Fixed-Satellite Service (Earth-to-Space)
in ~~this Band~~ these Bands Is Concerned

MOD 1668 The provisions and associated Plans for feeder links
associated with the broadcasting-satellite service, utilizing the
fixed-satellite service (Earth-to-space) in the bands
14.5 - 14.8 GHz (in Regions 1 and 3), 17.3 - 18.1 GHz (in
Regions 1 and 3) and 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 these bands are allocated in Region 2 so far as
the relationship of these other services to the fixed-satellite
service (Earth-to-space) in these bands 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.

1669
to NOT allocated.
1681

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/89-E
27 September 1988
Original: English

COMMITTEE 5

Draft

The attached modified draft text to replace paragraph 4.2 b) of Attachment 1 to Document 334 (Resolution [42(MOD)]) is submitted for consideration.

D. SAUVET-GOICHON
Chairman of Committee 5

Attachment

RESOLUTION [42(MOD)]

- 4.2 b) An administration in Regions 1 and 3 is considered to be affected if it has an assignment for feeder links in the fixed-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 feeder-link Plan, or in respect of which proposed modifications to the Plan have already been published in the Board in accordance with the provisions of paragraphs 4.2.3.1 and 4.2.4 of Article 4 of Appendix 30A and for which the limits of Section V of Annex 1 are exceeded.
-

WORKING GROUP 6-C

1. Page 3, recognizing, replace paragraph 1 with the following modified text.

"1. that the IFRB adopted in its Rules of Procedure a provisional limit of five degrees inclination in considering a geosynchronous satellite in all satellite services as a geostationary satellite;"

2. Page 3, under recognizing, correct the text to read as follows:

"4. that the power flux-density limits specified in Article 28 also apply to satellites in circular geosynchronous orbits with inclinations exceeding five degrees and that these power flux-density limits have been developed assuming a specific scenario of space station distribution and associated angle of arrival above the horizontal plane;"

L.M. PALMER
Chairman of Working Group 6-C

CONF\ORB-2\DT\090C1E.TXS

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

Document DT/90-E
27 September 1988
Original: English

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Source: Documents 295(Rev.1), 314

WORKING GROUP 6-C

Draft

NOTE FROM THE CHAIRMAN OF WORKING GROUP 6-C

As discussed during the ninth meeting of the Working Group, a revised Recommendation on the issue of inclined orbit of the GSO is presented in the annex for consideration. This Recommendation would replace the two Resolutions contained in Documents 295(Rev.1) and 314.

L.M. PALMER
Chairman of Working Group 6-C

Annex: 1

ANNEX

RECOMMENDATION [COM6/E]

**Relating to the Maximum Angle of Inclination of the
Orbit of a Geosynchronous Satellite in Circular
Orbit Which is to be Regarded as Geostationary**

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Second Session - Geneva, 1988),

considering

- a) that Article 1 of the Radio Regulations contains a definition of a geosynchronous satellite; and also a definition of a geostationary satellite identifying it as a geosynchronous satellite with its circular orbit in the plane of the Earth's Equator (see RR 181);
- b) that the definition of RR 181 does not place a maximum value on the angle of inclination or the longitudinal variation of the orbit of a geostationary satellite;
- c) that station-keeping fuel on geostationary space stations constitutes a major fraction of in-orbit mass and tends to be the limiting factor of a space station's geostationary in-orbit life and that north-south station-keeping consumes up to 90% of the total fuel;
- d) that some space stations may be designed or required to operate without north-south station-keeping to preserve fuel or extend in-orbit space station life;
- e) that, in the absence of north-south station-keeping, the orbital inclination of a space station initially in a geostationary orbit is subject to only moderate annual change, no more than about 0.9 degrees/year, and will never exceed a maximum inclination of about 15 degrees;
- f) that the interference geometry for a space station on a satellite in an orbit with substantial orbital inclination is considerably more complicated than that which arises when the inclination is small and, as a consequence, more complex problems may arise in three areas:
 - interference between networks;
 - coordination between earth stations and terrestrial stations;
 - sharing constraints to limit interference between satellites and terrestrial stations;
- g) that administrations need to be in a position to assess the interference effects of inclined orbit operation;

recognizing

1. that the IFRB adopted in its Rules of Procedure a geosynchronous satellite, in all space services, as a geostationary satellite;
2. that the space services share many frequency bands with other services;
3. that the use, by any space service, of space stations in inclined, circular, geosynchronous orbits should not place additional regulatory and technical constraints on other services which share the same frequency band(s);
4. that the power flux-density limits specified in Article 28 also apply to satellites in circular geosynchronous orbits with inclination exceeding five degrees, and these limits have been developed assuming a specific scenario of space station distribution and associated angle of arrival above the horizontal plane;
5. that the limits specified in Article 27 apply to terrestrial services with the view to protect regions around the geostationary-satellite orbit;
6. that an administration receiving comments with respect to its planned use of satellites in inclined, circular, geosynchronous orbits shall endeavour to resolve any difficulties that may arise (RR 1049);
6. that the CCIR has examined the technical aspects, including those related to interference and coordination, in only a very preliminary fashion;

recommends

1. that the CCIR continue its study of the technical aspects of inclined-orbit operation of space stations in geosynchronous orbits, with emphasis on the development of appropriate interference prediction and evaluation methods, with a view to determining the need for geostationary orbit inclination limits;
2. that interference calculations between satellite networks, where one or both networks use satellites in inclined, circular, geosynchronous orbits, should be based on the worst case assumption relating to the minimum topocentric angle between the satellites concerned; taking into account the planned longitudinal tolerance and the variation in satellite antenna gain on the surface of the Earth due to orbit inclination and the latest results from CCIR studies;

requests

that the IFRB participate in the work of the CCIR and consider inclusion of the results in its Rules of Procedure at the earliest opportunity. The development and distribution of modifications to the Rules of Procedure should be accomplished in a timely manner. (RR 1001.1)

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/91-E
28 September 1988
Original: English

COMMITTEE 5

Draft

PROPOSAL FROM THE CHAIRMAN ON ARTICLE 5 OF APPENDIX 30A

An ad hoc Group was charged to find an acceptable text for section 5.1.1ter. The conclusion of this work is put forward for consideration as follows:

- a) no change to 5.1.1ter;
- b) add 5.1.1quarto (with footnote);
- c) modify 5.2.1 e);
- d) a draft Resolution, requesting administrations to facilitate the coordination process.

The pertinent draft texts are included in Attachment 1.

D. SAUVET-GOICHON
Chairman of Committee 5

Attachment: 1

ATTACHMENT 1

b) add

5.1.1quarto

If an administration with which coordination is sought under 5.1.1ter does not respond within three months, the administration intending to bring into use a frequency assignment to a feeder-link earth station shall notify this frequency assignment in accordance with 5.1.1 above¹.

Footnote

ADD ¹ In order to facilitate the coordination process attention is drawn to Resolution [COM5/8].

c) modify

5.2.1 e)

ADD for Regions 1 and 3, with respect to its conformity with the provisions of 5.1.1bis and also in conformity with 5.1.1ter or 5.1.1quarto relating to coordination.

d) Draft

RESOLUTION [COM5/8]

**Coordination between feeder-link earth stations
and stations of other services in the bands
14.5 - 14.8 GHz and 17.7 - 18.1 GHz in Regions 1 and 3**

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Second Session - Geneva, 1988),

considering

- a) that in Regions 1 and 3 the frequency bands 14.5 - 14.8 GHz and 17.7 - 18.1 GHz are allocated to several services on an equal primary basis;
- b) that prior to the commencement of this Conference the IFRB were in receipt of notices concerning stations of services not included in the planning process;
- c) that this Conference recognized in its agenda that the rights of such services must be taken into account;
- d) that nevertheless administrations should be in a position to implement their feeder-link earth stations operating in accordance with Appendix 30A in shared bands without undue difficulties;

resolves

1. that administrations in Regions 1 and 3 should examine within a period of six months after the end of this Conference whether it would be necessary to coordinate with existing stations in accordance with section 5.1.1ter of Appendix 30A;
 2. that if such a coordination appears necessary, these administrations should inform those administrations responsible for existing stations, the notices of which were submitted to the IFRB prior to 29 August 1988, of their intention to bring into use their frequency assignments in conformity with the Region 1 and 3 feeder-link plans as soon as they are able to do so;
 3. that administrations responsible for such existing stations shall make every effort to accelerate the process of coordination in order not to delay unduly the implementation of feeder-link earth stations.
-

COMMITTEE 5

Draft

PROPOSAL FROM THE CHAIRMAN ON
CONSEQUENTIAL CHANGES TO THE RADIO REGULATIONS

As a consequence of the decisions of Committee 5 to delete Resolutions Nos. 31, 40, 41, 43, 100, 101, 102, 502, 503, 504, 700 and 701, the consequential changes included in Annex 1 are submitted for consideration.

Annex 2 contains suggested text for Article 69 dealing with the implementation of the revised Appendix 30 and Appendix 30A. The text of Annex 2 should be sent to Committee 6 for finalization.

D. SAUVET-GOICHON
Chairman of Committee 5

Annexes: 2

ANNEX 1

MOD 868 Additional allocation: in Afghanistan, Algeria, the Federal Republic of Germany, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Cameroon, Costa Rica, El Salvador, the United Arab Emirates, Finland, Guatemala, Honduras, India, Indonesia, Iran, Iraq, Israel, Japan, Kuwait, Libya, Nepal, Nicaragua, Pakistan, Qatar, Sudan, Sri Lanka, Sweden, Thailand and Yugoslavia, the band 17.3 - 17.7 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits given in Nos. 2505 and 2508 shall apply provisionally.

MOD 2510 (6) The limits given in Nos. 2503, 2505 and 2508 apply in the following frequency bands allocated to the fixed-satellite service for reception by space stations, where these bands are shared with equal rights with the fixed or mobile service:

10.7 - 11.7 GHz¹ (for Region 1)
12.5 - 12.75 GHz¹ (for countries mentioned in Nos. 848 and 850)
12.7 - 12.75 GHz¹ (for Region 2)
12.75 - 13.25 GHz
14.0 - 14.25 GHz (for countries mentioned in No. 857)
14.25 - 14.3 GHz (for countries mentioned in Nos. 857, 860 and 861)
14.3 - 14.4 GHz¹ (for Regions 1 and 3)
14.4 - 14.5 GHz
14.5 - 14.8 GHz

MOD 2511 (7) The limits given in Nos. 2505 and 2508 apply in the following frequency bands allocated to the fixed-satellite service for reception by space stations, where these bands are shared with equal rights with the fixed or mobile service:

17.7 - 18.1 GHz
27.0 - 27.5 GHz³ (for Regions 2 and 3)
27.5 - 29.5 GHz

SUP 2510.2) ² The application of the limits in this frequency band
2511.1) is provisional (see Resolution 101).

MOD 2576.2 ² See No. 2576.1 and Resolution 34.

ANNEX 2

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

SUP 5193.1 ¹ For the provisional application of this partial
Orb-85 revision, see Resolution 41(Orb-85).

SUP * Note by the General Secretariat: Appendix 30 has been
revised 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, and becomes
Appendix 30(Orb-85).

ADD 5194 § 7. The partial revision of the Radio Regulations related
to the revised Article 15A, Appendix 30, Appendix 30A and the
footnote to Article 11 (A.11.1), Article 12 (A.12.4) and
Article 13 (A.13.2) contained in the Final Acts of WARC Orb-88
shall enter into force on [] at 0001 hours UTC.¹

ADD 5194.1 ¹ For the provisional application of this partial
revision, see Resolution [COM5/7].

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT/93-E
28 September 1988
Original: English

COMMITTEE 5

Draft

CONCLUSION OF COMMITTEE 5 ON VARIOUS RESOLUTIONS AND RECOMMENDATIONS

Committee 5 has examined the following Resolutions and Recommendations:

Resolutions Nos. 31, 32, 33, 34, 40, 41, 42, 43, 100, 101, 102, 502, 503, 504, 505, 506, 507, 508, 700, 701, 705 and 712;

Recommendations Nos. 67, 101, 505, 506, 507, 508, 705, 712.

It was concluded to retain all of the above-mentioned Recommendations and Resolutions except those listed in the attachment for suppression. The modified Resolutions were communicated in separate documents.

D. SAUVET-GOICHON
Chairman of Committee 5

Attachment

ATTACHMENT

SUP Resolutions Nos. 31, 40, 41, 43, 100, 101, 102, 502, 503, 504, 700, 701.

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

Document DT/94-E

28 September 1988

Original: English

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Source: Document DT/53(Rev.1)

COMMITTEE 5

Draft

PROPOSAL FROM THE CHAIRMAN

The attached draft Resolution is submitted for consideration as a possible mechanism for implementing the experiments encouraged by resolves 1 of Resolution 505.

D. SAUVET-GOICHON
Chairman of Committee 5

Attachment: 1

Draft

RESOLUTION [COM5/2]

**Procedures to be Used when Conducting Experiments with
Satellite Sound-Broadcasting Systems that Permit
Individual Reception by Portable and Automobile Receivers**

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Second Session - Geneva, 1988),

considering

- a) that WARC ORB-88 in its Resolution [COM5/1] has resolved that a band (or bands) of frequencies in the range 500 to 3 000 MHz be sought with a view to possible allocation to the broadcasting-satellite service (sound) to permit individual reception with portable and automobile receivers;
- b) that the World Administrative Radio Conference, Geneva, 1979, in Resolution 505 resolved that administrations shall be encouraged to carry out experiments with a broadcasting-satellite service (sound) within the band 0.5 - 2 GHz;
- c) that, following the adoption of Resolution [COM5/1] by WARC ORB-88, it would be desirable for experiments to be carried out in the frequency range 500 - 3 000 MHz;
- d) that administrations who plan to conduct satellite sound-broadcasting system experiments shall, prior to initiating such experiments, communicate to the International Frequency Registration Board the characteristics of the planned space station(s) as listed in [Appendix 3, Section D], with a reference to this Resolution;
- e) that it is desirable to obtain information from actual satellite sound-broadcasting system experiments, using satellites in geostationary orbit, to validate theoretical analyses and terrestrial demonstrations regarding systems performance and sharing options, and that the dissemination of the results obtained from these experiments would be of value to all administrations;
- f) this Article 34 of the Radio Regulations is intended for experimental transmissions in any band;
- g) that a provisional procedure is needed for facilitating the exchange of communications between administrations during the planning of these experiments:
 - i) to ensure that the potential for harmful interference which might be caused to existing and planned systems can be taken into account when designing experiments for operation in frequency bands not allocated to the broadcasting-satellite service;
 - ii) to ensure that experiments, when carried out in any frequency band between 500 and 3 000 MHz, protect existing and planned services operating in conformity with the Radio Regulations;
- h) that the use of particular frequencies in an experiment shall in no way prejudice decisions of a future competent conference regarding a possible allocation to the broadcasting-satellite service (sound);

resolves

1. that frequency assignments to the stations used for satellite sound-broadcasting experiments shall be within the range 500 - 3 000 MHz;
2. that an administration which plans to conduct satellite sound-broadcasting experiments shall, at least 18 months prior to initiating such experiments, communicate to the International Frequency Registration Board the characteristics of the planned space station(s) as listed in applicable provisions of Appendix 3, including the duration of the experiment with a reference to this Resolution;
3. that the Board, on receiving the information referred to in resolves 2 above, shall publish this information in a special section of its weekly circular;
4. that any administration, upon receipt of this information and believing that the planned experiment may cause harmful interference to its services operating or planned to operate in conformance with the Radio Regulations, may provide to the administration responsible for the experiment and the Board the particulars of the interference likely to be caused to its stations, if possible making suggestions with a view to a satisfactory solution to the problem;
5. that the failure by an administration to reply to the information contained in the circular of resolves 3 in no way limits that administration's rights to complain of harmful interference during the course of the experiment;
6. that administrations are encouraged to resolve potential interference problems identified, and the Board shall provide such assistance as either the administration responsible for the experiment or other administrations may request;
7. that the administration proposing the experiment shall inform the Board, prior to initiating the experiment, of the resolution of problems identified, and shall request the Board to publish this information in the appropriate special section of the weekly circular;
8. that prior to initiating the experiment:
 - a) the administration responsible for the experiment shall notify its assignments;
 - b) the Board shall record this assignment without a finding or any date in column 2; and
 - c) the recording shall bear a reference to this Resolution;
9. that experiments shall be conducted in accordance with No. 2674;
10. that should actual harmful interference be caused during a satellite sound-broadcasting experiment to any station operating in conformity with the Radio Regulations, despite the application of this Resolution the administration responsible for the experiment must upon receipt of advice thereof immediately eliminate this harmful interference;
11. that such experiments shall not prejudice the decisions of the future conference, requested in Resolution [COM5/1], regarding a possible allocation to the broadcasting-satellite service (sound).

INTERNATIONAL TELECOMMUNICATION UNION

ORB-88

WARC ON THE USE OF THE
GEOSTATIONARY-SATELLITE ORBIT AND THE PLANNING
OF SPACE SERVICES UTILIZING IT

SECOND SESSION, GENEVA, AUGUST/OCTOBER 1988

Document DT\95-E
2 October 1988
Original: English

COMMITTEE 4

DRAFT NOTE OF THE CHAIRMAN OF COMMITTEE 4

DRAFT RESOLUTION [COM4/2]

Relating to the Use of the Bands 4 500 - 4 800 MHz, 6 725 - 7 025 MHz,
10.70 - 10.95 GHz, 11.2 - 11.45 GHz and 12.75 - 13.25 GHz prior to the
Date of Entry into Force of Appendix [30B]

The World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Second Session - Geneva, 1988),

considering

- a) that this Conference has adopted a new Appendix [30B] dealing with the frequency bands listed above covered by the Allotment Plan for the fixed-satellite service;
- b) that Appendix [30B] and Resolution [COM4/1] contain provisions relating to satellite networks intending to use the frequency bands listed above and that were communicated to the Board prior to 29 August 1988 in the application of Articles 11 and 13 of the Radio Regulations;
- c) that any new satellite network intending to use these frequency bands may not be compatible with the allotments in the Plan;

resolves

that administrations shall not apply the provisions of Article 11 and 13 of the Radio Regulations in the bands mentioned above for satellite networks not listed in Part B of the Plan in Appendix [30B] pending the entry into force of the Final Acts of this Conference.

instructs the IFRB

to apply the provisions of this Resolution to the information it receives concerning a satellite network intending to use all or part of the frequency bands listed above and to return the information to the Administration concerned drawing its attention to the present Resolution.

S. PINHEIRO
Chairman of Committee 4

CONF\ORB-2\DT\095E.TXS