Documents of the World Administrative Radio Conference on the Aeronautical Mobile (R) Service (WARC-Aer2) (Geneva, 1978)

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INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 101-E
8 February 1978
Original : English

COMMITTEE 5

Norway

PROPOSALS FOR THE WORK OF THE CONFERENCE

The following are the Norwegian frequency requirements for MWARA, Sub-RDARA and the World-Wide Long Distance Operational Control Service :

Frequency band	MWARA		Sub-RDARA 1C	LDOC World-Wide
	NCA	NAT		
2 850- 3 025	1	1	1	
3 400- 3 500	1		2	
4 650- 4 700	1			1
5 480- 5 680	1	1	2	1
6 525- 6 685	1		1	1
8 815- 8 965	1	1		1
10 005-10 100	1			1
11 275-11 400	1	1		1
13 260-13 360	1	1		1
17 900-17 970	1			1
21 870-22 000				1

The requirements indicated for LDOC are for common use with Denmark, Sweden and Norway, and are coordinated with the Administrations of these countries.

The number and the actual choice of frequencies indicated for MWARA is subject to consideration during the Conference.

MWARA-NCA frequencies are included in our requirements as this area also includes Norwegian territory.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

Japan

PROPOSAL FOR THE WORK OF THE CONFERENCE

6. The Boundary of RDARA

MOD 27/128 Amend definition to read :

Sub-Area 6B

From the point 39°49'41"N 124°10'06"E, then through the points 39°31'51"N 124°06'31"E, 39°N 124°E, 32°30'N 124°E, 25°N 123°E, 21°N 121°30'E, 20°N 120°E, 20°N 176°W, 50°N 164°E, 43°N 147°E, thence west between the territorial waters of Japan and the USSR, and then the border between the People's Republic of China and the Democratic People's Republic of Korea, to the point 39°49'41"N 124° 10'06"E.

MOD 27/132 Amend definition to read

Sub-Area 6F

From the point 39°49'41"N 124°10'06"E, then through the points 39°31'51"N 124°06'31"E, 39°N 124°E, 32°30'N 124°E, 25°N 123°E, 21°N 121°30'E, 20°N 120°E, thence westward along 20°N latitude to the island of Hainan, south around the island of Hainan to 20°N 107° 20°N 108°E, 21°33'N 108°E along the southern national boundary of the People's Republic of China, northwestern boundary of Laos, western boundary of Thailand and thence in keeping with remaining Appendix 27 definition.

Reasons : In order to meet requirements of aeronautical services in this area more effectively.

ADD 27/132A New Sub-Area 6G

From the point 21°32'52"N 108°E, along the national boundary of the mainland of the People's Republic of China to the point 39°49'41"N 124°10'06"E, then through the points 39°31'51"N 124°06'31"E, 39°N 124°E, 32°30'N 124°E, 25°N 123°E, 21°N 121°30'E, 20°N 120°E, thence westward along 20°N latitude to the island of Hainan, south around the island of Hainan to 20°N 107°E, 20°N 108°E, to the point 21°32'52"N 108°E.

Reasons : Consequential changes due to MOD 27/128 Sub-Area 6B and MOD 27/132 Sub-Area 6F.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

Argentine Republic

PROPOSALS FOR THE WORK OF THE CONFERENCE

The table reproduced below shows the frequency requirements of the Argentine Administration : (2)

Frequency bands (kHz)	MWARA		Sub-RDARA		VOLMET Areas		LRCOS (1)	
	SAM	SAT	13G	13H	SAM-MET	SAM-MET RIO DE LA PLATA	SAM-ATL	SAM-PAC
2 850-3 025	2		4	2		1		
3 400-3 500		1	1	2	2			
4 650-4 700	1		1	1		1	1	1
5 450-5 480 REG.2			2	2				
5 480-5 680	1	1	1	2	2	1		
6 525-6 685	1		2	1			1	1
8 815-8 965	2	1	3	2	2		1	1
10 005-10 100			3	2	1	1		
11 275-11 400	3		1	2	1			1
13 260-13 360	1	1		1		1	1	1
17 900-17 970	2	1				1	1	1
21 870-22 000						1		

(1) See definition in Document No. 60 Add. 27/8A (page 7).

(2) This requirement supersedes the contents of Document No. 48.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

Tunisia

FREQUENCY REQUIREMENTS

The frequency requirements of the Tunisian Administration are shown in the table below.

Frequency bands (kHz)	MWARA		RDARA		Sub-RDARA		VOLMET Area		Operational control
	EUR	AFI	1	4	1E	4A	AFI-MET	EU-MET	
2 850 - 3 025	1	2	1	1	1	2	1	1	1
3 400 - 3 500	1	2	1	1	1	2	2	1	2
4 650 - 4 700	1	2	1	1	1	2	1	1	1
5 480 - 5 680	1	2	1	1	1	2	2	1	2
6 525 - 6 685	1	2	1	1	1	2	2	1	1
8 815 - 8 965	1	2	1	1	1	2	1	1	2
10 005 - 10 100	1	2	1	1	1	2	1	1	1
11 275 - 11 400	1	2	1	1	1	2	2	1	2
13 260 - 13 360	1	2	1	1	1	2	1	1	2
17 900 - 17 970	1	2	1	1	1	2	2	1	2
21 870 - 22 000	1	2	1	1	1	2	1	1	2

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

Kingdom of Saudi Arabia

PROPOSAL FOR AMENDMENTS TO BOUNDARIES OF MWARA (MID)

The following boundaries are proposed for MWARA-Middle East (MWARA-MID) :

ARS/105/1 MOD 27/86

From the points 51°N 30°E through the points 57°N 37°E, 50°N 80°E, 44°N 94°E, 08°N 76°E, 20°N 60°E, 9°N 42°E, 16°N 42°E, 30°N 30°E, to the point 51°N 30°E.

Reasons : To extend the boundaries to cover areas actually served by Saudi Arabia.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 106-E
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COMMITTEE 5

Fiji

FREQUENCY REQUIREMENTS

Fiji has already transmitted its frequency requirements to the IFRB in response to its Circular Letter No. 400. However the following is a revised requirement in respect of RDARA 9B.

Aeronautical area	3.5	6.6	9	11.3
RDARA 9B	2	2	1	1

This paper requests one additional channel in the 3.5 allocation for domestic purposes.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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9 February 1978
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COMMITTEE 5

United Republic of Cameroon

PROPOSAL FOR THE WORK OF THE CONFERENCE

The frequency requirements of the United Republic of Cameroon are given below.

Frequency band	MWARA	RDARA	VOLMET	Long-range operational control
2 850 - 3 025	1	1	1	
3 400 - 3 500	2	1	2	
4 650 - 4 700	1		1	1
5 480 - 5 680	1			
6 525 - 6 685	2	2	2	1
8 815 - 8 965	2	1	1	1
10 005 - 10 100	1	1	1	
11 275 - 11 400	1	1	1	1
13 260 - 13 360	1	1	1	
17 900 - 17 970	1		1	1
21 870 - 22 000				1

Note : The choice of frequency given above for MWARA is submitted to the Conference for its consideration.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

Republic of Guinea

PROPOSAL FOR THE WORK OF THE CONFERENCE

The frequency requirements of the Guinean Administration are given in the following table.

Frequency band (kHz)	MWARA 5A	RDARA 4B	VOLMET Area AFI-MET	Operational control
2 850 - 3 025				
3 400 - 3 500		2	1	
4 650 - 4 700	2	1	1	
5 450 - 5 480 (Region 2)				
5 480 - 5 680	2	2	2	
6 525 - 6 685	2	4	1	
8 815 - 8 965	1	1	1	1
10 005 - 10 100	1	1	1	1
11 275 - 11 400	1	1	2	1
13 260 - 13 360	1	1	1	2
17 900 - 17 970	1	1	1	1

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

Oriental Republic of Uruguay

FREQUENCY REQUIREMENTS ADDITIONAL TO THOSE REQUESTED IN REPLY TO IFRB CIRCULAR-LETTER No. 386

	3 MHz	4.7 MHz
AREA 13I	1	1

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

Oriental Republic of Uruguay

PROPOSALS FOR THE WORK OF THE CONFERENCE

URG/110/1 MOD 27/168 Sub-Area 13G

From the point 36°S 55°W to the intersection of 32°S with the border between Argentina and Chile, then north along the borders of Argentina with Bolivia, Paraguay, Brazil and Uruguay to 34°S, to the point 34°S 57°W, and thence to 34°30'S to close the sub-area at 36°S 55°W.

Reasons : To include the air route between Colonia (Uruguay) and Buenos Aires (Argentina).

URG/110/2 MOD 27/171 Sub-Area 13J

From the point 15°50'S 47°50'W through the points 20°S 44°W, 22°55'S 43°10'W, 29°S 40°W, 35°S 45°W, 35°S 56°30'W and thence north to the frontier with Brazil at 57°15'W, following the borders of Brazil with Uruguay, Argentina and Paraguay to the point 22°35'S 55°40'W, then through the point 20°30'S 54°30'W to close the sub-area at the point 15°50'S 47°50'W.

Reasons : To include the air routes between Montevideo (Uruguay) and Bagé (Brazil) and Montevideo (Uruguay) and Uruguayana (Brazil).

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COMMITTEE 5

Mauritius

REVISED FREQUENCY REQUIREMENTS

Frequency Bands (MHz)	3	3.5	4.7	5.4	5.6	6.6	9	10	11.3	13.3	18	22
MWARA NSA2	-	1	-	-	1	-	-	1	-	1	1	-
Proposed MWARA IO	-	1	-	-	1	-	-	1	-	1	1	-
RDARA 7	-	-	-	-	1	-	-	1	1	-	-	-
RDARA 7D	1	-	1	-	-	-	1	-	-	-	-	-
RDARA 8A	-	-	-	-	-	-	-	-	-	-	-	-
LDOC see Note	-	-	1	-	-	1	-	-	1	-	-	1

Note : The LDOC requirements are for use over and through MWARAs : NSA2, EU, NA2, ME and proposed MWARA IO

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 112-E
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COMMITTEE 5

Italy

FREQUENCY REQUIREMENTS

Italy's frequency requirements are given in the Addendum to Document No. 48.

Italy also needs a frequency in the 22 MHz band for long-distance operational control at world level in the Aeronautical Mobile (R) Service.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

People's Republic of Angola

AMENDMENTS TO DOCUMENT No. 87

1. The Administration of the People's Republic of Angola presents the following amendments to the proposal presented in Document No. 87, suggesting the creation of a new sub-area in the RDARA-7, in order to satisfy their domestic requirements, concerned to national control and national VOLMET.

2. The proposal AGL/87/2 concerning MOD 27/135 Sub-Area 7B will be changed to :

AGL/87/2 MOD 27/135 Area 7B

From the junction point of the borders of the People's Republic of the Congo, People's Republic of Angola and Republic of Zaire, along the northern border of the Republic of Zaire to the junction border of Uganda, Republic of Zaire and Sudan. Thence along the eastern and southern border of the Republic of Zaire to the junction point of the borders of the Republic of Zaire, People's Republic of Angola and Zambia. Then along the border of the People's Republic of Angola to close the sub-area.

(The Reasons are not changed.)

AGL/87/3 ADD 27/138B Sub-Area 7F

From the point 05°S 10°E to 05°S 12°E, along the border between the People's Republic of the Congo and the People's Republic of Angola to the junction point of the borders of the People's Republic of the Congo, People's Republic of Angola and Republic of Zaire. Thence along the meridian until the Zaire River and thence along the northern, eastern and southern border of the People's Republic of Angola to the coast of the South Atlantic. Thence to the point 17°S 10°E and then to close the sub-area at 05°S 10°E.

Reasons : 1) The creation of a number of smaller sub-areas within a RDARA provides greater potential for sharing between Allotment Areas without increasing the number of channels required to handle the total traffic.

2) To satisfy the National Requirements of the People's Republic of Angola concerning national control and national VOLMET.

3. The frequency requirements presented for the Sub-Area 7B in Document No. 87 will be changed for the new Sub-Area 7F.

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COMMITTEE 5

Republic of the Senegal

FREQUENCY REQUIREMENTS

Attached hereto are Senegal's frequency requirements for MWARA, RDARA, VOLMET Area and operational control. These requirements cancel and supersede those contained in Document No. 48 of the ITU General Secretariat.

Annex : 1

ANNEX

Annex 2 to IFRB Circular-letter No. 386

1 SENEGAL Administration	2 SEN Country Symbol

Form of frequency requirements for the Aeronautical Mobile (R) Service [4]

(See paragraph 5 of IFRB Circular-letter No. 386)

3 _____ Reference No.	4 9 February 1978 Date

Number of Allotments required for inclusion in the Appendix 27 to the Radio Regulations						
5	6	7	8	9	10	11
Frequency band (kHz)	MWARA	RDARA	Sub-RDARA	VOLMET Area	Long distance operational control	Remarks [3]
From – to	AFI and SAT MWARA Symbol [1]	RDARA Symbol [1]	4B Sub-RDARA Symbol [1]	AFI-MET VOLMET Symbol [1]	Symbol(s) [2]	
2 850 – 3 025	2		1	1	1	
3 400 – 3 500	2					
4 650 – 4 700			1	1	1	For Air Senegal
5 450 – 5 480 (Reg. 2)						Areas concerned :
5 480 – 5 680	2				1	Cape Verde Islands,
6 525 – 6 685	2		1	1		Guinea-Bissau,
8 815 – 8 965	2		1	1	1	Mali, Mauritania,
10,005 – 10,100	2					Senegal
11,275 – 11,400			1	1	1	
13,260 – 13,360	2					To meet future
17,900 – 17,970	2			1	1	traffic needs

1) Indicate, in each case, the symbol for the Area, or Sub-Area (in case of Sub-RDARA), as it appears in Appendix 27 for which the allotment is required and the number of allotments required in each band. When the country or geographical area (designated by a country symbol) extends over or is located in more than one Aeronautical Area (MWARA, RDARA, Sub-RDARA and/or VOLMET Area), the number of frequency requirements for each of such additional Areas or Sub-Areas should be shown on separate forms, e.g. the Administration of a country whose territory spreads into two MWARAs, five Sub-RDARAs and two VOLMET Areas would use two forms on which to communicate its requirements for the two MWARAs, two of the five Sub-RDARAs and the two VOLMET Areas, and would use three additional forms for the remaining Sub-RDARAs.

2) In case of long-distance operational control requirements, please indicate the area (in terms of the symbols for MWARA(s) as they appear in Appendix 27) with which communication is proposed to be established.

3) This column is reserved for any information which an Administration may wish to communicate to supplement that given in any of the Columns 6 to 10. Where necessary use a separate sheet of paper.

4) This form should be sent to The Chairman, International Frequency Registration Board, International Telecommunication Union, 1211 Geneva 20, Switzerland, as soon as possible and *in any case so as to reach the Board by 30 September 1977.*

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

Democratic Republic of Sao Tomé and Principe

FREQUENCY REQUIREMENTS

The frequency requirements of the Democratic Republic of Sao Tomé and Principe are given below :

Frequency band	MWARA 1) NSA-1	RDARA 4	Sub-RDARA 2) 4B	VOLMET AFI-MET	Long-distance operational control 3)
2 850- 3 025					
3 400- 3 500	2	1		2	1
4 650- 4 700		1			
5 480- 5 680	2				1
6 525- 6 685		1	1	2	1
8 815- 8 965	2	1	2		1
10 005-10 100				1	
11 275-11 400				1	1
13 260-13 360	2	1			1
17 900-17 970	2			1	1
21 870-22 000					

1) In preparing these proposals, the Democratic Republic of Sao Tomé and Principe has taken into account the Report of the ICAO Communications Divisional Meeting level (Montreal, 1976). These proposals are on the whole in conformity with the provisions of the Report.

2) In calculating frequency requirements for RDARA, requirements for national operational control and national VOLMET areas have been taken into account.

3) For long-distance operational control, it is proposed to establish communications with MWARAs NSA-1 and NSA-2.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

Colombia

PROPOSAL FOR THE WORK OF THE CONFERENCE

1. Introduction

1.1 Appendix 27, adopted by the Extraordinary Administrative Radio Conference (Geneva, 1966), established Sub-Area 12F (RDARA) with boundaries corresponding to the territory of the Republics of Ecuador and Colombia.

1.2 It is an operational requirement of ICAO that frequency assignments in the Aeronautical Mobile (R) Service should be exclusively for use within the airspace corresponding to the flight information region or regions (FIR) in which each State provides air traffic control services.

At present Colombia has no Aeronautical Mobile (R) Service frequencies for the exclusive use of national routes. The allotments given in Appendix 27 (Geneva, 1966) correspond to Areas 12E and 12F and are shared in their entirety by Ecuador, Colombia, Panama and the Central American countries (Costa Rica, Nicaragua, Honduras, El Salvador, Guatemala and southern Mexico), in addition to certain partial sharings with Brazil and Venezuela. The proximity of these countries to Colombia has often resulted in interference on the frequencies at present in service, with a corresponding risk to air operations.

1.3 Our Administration is aware that the number of frequencies available is limited. Nevertheless, in view of the steady increase in air operations in our country, as one of its main means of transport, the allotment of exclusive frequencies, without regional sharing, is necessary in its case.

2. Frequency requirements

2.1 The following table gives the frequency requirements of the Colombian Administration :

MHz Band	3	3.5	4.7	5.6	6.6	9	10	11.3	13.3	18
CLM		2		3	3	1	1			

INTERNATIONAL TELECOMMUNICATION UNION

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(Geneva, 1978)

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COMMITTEE 5

Colombia

PROPOSAL FOR THE WORK OF THE CONFERENCE

CLM/117/1 MOD 27/158 Sub-Area 12F

From the point 02°N 79°W, Balboa, Canal Zone, 13°N 77°W, 13°N 70°W, 08°N 70°W, 06°N 67°W, 01°N 66°W, 04°S 70°W along the border between Colombia, Peru and Ecuador, to close the sub-area at 02°N 79°W.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

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COMMITTEE 5

Socialist Republic of Roumania

FREQUENCY REQUIREMENTS FOR MWARA NCA

In reply to IFRB Circular-Letter No. 386, the Administration of the Socialist Republic of Roumania communicated to the IFRB the frequency requirements concerning the areas of Appendix 27 in force, MWARA EU, RDARA 1, Sub-Area 1D of RDARA 1 and VOLMET EU-MET, and frequency requirements for world-wide use for long-range operational control.

As regards the decision adopted during the Conference by Committee 5, concerning the establishment of a new MWARA to be known as NCA which also comprises part of the territory of the Socialist Republic of Roumania, the Roumanian Delegation submits below its country's frequency requirements concerning this new MWARA and asks for them to be taken into consideration when the new Frequency Allotment Plan is drawn up.

NUMBER OF FREQUENCIES PER BAND (MHz)									
3	3.5	4.7	5.6	6.6	9	10	11.3	13.3	18
1	1	1	1	1	1	1	1	1	1

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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15 February 1978
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COMMITTEE 5

Algeria

MODIFICATION OF THE BOUNDARIES OF MWARA-AFI

The boundaries of MWARA-AFI contained in Document No. 119 should be corrected as follows :

From the point 40°N 35°W, through the points 37°N 03°W and 37°N 44°E, along the border between the Republic of Iraq and Iran, through the points 29°N 43°E, 25°N 52°E, 26°N 56°E, 20°N 62°E, 22°S 60°E, 35°S, 30°E, 35°S 16°E, 05°N 03°W, 05°N 35°W, to the point 40°N 35°W.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

Algeria

CHANGE IN THE BOUNDARIES OF MWARA-AFI

ALG/119/3 MOD 27/95

Major World Air Route Area

(MWARA-AFI)

Change the boundaries as follows :

From the point 40°N 35°W, through the points 37°N 03°W, 37°N 44°E, the border between the Republic of Iraq and Iran, the points 25°N 53°E, 27°N 56°E, 20°N 62°E, 22°S 60°E, 35°S 30°E, 35°S 16°E, 05°N 03°W, 05°N 35°W, to the point 40°N 35°W.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

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COMMITTEE 5

Republic of Upper Volta

PROPOSAL FOR THE WORK OF THE CONFERENCE

The requirements of Upper Volta for the MWARA, Sub-RDARA and VOLMET Areas and for the Operational Control Service are as follows :

Frequency band kHz	MWARA		Sub-RDARA	VOLMET Area		Operational control
	AFI	SAT	4B	AFI-MET	SAM-MET	
2 850- 3 025	1	1	1	1	1	
3 400- 3 500	1	1	1	1	1	1
4 650- 4 700	1	1	2	1	1	
5 480- 5 680	1	2	2	2	2	1
6 525- 6 685	3	2	2	2	2	1
8 815- 8 965	3	2	2	2	2	2
10 005-10 100	1	1	1	1	1	1
11 275-11 400	1	1		1	1	
13 260-13 360	1	1		1	1	1
17 900-17 970	1	1		1		
21 870-22 000	1	1		1		

- Frequency requirements with regard to MWARA should be coordinated with those of the MWARA AFI and SAT countries.

- These frequencies do not comprise those common to the Aeronautical Mobile Services throughout the world.

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 5

Republic of Upper Volta

PROPOSAL FOR THE WORK OF THE CONFERENCE

The requirements of Upper Volta for the MWARA, Sub-RDARA and VOLMET Areas and for the Operational Control Service are as follows :

Frequency band kHz	MWARA		Sub-RDARA	VOLMET Area		Operational control
	AFI	SAT	4B	AFI-MET	SAM-MET	
2 850- 3 025	1	1	1	1	1	
3 400- 3 500	1	1	1	1	1	1
4 650- 4 700	1	1	2	1	1	
5 480- 5 680	1	2	2	2	2	1
6 525- 6 685	3	2	2	2	2	1
8 815- 8 965	3	2	2	2	2	2
10 005-10 100	1	1	1	1	1	1
11 275-11 400	1	1		1	1	
13 260-13 360	1	1		1	1	1
17 900-17 970	1	1		1		
21 870-22 000	1	1		1		

- Requirements for operational control will be coordinated with those of the Republic of the Niger.

- Requirements with regard to RDARA should be coordinated with those regarding MWARA AFI and SAM.

- These frequencies do not comprise those common to the Aeronautical Mobile Services throughout the world.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

Spain

INFORMATION ON FREQUENCY REQUIREMENTS

Only the information on frequencies to be used for long-distance operational control is corrected. The data relating to MWARA and RDARA in IFRB Circular-letter No. 400 remain unchanged.

Page 64 should read :

	3	3,5	4,7	5,6	6,6	9	10	11,3	13,3	18
E	-	1 A317	1 A323	2 A324	1 A324	2 A301	-	2 A301	2 A301	1 A301

Page 69 Correct A323, A324 and A325 to read :

A301 include E - World-wide

A323 E EU NA2 NA3

A324 E EU NA2 NA3 SA NSA1 SAM CAR

A325 E Deleted.

The corrections submitted do not involve any increase in the number of frequencies required, but state more clearly the bands and coverage desired.

However, we shall be asking for an additional frequency in the 22 MHz band when this band is brought within the scope of Appendix 27.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 122-E
9 February 1978
Original : Spanish

COMMITTEE 5

Ecuador

FREQUENCY REQUIREMENTS

The Delegation of Ecuador submits its frequency requirement for national aeronautical operational control for consideration by Committee 5 (Planning).

Country	Frequency band (number in each band)					
	3.5	5.6	6.6	9	10	11
EQA	3	3	3	3	1	1

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 123-E
9 February 1978
Original : Spanish

COMMITTEE 5

Republic of Panama

PROPOSAL FOR THE WORK OF THE CONFERENCE

A proposal by the Delegation of Panama for the revision of the boundaries of Sub-Area 12F, as defined in Appendix 27 to the Radio Regulations, will be found below.

PNR/123/1 MOD 27/158 Sub-Area 12F

From the point 02°N 79°W to 08°N 83°W. Then along the border between Panama and Costa Rica, and through the points 09°N 83°W, 13°N 83°W, 08°N 70°W, 06°N 67°W, 01°N 66°W to 04°S 70°W. Then along the border between Colombia, Peru and Ecuador to close the sub-area at 02°N 79°W.

Frequency requirements

The Delegation of Panama submits this frequency requirement for the national RDARA service.

COUNTRY	FREQUENCY BANDS (NUMBER IN EACH BAND)						SUB-AREAS
	3 MHz	3,5 MHz	4,7 MHz	5,6 MHz	6,6 MHz	9 MHz	
PANAMA	1	-	-	1	1	1	12D
	2	2	-	2	1	2	12E
	1	-	-	1	-	1	12F

For the MWARA and VOLMET frequencies, we agree to the frequencies and boundaries defined in the ICAO Report in Document No. 21.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 124-E
9 February 1978
Original : English

COMMITTEE 5

Brazil

FREQUENCY REQUIREMENTS[1)]

In accordance with the new boundaries of the MWARAs and VOLMET areas that were approved by Committee 5, the following table shows the Brazilian frequency requirements for these areas :

Frequency bands (kHz)	MWARA		VOLMET
	SAM	SAT	SAM-MET
2 850- 3 025			1
3 400- 3 500	2	2	
4 650- 4 700			1
5 450- 5 480 Reg. 2			
5 480- 5 680	1	1	1
6 525- 6 685	1	1	
8 815- 8 965	2	1	
10 005-10 100		1	1
11 275-11 400	1	1	
13 260-13 360	1	1	1
17 900-17 970	1	1	1
21 870-22 000			

1) This requirement substitutes the contents of Document No. 65, page 52, Columns SAM 2 and AT-MET, and the corresponding notes 5 and 6.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 125-E
10 February 1978
Original: English

COMMITTEE 4
COMMITTEE 5

NOTE FROM THE CHAIRMAN OF COMMITTEE 6
TO CHAIRMEN OF COMMITTEE 4 AND COMMITTEE 5

Committee 6 has agreed to the principles outlined in Document No. 88 of the United Kingdom to enable frequencies in the 21 870 - 22 000 kHz band to be planned for allotment to the Aeronautical Mobile (R) Service.

I have been asked to bring this decision to your notice. The exact wording of the recommendation in Document No. 88 has yet to be decided.

R.J. BUNDLE
Chairman of Committee 6

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 126(Rev.1)-E
15 February 1978
Original : English

COMMITTEE 4

REPORT OF THE WORKING GROUP 4A TO COMMITTEE 4

Appendix 27, Section II, Nos. 27/14, 27/24 - 27/48

The Working Group has held two meetings to study the matters attributed to it under the Terms of Reference as given in Document No. DT/5. The work was mainly concentrated to the examination of the Relevant provisions of Appendix 27 namely Nos. 27/14 and 27/24 to 27/48.

In addition the problems related to the adjacent channel interference and 3rd order intermodulation products were discussed.

After having examined the proposals submitted to the Conference by the Administrations, the Working Group 4A unanimously proposes the texts annexed hereto.

(The annexed revised text has been corrected and amended following the examination by Committee 4).

H.J. MULLER
Chairman of Working Group 4A

Annex : 1

ANNEX

B. Interference range contours

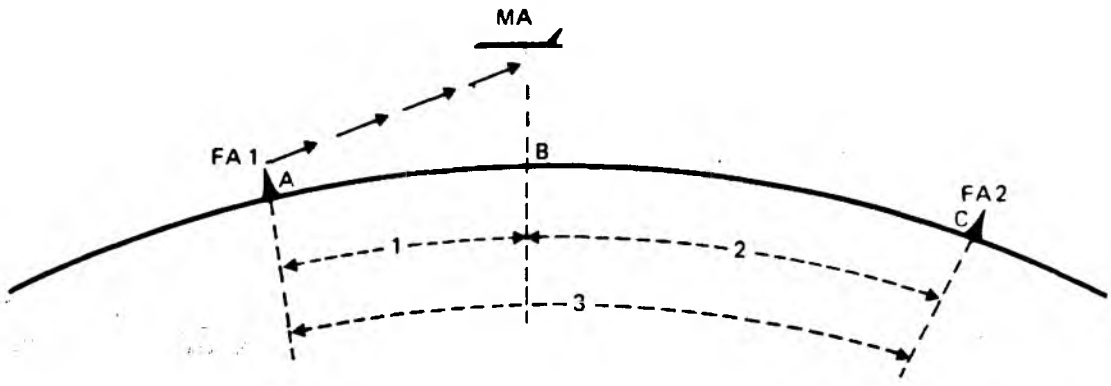
MOD 27/24 1. General provisions

ADD 27/24A 1.1 Service range - due to factors such as the power of the transmitter, propagation loss, noise level, etc., there is a limit to the distance at which reliable communications can be effected between an aeronautical station and an aircraft station. This limiting distance, based on the weakest path, is the service range. Often, the boundary of the air route area is assumed to be the limiting distance.

ADD 27/24B 1.2 Interference range - this is the minimum distance from the limit of the service range of a wanted station to a potentially interfering station, needed to produce a protection ratio of 15 dB. This protection ratio is between the wanted signal at an aircraft station at the limit of the service range and the signal from a potentially interfering aeronautical station operating on the same frequency. The interference range has been calculated for different frequencies indicated on the data tables contained in Nos. 27/39-27/48 for day and night conditions, for median latitudes, for conditions of median sunspot activity and for a mean effective radiated power of 1.0 kW at the aeronautical station.

ADD 27/24C 1.3 Repetition distance - this is the distance at which a frequency may be successfully shared and is equal to the sum of the service range and the interference range.

ADD 27/24D 1.4 Figure 1 illustrates the use of the concept of interference range in frequency planning through the determination of repetition distance.



FA1 = aeronautical station in communication with aircraft station MA
FA2 = aeronautical station in communication with aircraft stations other than MA
MA = aircraft station in communication with aeronautical station FA1
1 = service range AB
2 = interference range CB
3 = repetition distance AC

Figure 1 - Service range, interference range, repetition distance

ADD 27/24E

1.5 The transparencies associated with this Appendix show, for the frequencies stated, the interference range described in 1.1(b) which would be required between an interfering aeronautical station and an aircraft station operating at the limit of its service range. Because of the variability of propagation conditions not only from hour-to-hour within the day-time and night-time periods but also from day-to-day, with season, with solar activity level and geographic location the 15 dB protection ratio may be expected to have marked variations and accordingly a greater protection may be available much of the time especially when the aircraft is not operating at the limit of its service range.

ADD 27/24F

1.6 Supplementary information on service range, interference range and repetition distance, as well as on the use of the transparencies can be found in the technical documentation issued by the IFRB (such as texts of the IFRB Seminar on frequency management and use of the frequency spectrum; Doc. No. 11).

MOD 27/25

1.7 Two types of transparencies are provided for use respectively with the Mercator projection world maps and the Lambert azimuthal equal area projection maps for the polar areas. The Mercator projection transparencies encompass the area between latitude 60° North and 60° South. The transparencies associated with the Polar area projections encompass the areas north of latitude 30° North and south of latitude 30° South. The Mercator projection overlaps the Polar projection maps between latitudes 30° - 60° North and 30° -60° South. This overlap is intended to provide continuity between transparencies of the two projections.

/ Note : With respect to the maps referred to in No. 27/25 the Working Group recommends that the appropriate country names are to be used throughout. /

NOC

2. *Type of maps used*

MOD 27/26

The transparencies mentioned in Nos. **27/24E** and **27/25**, can be used only on a world or polar map of the projection and scales given on each transparency and will not be suitable for use on any other projection or scale. The world and polar maps associated with this Appendix, depicting MWARA, RDARA and VOLMET areas, are to the correct scale so that the transparencies carrying the interference range contours can be directly used on these maps. The auroral zones are marked on the polar maps.

NOC

3. *Change of Scale of Projection*

NOC 27/27

3.1 Should any other scale or projection be desired, then new interference range contours can be drawn to fit the new scales or projections, by using the co-ordinates given in the tables shown below.

NOC 27/28

3.2 When new transparencies are constructed, the intersection of the vertical line of symmetry, i.e., the meridian of longitude and the horizontal line of latitude should be at 00 latitude for the 00 contour, 20 N for the 20 contour, 40 N for 40 contour, etc.

NOC 27/29

3.3 The co-ordinates shown in the tables under Nos. **27/39-27/48** are given with reference to the 180 meridian taken as the axis of symmetry for the construction of the contours.

NOC 4. Sharing Conditions between Areas

ADD 4.1 Frequency bands 3 - 11.3 MHz

MOD 27/30 4.1.1 The transparencies are constructed on the basis of the following sharing conditions:

Areas	Bands between: Mc/s	Sharing conditions
MWARA or VOLMET area to MWARA or VOLMET area	3- 6.6 9-11.3	night propagation day propagation *Note* : 6.6 Mc/s and 5.6 Mc/s sharing conditions are considered to be the same
MWARA or VOLMET area to RDARA	3 - 5.6 6.6-11.3	night propagation day propagation
RDARA to RDARA	3 - 4.7 5.6-11.3	night propagation day propagation

NOC 27/31 4.1.2 The additional " Day " contours included for 3 Mc/s, 3.5 Mc/s and 4.7 Mc/s are for determining daylight sharing possibilities.

ADD 4.2 Frequency bands 13 -⌈18⌋⌈22⌋ MHz

ADD 27/31A 4.2.1 The revised allotment plan for the 13, 18 ⌈and 22⌋ MHz bands is based on day time protection only. This results in the following sharing possibilities :

ADD 27/31B 4.2.2 For the 13 MHz band, the repetition factor is at least 2 whilst for 18 ⌈and 22⌋ MHz it is 3. It is to be noted that the longitudinal separation might be decreased to allow for a repetition of 3 (at 13 MHz) and 4 (at 18 ⌈and 22⌋ MHz) respectively, taking into account operational and local circumstances;

ADD 27/31C 4.2.3 The sharing takes into account the likely locations of the aeronautical stations, rather than the area boundaries.

MOD

5. Method of use of the transparencies for the bands 3 - 11.3 MHz

MOD 27/32

5.1 Take the MWARA, RDARA or VOLMET area maps associated with this Appendix and select the transparency for the frequency order and sharing conditions under consideration.

/ Note : MWARA and RDARA transparencies are equally applicable for world-wide use. /

NOC 27/33

5.2 The equal area projections are applicable in the polar areas north of 60°N and south of 60°S; and the Mercator projections are applicable between 60°N and 60°S.

MOD 27/34

5.3 Place the centre of the transparency (i.e. the intersection of the axis of symmetry and the latitude line) over the boundary of the area (use the reception area boundary in the case of VOLMET) at the point on the boundary nearest to the potentially interfering transmitter or at the location of the interfering transmitter. Note the latitude of the selected point and use the interference range contour corresponding to this latitude.

MOD 27/35

5.4 A transmitter located at any point outside the contour will result, as defined in No. 27/24B, in a protection ratio of better than 15 dB.

NOC 27 36

5.5 A transmitter located at any point inside the contour will result in a protection ratio of less than 15 db. However, if the transmitter is located inside the contour but the propagation path traverses an auroral zone, it is assumed that the signal attenuation within this zone will result in a protection ratio of better than 15 db.

NOC 27 37

5.6 For the Northern Hemisphere the Mercator projection transparencies should be used in their natural position as published, but for the Southern Hemisphere the transparencies should be inverted. This point should be carefully observed when following the boundaries of areas which involve the transition of the equator.

MOD 27 38

5.7 For either the north or south polar areas, the associated transparency should be positioned so that the north-south line (terminated with an arrow) is parallel to the meridian of longitude, with the arrow pointing towards the pole.

NOC 27/39-27/48

MOD 27/14

1.5 For the avoidance of potential interference, adjacent channels in the List of Frequencies at No. 27/16 should not as a rule be allotted to the same Major World Air Route, VOLMET or RDARA Areas. However, to satisfy particular needs in the assignment of adjacent channels derived from the table (No. 27/16), special arrangements may be made by the Administrations concerned.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 126-E
10 February 1978
Original : English

COMMITTEE 4

REPORT OF THE WORKING GROUP 4A TO COMMITTEE 4

Appendix 27, Section II, Nos. 27/14, 27/24 - 27/48

The Working Group has held two meetings to study the matters attributed to it under the Terms of Reference as given in Document No. DT/5. The work was mainly concentrated to the examination of the Relevant provisions of Appendix 27 namely Nos. 27/14 and 27/24 to 27/48.

In addition the problems related to the adjacent channel interference and 3rd order intermodulation products were discussed.

After having examined the proposals submitted to the Conference by the Administrations, the Working Group 4A unanimously proposes the texts annexed hereto.

H.J. MULLER
Chairman of Working Group 4A

Annex : 1

ANNEX

MOD 27/14 For the avoidance of potential interference, adjacent channels in the List of Frequencies at No. 27/16 should not as a rule be allotted to the same Major World Air Route, VOLMET or RDARA Areas.

However, to satisfy particular needs in the assignment of adjacent channels derived from the table (No. 27/16), special arrangements may be made by the Administrations concerned.

B. Interference range contours

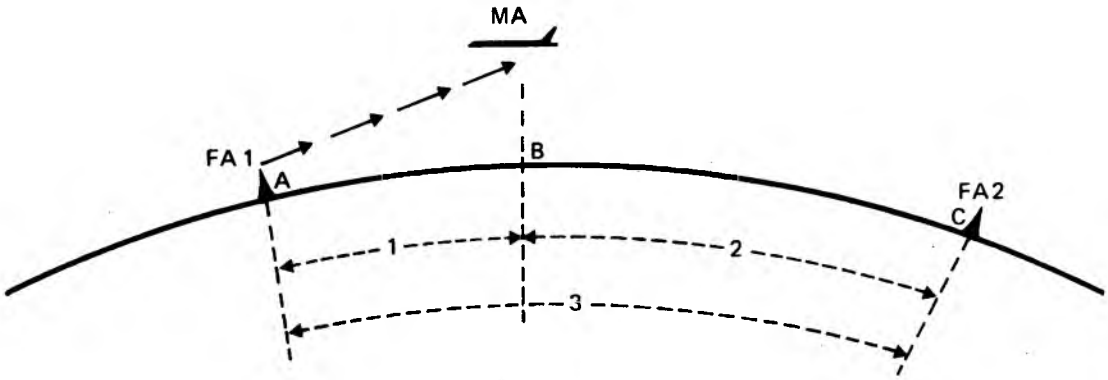
MOD 27/24 1. General provisions

ADD 27/24A 1.1 Service range - due to factors such as the power of the transmitter, propagation loss, noise level, etc., there is a limit to the distance at which reliable communications can be effected between an aeronautical station and an aircraft station. This limiting distance, based on the weakest path, is the service range. Often, the boundary of the air route area is assumed to be the limiting distance.

ADD 27/24B 1.2 Interference range - this is the minimum distance from the limit of the service range of a wanted station to a potentially interfering station, needed to produce a protection ratio of 15 dB. This protection ratio is between the wanted signal at an aircraft station at the limit of the service range and the signal from a potentially interfering aeronautical station operating on the same frequency. The interference range has been calculated for different frequencies indicated on the data tables contained in Nos. 27/39-27/48 for day and night conditions, for various latitudes, for conditions of median sunspot activity and for a mean effective radiated power of 1.0 kW at the aeronautical station.

ADD 27/24C 1.3 Repetition distance - this is the distance at which a frequency may be successfully shared and is equal to the sum of the service range and the interference range.

ADD 27/24D 1.4 Figure 1 illustrates the use of the concept of interference range in frequency planning through the determination of repetition distance.



FA1 = aeronautical station in communication with aircraft station MA
FA2 = aeronautical station in communication with aircraft stations other than MA
MA = aircraft station in communication with aeronautical station FA1
1 = service range AB
2 = interference range CB
3 = repetition distance AC

Figure 1 - Service range, interference range, repetition distance

ADD 27/24E 1.5 Transparencies

The transparencies associated with this Appendix show, for the frequencies stated, the interference range described in 1.1(b) which would be required between an interfering aeronautical station and an aircraft station operating at the limit of its service range. Because of the variability of propagation conditions not only from hour-to-hour within the day-time and night-time periods but also from day-to-day, with season, with solar activity level and geographic location the 15 dB protection ratio may be expected to have marked variations and accordingly a greater protection may be available much of the time especially when the aircraft is not operating at the limit of its service range.

ADD 27/24F 1.6 This table is contained here for information purposes only. The table was prepared at the 1948 and 1949 ITU Conferences, adopted at the 1951 Conference, and was based on the operation of a representative aeronautical communication system.

Frequency Band MHz	*Service Range km*		*Interference Range km*		*Repetition Distance km*	
	Day	*Night*	*Day*	*Night*	*Day*	*Night*
3	100	500	700	3500	800	4000
3·5	100	800	700	3500	800	4300
4·7	350	1400	1200	5500	1550	6900
5·6	450	1800	1500	6500	1950	8300
6·6	650	2200	1900	8000	2550	10200
9	1000	3400	3800	11000	4800	14400
10	1250	–	5500	–	6750	–
11·3	1500	–	6000	–	7500	–
13·3	1900	–	7700	–	9600	–
18·0	2600	–	10000	–	12600	–

As noted in 27/24A, the service range is normally assumed to be the boundary of the air route area. The service ranges contained in this table are not normally used in the application of the interference range contours.

The interference ranges shown in this table, in some cases, differ from those interference ranges shown in Nos. 27/39-27/48; this difference is due to the decision of the /1951/ ITU Conferences to minimize the number of interference range contours.

NOC 27/25 1.7 Two types of transparencies are provided for use respectively with the Mercator projection world maps and the Gnomonic projection maps for the polar areas. The Mercator projection transparencies encompass the area between latitude 60°N and 60°S. The Gnomonic projection transparencies encompass the areas north of latitude 30°N and south of latitude 30°S. The Mercator projection overlaps the Gnomonic projection between latitudes 30°-60°N and 30°-60°S. This overlap is intended to provide continuity between transparencies of the two projections.

/Note : With respect to the maps referred to in No. 27/25 the Working Group recommends that the appropriate country names are to be used throughout./

2. Type of maps used

MOD 27/26 The transparencies mentioned in Nos. 27/24E and 27/25, can be used only on a world or polar map of the projection and scales given on each transparency and will not be suitable for use on any other projection or scale. The world and polar maps associated with this Appendix, depicting MWARA, RDARA and VOLMET areas, are to the correct scale so that the transparencies carrying the interference range contours can be directly used on these maps. The auroral zones are marked on the polar maps.

3. Change of scale of projection

NOC 27/27 3.1 Should any other scale or projection be desired, then new interference range contours can be drawn to fit the new scales or projections, by using the co-ordinates given in the tables shown below.

NOC 27/28 3.2 When new transparencies are constructed, the intersection of the vertical line of symmetry, i.e., the meridian of longitude and the horizontal line of latitude should be at 00° latitude for the 00° contour, 20°N for the 20° contour, 40°N for 40° contour, etc.

NOC 27/29 3.3 The co-ordinates shown in the tables under Nos. 27/39-27/48 are given with reference to the 180° meridian taken as the axis of symmetry for the construction of the contours.

4. Sharing conditions between areas

MOD 27/30 4.1 The transparencies are constructed on the basis of the following sharing conditions :

Areas	Bands between: Mc/s	Sharing conditions
MWARA or VOLMET area to MWARA or VOLMET area	3- 6.6 9-11.3 13-/18/22/	night propagation day propagation /time separation/ (no transparencies) *Note* : 6.6 Mc/s and 5.6 Mc/s sharing conditions are considered to be the same
MWARA or VOLMET area to RDARA	3 - 5.6 6.6-11.3 13-/18/22/	night propagation day propagation /time separation/ (no transparencies)
RDARA to RDARA	3 - 4.7 5.6-11.3 13-/18/22/	night propagation day propagation /time separation/ (no transparencies)

NOC 27/31 4.2 The additional "Day" contours included for 3 Mc/s. 3.5 Mc/s and 4.7 Mc/s are for determining daylight sharing possibilities.

MOD 27/32 5. Method of use

5.1 Take the MWARA, RDARA or VOLMET area maps associated with this Appendix and select the transparency for the frequency order and sharing conditions under consideration.

/ Note : MWARA and RDARA transparencies are equally applicable for world-wide use. /

NOC 27/33 5.2 The Gnomonic projections are applicable in the polar areas north of 60°N and south of 60°S; and the Mercator projections are applicable between 60°N and 60°S.

MOD 27/34 5.3 Place the centre of the transparency (i.e. the intersection of the axis of symmetry and the latitude line) over the boundary of the area (use the reception area boundary in the case of VOLMET) at the point on the boundary nearest to the potentially interfering transmitter or at the location of the interfering transmitter. Note the latitude of the selected point and use the interference range contour corresponding to this latitude.

MOD 27/35 5.4 A transmitter located at any point outside the contour will result, as defined in No. 27/24B, in a protection ratio of better than 15 dB.

NOC 27/36

5.5 A transmitter located at any point inside the contour will result in a protection ratio of less than 15 dB. However, if the transmitter is located inside the contour but the propagation path traverses an auroral zone, it is assumed that the signal attenuation within this zone will result in a protection ratio of better than 15 dB.

NOC 27/37

5.6 For the Northern Hemisphere the Mercator projection transparencies should be used in their natural position as published, but for the Southern Hemisphere the transparencies should be inverted. This point should be carefully observed when following the boundaries of areas which involve the transition of the equator.

NOC 27/38

5.7 For either the North or South Polar areas, the Gnomonic projection transparency should be positioned so that the north-south line (terminated with an arrow) is parallel to the meridian of longitude, with the arrow pointing towards the Pole.

NOC 27/39-27/48

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 127-E
10 February 1978
Original : French

COMMITTEE 2

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 2

(CREDENTIALS)

Wednesday, 8 February 1978, at 0900 hrs

Chairman : Mr. C.J. MARTINEZ (Venezuela)

1. Terms of reference

1.1 The Chairman, referring to Article 67 of the Convention on the credentials of delegations to conferences, pointed out that the terms of reference of the Credentials Committee were specified in No. 369.

1.2 In accordance with the decision taken by the Conference, Committee 2 would have to submit its Report to the Plenary Meeting to be held at 0900 hours on Tuesday, 28 February.

2. Organization of work (Document No. 3)

2.1 The Chairman observed that a Working Group was usually set up to examine credentials as they were submitted to the Secretariat of the Conference.

2.2 It was decided that the Working Group should be composed as follows :

Country	
Venezuela	Chairman
Norway	Vice-Chairman
Germany (Federal Republic of)	
Hungarian People's Republic	
Kenya	
Australia	

2.3 The delegations of the aforesaid countries were invited to inform the Committee Secretary of the names of the people who would take part in the Working Group.

2.4 The Chairman said that about 50 delegations had already submitted their credentials, accounting for half the participants in the Conference. He expressed the hope that the rate of submission of credentials, which had been very satisfactory during the first three days of the session, would continue, so that the Committee could work rapidly.

2.5 The Working Group would probably be convened on Monday 13 or Tuesday 14 February, the details to be communicated by the Secretary of the Committee.

2.6 The delegate of Hungary said he was very glad to be able to participate in the Working Group and added that he would be available at any time.

2.7 The delegate of Australia said he was prepared to assist the Committee and to participate in any meetings that proved to be necessary.

2.8 The Chairman thanked the two preceding speakers for their expressions of cooperation and said he looked forward to seeing the members of the Committee shortly.

The meeting rose at 0915 hours.

The Secretary : The Chairman :

A. WINTER-JENSEN C.J. MARTINEZ

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 128-E
10 February 1978
Original : English

COMMITTEE 4

SUMMARY RECORD OF THE

FIRST MEETING OF COMMITTEE 4

(TECHNICAL)

Tuesday, 7 February 1978, at 0905 hrs

Chairman : Mr. G. KOVÁCS (Hungary)

Subjects discussed	Document No.
1. Opening of the meeting	
2. Organization of the work of the Committee	
3. Introduction of the documents of the Conference and assignment of documents to Working Groups	DT/3

1. Opening of the meeting

1.1 The Chairman, opening the meeting, thanked delegates for electing him and said that he would do his utmost to guide the discussions to a successful conclusion.

1.2 The Committee's terms of reference were set out in Document No. DT/2. Its principal task was to furnish the other Committees and primarily Committee 5 with the requisite technical data. Under the proposed time-table the Committee was required to transmit its conclusions to Committee 5 by the end of the week.

1.3 Preparatory work had been done by individual Administrations, but in addition he had to thank the Special Meeting of Study Group 8 of the CCIR and the ICAO Communications Divisional Meeting for the material they had submitted in their reports to the Conference.

2. Organization of the work of the Committee

2.1 The Chairman suggested the establishment of two Working Groups 4A and 4B to deal with the main topics referred to the Committee for consideration. Working Group 4A might be invited to examine and, if necessary, to revise or establish technical sharing criteria in all of the frequency bands taking into account, as far as possible, factors such as interference from adjacent channels or caused by third-order intermodulation products, auroral absorption etc. and to prepare the technical provisions to be inserted in revised Appendix 27 which were within the Working Group's terms of reference. Working Group 4A would have to deal mainly with points 27/24 - 27/48 in Appendix 27.

2.2 Working Group 4B might be invited to determine the characteristics of new SSB channels, examine and revise classes of emission, power limits and the technical provisions relating to the utilization of SSB emissions; to examine and revise the Table of Frequency Tolerances in Appendix 3 of the Radio Regulations and to prepare the technical provisions to be included in revised Appendix 27 which were within the Working Group's terms of reference. Working Group 4B would have to deal with points 27/10 - 27/19, 27/49 - 27/73 in Appendix 27 and with Appendix 3 in the Radio Regulations.

2.3 As examples of questions to be discussed, he mentioned the discrepancy which would have to be removed between the French and English versions of the table on Sharing Conditions between Areas on page 9 of Appendix 27 where the former referred to "séparation en longitude" and the latter used the term "time separation"; more specific criteria would need to be fixed for interference contours and bandwidths would have to be allocated. The question of third-order intermodulation products would need to be considered even if the Committee finally decided not to deal with them.

2.4 The delegate of the Federal Republic of Germany believed that the Conference was not empowered to revise Appendix 3 but could consider its content, take from it appropriate values and make recommendations about the revision of its provisions for consideration at a future conference. Accordingly, he was opposed to any reference to the revision of Appendix 3 in Working Group 4 B's terms of reference which should be confined to the examination of technical provisions pertaining to the SSB.

2.5 The delegate of the United Kingdom, supported by the delegate of Canada, said that Appendix 3 could not be amended in toto but the Conference could introduce

consequential changes and incorporate them in an Appendix 3A or make insertions in Appendix 3 if any new provisions agreed upon were not in conformity with existing ones. That was how analogous problems had been handled at the 1974 Maritime Conference.

2.6 The delegate of France agreed with the delegate of the Federal Republic of Germany but considered that the Conference should deal with frequency tolerances concerning which the CCIR Study Group 8 had made proposals in Document No. 2.

2.7 The delegate of Argentina agreed that the Conference was not competent to revise Appendix 3 of the Radio Regulations but Working Group 4B could be asked to study all the technical characteristics relating to new transmission systems.

2.8 The delegate of the USSR considered that it would suffice to instruct the Working Groups to examine problems relating to the Aeronautical Mobile (R) Service and the use of a single sideband to which end certain technical criteria must be examined otherwise no plan could be formulated.

2.9 The delegate of India said that broad terms of reference should be given to both Working Groups and if they found that any question had relevance to the Radio Regulations it could be referred to Committee 6. The task of Committee 4 was to reach conclusions on technical criteria.

2.10 The Chairman wondered whether the objections raised might be met if the latter part of the terms of reference he had suggested for Working Group 4B were simply to examine the Table of Frequency Tolerances in Appendix 3 of the Radio Regulations and to make modifications relating to the Aeronautical Mobile (R) Service. The specific frequency bands to be dealt with would be indicated. He hoped that the terms of reference of Committee 4 itself as set out in Document No. DT/2 which expressly mentioned possible consequential changes in the technical provisions of the Radio Regulations, including Appendix 3, would allay the Argentine delegate's doubts.

2.11 The delegate of the United Kingdom said the Chairman's suggestion was acceptable. The Working Group's examination should be confined to tolerances applicable to the Aeronautical Mobile (R) Service and certain specified frequencies. It was outside the Conference's competence to go outside the HF bands.

2.12 The delegate of the United States of America said it should be possible to handle Appendix 3 in the manner suggested by the previous speaker and to arrive at appropriate Recommendations for the amendment of provisions affecting the Aeronautical Mobile (R) Service.

2.13 The terms of reference*) for Working Groups 4A and 4B as outlined by the Chairman were approved.

2.14 On the Chairman's proposal, the Committee nominated Mr. Müller (Federal Republic of Germany) and Mr. Blaker (United States of America) to the office of Chairman of Working Group 4A and Chairman of Working Group 4B respectively.

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*) Subsequently circulated in Document No. DT/5.

3. Introduction of the documents of the Conference and assignment of documents to Working Groups (Document No. DT/3)

3.1 The Director of the CCIR said that, in compliance with the request of the Administrative Council at the time when the decision had been taken to convene the present Conference, he had arranged for a study to be made of the technical bases of the Conference's work. The CCIR had originally been set up to carry out precisely such tasks and they were regarded as its primary object. Accordingly, a Special Meeting of Study Group 8 had been convened in March 1976 and its Report in Document No. 2 had been circulated over a year ago. The Report had been reviewed in January 1978 when an addendum had been approved. The Chairman of Study Group 8 was present to introduce that Report.

3.2 The Chairman of Study Group 8 said that for subjects outside its terms of reference Study Group 8 had relied upon documents from other Groups, particularly Study Group 6, in order to secure the necessary technical bases for the revision of Appendix 27, Part I of the Radio Regulations. He then introduced Document No. 2 and its Addendum in detail, section by section.

3.3 He added that CCIR Study Group 8 would continue to consider adjacent channel protection criteria during its following plenary period. It had hesitated to discuss in depth the document submitted to it on the subject by one Administration since the same text had been submitted to the present Conference as Document No. 42.

3.4 Finally, he introduced Document No. 66, concerning the use of A3A and A3J for distress and safety purposes, placed before the Conference for information only, to the Committee.

3.5 The Chairman thanked the Chairman of Study Group 8 for his excellent introduction to Document No. 2 which was one of the most important documents the Committee was required to discuss.

3.6 The delegate of Australia, referring to Section 4, Frequency tolerances, said that his Administration had responded to the suggestion put forward by Study Group 8 that Administrations consider requirements for national purposes and submit their findings to the WARC AER (R).

3.7 Referring to Section 8.5, Adjacent channel protection criteria, he had been disappointed to find no mention made in Document No. 2, Addendum No. 1 of the validity of the technical criteria used in the text submitted by his Administration to Study Group 8 as Document No. 8/359 and to the Conference as Document No. 42. He had understood that the Study Group had not disagreed with his Administration's approach to the subject.

3.8 The Chairman of Study Group 8 replied that the Study Group had considered that the subject deserved further study. He quoted paragraphs 3.3 and 3.4 of Document No. 8/529 which fully described the Group's reaction to the Australian text.

3.9 The delegate of the United States of America introduced Document No. 4 and Corr., containing proposals for the work of the Conference.

3.10 The delegate of the Federal Republic of Germany introduced Documents Nos. 5 and 18 containing proposals for the work of the Conference and for the deletion of Resolution No. Aer 3.

3.11 The delegate of Canada introduced Document No. 20 and drew attention to related points in Document No. 68.

3.12 The Representative of ICAO introduced the Report of the ICAO Communications Divisional Meeting preparatory to the ITU WARC Aeronautical Mobile (R) Service referred to in Document No. 21.

3.13 The delegate of France introduced Documents Nos. 22 and 24, the latter containing a proposal to amend Appendix 3.

3.14 The Director of the CCIR introduced Document No. 28 concerning the development of a computer program for the development of third order intermodulation-free channels.

3.15 The delegate of the USSR introduced Document No. 29.

3.16 The delegate of Australia introduced Document No. 31 containing a proposal to modify the frequency tolerance in Appendix 3 to ± 75 Hz. Such a modification, applied to national and international services, would have the effect of reducing the maintenance and operating costs of airborne equipment.

3.17 The delegate of Mauritius introduced Document No. 33. His Government supported ICAO's proposals in its Report but since receiving it, other proposals had been submitted and Mauritius might subsequently have to modify its position on some of the paragraphs contained in that Report.

3.18 The delegate of Switzerland introduced Document No. 34, drawing particular attention to the final paragraph. His Government also endorsed the views given in the ICAO Report. He therefore favoured solutions aimed at a plan satisfying frequency requirements with the minimum amount of spectrum necessary.

3.19 The delegate of Australia introduced Document No. 42 on adjacent channel protection criteria.

3.20 The delegate of the United Kingdom introduced Document No. 43, which contained technical proposals reflecting fully the work of CCIR Study Group 8 and the 1976 ICAO Meeting. His Government fully supported the views expressed by the delegate of Switzerland concerning the confinement of the legitimate needs of the Aeronautical Mobile (R) Service within the minimum amount of spectrum and with due regard to all technical factors.

3.21 The delegate of Japan introduced Document No. 44 which contained proposals very similar to those of the CCIR and ICAO plus a number of proposals concerning power, unwanted emissions and receiver characteristics.

3.22 The representative of the IFRB introduced Document No. 49 giving a possible method of revising the frequency allotment plan in Appendix 27. The IFRB hoped for an early decision as to the continuing validity of the interference range contours considered.

3.23 The delegate of the United States of America introduced Document No. 51 dealing with adjacent channel interference.

3.24 The delegate of Zaire introduced Document No. 56 containing proposals for the revision of Parts I and II of Appendix 27 and certain Resolutions and Recommendations.

3.25 The delegate of Argentina, introducing Document No. 60, drew particular attention to MOD 27/9 regarding the definition of a family of frequencies, ADD 27/8A on the long range complementary operational service, and two draft Recommendations on service characteristics, operational conditions and associated provisions and on a study on assignments in the bands above 18 MHz. In view of his country's observations on peak envelope powers and the technical characteristics of SSB operation, he requested that the document be submitted to both Working Groups.

3.26 The delegate of Spain introduced Document No. 62 and Document No. 67, in which his Administration endorsed generally the recommendations and standards of ICAO.

3.27 The delegate of Brazil introduced Document No. 65.

3.28 Referring to Document No. 68, the delegate of the United Kingdom felt that its consideration should be deferred until Committee 6 had dealt with Document No. 46 and it had been determined how the matter of the inclusion of the 21 870-22 000 kHz band should be handled. The delegate of Canada thought such a procedure was unnecessary; the delegate of Switzerland said that some technical advice could be prepared in the event of that band being included in the new Plan and therefore agreed with the previous speaker. The delegates of Argentina and the Federal Republic of Germany also supported that view.

3.29 The delegate of the United Kingdom said he was prepared to accept the view that the document should be discussed as proposed by Committee 4.

3.30 The above documents were assigned as follows to the Working Groups :

Working Group 4A : Documents Nos. 2 + Add., 4 + Corr., 5, 20, 21 + Annex, 22, 28, 33, 34, 42, 43, 44, 49, 51, 56, 60, 62, 67 and 68

Working Group 4B : Documents Nos. 2 + Add., 4 + Corr., 5, 18, 20, 21 + Annex, 22, 24, 29, 31, 33, 34, 43, 44, 56, 60, 62, 65, 66 and 67.

The meeting rose at 1200 hours.

The Secretary : The Chairman :

L. SONESSON G. KOVACS

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 129-E
10 February 1978
Original : French

COMMITTEE 4A

Republic of the Niger

PROPOSAL FOR THE WORK OF THE CONFERENCE

In view of the differences that have arisen over MOD 27/62, the Administration of the Republic of the Niger proposes that the modification proposed by France, the Federal Republic of Germany and Mauritius should be amended as follows :

NGR/129/1 MOD 27/62 2.4 It is recognized that the power employed by aircraft transmitters may, in practice, exceed the limits specified in No. 27/54.

However, if interference is caused by the aircraft, it should be possible for this interference to be stopped by immediate action on the part of the crew, as soon as they have been informed.

Reasons : To leave room for possible technical developments.

Justification : In practice, a ground station suffering interference may know the aircraft involved from its call sign, which it is obliged to announce. Thus, it may request the aircraft, whether directly or by relay, either to reduce its emission power or to change frequency.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 130-E
10 February 1978
Original : French

COMMITTEE 5

Algeria, Cameroon, Guinea (Republic of), Ivory Coast,
Kenya, Niger, Nigeria, Mauritania, Senegal

REQUIREMENTS FOR FAMILIES OF FREQUENCIES FOR MWARA AFI

The minimum requirements for MWARA AFI are estimated at 7 families of frequencies, each family containing one frequency in each band.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 131-E
10 February 1978
Original : English

COMMITTEE 5

Brazil

BOUNDARIES OF THE MWARA-SAT

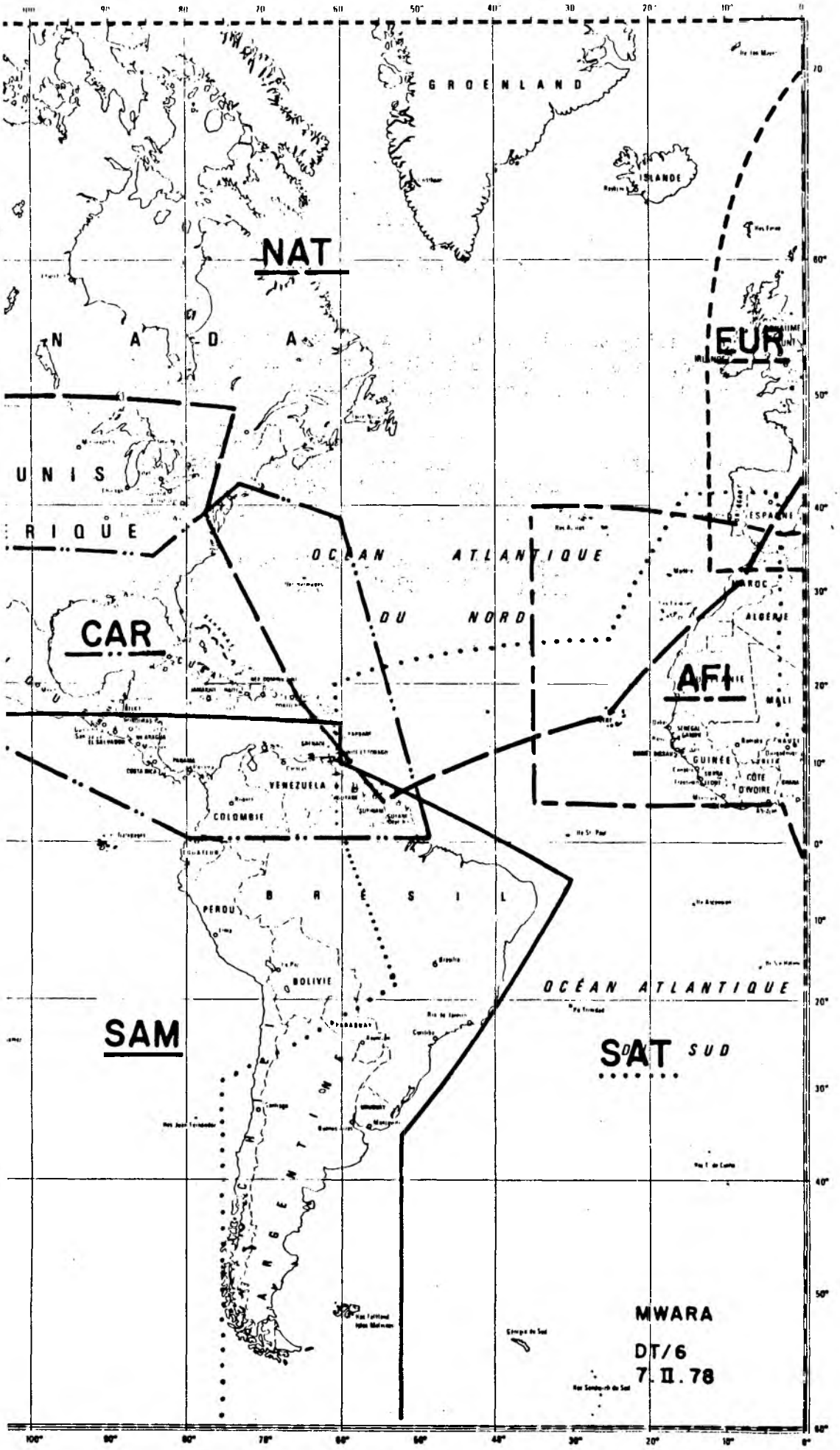
Considering that in a near future Brazil shall have direct flights from Brasilia to Europe and in order to include it within the MWARA-SAT, the Brazilian Delegation would like to propose a modification in the boundaries of that area, as follows :

B/131/1 MOD 27/98 From the South Pole through the points 30°S 75°W, 19°S 53°W, 00° 60°W, 20°N 60°W, 25°N 25°W, 41°N 15°W, 41°N 03°W, 15°N 03°W, 20°S 32°E to the South Pole.

Note : The proposed modification is the changing of the point "10°S 40°W" by the point "19°S 53°W".

Annex : 1

ANNEXE
ANNEX
ANEXO



INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 132-E
10 February 1978
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COMMITTEE 4

FIRST REPORT OF WORKING GROUP 4B

TO COMMITTEE 4

APP 27, Section II, 27/10-27/13, 27/15-27/19 and 27/49-27/52

Under its Terms of reference as shown in Document No. DT/5, Working Group 4B held two meetings to study the matters attributed to it.

The relevant provisions of Appendix 27 especially provisions of Nos. 27/10 to 27/13, 27/15 to 27/19, and 27/24 to 27/53 were discussed.

After having studied the proposals submitted to the Conference by the Administrations, Working Group 4B proposes in its first report the texts annexed hereto to Committee 4 for consideration.

H.T. BLAKER
Chairman of Working Group 4B

Annex : 1

A N N E X

MOD

A. CHANNEL CHARACTERISTICS AND UTILIZATION

NOC

1. Frequency separation

MOD 27/10 1.1 A frequency separation between carrier (reference) frequencies of 3 kHz is adequate to permit communciations using the classes of emission referred to in Nos. 27/49-27/52 in the frequency bands between 2 850 kHz and 17 970 kHz /~22 000 kHz~/ allocated exclusively to the Aeronautical Mobile (R) Service. The carrier (reference) frequency of the channels in the Plan shall be on integral multiples of 1 kHz.

MOD 27/11 1.2 For radiotelephone emissions the audio frequencies will be limited to between 300 and 2 700 Hz and the occupied bandwidth of other authorized emissions will not exceed the upper limit of A3J emissions. In specifying these limits, however, no restriction in their extension is implied in so far as emissions other than A3J are concerned, provided that the limits of unwanted emissions are met /~(see ADD 27/66A and ADD 27/66B).

Note : For aircraft and aeronautical station transmitter types first installed before 1 February 1983 the audio frequencies will be limited to 3 000 Hz.~/

ADD 27/11A 1.3 For reasons of possible interference potential a given channel should not be used in the same allotment area for radiotelephony and data transmissions.

MOD 27/12 1.4 The use of channels, indicated in 27/16 for the various classes of emissions other than A3J and A2H will be subject to special arrangements by the Administrations concerned and affected in order to avoid harmful interference which may result from the simultaneous use of the same channel for several classes of emission.

SUP 27/13

MOD 27/14 /~See Document No. DT/11~/

MOD 27/15 1.6 The arrangements contemplated in No. 27/12 /~and 27/14~/ should be made under the Articles of the International Telecommunication Convention and the Radio Regulations entitled "Special Arrangements".

NOC

2. Frequencies to be allotted

MOD 27/16 The list of carrier (reference) frequencies to be allotted in the bands allocated exclusively to the Aeronautical Mobile (R) Service, on the basis of the frequency separation provided for under No. 27/10, will be found in the following table :

/~TABLE~/

/~Note : The Working Group agreed that the frequencies in the table should be in 3 kHz steps at integrals of 1 kHz, leaving a guard band of 1 kHz at each bandedge in so far as possible. However, accommodation of the common frequencies 3 023 kHz and 5 680 kHz for continued use of

A3 emission will result in a different number of channels being available in the band 2 850-3 025 kHz and 5 480-5 680 kHz. This should be resolved by Committee 5. If special protection for A3 use is necessary the table contained in CAN/20/18 should be used; otherwise the table contained in USA/4/11 should be used.

The majority view of the Working Group was that it was desirable to have a greater number of channels with some lesser degree of protection to the common R and OR frequencies 3 023 and 5 680 kHz.

Additionally, it was agreed that Committee 5 should decide whether the table should include the "assigned" frequency in addition to the carrier (reference) frequency. /

MOD

3. Frequencies common to (R) and (OR) Services

MOD 27/17

3.1 The frequencies common to the (R) and (OR) Services, with carrier (reference) frequencies of 3 023 and 5 680 kHz, are authorized for world-wide use as shown in Nos. 27/196 and 27/201. Notwithstanding these provisions, the carrier (reference) frequency 5 680 kHz may also be used at aeronautical stations for communication with aircraft stations when other frequencies of the aeronautical stations are either unavailable or unknown. However, this use shall be restricted to such areas and conditions that harmful interference cannot be caused to other authorized operations of stations in the Aeronautical Mobile Service.

MOD 27/18

3.2 All stations directly involved in coordinated search and rescue operations using 3 023 and 5 680 kHz shall transmit only in the upper sideband mode except as provided in Nos. 27/50 and 27/73.

A3 and A3H may be used in accordance with / Resolution Aer 2 (A) paragraph 4.4 /.

SUP 27/19

C. CLASSES OF EMISSION AND POWER

NOC

1. Classes of emission

MOD 27/49

In the Aeronautical Mobile (R) Service the use of emissions such as those listed below is permissible if the special provisions applicable to each case are complied with and provided that such use does not cause harmful interference to other users of the channel concerned.

MOD 27/50

1.1 Telephony - Amplitude modulation :

- double sideband (A3)*
- single sideband, full carrier (A3H)*
- single sideband, suppressed carrier (A3J)

* A3 and A3H to be used only on 3 023 kHz and 5 680 kHz and in accordance with / Resolution Aer 2 (A), paragraph 4.4 /

1.2 Telegraphy (including automatic data transmission)

MOD 27/51

1.2.1 Amplitude modulation:

- telegraphy without the use of a modulating audio frequency (by on-off keying) (A1)**

- telegraphy by the on-off keying of an amplitude modulating audio frequency or audio frequencies or by the on-off keying of the modulated emission and including selective calling - single sideband - full carrier A2H

- multichannel voice frequency telegraphy - single sideband - suppressed carrier A7J

- other transmission such as automatic data transmission - single sideband - suppressed carrier A9J

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 4

Norway

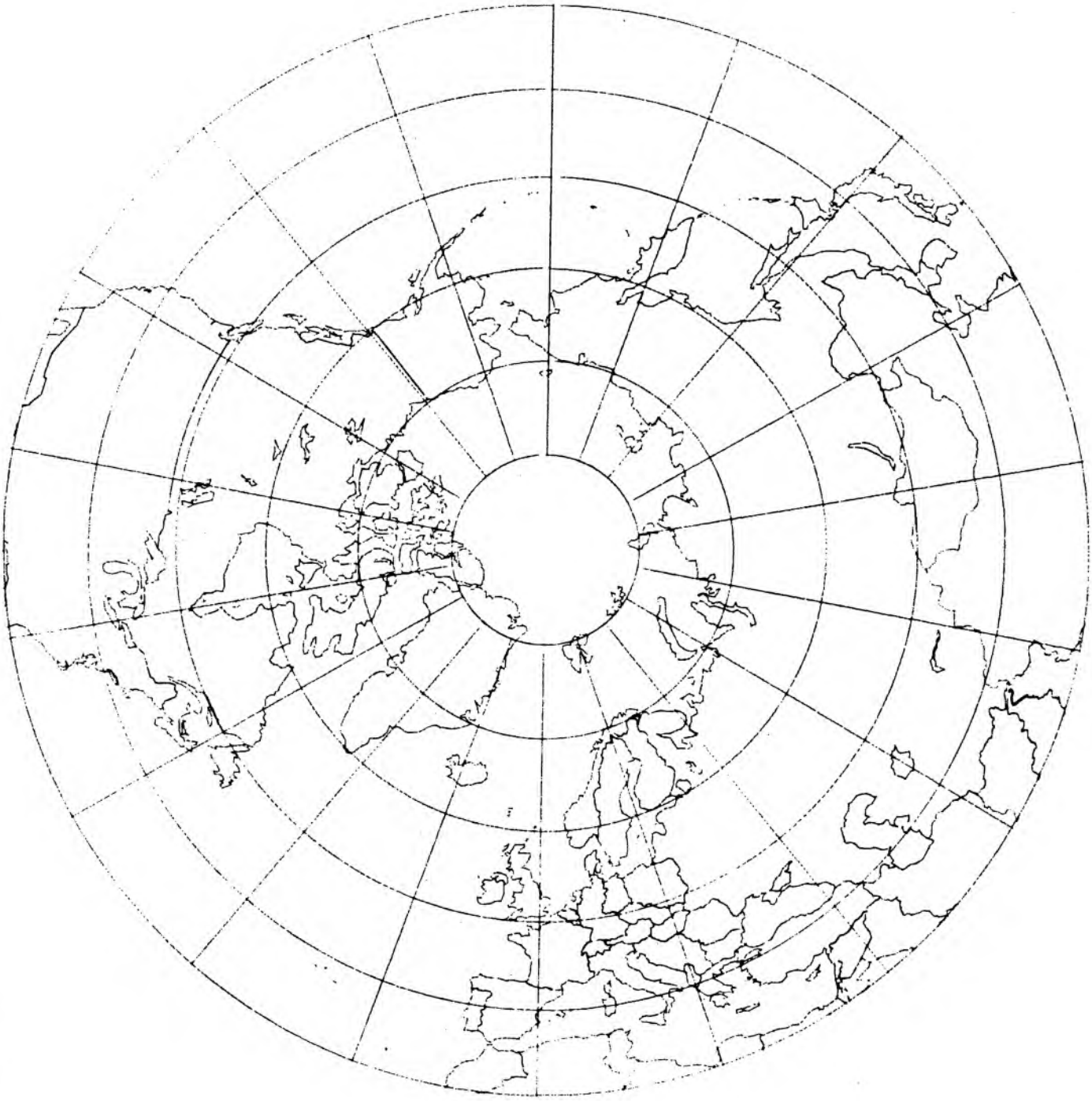
MAPS OF THE POLAR REGIONS

The Norwegian Administration has noted that the existing maps (in the Gnomonic projection) of the polar regions, as given in Appendix 27, have a scale which makes it difficult to obtain accurate results when they are used with the corresponding transparencies.

We propose that maps in an enlarged scale, and in the projection as outlined at Annex 1, be considered to replace the existing polar maps in the revised Appendix 27.

Annex : 1 Map

ANNEXE/ANNEX/ANEXO



INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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10 February 1978
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COMMITTEE 4

Norway

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We propose that maps in an enlarged scale, and in the projection as outlined at Annex 1, be considered to replace the existing polar maps in the revised Appendix 27.

Annex : 1 Map

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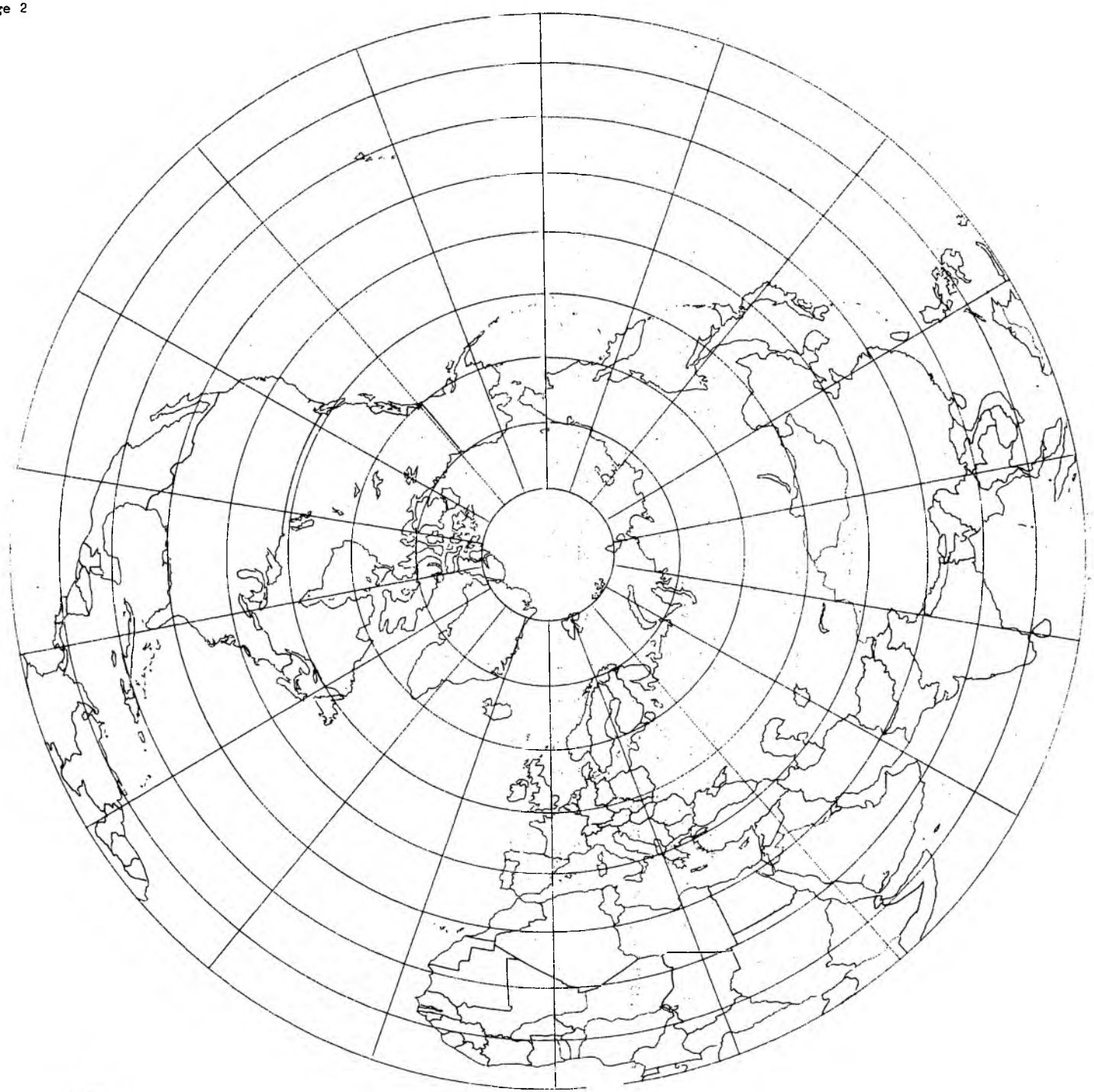

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INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 134 - E
13 February 1978
Original : English

COMMITTEE 4

SECOND REPORT OF THE WORKING GROUP 4B TO COMMITTEE 4

Working Group 4B further discussed the provisions of Appendix 27 as attributed to it by Committee 4 and submits this second report to Committee 4 for consideration.

H.T. BLAKER
Chairman of Working Group 4B

MOD 27/52 1.2.2 Frequency modulation

- telegraphy by frequency shift keying without the use of a modulating audio frequency, one of two frequencies being emitted at any instant (F1)**

** A1 and F1 are permitted provided they do not cause harmful interference to the classes of emission A2H, A3J, A7J and A9J. In addition, A1 and F1 emissions shall be in accordance with the provisions in MOD 27/65 and MOD 27/66 and care should be taken to place these emissions at or near the center of the channel. However a modulating audio frequency is permitted with single side band transmitters, where the carrier is supressed in accordance with No. 27/63.

SUP 27/53

NOC 2. Power

MOD 27/54 **2.1 Unless otherwise specified in Part II of this Appendix, the peak envelope powers supplied to the antenna transmission line shall not exceed the maximum values indicated in the table below; the corresponding peak effective radiated powers being assumed to be equal to two-thirds of these values:**

Class of emission	Stations	Maximum peak envelope power
A2H, A3J, A7J, A9J A3*, A3H* (100% modulation)	Aeronautical stations Aircraft stations	6 kW 400 W
Other emissions such as A1, F1	Aeronautical stations Aircrafts	1.5 kW 100 W

*A3 and A3H to be used only on 3023 kHz and 5680 kHz, and in accordance with [ITU Resolution Aer2(A), paragraph 4.4]

MOD 27/55 2.2 It is assumed that the maximum peak envelope powers specified above for aeronautical stations will produce the mean effective radiated power of 1 kW (for emissions such as A1 and F1) used as a basis for the interference range contours.

MOD 27/56 2.3 In order to provide satisfactory communication with aircraft, aeronautical stations serving MWARA, VOLMET [and world-wide areas] may exceed the power limits specified in No. 27/54. [Except in the case of 3023 kHz and 5680 kHz which are subject to special provisions No. 27/196 and 27/201]. In each such case, the administration having jurisdiction over the aeronautical station shall note RR 694 and ensure :

NOC 27/57
NOC 27/58
NOC 27/59
NOC 27/60
NOC 27/61

[Note : The Delegate of Cuba supported by the Delegate of Argentina requested that wherever the abbreviation I.F.R.B. appeared in the spanish edition of Appendix 27, this abbreviation should appear in an abbreviated from corresponding to the spanish denomination. This matter should be referred to Committee 6 for consideration.]

MOD 27/62 2.4 It is recognized that the power employed by aircraft transmitters may, in practice, exceed the limits specified in No. 27/54. However, the use of such increased power (which normally should not exceed 600 W Pp) shall not cause harmful interference to stations using frequencies in accordance with the technical principles on which the Allotment Plan is based.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 135-E
13 February 1978
Original : Spanish

COMMITTEE 4
COMMITTEE 5

Uruguay and Brazil

PROPOSALS FOR THE WORK OF THE CONFERENCE

The Brazilian and Uruguayan Delegations have agreed that three of the frequencies belonging to Sub-Area 13J - one in the 3 MHz, one in the 5.6 MHz and one in the 9 MHz band - shall be used jointly in Sub-Areas 13I and 13J.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 136-E
13 February 1978
Original : English

COMMITTEE 4
COMMITTEE 5

United Kingdom

FREQUENCY BAND 21 870-22 000 kHz

Having regard to the note from the Chairman of Committee 6 to the Chairmen of Committees 4 and 5 stating that the principles have now been agreed to enable frequencies in the 21 870-22 000 kHz band to be planned for the allotment to the Aeronautical Mobile (R) Service, the United Kingdom accordingly requests provision for two world-wide frequencies shared on a basis to be determined by Committee 4.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 137-E
13 February 1978
Original : English

COMMITTEE 4

SECOND REPORT OF WORKING GROUP 4A TO COMMITTEE 4

Sharing criteria for the bands 13, 18 and 22 MHz

1. After having carefully examined Document No. DT/15 and the related reference material supplied by the IFRB, the Working Group has reached the following conclusion :

- The planning of a revised allotment plan for the 13, 18 and 22 MHz bands should be based on day time protection only. This would result in the following sharing possibilities :

- For the 13 MHz band, the repetition factor would be 2 whilst for 18 and 22 MHz it would be 3. It should be noted that the longitudinal separation might be decreased to allow for a reflection of 3 (at 13 MHz) and 4 (at 18 and 22 MHz) respectively, taking into account operational and local circumstances;

- The sharing should take into account the likely locations of the aeronautical stations, rather than the area boundaries.

2. Taking into account the discussion which arose in Committee 4 regarding ADD 27/24F as it stands in Document No. 126, the Working Group agreed to propose that this paragraph and the table should be replaced by a note, reading :

Supplementary information on service range, interference range and repetition distance, as well as on the use of the transparencies can be found in the technical documentation issued by the IFRB (such as texts of the IFRB Seminar on frequency management and use of the frequency spectrum).

H.J. MÜLLER
Chairman of Working Group 4A

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 138-E
13 February 1978
Original : English

COMMITTEE 6

United Kingdom

RESOLUTION RELATING TO THE USE OF HIGHER FREQUENCY BANDS IN THE AERONAUTICAL MOBILE (R) SERVICE FOR COMMUNICATION AND METEOROLOGICAL BROADCASTS

The International Administrative Aeronautical Radio Conference, Geneva 1948-1949, recommended (Recommendation 13), inter alia, that in order to lessen the load on the HF (R) bands as great a use as possible of VHF should be made.

This Recommendation was further developed at the Extraordinary Administrative Radio Conference, Geneva 1966, into Resolutions relating to the use of VHF for communication in the Aeronautical Mobile (R) Service (RES Aer 4) and relating to the use of VHF for meteorological broadcasts in the Aeronautical Mobile (R) Service (RES Aer 5).

The United Kingdom considers that these Resolutions should be further developed to take account of the possibility of Aeronautical Mobile (R) communications by satellite when economic and technical factors have been resolved.

It is accordingly proposed to suppress Resolutions Aer 4 and Aer 5 and replace them by the following Resolution :

RESOLUTION No. Aer ...

Relating to the use of higher frequency bands in the Aeronautical Mobile (R) Service for communication and meteorological broadcasts

considering

a) that from an aeronautical viewpoint, higher frequency bands can provide a more reliable and more interference free communication system than HF;

b) that from a technical and operational viewpoint, the use of VHF by aviation has progressed significantly;

c) that the future possibility of communications by UHF utilizing satellite technology is now recognized;

d) that owing to the ever increasing development of aeronautical telecommunications in all areas of the world, there is an increasing demand for frequencies for communication and meteorological broadcasts to aircraft in flight.

resolves

that Administrations, taking into account the respective economic and technical factors, consider to the maximum extent possible, meeting their requirements by frequencies in the VHF and UHF bands allocated to the Aeronautical Mobile (R) Service and the Aeronautical Mobile Satellite (R) Service.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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13 February 1978
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COMMITTEES 4, 5, 6

United States of America

PRINCIPLES FOR THE TRANSITION TO APPENDIX 27(Rev.)

As was the case following the 1966 EARC, the International Civil Aviation Organization (ICAO) shall be invited to recommend to the Secretary-General an implementation programme to effect the phased transition from the Frequency Allotment Plan in the existing Appendix 27 to the one in Appendix 27(Rev.). (IFRB Circular-letters 170, 7 April 1967; 173, 2 June 1967; 176, 10 August 1967; and Circular-telegram No. 42/12, 12 July 1967, apply).

This programme shall be based upon the following principles :

1. Recognizing the impracticability of effecting a one-step change over on 1 February 1983, to the Appendix 27(Rev.) Allotment Plan, a phased transition, limited to a minimum number of steps, will be necessary in order to accomplish the orderly and coordinated implementation of the new Allotment Plan by 1 February 1983;

2. SSB emissions (A2H, A3H, A3J, A7J and A9J) may be used during the transition period.

3. To effect a phased transition of MWARA and RDARA operations, the following sequence of steps must be applied :

   a) introduction of A3J class emission (in conjunction with A3H as required to preserve compatibility). The introduction of A3H/A3J emission in lieu of DSB should be effected by frequency family. Where network concepts are applied, stations should effect the introduction of these emissions on a coordinated basis, preferably simultaneously. SELCAL (A2H) capability must be maintained where required;

   b) frequency change(s) on a scheduled basis.

4. VOLMET stations shall effect an interim change to emission A3H not later than 1 February 1981. On 1 February 1983, VOLMET stations shall convert to emission A3J.

5. With respect to aeronautical operational control (AOC) stations serving a worldwide function :

   a) emissions shall be limited to SSB suppressed carrier;

   b) frequencies may be implemented as they become available.

6. During the transition period, the protection afforded those assignments which have been transferred to the Appendix 27(Rev.) Allotment Plan shall be in accordance with ICAO COM/DIV Resolution AER 7 (USA/4/63), paragraph 2.3.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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13 February 1978
Original : English

COMMITTEES 4, 5, 6

United States of America

ADD

RESOLUTION No. AER 2 - /_7

Relating to the transition to the Frequency Allotment Plan in the high frequency bands allocated exclusively to the Aeronautical Mobile (R) Service between 2 850 and 17 970 kHz in Appendix 27(Rev.)

Considering

a) that the final acts of this Conference will enter into force on 1 April 1979;

b) that the new Frequency Allotment Plan contained in Appendix 27(Rev.) will enter into force at 0001 hours GMT on 1 February 1983;

c) that some Administrations may wish to implement certain provisions of the revised Frequency Allotment Plan in advance of the latter date when this may be done without causing harmful interference to stations working in accordance with the present Frequency Allotment Plan;

d) that, following the 1966 Aeronautical Extraordinary Administrative Radio Conference, the International Civil Aviation Organization (ICAO), under the provisions of No. 27/20 of Appendix 27 and within the spirit and framework of Resolution No. Aer 6 of that Conference developed a transition programme for the Aeronautical Mobile (R) Service to convert the Frequency Allotment Plan in Appendix 26 to that in Appendix 27;

e) that the ICAO transition programme was subsequently promulgated by the International Frequency Registration Board to ITU member Administrations;

f) that it will be necessary again to adopt a programme to facilitate transition from the present Frequency Allotment Plan to the new Frequency Allotment Plan;

resolves

1. that the International Civil Aviation Organization be invited to develop a transition programme, within the framework of Appendix 27(Rev.), for the operational use by aeuronautical stations of the frequencies contained in the Frequency Allotment Plan;

2. that the International Civil Aviation Organization be invited to forward to the International Frequency Registration Board for promulgation the transition programme for the revised Frequency Allotment Plan.

3. that Administrations implement the provisions of the transition programmes in coordination with ICAO and in conformity with the principles set forth in 27/20.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 141-E
13 February 1978
Original : French

COMMITTEE 3

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 3

(BUDGET CONTROL)

Wednesday 8 February 1978, at 1400 hrs

Chairman : Mr. A.M. DIONE (Senegal)

1. Terms of reference of the Budget Control Committee (Document No. 76)

1.1 After noting the importance of sound financial management at the Conference as a means of ensuring its complete success, the Chairman read out the terms of reference of the Budget Control Committee.

2. Organization and facilities available to the delegates

2.1 The Chairman said that the Committee should make a correct assessment of the facilities made available to the Conference for the purpose of carrying out its task.

2.2 The Secretary of the Committee added that it was up to the delegates present to state whether the facilities provided by the General Secretariat of the ITU were adequate to ensure the efficient functioning of the Conference.

3. Budget of the Conference (Document No. 35)

3.1 After a brief introduction of Document No. 35 by the Chairman, the Secretary of the Committee provided the following additional information : columns 1 and 2 of page 2 of Document No. 35 contained the budget of the preparatory work foreseen for 1976 and the actual Conference budget (1978) respectively. The total of the two columns amounted to 1,423,000 Sw.frs. In 1977, the Administrative Council had instituted a new budgetary structure as a result of which credits for the Common Services were grouped in a new section. Out of the 350,000 Sw.frs made available, only 26,000 had been used, the rest having been covered by the new structure established for the Common Services. So far as the Conference itself was concerned, for the moment a reserve of 30,000-40,000 Sw.frs was available for salaries and the rental of Conference premises cost about 50,000 Sw.frs less than the estimate. Precise calculations would be carried out during the Conference, and any information required would be supplied at the next meeting of the Committee; however, the budget would in all likelihood not be exceeded.

3.2 The Secretary-General said that he considered that conclusion to be justified, but there was no absolute guarantee that no unforeseen contingencies would arise.

4. Contributions of recognized private operating agencies and non-exempt international organizations (Document No. 36)

4.1 The Secretary of the Committee provided further details concerning the total Conference budget of 1,876,000 Sw.frs. That sum had been obtained by adding to the general total shown in Document No. 35 an amount of 423,000 Sw.frs representing the Common Services share to the account of the Aeronautical Conference. The round figure of 4,400 Sw.frs, representing the contributory unit of recognized private operating agencies and non-exempt international organizations, was obtained by dividing the sum of 1,876,000 Sw.frs by 426.

5. Organization of future work of the Committee

5.1 After a discussion between the Chairman and the USSR delegate, and in view of the sound financial situation of the Conference, it was decided that only one more meeting of the Committee would be held to adopt a Report for submission to the Plenary Meeting, and for subsequent transmission to the Administrative Council by the Secretary-General. That Report would include as annexes the statement of accounts and the list of international organizations.

5.2 The Secretary of the Committee said that the Conference accounts would be regularly verified by the appropriate services of the ITU, and that, in his view, a single meeting would be sufficient to enable the Committee to complete its work.

5.3 In reply to a question from the United Kingdom delegate, the Secretary-General said that he himself, in conjunction with the Chairman and the Secretary of the Committee, would maintain day-to-day control of the rate of expenditure at the Conference and that all the necessary details would be supplied to enable him to keep careful watch over the Conference proceedings and their possible budgetary implications. The Chairman of the Committee would call an extraordinary meeting to deal with any problem that might arise.

6. Possibility of achieving further savings on the Conference budget

6.1 The delegate of Venezuela expressed the view that it was not enough to maintain the reserve already mentioned, but that it should if possible be increased, so that the Administrative Council would realize what efforts were being made to cut the Conference expenditure. He emphasized the importance of the strictest economy for the Union and the Member countries, since that ultimately influenced the contributory unit and might preclude the need to increase it. It would be wise, with a view to achieving such economy, to request the Chairmen of the various Committees to avoid holding night or extra meetings.

6.2 The Chairman, expressing his support for that view, stated that the greater the savings made by the Conference, the greater would be the benefit to the Members of the Union.

6.3 The Secretary-General said that he fully agreed with the proposal of the Venezuelan delegate, which should be mentioned by the Chairman of the Committee at the next meeting of the Steering Committee.

6.4 It was so decided.

6.5 The Chairman thanked the participants for their cooperation, which had enabled the Committee to save time and to arrange to hold a second and last meeting at the conclusion of its work.

The meeting rose at 1440 hours.

Secretary : Chairman :

R. PRELAZ A.M. DIONE

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 142-E
13 February 1978
Original : English

COMMITTEE 5

People's Democratic Republic of Yemen

EXTENSION OF MID-MWARA SOUTHERN BOUNDARY

The delegation of the People's Democratic Republic of Yemen proposes that the mid-MWARA boundary over the Gulf of Aden and the Indian Ocean be extended southward from 12°45'N, 42°00'E direct to 08N 76E.

The reason for the above is to enable both Aden and Bombay adjacent FIRs to communicate with aircraft on the mid-MWARA family of frequencies when flying along the direct ATS route Aden/Bombay.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 143-E (Rev.)
February 1978
Original : English

COMMITTEE 5

People's Democratic Republic of Yemen

EXTENSION OF RDARA 5A BOUNDARY

The delegation of the People's Democratic Republic of Yemen proposes that the Southern Boundary of RDARA 5A be extended from 12°45'N, 42°00'E direct to 12°45'N, 60°E, then to 20°N52'E.

The reason for the above is to set the territory of the People's Democratic Republic of Yemen completely in RDARA 5A only.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 143-E
13 February 1978
Original : English

COMMITTEE 5

People's Democratic Republic of Yemen

EXTENSION OF RDARA 5A BOUNDARY

The delegation of the People's Democratic Republic of Yemen proposes that the Southern Boundary of RDARA 5A be extended from 12°45'N, 42°00'E direct to 12°45'N, 60°E, then to 20°N52'E.

The reason for the above is to set the Southern Yemen territory completely in RDARA 5A only.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 144-E
13 February 1978
Original: English

COMMITTEE 6

FIRST REPORT OF WORKING GROUP 6A

1. The Working Group proposed to add the text annexed to be introduced in Appendix 27.

2. For easier reference, No. 27/189 should be extended to also include those frequencies, which are intended to be used on a world-wide basis.

3. In Nos. 27/195 to 27/207 (or the relevant Nos. decided by Committee 5) unambiguous reference should be made in column 2 and column 3 for those frequencies, that are identified for world-wide use and for control over regularity of flight and for safety of aircraft.

4. Working Group 6A agreed to the principle, that only the frequencies /3023 kHz and 5680 kHz/ fall under the provision of No. RR488 and that these frequencies be specifically defined as common frequencies in Article 3, Section II, Part II of Appendix 27.

5. As for those frequencies, that may be used on a world-wide basis for control over regularity of flight and for safety of aircraft, the regulatory procedures necessary in relation to notification etc, depend fundamentally upon whether Committee 5 will set up a world-wide frequency plan also for the frequencies mentioned. If this will not be so, then Committee 6 would have to propose a procedure relating to the notification of those frequencies.

6. Committee 6 is requested to bring this Document to the attention of Committee 5 and request an answer to the question put forward in paragraph 5.

K. OLMS
Chairman of Working Group 6A

Annex

ANNEX

ADD 27/194A The world-wide frequency allotments appearing in the tables at [No. 27/189 and Nos. 27/195 to 27/207] except for frequencies [3023 kHz and 5680 kHz] are for assignment by administrations to stations operating under authority granted by the administration concerned for the purpose of serving one or more aircraft operating agencies. Such assignments are to provide communications between an appropriate aeronautical station and an aircraft station anywhere in the world for exercising control over regularity of flight and for safety of aircraft. World-wide frequencies are not to be assigned by administrations for MWARA, RDARA and VOLMET purposes. Where the operational area of an aircraft lies wholly within a RDARA or Sub-RDARA boundary, frequencies allotted to those RDARAs and Sub-RDARAs shall be used.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 145-E
13 February 1978
Original: English

COMMITTEE 6

SECOND REPORT OF WORKING GROUP 6A

PUBLIC CORRESPONDENCE

The Working Group by over-whelming majority opposed the consideration of any proposal which would permit the introduction of public correspondence in the bands allocated exclusively to the Aeronautical Mobile (R) Service between 2850 kHz and 17 970 kHz. Any such proposals may be put before the World Administrative Radio Conference 1979 by the interested administrations.

K. OLMS
Chairman of Working Group 6A

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 146-E
13 February 1978
Original : English

COMMITTEE 5

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 5

(PLANNING)

Tuesday, 7 February 1978, at 1400 hrs

Chairman : Mr. M. CHEF (France)

Subjects discussed :	Document No.
1. Opening of the meeting	-
2. General consideration of the documents assigned to the Committee	4, 5, 6, 7, 8, 9, 16, 19, 20, 21, 22, 23, 25, 26, 27, 29, 30, 32, 33, 34, 37, 39, 43, 44, 45 + Corr., 46, 48 + Add., 49 + Add., 50, 52 + Corr., 53 + Corr., 55, 56, 59, 60, 62, 65, 67, 69, 70, 71
3. Organization of work	-

1. Opening of the meeting

1.1 The Chairman thanked the Conference for the confidence it had shown in him in electing him to his post, a gesture which he regarded as an honour to his country as well as to himself. The terms of reference of the Committee, as briefly set out in Document No. DT/2, hardly did justice to the vast dimensions of the task of Committee 5. Although he had been a signatory of the first Plan for the Aeronautical (R) Service in 1949 and of the revised Plan in 1966, he was aware that experience alone would not suffice to bring that task to a successful conclusion; he therefore relied on the cooperation of all concerned, particularly since the Aeronautical Mobile (R) Service depended so exclusively on the common interest with respect to air-ground communications and the safety and regularity of flights by all aircraft, be they propellor, commercial jet or supersonic. The Committee had to comply with the relevant Resolution of the ITU Administrative Council, namely, to revise Appendix 27 to the Radio Regulations, with special reference to the Plan; accordingly, the primary task was to facilitate, in cooperation with Committees 4 and 6, the harmonization of the transition from the existing to the future Plan without creating difficult situations in the maintenance of air traffic. Indeed, in addition to providing the requisite services in their own countries, Administrations had the duty of guaranteeing the safety and efficiency of their services when flying over the territories of other countries, and for that a sense of common purpose and cooperation was essential.

1.2 In conclusion, all participants had no doubt been saddened to learn from the Telecommunication Journal of the death in 1977 of Mr. Arthur Lebel, Chairman of the first two Aeronautical Conferences. He requested the United States delegation to convey to Mr. Lebel's family the assurance that his memory remained very much alive.

1.3 The delegate of the United States of America said that that message would be duly conveyed.

2. General consideration of the documents assigned to the Committee
(Documents Nos. 4, 5, 6, 7, 8, 9, 16, 19, 20, 21, 22, 23, 25, 26, 27, 29, 30, 32, 33, 34, 37, 39, 43, 44, 45 + Corr., 46, 48 + Add., 49 + Add., 50, 52 + Corr., 53 + Corr., 55, 56, 59, 60, 62, 65, 67, 69, 70, 71)

2.1 The Chairman said that, instead of setting up working groups on various subjects at once, his intention was first to obtain the broadest possible agreement in the Committee, in the hope that that would minimize the need for formal Working Groups and facilitate bilateral and, if necessary, multilateral discussions in ad hoc groups.

2.2 Document No. 4

The delegate of the United States of America said that the document was based on the findings of the ICAO Communications Divisional Meeting and was intended to complement the ICAO proposals for the Conference. It covered all the planning aspects of the Conference except for those relating more particularly to the United States, which appeared in later documents submitted by his delegation.

2.3 Documents Nos. 5, 6, 7, 8, 9, 16 and 30

The delegate of the Federal Republic of Germany said that all the proposals in those documents generally followed the ideas set out in the ICAO report. With regard to Document No. 9, however, his delegation had noticed that somewhat different

proposals for the transition from the existing to the new Plan had been submitted by other delegations; that problem would have to be discussed very carefully. Finally, Document No. 30 contained his country's frequency requirements, which it hoped would ultimately be included in the Final Acts.

2.4 Document No. 19

The delegate of the German Democratic Republic said that the document was self-explanatory and needed no introduction.

2.5 Documents Nos. 20 and 46

The delegate of Canada said that the main points of interest in his delegation's documents related to the proposed amendment of the frequency table in No. 27/16 of Appendix 27, due to the facts that channelling in the 3 MHz band was worked backwards from 3 023 kHz instead of from the lower band edge upwards and also included the 22 MHz band, for which an early solution, perhaps reached in a Working Group, was clearly desirable.

2.6 The Chairman announced that the Steering Committees had agreed that planning for the 22 MHz band should be dealt with at a later stage.

2.7 Document No. 21

The representative of ICAO, introducing his Organization's report, said that the main criteria used in formulating the proposals were the existing and future state of world air transport operations and the need to provide the greatest possible flexibility to accommodate changes in international air traffic patterns, with the result that it had been agreed to amalgamate certain MWARAs. In view of the fact that some MWARAs and RDARAs did not coincide in ITU and ICAO documents, it had been agreed to carry out a coordination exercise.

Under item 3 of the ICAO Communications Divisional Meeting, some proposals concerning RDARA, involving geographical revisions and frequency requirements, had been discussed, as well as proposals relating to long-range operational control communications; the last-named proposals must be regarded as a first attempt to deal with a subject in which many countries were interested.

2.8 Documents Nos. 22 and 23

The delegate of France introduced the documents, which represented his country's endorsement of the ICAO proposals.

2.9 Documents Nos. 25, 26 and 27

The delegate of the United States of America said that Document No. 25 contained a suggestion concerning the way in which some frequencies could be made available before the transition period was completed; the document was accompanied by a table showing only as an illustration the available channels. Document No. 26 was a supplement to the ICAO proposals on long-range aeronautical operational control communications, referring only to North America as an example of how world-wide frequency requirements for such control could be determined on the basis of the requirements of each State in a region. Finally, in connection with Document No. 27, a background paper on world-wide aeronautical operational control, he stressed that private

aeronautical stations were mentioned only because they existed as such in his country : the United States fully subscribed to ICAO's guiding principle that it was for Administrations to decide whether stations should be private or governmental. It was to be hoped that the paper clarified certain aspects of aeronautical operational control, as distinct from the safety of the international traffic service, and also the responsibility of aeronautical operating agencies for the safety of aircraft while in flight.

2.10 Document No. 29

The delegate of the USSR said that his delegation's main proposals were those set out in points URS/29/1, 2 and 3 of the document and in Annexes 1 and 2 thereto.

2.11 Document No. 32

The delegate of Australia said that the main reasons for his delegation's proposal to create a new RDARA-14 were given in points AUS/32/1 and AUS/32/12 of the document.

2.12 Document No. 33

The delegate of Mauritius said that the alternative designation for the new MWARA in proposal MAU/33/2 was intended to ensure standardization of the three-letter code used for other MWARA. His delegation was aware that the changes it proposed for the boundaries of Sub-Area 7D might leave Sub-Area 8A with odd-looking boundaries; it would therefore go along with any alternative suggestion, provided Rodrigues Island was included in the same sub-area as Mauritius.

2.13 Document No. 34

The delegate of Switzerland said that the word "universal" in paragraph 1 of the English text should be replaced by "integral". Switzerland welcomed the ICAO/CCIR proposals to transfer the Aeronautical (R) Service to SSB operation and proposed that the extra channels thus released should be used, first, for the world-wide long-range operational control service and secondly, in view of the long-term planning envisaged by ICAO, for the future introduction of an aeronautical mobile service for public correspondence with aircraft. Switzerland had great hopes for the future of such a service and hoped that the Conference would not bar the way to its development.

2.14 Document No. 37

The delegate of Denmark said that the proposed changes in the boundaries of RDARA Sub-Areas 1B and 1C complied with the ICAO proposals and that the proposal to establish a new Sub-Area 10F was designed to comprise all Greenland in a single RDARA.

2.15 Documents Nos. 39, 52 and 59

The delegate of the United States of America said that, whereas Document No. 39 contained the United States reply to IFRB Circular-letter No. 386, subsequently published with other replies in Circular-letter No. 400, Document No. 52 supplied further information, based on his country's suggestions for the modification of existing area boundaries, and a redefinition of RDARA allotment areas. Document No. 59 set out MWARA and VOLMET frequency requirements in each frequency band consequential to the number of families decided at the ICAO meeting.

2.16 Document No. 43

The delegate of the United Kingdom said that his delegation's proposals coincided fully with those of ICAO, except for some slight amendments to the boundaries of MWARA CWP and of some RDARA. Moreover, the United Kingdom's view of an allotment plan by area rather than by use was reflected in its proposals. Finally, its frequency requirements were those submitted to the IFRB ; some small errors which appeared in Document No. 48 would be corrected, with indications of where adjacent channels were acceptable and where they were not.

2.17 Document No. 44

The delegate of Japan drew special attention to points 4.1.1 b) and 4.1.2 of his delegation's proposals.

2.18 Document No. 45 + Corr.

The delegate of New Zealand said that the document, largely based on the ICAO Report, was intended to extend MWARA boundaries from the South Pole to cater to countries in the high southern latitudes, to extend the PAC-MET area to cover Tahiti and Christmas Island, to introduce some minor changes in sub-areas and to reduce Sub-Area 9D. In that connection, his delegation supported the Australian proposal to establish a new RDARA-14. An additional frequency family allotment for the PAC-MET area was proposed, since New Zealand had used the last time slot of the existing family.

2.19 Documents Nos. 48 + Add. and 49 + Add.

The representative of the IFRB stressed that the frequency requirements listed in Document No. 48 and its Addendum did not constitute the official requirements of Administrations. The Committee might wish to use the document as a starting point for its deliberations, but it would be necessary for Administrations to confirm their requirements to the Conference.

The suggested method of work contained in the Appendix to IFRB Circular-letter No. 401 (Document No. 49 + Add.) did not presuppose any specific decision which the Conference might take. It was intended merely to assist the Conference and it could be applied in any way the Committee saw fit.

2.20 The Chairman appealed to delegations to submit their corrections or modifications to the information contained in Document No. 48 as soon as possible to the Secretary of the Committee in writing. Document No. 49 contained some very useful suggestions which would certainly be taken into account by the Committee.

2.21 The delegate of the United States of America observed that the information contained in Document No. 48 was based on existing aeronautical areas: Since those areas would not remain the same, there were bound to be changes in the related frequency requirements. The Committee's first task should be to define the area boundaries, since the question of frequency requirements proper could not be taken up until that had been done.

2.22 Document No. 50

The delegate of Australia said that Document No. 50 concerned frequency requirements in RDARA-14, to which he had referred earlier in connection with Document No. 32. It described the methodology used to determine total frequency requirements projected over the time span which the Plan was likely to affect, taking into account the use of VHF facilities. In Table C (page 4), the figure "1" should be inserted against "14G Channel 2" in the column headed "6.6".

The delegate of Guatemala drew attention to an error in the Spanish language version of the title of the document.

2.23 Document No. 53 + Corr.

The delegate of China said that his Administration's proposed amendments to the descriptions of the boundaries of MWARAs, RDARA-6 and certain VOLMET areas were designed to meet the needs of its international flight operation.

2.24 Document No. 55

The Chairman suggested that, in the absence of the Philippine delegation, the Committee should take note of Document No. 55.

It was so agreed.

2.25 Document No. 56

The delegate of Zaire said that Document No. 56, which contained a draft revision of Parts I and II of Appendix 27, proposed amendments to the Radio Regulations and a number of draft Resolutions and Recommendations, did not require a detailed introduction at the present stage.

2.26 Document No. 60

The delegate of Argentina observed that Document No. 60 had already been introduced in Committee 4. His Administration did not have any specific proposals to submit in respect of MWARAs; subject to certain reservations concerning access routes to Buenos Aires, it could support the proposals put forward by ICAO. It intended to propose certain modifications with regard to Sub-RDARA 13H and, together with Uruguay, to submit a proposal concerning the boundaries of the Rio de la Plata VOLMET area.

2.27 Documents Nos. 62 and 67

The delegate of Spain, referring to Document No. 62, said that proposals E/62/8 and E/62/9 were of particular relevance to the Committee's work. With regard to proposal E/62/8, the Spanish Administration endorsed the standards which had been laid down by the CCIR and ICAO. The RDARA allotments that were already registered with the IFRB would be maintained, and no new requirements would be submitted in respect of VOLMET areas. Proposal E/62/9 related to the assignment of frequencies from various bands for the future introduction of public correspondence communications in the AM (R) Service.

Document No. 67 dealt with estimates of future requirements, inter alia for a public correspondence service with aircraft in bands allocated to the AM (R) Service.

2.28 Document No. 65

The delegate of Brazil said that the proposals contained in Document No. 65 were generally in accordance with the conclusions reached by CCIR Study Group 8 and with the ICAO Report. Certain modifications were proposed to the boundaries of Sub-RDARAs, and the Brazilian frequency requirements were listed, taking into account both present and future needs. His delegation intended to submit amendments in respect of both Sub-RDARA 13G and proposal B/65/5 (MOD 27/11) which, as it stood in the document, contained an error.

2.29 Document No. 68

The Chairman observed that Document No. 68 was of more particular concern to Committee 4.

2.30 Document No. 69

The delegate of the German Democratic Republic said that Document No. 69 was self-explanatory.

2.31 Document No. 70

The delegate of India observed that the RDARA requirements listed in Document No. 70 were significantly different from those projected earlier and transmitted to the IFRB in response to Circular-letter No. 400. The reasons for the changes, which he hoped would facilitate the work of the Conference, would be explained by his delegation at the Working Group level.

2.32 Document No. 71

The delegate of Ireland said that the proposals in Document No. 71 were self-explanatory.

3. Organization of work

3.1 The Chairman suggested that the problem of definition of the boundaries of MWARAs, VOLMET areas, and regional and domestic areas should first be taken up, in that order, in a plenary meeting of the Committee with a view to ascertaining the points upon which agreement could quickly be reached and those giving rise to divergencies. Small ad hoc Working Groups consisting of the Administrations concerned could be set up to deal with each divergency as it came to light. It was important that the task of resolving any major difficulties should be tackled as soon as possible, because the frequency requirements themselves could not be examined until the appropriate decisions had been taken with regard to boundaries.

3.2 In reply to questions by the delegates of Australia and Algeria concerning the provision of maps in order to facilitate the Committee's work, he said that the Secretariat would make every effort to provide the Committee and its Working Groups with all the necessary aids.

If he heard no objection he would take it that the Committee accepted the method of work he had suggested.

It was so agreed.

The meeting rose at 1655 hours.

The Secretary :

M. SANT

The Chairman :

M. CHEF

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 147-E
14 February 1978
Original : English

COMMITTEE 5

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMITTEE 5

(PLANNING)

Wednesday, 8 February 1978, at 1400 hrs

Chairman : Mr. M. CHEF (France)

Subjects discussed	Document No.
1. General consideration of the documents assigned to the Committee (cont.)	72, 74, 78, 79, 80, 81, 82
2. Consideration of the boundaries of MWARAs	DT/1, DT/6

1. General consideration of the documents assigned to the Committee (cont.)
(Documents Nos. 72, 74, 78, 79, 80, 81, 82)

1.1 The Chairman opened the meeting and invited those delegates who had submitted documents since the Committee's first meeting, to introduce them.

1.2 Document No. 72

The delegate of Cuba explained that the document contained changes felt to be necessary in the frequency requirements already submitted to the IFRB.

The Chairman said that the document would be considered when the Committee discussed requirements for the concerned areas.

1.3 Document No. 74

The delegate of Papua New Guinea said that the document dealt with adjacent channel interference and would be considered by Committee 4. The outcome of its consideration there would, however, concern Committee 5.

1.4 Document No. 78

The delegate of Algeria said that the document contained a statement of the frequency requirements of the Algerian Administration, presented on the basis of Appendix 27 as it stood. The first reason given at the end of the document concerned Committee 5 and the second reason concerned Committee 6 unless it was otherwise decided.

1.5 Document No. 79

The delegate of Mexico said that document contained a request by his Administration for the use of certain frequencies for long-distance operational control, and hoped it would be considered by the Committee.

The Chairman confirmed that it would be considered under frequency requirements.

1.6 Document No. 80

The delegate of Sweden said that the document would undoubtedly be of greater interest to Committee 6 than to Committee 5, since it dealt with operational control communications and contained a definition of that service.

1.7 Document No. 81

The delegate of Ivory Coast said that the document contained his Administration's frequency requirements. In reply to a question by the Chairman he confirmed that the document would be supplemented to cover frequencies for world routes in Africa.

1.8 Document No. 82

The delegate of Argentina said that the document was submitted jointly by his delegation and that of Uruguay. It confirmed the need to establish a SAT-MET "Rio de la Plata" area to meet specific requirements there, and was an addition to the

VOLMET area proposed by ICAO for part of South America. It covered only Rio de la Plata and provided an easier way of recognizing boundaries. The two delegations intended to submit an addendum defining the area's boundaries.

2. Consideration of the boundaries of MWARAs (Documents Nos. DT/1, DT/6)

2.1 The Chairman, introducing the item, drew attention to the maps provided in DT/6 and their footnotes. The boundaries represented most of the proposals by Administrations and recommendations by ICAO. Slight differencies in proposals had not been taken into account, and geographical names could be modified if necessary in the final versions.

2.2 The Secretary said that where areas, delineated in accordance with instructions contained in Appendix 27, caused difficulties to some delegations, they should be drawn to the attention of the Committee at the appropriate time.

2.3 The Chairman, in reply to a question by the delegate of the USSR, said that the charts were not proposals by himself or by the Secretary, but by Administrations, and had been collated in a working document to facilitate work. Any anomalies, particularly as regards boundaries, should be drawn to the Committee's attention during the area by area examination.

He invited the Committee to consider the proposals for MWARA boundaries beginning on page 71 of Document No. DT/1.

2.4 The delegate of Brazil, referring to provision 27/80, said that his delegation was discussing with the Peruvian delegation the possibility of introducing a boundary modification in the MWARA-CAR area to include Lima, to avoid the frequency changes currently necessary in Brazilian airline flights to other countries from Lima. The delegations concerned needed a little more time to complete their discussions, however. The Chairman said that such discussions should be held jointly with ICAO and IATA. The MWARA-CAR area would be considered as unchanged, pending the outcome of their discussions.

The delegates of Ecuador and Colombia stated that they wished to take part in the discussions.

2.5 The delegate of the United States of America, referring to provision 27/81, said that it was not specifically a boundary problem but a restriction of frequencies west of Mexico and on into Tahiti. His delegation would like it suppressed if it was appropriate to consider the matter at the present time. The Chairman replied that as there were no proposed boundary changes for 27/81, it should be retained as it stood pending a possible solution reached in planning work. If such proposals were submitted, the delineation could be reconsidered.

2.6 MOD 27/82 (MWARA-CEP)

MOD 27/82 was adopted.

2.7 MOD 27/83 (MWARA-CWP)

The delegate of the United Kingdom drew attention to a probable error in deleting 23°N 114°E from the second line. His delegation wanted that point to remain as defined in the existing Appendix 27, notably to include the airport of Hong Kong.

The delegate of China agreed to that definition. The delegate of the United States of America suggested that to be more specific, with respect to coordinates, the definition should read "12°S 136°E, 09°N 114°E, 22°N 114°E to the point 40°N 117°E". The Chairman suggested that Hong Kong's inclusion should be agreed in principle and that details should be prepared jointly and put on the chart by the delegates of the United Kingdom, the United States of America, and China.

It was so agreed.

2.8 MOD 27/84 (MWARA-EUR)

The Chairman observed that the amendment (Document No. 69) of the German Democratic Republic was the same as that of the four Administrations in MOD 27/84.

MOD 27/84 was adopted.

2.9 SUP 27/85 (MWARA-FE)

27/85 was deleted.

2.10 ADD 27/85A (MWARA-IND)

ADD 27/85A and the related proposal of Mauritius concerning the nomenclature of the area were adopted.

2.11 MOD 27/86 (MWARA-MID)

The Chairman asked whether he was right in assuming that the intention of the proposal by the People's Republic of China (Document No. 53) was to keep the same coordinates as that proposed in MOD 27/86 but to suggest different coordinates for MWARA-MID.

The delegate of the People's Republic of China, confirming that the Chairman was correct, added that his Administration was in favour of extending the eastern boundary of the area so as to include Urumchi.

MOD 27/86 was adopted.

2.12 MOD 27/87 (MWARA-NAT)

The observer for the International Air Transport Association said that in the interests of achieving complete coverage IATA had proposed slightly different boundaries to those recommended by ICAO.

The delegate of the United States of America said that the suggestion made at the Communications Divisional Meeting of ICAO that the entire world be covered by MWARAs had not been followed and his Administration saw no need to do so merely for the sake of achieving symmetry on a chart. The area that had been proposed by IATA was in fact the land mass of the United States but MWARA frequencies were not used in that area. Accordingly, he asked that the decision on MOD 27/87 be deferred until the matter had been discussed by his delegation with the representatives of ICAO and IATA.

The Chairman agreed with that procedure and suggested that the delegates of Canada, Denmark and Ireland should also take part in the informal discussion on whether or not any changes in the boundaries were needed. He also considered that the proposers of MOD 27/87 should be consulted.

The United States proposal as amplified by the Chairman was approved.

2.13 SUP 27/88-93 inclusive

27/88-93 were deleted.

In answer to a question by the delegate of Senegal, the Chairman confirmed that Sectors NA-1, NA-2, NA-3 would disappear and would be replaced by the designation MWARA-NAT.

2.14 MOD 27/94 (MWARA-NP)

MOD 27/94 was adopted.

2.15 MOD 27/83 (MWARA-CWP) (see 2.7)

The Chairman announced that agreement has been reached during the break between China, the United Kingdom, the United States of America, ICAO and IATA on an amendment to MOD 27/83 whereby "22°N" in the fourth line would become "23°N" and "115°E" would become "114°E".

MOD 27/83, as amended, was adopted.

2.16 MOD 27/95 (MWARA-AFI)

The Chairman observed that the proposal (Document No. 56) by Zaire differed slightly from that in MOD 27/95.

The delegate of Zaire said that he could accept the proposal made at the ICAO Communications Divisional Meeting to establish a single zone in Africa with two families of HF frequencies since that would make for operational flexibility.

2.17 The delegate of Mauritius said that acceptance of MOD 27/95 would not entail any great change for Mauritius but his Administration wished to retain the proviso that the frequencies previously allotted to the area could be available for extension on flights through the Cocos Islands to Australia and for flights to India.

He would be submitting a document containing a revised list of his Administration's frequency requirements.

2.18 The Chairman pointed out that frequency allotments would be revised at a later stage according to the outcome of the planning work. Any comments on the subject such as those made by the previous speaker would, of course, be taken into account.

2.19 In answer to a question by the delegate of Algeria, the delegate of the Federal Republic of Germany explained that a single zone for North-South Africa had been proposed in the interests of flexibility so as to facilitate frequency management in the future.

The Chairman observed that in Africa there was a trend towards more East-West flights both within the continent and beyond.

2.20 The delegate of Algeria said that he had no objection of principle to the proposal. His Administration also wished to propose that the area be extended eastward

to include the Arabian peninsula, Iraq and Syria. Delegations of the countries concerned had been consulted and were in agreement so that an amendment to that effect would be circulated in writing.

2.21 The Chairman suggested that Algeria, Saudi Arabia, Iraq and Syria together with observers from ICAO and IATA be invited to form an ad hoc Working Group for drafting a proposal to modify the eastern boundary of MWARA-AFI so that the operational requirements of airlines might be met.

It was so agreed.

2.22 The delegate of Australia said that his delegation was not able to accept the proposal of Mauritius without some qualification. The Australian delegation had agreed to the boundary at the Indian Ocean at the ICAO Communications Divisional Meeting so that routes between Australia and the African continent would be covered.

The Chairman said that such points would be considered when planning was undertaken.

2.23 The decision on MOD 27/95 would be held over until the informal group had formulated its proposal. In the meantime he noted that there appeared to be no objection to the proposal to establish a single area for West-East Africa.

2.24 MOD 27/98 (MWARA-SAT)

MOD 27/98 was adopted.

2.25 SUP 27/99

27/99 was deleted.

2.26 MOD 27/100 (MWARA-SAM)

SUP 27/101

The delegates of Argentina, Uruguay, Chile, Brazil, Bolivia and Paraguay agreed with the proposed grouping of the existing MWARA-SAM-1 and MWARA-SAM-2 into a single area, but hoped that the new arrangement would not lead to any alteration of current frequency allocations.

The Chairman recalled that frequency allocations would be dealt with under another agenda item.

MOD 27/100 was adopted.

27/101 was deleted.

2.27 MOD 27/102 (MWARA-SEA)

MOD 27/102 was adopted.

2.28 MOD 27/103 (MWARA-SP)

MOD 27/103 was adopted.

2.29 ADD 27/102A, ADD 27/103A (MWARA - Nomenclature to be decided)

The Chairman pointed out that the Union of Soviet Socialist Republics, the sponsor of ADD 27/102A, and the Federal Republic of Germany, the People's Republic of China, France and Mauritius, the co-sponsors of ADD 27/103A, had put forward identical proposals for the delineation of the new MWARA. However, the People's Republic of China had proposed that its designation should be "EAS" (Document No. 53, ADD 27/103A) whereas the Union of Soviet Socialist Republics proposed that it should be "CEA" (ADD 27/102A). On the map tracing the boundaries of MWARAs contained in Document No. DT/6, the area had been designated "CEAS".

The delineation of the new MWARA covering Central East Asia contained in ADD 27/102A and ADD 27/103A was adopted.

The Chairman requested Mr. Sant, Secretary of the Committee, to find the most suitable designation for the area in consultation with the representative of ICAO and the sponsors of the two proposals and bearing in mind the designation contained in the map.

2.30 ADD 27/103B, ADD 27/93A (MWARA-NCA)

The Chairman pointed out that the delineation of the new MWARA proposed by the People's Republic of China in CHN/53/6 differed from the delineation for the area proposed by the sponsors of the other related proposals in D/6/29, F/22/1-66, MAU/33/1-66, URS/29/22 and J/44/10.

The delegate of the People's Republic of China made the following statement :

"On the question whether Peking and North East China will be covered by MWARA NCA, the Chinese Delegation expressed her view at the ICAO Communications Divisional Meeting, September 1976. Now the Chinese Delegation is still of the view that it is not appropriate to include Peking and North East China in this MWARA. On the delineation of MWARAs, not only the needs of the flight operations should be taken into consideration, but also the views of the countries concerned should be respected. As the density of air traffic between China and the USSR is low and the requirements of flight operations could be well satisfied by using the frequency families allotted to MWARA East Asia, it is unnecessary for MWARA NCA to overlap Peking and North East China. Therefore, to delineate the south eastern boundaries of MWARA NCA around the border of China as proposed by the Chinese Administration is entirely justified and conforms to the practical requirements of flight operations in this area."

2.31 The Chairman requested the delegations sponsoring the proposals under discussion to make every effort to overcome their differences and reach as wide agreement as possible. Up to the present, the Committee had achieved near-unanimity on the bulk of the proposals submitted and there was every likelihood that the minor adjustments to be made regarding the Caribbean and AFI might be effected without difficulty. The People's Republic of China and the Union of Soviet Socialist Republics were mainly concerned by flights over the area under discussion at present, but other countries were concerned as well and it was possible that air traffic would develop in that area as it had developed elsewhere. He sincerely hoped the delegations concerned

would bear in mind the need to ensure maximum air safety in the future and that they would submit a solution to the problem to the Committee at its following meeting.

The meeting rose at 1700 hours.

The Secretary :

M. SANT

The Chairman :

M. CHEF

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 148-E
13 February 1978
Original: English

COMMITTEE 6

THIRD REPORT OF THE WORKING GROUP 6A

RESOLUTIONS AND RECOMMENDATIONS

The Working Group 6A proposes the following action:

1. SUP Resolution Aer 2
2. SUP Resolution Aer 3
3. SUP Resolution Aer 4
4. SUP Resolution Aer 5
5. SUP Recommendation Aer 1
6. ADD Resolution No. A

K. OLMS
Chairman of Working Group 6A

Annex: Resolution No. A

ANNEX

RESOLUTION No. A

RESOLUTION No. Aer2 - (E)

Relating to the Unauthorized Use of Frequencies in the Bands allocated to the Aeronautical Mobile (R) Service.

The World Aeronautical Administrative Radio Conference, Geneva, 1978

considering

a) that monitoring observations of the use of the frequencies in the bands between 2850 and 17970 kHz allocated exclusively to the aeronautical mobile (R) service show that a number of frequencies in these bands are still being used by stations of services other than the aeronautical mobile (R) service, notably by high powered broadcasting stations, some of which are operating in contravention of No. 422 of the Radio Regulations;

b) that these stations are causing harmful interference to the aeronautical mobile (R) service and that a considerable number of emissions, the sources of which could not be positively identified, were observed in these bands;

c) that radio is the sole means of communication of the aeronautical mobile (R) service and that this service is a safety service;

considering, in particular

d) that it is of paramount importance that channels directly concerned with the safe and regular conduct of aircraft operations be kept free from harmful interference, since they are essential for the protection of the safety of life and property;

resolves to urge administrations

1. to ensure that stations of services other than the aeronautical mobile (R) service abstain from using frequencies in the Aeronautical Mobile (R) Service bands other than under the conditions specified in Nos. 115 and 415;

2. to make every effort to identify and locate the source of any unauthorized emission capable of causing harmful interference to the aeronautical mobile (R) service and thereby endangering this safety service and to communicate their findings to the IFRB;

3. to participate in the monitoring programs that the IFRB may organize pursuant to this Resolution;

4. to request their governments to enact such legislation as is necessary to prevent stations located on-board aircraft operating in contravention of No. 422 of the Radio Regulations:

requests the International Frequency Registration Board

1. to continue to organize monitoring programmes in the bands exclusively allocated to the aeronautical mobile (R) service with a view to eliminating the emissions of out-of-band stations which cause, or are likely to cause, harmful interference to the aeronautical mobile (R) service;

2. to take the necessary steps with a view to the elimination of the emissions of out-of-band stations which cause, or are likely to cause harmful interference to the aeronautical mobile (R) service;

3. to seek, as appropriate, the co-operation of administrations in identifying the sources of out-of-band emissions by all available means, and in securing the cessation of these emissions.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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14 February 1978
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COMMITTEE 5

SUMMARY RECORD

OF THE

THIRD MEETING OF COMMITTEE 5

(PLANNING)

Thursday, 9 February 1978, at 0905 hrs

Chairman : Mr. M. CHEF (France)

Subjects discussed :	Document No.
1. Consideration of the boundaries of MWARAs (cont.)	DT/1, DT/6
2. General consideration of the documents assigned to the Committee (cont.)	Corr. No. 1 to 63, Corr. No. 1 to 65, Add. No. 1 to 82, 84, 85, 87, 89, 92, 93, 94, 96, 99, 100, 101, 103, 104, 105
3. Establishment of Working Groups	
4. Consideration of the boundaries of VOLMET-allotment and VOLMET-reception areas	DT/1, DT/6, 82 + Add.

1. Consideration of the boundaries of MWARAs (Documents Nos. DT/1, DT/6) (cont.)

1.1 The Chairman, summing up the discussion which had taken place at the previous meeting, said that agreement had been reached concerning eleven of the fifteen MWARAs; the boundaries of three others were in the process of being adjusted, and one was still under discussion. Specifically, a new proposal was to be submitted concerning the extension of MWARA-CAR to Lima. The boundary of MWARA-CEP had been accepted without modification. It had been agreed to modify the boundary of MWARA-CWP to include Hong Kong. No objection had been raised to the boundary proposed for MWARA-EUR. It had been agreed to replace MWARA-FE by two MWARAs. It had further been agreed to establish a new MWARA-INO in the Indian Ocean. The modifications proposed to the boundary of MWARA-ME had been accepted, together with the proposal to rename the area MID; however, consultations were still under way with regard to possible minor adjustment of the boundary towards the south of the Arabian peninsula. The modification suggested to MWARA-NAT had been rejected in favour of the delineation proposed in Document No. DT/1. The proposals concerning MWARA-NP had been accepted without modification. It had been agreed to replace MWARA-NSA1 and MWARA-NSA2 by a single area named MWARA-AFI; consultations were being held with a view to coordination with MWARA-MID. Agreement had been reached concerning the boundary of a new single area for South America (MWARA-SAM). The modifications proposed in respect of MWARA-SEA had been accepted, as had those concerning MWARA-SP. The proposal to establish a new Central-East Asian MWARA had been accepted and agreement had been reached on its boundary, but no final decision had been taken on its designation; he had since been informed that the parties concerned had agreed to the designation MWARA-EA. With regard to MWARA-NCA, the boundary difficulties which subsisted would have to be dealt with by an Ad-hoc group.

1.2 The delegate of the USSR said that he would have preferred the Central-East Asian MWARA to bear the designation CEA; however, he could accept the compromise solution on which agreement had been reached by the parties concerned.

1.3 The Chairman said that if he heard no objection he would take it that the Committee endorsed his summing up of the situation with regard to MWARAs.

It was so agreed.

1.4 The delegate of Japan, referring to the delineation of MWARA-NCA, proposed that the point "30°N 135°E" in proposal ADD 27/103B (Document No. DT/1, page 80) should be replaced by "25°N 135°E", in order to include Japan and, in particular, Tokyo in that MWARA.

The Chairman said that the proposal by the Japanese delegate would be taken into account when the boundaries of MWARA-NCA were discussed at the Ad-hoc group.

1.5 He suggested that the deadline for submission of coordinated proposals and frequency requirements should be 1800 hours on Thursday, 9 February.

1.6 The delegate of Algeria considered that delegations should be given more time to submit their requirements, first because Administrations would need to review the situation in the light of the new delineations which had been adopted and, second, because some delegations had not yet arrived in Geneva.

1.7 In reply to comments by the delegates of the United Kingdom and Malaysia, the Chairman said that the requirements submitted to the IFRB in response to Circular-letter No. 400 and reproduced in Document No. 48 and its Addendum would be regarded as valid in the absence of written notification to the contrary by the Administrations concerned.

1.8 The delegate of the United States of America observed that if the ICAO requirements in respect of aeronautical long-range operational control were not accepted, it would be necessary for all Administrations to review and adjust their own requirements.

1.9 Following some further discussion, the Chairman said that all necessary adjustments and special cases would be taken into account by the working group which would be set up to consider the requirements of frequencies once final agreement had been reached on area boundaries. He suggested that an Ad-hoc working group consisting of the representative of ICAO, the Committee Secretary and himself should be set up to deal with outstanding problems relating to MWARA boundaries. Since some countries had not yet sent delegations to the Conference, yet would have to be consulted, the deadline for submission of coordinated proposals and frequency requirements would be deferred until Friday, 10 February.

The Committee decided to set up the Ad-hoc working group.

2. General consideration of the documents assigned to the Committee (Documents Nos. Corr. No. 1 to 63, Corr. No. 1 to 65, Add. No. 1 to 82, 84, 85, 87, 89, 92, 93, 94, 96, 99, 100, 101, 103, 104, 105) (cont.)

2.1 Corrigendum No. 1 to Document No. 63

The Chairman said that the matter dealt with in the Corrigendum to Document No. 63 was of more particular concern to Committee 6.

2.2 Corrigendum No. 1 to Document No. 65

The delegate of Brazil introduced the Corrigendum to Document No. 65.

The Chairman observed that the only proposal in the Corrigendum which was of concern to the Committee was that in respect of Sub-Area 13J.

2.3 Addendum No. 1 to Document No. 82

The delegate of Argentina said that the joint proposal submitted by his Administration and the Administration of Uruguay took into account, inter alia, the existence of scheduled flights between Africa and both Montevideo and Buenos Aires.

2.4 Document No. 84

The delegate of Bolivia introduced Document No. 84, stressing that the requirements listed in it would no doubt have to be adjusted in the light of further developments during the Conference.

2.5 Document No. 85

The delegate of Malaysia said that the proposal in Document No. 85 was similar to that submitted by the delegation of the Philippines in Document No. 55.

2.6 Document No. 87

The delegate of Angola said that the document was concerned with both the boundary description of the RDARA sub-area related to Angola and the country's frequency requirements. A further proposal relating to the establishment of a new sub-area in RDARA-7 would shortly be submitted to the Secretariat.

2.7 Document No. 89

The delegate of Papua New Guinea introduced Document No. 89.

2.8 Document No. 92

The delegate of Sweden said that the frequency requirements for long distance operational control listed in Document No. 92 had been coordinated with the Administrations of Denmark and Norway.

2.9 Document No. 93

The delegate of Paraguay introduced Document No. 93 and drew attention to two minor errors, which affected only the Spanish text, in column 10 of the Annex.

2.10 Document No. 94

The delegate of Kenya said that the requirements listed in Document No. 94 superseded those which appeared in Document No. 48. His Administration considered that each of the five regions in MWARA-AFI should be allotted its own family of frequencies in order to avoid sharing.

2.11 Document No. 96

The Chairman observed that Document No. 96 had been covered by the Swedish delegate's introduction of Document No. 92.

2.12 Documents Nos. 99 and 100

The Chairman suggested that, in the absence of the delegation of the Yemen Arab Republic, the Committee should take note of Documents Nos. 99 and 100.

It was so agreed.

2.13 Document No. 101

The delegate of Norway said that Document No. 101 set forth his country's total frequency requirements. They differed only slightly from those submitted previously to the IFRB.

2.14 Document No. 103

The delegate of Argentina said that the requirements listed in Document No. 103 were designed to cater for the expansion of aeronautical operations over the next ten years. It was the intention of his Administration progressively to liberate 50 % of the channels in question through transfer to VHF channels.

2.15 Document No. 104

The Chairman suggested that, in the absence of the Tunisian delegation, the Committee should take note of Document No. 104.

It was so agreed.

2.16 Document No. 105

The delegate of Saudi Arabia observed that the description of the boundaries of MWARA-MID had not yet been finalized. He requested that Document No. 105 be referred to the relevant working group for consideration.

The Chairman said that the necessary corrections would be made when agreement had been reached on the coordination of MWARA-MID and MWARA-AFI.

3. Establishment of working groups

3.1 The Chairman observed that agreement had been reached on 80 % of the MWARA boundaries and that the procedure of ascertaining difficult points would be applied to the boundaries of VOLMET allotment and reception areas. The time had now come, however, to establish working groups in which divergent views on outstanding matters might be harmonized. He therefore suggested that two working groups be established, Working Group 5A, presided over by the Vice-Chairman of the Committee, Mr. Ducharme (Canada), to examine and determine RDARA boundaries on the basis of proposals, and Working Group 5B, presided over by Mr. King (Australia), to recapitulate the various frequency requirements for MWARA, RDARA, VOLMET areas and long-range operational control communications, either already submitted to the IFRB or contained in proposals to the Conference. The latter Group would also examine the extent to which requirements could be met with the frequency bands available.

It was so decided.

4. Consideration of the boundaries of VOLMET-allotment and VOLMET-reception areas (Documents Nos. DT/1, DT/6, 82 + Add.)

4.1 The Chairman pointed out that the boundaries in question were described on pages 91 to 96 of Document No. DT/1.

4.2 MOD 27/174 to MOD 27/181 (AFI-MET, NAT-MET, EUR-MET, MID-MET)

Adopted.

4.3 ADD 27/181A and ADD 27/181B (NCA-MET)

The Chairman said it had been pointed out that in ADD 27/181B the interval between points 30°N 140°E and 20°E was so great that the resulting arc was unduly convex. To make the boundary of the NCA-MET reception area more accurate, it was suggested that point 35°N 70°E should be inserted between those two points; that would facilitate the task of the draughtsmen delineating the boundaries on the Mercator map.

Adopted as amended.

4.4 MOD 27/182 and MOD 27/183 (PAC-MET)

The delegate of the United States of America drew attention to the huge geographical size of the PAC-MET area delineated at the ICAO Meeting and to the fact that an additional family of frequencies had been allotted to that area. His delegation believed that the possibility of dividing the area into two, either vertically or horizontally, should be considered in the interests of better frequency management.

It was decided that that point should be examined in Working Group 5A.

4.5 MOD 27/184, MOD 27/185, ADD 27/185A, ADD 27/185B, ADD 27/185C and ADD 27/185D (SEA-MET, CAR-MET, SAM-MET)

Adopted.

4.6 ADD 27/168A and ADD 27/168B (Document No. 82 + Add.) (SAT-MET Rio de la Plata)

The representative of IATA, referring to the Argentine and Uruguayan proposal for the establishment of a SAM-MET "Rio de la Plata" sub-area, said that the proposal would establish a precedent not catered for under the new arrangements for VOLMET areas decided on at the ICAO Meeting. In accordance with those arrangements, HF frequency requirements could be reduced within a region through coordination under the ICAO individual time-slot system; on the basis of available information, the new SAM-MET area as a whole could well operate within that system, and any departure from it would be undesirable.

It was decided to refer that point to Working Group 5A.

The delegate of Uruguay observed that, since the climatic conditions in the Rio de la Plata area were quite exceptional, no precedent would be created by establishing the sub-area.

4.7 ADD 27/185E, ADD 27/185F (NCA-MET)

The Chairman drew the attention of the Committee to the fact that the boundaries of NCA-MET allotment and reception areas proposed were identical to those in ADD 27/181A and ADD 27/181B and had been adopted with modification in ADD 27/181B as already indicated.

The meeting rose at 1145 hours.

The Secretary :
M. SANT

The Chairman :
M. CHEF

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 150-E
14 February 1978
Original : English

COMMITTEE 5

German Democratic Republic

FREQUENCY BAND 21 870-22 000 kHz

The German Democratic Republic requests provision for one world-wide frequency in this frequency band.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 151-E
14 February 1978
Original : English

COMMITTEE 5

Kingdom of the Netherlands

PROPOSAL FOR THE WORK OF THE CONFERENCE

The Netherlands Administration has considered the question as to what measures could be taken to carry out the instruction given to the Conference at the end of paragraph 2.2.1 of its agenda, namely : "... to satisfy within the minimum of spectrum necessary the needs of that service" (= the Aeronautical Mobile (R) Service).

In this connection, the Netherlands Administration wishes to emphasize that the work of the World Administrative Radio Conference 1979 could be seriously hampered if, rather shortly before the WARC 1979, the present Conference would elaborate a new plan using the whole of the exclusive HF-Aermob (R) bands; it is feared that in that case the WARC 1979 will not be in a position fully and objectively to take into account the interests of all relevant radio services when reviewing and, where necessary, revising the provisions of Article 5 of the Radio Regulations.

In the light of the aforegoing, and in view of the fact that SSB operation could yield more than twice the number of channels appearing in the existing Appendix 27, the Netherlands Administration is of the opinion that the extra frequency channels needed in the Aeronautical Mobile (R) Service to cope with the increase of traffic, the improvement of the plan and the introduction of operational control facilities, may appreciably benefit by at most a doubling of the number of channels at present allotted to this Service. This Administration even believes that the number of new channels could be limited to approximately 175 per cent of the number of channels now available in the following bands :

2 850 - 3 025 kHz
3 400 - 3 500 kHz
5 480 - 5 680 kHz
6 525 - 6 685 kHz
8 815 - 8 965 kHz
13 260 - 13 360 kHz
17 900 - 17 970 kHz

This Administration therefore proposes, during the present Conference that portions of the bands contained in Appendix 27 remain unplanned. Such unplanned portions should be chosen :

- in the 5 480 - 5 680 kHz band : at the higher end of the band;
- in the other bands : at the lower end of each band.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 152-E
14 February 1978
Original : Spanish

COMMITTEE 4
COMMITTEE 5

Argentine Republic

FREQUENCY REQUIREMENT IN THE 21 870 - 22 000 kHz BAND

From the discussions in Committee 6, it appears that the necessary principles have already been adopted for planning frequencies in the 21 870 - 22 000 kHz band with a view to their allocation in the Aeronautical Mobile (R) Service. The Argentine Republic accordingly requests a frequency in that band to meet the needs arising from the introduction of the new long-range operational control service.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 153-E
14 February 1978
Original : Spanish

COMMITTEE 5

Peru

PROPOSALS FOR THE WORK OF THE CONFERENCE

1. Considering the Montreal preparatory meeting,

a) Amendment the combination of MWARA-SAM-1 and MWARA-SAM-2 into a single MWARA-SAM, including the whole of South America with boundaries through the following points :

from South Pole to 15°N 125°W, 15°N 60°W, 10°N 60°W, 5°S 30°W, 36°S 52°W to South Pole;

b) replacement of the VOLMET Area (AT-MET) by (SAM-MET) where :

- the SAM-MET allotment area is defined by a line drawn from the point 15°N 83°W, 15°N 60°W, 15°S 35°W, 35°S 60°W, 55°S 60°W, 53°S 83°W to the point 15°N 83°W;

- the SAM-MET reception area is defined by a line drawn from the point 30°N 120°W, 30°N 00°W , South Pole to the point 30°N 120°W;

c) amend the coverage of the area to include Peru.

2. The Peruvian Administration's request

a) establishment of a new Sub-Area 13M, exclusively for Peru, with boundaries through the following points

- from 19°S 81°W, 04°S 82°W, 03°S 80°W, following the frontier between Peru, Ecuador and Colombia to the point 11°S 69°30'W along the borders of Peru with Bolivia to 17°30'S 69°30'W then along the borders of Peru with Chile to close the sub-area at the point 19°S 81°W;

- the Buenos Aires Agreement of 1967 between Bolivia, Paraguay and Peru on Sub-Area 13D remains in force; the frequencies allotted to Peru will be those laid down in equal numbers in the new SSB Agreements;

b) additional request - Peru requires the frequencies listed in the following Table :

frequency bands (MHz)	3	3.5	4.7	5.4	5.6	6.6	9	10	11.3	13.3	18
RDARA Sub-Area 13M	4	4	1	3 1+	4 1+	3	3	3 1+	2	1 1+	1 1+
MWARA MWARA-SAM	2		1		1	1	3		3	1	2
VOLMET Area South America SAM-MET		2	1		2		2	1	1		
World-wide use	3023 (1)(2) 3499 (3)(4)				5680 (1)(2)(3)(5)	6526 (3)(4)	8963	10093 (3)	(5)	13356 (3)	(5)

Note : The figures appearing in the Table in each of the frequency bands denote the number of frequencies required in that band.

-+ means shared channel in Sub-Area 13D

- the last line of the Table gives frequencies for world-wide use

1) this frequency will be used world-wide by the Aeronautical Mobile (R) or (OR) Services

2) A1 emissions may be used in addition to A3 and A3H

3) these frequencies will be used world-wide in the Aeronautical Mobile (R) Service

4) limited to A1 emissions

5) limited to A1, A3A, A3H, A3J emissions.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 154-E
14 February 1978
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COMMITTEE 6

Arab Republic of Egypt

PROPOSAL FOR THE WORK OF THE CONFERENCE

EGY/154/1 MOD 27/18

All stations directly involved in coordination search and rescue operations using 3 023.5 3 023 and 5 680 ~~kc/s~~ kHz ~~for search and rescue purposes and employing single sideband (SSB)~~ shall transmit ~~a carrier at a level sufficient to permit reception on a double sideband (DSB) receiver and shall be able to receive DSB transmissions~~ only in the upper sideband mode except as provided in Nos. 27/50 and 27/73.

Reasons : If it is accepted that double sideband emissions may continue to be used on 3 023 and 5 680 kHz, no modification of 27/18 would appear to be necessary. Should however it be agreed that single sideband operation be introduced on these frequencies, the preceding change to 27/18 would appear to be necessary.

Note to 27/18 : There is a need for the WARC-AM(R)S (1978) to adopt a resolution similar to ITU Resolution No. Aer 1 as 3 023 and 5 680 kHz are common to the (R) and (OR) Services (see Resolution No. Aer 2-(D)).

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 155-E
13 february 1978
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COMMITTEE 2

First Report of

Working Group of Committee 2

CREDENTIALS

At its meeting of 13 february 1978, the Working Group examined the credentials from the following delegations :

Algeria (Algerian Democratic and Popular Republic)
Germany (Federal Republic of)
Angola (People's Republic of)
Saudi Arabia (Kingdom of)
Argentine Republic
Bahrain (State of)
Bangladesh (People's Republic of)
Belgium
Bolivia (Republic of)
Bulgaria (People's Republic of)
Canada
Chile
China (People's Republic of)
Colombia (Republic of)
Korea (Republic of)
Cuba
Denmark
United States of America
Fiji
Finland
France
Greece
Guatemala (Republic of)
Guinea (Republic of)
Upper Volta (Republic of)
Hungarian People's Republic
India (Republic of)
Ireland
Italy
Japan
Kenya (Republic of)
Kuwait (State of)
Liberia (Republic of)
Libya (Socialist People's Arab Jamahiriya)
Malaysia
Mauritania (Islamic Republic of)
Mexico
Monaco
Norway
New Zealand
Pakistan (Islamic Republic of)
Panama (Republic of)
Papua New Guinea
Paraguay (Republic of)
Netherlands (Kingdom of the)

Poland (People's Republic of)
German Democratic Republic
Democratic People's Republic of Korea
United Kingdom of Great Britain and Northern Ireland
Sao Tome and Principe (Democratic Republic of)
Singapore (Republic of)
Switzerland (Confederation of)
Tanzania (United Republic of)
Czechoslovak Socialist Republic
Union of Soviet Socialist Republics
Yemen Arab Republic
Yemen (People's Democratic Republic of)
Yugoslavia (Socialist Federal Republic of)

The Working Group is pleased to report to Committee 2 that these Credentials all are in conformity with the criteria of Nos 361, 364, 365 and 366 of the Convention.

C.J. MARTINEZ
Chairman of the Working Group of Committee 2

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 156-E
14 February 1978
Original: English

COMMITTEE 5

REPORT OF WORKING GROUP 5A

The Working Group held three meetings to deal with the matters described under the terms of reference given in Document No. DT/13.

2. In accordance with the terms of reference, the Working Group examined the provisions of Nos. 27/104 - 27/173 of Appendix 27 and the related proposals that were received. The decisions of the Working Group are listed at the Annex. Committee 7 should note that it will be necessary to review and update where necessary the names of countries and cities contained in the descriptions of RDARAs and Sub-RDARAs especially in cases where the provisions of a particular number bear the symbol NOC.

3. Attention is drawn to ADD 27/161A in which the Working Group proposes the creation of a new Sub-RDARA 12J. The Working Group requests Committee 5 to consider the frequency requirements for this Sub-RDARA.

4. The Working Group was unable to reach agreement on the proposals concernings the following Sub-RDARAs:

a) Sub-Areas of RDARA-6, except 6A and 6E;

b) Sub-Area 7B.

5. The map of all RDARAs and Sub-RDARAs will be finalised when decisions on all the areas are available.

Annex: 1

E.D. DUCHARME
Chairman of Working Group 5A

A N N E X

ARTICLE 2

DESCRIPTION OF THE BOUNDARIES OF THE REGIONAL AND DOMESTIC AIR ROUTE AREAS (RDARAs)

NOC 27/104

MOD 27/105 Sub-Area 1A

From the point 65°N 26°W, and through the points 40°N 50°W, 40°N 20°W, 60°N 20°W, 60°N 26°W, to the point 65°N 26°W.

MOD 27/106 Sub-Area 1B

From the North Pole along the 15°W meridian to the point 72°N 15°W, then through the points 65°N 26°W, 60°N 26°W, 60°N 20°W to the point 50°N 20°W, thence east along the territorial waters between the Channel Islands and French coastline, reaching the latter at the meridian 03°W. Thence following the north-east border of France, touching Belgium, Luxembourg and the Federal Republic of Germany. Thence along the border between Switzerland and the Federal Republic of Germany, and along the border between the latter and Austria. Thence along the border between the Czeckoslovak Socialist Republic and the Federal Republic of Germany, then along the border between the Federal Republic of Germany and the German Democratic Republic towards the Baltic Sea. Then west along the coastline of the Federal Republic of Germany to the border between the latter and Denmark. Along this border to the North Sea. Thence along the 55°N parallel to a point 55°N 04°E, then through the points 56°N 03°E, 59°N 02°E, 62°N 01°E. Thence along the 01°E meridian to the North Pole.

MOD 27/107 Sub-Area 1C

From the North Pole along the meridian 01°E to the point 62°N 01°E. Thence through the points 59°N 02°E, 56°N 03°E, 55°N 04°E and then east along the 55°N parallel and the border between Denmark and the Federal Republic of Germany to the Baltic Sea, and along the Baltic Sea coast of the Federal Republic of Germany to the border between the Federal Republic of Germany and the German Democratic Republic. Along this border touching the western borders of the Czeckoslovak Socialist Republic and Austria to the Swiss border. Thence eastward along the southern borders of Austria and Hungary, thence along the border between Hungary and Roumania, thence, along the border between the U.S.S.R. and the following countries: Hungary, the Czeckoslovac Socialist Republic and Poland. Thence to the Baltic Sea along the U.S.S.R., Baltic Sea coast, to the border between Finland and the U.S.S.R. at 70°N 32°E, then along the 32°E meridian to the North Pole.

NOC 27/108

MOD 27/109 Sub-Area 1E

From the point 50°N 20°W, through the points 40°N 20°W, 40°N 50°W, 30°N 39°W, 30°N 10°W, 31°N 10°W, to the point 31°N 10°E. Then along the Libya-Tunisian borders to the Mediterranean, thence along the Tunisian coast to intersect the 10°E meridian. Thence to the point 43°N 10°E; thence to the border between Italy and France and between Italy and Switzerland, Switzerland and Austria, Switzerland and the Federal Republic of Germany, and between France and the Federal Republic of Germany, France and Luxembourg, and France and Belgium to the Channel coast. Thence west through the territorial waters between the Channel Islands and the French coast to the point 50°N 20°W.

NOC 27/110
NOC 27/111
NOC 27/112
NOC 27/113
NOC 27/114
NOC 27/115
NOC 27/116
NOC 27/117
NOC 27/118
NOC 27/119

MOD 27/120 Sub-Area 4B

From the point 21°N 31°W, through the points 10°N 20°W, 05°S 20°W, to 05°S 12°E. Thence along the southern border of the People's Republic of the Congo and the Central African Republic to the Junction between the Republic of Zaire, the Sudan and the Central African Republic.. Along the western border of the Sudan to the point 12°N 22°E. Thence along the Ndjamena parallel to the Nigerian border. Then West along this border to Zinder. From Zinder through Gao to close the sub-area at 21°N 31°W.

NOC 27/121
NOC 27/122
NOC 27/123
NOC 27/124
NOC 27/125
NOC 27/126
NOC 27/127
NOC 27/131

MOD 27/133 Regional and Domestic Air Route Area-7 (RDARA-7)

From the South Pole along the 20°W meridian to 05°S. Then along the 05°S parallel to 12°E. Thence along the border between People's Republic of Congo and People's Republic of Angola, then along the northern border of the Republic of Zaire, along the border between Uganda and Sudan, and between Kenya and the following countries: Sudan, Ethiopia and Somalia to the point 02°S 42°E. Then to 02°S 60°E and along the 60°E meridian to 11°S, then 11°S 65°E, 40°S 65°E, 40°S 60°E to the South Pole.

NCC 27/134

MOD 27/136 Sub-Area 7C

From the junction of the borders of Uganda, Republic of Zaire and Sudan along the western border of Uganda and Tanzania, and then along the southern border of Tanzania to the coast. Thence through the points 11°S 41°E, 11°S 60°E, 02°S 60°E, to 02°S 41°E. Thence to the East coast of Africa. Then North along the eastern border of Kenya, then West along the northern borders Kenya and Uganda to close the sub-area at the junction of the borders of the Republic of Zaire, Sudan and Uganda.

MOD 27/137 Sub-Area 7D

From the border of Tanzania and Mozambique on Lake Nyasa, south along the west border of Mozambique to the African east coast, then through the points 27°S 33°E, 40°S 33°E, 40°S 65°E, 11°S 65°E, to 11°S 41°E. Thence along the northern border of Mozambique to Lake Nyasa.

MOD 27/138 Sub-Area 7E

From the point 17°S 10°E, and through the points 40°S 10°E, 40°S 33°E, to 27°S 33°E. Thence along the West border of Mozambique and the lower part of the western border of Tanzania as far as the northern point of Lake Nyasa. Thence along the border between Malawi and Tanzania and between Zambia and Tanzania and along the borders between the Republic of Zaire and Zambia, the People's Republic of Angola and Zambia, and the People's Republic of Angola and the Territory of South-West Africa to the coast at the point 17°S 10°E.

MOD 27/139 Regional and Domestic Air Route Area-8 (RDARA-8)

From the South Pole along the 60°E meridian to 40°S then through the points 40°S 65°E, 11°S 65°E, 11°S 60°E, 02°S 60°E, 02°S 92°E, 10°S 92°E, to 10°S 110°E. Then along the 1100°E meridian to the South Pole.

SUP 27/140

MOD 27/141 Regional and Domestic Air Route Area-9 (RDARA-9)

From the South Pole along the 160°Emeridian to 27°S. Then through the points 19°S 153°E, 10°S 145°E, 10°S 141°E, 00° 141°E, 00° 160°E, 03°30'N 160°E, 03°30'N 120°W. Then along the 120°W meridian to the South Pole.

SUP 27/142

MOD 27/143 Sub-Area 9B

From the point 00° 141°E through points 10°S 141°E, 10°S 145°E, 27°S 160°E, 27°S 157°W, 03°30'N 157°W, 03°30'N 160°E, 00° 160°E to the point 00° 141°E.

NOC 27/144

MOD 27/145 Sub-Area 9D

From the South Pole along the 160°E meridian to 27°S. Then through the point 27°S 170°W and along the 170°W meridian to the South Pole.

ADD 27/145A Regional and Domestic Air Route Area-10 (RDARA-10)

From the point 50°N 164°E to 66°N 169°W. Then along the 169°W meridian to the North Pole. Then through the points 82°N 30°E, 82°N00°, 73°N00, 73°N 15°W. Then along the 15°W meridian to 72°N. Then through the points 40°N 50°W, 40°N 65°W to 44° 30'N 73°W, 41°N 81°W, 41°N 88°W, 48°N 91°W 48°N 127°W, 50°N 130°W, then westward to close at 50°N 164°E.

MOD 27/146 Sub-Area 10A

From the point 50°N 164°E to 66°N 169°W, then along the 169°W meridian to the North Pole, then along the 130°W meridian to 50°N, then westward to close the sub-area at 50°N 164°E.

NOC 27/147
NOC 27/148
NOC 27/149
NOC 27/150

ADD 27/150A Sub-Area 10F

From the North Pole through the points 82°N 30°E, 82°N 00°, 73°N 00° 73°N 20°W, 70°N 20°W, 63°30'N 39°W, 58°30'N 43°W, 58°30'N 50°W, 63°30'N 55°44'W, 65°30'N 58°39'W, 74°N 68°18'W, 76°N 76°W, 78°N 75°W, 82°N 60°W to the North Pole.

ADD 27/150B Regional and Domestic Air Route Area-11 (RDARA-11)

From the point 29°N 180° through the points 50°N 164°E, 50°N 127°W. Then along the border between the United States of America and Canada to 46°N 67°W, then to 40°N 65°W, 40°N 50°W, 25°N 35°W, 25°N 98°W, 33°N 119°W, 33°N 153°W, 29°N 153°W to close at 29°N 180°.

MOD 27/151 Sub-Area 11A

From the point 29°N 180°, through the points 50°N 164°E, 50°N 130°W, 33°N 130°W, 33°N 153°W, 29°N 153°W, to close the sub-area at 29°N 180°.

MOD 27/152 Sub-Area 11B

From the point 50°N 130°W and through the points 33°N 130°W, 33°N 119°W, 25°N 98°W, 25°N 65°W, 40°N 65°W, 46°N 67°W then along the border between the United States and Canada through 50°N 127°W, to close the sub-area at 50°N 130°W.

ADD 27/152A Sub-Area 11C

From the point 25°N 65°W and through the points 40°N 65°W, 40°N 50°W, 25°N 35°W, to close the sub-area at 25°N 65°W.

ADD 27/152B Regional and Domestic Air Route Area-12 (RDARA-12)

From the point 03° 30'N 170°W to the point 10°N 170°W, then along the ITU boundary between Regions 2 and 3 to 29°N 180°, and thence to 29°N 153°W, 33°N 153°W, through the points 33°N 120°W, 35°N 120°W, 32°N 104°W, 25°N 91°W, 26°N 91°W, 26°N 79°W, 27°N 79°W 27°N 76° 30'W, 25°N 70°W, 25°N 35°W and along the ITU boundary between Regions 1 and 2 to 00° 20°W. Thence through the points 00° 44°W, 04° 24'N 50° 39W. Then along the boundary between Brazil and French Guiana, Surinam, Guyana, Venezuela, Columbia to the junction of Brazil, Peru and Columbia then along the boundary between Peru and Columbia and Peru and Equador to the point 04°S 93°W. Then to the point 05°S 93°W and through the points 05°S 120°W, 03° 30'N 120°W to close the area at 03° 30'N 170°W.

NOC 27/153
NOC 27/154
NOC 27/155

MOD 27/156 Sub-Area 12D

From the point 20°N 91°W, and through the points 26°N 91°W, 26°N 79°W, 27°N 79°W, 27°N 76°30'W, 26°N 73°W, 17°N 58°W, to 10°N 58°W. Thence through Panama City, Colon, Swan Island, and Belize to close the sub-area at 20°N 91°W.

NOC 27/157

MOD 27/158 Sub-Area 12F

From the point 02°N 79°W to the point 08°N 83°W, then along the border between Panama and Costa Rica, through the points 10°N 83°W, 13°N 83°W, 13°N 70°W, 08°N 70°W, 06°N 67°W and 01°N 66°W. Then along the border between Brazil and Colombia to 04°S 70°W. Thence along the border between Colombia and Peru, continuing along the border between Colombia and Ecuador, to close the sub-area at 02°N 79°W.

MOD 27/159 Sub-Area 12G

From the point 07°N 73°W, and through the points 14°N 73°W, 14°N 58°W, 01°31'N 58°W and along the borders of Brazil with Guyana, Venezuela, Colombia through the points 1°57'N 68°W, 05°N 69°W, to close the sub-area at 07°N 73°W.

MOD 27/160 Sub-Area 12H

From the point 05°N 70°W , and through the points 08°45'N 60°W, 08°N 58°W, 08°N 49°W, 04°10'N 51°36'W, and along the borders of Brazil with French Guiana, Surinam, Guyana, Venezuela and Colombia to the junction of the borders of Brazil, Colombia and Peru, to close the sub-area at 05°N 70°W.

NOC 27/161

ADD 27/161A Sub-Area 12J

From the point 04°S 93°W, and through the points 02°N 93°W, 02°N 79°W. Then along the border between Ecuador and Colombia to the junction with the borders of Colombia, Peru and Ecuador. Thence along the border between Peru and Ecuador to close the sub-area at 04°S 93°W.

ADD 27/161B Regional and Domestic Air Route Area-13 (RDARA-13)

From the South Pole along the 120°W meridian to 05°S. Then through the points 05°S 93°W, 04°S 82°W, and along the southern border of Ecuador, Colombia, Venezuela, Guyana, Surinam, French Guiana, to the point 04°24'N 50°39'W. Then through the points 04°24'N 47°W, 00°32°W to the point 00°20°W, and along the 20°W meridian to the South Pole.

NOC 27/162

NOC 27/163

MOD 27/164 Sub-Area 13C

From the point 15°S 47°W and through the points 20°S 44°W, 23°19'S 42°W,25°S 45°W, 22°30'S 50°39'W, 19°52'S 58°W, and along the border of Brazil with Paraguay, Bolivia, Peru, Colombia, Venezuela, Guyana, Surinam and French Guiana to 04°24'N 50°39'W, 04°24'N 47°W, to close the sub-area at 15°S 47°W.

NOC 27/165

NOC 27/166

NOC 27/167

NOC 27/168

NOC 27/169

NOC 27/170

MOD 27/171 Sub-Area 13J

From the point 15°S 47°W through the points 20°S 44°W, 23°19'S 42°W, 29°S 40°W, 35°S 45°W, and thence along the borders of Brazil with Uruguay, Argentina, Paraguay and Bolivia to the point 19°52'S 58°W, then through the point 18°S 57°37'W to close the sub-area at 15°S 47°W.

MOD 27/172 Sub-Area 13K

From the point 22°30'S 50°39'W and through the points 25°S 45°W, 29°S 40°W, 20°S 32°W, 00°32°W, 04°24'N 47°W, 04°24'N 50°39'W, to close the sub-area at 22°30'S 50°39'W.

NOC 27/173

ADD 27/173A Regional and Domestic Air Route Area-14 (RDARA-14)

From the South Pole along the 110°E meridian to 10°S. Then through the points 10°S 145°E, 19°S 153°E, 27°S 160°E. Then along the 160°E meridian to the South Pole.

ADD 27/173B Sub-Area 14A

From the South Pole along the 110°E meridian to 19°S. Then through the points 19°S 118°E, 24°S 120°E, 24°S 131°E. Then along the 131°E meridian to the South Pole.

ADD 27/173C Sub-Area 14B

From the point 19°S 110°E to the point 10°S 110°E thence to 10°S 131°E, 24°S 131°E, 24°S 120°E, 19°S 118°E to the point 19°S 110°E.

ADD 27/173D Sub-Area 14C

From the point 24°S 131°E to the point 10°S 131°E thence to 10°S 139°E, 24°S 139°E to the point 24°S 131°E.

ADD 27/173E Sub-Area 14D

From the South Pole along the 131°E meridian to 24°S then through the points 24°S 139°E, 27°S 139°E, 27°S 142°E, 34°S 142°E, 34°S 139°E. Then along the 139°E meridian to the South Pole.

ADD 27/173F Sub-Area 14E

From the point 24°S 139°E along the 139°E meridian to 10°S then through the points 10°S 145°E, 19°S 153°E to the point 24°S 139°E.

ADD 27/173G Sub-Area 14F

From the point 27°S 139°E along the 139°E meridian to 24°S then through the points 19°S 153°E, 27°S 160°E to the point 27°S 139°E.

ADD 27/173H Sub-Area 14G

From the South Pole along the 139°E meridian to 34°S then through the points 34°S 142°E, 27°S 142°E, 27°S 160°E. Then along the 160°E meridian to the South Pole.

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COMMITTEE 5

Republic of India

FREQUENCY BAND 21 870 - 22 000 kHz

Taking note of the fact that frequencies in the 21 870 - 22 000 kHz band will be planned for allotment to the Aeronautical Mobile (R) Service, India requests for provision of two frequencies in this band.

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 5

Republic of Afghanistan

FREQUENCY BAND 21 870-22 000 kHz

Taking into consideration that the band 21 870-22 000 kHz will be planned for frequency allotments to the Aeronautical Mobile Service, Afghanistan requests one frequency in this band.

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WORKING GROUP 4B

THIRD AND FINAL REPORT FROM WORKING GROUP 4B TO COMMITTEE 4

Working Group 4B continued the study of Appendix 27 and the proposals of Administrations especially those relating to Nos. 27/63 to 27/73. Furthermore, the Working Group considered Appendix 3 to the Radio Regulations.

The proposals of the Working Group as annexed are submitted to Committee 4 for consideration.

H.T. BLAKER
Chairman of Working Group 4B

ADD D. LIMITS TO THE POWER LEVELS OF UNWANTED EMISSIONS

1. Technical provisions relating to the use of single-sideband emissions.

MOD 27/63 1.1 Definitions of carrier modes :

Carrier mode	Level N (dB) of the carrier with respect to peak envelope power
Full carrier (for example A2H)	0 > N > - 6
Suppressed carrier (for example A3J)	Aircraft Stations - 26 > N Aeronautical Stations - 40 > N

/ The Delegate of New Zealand expressed disappointment at the figure - 26 dB having been retained for aircraft stations /.

SUP 27/64
MOD 2. Tolerance for levels of emission outside the necessary bandwidth.

MOD 27/65 2.1 In a single-sideband transmission, the mean power of any emission supplied to the antenna transmission line of an aeronautical or aircraft station on any discrete frequency, shall be less than the mean power (Pm) of the transmitter in accordance with the following table :

MOD 27/66 2.2 For aircraft station transmitter types and for aeronautical station transmitters first installed before / 1 February 1983 /.

Frequency separation < from the assigned frequency kHz	Minimum attenuation below mean power (Pm) dB
$2 \leq \Delta < 6$	25
$6 \leq \Delta < 10$	35
$10 \leq \Delta$	Aircraft Stations 40 Aeronautical Stations *)

*) For transmitter powers up to and including 100 watts $43 + 10 \log_{10}$ Pm (watts)
For transmitter powers more than 100 watts the attenuation shall be at least 60 dB.
/ The Delegate of Canada objected to the retention of the word "types" in paragraph 2.1 /.

ADD 27/66A 2.3 In a single-sideband transmission, the peak envelope power (Pp) of any emission supplied to the antenna transmission line of an aeronautical or aircraft station on any discrete frequency, shall be less than the peak envelope power (Pp) of the transmitter in accordance with the following table.

ADD 27/66B 2.4 For aircraft station transmitters first installed after / 1 February 1983 / and for aeronautical station transmitters in use after / 1 February 1983 /.

Frequency separation Δ from the assigned frequency kHz	Minimum attenuation below peak envelope power (Pp) dB
$1.5 \leq \Delta < 4.5$	30
$4.5 \leq \Delta < 7.5$	38
$7.5 \leq \Delta$	Aircraft Stations 43 Aeronautical Stations *)

*) For transmitter powers up to and including 100 watts
$43 + 10 \log_{10} Pp$ (watts)
For transmitter powers more than 100 watts the attenuation shall be at least 63 dB.
/ The Delegate of Australia expressed the view that the value should be limited to 60 dB. The Delegate of Cuba was of the opinion that Aircraft and Aeronautical stations should be subject to the same conditions as to installation and use /.

SUP 27/67 to 27/71 inclusive

ADD E. OTHER TECHNICAL PROVISIONS

NOC 1. Assigned frequencies

MOD 27/72 1.1 For single-sideband emissions, except class of emission A2H, the assigned frequency shall be at a value 1 400 Hz above the carrier (reference) frequency.

ADD 27/72A 1.2 Aeronautical stations equipped with selective calling systems shall indicate in Supplementary Information column of the Form of Notice (see Appendix 1 to the Radio Regulations) the class of emission A2H.

ADD 27/72B 1.3 For classes of emission A1 and F1 the assigned frequency shall be chosen in accordance with the provisions of the footnote to MOD 27/51 and MOD 27/52.

MOD 27/73 1.4 Stations employing double-sideband emissions (A3) shall operate with an assigned frequency at 3 023 kHz or 5 680 kHz (see 27/50).

APPENDIX 3

Mar Mar2

Table of Frequency Tolerances*)

(See Article 12)

Frequency bands (lower limit exclusive, upper limit inclusive) and Categories of stations	Tolerances applicable until 1st January, 1966*) to transmitters in use and to those to be installed before 1st January, 1964	Tolerances applicable to new transmitters installed after 1st January, 1964 and to all transmitters after 1st January, 1966*)
	*) 1st January, 1970 in the case of all tolerances marked with an asterisk.	
. . . . .		
Band : 1 605 to 4 000 kHz		
. . . . .		
MOD 2. Land stations - power 200 W or less - power above 200 W	100 50	100 h) 1) r) 50 h) 1) r)
Band : 4 to 29.7 MHz		
. . . . .		
2. Land stations :		
. . . . .		
MOD b) Aeronautical stations : - power 500 W or less - power above 500 W	100 50	100 r) 50 r)
. . . . .		
3. Mobile stations :		
. . . . .		

ADD r) For single-sideband transmitters operating in the frequency bands 1 605 - 4 000 kHz and 4 - 29.7 MHz which are allocated exclusively to the Aeronautical Mobile (R) Service, the tolerance on the carrier (reference) frequency is :

1.	for all Aeronautical Stations	10 Hz
2.	for all Aircraft Stations operating on international services	20 Hz
3.	for Aircraft Stations operating exclusively on national services	50 Hz

Note : In order to achieve maximum intelligibility it is suggested that Administrations encourage the reduction of this tolerance to 20 Hz.

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COMMITTEE 6

FOURTH REPORT OF WORKING GROUP 6A

1. In its deliberations on the possible revision of No. 27/20, the Working Group, by majority, agreed on the following text:

MOD 27/20 The International Civil Aviation Organization (ICAO) co-ordinates communications of the Aeronautical Mobile (R) Service with international aeronautical operations and this Organization should be consulted in all appropriate cases in the operational use of the frequencies in the Plan.

The Delegations of the United Kingdom and the United States of America reserved their position on this decision.

2. The Working Group also agreed by majority on the following action:

MOD 27/9 A Family of Frequencies in the Aeronautical Mobile (R) Service contains two or more frequencies selected from different Aeronautical Mobile (R) bands and is intended to permit communication at any time within the authorized area of use (see Nos. 27/189 to 27/207) between aircraft stations and appropriate aeronautical stations.

The Delegations of Brazil, Argentina and Venezuela reserved their position on this decision.

K. OLMS
Chairman of Working Group 6A

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

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COMMITTEE 4
COMMITTEE 5

Republic of Paraguay

FREQUENCY REQUIREMENT IN THE 21 870-22 000 kHz BAND

In view of the fact that the discussions in Committee 6 have resulted in principles being established for the planning of frequencies in the 21 870-22 000 kHz band for allocation to the Aeronautical Mobile (R) Service, the delegation of Paraguay requests a frequency to meet the needs of its long-distance operational control service.

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AERONAUTICAL (R) CONFERENCE

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COMMITTEE 5

Greece

FREQUENCY REQUIREMENT BAND 21 870-22 000 kHz

Taking note of the fact that frequencies in the 21 870-22 000 kHz band will be planned for allotment to the Aeronautical Mobile (R) Service, Greece requests provision for one world-wide frequency in this band.

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 5

Socialist Republic of Roumania

FREQUENCY BAND 21 870 - 22 000 kHz

Since frequencies in the band 21 870 - 22 000 kHz are to be included in the planning of Frequency Allotments to the Aeronautical Mobile (R) Service, the Roumanian Delegation requests two frequencies in that band to meet the requirements of the Socialist Republic of Roumania for the world-wide long-range operational control service.

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 5

FREQUENCY REQUIREMENTS FOR MAJOR WORLD AIR ROUTE AREAS

(MWARAs)

Having reviewed Document No. 164(Rev.2) at its sixth meeting on 25 February 1978, Committee 5 agreed on the frequency requirements for the MWARAs as shown below.

Frequency group	I	II	III	IV	V	Channel common to
Bands	3, 3.5 MHz	4.7, 5.6, 6.6 MHz	9, 10, 11.3 MHz	13.3 MHz	18 MHz	
AFI	5	6	6	3	-	
	1*(3.5 MHz)	1*(5.6 MHz)	1*(10 MHz)	1*	-	AFI, EUR, MID,
	-	-	-	-	1*	AFI, EUR, INO, MID
CAR	2	4	5	1	-	
	-	-	-	-	1*	CAR, SAM
CEP	2	4	3	2	-	
	-	-	-	-	1*	CWP, NP, SP, CEP
CWP	2	5	3	1	-	
	-	-	-	-	1*	CWP, NP, SP, CEP
EA	2	2	2	2	-	
	-	-	-	1*	-	EA, NCA
	1*(3.5 MHz)	1*(5.6 MHz)	1*(11.3 MHz)	1*	1*	EA, SEA
EUR	1	2	1	-	-	
	-	-	-	1*	-	AFI, EUR, MID
	-	-	-	-	1*	AFI, EUR, INO, MID
INO	1	1	1	1	-	
	-	-	-	-	1*	AFI, EUR, INO, MID
MID	3	5	4	1	-	
	1*(3.5 MHz)	1*(5.6 MHz)	1*(10 MHz)	1*	-	AFI, EUR, MID
	-	-	-	-	1*	AFI, MID, INO, EUR
NAT	6	6	6 (9 MHz) + 3 (11.3 MHz)	2	1	
NCA	3	4	3	1	1	
	-	-	-	1*	-	EA, NCA
NP	1	3	2	1	-	
	-	-	-	-	1*	CWP, NP, SP, CEP

Frequency group	I	II	III	IV	V	Channel common to
Bands	3, 3.5 MHz	4.7, 5.6, 6.6 MHz	9, 10, 11.3 MHz	13.3 MHz	18 MHz	
SAM	2 -	3 -	4 -	1 -	- 1*	 CAR, SAM
SAT	3	2	3	2	1	
SEA	1 1*(3.5 MHz)	2 1*(5.6 MHz)	2 1*(11.3 MHz)	1 1*	- 1*	 EA, SEA
SP	1 -	2 -	2 -	2 -	- 1*	 CWP, NP, SP, CEP

M. CHEF
Chairman of Committee 5

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 164(Rev.2)-E
23 February 1978
Original : English

COMMITTEE 5

FREQUENCY REQUIREMENTS FOR MAJOR WORLD AIR ROUTE AREAS

(MWARAs)

Having reviewed Document No. 164(Rev.1) at its thirteenth meeting on 23 February 1978, Working Group 5B agreed on the frequency requirements for the MWARAs as shown below.

Frequency group	I	II	III	IV	V	Channel common to
Bands	3, 3.5 MHz	4.7, 5.6, 6.6 MHz	9, 10, 11.3 MHz	13.3 MHz	18 MHz	
AFI	5	6	6	3	-	
	1*(3.5 MHz)	1*(5.6 MHz)	1*(10 MHz)	1*	-	AFI, MID,
	-	-	-	-	1*	AFI, MID, INO
CAR	2	4	5	1	-	
	-	-	-	-	1*	CAR, SAM
CEP	2	4	3	2	-	
	-	-	-	-	1*	CWP, NP, SP, CEP
CWP	2	5	3	1	-	
	-	-	-	-	1*	CWP, NP, SP, CEP
EA	2	2	2	2	-	
	1*(3.5 MHz)	1*(5.6 MHz)	1*(11.3 MHz)	1*	1*	EA, SEA
EUR	1	2	1	-	-	
INO	1	1	1	1	-	
	-	-	-	-	1*	AFI, MID, INO
MID	3	5	4	1	-	
	1*(3.5 MHz)	1*(5.6 MHz)	1*(10 MHz)	1*	-	AFI, MID
	-	-	-	-	1*	AFI, MID, INO
NAT	6	6	6 (9 MHz) + 3 (11.3 MHz)	2	1	
NCA	3	4	3	1	1	
NP	1	3	2	1	-	
	-	-	-	-	1*	CWP, NP, SP, CEP

Frequency group	I	II	III	IV	V	Channel common to
Bands	3, 3.5 MHz	4.7, 5.6, 6.6 MHz	9, 10, 11.3 MHz	13.3 MHz	18 MHz	
SAM	2	3	4	1	-	
	-	-	-	-	1*	CAR, SAM
SAT	3	2	3	2	1	
SEA	1	2	2	1	-	
	1*(3.5 MHz)	1*(5.6 MHz)	1*(11.3 MHz)	1*	1*	EA, SEA
SP	1	2	2	2	-	
	-	-	-	-	1*	CWP, NP, SP, CEP

K. KING
Chairman of Working Group 5B

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

FREQUENCY REQUIREMENTS FOR MAJOR WORLD AIR ROUTE AREAS

(MWARAs)

Having reviewed Document No. 164 at its twelfth meeting, on 22 February 1978, Working Group 5B agreed on the frequency requirements for the MWARAs as shown below.

Frequency group	I	II	III	IV	V	Channel common to
Bands	3, 3.5 MHz	4.7, 5.6, 6.6 MHz	9, 10, 11.3 MHz	13.3 MHz	18 MHz	
AFI	5	6	6	3	-	
	1*	1*	1*	1*	-	AFI, MID,
	-	-	-	-	1*	AFI, MID, INO
CAR	2	4	5	1	-	
	-	-	-	-	1*	CAR, SAM
CEP	2	4	3	2	-	
	-	-	-	-	1*	CWP, NP, SP, CEP
CWP	2	5	3	1	-	
	-	-	-	-	1*	CWP, NP, SP, CEP
EA	1	2	2	1	-	
	1*	1*	1*	1*	1*	EA, SEA
EUR	1	2	1	-	-	
INO	1	1	1	1	-	
	-	-	-	-	1*	AFI, MID, INO
MID	3	5	4	1	-	
	1*	1*	1*	1*	-	AFI, MID
	-	-	-	-	1*	AFI, MID, INO
NAT	6	6	6 (9 MHz) + 3 (11.3 MHz)	2	1	
NCA	3	4	3	1	1	
NP	1	3	2	1	-	
	-	-	-	-	1*	CWP, NP, SP, CEP

Frequency group	I	II	III	IV	V	Channel common to
Bands	3, 3.5 MHz	4.7, 5.6, 6.6 MHz	9, 10, 11.3 MHz	13.3 MHz	18 MHz	
SAM	2	3	4	1	-	
	-	-	-	-	1*	CAR, SAM
SAT	3	2	3	2	1	
SEA	1	2	2	1	-	
	1*	1*	1*	1*	1*	EA, SEA
SP	1	2	2	2	-	
	-	-	-	-	1*	CWP, NP, SP, CEP

K. KING
Chairman of Working Group 5B

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 164-E
15 February 1978
Original : English

COMMITTEE 5

FREQUENCY REQUIREMENTS FOR MAJOR WORLD AIR ROUTE AREAS

(MWARAs)

Having considered Document No. DT/16 at its third and fourth meetings, on 14 and 15 February 1978, the Working Group 5B agreed on the frequency requirements for the MWARAs as shown below.

The Working Group was of the view that these requirements are not final and may need to be reviewed and revised after the first draft plan is available.

MWARAs

Frequency Group	I	II	III	IV	V
Bands	3, 3.5 MHz	4.7, 5.6, 6.6 MHz	9, 10, 11.3 MHz	13.3 MHz	18 MHz
AFI	6	7	7	5	2
CAR	2	5	5	1	1
CEP	2	4	3	2	1
CWP	2	5	3	1	1
EA	3	3	3	2	1
EUR	2	4	3	-	1
INO	1	1	1	1	1
MID	4	6	5	2	1
NAT	7	7	7 (9 MHz) + 3 (11.3 MHz)	2	1
NCA	3	4	4	1	1
NP	1	4	2	1	1
SAM	2	3	4	1	1
SAT	4	3	3	2	1
SEA	3	3	3	2	1
SP	1	2	2	2	1

K. KING
Chairman of Working Group 5B

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 165-E
16 February 1978
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PLENARY MEETING
COMMITTEE 7

FIRST REPORT OF COMMITTEE 5

1. Committee 5 held four meetings up to 16 February 1978 and adopted modifications to the boundaries of the Major World Air Route Areas (MWARAs) and VOLMET Allotment and Reception Areas, as indicated in Annex 1.

2. For the purpose of determination of the boundaries of Regional and Domestic Air Route Areas (RDARAs) and their Sub-Areas and for determining the frequency requirements of the various aeronautical areas two Working Groups 5A and 5B were set up under the chairmanship of Mr. E.C. Ducharme (CAN) and Mr. K. King (AUS), respectively. The terms of reference of these Working Groups are given in Annex 2.

3. The decisions concerning the boundaries of RDARAs and their Sub-Areas are given in Annex 3.

4. Attention of Committee 7 is drawn to the necessity of reviewing and up-dating where appropriate the names of cities and countries contained in the description of boundaries, especially in cases where the provisions of a particular number bear the symbol NOC.

5. The boundaries of various aeronautical areas are shown in the maps appearing in Annexes 4 to 9. Attention is drawn to the fact that boundaries of some Sub-RDARAs in RDARAs 6 and 7 as shown in Annex 8 are provisional and subject to further consideration by Committee 5. They are being used only for technical needs of the preparation of the first draft plan.

6. For the purposes of reviewing the sharing matrices prepared by the I.F.R.B. with a view to verifying them and improving the sharing possibilities, a Working Group 5C has been established under the chairmanship of Mr. W.T. Young (United Kingdom).

Annexes: 9

M. CHEF
Chairman of Committee 5

A N N E X 1

ARTICLE 1

DESCRIPTION OF THE BOUNDARIES OF THE MAJOR WORLD AIR ROUTE AREAS (MWARAs)

NOC 27/80

SUP 27/81

MOD 27/82 Major World Air Route Area - CENTRAL EAST PACIFIC (MWARA-CEP)

From the point 50°N 122°W through the points 38°N 120°W, 15°N 110°W, 20°S 145°W, 20°S 152°W, 30°N 165°W, to the point 50°N 122°W.

MOD 27/83 Major World Air Route Area - CENTRAL WEST PACIFIC (MWARA-CWP)

From the point 40°N 117°E through the points 25°N 155°W, 17°N 155°W, 00° 165°W, 00° 170°E, 12°S 165°E, 12°S 136°E, 09°N 115°E, 23°N 114°E, to the point 40°N 117°E.

MOD 27/84 Major World Air Route Area - EUROPE (MWARA-EUR)

From the point 33°N 12°W through the points 54°N 12°W, 70°N 00°, 74°N 40°E, 74°N 52°E, 60°N 52°E, 40°N 36°E, 29°N 35° 30'E, 32°N 13°E, to the point 33°N 12°W.

SUP 27/85

ADD 27/85A Major World Air Route Area - INDIAN OCEAN (MWARA-INO)

From the South Pole through the points 30°S 26°E, 20°N 35°E, 30°N 60°E, 30°N 90°E, 30°S 120°E, 40°S 160°E to the South Pole.

MOD 27/86 Major World Air Route Area - MIDDLE EAST (MWARA-MID)

From the points 51°N 30°E through the points 57°N 37°E, 50°N 80°E, 44°N 94°E, 08°N 76°E, 11°45'N 42°E, 16°N 42°E, 30°N 30°E, to the point 51°N 30°E.

MOD 27/87 Major World Air Route Area - NORTH ATLANTIC (MWARA-NAT)

From the North Pole through the points 60°N 135°W, 49°N 120°W, 49°N 74°W, 39°N 78°W, 18°N 66°W, 05°N 55°W, 16°N 26°W, 32°N 08°W, 44°N 02°E, 60°N 20°E, to the North Pole.

ADD 27/87A Major World Air Route Area - NORTH CENTRAL ASIA
(MWARA-NCA)

From the North Pole through the points 75°N 10°E, 60°N 25°E, 30°N 25°E, 30°N 73°E, 37°N 73°E, 49°N 85°E, 42°N 97°E, 42°N 110°E, 45°N 113°E, 46°30'N 120°E, 49°N 116°E, 54°N 123°E, 45°N 133°E, 40°N 124°E, 30°N 124°E, 25°N 135°E, 65°N 170°W, to the North Pole.

SUP 27/88
SUP 27/89
SUP 27/90
SUP 27/91
SUP 27/92
SUP 27/93

MOD 27/94 Major World Air Route Area - NORTH PACIFIC
(MWARA-NP)

From the North Pole through the points 60°N 135°W, 47°N 118°W, 30°N 165°W, 30°N 115°E, 41°N 116°E, 55°N 135°E to the North Pole.

MOD 27/95 Major World Air Route Area - AFI
(MWARA-AFI)

From the point 40°N 35°W, through the points 37°N 03°W, 37°N 44°E, the border between the Republic of Iraq and Iran, the points 29°N 43°E, 25°N 52°E, 26°N 56°E, 20°N 62°E, 22°S 60°E, 35°S 30°E, 35°S 16°E, 05°N 03°W, 05°N 35°W, to the point 40°N 35°W.

SUP 27/96
SUP 27/97

MOD 27/98 Major World Air Route Area - SOUTH ATLANTIC
(MWARA-SAT)

From the South Pole through the points 30°S 75°W, 19°S 53°W, 00° 60°W, 20°N 60°W, 25°N 25°W, 41°N 15°W, 41°N 03°W, 15°N 03°W, 20°S 32°E to the South Pole.

SUP 27/99

MOD 27/100 Major World Air Route Area - SOUTH AMERICA
(MWARA-SAM)

From the South Pole through the points 15°N 125°W, 15°N 60°W, 10°N 60°W, 05°S 30°W, 36°S 52°W, to the South Pole.

SUP 27/101

MOD 27/102 Major World Air Route Area - SOUTH EAST ASIA
(MWARA-SEA)

From the point 26°N 130°E, through the points 00° 130°E, 00° 135°E, 12°S 145°E, 12°S 160°E, 25°S 155°E, 40°S 150°E, 35°S 115°E, 18°N 62°E, 26°N 65°E, to the point 26°N 130°E.

MOD 27/103 Major World Air Route Area - SOUTH PACIFIC (MWARA-SP)

From the South Pole through the points 38°S 145°E, 00° 167°E, 00° 175°W, 22°N 158°W, 22°N 156°W, 00° 120°W to the South Pole.

ADD 27/103A Major World Air Route Area - EAST ASIA (MWARA- EA)

From the point 55°N 124°E through the points 37°N 145°E, 26°N 130°E, 00° 130°E, 00° 80°E, 18°N 62°E, 37°N 67°E, 55°N 80°E to the point 55°N 124°E.

ARTICLE 3

DESCRIPTION OF THE BOUNDARIES OF THE VOLMET ALLOTMENT AREAS AND VOLMET RECEPTION AREAS

VOLMET Area - AFRICA-INDIAN OCEAN (AFI-MET)

MOD 27/174 The AFI-MET allotment area is defined by a line drawn from the point 29°N 20°W, through the points 37°N 03°W, 37°N 36°E, 30°N 35°E, 10°N 52°E, 22°S 60°E, 35°S 35°E, 35°S 15°E, 08°S 15°W, 12°N 20°W, to the point 29°N 20°W.

MOD 27/175 The AFI-MET reception area is defined by a line drawn from the point 37°N 03°W, through the points 37°N 36°E, 30°N 35°E, 10°N 52°E, 10°N 100°E, the South Pole, 29°N 40°W, 29°N 20°W, to the point 37°N 03°W.

VOLMET Area - NORTH ATLANTIC (NAT-MET)

MOD 27/176 The NAT-MET allotment area is defined by a line drawn from the point 41°N 78°W, through the points 51°N 55°W, 24°N 50°W, 24°N 74°W, to the point 41°N 78°W.

MOD 27/177 The NAT-MET reception area is defined by a line drawn from the point 24°N 97°W, through the points 24°N 85°W, 75°N 85°W, 75°N 20°W, 00° 20°W, 00° 95°W, to the point 24°N 97°W.

VOLMET Area - EUROPE (EUR-MET)

MOD 27/178 The EUR-MET allotment area is defined by a line drawn from the point 33°N 12°W, through the points 54°N 12°W, 70°N 00°, 74°N 40°E, 40°N 36°E, 29°N 35°30'E, 32°N 13°E, to the point 33°N 12°W.

MOD 27/179 The EUR-MET reception area is defined by a line drawn from the point 15°N 20°W, through the points 40°N 50°W, 75°N 50°W, 75°N 45°E, 15°N 45°E, to the point 15°N 20°W.

VOLMET Area - MIDDLE EAST (MID-MET)

MOD 27/180 The MID-MET allotment area is defined by a line drawn from the point 50°N 80°E, through the points 29°N 80°E, 27°N 85°E, 16°N 78°E, 22°N 56°E, 16°N 42°E, 30°N 30°E, 51°N 30°E, 57°N 37°E, to the point 50°N 80°E.

MOD 27/181 The MID-MET reception area is defined by a line drawn from the point 50°N 80°E, through the points 50°N 90°E, 35°N 90°E, 27°N 85°E, 16°N 78°E, 22°N 56°E, 16°N 42°E, 30°N 30°E, 51°N 30°E, 57°N 37°E, to the point 50°N 80°E.

VOLMET Area - NORTH CENTRAL ASIA (NCA-MET)

ADD 27/181A The NCA-MET allotment area is defined by a line drawn from the point 76°N 32°E, through the points 80°N 90°E, 75°N 168°W, 66°N 168°W, 48°N 160°E, 42°N 135°E, 50°N 130°E, 50°N 90°E, 35°N 70°E, 45°N 30°E, 60°N 20°E, to the point 76°N 32°E.

ADD 27/181B The NCA-MET reception area is defined by a line drawn from the North Pole, through the points 40°N 168°W, 30°N 140°E, 35°N 70°E, 30°N 20°E, to the North Pole.

MOD 27/182 VOLMET Area - PACIFIC (PAC-MET)

The PAC-MET allotment area is defined by a line drawn from the point 52°N 132°E, through the points 63°N 149°W, 38°N 120°W, 50°S 120°W, 50°S 145°E, 28°S,145°E, 03°S 129°E, 22°N 112°E to the point 52°N 132°E.

MOD 27/183 The PAC-MET reception area is defined by a line drawn from the point 60°N 100°E through the points 75°N 160°W, 75°N 110°W, 65°S 110°W, 65°S 145°E, 28°S 145°E, 03°S 129°E, 05°N 80°E, 40°N 80°E, to the point 60°N 100°E.

VOLMET Area - SOUTH EAST ASIA (SEA-MET)

MOD 27/184 The SEA-MET allotment area is defined by a line drawn from the point 55°N 75°E, through the points 55°N 135°E, 45°N 135°E, 35°N 130°E, 10°N 130°E, 10°S 155°E, 35°S 155°E, 35°S 116°E, 08°N 75°E, 26°N 65°E, to the point 55°N 75°E.

MOD 27/185 The SEA-MET reception area is defined by a line drawn from the point 55°N 50°E, through the points 55°N 180°, 50°S 180°, 50°S 70°E, 08°N 70°E, 08°N 50°E, to the point 55°N 50°E.

VOLMET Area - CARIBBEAN (CAR-MET)

ADD 27/185A The CAR-MET allotment area is defined by a line drawn from the point 30°N 110°W, through the points 30°N 75°W, 00° 50°W, following equator to 00° 80°W to the point 30°N 110°W.

ADD 27/185B The CAR-MET reception area is defined by a line drawn from the point 40°N 120°W, through the points 40°N 20°W, 25°S 20°W, 25°S 120°W, to the point 40°N 120°W.

VOLMET Area - SOUTH AMERICA (SAM-MET)

ADD 27/185C The SAM-MET allotment area is defined by a line drawn from the point 15°N 83°W, through the points 15°N 60°W, 05°S 35°W, 55°S 60°W, 55°S 83°W, to the point 15°N 83°W.

ADD 27/185D The SAM-MET reception area is defined by a line drawn from the point 30°N 120°W through the points 30°N 00°, the South Pole, to the point 30°N 120°W.

A N N E X 2

TERMS OF REFERENCE OF THE WORKING GROUPS OF COMMITTEE 5

Working Group 5 A -

Terms of reference :

To examine and, if necessary, to revise the boundaries of RDARAs and Sub-RDARAs on the bases of the proposals received.

Working Group 5B -

Terms of reference :

To collate the frequency requirements submitted by the Administrations and to examine the capability of the frequency bands to accommodate the needs of :

- MWARAs
- VOLMET areas
- RDARAs
- Long-distance operational control.

A N N E X 3

ARTICLE 2

DESCRIPTION OF THE BOUNDARIES OF THE REGIONAL AND DOMESTIC AIR ROUTE AREAS (RDARAs)

NOC 27/104

MOD 27/105 Sub-Area 1A

From the point 65°N 26°W, and through the points 40°N 50°W, 40°N 20°W, 60°N 20°W, 60°N 26°W, to the point 65°N 26°W.

MOD 27/106 Sub-Area 1B

From the North Pole along the 15°W meridian to the point 72°N 15°W, then through the points 65°N 26°W, 60°N 26°W, 60°N 20°W to the points 50°N 20°W, and 50°N 10°W, thence east along the territorial waters between the Channel Islands and French coastline, reaching the latter at the meridian 03°W. Thence following the north-east border of France, touching Belgium, Luxembourg and the Federal Republic of Germany. Thence along the border between Switzerland and the Federal Republic of Germany, and along the border between the latter and Austria. Thence along the border between the Czechoslovak Socialist Republic and the Federal Republic of Germany, then along the border between the Federal Republic of Germany and the German Democratic Republic towards the Baltic Sea. Then west along the coastline of the Federal Republic of Germany to the border between the latter and Denmark. Along this border to the North Sea. Thence along the 55°N parallel to a point 55°N 04°E, then through the points 56°N 03°E, 59°N 02°E, 62°N 01°E. Thence along the 01°E meridian to the North Pole.

MOD 27/107 Sub-Area 1C

From the North Pole along the meridian 01°E to the point 62°N 01°E. Thence through the points 59°N 02°E, 56°N 03°E, 55°N 04°E and then east along the 55°N parallel and the border between Denmark and the Federal Republic of Germany to the Baltic Sea, and along the Baltic Sea coast of the Federal Republic of Germany to the border between the Federal Republic of Germany and the German Democratic Republic. Along this border touching the western borders of the Czechoslovak Socialist Republic and Austria to the Swiss border. Thence eastward along the southern borders of Austria and Hungary, thence along the border between Hungary and Roumania, thence, along the border between the U.S.S.R. and the following countries: Hungary, the Czechoslovak Socialist Republic and Poland. Thence to the Baltic Sea along the U.S.S.R., Baltic Sea coast, to the border between Finland and the U.S.S.R. at 70°N 32°E, then along the 32°E meridian to the North Pole.

NOC 27/108

MOD 27/109 Sub-Area 1E

From the point 50°N 20°W, through the points 40°N 20°W, 40°N 50°W, 30°N 39°W, 30°N 10°W, 31°N 10°W, to the point 31°N 10°E. Then along the Libya-Tunisian borders to the Mediterranean, thence along the Tunisian coast to intersect the 10°E meridian. Thence to the point 43°N 10°E; thence to the border between Italy and France and between Italy and Switzerland, Switzerland and Austria, Switzerland and the Federal Republic of Germany, and between France and the Federal Republic of Germany, France and Luxembourg, and France and Belgium to the Channel coast. Thence west through the territorial waters between the Channel Islands and the French coast to the points 50°N 10°W, 50°N 20°W.

NOC 27/110
NOC 27/111
NOC 27/112
NOC 27/113
NOC 27/114
NOC 27/115
NOC 27/116
NOC 27/117
NOC 27/118
NOC 27/119

MOD 27/120 Sub-Area 4B

From the point 21°N 31°W, through the points 10°N 20°W, 05°S 20°W, to 05°S 12°E. Thence along the southern border of the People's Republic of the Congo and the Central African Empire to the Junction between the Republic of Zaire, the Sudan and the Central African Empire. Along the western border of the Sudan to the point 12°N 22°E. Thence along the Ndjamena parallel to the Nigerian border. Then West along this border to Zinder. From Zinder through Gao to close the sub-area at 21°N 31°W.

NOC 27/121

MOD 27/122 Sub-Area 5A

From the point 37°N 40°E, along the border between Turkey and the Syrian Arab Republic to the Mediterranean coast. Thence to the common border of Libya and the Arab Republic of Egypt on the North African coast, excluding Cyprus. Southward, along the western border of the Arab Republic of Egypt and east along the common border of the Arab Republic of Egypt and the Sudan to 24°N 37°E. Then through the points 11°45'N 42°E, 11°45'N 55°E, 20°N 52°E, to the point 26°N 52°E. Thence along the border between Iran and Iraq, and the border between Iraq and Turkey to 37°N 40°E.

NOC 27/123
NOC 27/124
NOC 27/125
NOC 27/126
NOC 27/127
NOC 27/131

MOD 27/133 Regional and Domestic Air Route Area-7 (RDARA-7)

From the South Pole along the 20°W meridian to 05°S. Then along the 05°S parallel to 12°E. Thence along the border between People's Republic of Congo and People's Republic of Angola, then along the northern border of the Republic of Zaire, along the border between Uganda and Sudan, and between Kenya and the following countries: Sudan, Ethiopia and Somalia to the point 02°S 42°E. Then to 02°S 60°E and along the 60°E meridian to 11°S, then through the points 11°S 65°E, 40°S 65°E, 40°S 60°E to the South Pole.

NOC 27/134

MOD 27/136 Sub-Area 7C

From the junction of the borders of Uganda, Republic of Zaire and Sudan along the western border of Uganda and Tanzania, and then along the southern border of Tanzania to the coast. Thence through the points 11°S 41°E, 11°S 60°E, 02°S 60°E, to 02°S 41°E. Thence to the East coast of Africa. Then North along the eastern border of Kenya, then West along the northern borders Kenya and Uganda to close the sub-area at the junction of the borders of the Republic of Zaire, Sudan and Uganda.

MOD 27/137 Sub-Area 7D

From the border of Tanzania and Mozambique on Lake Nyasa, south along the west border of Mozambique to the African east coast, then through the points 27°S 33°E, 40°S 33°E, 40°S 65°E, 11°S 65°E, to 11°S 41°E. Thence along the northern border of Mozambique to Lake Nyasa.

MOD 27/138 Sub-Area 7E

From the point 17°S 10°E, and through the points 40°S 10°E, 40°S 33°E, to 27°S 33°E. Thence along the West border of Mozambique and the lower part of the western border of Tanzania as far as the northern point of Lake Nyasa. Thence along the border between Malawi and Tanzania and between Zambia and Tanzania and along the borders between the Republic of Zaire and Zambia, the People's Republic of Angola and Zambia, and the People's Republic of Angola and Namibia to the coast at the point 17°S 10°E.

MOD 27/139 Regional and Domestic Air Route Area-8 (RDARA-8)

From the South Pole along the 60°E meridian to 40°S then through the points 40°S 65°E, 11°S 65°E, 11°S 60°E, 02°S 60°E, 02°S 92°E, 10°S 92°E, to 10°S 110°E. Then along the 110°E meridian to the South Pole.

SUP 27/140

MOD 27/141 Regional and Domestic Air Route Area-9 (RDARA-9)

From the South Pole along the 160° E meridian to 27°S. Then through the points 19°S 153°E, 10°S 145°E, 10°S 141°E, 00° 141°E, 00° 160°E, 03°30'N 160°E, 03°30'N 120°W. Then along the 120°W meridian to the South Pole.

SUP 27/142

MOD 27/143 Sub-Area 9B

From the point 00° 141°E through points 10°S 141°E, 10°S 145°E, 27°S 160°E, 27°S 157°W, 03°30'N 157°W, 03°30'N 160°E, 00° 160°E to the point 00° 141°E.

NOC 27/144

MOD 27/145 Sub-Area 9D

From the South Pole along the 160°E meridian to 27°S. Then through the point 27°S 170°W and along the 170°W meridian to the South Pole.

ADD 27/145A Regional and Domestic Air Route Area-10 (RDARA-10)

From the point 50°N 164°E to 66°N 169°W. Then along the 169°W meridian to the North Pole. Then through the points 82°N 30°E, 82°N00°, 73°N0C, 73°N 15°W. Then along the 15°W meridian to 72°N. Then through the points 40°N 50°W, 40°N 65°W to 44° 30'N 73°W, 41°N 81°W, 41°N 88°W, 48°N 91°W 48°N 127°W, 50°N 130°W, then westward to close at 50°N 164°E.

MOD 27/146 Sub-Area 10A

From the point 50°N 164°E to 66°N 169°W, then along the 169°W meridian to the North Pole, then along the 130°W meridian to 50°N, then westward to close the sub-area at 50°N 164°E.

NOC 27/147
NCC 27/148
NCC 27/149
NOC 27/150

ADD 27/150A Sub-Area 10F

From the North Pole through the points 82°N 30°E, 82°N 00°, 73°N 00° 73°N 20°W, 70°N 20°W, 63°30'N 39°W, 58°30'N 43°W, 58°30'N 50°W, 63°30'N 55°44'W, 65°30'N 58°39'W, 74°N 68°18'W, 76°N 76°W, 78°N 75°W, 82°N 60°W to the North Pole.

ADD 27/150B Regional and Domestic Air Route Area-11 (RDARA-11)

From the point 29°N 180° through the points 50°N 164°E, 50°N 127°W. Then along the border between the United States of America and Canada to 46°N 67°W, then to 40°N 65°W, 40°N 50°W, 25°N 35°W, 25°N 98°W, 33°N 119°W, 33°N 153°W, 29°N 153°W to close at 29°N 180°.

MOD 27/151 Sub-Area 11A

From the point 29°N 180°, through the points 50°N 164°E, 50°N 130°W, 33°N 130°W, 33°N 153°W, 29°N 153°W, to close the sub-area at 29°N 180°.

MOD 27/152 Sub-Area 11B

From the point 50°N 130°W and through the points 33°N 130°W, 33°N 119°W, 25°N 98°W, 25°N 65°W, 40°N 65°W, 46°N 67°W then along the border between the United States and Canada through 50°N 127°W, to close the sub-area at 50°N 130°W.

ADD 27/152A Sub-Area 11C

From the point 25°N 65°W and through the points 40°N 65°W, 40°N 50°W, 25°N 35°W, to close the sub-area at 25°N 65°W.

ADD 27/152B Regional and Domestic Air Route Area-12 (RDARA-12)

From the point 03° 30'N 170°W to the point 10°N 170°W, then along the ITU boundary between Regions 2 and 3 to 29°N 180°, and thence to 29°N 153°W, 33°N 153°W, through the points 33°N 120°W, 35°N 120°W, 32°N 104°W, 25°N 91°W, 26°N 91°W, 26°N 79°W, 27°N 79°W 27°N 76° 30'W, 25°N 70°W, 25°N 35°W and along the ITU boundary between Regions 1 and 2 to 00° 20°W. Thence through the points 00° 44°W, 04° 24'N 50° 39W. Then along the boundary between Brazil and French Guiana, Surinam, Guyana, Venezuela, Columbia to the junction of Brazil, Peru and Columbia then along the boundary between Peru and Columbia and Peru and Equador to the point 04°S 93°W. Then to the point 05°S 93°W and through the points 05°S 120°W, 03° 30'N 120°W to close the area at 03° 30'N 170°W.

NOC 27/153
NOC 27/154
NOC 27/155

MOD 27/156 Sub-Area 12D

From the point 20°N 91°W, and through the points 26°N 91°W, 26°N 79°W, 27°N 79°W, 27°N 76°30'W, 26°N 73°W, 17°N 58°W, to 10°N 58°W. Thence through Panama City, Colon, Swan Island, and Belize to close the sub-area at 20°N 91°W.

NOC 27/157

MOD 27/158 Sub-Area 12F

From the point 02°N 79°W to the point 08°N 83°W, then along the border between Panama and Costa Rica, through the points 10°N 83°W, 13°N 83°W, 13°N 70°W, 08°N 70°W, 06°N 67°W and 01°N 66°W. Then along the border between Brazil and Colombia to 04°S 70°W. Thence along the border between Colombia and Peru, continuing along the border between Colombia and Ecuador, to close the sub-area at 02°N 79°W.

MOD 27/159 Sub-Area 12G

From the point 07°N 73°W, and through the points 14°N 73°W, 14°N 58°W, 01°31'N 58°W and along the borders of Brazil with Guyana, Venezuela, Colombia through the points 1°57'N 68°W, 05°N 69°W, to close the sub-area at 07°N 73°W.

MOD 27/160 Sub-Area 12H

From the point 05°N 70°W , and through the points 08°45'N 60°W, 08°N 58°W, 08°N 49°W, 04°10'N 51°38'W, and along the borders of Brazil with French Guiana, Surinam, Guyana, Venezuela and Colombia to the junction of the borders of Brazil, Colombia and Peru, to close the sub-area at 05°N 70°W.

NOC 27/161

ADD 27/161A Sub-Area 12J

From the point 04°S 93°W, and through the points 02°N 93°W, 02°N 79°W. Then along the border between Ecuador and Colombia to the junction with the borders of Colombia, Peru and Ecuador. Thence along the border between Peru and Ecuador to close the sub-area at 04°S 93°W.

ADD 27/161B Regional and Domestic Air Route Area-13 (RDARA-13)

From the South Pole along the 120°W meridian to 05°S. Then through the points 05°S 93°W, 04°S 82°W, and along the southern border of Ecuador, Colombia, Venezuela, Guyana· Surinam, French Guiana, to the point 04°24'N 50°39'W.· Then through the points 04°24'N 47°W, 00°32°W to the point 00°20°W, and along the 20°W meridian to the South Pole.

NOC 27/162

NOC 27/163

MOD 27/164 Sub-Area 13C

From the point 15°S 47°W and through the points 20°S 44°W, 23°19'S 42°W,25°S 45°W, 22°30'S 50°39'W, 19°52'S 58°W, and along the border of Brazil with Paraguay, Bolivia, Peru, Colombia, Venezuela, Guyana, Surinam and French Guiana to 04°24'N 50°39'W, 04°24'N 47°W, to close the sub-area at 15°S 47°W.

MOD 27/165 Sub-Area 13D

From 11°S 69°30'W along the border between Bolivia and Brazil and through the point 20°10'S 58°W, continuing along the border between Bolivia and Paraguay to 22°30'S 62°30'W. Then along the border between Bolivia and Argentina and through the point 23°S 67°W along the border between Bolivia and Chile and through the point 16°30'S 69°30'W following the border between Bolivia and Peru to close the sub-area at 11°S 69°30'W.

ADD 27/165A Sub-Area 13M

From the point 19°S 81°W, 04°S 82°W, 03°S 80°W, following the frontier between Peru, Ecuador and Colombia to the point 11°S 69°30'W along the borders of Peru with Bolivia to 17°30'S 69°30'W then along the borders of Peru with Chile to close the sub-area at the point 19°S 81°W.

ADD 27/165B Sub-Area 13N

Along the borders between Paraguay and Bolivia, Paraguay and Brazil and Paraguay and Argentina.

NOC 27/165

NOC 27/166

NOC 27/167

NOC 27/168

NOC 27/169

NOC 27/170

MOD 27/171 Sub-Area 13J

From the point 15°S 47°W through the points 20°S 44°W, 23°19'S 42°W, 29°S 40°W, 35°S 45°W, and thence along the borders of Brazil with Uruguay, Argentina, Paraguay and Bolivia to the point 19°52'S 58°W, then through the point 18°S 57°37'W to close the sub-area at 15°S 47°W.

MOD 27/172 Sub-Area 13K

From the point 22°30'S 50°39'W and through the points 25°S 45°W, 29°S 40°W, 20°S 32°W, 00°32°W, 04°24'N 47°W, 04°24'N 50°39'W, to close the sub-area at 22°30'S 50°39'W.

NOC 27/173

ADD 27/173A Regional and Domestic Air Route Area-14 (RDARA-14)

From the South Pole along the 110°E meridian to 10°S. Then through the points 10°S 145°E, 19°S 153°E, 27°S 160°E. Then along the 160°E meridian to the South Pole.

ADD 27/173B Sub-Area 14A

From the South Pole along the 110°E meridian to 19°S. Then through the points 19°S 118°E, 24°S 120°E, 24°S 131°E. Then along the 131°E meridian to the South Pole.

ADD 27/173C Sub-Area 14B

From the point 19°S 110°E to the point 10°S 110°E thence to 10°S 131°E, 24°S 131°E, 24°S 120°E, 19°S 118°E to the point 19°S 110°E.

ADD 27/173D Sub-Area 14C

From the point 24°S 131°E to the point 10°S 131°E thence to 10°S 139°E, 24°S 139°E to the point 24°S 131°E.

ADD 27/173E Sub-Area 14D

From the South Pole along the 131°E meridian to 24°S then through the points 24°S 139°E, 27°S 139°E, 27°S 142°E, 34°S 142°E, 34°S 139°E. Then along the 139°E meridian to the South Pole.

ADD 27/173F Sub-Area 14E

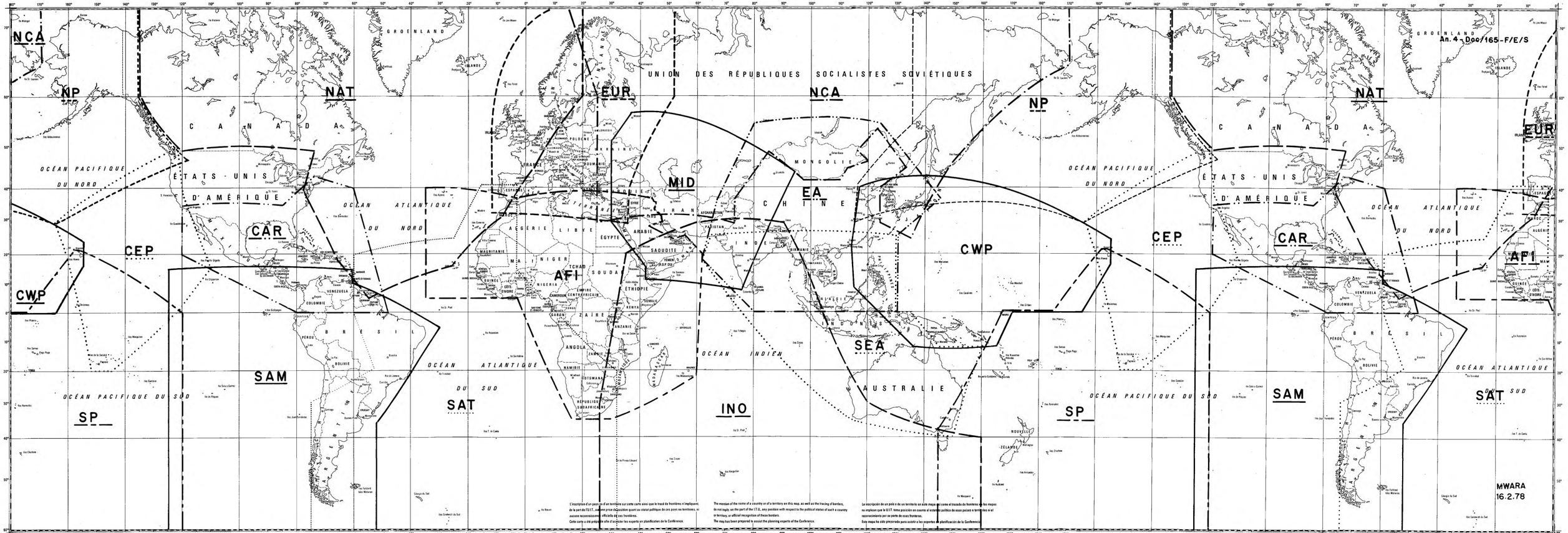
From the point 24°S 139°E along the 139°E meridian to 10°S then through the points 10°S 145°E, 19°S 153°E to the point 24°S 139°E.

ADD 27/173G Sub-Area 14F

From the point 27°S 139°E along the 139°E meridian to 24°S then through the points 19°S 153°E, 27°S 160°E to the point 27°S 139°E.

ADD 27/173H Sub-Area 14G

From the South Pole along the 139°E meridian to 34°S then through the points 34°S 142°E, 27°S 142°E, 27°S 160°E. Then along the 160°E meridian to the South Pole.

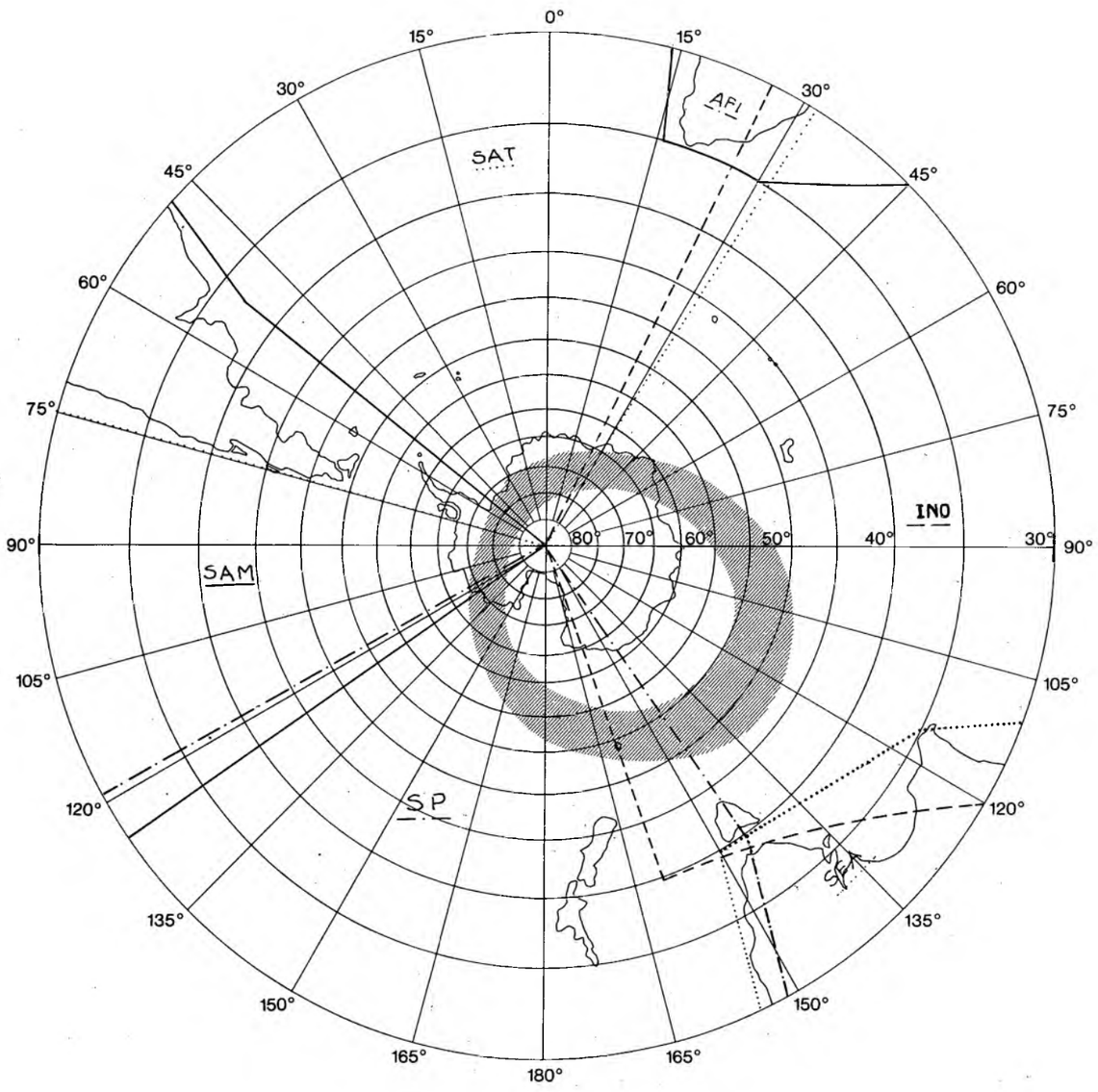


L'inscription d'un pays ou d'un territoire sur cette carte ainsi que le tracé de frontières n'impliquent, de la part de l'O.I.T., aucune prise de position quant au statut politique de ces pays ou territoires, ni aucune reconnaissance officielle de ces frontières.
Cette carte a été préparée afin d'assister les experts en planification de la Conférence.

The mention of the name of a country or of a territory on this map, as well as the tracing of borders, do not imply, on the part of the I.T.O., any position with respect to the political status of such a country or territory, or official recognition of these borders.
The map has been prepared to assist the planning experts of the Conference.

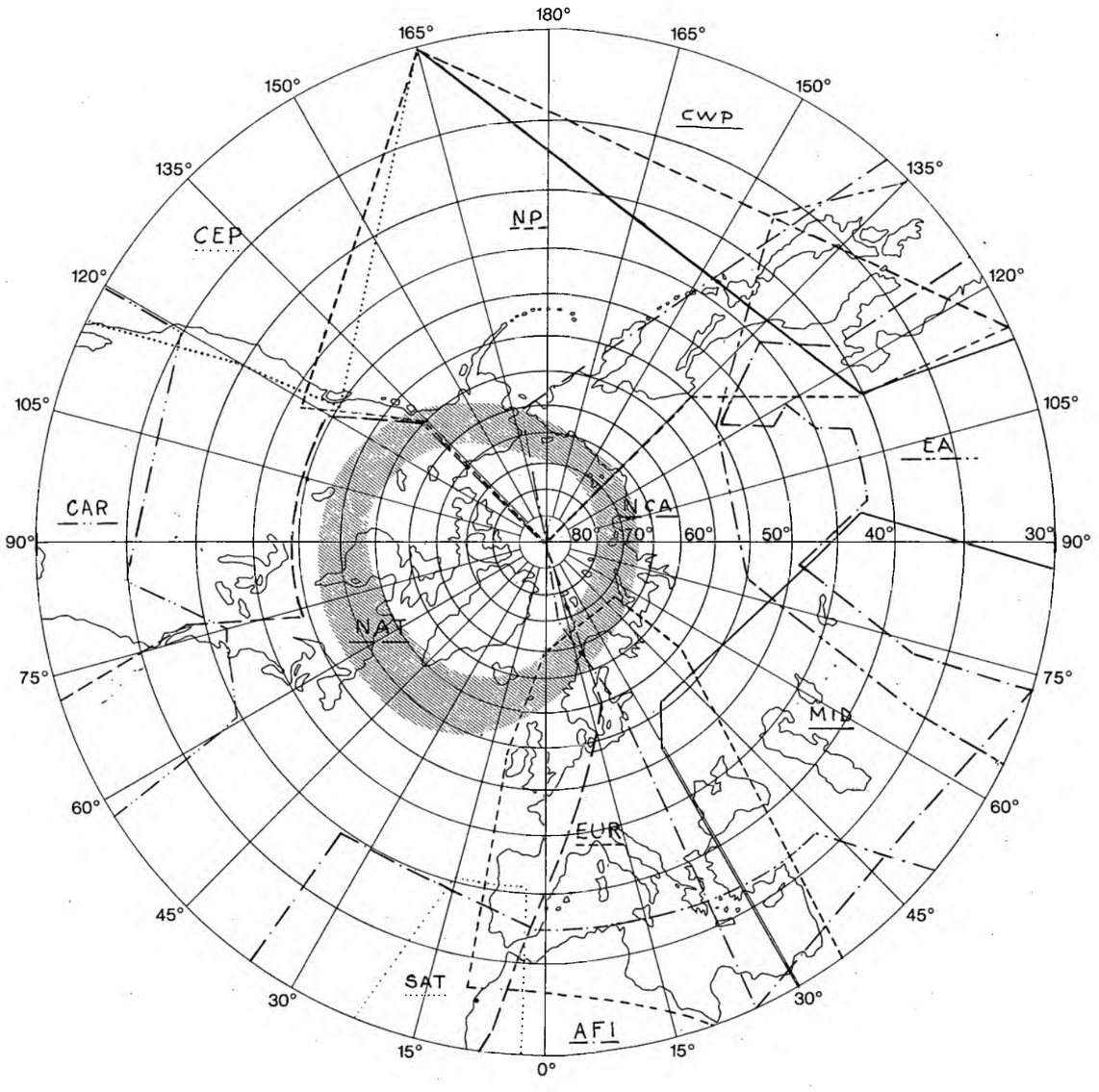
La inscripción de un país o de un territorio en este mapa así como el trazado de fronteras en los mapas no implican que la O.I.T. tome posición en cuanto al estatuto político de esos países o territorios ni el reconocimiento por su parte de esas fronteras.
Este mapa ha sido preparado para asistir a los expertos de planificación de la Conferencia.

POLE SUD – SOUTH POLE – POLO SUR



PROJECTION GNOMONIQUE
GNOMONIC PROJECTION
PROYECCIÓN GNOMÓNICA

POLE NORD – NORTH POLE – POLO NORTE



PROJECTION GNOMONIQUE
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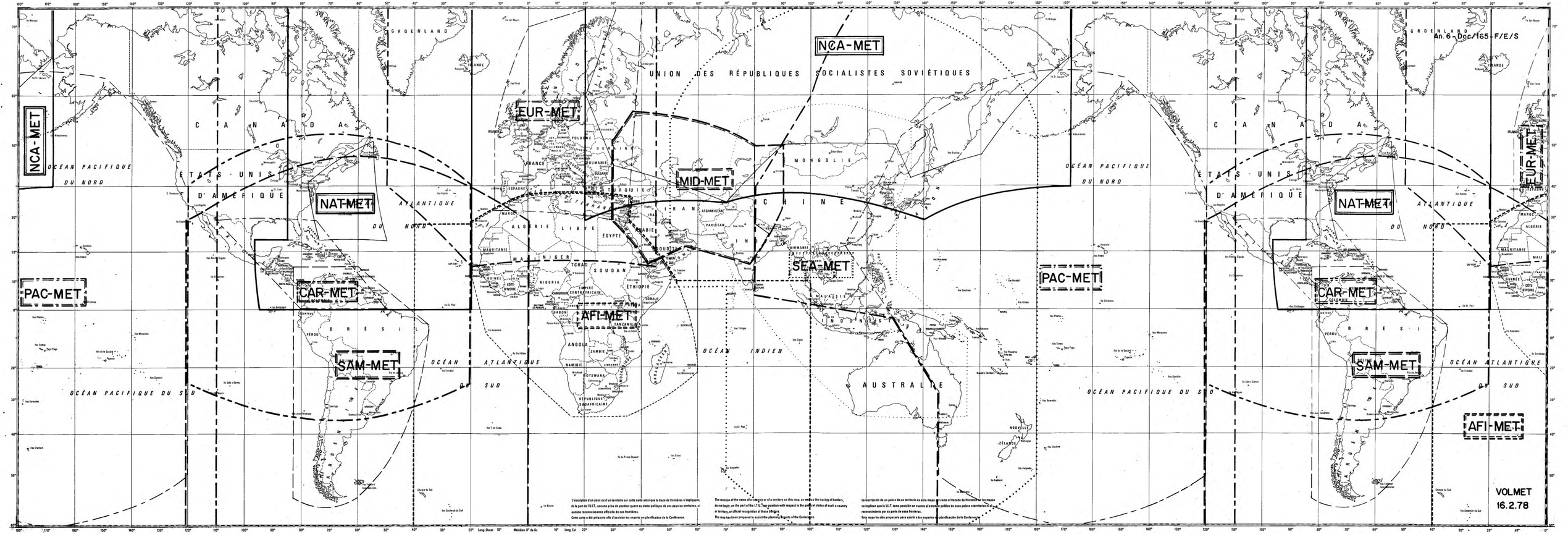
MWARA
16.2.78



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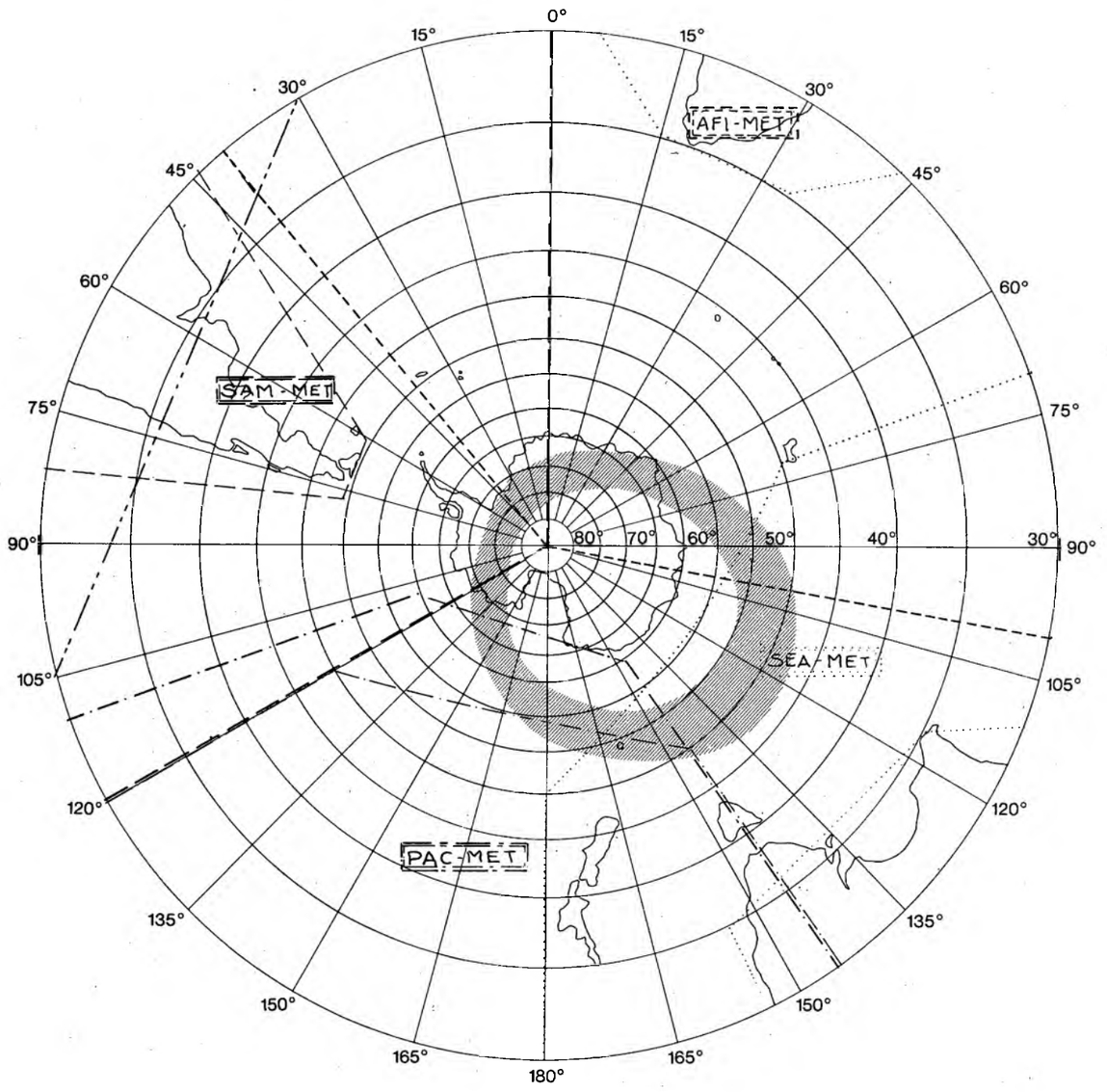
La inscripción de un país o de un territorio en este mapa así como el trazado de fronteras en los mapas no implican que la U.I.T. tome posición en cuanto al estatuto político de esos países o territorios ni el reconocimiento por su parte de esas fronteras.
Este mapa ha sido preparado para asistir a los expertos de planificación de la Conferencia.

POLE SUD — SOUTH POLE — POLO SUR



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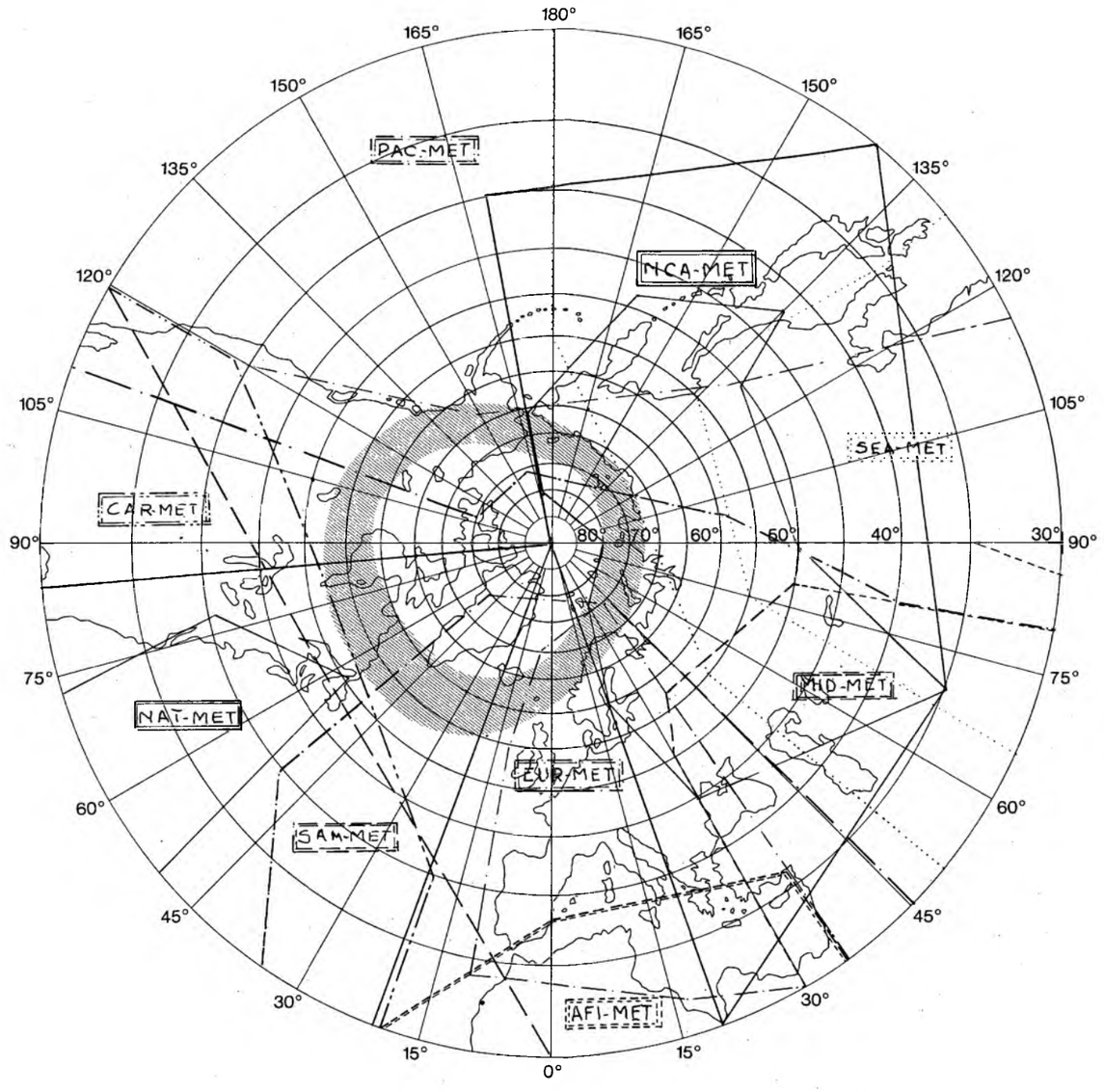
POLE NORD — NORTH POLE — POLO NORTE



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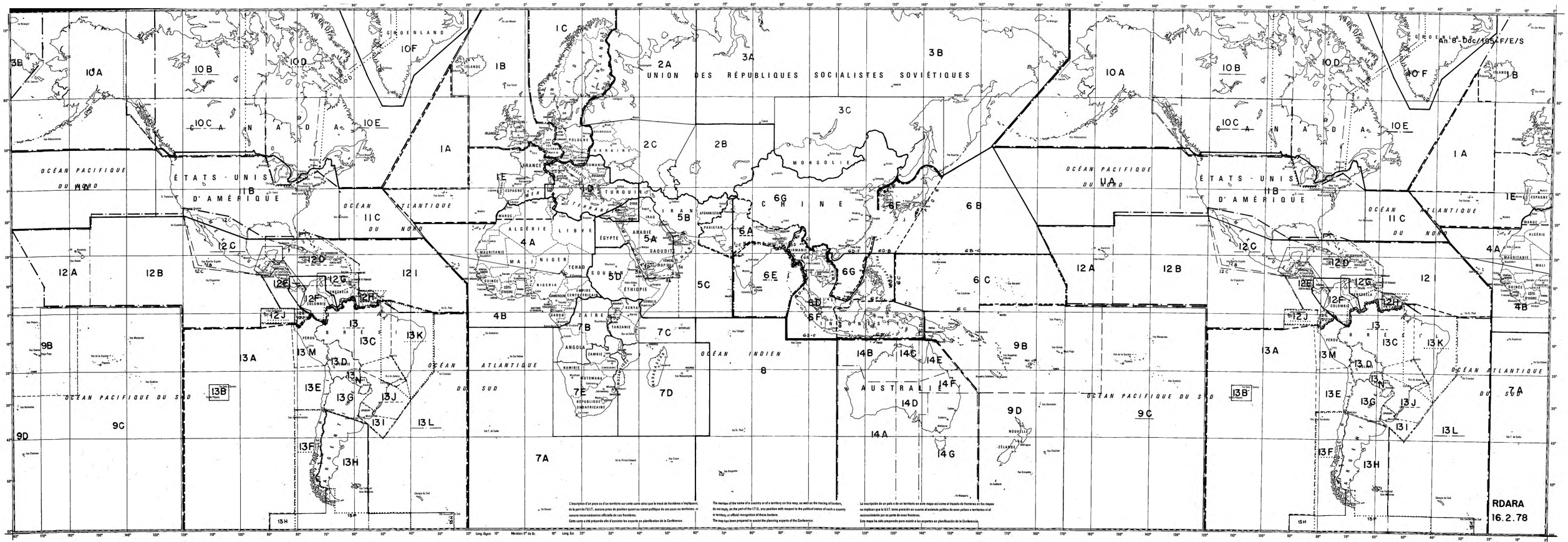
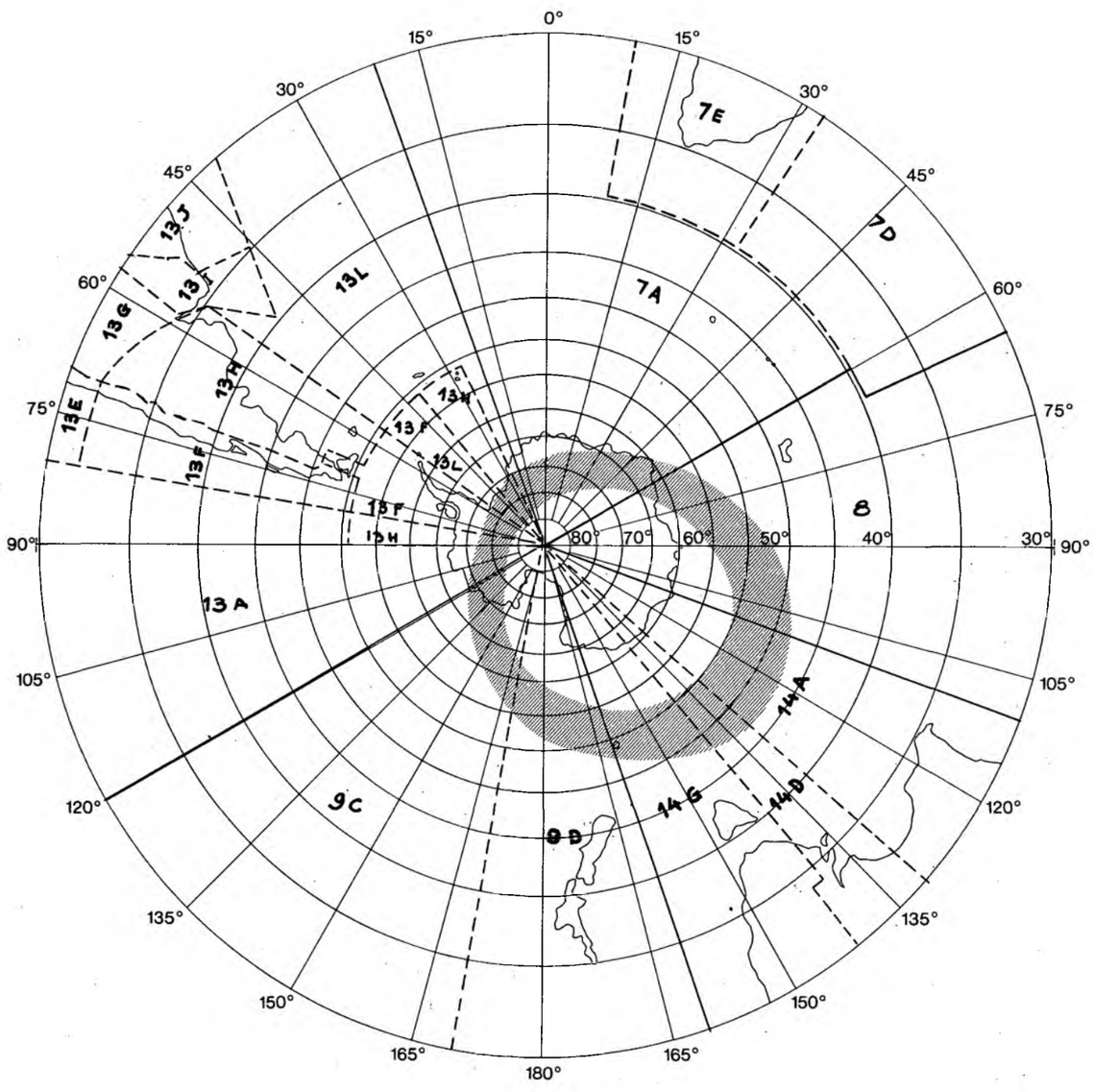


POLE SUD — SOUTH POLE — POLO SUR



PROJECTION GNOMONIQUE
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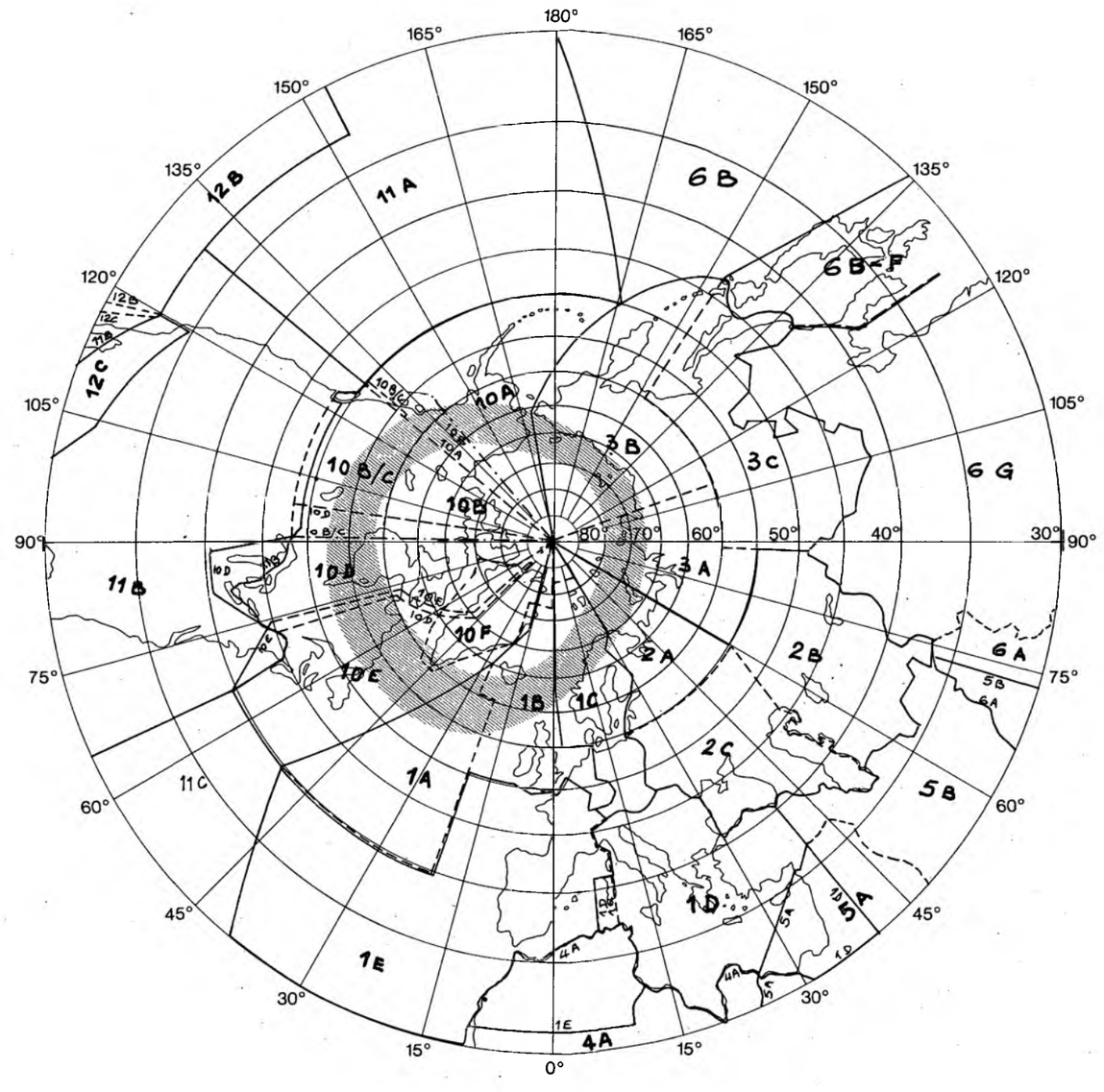
PROYECCIÓN GNOMÓNICA

POLE NORD — NORTH POLE — POLO NORTE



PROJECTION GNOMONIQUE
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RDARA
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INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 166-E
15 February 1978
Original : French

PLENARY MEETING

MINUTES

OF THE

FIRST PLENARY MEETING

Monday, 6 February 1978, at 1500 hrs

Chairmen : Mr. Auguste V.G. THEYS (Belgium),
Dean of the Conference, then
Mr. T.V. SRIRANGAN (India)

Subjects discussed		Document No.
1.	Opening of the Conference	-
2.	Election of the Chairman of the Conference	-
3.	Election of the Vice-Chairmen of the Conference	-
4.	Address by the Secretary-General	-
5.	Committee structure and organization of the work of the Conference	DT/2
6.	Election of Chairmen and Vice-Chairmen of Committees	-
7.	Composition of the Conference Secretariat	-
8.	Allocation of documents to Committees	DT/3
9.	Invitations to the Conference and participation	38, 41
10.	Participation of international organizations in the work of the Conference	40 (plus Add.)
11.	Date by which the Credentials Committee shall formulate its conclusions	-
12.	Hours of work of the Conference	-
13.	Statements by the observers for ICAO, ASECNA and IATA	-

1. Opening of the Conference

1.1 By virtue of the provisions of the Convention, Mr. Auguste V.G. Theys (Belgium), Dean of the Conference, declared open the Aeronautical (R) Conference, Geneva, 1978.

2. Election of the Chairman of the Conference

2.1 The Dean of the Conference said that the Heads of delegations had unanimously decided to propose that the Conference should appoint Mr. T.V. Srirangan (India) as Chairman.

2.2 Mr. T.V. Srirangan (India) was elected Chairman of the Aeronautical (R) Conference by acclamation.

2.3 The Dean of the Conference congratulated Mr. Srirangan and thanked him for accepting the office conferred upon him. The task which awaited him was not easy, but he would be able to discharge it successfully with the aid of his assistants and he would no doubt succeed in solving the problems that arose.

2.4 After taking the chair, Mr. Srirangan (India) thanked the Conference for the honour done to his country and to himself. The newly elected Chairman's statement is reproduced in Annex 1.

3. Election of the Vice-Chairmen of the Conference

3.1 The Chairman said that during their meeting, the Heads of delegations had unanimously agreed to propose that the Conference should elect six vice-chairmen from among the delegations of the following countries : Algeria, Brazil, People's Republic of China, Italy, USSR, United States of America.

3.2 The proposal was adopted by acclamation.

3.3 The delegate of Algeria, on behalf of his Administration and the delegations present, warmly congratulated the Chairman on his election to an office for which he was particularly qualified. Having himself been honoured by his election as one of the Vice-Chairmen, he assured the meeting that he would do his best to assist the Chairman of the Conference as efficiently as possible.

3.4 The Chairman thanked the delegate of Algeria for his kind words and his assurance of assistance.

4. Address by the Secretary-General

4.1 The Secretary-General delivered the address reproduced in Annex 2.

4.2 The Chairman warmly thanked the Secretary-General for having defined so clearly the role which telecommunications had now to play in aeronautics. The Conference would bear in mind the Secretary-General's highly pertinent remarks, particularly with regard to the idea of "long-distance operational control".

5. Committee structure and organization of the work of the Conference
(Document No. DT/3)

5.1 The Secretary-General introduced the document, giving explanations and referring to various provisions of the Convention.

5.2 The Chairman said that the proposed structure of the Aeronautical Conference as set out in Document No. DT/2 had been approved by the meeting of Heads of delegations.

5.3 The committee structure proposed in Document No. DT/2 was approved.

6. Election of Chairmen and Vice-Chairmen of Committees

6.1 The Secretary-General said that the Heads of delegations had unanimously proposed at their meeting that the following should be appointed Chairmen and Vice-Chairmen of Committees :

Committees	Chairmen	Vice-Chairmen
1 - Steering	Chairman of the Conference	Vice-Chairmen of the Conference (according to custom)
2 - Credentials	C.J. MARTINEZ (Venezuela)	L. GRIMSTVEIT (Norway)
3 - Budget control	A.M. DIONE (Senegal)	A. HAKIMIAN (Iran)
4 - Technical	G. KOVACS (Hungary)	R.E.N. INOMA (Nigeria)
5 - Planning	M. CHEF (France)	E.D. DUCHARME (Canada)
6 - Regulatory Procedures	R.J. BUNDLE (New Zealand)	Z. KUPCZYK (Poland)
7 - Editorial	C.J. DHENIN (France)	D.E. BAPTISTE (United Kingdom)
		M. VALBUENA GRANADOS (Spain)

6.2 The Secretary-General pointed out that the five regions of the world were equitably represented and that the Chairman and Vice-Chairmen had been chosen with their qualifications in mind.

6.3 The proposal was adopted by acclamation.

7. Composition of the Conference Secretariat

7.1 The Secretary-General said that the Secretariat of the Conference to be made available to the Chairman and Vice-Chairmen of the Committees would be made up as follows :

Secretary of the Conference	:	The Secretary-General of the ITU
Executive Secretary	:	A. Winter-Jensen
Technical Secretary	:	G. Brooks
Secretary of :		
Plenary meetings	:	A. Zaccagnini
Committee 1	:	A. Zaccagnini
Committee 2	:	A. Winter-Jensen
Committee 3	:	R. Prélaz
Committee 4	:	L. Sonesson
Committee 5	:	M. Sant
Committee 6	:	M. Ahmad
Committee 7	:	R. Macheret
Administrative Secretary	:	U. Petignat

7.2 It was decided that the above persons should be in charge of the work of the Conference and Committee Secretariat.

8. Assignment of documents to the Committees (Document No. DT/3)

8.1 Several proposals amending the document were made by delegations :

Canada : proposed that Document No. 46 be assigned not only to Committee 6 but also to Committee 5.
(Supported by Brazil and Japan).

The delegate of Canada also said that Document No. 68 (to be issued) should be assigned to Committees 4 and 5.

France : proposed that Document No. 22 should be assigned to Committee 5 as well as to Committees 4 and 6.
(Supported by the United States).

Spain : proposed that Document No. 67, which had just been distributed, should be assigned to Committees 4, 5 and 6.

United States : proposed that

a) Document No. 18 should be assigned not to Committee 5 but to Committees 4 and 6;

b) Document No. 25 should also be considered by Committee 5;

c) Document No. 27 should be transferred from Committee 6 to Committee 5 (the delegate of the United Kingdom agreed with examination by Committee 5 but thought that the document should be retained for consideration by Committee 6. The United States delegation had no objection to that procedure.);

d) Document Nos. 42 and 51 should be withdrawn from consideration by Committee 5 but retained for Committee 4.

8.2 The above proposals were approved. A revised document would be issued showing the amended assignment of documents.

8.3 The Chairman of Committee 5 expressed the desire that the Planning Committee be authorized to draw also on the information contained in Documents Nos. 9 and 16, which contained useful considerations on planning.

8.4 The Chairman said that all the organs of the Conference could naturally make use of any of the documents submitted.

9. Invitations to the Conference and participation (Document Nos. 38 and 41)

9.1 Document No. 38 was noted.

9.2 The Secretary-General pointed out that in the French version of Document No. 41, the reply by Bahrein should be corrected to read "yes" instead of "no".

Document No. 41, as corrected, was noted.

10. Participation of international organizations in the work of the Conference (Document No. 40 + Add.)

10.1 The Secretary-General said that Document No. 40 and its Addendum mentioned three international organizations which had asked to participate in the work of the Conference as observers.

10.2 It was decided to admit the following organizations as observers to the Conference : International Air Transport Association (IATA), the International Amateur Radio Union and the Agency for the Safety of Air Navigation in Africa and Madagascar (ASECNA).

11. Date by which the Credentials Committee shall formulate its conclusions

11.1 The Secretary-General read out No. 369 of the International Telecommunication Convention concerning credentials of delegations and pointed out that it was for the Conference to set the date by which the Credentials Committee should report on its conclusions. Traditionally the date fell in the last week of the Conference, and he proposed Tuesday, 28 February.

11.2 The delegate of Algeria said that if a delegation received its credentials after the proposed date, it should still be admitted.

11.3 The Chairman agreed.

11.4 The proposal by the Secretary-General was approved.

12. Hours of work of the Conference

It was decided that the hours of work should be as follows :

from Monday to Friday

0900 - 1200 hrs.

1400 - 1700 hrs.,

so that documents could be reproduced in time for the work of the Conference without requiring the staff to work overtime, as had been strongly recommended by the Administrative Council.

13. Statements by the observers for ICAO, ASECNA and IATA

13.1 The observer for ICAO said that ICAO had welcomed the invitation to participate in the preparations for the Conference and to attend as an observer. For some thirty years the close cooperation between ITU and ICAO had been based on an informal and practical assessment of their respective interests. The results of their working method compared well with those achieved by any other service using parts of the radio spectrum and the two organizations could be proud of their stewardship over aeronautical frequency allotments. ICAO was particularly appreciative of the prompt and complete cooperation given by the ITU Secretariat in the management of the HF aeromobile service and aimed to foster and improve that relationship, the better to discharge its responsibilities to the Organization's Contracting States.

Although modern civil aircraft operated in a hostile environment, civil aviation had in a relatively short time acquired an excellent record and reputation for safety. One of the essential elements contributing to that enviable record was the aeronautical telecommunications safety service. Safety messages did not fill the aeronautical bands round the clock but they did have a commanding urgency when they occurred and it was generally agreed that the frequencies carrying that kind of traffic were being efficiently used. ICAO was concentrating on those elements of frequency management for which it was uniquely qualified, developing plans to ensure that adequate communications were provided along changing air routes, that advantage was taken of aircraft movement patterns in different time zones to make multiple use of frequencies and, in general, dealing with those special problems associated with a highly mobile population of airborne stations that might appear anywhere in the world at short notice. The mechanics of implementation, particularly on the airborne side, were complex and economically sensitive and in that area ICAO drew up appropriate plans and monitored them to their completion. Optimum use had to be made of the valuable natural resource constituting the radio spectrum and ICAO had been working hard to develop a practical international plan for the introduction of single-sideband techniques in the HF Aeronautical Mobile Service.

The proposals of the ICAO Communications Divisional Meeting (1976) relating to the requirement for additional HF channels for long-distance operational control drew attention to the need for, in view of sharply escalated operating costs and energy conservation considerations, the

most efficient use of the various resources involved and the maximum utilization of expensive aircraft. That combination was essential to the continued improvement of civil air transport services, on which developing countries in particular relied so heavily to further their economic well-being. ICAO was confident that the Conference would respond in a responsible manner to that requirement.

In wishing all delegates great success in their deliberations, he stressed that ICAO was ready to render any assistance within its capability, if and when the Conference deemed it appropriate.

13.2 On behalf of the Director-General of his organization, the observer for ASECNA thanked the Conference for having granted observer status to the Agency, which attached special importance to the questions to be discussed during the meeting. He stated that several delegates knew of ASECNA through ICAO or WMO, but many were unaware of its international activities. The organization dealt with matters of concern to West Africa, Central Africa and Madagascar. Thirteen African States Members of ICAO and ITU had decided to entrust ASECNA with the operation of their air space and of all their air navigation safety installations and services. The problem of frequency management also concerned ASECNA, but it was understood that Member States had the authority to settle questions concerning the allotment of frequencies. ASECNA was attending an ITU Conference for the first time and hoped to make its contribution to the work by stating its views in due course. He wished the meeting every success.

13.3 The observer of IATA expressed the gratitude of the airline members of his organization for the kind invitation addressed to IATA to participate in the Conference as an observer. He hoped to be able to make a useful contribution to the discussions and the conclusions of the Conference.

The meeting rose at 1650 hours.

The Secretary-General :
M. MILI

The Chairman :
T.V. SRIRANGAN

Annexes : 2

ANNEX 1

ADDRESS BY MR. T.V. SRIRANGAN, CHAIRMAN OF THE CONFERENCE

Distinguished delegates, Secretary-General Mr. Mili, Deputy Secretary-General Mr. Butler, Chairman, Vice-Chairmen, Members of the IFRB, Directors of the CCIR and CCITT, Ladies and Gentlemen,

1. This is indeed a great honour, and I thank you all on behalf of my country, India, my Administration and myself for the honour you have bestowed in asking me to serve as your Chairman for this Conference. It will be my very sincere and honest endeavour to measure up to the confidence which you have chosen to repose in me and I would like to assure you that I will do my utmost to discharge the responsibility you have entrusted to me.

2. Before I proceed further, may I take this opportunity to thank Mr. Theys for inaugurating the Conference and for his words of encouragement and advice. In this context I cannot but recall that we in India cherish an ancient tradition that before setting out on any task we seek the blessings and good wishes of the most senior member of the family. It was in a way such a blessing that came my way from Mr. Theys, who is the dean of all the distinguished delegates. He has set the Conference on a wise course and I am sure that with his good wishes behind me and with the cooperation of all of you, we will be able to accomplish the task we have set out to perform.

3. I believe that this is the first time in the annals of ITU that a representative of the developing world has been asked to chair a Conference of this magnitude. I would like to view this as an index of the growing recognition within the ITU of the increasingly important role which developing countries have begun to play in furthering the objectives of the Union.

4. As you are all aware, ITU is the first and the oldest international organization. It is more than 110 years old. Over the decades it has nurtured and built up a great and noble tradition, a tradition of fostering international understanding and cooperation. It has set up exemplary standards in these realms and is today a shining example of what international goodwill can accomplish. I have no doubt at all that the same spirit of goodwill and cooperation will animate the deliberations at this World Administrative Radio Conference which will be sitting for the next four weeks, and the highest traditions of the Union will be further embellished and enriched.

5. As Chairman I am deeply conscious that I am merely an instrument of the collective will and wisdom of all of you - all the members of all the delegations here, the Secretary-General and the Deputy Secretary-General, the IFRB, CCIR and the numerous, very competent staff of the Secretariat. I look to all of you for guidance, advice, cooperation and assistance, so that we may, by our joint endeavours, accomplish in good time the objectives of the Conference and carry out the tasks we have set for ourselves. I look forward to a period of very fruitful deliberations.

6. May I once again thank all of you most sincerely.

ANNEX 2

SPEECH BY THE SECRETARY-GENERAL

Mr. Chairman,

Delegates,

Ladies and Gentlemen,

On behalf of the International Telecommunication Union, I bid you welcome to Geneva; I hope that the weather will improve and that you will have a very pleasant stay among us. The four weeks ahead will be very busy ones, during which you will have a number of difficult problems to solve.

To carry out this task, you have just elected a Chairman whose great qualities and ability will be supported by the invaluable assistance of six Vice-Chairmen representing all the regions of the world.

To you, Mr. Chairman, and to all the Vice-Chairmen, I wish to express my sincere congratulations and every wish for your complete success.

Delegates,

Twelve years have passed since the Extraordinary Administrative Radio Conference of 1966 established a revised Allotment Plan for the Aeronautical Mobile (R) Service. It was already clear, at that time, that air traffic could look forward to an enormous expansion and allowance had to be made for the justifiable claims of regions which, inadequately served by air transport, were bound to improve their economic position to a sufficient level to enable them to take their rightful place within the international community.

The plan established in 1966 met the requirements of a spectacular expansion of air traffic and ensured a large measure of security for its handling.

Needles to say, telecommunications have played the auxiliary role essential to achieve this dual objective.

A brief recapitulation of a few statistics will show the scale of the changes which have taken place since the 1966 Conference, as well as the remarkable magnitude of the contribution made by telecommunications to bringing these changes about.

Taking as a basis data which are comparable from one year to the next, and allowing for the availability of old statistics for a number of countries, we note that the world passenger/kilometre figure rose from 270 thousand million in 1967 to 632 thousand million in 1976, i.e. an increase of over 234 % in nine years. Over the same period, air freight rose from 6 to 19 thousand million tons, representing an increase of over 300 %.

Part of this increase is of course accounted for by the use of planes of much greater capacity. However, the traffic itself has grown considerably, and this growth has produced a concomitant increase in the volume of aeronautical telecommunication traffic.

However, other changes have taken place, leading to greater telecommunication requirements. I am referring to the radical change in the very nature of the commercial air fleets, in that the jet engine is more and more taking over from the piston engine.

In 1976, for example, over 65 % of commercial aircraft were powered by jet engines, against only 36 % in 1967. This change in the character of the air fleet has been accompanied by a very appreciable increase in both flying speeds and in the number of flights made at these speeds of around mach 1.

Clearly, these two changes have called for an enhanced reliability of communications and a greater speed in their establishment.

In this general context, we are glad to be able to claim that the 1966 plan has fully met all the requirements that have emerged over the past twelve years and that the planning exercise accomplished by the last Aeronautical Conference has proved completely successful.

There is no doubt that the credit for this goes to all those who took part in the various stages of the work, starting with the technical preparation of the 1966 Conference and ending, after the completion of the actual planning task itself, with the day-to-day operation of aeronautical mobile stations.

Our sincere thanks are due to all those who contributed to this success, whether they be individuals, organizations or countries.

This outstanding achievement is a good omen for the continuance of the admirable spirit of cooperation existing between the telecommunication Administrations and the Administrations of the aeronautical services, and between the two specialized agencies, ICAO and ITU, through which the member countries formulate their transport and communication policies.

However, the 1966 plan is now at full stretch, while air traffic continues to expand and we are on the threshold of the supersonic age. It is to meet these demands that this Conference is being held.

I shall not comment on the various items of the agenda. However, I should like, with your permission, to say a few words about one aspect of your work which, in its importance for the ITU, may transcend the framework of this Conference and affect services other than the Aeronautical Mobile Service.

I refer to the concept of "long-range operational control".

So far as the Aeronautical Mobile Service is concerned, the term "long-range" is of definite importance for your deliberations. However, it is the concept of "operational control" which continues to be decisive in the context of the mobile services as a whole.

All will clearly depend on the manner in which you will introduce this concept into the text which you adopt and, what is even more important, the manner in which the Administrations will authorize or organize the operation of this new class of service.

However, on the subject of the mobile services as a whole, I think I am correct in construing "operational control" as the use of radiocommunications for the purpose of rendering the operation of the vehicle housing the mobile station more rational and efficient. There can be no more justifiable objective. I would even say that it should be sought in all cases, particularly since it is not a new departure in the practice of the mobile services and even constitutes part of their raison d'être.

Nevertheless, in translating the objective to be attained into an appropriate set of regulations, which means defining the rights and obligations which derive therefrom, and in taking account of the precedents liable to be set, there are certain principles and ideals which must be upheld.

Two of these principles are closely linked : safeguarding the unity of the whole and the good of the greatest number.

I would under no circumstances wish to convey the impression that the greatest good of part of a whole is necessarily incompatible with the interests of all. But the safeguard of the unity of the whole is a point worth considering, since it is one which has always prevailed within the ITU.

To put my idea into perspective, I would point out that, so far as the Maritime Mobile Service is concerned, the operational control of ships, depending on circumstances, is in the hands either of coast stations, which are open to public correspondence, or of stations open exclusively to correspondence of a private agency.

You will note that the decision whether this traffic must be handled by a coast station of an Administration or recognized private operating agency, or by a station which may belong to a company operating the ship or to the port concerned, is the sole responsibility of the telecommunication Administration of the country in which the coast station in question is located.

I would therefore ask you to bear in mind all the repercussions which your decisions are bound to produce on services other than the Aeronautical Mobile Service, when you define or describe the concept of "operational control" in the texts which you adopt.

On this subject, it should be pointed out that one of the reasons for the excellent spirit of cooperation which has been established among all the Members of the ITU is that, in defining the categories of services and stations, the Union has, so far as possible, always confined itself to the use of materially tangible concepts. In other words, the ITU has always been concerned, first and foremost, with means of telecommunications, and has avoided whenever possible referring to the need to know the content of the message which these means would be used to transmit.

Mr. Chairman,

Ladies and Gentlemen,

In view of the future needs of all the regions of the world and technical developments in transport and communications, I am bound to cast a glance towards the future.

Your Conference has before it a number of proposals which, after examination by you, might be referred to the 1979 World Administrative Radio Conference. The texts which you approve could form part of the basic documentation for the important 1979 Conference.

But I do not wish to speak of the links between your activities and the work of the next World Administrative Radio Conference.

I should prefer to attempt to place your activities in the context of the next decade (1980 - 1990). This analysis, inevitably subjective though it may be, will nevertheless be useful if it helps us to define more precisely the position of telecommunications - the nervous system of modern society - in relation to the requirements of air transport.

It is generally acknowledged now that we are ending a period of high economic growth. During this period, the growth has been accompanied by one important, genuine and lasting development.

Over the past 15 years, air transport has become the most common means of medium- and long-distance transport for millions of people, as evidenced by the figures which I quoted at the outset. In some regions - often the developing regions - aircraft were in fact the only practical means available.

This growth in air traffic has been made possible by a refinement of the means required to fix accurately the position of aircraft in space and time. It is a development which would have been impossible without telecommunications, in the widest meaning of the word, namely, covering both radionavigation and the public service land network.

All branches and disciplines of telecommunications have met the challenge, even though some of the techniques involved may not yet have taken sufficiently firm root on the world-wide level or may be in the experimental or even laboratory stage.

The age which lies immediately ahead will be marked, in my opinion, by a substantial change in the manner in which telecommunications contribute to the smooth operation of air transport. Throughout the entire period which has just elapsed, the contribution of telecommunications was qualitative in character. With the arrival of the 1980s, we are embarking upon an age in which this contribution will be largely quantitative, and reflected in a wider dissemination of the telecommunication installations required.

This trend will also be allied with a certain crystallization of aircraft performance. We shall not see, as we saw in the 1960s, a thoroughgoing shift of air traffic from one speed range to another. And I do not think it unduly daring to state that the subsonic jet plane will come into increasingly common use - perhaps at a slightly lower speed in the interest of optimum energy performance - while the supersonic plane will play an increasing part in long-distance and high-traffic links.

These practical aspects, combined with the number of existing installations and the scale of investment required for the developing countries, will help to emphasize this need for stability.

In conclusion, the tenor of all these arguments is that the future contribution of telecommunications will shift towards a greater dissemination of the various technical facilities available rather than towards any qualitative improvement in them.

It is this radical shift in emphasis which is likely to influence the major policy decisions taken in aeronautical telecommunications over the next decade.

Mr. Chairman,

Ladies and Gentlemen,

Following a well-established custom which has long since proved its worth, your Conference was preceded by intensive preparations.

In 1975, for example, the ITU Administrative Council adopted Resolution 764 instructing the Director of the CCIR to arrange for the technical bases to be studied for a revision of the Frequency Allotment Plan for the Aeronautical Mobile (R) Service and to submit a Report.

For this purpose, CCIR Study Group 8 (Mobile Services) held a special meeting of aeronautical radio experts in Geneva from 22 to 26 March 1976. Its Report, accompanied by the additional documentation prepared by this Study Group in January 1978, will certainly be of great assistance to the Technical Committee of your Conference.

In Resolution No. 802, the Administrative Council urged all Administrations to inform the IFRB of their requirements with regard to the use of the Aeronautical Mobile Service. Under the provisions of this Resolution, the IFRB has assembled the information received and has transmitted it to the Administrations, accompanied by its own analysis.

Furthermore, the IFRB has developed a planning method based on the interference curves published in Appendix 27 to the Radio Regulations and has prepared a computer program aimed at determining the minimum number of channels needed to meet frequency requirements.

The IFRB has moreover requested the Administrations to carry out certain monitoring operations in the frequency bands concerned. The results of this survey have been studied and made available to you.

Also, the IFRB has just held two half-day meetings to explain to the delegates the outcome of these preparatory activities and to reply to any questions prompted by them.

In the same way as for all other conferences, ITU Headquarters has done everything in its power to ensure that the work of the Conference proceeds as smoothly as possible. The Union staff at all levels will be anxious to contribute to its success; the Computer Department, in particular, will be prepared at any time to provide any assistance which you may require.

This brief account would be incomplete without a reference to the work of ICAO. It was natural that ITU should make the utmost use of the information provided by the sister agency, the forum of the Administrations responsible for the operation of air traffic links.

Aware of the importance of the assistance which ICAO can provide, the ITU Administrative Council instructed me in 1975 to request ICAO for information which would help Administrations to make an accurate evaluation of their HF requirements.

On behalf of ITU, I should like to thank ICAO for this support. This productive cooperation between our two agencies further strengthens the excellent spirit of collaboration which has always characterized our mutual relations.

In conclusion, I should like to thank you once more, Mr. Chairman, for having allowed me to extend a welcome to all the delegations present here and to express my most cordial wishes that the difficult task which you are about to undertake should be crowned with success.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 167-E
15 February 1978
Original : Spanish

COMMITTEE 5

Bolivia

PROPOSED MODIFICATION TO EXISTING RDARA-13

1. Modification of boundaries of Sub-Area 13D.

1.1 The Bolivian Administration, pursuant to Document No. 84 concerning its frequency requirements and after studying Document No. 153 submitted by the Administration of Peru, requests that the following amendment should be made to paragraph 27/165 of Appendix 27 to the Radio Regulations, namely that the present boundaries of Sub-Area 13D should be restricted exclusively to the territory of Bolivia, with the following description, based on the delineation of the limits of that part of the existing Sub-Area 13D which corresponds to Bolivia :

From 11°S 69°30'W along the border between Bolivia and Brazil and through the point 20°10'S 58°W, continuing along the border between Bolivia and Paraguay to 22°30'S 62°30'W. Then along the border between Bolivia and Argentina and through the point 23°S 67°W along the border between Bolivia and Chile and through the point 16°30'S 69°30'W following the border between Bolivia and Peru to close the sub-area at 11°S 69°30'W.

1.2 The change proposed by Bolivia would make it necessary to define separate sub-areas corresponding to the existing borders of Paraguay and Peru, possibly on the basis of the existing borders of Sub-Area 13D.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 168-E
15 February 1978
Original : Spanish

COMMITTEE 5

Republic of Paraguay

PROPOSED MODIFICATION TO EXISTING RDARA-13

1. Creation of a Sub-Area 13N (Paraguay), with the following boundaries :

Along the borders between Paraguay and Bolivia, Paraguay and Brazil and Paraguay and Argentina.

Annex : 1 map*)

*) This map also applies to Documents Nos. 153 (Peru) and 167 (Bolivia).

ANNEXE - ANNEX - ANEXO

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 169-E
15 February 1978
Original : French

COMMITTEE 7

NOTE FROM THE CHAIRMAN OF COMMITTEE 4

TO THE CHAIRMAN OF COMMITTEE 7

I was requested during discussions in Committee 4 to bring the following to your notice :

With respect to the maps mentioned in No. 27/25 of Appendix 27, it is recommended that the appropriate names of the countries should be used.

Certain delegations requested that whenever the abbreviation "IFRB" appears in the Spanish edition of Appendix 27, the abbreviation should take the form corresponding to the Spanish name of the IFRB.

As the questions raised are outside the terms of reference of Committee 4, I should be grateful if you would take the necessary action to solve the above problems.

G. KOVACS
Chairman of Committee 4

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 170-E
15 February 1978
Original : French

COMMITTEE 5
COMMITTEE 6

NOTE FROM THE CHAIRMAN OF COMMITTEE 4

TO THE CHAIRMEN OF COMMITTEES 5 AND 6

Committee 4 is of the view that the carrier frequencies to be allotted in the bands allocated to the Aeronautical Mobile (R) Service (No. 27/16) should be based on a separation of 3 kHz on multiples of 1 kHz so as to leave, if possible, a guard band of 1 kHz at each band edge. However, the insertion of the common frequencies 3 023 kHz and 5 680 kHz to provide for the continued use of class A3 emissions will alter the number of channels available in the bands 2 850-3 025 kHz and 5 480-5 680 kHz. In the opinion of Committee 4, this question should be decided by Committee 5. If special protection is required for the use of class A3 emissions, the frequency table given under No. CAN/20/18 should be used; otherwise the table given under No. USA/4/11 should be used. The majority of the members of Committee 4 considered it desirable to be able to use a larger number of channels with a lesser degree of protection in respect of the frequencies 3 023 kHz and 5 680 kHz common to the (R) and (OR) Services.

Moreover, it was agreed that Committees 5 and 6 should decide whether the table should give the "assigned" frequency in addition to the carrier (reference) frequency.

I have requested to bring these views to your notice and to invite you to examine the above questions. I have also been asked to inform you that Committee 4 has laid down new sharing criteria for the 13 to 22 MHz frequency bands intended to serve as a technical basis for the revision of the Frequency Allotment Plan. These new sharing criteria are based on the propagation probability statistics supplied by the IFRB (Document No. DT/15). These statistics make it possible to assess the possibility of the repeated use of frequencies in the bands mentioned on the basis of the time separation criterion (see ADD 27/31A to 27/31C).

G. KOVACS
Chairman of Committee 4

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 171-E
15 February 1978
Original : English

COMMITTEE 5

Australia

FREQUENCY BAND 21 870 - 22 000 kHz

Should a detailed plan be produced for the Aeronautical Mobile (R) Service to use SSB channels in the frequency band 21 870 - 22 000 kHz Australia would have a requirement for one frequency for world-wide use.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 172-E
15 February 1978
Original : English

COMMITTEE 5

Arab Republic of Egypt

FREQUENCY BAND 21 870 - 22 000 kHz

Taking into consideration that the band 21 870 - 22 000 kHz will be planned for frequency allotment to the Aeronautical Mobile Service, the Arab Republic of Egypt requests one frequency in this band.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 173-E
16 February 1978
Original : English

COMMITTEE 5

Socialist Federal Republic of Yugoslavia

FREQUENCY REQUIREMENTS IN THE 22 000 kHz BAND

In respect to the note from the Chairman of Committee 6 to Chairmen of Committees 4 and 5 stating that the principles have now been agreed to enable frequencies in the 22 000 kHz band to be planned for the allotment to the Aeronautical Mobile (R) Service, Yugoslavia requests one frequency for long-distance operational control at the world level in this band.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 174-E
16 February 1978
Original : French

COMMITTEE 5

Portugal

FREQUENCY BAND 21 870-22 000 kHz

Since there is to be frequency allotment planning for the Aeronautical Mobile (R) Service in the band 21 870-22 000 kHz, the delegation of Portugal requests a frequency in that band to meet Portugal's world-wide long-range operational control requirements.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 175-E
16 February 1978
Original: English

COMMITTEE 6

FIFTH REPORT OF THE WORKING GROUP 6A

RESOLUTIONS AND RECOMMENDATIONS

The Working Group 6A proposes the following action:

1. SUP Resolution No. 14
2. ADD Resolution No. B
3. ADD Resolution No. C
4. MOD Resolution Aer 1
5. ADD Recommendation No. A
6. ADD Recommendation No. B

K. OLMS
Chairman of Working Group 6A

Annexes: 5

ANNEX 1

RESOLUTION B

Relating to the use of frequencies of the
Aeronautical Mobile (R) Service

The World Administrative Radio Conference on the Aeronautical Mobile (R) Service, Geneva, 1978,

considering

a) that the Allotment Plan adopted in 1966 and developed for the use of high frequency channels for the Aeronautical Mobile (R) Service (Appendix 27 to the Radio Regulations, Geneva) has been substantially revised by this Conference;

b) that air operations are subject to continuous changes;

c) that these changes require attention by the Administrations concerned, but,

d) that, in seeking to satisfy new communication requirements, no decision should be taken that will prevent or handicap the coordinated utilization of those high frequency (R) band allotments as prescribed in the Plan;

e) that the families of frequencies allotted to the Major World Air Route Areas (MWARAs), Regional and Domestic Air Route Areas (RDARAs) and Sub-Areas and VOLMET areas have been chosen considering propagation conditions which allow for the selection of the most suitable frequencies for the distance involved;

f) that specific steps should be taken to ensure that the correct order of frequency is used;

g) that it is essential to distribute the communication traffic load as uniformly as possible over frequencies available;

h) that frequencies have been allottted for world-wide use

resolves

that Administrations, individually or in collaboration, take the necessary steps :

1. to make as great a use as possible of higher frequencies in order to lessen the load on the high frequency (R) bands;

2. to make as great a use as possible of antennae of appropriate directivity and efficiency in order to minimize possibilities of mutual interference within an area or between areas;

3. to coordinate the use of families of frequencies necessary for a given route segment in accordance with the technical principles in Appendix 27 and, in the light of the propagation data available, in order that the most appropriate frequencies be used

with an aircraft at a given distance from the aeronautical station providing service over the route segment concerned;

4. to improve operating techniques and procedures and to use equipment which will make it possible to attain the highest possible efficiency in handling air-ground high frequency communications;

5. to collect precise data on the operation of their high frequency communication systems, particularly that having a bearing on technical and operating standards, so as to facilitate future re-examination of this Plan.

ANNEX 2

RESOLUTION C

Relating to the use of higher frequency bands in the Aeronautical Mobile (R) Service and the Aeronautical Mobile-Satellite (R) Service for communication and for meteorological broadcasts

The World Administrative Radio Conference on the Aeronautical Mobile (R) Service, Geneva, 1978.

considering

a) that from an aeronautical viewpoint, higher frequency bands can provide a more reliable and more interference free communication system than HF;

b) that from a technical and operational viewpoint, the use of VHF by aviation has progressed significantly;

c) that the future possibility of communications utilizing satellite technology is now recognized;

d) that owing to the ever-increasing development of aeronautical telecommunications in all areas of the world, there is an increasing demand for frequencies for communication and for meteorological broadcasts to aircraft in flight

resolves

that Administrations, taking into account the respective economic and technical factors, consider to the maximum extent possible, meeting their requirements for communication and for meteorological broadcasts by frequencies in frequency bands other than HF bands allocated to the Aeronautical Mobile (R) Service and the Aeronautical Mobile-Satellite (R) Service.

ANNEX 3

MOD

RESOLUTION No. Aer 1

relating to the use of frequencies 3 023 and 5 680 kHz
common to the Aeronautical Mobile (R) and (OR) Services

The World Administrative Radio Conference on Aeronautical Mobile (R) Service, Geneva, 1978

having noted

that some anomalies appeared to exist in the conditions prescribed in Appendix 26 to the Radio Regulations, Geneva, 1959, for the use of the frequencies 3 023 and 5 680 kHz, as contained in Article 2 of the Frequency Allotment Plan, Column 3, clauses 2 a) and 2 b) and having taken steps to remove these anomalies;

considering

1. that the coordination of search and rescue operations at the scene of a disaster would be improved if the use of the frequencies 3 023 and 5 680 kHz, in such operations, was extended to include communication between mobile stations and participating land stations;

2. that it would be in the general interests of the Aeronautical Mobile Service if the same provisions relating to the use of the frequencies 3 023 and 5 680 kHz were applied to operations both in the Aeronautical Mobile (R) Service and the Aeronautical Mobile (OR) Service;

resolves

to invite Administrations to apply in the Aeronautical Mobile (OR) Service, as from the date of coming into force of the Final Acts of the Conference, the provisions governing the use of the frequencies 3 023 and 5 680 kHz specified in Appendix 27 (Nos. 27/196 and 27/201).

ANNEX 4

RECOMMENDATION A

Relating to the development of Techniques which would help to reduce congestion in the High Frequency bands allocated to the Aeronautical Mobile (R) Service

The Aeronautical World Administrative Radio Conference, Geneva, 1978,

considering

a) that several Administrations are actively engaged in the development of communication techniques the wider use of which in the Aeronautical Mobile (R) Service would help to reduce congestion in the high frequency bands allocated to that service; such developments include the use of higher frequencies with remotely controlled stations, directional antennae, space radiocommunication techniques and automatic data transmission;

b) that knowledge of these developments would be useful to other Administrations in considering the application of these techniques to their Aeronautical Mobile (R) Communication Services;

c) that the International Civil Aviation Organization (ICAO) is actively engaged in coordinating the operational development of such techniques;

recommends

Administrations engaged in the development of techniques which would help to reduce congestion in the HF bands to inform the IFRB periodically of the progress achieved;

instructs

the IFRB periodically to circulate the information so obtained to Administrations and to ICAO.

ANNEX 5

RECOMMENDATION B

to the 1979 General WARC relating to the inapplicability of Resolution No. 13 in respect of the Aeronautical Mobile (R) Service

The Aeronautical Mobile (R) Service Conference, Geneva, 1978,

considering

a) that Resolution No. 13 was of the opinion that the Aeronautical Mobile Service Plans contained in the then Appendix 26 of the Radio Regulations would have to be reviewed;

b) that Resolution No. 13 was also of the opinion that an Extraordinary Administrative Radio Conference should be convened to review Appendix 26 and associated Radio Regulations and to complete its work before the next Ordinary Administrative Radio Conference;

c) that relevant Administrative Radio Conferences were duly held in 1964, 1966, and 1978 and the Plans have been reviewed;

d) that no further Administrative Radio Conferences are to be convened before the 1979 General WARC;

recommends

that in so far as the Aeronautical Mobile (R) Service is concerned the 1979 General WARC should abrogate Resolution No. 13;

invites Administrations

to consider whether Resolution No. 13 could be abrogated and to submit to the 1979 General WARC proposals to this effect.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 176-E
16 February 1978
Original: English

COMMITTEE 6

SIXTH REPORT OF WORKING GROUP 6A

1. The Working Group 6A presents to Committee 6 the modified texts of the Radio Regulations and Appendix 27 annexed hereto.

2. The proposals concerning modification of RR429 were examined. The following points were made:

2.1 The Conference is not competent to change RR429, because other frequency bands than those of Appendix 27 are involved. Besides that there is no need to make any change, as the present text is broad enough to cover also the objectives of the proposals.

2.2 It was desirable to be more precise in the terms used in the adopted addition 27/194A. This objective could be served by adding a No. 429A.

The dominant view appeared to be that in 2.1 above.

3. The Working Group, by majority, was of the opinion, that there is no need for additional definitions to be introduced into Section I of Appendix 27.

K. OLMS
Chairman of Working Group 6A

Annex : 1

A N N E X

MOD 201A Spa2 The frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz 8 364 kHz, 121.5 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles.

The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of ± 3 kHz about the frequency.

MOD 205A The carrier frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Nos. 1326C and 1353B respectively, by stations of the Maritime Mobile Service engaged in coordinated search and rescue operations.

MOD 969A Mar2 (3) The aeronautical frequencies 3 023 kHz and 5 680 kHz may be used by mobile stations for search and rescue scene-of-action coordination purposes, including communication between these stations and participating land stations, in accordance with any special arrangements by which the Aeronautical Mobile Service is regulated (see Nos. 1326C and 1353B).

MOD 1326C The aeronautical frequency 3 023 kHz may be used for intercommunication between mobile stations when engaged in coordinated search and rescue operations, including communication between these stations and participating land stations, in accordance with the provisions of Appendix 27.

MOD 1353B 15A. The aeronautical frequency 5 680 kHz may be used for intercommunication between mobile stations when engaged in coordinated search and rescue operations, including communication between these stations and participating land stations, in accordance with the provisions of Appendix 27.

Appendix 1 to the Radio Regulations

page 15, paragraph 3

MOD 3. In any case where there are one or more reference frequencies in a particular transmission (e.g. in the case of (a) the frequency of the reduced carrier in an independent or single-sideband emission, and (b) the frequencies of the sound and vision carriers in a television emission), such reference frequencies shall be supplied. In the case of television broadcasting stations in Region 1, each notice shall include, as supplementary information, both the frequency of the other carrier and the assigned frequency. ~~For stations in the Aeronautical Mobile (R) Service using permitted emissions other than B8B, the reference frequency together with the appropriate centre frequency of the channel listed in the Allotment Plan in Appendix 27 shall be supplied as supplementary information.~~

SUP 27/17

SUP 27/18

SUP 27/19

/MOD 27/23 Resort to the coordination described in No. 27/20 shall be made where appropriate and desirable for the efficient utilization of the frequencies in question, and especially when the procedures of No. 27/22 are not satisfactory./

MOD 27/194 A "common channel" is a channel allotted in common to two or more areas within interference distance of each other and its use is subject to agreement between the Administrations concerned.

		1	2	3
MOD	27/196	3 023	World-wide, (R) and (OR)	See Art 3
MOD	27/201	5 680	World-wide, (R) and (OR)	See Art 3

SECTION II

ARTICLE 3

Frequencies for common use

27/... Frequencies 3 023 kHz and 5 680 kHz are intended for common use on a world-wide basis.

27/... The use of these frequencies in any part of the world is authorized aboard aircraft for :

a) communications with approach and aerodrome control;

b) communication with an aeronautical station when other frequencies of the station are either unavailable or unknown;

27/... at aeronautical stations for aerodrome and approach control under the following conditions :

a) with mean power limited to a value of not more than 20 watts in the antenna circuit;

b) special attention must be given in each case to the type of antenna used in order to avoid harmful interference;

c) the power of aeronautical stations which use these frequencies in accordance with the above conditions may be increased to the extent necessary to meet certain operational requirements subject to coordination between the Administrations directly concerned and those whose services may be adversely affected.

27/... Notwithstanding these provisions, the frequency 5 680 kHz may also be used at aeronautical stations for communication with aircraft stations when other frequencies of the aeronautical stations are either unavailable or unknown. However, this use shall be restricted to such areas and conditions that harmful interference cannot be caused to other authorized operations of stations in the Aeronautical Mobile Service.

27/... Additional particulars regarding the use of these channels for the above purposes may be recommended by the meetings of ICAO.

27/... Frequencies 3 023 kHz and 5 680 kHz may also be used by stations of other mobile services participating in coordinated air-surface search and rescue operations, including communications between these stations and participating land stations. Aeronautical stations are authorized to use these frequencies to establish communications with such stations.

27/... These channels may be used for A1 or A3 emissions, in accordance with special arrangements. Such channels shall not be subdivided.

27/... All stations participating directly in coordinated search/rescue operations and using frequencies 3 023 kHz and 5 680 kHz shall transmit solely on the upper single sideband (see also /MOD/ 27/73) except in the cases provided for in Numbers 27/50 and 27/73.

Emissions of Class A3 and A3H may be used in accordance with / Resolution Aer 2-(A), paragraph 4.4) /.

INTERNATIONAL TELECOMMUNICATION UNION

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COMMITTEE 6

FIRST REPORT OF WORKING GROUP 6B TO COMMITTEE 6

Working Group 6B unanimously decided to recommend the following dates:

- Entry into force of the Final Acts: 1 September 1979
- Entry into force of the new Frequency Allotment Plan: 1 February 1983.

F. URBANY
Chairman of Working Group 6B

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 5

Ethiopia

FREQUENCY BAND 21 870 - 22 000 kHz

In view of the fact that frequencies in the band 21 870 - 22 000 kHz will be planned for allotment, Ethiopia has a requirement for two frequencies in this band for long distance operational control

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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Original : English

COMMITTEE 5

Federal Republic of Nigeria

FREQUENCY REQUIREMENT IN THE 21 870-22 000 kHz BAND

Since it now appears that a Plan would emerge for the frequency band 21 870-22 000 kHz for allocation to the Aeronautical Mobile (R) Service, Nigeria requests two frequencies for world-wide use.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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COMMITTEE 6

United Kingdom and United States of America

MODIFICATION TO ARTICLE 9 AND TO APPENDIX 27

The following modification to Article 9 is proposed :

G/USA/180/1 (MOD) 557 ..... Plan ;

ADD 557A

e) the notice is in conformity with the Convention and the provisions of the Radio Regulations (with the exception of those relating to the probability of harmful interference).

Reasons : To assure that all aeronautical stations in bands allocated to the Aeronautical Mobile (R) Service conform to the Convention and applicable Radio Regulations before being recorded in the Master International Frequency Register.

The following modification to Appendix 27 is proposed :

G/USA/180/2 MOD 27/20 The international operational use of frequencies for MWARA, VOLMET and WORLDWIDE purposes (excluding the common use frequencies 3 023 kHz and 5 680 kHz) shall be mutually coordinated by Administrations through the International Civil Aviation Organization (ICAO). Mutual coordination may be effected through ICAO for the international use of RDARA frequencies. Notification of assignment of the frequencies contained in the Plan in No. 27/195 to No. 27/205 will then be submitted to the International Frequency Registration Board for examination in respect to conformity with Appendix 27 (see RR Nos. 552 - 560).

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

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PLENARY MEETING
COMMITTEE 7

REPORT OF COMMITTEE 4 TO THE PLENARY MEETING

Under its terms of reference, Committee 4 has considered Appendix 27 and the other provisions of the Radio Regulations within its competence and has established the technical criteria for revision of the Frequency Allotment Plan and the other technical provisions to be included in this Appendix.

After examining the proposals before the Conference, Committee 4 proposes the attached texts to the Plenary Meeting for adoption.

G. KOVACS
Chairman of Committee 4

Annex : 1

A N N E X

MOD

A. CHANNEL CHARACTERISTICS AND UTILIZATION

NOC

1. Frequency separation

MOD 27/10 1.1 The frequency separation between carrier (reference)frequencies shall be 3 kHz. This is adequate to permit communications using the classes of emission referred to in Nos. 27/49-27/52 in the frequency bands between 2 850 kHz and 17 970 kHz [22 000 kHz] allocated exclusively to the Aeronautical Mobile (R) Service. The carrier (reference) frequency of the channels in the Plan shall be on integral multiples of 1 kHz.

MOD 27/11 1.2 For radiotelephone emissions the audio frequencies will be limited to between 300 and 2 700 Hz and the occupied bandwidth of other authorized emissions will not exceed the upper limit of A3J emissions. In specifying these limits, however, no restriction in their extension is implied in so far as emissions other than A3J are concerned, provided that the limits of unwanted emissions are met (see ADD 27/66A and ADD 27/66B).

Note : For aircraft and aeronautical station transmitter types first installed before [1 February 1983] the audio frequencies will be limited to 3 000 Hz.

ADD 27/11A 1.3 For reasons of possible interference potential a given channel should not be used in the same allotment area for radiotelephony and data transmissions.

MOD 27/12 1.4 The use of channels, indicated in 27/16 for the various classes of emissions other than A3J and A2H will be subject to special arrangements by the Administrations concerned and affected in order to avoid harmful interference which may result from the simultaneous use of the same channel for several classes of emission.

SUP 27/13

MOD 27/14 1.5 For the avoidance of potential interference, adjacent channels in the List of Frequencies at No. 27/16 should not as a rule be allotted to the same Major World Air Route, VOLMET or RDARA Areas. However, to satisfy particular needs in the assignment of adjacent channels derived from the table (No. 27/16), special arrangements may be made by the Administrations concerned.

MOD 27/15 1.6 The arrangements contemplated in No. 27/12 and No. 27/14 should be made under the Articles of the International Telecommunication Convention and the Radio Regulations entitled "Special Arrangements".

NOC

2. Frequencies to be allotted

MOD 27/16

The list of carrier (reference) frequencies to be allotted in the bands allocated exclusively to the Aeronautical Mobile (R) Service, on the basis of the frequency separation provided for under No. 27/10, will be found in the following table:

/ TABLE /

MOD

3. Frequencies common to (R) and (OR) Services

MOD 27/17

3.1 The frequencies common to the (R) and (OR) Services, with carrier (reference) frequencies of 3 023 and 5 680 kHz, are authorized for world-wide use as shown in Nos. 27/196 and 27/201. Notwithstanding these provisions, the carrier (reference) frequency 5 680 kHz may also be used at aeronautical stations for communication with aircraft stations when other frequencies of the aeronautical stations are either unavailable or unknown. However, this use shall be restricted to such areas and conditions that harmful interference cannot be caused to other authorized operations of stations in the Aeronautical Mobile Service.

MOD 27/18

3.2 All stations directly involved in coordinated search and rescue operations using 3 023 and 5 680 kHz shall transmit only in the upper sideband mode except as provided in Nos. 27/50 and 27/73.

A3 and A3H may be used in accordance with / Resolution Aer 2 (A) paragraph 4.4 /.

SUP 27/19

B. Interference range contours

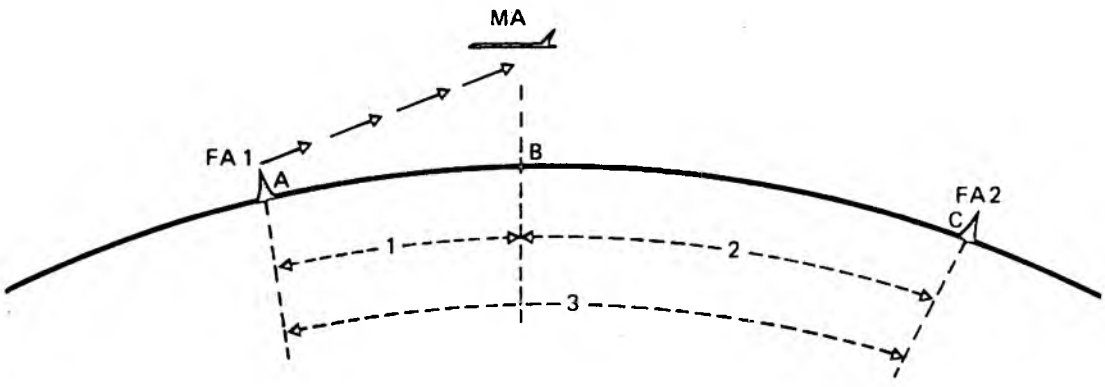
MOD 27/24 1. General provisions

ADD 27/24A 1.1 Service range - due to factors such as the power of the transmitter, propagation loss, noise level, etc., there is a limit to the distance at which reliable communications can be effected between an aeronautical station and an aircraft station. This limiting distance, based on the weakest path, is the service range. Often, the boundary of the air route area is assumed to be the limiting distance.

ADD 27/24B 1.2 Interference range - this is the minimum distance from the limit of the service range of a wanted station to a potentially interfering station, needed to produce a protection ratio of 15 dB. This protection ratio is between the wanted signal at an aircraft station at the limit of the service range and the signal from a potentially interfering aeronautical station operating on the same frequency. The interference range has been calculated for different frequencies indicated on the data tables contained in Nos. 27/39-27/48 for day and night conditions, for median latitudes, for conditions of median sunspot activity and for a mean effective radiated power of 1.0 kW at the aeronautical station.

ADD 27/24C 1.3 Repetition distance - this is the distance at which a frequency may be successfully shared and is equal to the sum of the service range and the interference range.

ADD 27/24D 1.4 Figure 1 illustrates the use of the concept of interference range in frequency planning through the determination of repetition distance.



FA1 = aeronautical station in communication with aircraft station MA
FA2 = aeronautical station in communication with aircraft stations other than MA
MA = aircraft station in communication with aeronautical station FA1
1 = service range AB
2 = interference range CB
3 = repetition distance AC

Figure 1 - Service range, interference range, repetition distance

ADD 27/24E

1.5 The transparencies associated with this Appendix show, for the frequencies stated, the interference range described in No. 27/24B which would be required between an interfering aeronautical station and an aircraft station operating at the limit of its service range. Because of the variability of propagation conditions not only from hour-to-hour within the day-time and night-time periods but also from day-to-day, with season, with solar activity level and geographic location the 15 dB protection ratio may be expected to have marked variations and accordingly a greater protection may be available much of the time especially when the aircraft is not operating at the limit of its service range.

ADD 27/24F

1.6 Supplementary information on service range, interference range and repetition distance, as well as on the use of the transparencies can be found in the technical documentation issued by the IFRB (such as texts of the IFRB Seminar on frequency management and use of the frequency spectrum; Doc. No. 11).

MOD 27/25

1.7 Two types of transparencies are provided for use respectively with the Mercator projection world maps and the Lambert azimuthal equal area projection maps for the polar areas. The Mercator projection transparencies encompass the area between latitude 60° North and 60° South. The transparencies associated with the Polar area projections encompass the areas north of latitude 30° North and south of latitude 30° South. The Mercator projection overlaps the Polar projection maps between latitudes 30° - 60° North and 30° -60° South. This overlap is intended to provide continuity between transparencies of the two projections.

NOC

2. *Type of maps used*

MOD 27/26

The transparencies mentioned in Nos. **27/24E** and **27 25**, can be used only on a world or polar map of the projection and scales given on each transparency and will not be suitable for use on any other projection or scale. The world and polar maps associated with this Appendix, depicting MWARA, RDARA and VOLMET areas, are to the correct scale so that the transparencies carrying the interference range contours can be directly used on these maps. The auroral zones are marked on the polar maps.

NOC

3. *Change of Scale of Projection*

NOC 27/27

3.1 Should any other scale or projection be desired, then new interference range contours can be drawn to fit the new scales or projections, by using the co-ordinates given in the tables shown below.

NOC 27/28

3.2 When new transparencies are constructed, the intersection of the vertical line of symmetry, i.e., the meridian of longitude and the horizontal line of latitude should be at 00 latitude for the 00 contour, 20 N for the 20 contour, 40 N for 40 contour, etc.

NOC 27/29

3.3 The co-ordinates shown in the tables under Nos. **27 39-27 48** are given with reference to the 180° meridian taken as the axis of symmetry for the construction of the contours.

NOC 4. Sharing Conditions between Areas

ADD 4.1 Frequency bands 3 - 11.3 MHz

MOD 27/30 4.1.1 The transparencies are constructed on the basis of the following sharing conditions:

Areas	Bands between: Mc s	Sharing conditions
MWARA or VOLMET area to MWARA or VOLMET area	3- 6.6 9-11.3	night propagation day propagation *Note :* 6.6 Mc s and 5.6 Mc s sharing conditions are considered to be the same
MWARA or VOLMET area to RDARA	3 - 5.6 6.6-11.3	night propagation day propagation
RDARA to RDARA	3 - 4.7 5.6-11.3	night propagation day propagation

NOC 27/31 4.1.2 The additional " Day " contours included for 3 Mc s, 3.5 Mc s and 4.7 Mc s are for determining daylight sharing possibilities.

ADD 4.2 Frequency bands 13 -⌈18⌋⌈22⌋ MHz

ADD 27/31A 4.2.1 The revised allotment plan for the 13, 18 ⌈and 22⌋ MHz bands is based on day time protection only. This results in the following sharing possibilities :

ADD 27/31B 4.2.2 For the 13 MHz band, the repetition factor is at least 2 whilst for 18 ⌈and 22⌋ MHz it is 3. It is to be noted that the longitudinal separation might be decreased to allow for a repetition of 3 (at 13 MHz) and 4 (at 18 ⌈and 22⌋ MHz) respectively, taking into account operational and local circumstances;

ADD 27/31C 4.2.3 The sharing takes into account the likely locations of the aeronautical stations, rather than the area boundaries.

MOD

5. Method of use of the transparencies for the bands 3 - 11.3 MHz

MOD 27/32

5.1 Take the MWARA, RDARA or VOLMET area maps associated with this Appendix and select the transparency for the frequency order and sharing conditions under consideration.

Note : MWARA and RDARA transparencies are equally applicable for world-wide use.

NOC 27/33

5.2 The equal area projections are applicable in the polar areas north of 60°N and south of 60°S; and the Mercator projections are applicable between 60°N and 60°S.

MOD 27/34

5.3 Place the centre of the transparency (i.e. the intersection of the axis of symmetry and the latitude line) over the boundary of the area (use the reception area boundary in the case of VOLMET) at the point on the boundary nearest to the potentially interfering transmitter or at the location of the interfering transmitter. Note the latitude of the selected point and use the interference range contour corresponding to this latitude.

MOD 27/35

5.4 A transmitter located at any point outside the contour will result, as defined in No. 27/24B, in a protection ratio of better than 15 dB.

NOC 27/36

5.5 A transmitter located at any point inside the contour will result in a protection ratio of less than 15 db. However, if the transmitter is located inside the contour but the propagation path traverses an auroral zone, it is assumed that the signal attenuation within this zone will result in a protection ratio of better than 15 db.

NOC 27/37

5.6 For the Northern Hemisphere the Mercator projection transparencies should be used in their natural position as published, but for the Southern Hemisphere the transparencies should be inverted. This point should be carefully observed when following the boundaries of areas which involve the transition of the equator.

MOD 27/38

5.7 For either the north or south polar areas, the associated transparency should be positioned so that the north-south line (terminated with an arrow) is parallel to the meridian of longitude, with the arrow pointing towards the pole.

NOC 27/39-27/48

C. CLASSES OF EMISSION AND POWER

NOC 1. Classes of emission

MOD 27/49 In the Aeronautical Mobile (R) Service the use of emissions such as those listed below is permissible if the special provisions applicable to each case are complied with and provided that such use does not cause harmful interference to other users of the channel concerned.

MOD 27/50 1.1 Telephony - Amplitude modulation :

- double sideband (A3)*
- single sideband, full carrier (A3H)*
- single sideband, suppressed carrier (A3J)

* A3 and A3H to be used only on 3 023 kHz and 5 680 kHz and in accordance with / Resolution Aer 2 (A), paragraph 4.4 /

NOC 1.2 Telegraphy (including automatic data transmission)

MOD 27/51 1.2.1 Amplitude modulation:

- telegraphy without the use of a modulating audio frequency (by on-off keying) (A1)**
- telegraphy by the on-off keying of an amplitude modulating audio frequency or audio frequencies or by the on-off keying of the modulated emission and including selective calling - single sideband - full carrier A2H
- multichannel voice frequency telegraphy - single sideband - suppressed carrier A7J
- other transmission such as automatic data transmission - single sideband - suppressed carrier A9J

MOD 27/52 1.2.2 Frequency modulation

- telegraphy by frequency shift keying without the use of a modulating audio frequency, one of two frequencies being emitted at any instant (F1)**

** A1 and F1 are permitted provided they do not cause harmful interference to the classes of emission A2H, A3J, A7J and A9J. In addition, A1 and F1 emissions shall be in accordance with the provisions in MOD 27/65 to MOD 27/66B and care should be taken to place these emissions at or near the center of the channel. However a modulating audio frequency is permitted with single side band transmitters, where the carrier is supressed in accordance with No. 27/63.

SUP 27/53

NOC 2. Power

MOD 27/54 **2.1 Unless otherwise specified in Part II of this Appendix, the peak envelope powers supplied to the antenna transmission line shall not exceed the maximum values indicated in the table below; the corresponding peak effective radiated powers being assumed to be equal to two-thirds of these values:**

Class of emission	Stations	Maximum peak envelope power
A2H, A3J, A7J, A9J A3*, A3H* (100% modulation)	Aeronautical stations Aircraft stations	6 kW 400 W
Other emissions such as A1, F1	Aeronautical stations Aircraft stations	1.5 kW 100 W

*A3 and A3H to be used only on 3023 kHz and 5680 kHz, and in accordance with [Resolution Aer2(A), paragraph 4.4_/

MOD 27/55 2.2 It is assumed that the maximum peak envelope powers specified above for aeronautical stations will produce the mean effective radiated power of 1 kW (for emissions such as A1 and F1) used as a basis for the interference range contours.

MOD 27/56 2.3 In order to provide satisfactory communication with aircraft, aeronautical stations serving MWARA, VOLMET [and world-wide areas] may exceed the power limits specified in No. 27/54. [Except in the case of 3023 kHz and 5680 kHz which are subject to special provisions No. 27/196 and 27/201]. In each such case, the administration having jurisdiction over the aeronautical station shall note RR 694 and ensure :

NOC **27/57** *a)* that when there is any possibility of harmful interference co-ordination is effected with the administrations concerned;

NOC **27/58** *b)* that harmful interference is not caused to stations using frequencies in accordance with the applicable provisions of the Allotment Plan;

NOC **27/59** *c)* that in other MWARAs, RDARAs or VOLMET areas allotted the same frequencies, the specified protection ratios within the boundaries of those areas shall be maintained;

NOC **27/60** *d)* that the directional characteristics of the antenna are such as to minimize radiation in unnecessary directions, particularly towards other MWARAs, RDARAs or VOLMET areas which have been allotted the same frequencies;

NOC **27/61** *e)* that, in accordance with the Radio Regulations, all details of the assignment(s), including the transmitting antenna characteristics shall be notified to the I.F.R.B.

MOD 27/62 2.4 It is recognized that the power employed by aircraft transmitters may, in practice, exceed the limits specified in No. 27/54. However, the use of such increased power (which normally should not exceed 600 W P_p) shall not cause harmful interference to stations using frequencies in accordance with the technical principles on which the Allotment Plan is based.

ADD

D. LIMITS TO THE POWER LEVELS OF UNWANTED EMISSIONS

1. Technical provisions relating to the use of single-sideband emissions.

MOD 27/63

1.1 Definitions of carrier modes :

Carrier mode	Level N (dB) of the carrier with respect to peak envelope power
Full carrier (for example A2H)	$0 > N > -6$
Suppressed carrier (for example A3J)	Aircraft Stations $N < -26$ Aeronautical Stations $N < -40$

SUP 27/64

MOD

2. Tolerance for levels of emission outside the necessary bandwidth.

MOD 27/65

2.1 In a single-sideband transmission, the mean power of any emission supplied to the antenna transmission line of an aeronautical or aircraft station on any discrete frequency, shall be less than the mean power (Pm) of the transmitter in accordance with the following table :

MOD 27/66

2.2 For aircraft station transmitter types and for aeronautical station transmitters first installed before / 1 February 1983 /.

Note : Transmitters manufactured after / 1 February 1983 / will comply with the specifications contained in MOD 27/66B.

Frequency separation < from the assigned frequency kHz	Minimum attenuation below mean power (Pm) dB
$2 \leq \Delta < 6$	25
$6 \leq \Delta < 10$	35
$10 \leq \Delta$	Aircraft Stations 40 Aeronautical Stations $43 + 10 \log_{10} Pm$ (watts)

ADD 27/66A 2.3 In a single-sideband transmission, the peak envelope power (Pp) of any emission supplied to the antenna transmission line of an aeronautical or aircraft station on any discrete frequency, shall be less than the peak envelope power (Pp) of the transmitter in accordance with the following table.

ADD 27/66B 2.4 For aircraft station transmitters first installed after / 1 February 1983 / and for aeronautical station transmitters in use after / 1 February 1983 /.

Frequency separation Δ from the assigned frequency kHz	Minimum attenuation below peak envelope power (Pp) dB
$1.5 \leq \Delta < 4.5$	30
$4.5 \leq \Delta < 7.5$	38
$7.5 \leq \Delta$	Aircraft Stations 43 Aeronautical Stations *)

*) For transmitter powers up to and including 50 watts
$43 + 10 \log_{10} Pp$ (watts)
For transmitter powers more than 50 watts the attenuation shall be at least 60 dB.

/ The table with the relevant footnote was approved by the majority of Commission 4. Some delegations, however, disputed the values indicated in the footnote. /

SUP 27/67 to 27/71 inclusive

ADD E. OTHER TECHNICAL PROVISIONS

NOC 1. Assigned frequencies

MOD 27/72 1.1 For single-sideband emissions, except class of emission A2H, the assigned frequency shall be at a value 1 400 Hz above the carrier (reference) frequency.

ADD 27/72A 1.2 Aeronautical stations equipped with selective calling systems shall indicate in Supplementary Information column of the Form of Notice (see Appendix 1 to the Radio Regulations) the class of emission A2H.

ADD 27/72B 1.3 For classes of emission A1 and F1 the assigned frequency shall be chosen in accordance with the provisions of the footnote to MOD 27/51 and MOD 27/52.

MOD 27/73 1.4 Stations employing double-sideband emissions (A3) shall operate with an assigned frequency at 3 023 kHz or 5 680 kHz (see 27/50).

APPENDIX 3

Mar Mar2

Table of Frequency Tolerances*)

(See Article 12)

Frequency bands (lower limit exclusive, upper limit inclusive) and Categories of stations	Tolerances applicable until 1st January, 1966*) to transmitters in use and to those to be installed before 1st January, 1964	Tolerances applicable to new transmitters installed after 1st January, 1964 and to all transmitters after 1st January, 1966*)
	*) 1st January, 1970 in the case of all tolerances marked with an asterisk.	
. . . . .		
Band : 1 605 to 4 000 kHz		
. . . . .		
MOD 2. Land stations		
- power 200 W or less	100	100 h) 1) r)
- power above 200 W	50	50 h) 1) r)
3. Mobile stations		
c) Aircraft stations	200 *	100 * r)
Band : 4 to 29.7 MHz		
. . . . .		
2. Land stations :		
. . . . .		
MOD b) Aeronautical stations :		
- power 500 W or less	100	100 r)
- power above 500 W	50	50 r)
. . . . .		
3. Mobile stations :		
c) Aircraft stations	200*	100* r)
. . . . .		

ADD r) For single-sideband transmitters operating in the frequency bands 1 605 - 4 000 kHz and 4 - 29.7 MHz which are allocated exclusively to the Aeronautical Mobile (R) Service, the tolerance on the carrier (reference) frequency is :

1.	for all Aeronautical Stations	10 Hz
2.	for all Aircraft Stations operating on international services	20 Hz
3.	for Aircraft Stations operating exclusively on national services	50 Hz **

** Note : In order to achieve maximum intelligibility it is suggested that Administrations encourage the reduction of this tolerance to 20 Hz

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COMMITTEE 5

Kingdom of Saudi Arabia

FREQUENCY REQUIREMENTS IN 21 870 - 22 000 kHz BAND

In view of the planning of frequencies in the above band for allotment to the Aeronautical Mobile (R) Service, Saudi Arabia would have a requirement for one frequency for the world-wide long distance operational control use.

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AERONAUTICAL (R) CONFERENCE

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COMMITTEE 6

Observer of ICAO

ICAO's ROLE IN THE TRANSITION PROCESS

1. The implementation of a Frequency Allotment Plan in the Aeronautical Mobile Service involves :

a) the organization of the aeronautical stations in ICAO Regions and along international air routes to ensure that all changes are made on a coordinated basis at the appropriate times, and that the changes are adequately modified well in advance in publications directed to the users of the service;

b) the organization of the aircraft stations subjected to the changes, to ensure that equipment modifications are effected in a timely manner, and that the activities of civil aviation operating agencies may continue throughout the transition period in an orderly and efficient manner;

c) consideration of the effects of implementation changes among ICAO Regions and along international air routes to ensure that effective utilization of aircraft will not be affected adversely during the transition period. This may involve temporary provision of alternative services, temporary procedures, or other special arrangements to accommodate the particular needs of an international civil aviation operation during the transition period.

2. Since all of the above involvements require a dynamic, detailed and up-to-date knowledge of international civil aviation operations, it is essential that the organizations involved in transition planning should have immediate access to the necessary information and knowledge. It is also desirable that the organization involved in transition planning be in a position to deal directly with the various bodies involved in implementation throughout the transition period.

3. The administrative organization of ICAO provides for a permanent Council with executive powers located at the Organization's Headquarters in Montreal. The Council delegates responsibility for certain technical matters to a permanent technical body, the Air Navigation Commission, which is responsible for the technical aspects of civil aviation in general. The Air Navigation Commission acts directly on matters within its delegated authority, and makes recommendations to the Council on non-delegated matters.

4. Representatives of appropriate international organizations, such as the International Air Transport Association (IATA) and the International Federation of Air Line Pilot's Association (IFALPA) participate regularly in the meetings of the Air Navigation Commission as Observers, thus affording a continuous, direct and up-to-date input on civil aviation operational and technical matters, and these inputs are taken into account in the deliberations

of the Air Navigation Commission. In addition, ICAO has access through correspondence and through participation at appropriate meetings, with all other users of international civil aviation services, including non-scheduled operating agencies and general aviation operators.

5. In addition to the above, ICAO maintains six permanent Regional Offices throughout the world and each Contracting Member is accredited to one of these offices. Their functions include the provision of technical advice as required to appropriate aeronautical Administrations to facilitate the timely realization of aeronautical facilities and services, the requirement for which has been established and agreed at the worldwide or regional levels. Each of these Regional Offices have on their staffs one or more communication specialists, and are well equipped to assist States with the identification and resolution of technical and operational problems, and, in particular, to assist with the kind of problems associated with the transition from double-sideband to single-sideband operation in the Aeronautical Mobile Service.

6. Finally, to provide a more concrete example of the steps involved in the preparation of a transition plan, the following extract from the proceedings of the International Administrative Aeronautical Radio Conference, Geneva, 1948/49 is provided for the convenience of delegates :

RECOMMENDATION No. 4

concerning the preparation of station frequency assignments for the Aeronautical Mobile (R) Service

The International Administrative Aeronautical Radio Conference

considering

1. that the next step following the adoption of an Aeronautical Mobile (R) Service frequency allotment plan by this Conference is the assignment of frequencies to stations on the basis of that plan;

2. that it is essential, in view of the nature of the international aeronautical operations involved, that those frequency assignments be coordinated between the countries interested in each area as a whole, both for the MWARA's and for the RDARA's;

3. that the United Nations has recognized the ICAO as the specialized international agency for the coordination of questions concerning international civil aviation;

4. that in the case of a large number of RDARA's and in the majority of MWARA's the interested Administrations deem it convenient to arrange (via the appropriate channels) for the ICAO to convene regional or special meetings, as appropriate and necessary, in order that the Administrations concerned may develop their frequency assignment plans as referred to in (1) above and notify the Provisional Frequency Board accordingly;

5. that, however, a different situation exists in other areas such as RDARA 1, as a consequence of the fact that not all countries in those areas are members of ICAO;

recommends

a) that for RDARA's and for MWARA's comprising only countries which are members of ICAO, this organization should take the measures necessary to hold regional or special meetings, for the purpose contemplated in (4) above;

b) that in RDARA's and MWARA's where the interested countries are not all members of ICAO but where nevertheless the interested Administrations will find it possible to convene ICAO meetings for the purpose of establishing their station frequency assignments, that course be followed;

c) that in RDARA 1 those station frequency assignments be established by means of regional agreements or special arrangements concluded by ITU member states comprised in that area;

d) that in the sub-areas including countries which are members neither of ICAO nor of ITU the frequencies allotted to the said sub-areas be assigned to stations by regional agreements or special arrangements.

e) that, if possible, the agreements or special arrangements mentioned in a), b), c) and d) above be concluded before September 1950.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 184-E
17 February 1978
Original : English

COMMITTEE 5

Japan

FREQUENCY REQUIREMENTS IN THE 22 000 kHz BAND

In view of the fact that frequency in the band 21 870-22 000 kHz will be planned for allotment to the Aeronautical Mobile (R) Service, Japan requests one frequency for the world-wide use.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 185(Rev.1)-E
23 February 1978
Original : English

COMMITTEE 5

Working Group 5B

FREQUENCY REQUIREMENTS FOR VOLMET AREAS

Having considered Document No. 185 at its thirteenth meeting on 23 February 1978, the Working Group 5B agreed on the frequency requirements for the VOLMET Areas as shown below.

Frequency Group	I	II	III	IV	V
Bands	3, 3.5 MHz	4.7, 5.6, 6.6 MHz	9, 10, 11.3 MHz	13.3 MHz	18 MHz
VOLMET Areas					
AFI-MET	2	2	2	2	-
CAR-MET	1	1	1 (11.3 MHz)	-	-
EUR-MET	3	3	3	2	-
MID-MET	2	2	1+1(11.3 MHz)	-	-
NAT-MET	2	2	2	2	-
NCA-MET	1	3	2	1	-
PAC-MET	2	2	2	2	-
SAM-MET	1	1	1	1	-
SEA-MET	2	2	2	1	-

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 185-E
17 February 1978
Original : English

COMMITTEE 5

Working Group 5B

FREQUENCY REQUIREMENTS FOR VOLMET AREAS

Having considered Document No. DT/16 at its fourth and fifth meetings, on 15 and 16 February 1978, the Working Group 5B agreed on the frequency requirements for the VOLMET Areas as shown below.

Frequency Group	I	II	III	IV	V
Bands	3, 3.5 MHz	4.7, 5.6, 6.6 MHz	9, 10, 11.3 MHz	13.3 MHz	18 MHz
VOLMET Areas					
AFI-MET	2	3	3	2	-
CAR-MET	1	1	1 (11.3 MHz)	1	-
EUR-MET	3	3	3	2	-
MID-MET	3	3	3	1	-
NAT-MET	2	2	2	2	-
NCA-MET	1	4	2	1	-
PAC-MET	2	3	2	2	-
SAM-MET	1	1	1	1	-
SEA-MET	3	3	3	1	1

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 186-E
17 February 1978
Original : English

COMMITTEE 4
COMMITTEE 5
COMMITTEE 6

REPORT OF COMMITTEE 6 DRAFTING GROUP TO COMMITTEE 6

Draft Recommendation Aer ...

relating to the inclusion of the band [21,870-22,000] kHz in the Frequency Allotment Plan for the Aeronautical Mobile (R) Service (Appendix 27 [rev.] to the Radio Regulations)

The Drafting Group met on 16 February 1978 to consider the proposals contained in Documents No. 88 and No. 97 and unanimously agreed the draft Recommendation appearing in Annex A for adoption by Committee 6.

2. The Drafting Group then considered the provisions in Appendix 27 [rev.] and the Radio Regulations that would need to be modified in order to permit the new exclusive band to be integrated into the revised Plan. These are outlined at Annex B and merely point to those provisions the modification of which will be dependent on decisions of Committees 4 and 5. When those decisions are known, the Annex to the draft Recommendation can be prepared.

3. The present document is also addressed to Committees 4 and 5 for advance information.

D.E. Baptiste
Chairman
Committee 6 Drafting Group

Annexes: 2

ANNEX A

DRAFT RECOMMENDATION Aer ...

relating to the inclusion of the band [21,870-22,000] kHz in the Frequency Allotment Plan for the Aeronautical Mobile (R) Service (Appendix 27 [rev.] to the Radio Regulations)

The World Administrative Radio Conference for the Aeronautical Mobile (R) Service, Geneva, 1978,

considering

a) that there is a need to add an additional frequency band to Appendix 27 [rev.] to provide world-wide frequencies suitable for long-distance communications and to reduce traffic congestion in existing bands;

b) that there is a suitable band at [21,870 - 22,000] kHz at present allocated to the Aeronautical Fixed and Aeronautical Mobile (R) Services;

c) that if the band were to be allocated exclusively to the Aeronautical Mobile (R) Service it could be incorporated into Appendix 27 [rev.];

d) that the decision to re-allocate the band could be taken by the 1979 General World Administrative Radio Conference;

e) that the decision to incorporate a plan for the band into Appendix 27 [rev.] could be taken by the 1979 General WARC;

has established

a plan for the band [21,870 - 22,000] kHz with associated consequential provisions for modifying the procedures of Appendix 27 [rev.] and related Radio Regulations for this purpose (see Annex);

recommends

1. that the 1979 General World Administrative Radio Conference should consider the reallocation of the band [21,870 - 22,000] kHz exclusively to the Aeronautical Mobile (R) Service to meet the requirements mentioned in considering a) above;

2. if it so decides, then to include the plan and associated provisions to Appendix 27 [rev.] as an integral part thereof and to come into force on [1 February 1983] and to make the necessary consequential changes to the Radio Regulations;

urges Administrations

to submit to the 1979 General WARC proposals to this effect.

Annex

ANNEX B

OUTLINE OF CHANGES TO BE MADE TO APPENDIX 27 /rev./
AND RELATED RADIO REGULATIONS TO BE SET OUT ULTIMATELY
IN DETAIL AS THE ANNEX TO THE DRAFT RECOMMENDATION

APPENDIX 27

Page 3 — Table of Contents, Part II, in the title in italics, delete 17,920 kHz, substitute the upper edge of the new exclusive band / / kHz, to be decided by Committee 5.

No. 27/10 — Insert new band / / to be decided by Committee 5, with separation to be established by Committee 4.

No. 27/16 — Insert new frequencies in the Table of Frequencies, to be decided by Committee 5.

Page 25 — Part II, amend title as for page 3 above.

MOD No. 27/189 — Set out the new column for the new band to be added to the Table on pages 39-43.

ADD No. 27/207A — Add the new Table for the new band.

RADIO REGULATIONS

Set out the required modification in the Table of Frequency Allocations for the band 21,870 - 22,000 kHz in Article 5 to show the new exclusive allocation to the Aeronautical Mobile (R) Service reflected in No. 27/10 above.

RR431 — delete 18,030 kHz, substitute upper edge of band limit, to be decided by Committee 5.

RR552 — delete 17,970 kHz, substitute upper edge of band limit, to be decided by Committee 5.

RR589 — delete 17,970 kHz as above.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 187-E
17 February 1978
Original : English

COMMITTEE 5

United Republic of Cameroon

FREQUENCY ALLOTMENT IN THE BAND 21 870-22 000 kHz

In view of the fact that frequencies in the band 21 870-22 000 kHz apparently would be planned for allocation to the Aeronautical Mobile (R) Service, the United Republic of Cameroon requests TWO frequencies in this band for long-distance operational control.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 188-E
17 February 1978
Original : English

COMMITTEE 5

United States of America

FREQUENCY REQUIREMENTS IN THE 21 870-22 000 kHz BAND

In view of principles having been agreed at Committee level concerning planning for the exclusive allotment of the 21 870-22 000 kHz band to the Aeronautical Mobile (R) Service, the requirement of the United States in this band is for three (3) frequencies to be allotted for world-wide use.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 189-E
17 February 1978
Original : English

COMMITTEE 6

Spain and Switzerland

DRAFT RECOMMENDATION AER ...

Relating to public correspondence with aircraft

The World Administrative Radio Conference on the Aeronautical Mobile (R) Service, Geneva 1978.

considering

a) that Recommendation No. 19 (Geneva 1959) gives an initial indication of interest in public correspondence with aircraft;

b) that some Administrations have expressed requirements for long distance public correspondence with aircraft;

c) that provisions of No. 432 of the Radio Regulations do not permit public correspondence in the exclusive aeronautical mobile bands, unless permitted by special Aeronautical Regulations;

d) that appropriate satellite systems for this purpose are not yet operational;

recommends

1. that Administrations should give due consideration to the technical, operational and administrative aspects of public correspondence with aircrafts in order to permit of orderly implementation at the appropriate time;

2. that Administrations should make any proposals on this subject to the next competent World Administrative Radio Conference;

requests the Secretary-General

to bring this Recommendation to the attention of the World Administrative Radio Conference, Geneva 1979.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 190-E
17 February 1978
Original : English

COMMITTEE 5

Yemen Arab Republic

FREQUENCY REQUIREMENTS

In addition to our requirements of frequencies as indicated in Document No. 100, and in view of the fact that frequency in the band 21 870 - 22 000 kHz will be planned for allotment to the Aeronautical Mobile (R) Service, Yemen Arab Republic requests one frequency for the world-wide use.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 191-E
17 February 1978
Original : English

COMMITTEE 5

Syrian Arab Republic

FREQUENCY REQUIREMENTS IN THE 22 000 kHz BAND

Taking into consideration that the band 21 870-22 000 kHz will be planned for frequency allotments to the Aeronautical Mobile Service, the Syrian Arab Republic requests one frequency in this band.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 192-E
17 February 1978
Original: English

COMMITTEE 6

RESOLUTION C

Relating to the use of higher frequency bands in the Aeronautical Mobile (R) Service and the Aeronautical Mobile-Satellite (R) Service for communication and for meteorological broadcasts

The World Administrative Radio Conference on the Aeronautical Mobile (R) Service, Geneva, 1978.

considering

a) that from an aeronautical viewpoint, higher frequency bands can provide a more reliable and more interference free communication system than HF;

b) that from a technical and operational viewpoint, the use of VHF by aviation has progressed significantly;

c) that the future possibility of communications utilizing satellite technology is now recognized;

d) that owing to the ever-increasing development of aeronautical telecommunications in all areas of the world, there is an increasing demand for frequencies for communication and for meteorological broadcasts to aircraft in flight

resolves

that Administrations, taking into account the respective economic and technical factors, consider to the maximum extent possible, meeting their requirements for communication and for meteorological broadcasts by frequencies in frequency bands, higher than the HF bands, which are allocated to the Aeronautical Mobile (R) Service and the Aeronautical Mobile-Satellite (R) Service.

R.J. BUNDLE
Chairman of Committee 6

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 193-E
17 February 1978
Original : English

COMMITTEE 5

Islamic Republic of Pakistan

FREQUENCY REQUIREMENTS IN THE 22 000 kHz BAND

In case the 21 870-22 000 kHz band is planned for allotment to the Aeronautical Mobile (R) Service, Pakistan will require one frequency in this band for world-wide use.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 194-E
17 February 1978
Original : Spanish

COMMITTEE 5

Republic of Bolivia

FREQUENCY REQUIREMENTS IN THE BAND 21 870-22 000 kHz

In view of the planning principles adopted at committee level on the exclusive allocation of band 21 870-22 000 kHz to the Aeronautical Mobile (R) Service, Bolivia hereby requests one (1) frequency in this band for worldwide use.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 195-E
20 February 1978
Original : French

COMMITTEE 4

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMITTEE 4

(TECHNICAL)

Friday, 10 February 1978, at 1400 hrs

Chairman : Mr. M.G. KOVÁCS (Hungarian People's Republic)

Subjects discussed	Document No.
1. Report of Working Group 4A	DT/11
2. Report of Working Group 4B	DT/12

The Chairman opened the Meeting and invited the Chairman of Working Group 4A to present his Report.

1. Report of Working Group 4A (Document No. DT/11)

1.1 The Secretary of the Committee said that Document No. DT/11 had been adopted by Working Group 4A that morning and that the Committee should therefore regard it as a white document and no longer as a working paper.

It was so agreed.

1.2 After a brief recapitulation of the terms of reference of Working Groups 4A and 4B, the Chairman of Working Group 4A introduced Document No. DT/11, which dealt with all the aspects of the work entrusted to his Group except for the question of longitudinal separation for bands 13, 18 and 22 MHz, the study of which would be completed later. The Report contained all the Group's proposals for Nos. 27/14 and 27/24 to 27/48. Although some parts of the text had given rise to long discussions, the Group had been able to proceed rapidly with its work. He then read out various amendments and clarifications relating to presentation, numbering and abbreviations.

1.3 MOD 27/14 was adopted.

1.4 Paragraph entitled "Interference range"

The delegate of the United Kingdom pointed out that the term "for various latitudes" in the ninth line of the paragraph was incorrect, since the calculations had been made for a latitude of about 40°N.

The representative of the IFRB confirmed that statement.

The delegate of India observed that the figures cited were valid for latitudes other than 40°N.

1.5 In the light of that remark and at the proposal of the delegate of the United Kingdom, it was decided to replace the above-mentioned term by the words "for median latitudes".

1.6 The Chairman said that, in accordance with the indications given earlier by the Chairman of Working Group 4A, Figure 1 would be inserted immediately after the pertinent reference.

1.7 In connection with consequential amendments resulting from numbering changes in the Report, the delegate of Guatemala observed that the number "1.1 (b)" in the third line of the paragraph entitled "Transparencies" should become "1.2".

It was so agreed.

1.8 MOD 27/24 and ADD 27/24A - 27/24E were adopted.

1.9 In the second line of the paragraph preceding the table of 27/24F, it was decided to insert after "ITU Conferences" the words "and adopted at the 1951 Conference".

That paragraph and the accompanying table gave rise to a long discussion in the Committee.

1.10 The delegate of Norway pointed out that the data in the table were not all up to date, as it could be seen from the wording of the last paragraph on the page, and expressed the view, supported by the delegate of Italy, that it would be best to delete that point entirely.

1.11 The delegates of Argentina, Guatemala, Bolivia, Paraguay, Ivory Coast, Pakistan and Algeria expressed the view that the data contained in the paragraph and table in question, although supplied for information only, were of some use to many countries which still lacked the necessary experience in that area. They were therefore in favour of keeping the point unchanged and in its existing place.

1.12 The delegate of the United Kingdom said he had no objection to the points of view expressed above.

1.13 The observer for IATA, speaking on behalf of the members of his organization, said it would be advisable to retain the point for information, since the table contained, inter alia, a column on service range.

1.14 The Chairman of the IFRB pointed out that the Committee was examining the text of an Appendix to the Radio Regulations and that it was unusual to include in such texts data which were for information only.

1.15 The Chairman also considered that the Radio Regulations were perhaps not the appropriate place for data of a purely indicative nature.

1.16 The delegate of Canada said that retention of the table might give rise to a series of misunderstandings and expressed the view that it would be better to replace it by references to texts which were regularly kept up to date by the IFRB and on which the table was based.

1.17 The delegate of the Federal Republic of Germany said that the view expressed by the Chairman of the IFRB was important. If the paragraph were to appear in the Radio Regulations, it would acquire a special significance, and if the data in the table were intended for information only, they should not appear in the Regulations.

1.18 The delegate of France considered that the Canadian delegate's proposal was the wisest, since references to documents regularly updated by the IFRB would provide the best solution of the problem under discussion.

1.19 It was agreed to insert appropriate references to the relevant IFRB publications and to entrust the preparation of those references to Working Group 4A.

1.20 In the last part of the point, it was decided to replace the words "of the 1948 and 1949 ITU Conferences" by "of the 1951 ITU Conference".

1.21 NOC 27/25

The Chairman said that the note in square brackets would not appear in the final text of Appendix 27.

1.22 In the first line of the paragraph entitled "Type of maps used", the letter "E" should be added after 27/24, to take into account the numbering changes referred to in point 1.2 above.

1.23 It was decided to insert the title "Sharing conditions between areas" before point 4.1.

1.24 MOD 27/30

The Chairman said that the Editorial Committee would be responsible for the final drafting.

The table accompanying MOD 27/30 was provisionally approved without change.

1.25. MOD 27/32 was adopted.

1.26 MOD 27/34, 5.3

It was decided to add, in the French text, after the words "la zone" in the third line, the phrase "(utiliser la ligne qui délimite la zone de réception dans le cas de VOLMET)".

1.27 MOD 27/35, 5.4

In the light of the formal changes approved at the beginning of the meeting, the letter "B" should be inserted after 27/24 in the first line.

1.28 It was also decided to add the symbols "NOC 27/39 to 27/48" at the end of the document.

1.29 In reply to a remark by the delegate of Argentina, it was explained that the Spanish text would be aligned with the corrected French text of Document No. DT/11.

Document No. DT/11 was approved, subject to the above-mentioned changes.

2. Report of Working Group 4B (Document No. DT/12)

2.1 The Chairman of Working Group 4B introduced the Report contained in the document. Since the decisions taken by Committee 4 would not be discussed in the Plenary Meeting before being considered by the other Committees concerned, both the form and the substance of the texts should be definitively approved and the document should be examined paragraph by paragraph.

ANNEX

2.2 Titles. After the title, reinsert the existing sub-title in italics in Appendix 27, i.e., "NOC 1. Frequency Separation".

2.3 MOD 27/10 : in the fifth line of the French text, replace the parentheses round "22 000 kHz" by square brackets.

The delegate of Paraguay, referring to Article 28 of the Radio Regulations, said that, from a general point of view and in the interests of uniformity, the abbreviation "kHz" should never be omitted after the numerical value of each frequency. The Committee took note of that remark, which would be referred to the Editorial Committee.

2.4 MOD 27/11 and ADD 27/11A were adopted.

2.5 MOD 27/12 : delete symbol "b)" and replace it by "1.4".

2.6 MOD 27/15 : delete the square brackets in the English text.

2.7 Before MOD 27/16, reinsert the title in italics "2. Frequencies to be Allotted".

The Chairman of the Working Group explained that the note in square brackets related to a subject of interest to Committee 5, which would have to decide on the protection to be given to the frequencies allotted.

2.8 The delegate of France, speaking also as Chairman of Committee 5, said that at first sight it seemed advisable to propose the solution that offered the maximum assignment possibilities. The new wording of No. 27/18 showed that the solution of the "upper sideband mode" already allowed for a reduction of interference possibilities. Accordingly, that was an option that Committee 5 would support. In conclusion, he suggested that the word "allotie" in the French text of the last paragraph of No. 27/16 be replaced by "assignée".

That replacement was approved.

2.9 The delegate of France said he doubted whether it was appropriate to show in the table the assigned frequency "in addition to the carrier (reference) frequency". In his view, the coexistence of those two terms might be a source of misleading confusion. The French delegation would therefore probably propose in Committee 5 that that duplication of terms should be definitively abandoned.

2.10 The Chairman pointed out that the problem was further aggravated by the fact that frequencies 3 023 kHz and 5 680 kHz were both allocated to the (R) and the (OR) services. Indeed, that was why Committee 4 had decided to submit the question to Committees 5 and 6.

2.11 The delegate of the United States said he agreed with the delegate of France : in the first place, if Committee 4 were to take a decision or to indicate its preferences, the maximum number of available frequencies would have to be given; secondly, it would be better to refer only to the "carrier (reference) frequency".

2.12 The delegate of the United Kingdom and the observer for IATA both concurred with the views expressed by the delegates of France and the United States.

2.13 After a discussion in which the Chairman and the delegates of Canada and New Zealand took part, the first paragraph of No. 27/16 was approved. With regard to the list of frequencies (table) that was to follow that paragraph, it was decided that it should be referred to Committees 5 and 6, with an explanatory note from Committee 4, which would adopt no position on the various proposals submitted by Administrations, since the problem did not fall within its competence.

2.14 MOD 27/17 : the text should be amalgamated in a single paragraph. In the French text, the parentheses in the first and sixth lines should contain the words "(fréquence de référence)".

2.15 MOD 27/18 : the text was retained in two paragraphs, subject to the decision of the Editorial Committee. In the first line of the first paragraph of the English text, the word "coordination" should be replaced by "coordinated".

2.16 SUP 27/49/MOD 27/49 : before the sub-title "1. Classes of emission", reinsert the title "C. Classes of Emission and Power". The reference "27/49" should also be inserted against the text of the provision.

2.17 MOD 27/50 : delete "ITU" from the last line.

2.18 Before MOD 27/51, insert a sub-title reading "1.2 Telegraphy (including automatic data transmission)".

2.19 MOD 27/52 : The delegate of France said that the English text was satisfactory, but asked the Secretariat to correct the last sentence of reference ** in the French version.

The Chairman agreed that the meaning of that sentence was the opposite of what it should be. The text should be corrected by deleting the words "ne pas" from the penultimate line of the French text.

The delegate of Norway proposed that the definition of F2 be retained, since it related to a widely generalized use which should not be prohibited (see Document No. DT/1, page 53).

The Chairman observed that that problem had already been discussed in Working Group 4B and asked the delegate of Norway to raise the matter again at a future meeting of the Group, with a view to finding an appropriate solution. The delegate of Norway agreed to do so.

2.20 Document No. DT/12 was approved, subject to the amendments made during the meeting, with the exception of No. 27/52, on which work would continue.

The meeting rose at 1715 hours.

Secretary : Chairman :

L. SONESSON G. KOVÁCS

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 196-E
20 February 1978
Original : English

COMMITTEE 5

Republic of the Philippines

FREQUENCY REQUIREMENTS IN THE 22 000 kHz BAND

In view of the fact that frequencies in the band 21 870-22 000 kHz shall be planned for allocation to the Aeronautical Mobile (R) Service, the Republic of the Philippines requests one (1) frequency in the band for world-wide use.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 197-E
20 February 1978
Original : English

COMMITTEE 5

Democratic People's Republic of Korea

FREQUENCY REQUIREMENTS IN THE 21 870-22 000 kHz BAND

Since there is to be planning for the exclusive allotment of 21 870-22 000 kHz band to the Aeronautical Mobile (R) Service, the Democratic People's Republic of Korea requests one frequency in this band for the world-wide long-distant operational control communications.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 198-E
20 February 1978
Original : English

COMMITTEE 5

People's Republic of Angola

AMENDMENTS TO DOCUMENTS NO. 87 AND NO. 113

1. Introduction

a) Appendix 27, adopted by the Extraordinary Administrative Radio Conference (Geneva, 1966) includes the Sub-Area 7B (RDARA 7) with boundaries corresponding to the territories of the Republic of Zaire, Republic of Burundi, Republic of Rwanda and People's Republic of Angola.

b) According to Document No. 21 (ICAO Doc. 9187 COM 76) the concept applying to RDARA is an area embracing a certain number of air routes of a Regional and National nature.

i) At present there is no regional air traffic between the People's Republic of Angola and the remaining countries of Sub-Area 7B. In fact, there has been an increase in air traffic between People's Republic of Angola and the countries (i.e. Zambia, Mozambique, Tanzania) included in other sub-areas of RDARA 7.

ii) On the other hand, the national air traffic plays already a very important role and, in the near future , a substantial development of that traffic is foreseen. At the present time, national air transport plays a central role in the economic and social development of the country and constitutes the only means of connection between most places within the country, including the main cities, where, due to the large dimensions of the country, a VHF radio service is not practicable, which means that air traffic control is confined to the use of HF channels.

c) It is an operational requirement of ICAO that frequency assignments in the Aeronautical Mobile (R) Service should be exclusively for use within the air space corresponding to the flight information region or regions (FIR) in which each State provides air traffic control services.

At present, the People's Republic of Angola has no Aeronautical Mobile (R) Service frequencies in the Appendix 27 Plan for the exclusive use of national routes. In fact, our Administration is using extra-Plan (R) frequencies according to No. 27/21 of the Appendix 27.

d) The particular meteorological conditions of the territory of the People's Republic of Angola have created the need for establishing a regular VOLMET service for the national routes only. This service requires national exclusive frequencies, without regional sharing.

e) The national operation control also requires exclusive frequencies, without regional sharing.

f) The needs of national frequencies for national routes, national operational control and national VOLMET should be included in the sub-area of RDARA requirements.

g) On the delineation of the sub-area of RDARA, not only the needs of the flight operations should be taken into consideration but also the views of the countries concerned should be respected.

h) Working Group 5A was unable to reach agreement on the proposal concerning the division of the Sub-Area 7B (Document No. 156).

2. Proposal

a) The Administration of the People's Republic of Angola presents the following amendments to the proposal contained in Document No. 113, maintaining the actual configuration of Sub-Area 7B and suggesting the creation of a new Sub-Area 7F, the boundaries of which would be the borders of the People's Republic of Angola including the adjacent sea.

b) Proposal AGL/87/2 concerning MOD 27/135 Sub-Area 7B will be maintained as in Document No. 87.

c) Proposal AGL/87/3 concerning ADD 27/138B Sub-Area 7F will be changed to :

AGL/87/3 ADD 27/138A Sub-Area 7F

From the point 05°S 10°E to 05°S 12°E, along the border between the People's Republic of the Congo and the People's Republic of Angola to the junction point of the borders of the People's Republic of the Congo, the People's Republic of Angola, and the Republic of Zaire. Thence along the border between the People's Republic of Angola and the Republic of Zaire until the coast of the Atlantic, along the line coast until the Zaire River and thence along the northern, eastern and southern border of the People's Republic of Angola to the coast of the South Atlantic. Thence to the point 17°S 10°E and then to close the sub-area at 05°S 10°E

d) The frequency requirements presented for Sub-Area 7B in Document No. 87 will be changed for the new Sub-Area 7F.

Annex : 1 map

A N N E X E - A N N E X - A N E X O

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 199-E
20 February 1978
Original : English

WORKING GROUP 6B

REPORT OF DRAFTING GROUP 6B1

1. Drafting Group 6B1 transmits to Working Group 6B the modified text of the draft Resolution No. Aer 7, as it was agreed during the two meetings that were held (annexed hereto).

2. It should be noted that there is a problem in the title of the draft Resolution concerning the Spanish translation of the words "implementation" and "applicable", which have the same meaning in that language. It was agreed to address this problem to Committee 7.

3. With regards to the dates mentioned between square brackets in resolves 3.1 two dates were proposed and the final decision is referred to Working Group 6B.

4. At the request of the Delegation of USSR, the whole resolves 1 has been put between square brackets pending further examination of the proposals contained in Document No. 29.

P.R.H. BALDUINO
Chairman of Drafting Group 6B1

Annex : 1

A N N E X

ADD

RESOLUTION No. Aer 2 /E/

Relating to implementation of the new arrangement applicable to bands allocated /exclusively/ to the Aeronautical Mobile (R) Service between 2 850 and /17 970/ kHz.

The Aeronautical World Administrative Conference, Geneva, 1978,

considering

a) that the use of each of the frequency bands between 2 850 and /17 970/ kHz allocated /exclusively/ to the Aeronautical Mobile (R) Service by the Administrative Radio Conference, Geneva, 1959, has been modified by the Extraordinary Administrative Radio Conference, Geneva, 1966;

b) that the Extraordinary Administrative Radio Conference, Geneva, 1966, resolved that the Administrations shall effect, as soon as possible, a progressive conversion of their radiocommunications services in the Aeronautical Mobile (R) Service from double-sideband to single-sideband operations, in consequence of which the use of the above bands has been further modified by this Conference to provide for SSB techniques;

c) that a considerable number of frequency assignments of both aircraft and aeronautical stations will be transferred from existing frequencies to the new frequencies and channels designated by the present Conference;

d) that changes in frequency assignments should be made as soon as possible so that the advantages of the new channels designated by the present Conference may be realized at the earliest opportunity;

e) that the transfer of assignments should be made with the least possible disruption of the service rendered by each station;

f) that the transfer of assignments should be made in such a manner that harmful interference between stations involved is avoided during the implementation period;

g) that the Final Acts of this Conference will enter into force on 1 September 1979;

h) that the new Frequency Allotment Plan contained in Appendix 27(Rev.) will enter into force on 1 February 1983;

recognizing

a) that the Aeronautical Mobile (R) Service is a safety service;

b) that some frequencies have been allotted for world-wide use;

c) that the implementation of the decisions made by the present Conference relating to the new arrangements of the frequency bands allocated to the Aeronautical Mobile (R) Service between 2 850 and /17 970/ kHz should follow an orderly procedure for the transfer of existing services from the old to the new assignments;

resolves

/1. that between the entering into force of the Final Acts of this Conference on 1 September 1979 and the entering into force of the new Frequency Allotment Plan contained in Appendix 27(Rev.) on 1 February 1983, channel utilization for any new SSB operation shall be in accordance with the following provisions :

1.1 the carrier (reference) frequency of the single-sideband channel in the upper half of the previous double-sideband channel shall be the same as the carrier (reference) frequency of that channel;

1.2 the carrier (reference) frequency of the single-sideband channel in the lower half of the previous double-sideband channel shall be 3 kHz lower than the carrier (reference) frequency of the previous double-sideband channel;

1.3 that, prior to 1 February 1983, aeronautical and aircraft stations fitted with single-sideband equipment may employ either half of the previous double-sideband channel (the single-sideband carrier (reference) frequency being that in 2.1 and 2.2 above);

1.4 any Administration may use a channel in the new plan on a non-interference basis and in this case, the IFRB shall examine whether the protection specified in Appendix 27 (Part I, Section IIA, paragraph 5), is afforded to the allotments in the Plan. In doing so, the Board shall assume that the frequency will be used in accordance with the sharing conditions between areas specified in Appendix 27, Part I, Section IIB, paragraph 4. For the operational use of the channels concerned the Administrations should take into account the positions of MOD 27/20 of Appendix 27(Rev.) of the Radio Regulations./

2. that on 1 February 1983, the frequencies appearing in Appendix 27 to the Radio Regulations, shall be replaced by the frequencies appearing in Section II, Article I, Appendix 27(Rev.);

3. that unless otherwise specified in the Final Acts of this Conference stations in the Aeronautical Mobile (R) Service operating in the bands between 2 850 and /17 970/ kHz shall comply with the following conditions :

3.1 the Administrations take all the necessary measures with a view to converting to single-sideband as soon as possible by refraining from installing new double-sideband equipment as from /1 February 1981/ /1 July 1981/. Aircraft and aeronautical stations shall be capable of single-sideband operation at the earliest possible date; furthermore, they shall discontinue double-sideband emissions as early as possible, and, in any event, not later than 1 February 1983;

3.2 until 1 February 1983, aeronautical and aircraft stations equipped for single-sideband operation shall also be equipped to transmit class A3H emissions where required to be compatible with reception by double-sideband equipment;

3.3 as of 1 February, the use of classes of emissions A2H, A3J, A7J and A9J only shall be authorized. Double-sideband operations may, however, be continued for domestic use until 1 February 1987, provided this operation is conducted in accordance with RR 667 and RR 674 and that no harmful interference will be caused to the International Aeronautical Mobile (R) Service operating in single-sideband mode. The Administrations requiring such an extension of the period of full implementation of single-sideband are, nevertheless, urged to cease double-sideband operations as soon as possible.

INTERNATIONAL TELECOMMUNICATION UNION

AERONAUTICAL (R) CONFERENCE

(Geneva, 1978)

Document No. 200-E
20 February 1978
Original : Spanish

COMMITTEE 5
COMMITTEE 7

Republic of Paraguay

AMENDMENT TO DOCUMENTS NOS. 165 AND 168

Sub-Area 13N

From the point 22°30'S 62°30'W along the borders of Paraguay with Bolivia to 20°10'S 58°W, along the borders of Paraguay with Brazil to 25°50'S 54°30'W and thence along the borders of Paraguay with Argentina to close the sub-area at the point 22°30'S 62°30'W.

Reasons : To clarify the boundaries of Sub-Area 13N, replacing the boundaries described in Documents Nos. 165 (page 14 ADD 27/165B) and 168.