Documents of the Regional Administrative Conference for FM Sound Broadcasting in the VHF band (Region 1 and certain countries concerned in Region 3) (2nd session)

(Geneva, 1984)

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

- This PDF includes Document DT No. 1 - 62.
- The complete set of conference documents includes Document No. 1 - 269, DL No. 1 - 39, DT No. 1 - 62.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/1-E(Rev.1)
29 October 1984

DRAFT
CONFERENCE STRUCTURE

REGIONAL ADMINISTRATIVE CONFERENCE
FOR FM SOUND BROADCASTING IN THE VHF BAND
(REGION 1 AND CERTAIN COUNTRIES CONCERNED IN REGION 3), SECOND SESSION
Geneva, 1984

The agenda of the Conference appears in Resolution No. 896 which was adopted by the Administrative Council at its 38th Session (Geneva, 1983). This Resolution is reproduced in the annex to Document No. 1 of the Conference.

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

Committee 1 - Steering Committee

Terms of Reference :

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

Committee 2 - Credentials Committee

Terms of Reference :

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

Committee 3 - Budget Control Committee

Terms of Reference :

To determine the organization and the facilities available to the delegates, to examine and approve the accounts of expenditure incurred throughout the duration of the Second Session of the Conference and to report to the Plenary Meeting the estimated total expenditure of the Second Session as well as the estimated costs entailed by the execution of the decisions of the Conference (Nos. 476 to 479 inclusive of the International Telecommunication Convention, Nairobi, 1982 and Nairobi Resolution No. 48).

Furthermore, to evaluate the financial impact of the Conference's decisions, in accordance with No. 627 and other relevant provisions of the International Telecommunication Convention, Nairobi, 1982 (item 2.4 of the Agenda).

Committee 4 - Planning Committee

Terms of Reference :

To prepare a frequency assignment plan for sound broadcasting stations in the band 87.5 - 108 MHz on the basis of the Report of the First Session as it might be modified in accordance with agenda item 2.1, taking account of the need to ensure adequate protection to stations of the aeronautical radionavigation service in the band 108 - 117.975 MHz (item 2.2 of the Agenda).

Committee 5 - Agreement and Procedures Committee

Terms of Reference :

To prepare an agreement for sound broadcasting stations in the band 87.5 - 108 MHz and adopt the relating procedures (items 2.2 and 2.3 of the Agenda).

Committee 6 - Editorial Committee

Terms of Reference :

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

Technical Working Group of the Plenary

Terms of Reference :

To review the relevant parts of the Report of the First Session in the light of the CCIR contributions and of the proposals submitted by Administrations to the Conference concerning :

- propagation in extreme super-refractivity conditions and the relationship between propagation over land and over sea (Recommendation AA);

- propagation in Africa (Recommendation BB);

- the possibility of improving the immunity of receivers in the aeronautical radionavigation service to interference caused by FM broadcasting emissions (Recommendation CC);

- the maximum obtainable suppression of spurious emissions in the band 108 - 137 MHz from broadcasting stations operating in the band 87.5 - 108 MHz (Recommendation DD);

(item 2.1 of the Agenda).

- sharing criteria between broadcasting service and other services to which the band is allocated;

- consideration of the conclusions of Interim Meetings of CCIR concerning Tables II and III of Chapter 31 of the Report of the First Session.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/2-E
29 October 1984

DRAFT

AGENDA

OF THE

FIRST PLENARY MEETING

Monday, 29 October 1984, at 1430 hrs

(Room II)

		Document No.
1.	Approval of the agenda	-
2.	Opening of the Conference	-
3.	Election of the Chairman of the Conference	-
4.	Election of the Vice-Chairmen of the Conference	-
5.	Address by the Secretary-General	-
6.	Conference Structure	DT/1
7.	Election of the Chairmen and Vice-Chairmen of the Committees	-
8.	Composition of the Conference Secretariat	-
9.	Allocation of documents to Committees	DT/3
10.	Invitations to the Conference	29
11.	Notifications sent to international organizations	30
12.	Date by which the Credentials Committee must submit its conclusions	-
13.	Working hours of the meetings of the Conference	-
14.	Financial responsabilities of administrative conferences	28
15.	Other business	

R.E. BUTLER
Secretary-General

UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS

CONFÉRENCE RÉGIONALE DE RADIODIFFUSION

(SECONDE SESSION) GENEVE, 1984

Document DT/3(Rev.1)-F/E/S
29 Octobre 1984
Original: français/
anglais /
espagnol

SEANCE PLENIERE
PLENARY MEETING
SESION PLENARIA

PROJET / DRAFT / PROYECTO

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

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

Séance Plénière Plenary Meeting Sesión Plenaria		: 1, 28, 29, 30, 32
C2 -	Pouvoirs Credentials Credenciales	: 2
C3 -	Budgétaire Budget Presupuesto	: 16, 17
C4 -	Planification Planning Planificación	: 9, 32, 37
C5 -	Accord et procédures Agreement and Procedures Acuerdo y procedimientos	: 7, 8, 11, 13, 15, 32, 35, 36
GTT - TWG - GTT -	Groupe de travail technique de la Plénière Technical Working Group of the Plenary Grupo de trabajo técnico de la Plenaria	: 3, 4, 5 + Add.1, 6, 10, 12, 14, 15, 18, 19, 20, 21, 22, 23 + Corr.1, 24, 25, 26, 27, 32, 33, 34, 35, 37

R.E. BUTLER
Secrétaire général

INTERNATIONAL TELECOMMUNICATION UNION
REGIONAL BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1984

Document DT/4-E
29 October 1984
Original : English

COMMITTEE 5

Draft

ORGANIZATION OF THE WORK

It is proposed to create two Working Groups, with the following terms of reference.

Working Group 5-A :

to prepare a draft agreement for the sound broadcasting stations in the band 87.5 - 108 MHz;

Related documents : 7, 8, 32, 35;

Working Group 5-B :

to prepare transitional procedures for bringing into service the assignments in the plan in order to enable normal operations of stations of other services to which parts of the band 87.5 - 108 MHz are also allocated in accordance with Radio Regulations Nos. 581, 582, 587, 588, 589 and 590;

Related documents : 11, 13, 15, 32, 36.

K. OLMS
Chairman of Committee 5

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/5-E
31 October 1984
Original : English

WORKING GROUP 5B

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5B

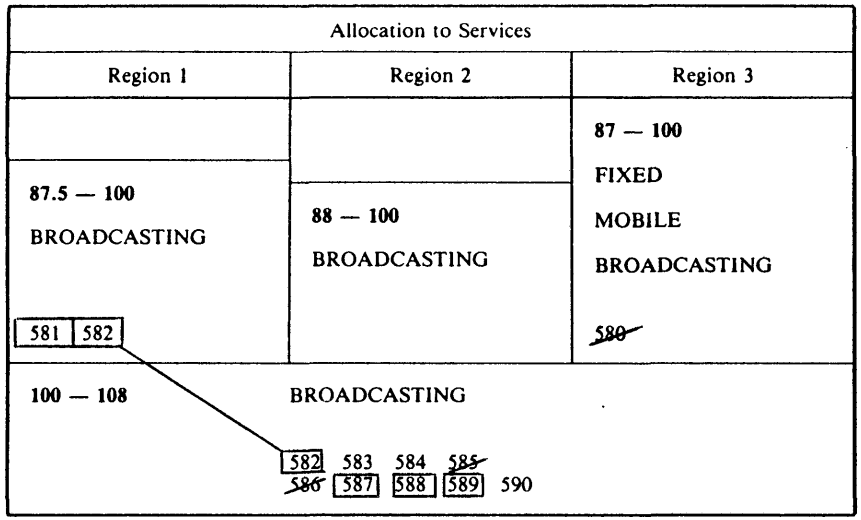
For convenience, the actual situation of the Radio Regulations is presented in the attached annex.

- The footnotes not relevant to the Conference are crossed out.
- The footnotes expiring at the date of entry into force of the Agreement are underlined.
- The footnotes remaining at the date of entry into force of the Agreement are presented in boxes.

P. Pettersson
Chairman of Working Group 5B

Annex : 1

MHz
87 — 108



580 *Alternative allocation:* ~~in New Zealand~~, the band 87 — 88 MHz is allocated to the land mobile service on a ~~primary~~ basis.

581 *Additional allocation:* in the Federal Republic of Germany, Spain, France, Ireland, Italy, Liechtenstein, Monaco, the United Kingdom, Switzerland and Yemen (P.D.R. of), the band 87.5 — 88 MHz is also allocated to the land mobile service on a permitted basis and subject to agreement obtained under the procedure set forth in Article **14**.

582 *Additional allocation:* in the United Kingdom, the band 97.6 — 102.1 MHz is also allocated to the land mobile service on a permitted basis until 31 December 1989. The use of this band by the land mobile service is restricted to those stations in operation on 1 January 1980. The withdrawal of land mobile stations will be arranged in consultation with the administrations concerned.

583 In Region 1, existing systems in the fixed and mobile, except aeronautical mobile (R), services may continue to use the band 100 — 104 MHz on a primary basis until the date of entry into force of the new regional broadcasting agreement referred to in Resolution **510** or 1 January 1985, whichever is the earlier date.

584 Broadcasting stations in the band 100 — 108 MHz in Region 1 shall be established and operated in accordance with an agreement and associated plan for the band 87.5 — 108 MHz to be drawn up by a regional broadcasting conference (see Resolution **510**). Prior to the date of entry into force of this agreement, broadcasting stations may be introduced subject to agreement between administrations concerned, on the understanding that such an operation shall in no case prejudice the establishment of the plan.

585 *Additional allocation:* ~~in~~ China, the ~~Republic of~~ Korea, the Philippines and Singapore, the band 100 — 108 MHz ~~is also allocated~~ to the fixed and mobile services on a permitted basis.

586 *Alternative allocation:* ~~in~~ New Zealand, ~~the~~ band 100 — 108 MHz is allocated to the land mobile service ~~on a primary~~ basis and to the broadcasting service on a secondary basis.

587 *Additional allocation:* in Austria, Bulgaria, Hungary, Israel, Kenya, Mongolia, Poland, Syria, the German Democratic Republic, the United Kingdom, Somalia, Czechoslovakia and the U.S.S.R., the band 104 — 108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a permitted basis until 31 December 1995 and, thereafter, on a secondary basis.

588 *Additional allocation:* in Finland and Yugoslavia, the band 104 — 108 MHz is also allocated to the fixed service on a permitted basis, until 31 December 1995. The effective radiated power of any station shall not exceed 25 W.

589 *Additional allocation:* in France, Roumania, Sweden, Turkey and Yugoslavia, the band 104 — 108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a permitted basis until 31 December 1995.

590 *Additional allocation:* in Italy, the band 104 — 108 MHz is also allocated to the land mobile service on a primary basis until the date of entry into force of the new regional broadcasting agreement referred to in Resolution **510** or 1 January 1985, whichever is the earlier date.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/6-E
31 October 1984
Original : English

WORKING GROUP 5A

Note from the Chairman of Working Group 5A

DRAFT AGREEMENT

In Annex I, a draft structure of the Agreement is presented for consideration.

In Annex II, based on the Stockholm (1961) and the Geneva Agreement (1963), a text is proposed for those Articles, that can now be considered.

S.M. CHALLO
Chairman of Working Group 5A

Annexes : 2

ANNEX I

DRAFT STRUCTURE
OF THE REGIONAL AGREEMENT

PREAMBLE

Article 1 : Definitions

Article 2 : Execution of the Agreement

Article 3 : Procedure for modifications to the Plan

Article 4 : Notification of frequency Assignments

Article 5 : Accession to the Agreement

Article 6 : Termination of participation in the Agreement

Article 7 : Revision of the Agreement

Article 8 : Partial abrogation of the Regional Agreement for the European Broadcasting Area (Stockholm, 1961)

Article 9 : Partial abrogation of the Regional Agreement for the African Broadcasting Area (Geneva, 1963)

Article 10 : Effective date of the Agreement

Article 11 : Scope of application of the Agreement

Article 12 : Approval of the Agreement

ANNEX II

DRAFT REGIONAL AGREEMENT

PREAMBLE

The undersigned delegates of the following administrations :

[ ]

meeting in Geneva for a Regional Conference convened under the terms of Article 54 of the International Telecommunication Convention, Nairobi 1982, have adopted, subject to the approval of their administrations, the following provisions relating to the broadcasting service in the Region 1 and certain countries concerned in Region 3 between 87.5 and 108 MHz, allocated on a primary basis to broadcasting under Article 8 of the Radio Regulations, Geneva, 1979.

ARTICLE 1

Definitions

1 For the purposes of the present Agreement, the following terms shall have the meanings defined below:

2 *Union:* The International Telecommunication Union.

3 *Secretary-General:* The Secretary-General of the Union.

4 *I.F.R.B.:* The International Frequency Registration Board.

5 *C.C.I.R.:* The International Radio Consultative Committee.

6 *Convention:* The International Telecommunication Convention, Nairobi, 1982.

7 *Radio Regulations:* The Radio Regulations, Geneva, 1979.

8 Planning area : [ ]

9 *Agreement:* The whole of the present Agreement and its Annexes.

10 *Plan* : The Plan forming Annex [2] to the Agreement.

11 *Contracting Administration:* Any Administration which has approved or acceded to the Agreement.

ARTICLE 2

Execution of the Agreement

12 1 The Contracting Administrations shall adopt for their broadcasting stations operating in the band referred to in the Agreement, the characteristics specified in the Plan.

13 2 The Contracting Administrations shall not change the characteristics specified in the Plan or establish new stations, except under the conditions provided for in Article 3 of the present Agreement.

14 3 The Contracting Administrations will endeavour to agree on the action required to reduce any harmful interference caused by the application of the Agreement.

15 4 Should agreement, as envisaged in paragraph 3 above, prove impossible, the dissenting Administrations may resort to the procedure laid down in Article 22 of the Radio Regulations and, if necessary, to that laid down in Article 35 of the Convention.

ARTICLE 3

/ to be developed
Documents 11, 13, 15, 36 /

ARTICLE 4

Notification of Frequency Assignments

38 Whenever an assignment in conformity with the Plan or for which the procedure prescribed in Article 3 of the present Agreement has been applied, is put into service, the Administration concerned shall notify this assignment to the I.F.R.B. in accordance with the provisions of Article 12 of the Radio Regulations.

ARTICLE 5

Accession to the Agreement

39 1 The Administration of any Member or Associate Member of the Union in the planning area which has not signed this Agreement may accede thereto at any time. Such accession shall be made without reservation. The Secretary-General shall be notified thereof, and he shall inform the other Members and Associate Members of the Union.

40 2 Accession shall take effect on the date the notification of accession is received by the Secretary-General.

ARTICLE 6

Termination of Participation in the Agreement

41 1 Any Contracting Administration shall have the right at any time to terminate its participation in the Agreement by a communication sent to the Secretary-General, who shall inform the other Members and Associate Members of the Union.

42 2 Such termination of participation shall take effect after a period of one year from the date of receipt, by the Secretary-General, of the said communication.

ARTICLE 7

Revision of the Agreement

43 No revision of the Agreement will be undertaken except by an Administrative Conference of the Members and Associate Members of the Union in the planning area convened in accordance with the procedure laid down in the International Telecommunication Convention.

ARTICLE 8

Partial abrogation of the Regional Agreement for the European Broadcasting Area (Stockholm, 1961)

Additional Protocol /~ 7 to the Final Acts of the Conference provides for the abrogation of the parts of the Regional Agreement for the European Broadcasting Area concerning the frequency band 87.5 - 100 MHz, and of the corresponding plan.

ARTICLE 9

Partial abrogation of the Regional Agreement for the African Broadcasting Area (Geneva, 1963)

Additional Protocol /~ 7 to the Final Acts of the Conference provides for the abrogation of the parts of the Regional Agreement for the African Broadcasting Area concerning the frequency band 87.5 - 100 MHz, and of the corresponding plan.

ARTICLE 10

Effective Date of the Agreement

4 The Agreement shall enter into force on /~ _7.

ARTICLE 11

Scope of Application of the Agreement

5 1 The present Agreement shall bind Contracting Administrations in their relations with one another but does not bind those Administrations with non-Contracting Administrations.

6 2 If an Administration makes reservations with regard to any provision of the present Agreement, other Administrations shall be free to disregard the said provision in their relations with the Administration which has made such reservations.

ARTICLE 12

Approval of the Agreement

17 Administrations shall notify their approval of this Agreement, as promptly as possible, to the Secretary-General, who shall at once inform the other Members and Associate Members of the Union.

In witness whereof, the undersigned Delegates of the Administrations of the countries mentioned above have, on behalf of their respective Administrations, signed the present Agreement in a single copy in the French, English and Spanish languages; in case of dispute the French text shall be authentic. This copy shall remain in the archives of the Union. The Secretary-General shall forward one certified true copy to each Signatory Administration.

Done at Geneva.

INTERNATIONAL TELECOMMUNICATION UNION
REGIONAL BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1984

Document DT/7-E
1 November 1984
Original : English

TECHNICAL WORKING GROUP
OF THE PLENARY PL/B

DRAFT FIRST REPORT OF
TECHNICAL SUB-WORKING GROUP PL/B

Annex J of the report to the second session of the Conference describes, among others, a method for analyzing incompatibilities between VHF broadcasting stations and stations of the aeronautical radionavigation service before and during this second session of the Conference. The protection criteria contained in § 5.2 of Annex J are based on preliminary and limited data available at that time.

Sub-Working Group PL/B has reconsidered this matter in the light of recent studies as contained in the report of CCIR Joint Interim Working Party 8-10/1 (Document 12) and other relevant contributions to the second session of the Conference. It proposes to replace § 5.2 of Annex J by the text contained in the annex to this report.

E. GEORGE
Chairman of the
Techncial Sub-Working Group

Annex : 1

ANNEX

5.2 Protection criteria for the aeronautical radionavigation service

5.2.1 Wanted signal

- ILS : 40 μV/m (32 dB(μV/m))
- VOR : 90 μV/m (39 dB(μV/m))

5.2.2 Principles of calculation

The field strength of every broadcasting station in the band 87.5 to 108 MHz within the outer resulting coordination contour of an aeronautical radionavigation station will be calculated at the test points as an interfering signal. For types A1, A2 and B2 interference this field strength will be compared with the minimum wanted field strength indicated in section 5.2.1. For type B1 interference the relevant intermodulation formulae will be applied. It will be indicated in all cases whether the relevant protection ratios are met or not.

Where applicable, field strength E will be converted to signal power N at the receiver input according to the following formula :

$$E\ (dB(\mu V/m)) = N\ (dBm) + 118 + L_S + L(f)$$

where :

L_S - system fixed loss of 3.5 dB;

L(f) - system frequency-dependent loss at frequency f of 1 dB per MHz from 108 to 100 MHz and, in addition, 0.5 dB per MHz below 100 MHz.

The figures for L_S and L(f) apply for both ILS and VOR equipment.

5.2.3 Protection ratios

5.2.3.1 Type A1 interference

17 dB for frequency coincidence both for ILS and VOR equipment.

This value takes account of multiple interference entries resulting from different broadcast transmitters.

In making the calculations there will always be assumed a spurious component exactly at the aeronautical frequency under consideration (frequency coincidence) of the following level :

- 25 μW for transmitter output powers below 7.9 kW;
- 85 dB below the transmitter output power for transmitter output power equal to and above 7.9 kW.

No specific investigation will be carried out by the IFRB during the Conference due to lack of input data necessary concerning a possible intermodulation component generated at the transmitter site, e.g. by multiple transmitters feeding the same antenna, coinciding with the aeronautical frequency.

5.2.3.2 Type A2 interference

Frequency difference (kHz)	Protection ratio
150	-41
200	-50
250	-59
300	-68
>300	$-\infty$

The values apply both for ILS and VOR equipment. A frequency difference below 150 kHz cannot occur.

5.2.3.3 Type B1 interference

Under consideration.

5.2.3.4 Type B2 interference

Under consideration.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/8-E
1 November 1984
Original : English

WORKING GROUP PL/A

Technical Working Group Propagation (PL/A)

REVISION OF CHAPTER 2 OF THE REPORT TO THE SECOND SESSION OF THE CONFERENCE

This document contains a draft revision of Chapter 2 taking account of the CCIR Study Group 5 response to Recommendation AA of the first session as presented in Document DL/4, with the objective of inclusion in the appropriate section of the report of the second session.

H. BERTHOD
Chairman

CHAPTER [2]

Propagation

2.1 Propagation data for VHF broadcasting

2.1.1 General

The propagation data given in this chapter are intended for use in the planning of the broadcast service. They are based on CCIR Recommendation 370-4 with certain subsequent modifications proposed by CCIR Interim Working Party 5/5 in response to Recommendation AA of the first session and, in particular, the differentiation between land and sea propagation data for 50% and 10% of the time. They relate field strength to path length with the equivalent transmitting antenna height as a parameter for various percentages of time from 50% to 1% in various climatic regions. They represent the field strength exceeded at 50% of locations, and apply to both horizontal and vertical polarization.

The data are given for various types of areas and climates, namely, land, cold sea, warm sea and areas subject to extreme super-refractivity. It will be appreciated that the definition of these categories has to be based on statistical data and so is to a certain extent arbitrary, but experience indicates that the following distinctions would be appropriate for the application of the data set out in this chapter.

Cold sea

Seas, oceans and other substantial bodies of water [i.e. one at least that can encompass a circle of 100 km diameter] at latitudes greater than 23.5 degress north or south, but excluding the Mediterranean, the Black Sea, the Red Sea and the area extending from the Shatt-al-Arab to and including the Gulf of Oman.

Warm Sea

Seas, oceans and other substantial bodies of water [i.e. one at least that can encompass a circle of 100 km diameter] at latitudes less than 23.5 degrees North or South, including the Mediterranean (West of 30° E) and the Black Sea.

Areas of extreme super-refractivity

Seas, oceans and other substantial bodies of water [i.e. one at least that can encompass a circle of 100 km diameter] which includes the Mediterranean (East of 30° E), the area extending from the Shatt-al-Arab to and including the Gulf of Oman and possibly the Red Sea.

2.1.2 Areas subject to extreme super-refraction and ducting

Measurement campaigns in the area from the Shatt-al-Arab to the Gulf of Oman and in the Eastern Mediterranean (East of 30° E) have shown that extreme super-refractivity phenomena are very common. Although no measurements have been made in the other similar areas of Region 1, there is a high probability that frequent super-refractivity also occurs in the regions of the Red Sea, the West coast of Africa and the Gulf of Guinea.

2.1.2.1 Oversea paths

For 1% of the time, oversea paths in this area are considered to include also a coastal strip extending /in general/ not more than 50 km inland. In order to reflect the important influence that the terrain within this coastal strip will play in determining the actual propagation, it would be desirable to indicate a terrain height limit above which the oversea propagation curve would not be used. However, such terrain data may not be readily available and for the purposes of computation it is recommended that the use of the oversea curve within the area be simply defined by the inland limit of the 50 km coastal strip. In detailed bilateral discussions of specific cases this simple definition may not be appropriate. In such instances distances other than 50 km together with a height limitation (e.g. 100 m) may be used to define the coastal strip and hence the use of the 1% oversea curve. Alternatively, within the area from the Shatt-al-Arab to the Gulf of Oman, the situation may be defined by the attenuation factor γ_d which has resulted from studies carried out by member states of the Gulfvision organization.

For oversea paths in the area from the Shatt-al-Arab to (and including) the Gulf of Oman, calculations for propagation occurring for 1% of the time should be based on the following formulae :

$$\left.\begin{array}{ll} 106.9 - 20 \log d & \text{for } 10 \leqslant d \leqslant 400 \\ 78.9 - 0.06\, d & \text{for } d > 400 \text{ km} \end{array}\right\} \text{ where } d = \text{path length in km}$$

For oversea paths in the Eastern Mediterranean (East of 30° E) calculations for propagation occurring for 1% of the time should be based on the following formulae :

$106.9 - 20 \log d - 0.07\, d$ for $10 \leqslant d < 100$

$99.9 - 20 \log d$ for $100 \leqslant d \leqslant 568$

$78.9 - 0.06\, d$ for $d > 568$

In cases in which a propagation path crosses the boundary between Eastern and Western Mediterranean (meridian 30° E) it is proposed that the mixed path method explained in section 2.1.3.4 should be adopted.

2.1.2.2 Overland paths

For overland path calculations for 50% of the time, Figure 2.1 should be used. For overland path calculations for 1% of the time, Figure 2.6 should be used, but treating any coastal strip as defined in 2.1.2.1 as sea.

2.1.2.3 Mixed paths

Mixed paths should be appraised for both 1% and 50% of the time according to the procedure set out in section 2.1.3.4.

2.1.3 Application of the curves

The values of field strengths given in curves, Figures 2.1 to 2.8, are those exceeded for 50%, 10% and 1% of the time. They are expressed in decibels relative to 1 μV/m and correspond to an effective radiated power of 1 kW.

The 50% time Figure shall be used for determination of coverage areas and the 1% time Figures shall be used for interference calculations. In the case of steady interference the 50% time Figure should be used.

The effective height of the transmitting antenna is defined as its height over the average level of the ground between distances of 3 km and 15 km from the transmitter in the direction of the receiver. The height of the receiving antenna is assumed to be 10 m above local terrain.

The curves given in Figures 2.1 to 2.8 correspond to effective transmitter antenna heights from 37.5 to 1,200 metres. Additional curves for effective antenna heights of 20 m and 10 m may be derived from the 37.5 m curve by applying correction factors of -5 dB and -11 dB for distances up to 25 km and 0 dB in both cases for distances in excess of 250 km, with linear interpolation for intermediate distances. To obtain field strength values corresponding to effective transmitter antenna heights (h_1) of less than 10 m the values derived for 10 m shall be used. To obtain field strength values corresponding to effective transmitter antenna heights in excess of 1,200 m, the field strength at a distance of x km from the transmitter may be taken to be the same as the field strength given by the curve for a transmitting antenna height of 300 m at a distance of $(x + 70 - 4.1\sqrt{h_1})$km.

"As this extrapolation is only applicable to trans-horizon distances its use shall be limited to distances beyond $x = (4.1\sqrt{h_1} + 70)$ km. For distances, between 100 km and $x = (4.1\sqrt{h_1} + 70)$ km it may be assumed that the field strength exceeds that for 1,200 m by the same amount as at $x = (4.1\sqrt{h_1} + 70)$ km calculated in accordance with the above procedure. For smaller distances this increment shall be determined by linear interpolation between 0 dB at 20 km and the height-dependent value at 100 km distance." "This is subject to the condition that the free space field strength is not exceeded."

2.2 VHF propagation curves for the aeronautical mobile service

The curves in Figures 2.9 represent basic transmission loss as a function of distance for 5%, 50% and 95% of the time for a range of antenna heights at a frequency of 125 MHz. The propagation model used is based on a considerable amount of experimental data and assumes horizontal polarization over a smooth earth with an effective earth-radius factor k of 4/3 with some compensation at high altitudes, and with fading characteristics representative of a temperate continental climate.

The following points are to be noted :

- the antenna heights shown vary from 15 m to 20,000 m covering both ground station and aircraft heights;

- for interpolation the following formula is proposed :

$$L_b = L_{b1} + \left[(L_{b2} - L_{b1}).\log(x/x_1) \right] / \log(x_2/x_1)$$

where L_b is the basic transmission loss to be calculated at the distance considered for height x and L_{b1}, L_{b2}, x_1 and x_2 are the corresponding losses and heights at the same distance on the curves between which interpolation is required;

- to conform with the propagation curves for the broadcasting service (Figures 2.1 to 2.8) an ordinate scale in terms of field strength for 1 kW radiated from a half-wave dipole has been added.

2.3 VHF propagation curves for the land mobile service

Propagation curves for the land mobile service operating in the VHF bands may be derived from the broadcasting propagation curves of Figures 2.3, 2.4 and 2.5, with the -9 dB correction for a mobile station antenna height of 3 m as indicated in section 2.1.3.3.

2.4 Index to propagation data

The following table indicates the curve/formulae applicable in specified cases :

% Time / Area	50%	10%	1%
LAND	Figure 2.1	Figure 2.3	Figure 2.6
COLD SEA	Figure 2.2	Figure 2.4	Figure 2.7
WARM SEA	Figure 2.2	Figure 2.5	Figure 2.8
EASTERN MEDITERRANEAN AND SHATT-AL-ARAB TO GULF OF OMAN	Figure 2.2		Formulae given in section 2.1.2.1

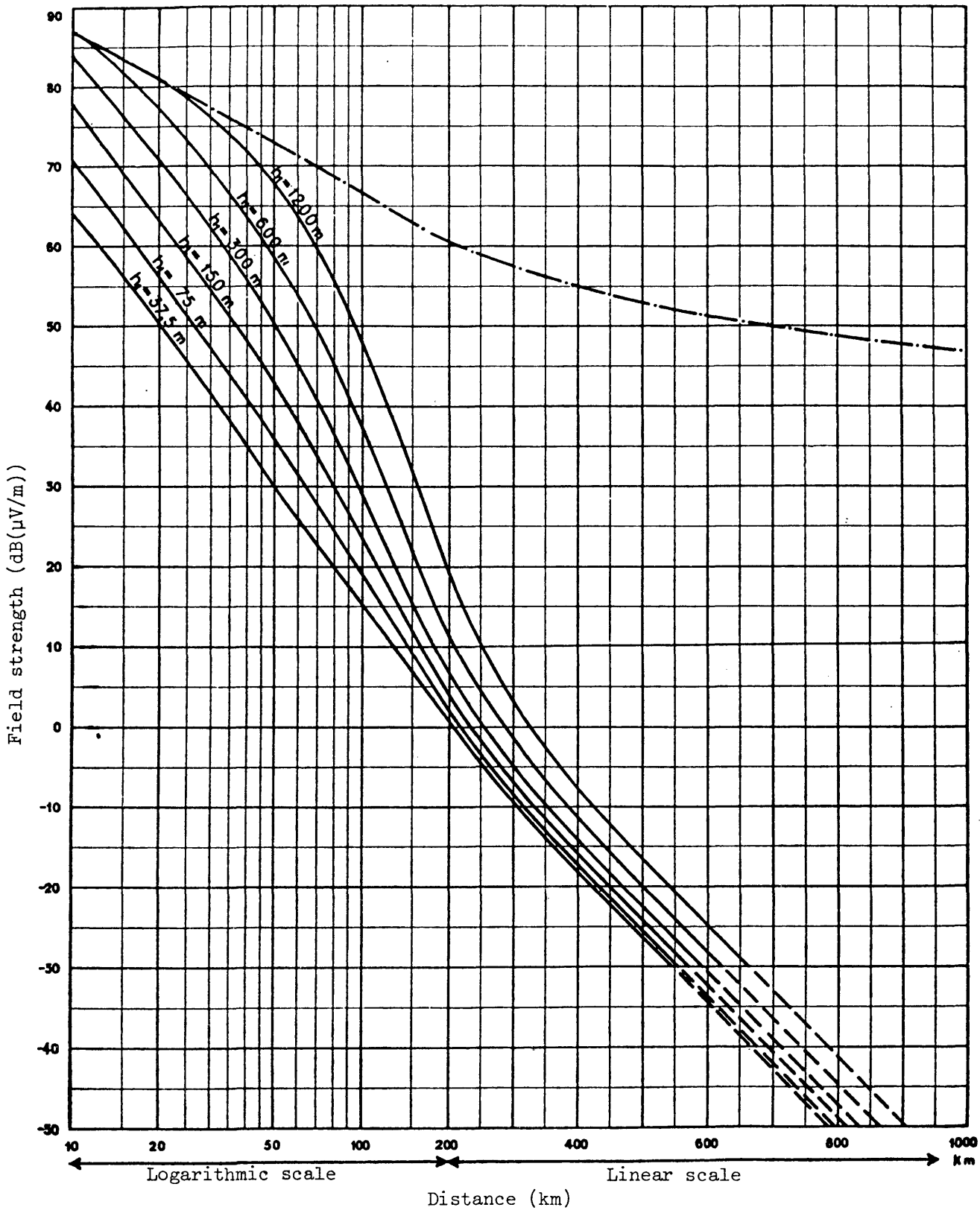


Figure 2.1 - Field strength (dB(μV/m)) for 1 kW e.r.p.

Frequency : 30 to 250 MHz; Land
50% of the time; 50% of the locations; h_2 = 10 m
·—·—·—· Free space

PROPAGATION CURVES FOR THE BROADCASTING SERVICE

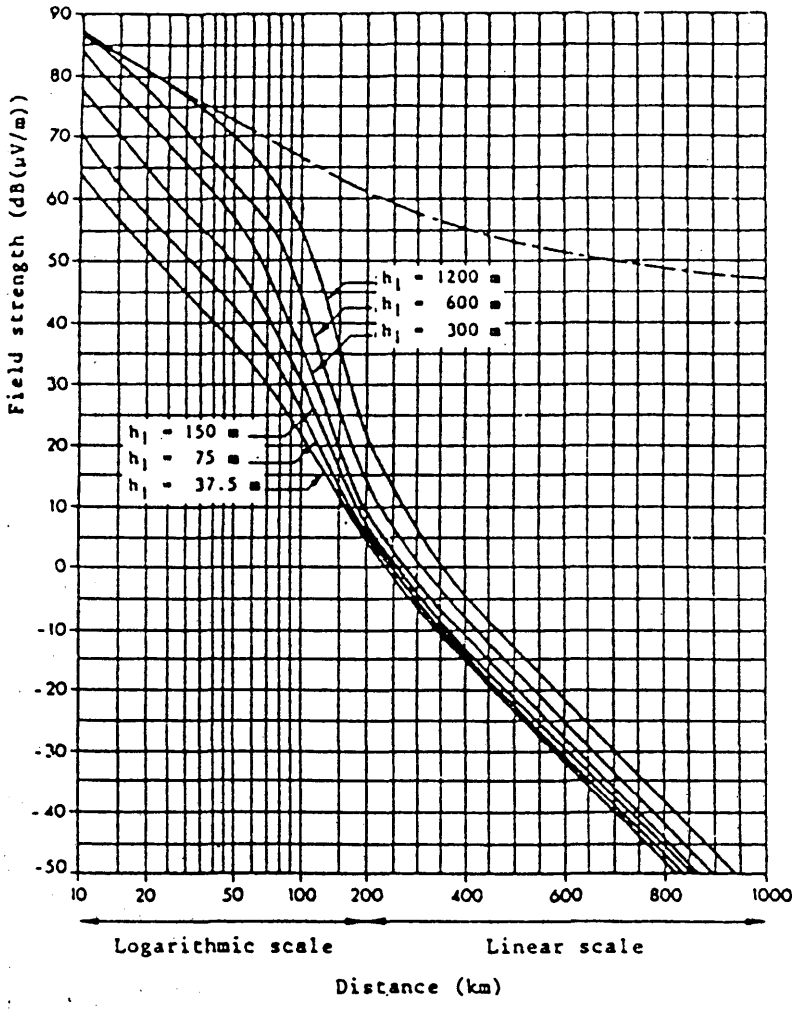


FIGURE 2.2

Field-strength [dB (μV/m)] for 1 kW e.r.p.

Frequency: 30 to 250 MHz (Bands I, II and III); Sea
50% of the time; 50% of the locations; h_2 = 10 m

—·—·— Free space

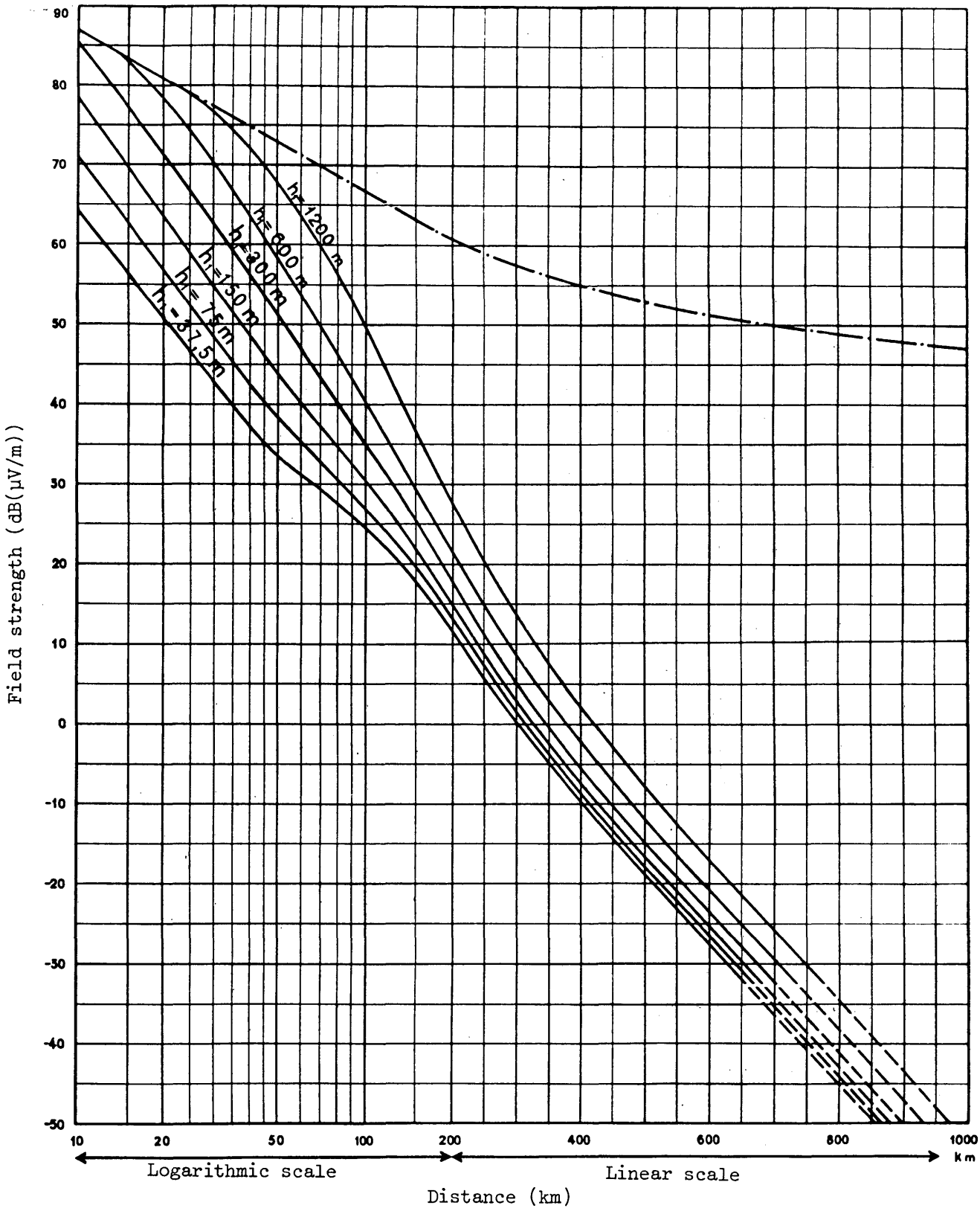


Figure 2.3 - Field strength (dB(μV/m)) for 1 kW e.r.p.

Frequency : 30 to 250 MHz : Land
10% of the time; 50% of the locations; h_2 = 10 m
·—·—·— Free space

PROPAGATION CURVES FOR THE BROADCASTING SERVICE

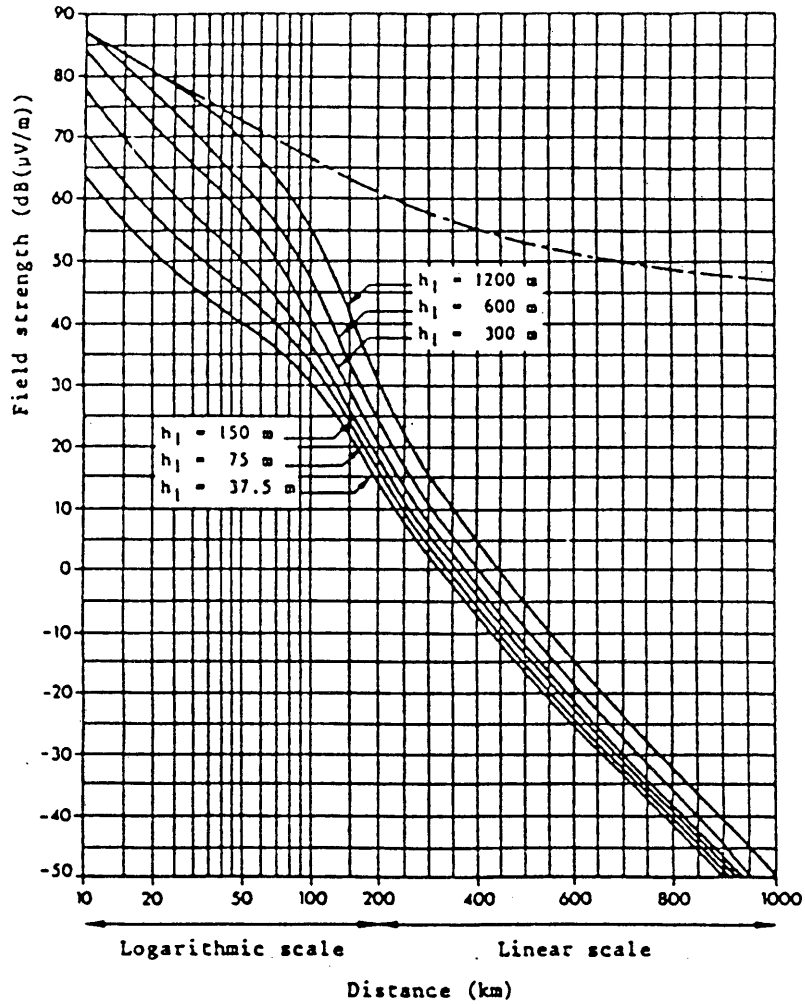


FIGURE 2.4

Field-strength [dB (μV/m)] for 1 kW e.r.p.

Frequency: 30 to 250 MHz (Bands I, II and III); Cold Sea; 10% of the time; 50% of the locations; h_2 = 10 m

—·—·—·— Free space

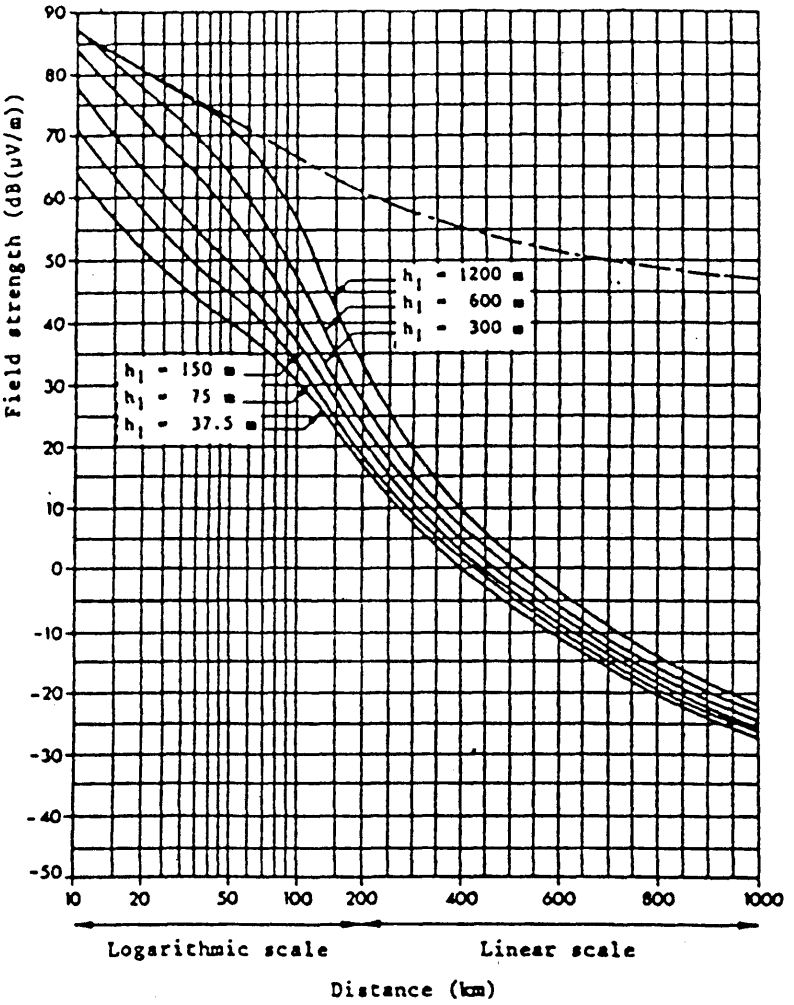


FIGURE 2.5

Field-strength [dB (μV/m)] for 1 kW e.r.p.

Frequency: 30 to 250 MHz (Bands I, II and III); Warm Sea; 10% of the time; 50% of the locations; h_2 = 10 m

— · — · — · — Free space

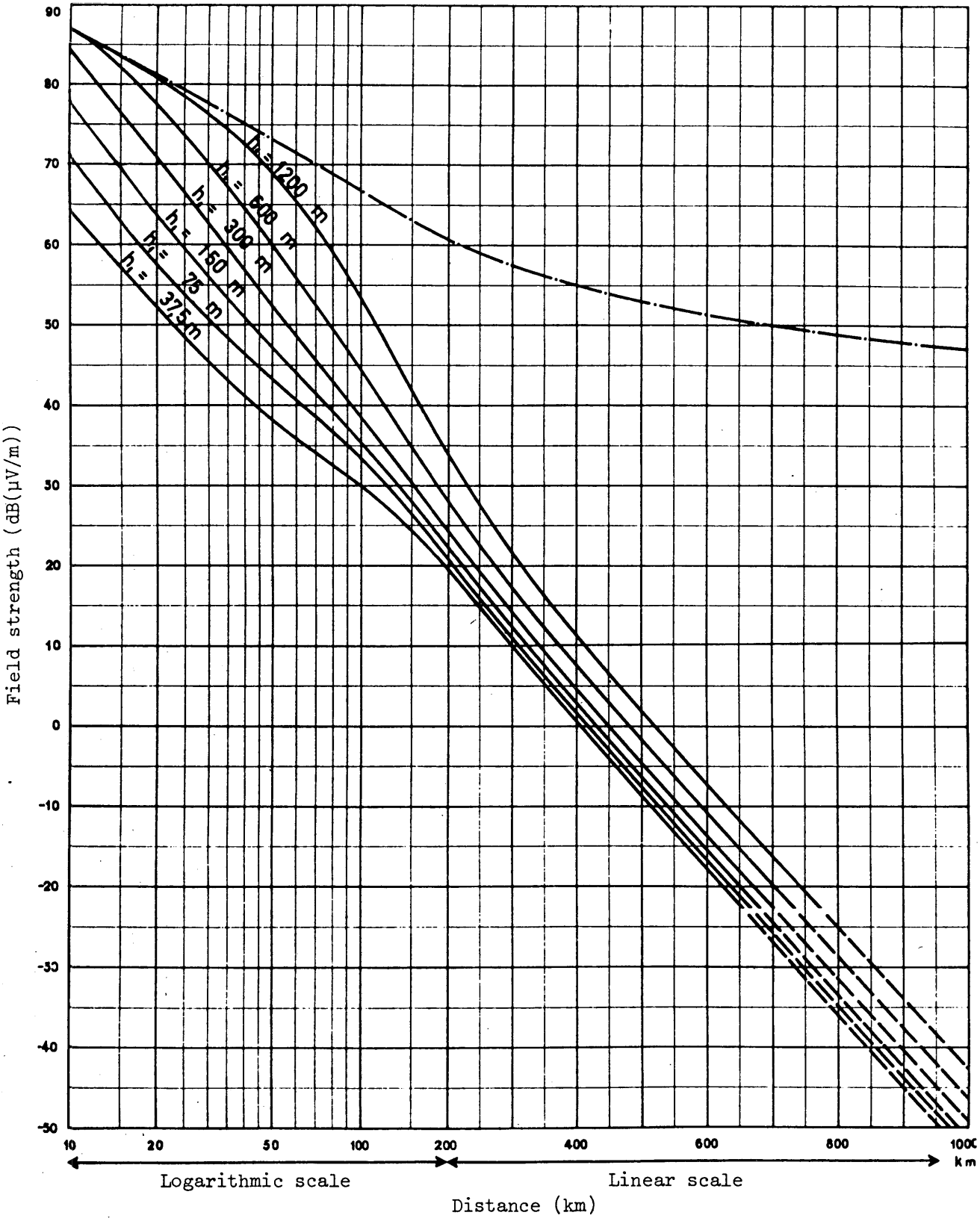


Figure 2.6 - Field strength (dB(μV/m)) for 1 kW e.r.p.

Frequency : 30 to 250 MHz; Land;
1% of the time; 50% of the locations; h_2 = 10 m
·—·—·—· Free space

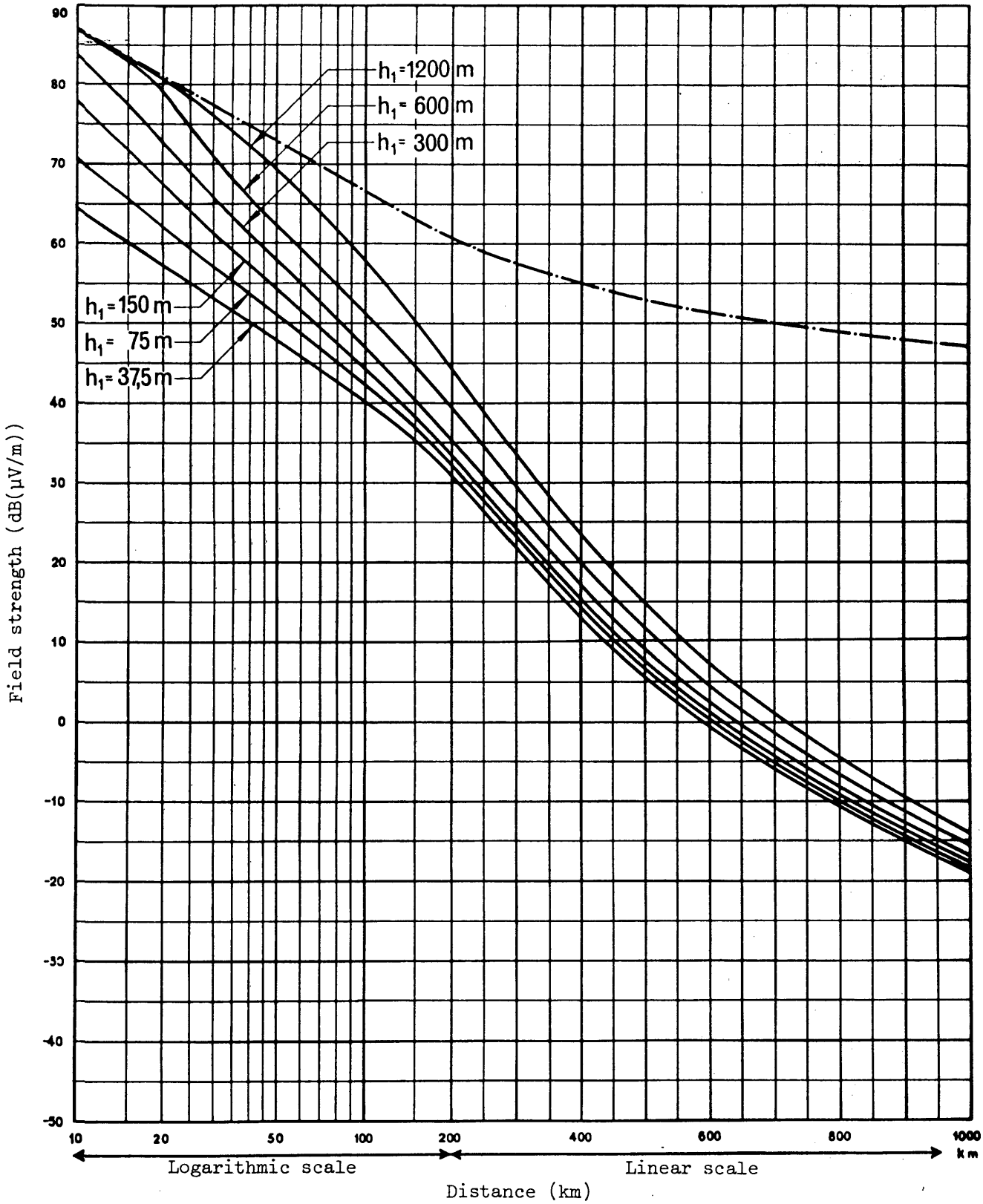


Figure 2.7 - Field strength (dB(μV/m)) for 1 kW e.r.p.

Frequency : 30 to 250 MHz; Cold sea;
1% of the time; 50% of the locations; h_2 = 10 m
·——·——·—— Free space

PROPAGATION CURVES FOR THE BROADCASTING SERVICE

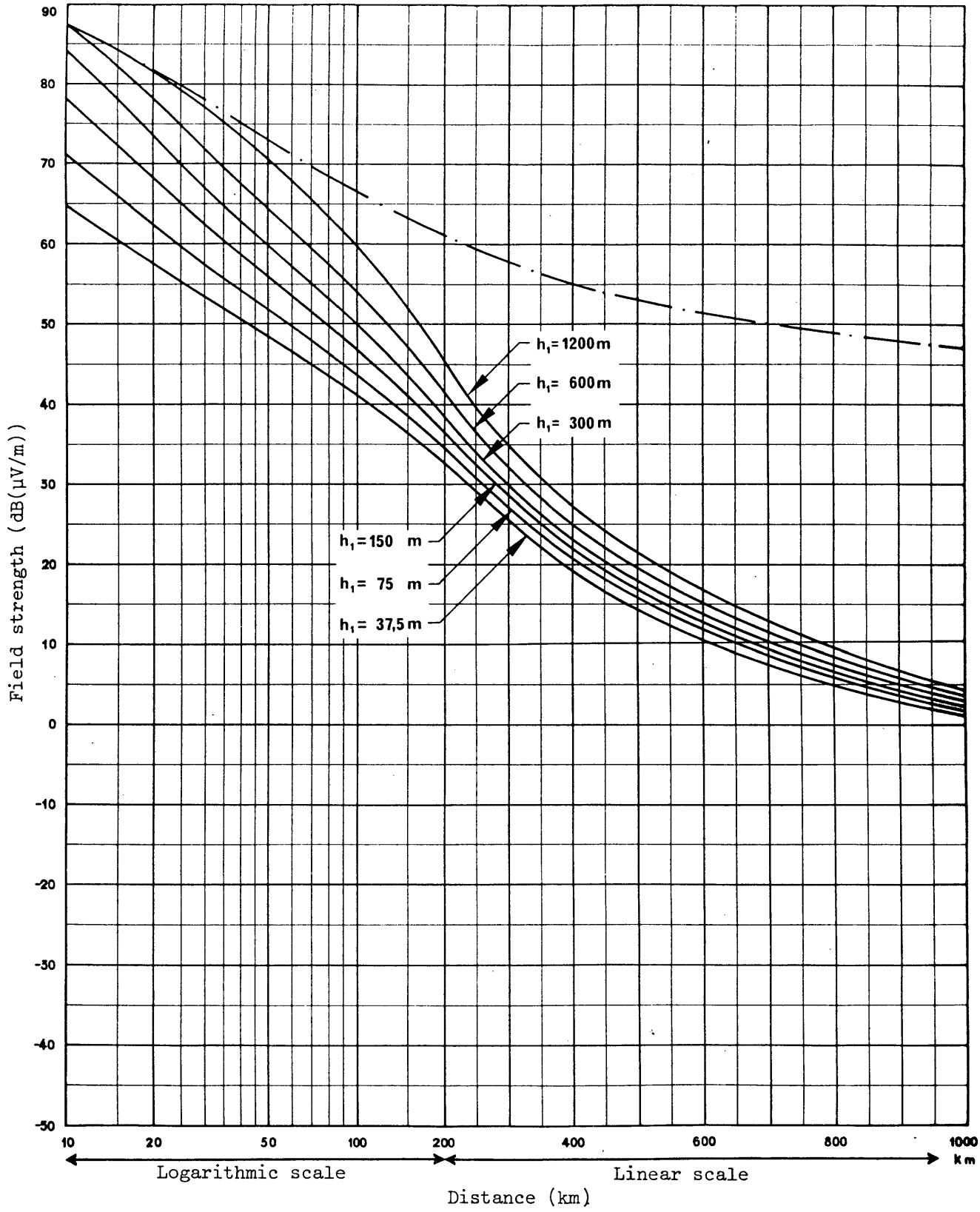


Figure 2.8 - Field strength (dB(μV/m)) for 1 kW e.r.p.

Frequency : 30 to 250 MHz; Warm sea; (excluding areas subject to extreme super-refractivity)
1% of the time; 50% of the locations; h_2 = 10 m
· —— · —— · —— Free space

PROPAGATION CURVES FOR THE BROADCASTING SERVICE

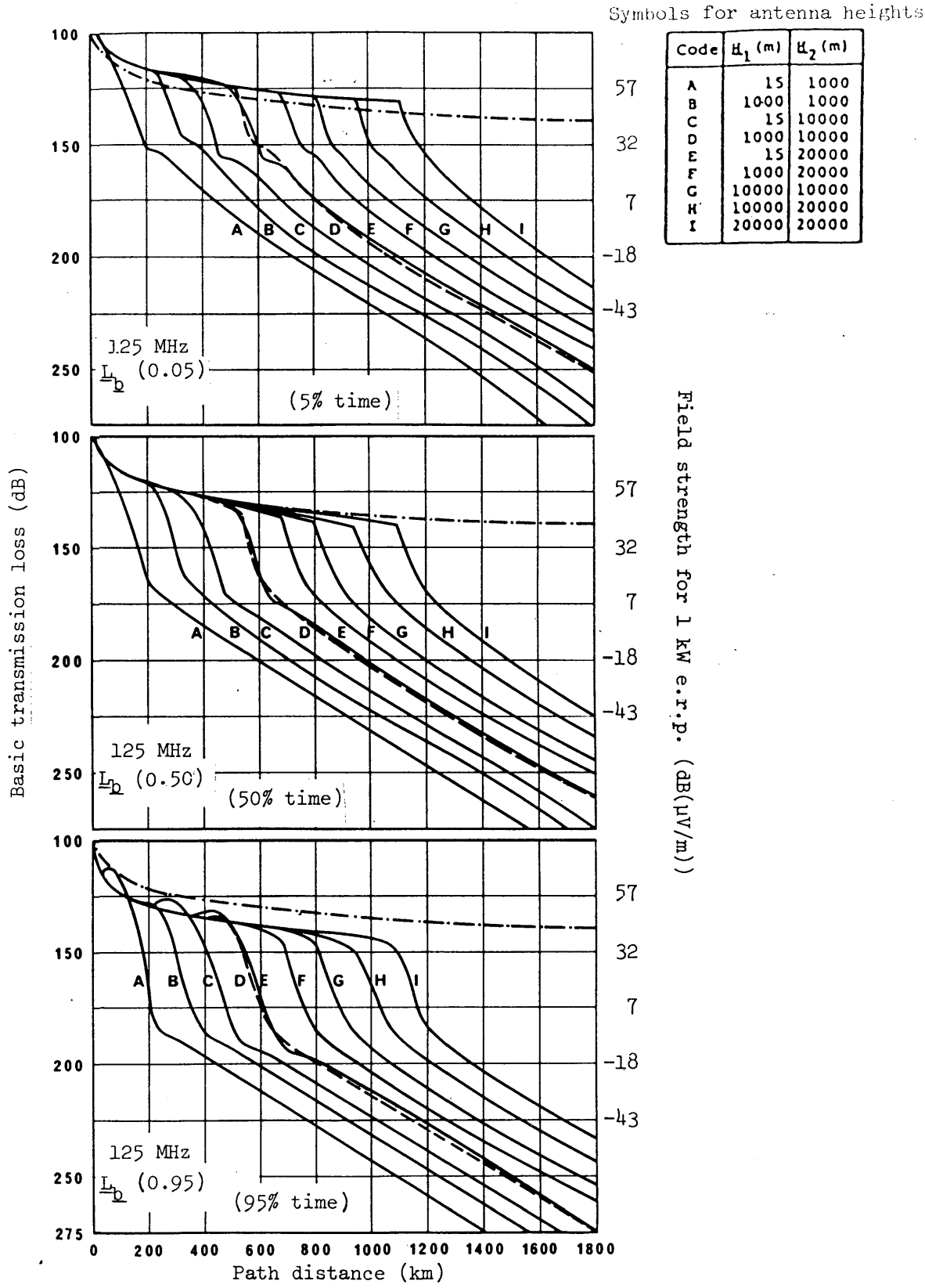


Figure 2.9 - Basic transmission loss at 125 MHz for 5%, 50% and 95% of the time

· — · — · — Free space

PROPAGATION CURVES FOR THE AERONAUTICAL MOBILE SERVICE

ANNEX A

SUPPLEMENTARY PROPAGATION DATA

CORRECTION FACTORS

(see Chapter 2)

This annex gives supplementary propagation data as well as the correction factors which can be applied to the basic curves to improve the accuracy of predictions.

For the Second Session of the Conference these various factors should not be used, although some administrations may wish to take them into account in particular cases in order to facilitate bilateral negotiations with the aim of achieving mutually satisfactory solutions.

1. Correction for various location percentages

The curves in Figures 2.1 to 2.9 are representative of 50% of locations. Figure 2.13 shows the correction (in dB) to be applied for other percentages of receiving locations.

2. Receiver terrain correction (terrain clearance angle)

The location correction in paragraph 1 above can be applied only on a statistical basis. If more precision is required for predicting the field strength in a specific small receiving area a correction may be based on a "terrain clearance angle". This angle θ is measured at a point chosen to be representative of the reception area; it is defined as the angle between the horizontal plane passing through the receiving antenna and the line from this antenna which clears all obstacles within 16 km in the direction of the transmitter. The example in Figure 2.16 indicates the sign convention, which is negative if the line to the obstacles is above the horizontal. Figure 2.17 indicates the correction, as a function of the angle θ, to be applied to the prediction for 50% of locations. If this correction is applied, the location correction of paragraph 1 (Figure 2.13) may no longer be applicable.

Corrections for terrain clearance angles outside the range -5° to 0.5°, are not given in Figure 2.17, because of the smaller number of paths concerned in the study. However, they may be obtained tentatively by linear extrapolation of the curve in Figure 2.17 and limiting values of 30 dB at 1.5° and -40 dB at -15°, subject to the condition that the free-space field strength is not exceeded.

CCIR References (Volume V)

- Recommendation 370-4
- Report 239-5
- Recommendation 529
- Report 567-2
- Recommendation 528-1

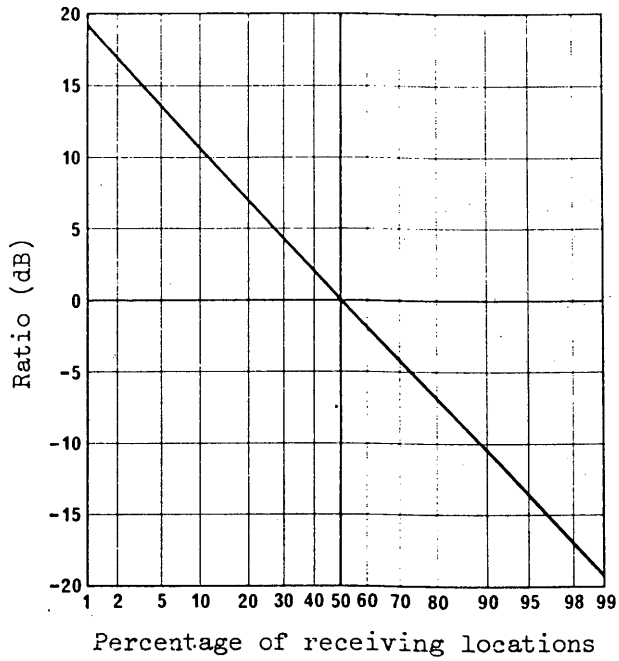


Figure 2.13 - Ratio (dB) of the field strength for a given percentage of the receiving locations to be the field strength for 50% of the receiving locations

Frequency : 30 to 250 MHz

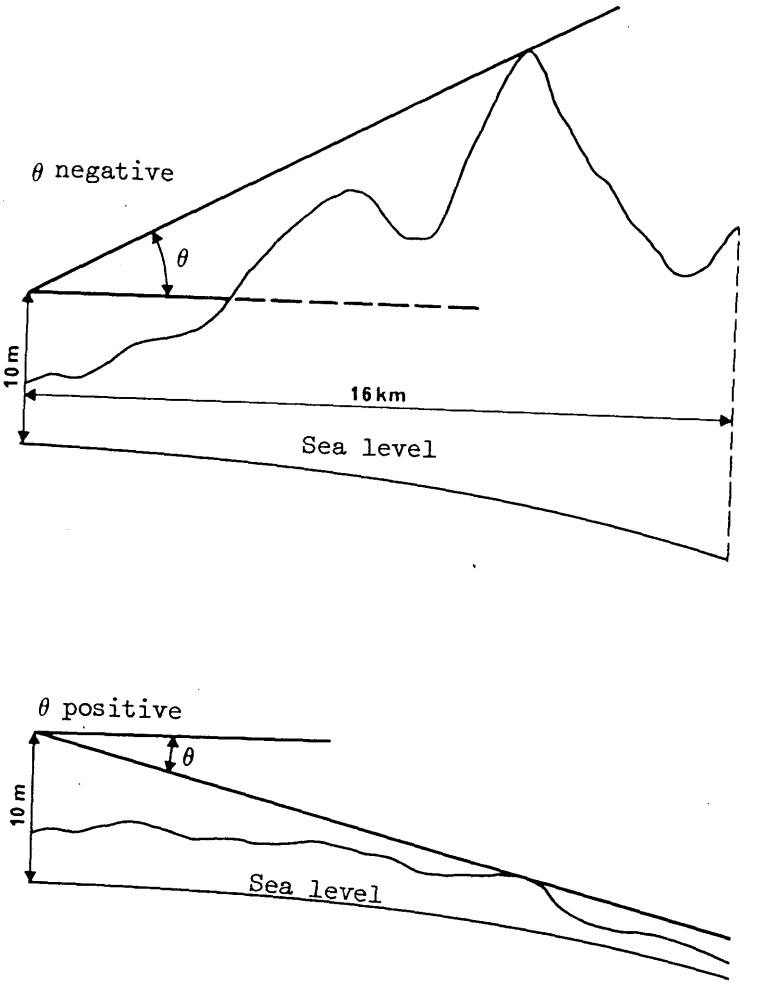


Figure 2.14 - Terrain clearance angle

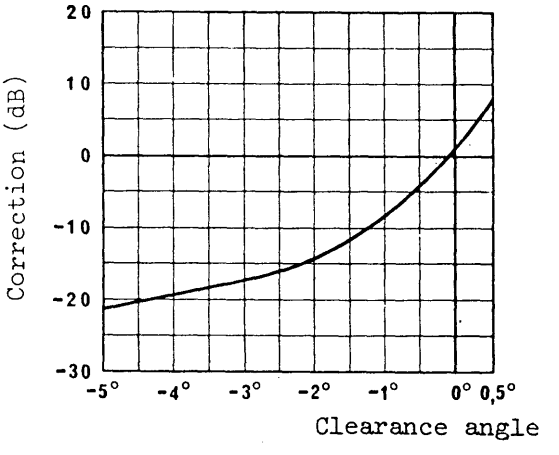


Figure 2.15 - Receiving terrain clearance angle correction (VHF)

INTERNATIONAL TELECOMMUNICATION UNION
REGIONAL BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1984

Document DT/9(Rev.2)-E
7 November 1984
Original : English

COMMITTEE 4

Draft

ORGANIZATION OF WORK

The following terms of reference for Planning Groups 4A, 4B, 4C and 4D are proposed.

1. To prepare a frequency assignment plan for sound broadcasting stations in the band 87.5 - 108 MHz in the geographical zones related to each Planning Group in accordance with terms of reference of COM4.

2. To provide the necessary coordination between the Planning Groups where the problems may overlap the geographical zones for which each Planning Group is responsible. These zones are to be agreed between the Planning Group Chairmen on the basis of the information contained in Document 58(Rev.1).

3. To consider the compatibility with the television service and the protection of existing sound broadcasting stations within coordination areas in the band 87.5 - 100 MHz in the light of Resolution 510 (WARC-79), taking into account the reference situation established on 1 December 1983 (this task is limited only to the Planning Group 4D).

H.K. AL SHANKITI
Vice-Chairman
for the Chairman of Committee 4

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/9(Rev.1)-E
6 November 1984
Original : English

COMMITTEE 4

Draft

ORGANIZATION OF WORK

The following terms of reference for Planning Groups 4A, 4B, 4C and 4D are proposed.

1. To prepare a frequency assignment plan for sound broadcasting stations in the band 87.5 - 108 MHz in the geographical zones related to each Planning Group in accordance with terms of reference of COM4.

2. To provide the necessary coordination between the Planning Groups where the problems may overlap the geographical zones as defined in Document 58(Rev.1).

3. To consider the compatibility with the television service and the protection of existing sound broadcasting stations within coordination areas in the band 87.5 - 100 MHz in the light of Resolution 510 (WARC-79), taking into account the reference situation established on 1 December 1983 (this task is limited only to the Planning Group 4D).

H.K. AL SHANKITI
Vice-Chairman
for the Chairman of Committee 4

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/9-E
2 November 1984
Original : English

COMMITTEE 4

Draft

ORGANIZATION OF WORK

1. To prepare a frequency assignment plan for sound broadcasting stations, the following terms of reference for the Planning Groups 4A, 4B, 4C and 4D are proposed in the band 87.5 - 108 MHz in the geographical zones related to each planning group in accordance with terms of reference of COM 4.

2. To provide the necessary coordination between the planning groups where the problems may overlap the geographical zones as defined in Document 58(Rev.1).

3. To consider the compatibility with the television service in the band 87.5 - 100 MHz in the light of Resolution 510 (WARC-79) taking into account the reference situation established on 1 December 1983 (this task is limited only to the Planning Group 4D).

H.K. AL SHANKITI
For the Chairman of Committee 4
the Vice-Chairman

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/10(Rev.1)-E
6 November 1984
Original : English

COMMITTEE 4

WORKING METHODS IN THE PLANNING GROUPS

Having considered the large number of requirements and the limited time available to prepare a plan for consideration by the Plenary of the Conference, the Acting Chairman of Committee 4 prepared the following suggested methods of work to be applied by the Planning Groups after consideration and adoption by Committee 4.

1. Progressive building up of the Plan

1.1 The Plan should constitute the requirements which have been coordinated before the Conference and those which have been coordinated or accepted by the administrations concerned as a result of negotiations carried out during the Conference. Should any cases remain unresolved at the end of the planning process, the Conference will have to consider the action to be taken in this respect.

1.2 One way of progressively building up the Plan would be to request the IFRB to create a file which will contain cases already coordinated or agreed upon during the negotiations between administrations /, starting with the Reference List of sound broadcasting stations as contained in the IFRB Circular letter No. 575 and amended in Annex 6 to IFRB Circular letter No. 586/. To this effect two forms will be prepared to be filled by the delegations.

1.3 Form 1 (Annex 1)

Delegations shall use Form 1 in order to list all stations pertaining to other administrations with which discussions are necessary. The IFRB will process this information and sort it out in a form usable by the Chairmen of the Planning Groups. Administrations having a large number of stations may communicate this information on a magnetic tape with a copy on paper as a reference document.

1.4 The Chairmen of the Planning Groups can then set up Sub-Planning Groups that they may consider necessary to resolve the problems between countries participating in their Planning Groups.

1.5 Form 2 (Annex 2)

On the basis of the Form 1 filled in, in accordance with 1.3 above, the IFRB will print Form 2. This will contain, for each station subject to negotiation between administrations, the identification of the stations and an indication of the administrations with which agreement is required. When for a given station the agreement of all administrations concerned is obtained, the Form 2 is handed to the Chairman of the Planning Group concerned for the inclusion of the station in the file referred to in 1.2 above. The remarks column should indicate the action agreed by the administrations concerned.

2. Improvement of the Plan

2.1 After the date 2 November 1984 (23h59 UTC) adopted by the Plenary for the latest submission of requirements, modifications intended to improve the Plan which result from the negotiations between the delegations shall be handled by the Chairman of the Planning Group without necessarily consulting the Group using the standard form adopted to this effect (Annex B, Document 32). The Chairman of the Planning Group shall then assess that the modifications actually improve the Plan; he will then communicate them to the IFRB for processing.

2.2 /Delete entire paragraph/

/Modifications and additions other than those referred to in 2.1 may be submitted subject to prior coordination between administrations concerned and if accepted, the Chairman shall review them from the point of view of their effect on other Planning Groups./

/Additional requirements for low power stations may be submitted subject to prior coordination among the administrations concerned. These stations should not cause interferences to the stations presented in 2.1./

2.3 In cases of diverging views between two Planning Groups, the matter shall be submitted to Committee 4.

2.4 Among the possible actions for improving the Plan, the following may be considered by the delegations :

- reducing the radiation in a given direction;
- reducing the power of the station;
- changing the frequency;
- changing of polarization (discrimination of 10 dB) with agreement of affected administrations;
- reducing the number of requirements.

H.K. AL SHANKITI
Vice-Chairman
for the Chairman of Committee 4

Annexes : 2

☐/☐

ANNEXE 1 - ANNEX 1 - ANEXO 1

FORMULAIRE 1* - FORM 1* - FORMULARIO 1*

Liste des stations sujettes à des négociations entre les administrations concernées

List of stations subjected to negotiations between the administrations concerned

Lista de estaciones objeto de negociaciones entre administraciones interesadas

ADM	Date/Fecha	Signature/Firma

N° de Série IFRB IFRB Serial No. N.° de Serie IFRB		ADM		Station/Estación		Fréquence Frequency Frecuencia
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•
	(01)		(02)		(14)	•

* Stations already coordinated or agreed should not appear on this list.

ANNEXE 2 - ANNEX 2 - ANEXO 2

FORMULAIRE 2 - FORM 2 - FORMULARIO 2

Station pour laquelle un accord est nécessaire
Station for which an agreement is necessary
Estación para la que un acuerdo es necesario

N° de série IFRB IFRB Serial No. N.° de serie IFRB	ADM	Station/Estación	Fréquence Frequency Frecuencia

Administrations
Administrations
Administraciones

ACCORD
AGREEMENT
ACUERDO

ADM	Signature/Firma	Date/Fecha	Remarques * Remarks * Observaciones *

* Indicate the conditions upon which the agreement was reached.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/10-E
2 November 1984
Original : English

COMMITTEE 4

WORKING METHODS IN THE PLANNING GROUPS

Having considered the large number of requirements and the limited time available to prepare a plan for consideration by the Plenary of the Conference, the Acting Chairman of Committee 4 prepared the following suggested methods of work to be applied by the Planning Groups after consideration and adoption by Committee 4.

1. Progressive building up of the Plan

1.1 The Plan should constitute the requirements which do not affect any other administration or which have been coordinated before the Conference and those which have been coordinated or accepted by the administrations concerned as a result of negotiations carried out during the Conference. Should any cases remain unresolved at the end of the planning process, the Conference will have to consider the action to be taken in this respect.

1.2 One way of progressively building up the Plan would be to request the IFRB to create a file which will contain cases already coordinated or agreed upon during the negotiations between administrations. To this effect two forms will be prepared to be filled by the delegations.

1.3 Form 1 (Annex 1)

Delegations shall use Form 1 in order to list all stations pertaining to other administrations with which discussions are necessary. The IFRB will process this information and sort it out in a form usable by the Chairmen of the Planning Groups. Administrations having a large number of stations may communicate this information on a magnetic tape with a copy on paper as a reference document.

1.4 The Chairmen of the Planning Groups can then set up Sub-Planning Groups that they may consider necessary to resolve the problems between countries participating in their Planning Groups.

1.5 Form 2 (Annex 2)

On the basis of the Form 1 filled in, in accordance with 1.3 above, the IFRB will print Form 2. This will contain, for each station subject to negotiation between administrations, the identification of the stations and an indication of the administrations with which agreement is required. When for a given station the agreement of all administrations concerned is obtained, the Form 2 is handed to the Chairman of the Planning Group concerned for the inclusion of the station in the file referred to in 1.2 above. The remarks column should indicate the action agreed by the administrations concerned.

2. Improvement of the Plan

2.1 After the date 2 November 1984 (23h59 UTC) adopted by the Plenary for the latest submission of requirements, modifications intended to improve the Plan which result from the negotiations between the delegations shall be handled by the Chairman of the Planning Group without necessarily consulting the Group using the standard form adopted to this effect (Annex B, Document 32). The Chairman of the Planning Group shall then assess that the modifications actually improve the Plan; he will then communicate them to the IFRB for processing.

2.2 Modifications other than those referred to in 2.1 [and possible additions] that may be submitted in exceptional cases shall be considered by the Planning Group in session and if accepted, the Chairman shall review them from the point of view of their effect on other Planning Groups. In cases of diverging views between two Planning Groups the matter shall be submitted to Committee 4.

2.3 Among the possible actions for improving the Plan, the following may be considered by the delegations :

- reducing the radiation in a given direction;
- reducing the power of the station;
- changing the frequency;
- changing of polarization (discrimination of 10 dB);
- reducing the number of requirements.

ANNEXE 1 - ANNEX 1 - ANEXO 1

FORMULAIRE 1 - FORM 1 - FORMULARIO 1

Liste des stations sujettes à des negociations entre les administrations concernées

List of stations subjected to negotiations between the administrations concerned

Lista de estaciones objeto de negociaciones entre administraciones interesadas

ADM	Date/Fecha	Signature/Firma

N° de Série IFRB IFRB Serial No. N.° de Serie IFRB	ADM	Station/Estación	Fréquence Frequency Frecuencia
	[01]	[02]	[14]
	[01]	[02]	[14]
	[01]	[02]	[14]
	[01]	[02]	[14]
	[01]	[02]	[14]
	[01]	[02]	[14]
	[01]	[02]	[14]
	[01]	[02]	[14]
	[01]	[02]	[14]
	[01]	[02]	[14]

ANNEXE 2 - ANNEX 2 - ANEXO 2

FORMULAIRE 2 - FORM 2 - FORMULARIO 2

Station pour laquelle un accord est nécessaire
Station for which an agreement is necessary
Estación para la que un acuerdo es necesario

N° de série IFRB IFRB Serial No. N.° de serie IFRB	ADM	Station/Estación	Fréquence Frequency Frecuencia

Administrations
Administrations
Administraciones

ACCORD
AGREEMENT
ACUERDO

ADM	Signature/Firma	Date/Fecha	Remarques Remarks Observaciones

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/11-E
2 November 1984
Original : English

TECHNICAL WORKING GROUP
OF THE PLENARY

DRAFT SECOND REPORT OF SUB-WORKING GROUP PL/B

The annex contains sub-sections 5.2.3.3 and 5.2.3.4 of Annex J to the Report to the Second Session of the Conference as proposed for modification.

The delegations of the Federal Republic of Germany and the Netherlands reserve their position with regard to type B1 interference for VOR equipment.

The Sub-Working Group could not agree on protection criteria for future equipment for B1 type interference in the three-signal case. This matter will be covered in a draft Recommendation requesting the CCIR to study this question. These studies might also include the verification of protection ratios adopted for A2 type interference, which, in the opinion of some delegations, are far too high.

The Sub-Working Group has postponed a decision concerning protection ratios for type A1 interference in the frequency offset case. This matter was not considered urgent because the IFRB, in making the calculations during the Conference, can anyhow not consider this case. Nevertheless, the establishment of these values was considered useful for the settlement of incompatibility cases after the Conference.

E. GEORGE
Chairman of the
Technical Sub-Working Group PL/B

Annex : 1

ANNEX

5.2.3.3 Type B1 interference

Third order intermodulation products of the form :

$f_{aero} = 2 f_1 - f_2$ (two-signal case)

or $f_{aero} = f_1 + f_2 - f_3$ (three-signal case)

with $f_1 > f_2 > f_3$,

generated in the aeronautical receiver will cause an unacceptable degradation of receiver performance, if the inequalities given below are fulfilled subject to the conditions in sub-item d).

Intermodulation of the second order is irrelevant and intermodulation of a higher order will not be considered.

N_1, N_2 and N_3 in the inequalities below have the following meaning :

N_1 ... level in dBm of the broadcasting signal of frequency f_1 at the input of the aeronautical radionavigation receiver

N_2 ... ditto for frequency f_2

N_3 ... ditto for frequency f_3

a) Two-signal case

i) Existing ILS and VOR

$$2\left(N_1 - 20 \log \frac{\max (0.4;\ 108.1 - f_1)}{0.4}\right) + N_2 + -20 \log \frac{\max (0.4;\ 108.1 - f_2)}{0.4} + 120 > 0$$

ii) Future ILS and VOR

$$2N_1 + N_2 + 72 - 60 \log \frac{\max (0.4;\ 108.1 - f_1)}{0.4} > 0$$

b) Three-signal case

Existing ILS and VOR

$$N_1 - 20 \log \frac{\max (0.4;\ 108.1 - f_1)}{0.4} + N_2 - 20 \log \frac{\max (0.4;\ 108.1 - f_2)}{0.4} + N_3 - 20 \log \frac{\max (0.4;\ 108.1 - f_3)}{0.4} + 126 > 0$$

c) Correction to be applied to <u>each</u> broadcast signal level before applying the formulae in a) or b) :

$N_{1,2,3}$ (corrected) = $N_{1,2,3}$ - correction factor

Frequency difference between f_{aero} and intermodulation product (kHz)	Correction factor (dB)
0	0
±50	2
±100	8
±150	16
±200	26

For frequency differences beyond ±200 kHz, type B1 interference will not be considered.

d) <u>Trigger and cut-off values</u>

The trigger value is the minimum power level at the input to the ILS or VOR receiver, considered necessary for a broadcasting signal to initiate the generation of intermodulation products which are of sufficient power to infringe potentially the receiver interference threshold. The trigger value for each contributing broadcasting signal of frequency f at the ILS or VOR receiver input is derived from the following formulae :

$$N = -42 + 20 \log \frac{\max (0.4;\ 108.1 - f)}{0.4}$$

for existing receivers

$$N = -26 + 20 \log \frac{\max (0.4;\ 108.1 - f)}{0.4}$$

for future receivers.

The cut-off value is the minimum power level at the input to the ILS or VOR receiver, considered necessary for a broadcasting signal to be one input to the non-linear process which results in the formation of an intermodulation product of sufficient power to infringe potentially the receiver interference threshold. The cut-off value is 12 dB below the trigger value.

An intermodulation analysis is, therefore, only carried out if at least one signal is equal to or above the trigger value provided that the other signal or signals are equal to or above the cut-off value.

5.2.3.4 Type B2 interference

The following maximum permitted levels of broadcasting signals at the input to the ILS or VOR receiver shall not be exceeded :

Frequency of broadcasting signal (MHz)	Level (dBm) for existing equipment	Level (dBm) for future equipment
107.9	-20	-10
106	-5	5
102	5	15
<100	10	15

Between the frequency values given above, the maximum permitted level will be determined by linear interpolation.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/12-E
5 November 1984
Original : English

WORKING GROUP 5A

CONSIDERATIONS ON THE PROCEDURES FOR MODIFICATION OF THE PLAN

In the development of modification procedures, the following guidelines have to be decided on :

I. Broadcasting/broadcasting

1. Determination of the countries to be consulted

Stockholm 61 and Geneva 63 Agreements are based on the principle of a table of consultation distances (Documents 11, 13, 36).

2. Possible methods for consultation

2.1 Direct bilateral consultation between administrations (like ST 61 Agreement for exclusive bands)

In this case, there is no prior publication of the proposed modifications. When agreement is reached between the administrations, the IFRB publishes the characteristics of the modification, as agreed, and enters the modification in the Plan.

2.2 Publication by the IFRB of the proposed modifications, to be followed by consultations between administrations

In this case, the administration proposing the modification should also directly consult the other administrations which are within the coordination distance. If another administration considers that it is affected, it may request to be consulted, on the basis of the publication.

3. Objections from administrations

Should the conference decide on criterias providing for the basis of objections? If yes, which criterias?

4. Procedures in cases where direct negotiation is not possible

5. Procedures regarding television stations in the band

II. Broadcasting/aeronautical radionavigation to be developed

III. Broadcasting/fixed and mobile in Region 3 to be developed

S.M. CHALLO
Chairman of Working Group 5A

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/13-E
5 November 1984
Original : English

WORKING GROUP 4C

Draft

FIRST REPORT TO COMMITTEE 4

The Working Group 4C held / / meetings. As the result of the discussions in / these / meetings, the following is proposed to Committee 4 for approval.

2.1 At the request of delegates of Afghanistan, Turkey and the USSR, the Group agreed that they may not form part of Working Group 4C. Afghanistan expressed the wish to form part of Working Group 4D.

2.2 The delegate of Israel agreed to form part of the Working Group 4B only, provided Jordan is moved to that Group from the Working Group 4C. Jordan is not yet represented at the Conference. The Working Group 4C agreed to this proposal.

2.3 The Group proposes that Djibouti, Egypt, Ethiopia, Sudan and Somalia should not form part of Working Group 4C. All these countries are already included in the Working Group 4A. As a result of this change, Yemen Arab Republic and Yemen (PDR of) should be included also in Working Group 4A in addition to being in Working Group 4C.

3. The Group discussed problems relating to the working methods and the procedures for the preparation of the Plan. This discussion also raised some question relating to the Forms 1 and 2 shown in the Document DT/10. The explanations provided by the IFRB representative were helpful in understanding these forms.

H. AL-KINDY
Chairman

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/14-E
5 November 1984
Original : English

TECHNICAL
SUB-WORKING GROUP PL/B

Report of the Drafting Group PL/B-1

DRAFT RECOMMENDATION

Relating to the Compatibility Between the Aeronautical Radionavigation Service Operating in the Frequency Band 108.0 - 117.975 MHz from the FM Broadcasting Service Operating in the Frequency Band 87.5 - 108 MHz

The Regional Administrative Conference for FM Sound Broadcasting in the VHF Band (Region 1 and certain countries in Region 3), Geneva, 1984,

considering

a) that this Conference has prepared a frequency plan for the broadcasting service taking account of compatibility with the aeronautical radionavigation service in accordance with Recommendation 704 of the World Administrative Radio Conference, Geneva, 1979;

b) that for these purposes the Conference has established protection criteria based on the report of the first session of the Conference held in 1982, on recent CCIR studies, and on proposals made to the Conference by administrations;

c) that the ICAO has agreed standards relating to the immunity performance of future ILS and VOR receivers with an applicability date of 1 January 1998 in which basic performance requirements for intermodulation and desensitization have been incorporated;

d) that the aeronautical radionavigation service is a safety service, and ILS and VOR facilities provide important guidance to aircraft at critical points in their operation;

noting

that the Conference was unable to form unanimous conclusions on some of the immunity criteria for existing receivers to be used in the planning of the broadcast band and for future receivers which could be needed to assist the implementation and modification of the plan;

requests the CCIR

to continue to study the question of compatibility between the aeronautical radionavigation service and the broadcasting service in the bands concerned, in particular :

a) protection ratio values for future airborne receivers against spurious emissions from broadcasting stations (referred to as A1 type of interference) for cases where the frequency of the spurious emissions does not coincide with the aeronautical frequency;

b) protection ratio values for present and future receivers against out-of-band emissions from broadcasting stations (referred to as A2-type of interference);

c) criteria for prediction of third order intermodulation (referred to as B1-type of interference) in the case of three unwanted signals generated in airborne receivers, meeting the ICAO standard for 2 signal intermodulation performance for future receivers;

d) the effect of sinusoidal modulation of the broadcasting transmitters during test and line up and to recommend any precautions or procedures at broadcasting stations necessary to maintain the agreed protection of the aeronautical service;

invites the ICAO

to continue its study of these problems and communicate the results of these studies to the CCIR;

requests the Secretary-General

to communicate this Recommendation to the ICAO;

recommends

that administrations participate actively in these studies and provide the CCIR with expert guidance on this matter.

W.T. YOUNG
Chairman of Drafting Group PL/B-1

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/15-E
6 November 1984
Original : English

TECHNICAL
SUB-WORKING GROUP PL/B

Second report of the Drafting Group PL/B-1

DRAFT RECOMMENDATION

Relating to the Compatibility Between the FM Broadcasting Service in the Band 87.5 to 108 MHz and the Aeronautical Mobile (R) Service in the Band 117.975 to 137 MHz

The Regional Administrative Conference for FM Sound Broadcasting in the VHF Band (Region 1 and certain countries concerned in Region 3), Geneva, 1984,

considering

a) that VHF air/ground communications perform a vital role in the operation and safety of aircraft which could be prejudiced by the appearance of interference;

b) that compatibility problems between the FM broadcasting service in the band 87.5 to 108 MHz and the aeronautical mobile (R) service in the band 117.975 to 137 MHz have arisen in various parts of the world;

c) however, that the agenda for this Conference did not include the consideration of compatibility between these two services in the preparation of the broadcasting Plan;

d) that the CCIR and the ICAO have made studies of the problem and the CCIR has recommended technical criteria which can be used by administrations for coordination between the services concerned;

e) that the ICAO has agreed standards relating to the immunity performance of future aeronautical VHF communication receivers with an applicability date of 1 January 1998 in which basic performance requirements for intermodulation and desensitization have been incorporated;

requests the CCIR

to continue the study of the compatibility between these two services from the aspect of possible interference to the aeronautical service;

invites the ICAO

to continue its study of these problems and communicate the results of these studies to the CCIR;

requests the Secretary-General

to communicate this Recommendation to the ICAO.

W.T. YOUNG
Chairman of Drafting Group PL/B-1

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/16-E
6 November 1984
Original : English

TECHNICAL WORKING GROUP
OF THE PLENARY

DRAFT THIRD REPORT OF SUB-WORKING GROUP PL/B

The Annex contains a modification to the text appearing in the Annex to Document 64 of section 5.2.3.1 to Annex J of the report to the second session of the Conference. This modification is not in contradiction to the text already approved but is merely an extension in order to take account of the offset case for type A1 interference. It does not affect the calculations to be carried out by the IFRB during this Conference since these will not take account of the offset case.

However, delegations may wish to consider the offset case when making their own calculations during the Conference.

E. GEORGE
Chairman of the
Technical Sub-Working Group PL/B

Annex : 1

ANNEX

5.2.3.1 Type A1 interference

Replace the text contained in the Annex to Document 64 by the following :

Frequency difference (kHz)	Protection ratio (dB)
0	17
50	10
100	-4
150	-19
200	-38

These values apply both to existing ILS and VOR equipment. They include a small safety margin in order to take account of multiple interference entries resulting from different broadcast transmitters. Type A1 interference need not be considered for frequency differences greater than 200 kHz.

The field strength of the interfering signal at the test point will be calculated on the basis of the following level of the spurious component (in the case of several transmitters contributing to one spurious component - see category a) below - the most powerful transmitter is taken as the reference) :

- 40 dB below the transmitter e.r.p. for transmitter e.r.p.s below and equal to 2.5 W;
- 250 µW e.r.p. for transmitter e.r.p.s above 2.5 W but below 79 kW;
- 85 dB below the transmitter e.r.p. for transmitter e.r.p.s equal to and above 79 kW;

An antenna gain of 10 dB has been assumed.

For the analysis of type A1 interference the following two categories of spurious emissions will be considered :

a) spurious emissions resulting from an intermodulation process generated at the transmitter site, e.g. by multiple transmitters feeding the same antenna;

b) spurious emissions with the exclusion of those covered by a) above.

For category a) the actual frequency of the spurious emission will be considered. For category b) the worst case will be assumed, i.e. a spurious component exactly at the aeronautical frequency under consideration.

During the Conference no analysis will be made by the IFRB for category a) due to lack of input data required.

The analysis carried out by the IFRB after the Conference will, however, also take account of category a) provided administrations make available the data required with regard to their co-sited transmitters. The findings will then distinguish between both cases and will result in the following three alternatives :

i) compatibility for category b) (this means automatically compatibility for category a) which need therefore not be considered);

ii) incompatibility for category b) but compatibility for category a) (this can occur in the frequency offset case of category a));

iii) incompatibility for both categories a) and b).

Alternative ii) deserves particular attention by administrations concerned because it is not very meaningful to base the indication of an incompatibility alone on the worst case assumption for category b), i.e. a spurious component exactly at the aeronautical frequency. It is very unlikely that this will occur in practice.

Example for alternative ii) for ILS with a wanted field strength of 32 dB(μV/m) :

- field strength of most powerful transmitter at the test point : 110 dB(μV/m)

- field strength of spurious component of category b) : 25 dB(μV/m)

resulting in a protection ratio of 7 dB (finding : incompatible)

- field strength of spurious component of category a) : 25 dB(μV/m)

- frequency difference to ILS : 100 kHz

resulting in a protection ratio of 7 dB (finding : compatible).

An investigation by the administration operating the broadcasting transmitters may yield that there is no spurious component of category b) at the aeronautical frequency. The final finding with regard to type A1 interference will then be : compatible.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/17-E
6 November 1984
Original : English

TECHNICAL WORKING
GROUP OF THE PLENARY

DRAFT FOURTH REPORT OF SUB-WORKING GROUP PL/B

The Annex contains a text to replace section 3 of Annex J to the report to the second session of the Conference. It also contains a further modification to section 5.2.2 of Annex J as already modified (see Document 64), consequential to the decisions taken with regard to section 3 of Annex J.

E. GEORGE
Chairman of the
Technical Sub-Working Group PL/B

Annex : 1

ANNEX

3. Coordination contour around the test point of an aeronautical radionavigation station

3.1 The coordination contour is defined by a circle of a radius, as specified below, around each test point of the radionavigation station to be protected, as projected on the surface of the Earth. Broadcasting stations outside the coordination contour are considered not being likely to affect the service provided by the aeronautical radionavigation station concerned and need therefore not be considered.

3.2 For types A1, A2 and B2 interference the radius is 125 km.

3.3 For type B1 interference the radius is 500 km.

3.4 Broadcasting stations outside line-of-sight to the test point concerned need not be considered.

5.2.2 Principles of calculation

Modify the first sentence (see Document 64) as follows :

"The field strength of every broadcasting station in the band 87.5 to 108 MHz within the coordination contour of a test point of an aeronautical radionavigation station will be calculated at this test point as an interfering signal."

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/18-E
7 November 1984
Original : English

WORKING GROUP 5A

Note from the Chairman of Working Group 5A

ARTICLE 3

Procedure for Modifications to the Plan

1. When a Contracting Member proposes to make a modification to the Plan, i.e. either:

   – to change the characteristics of a frequency assignment to a broadcasting station shown in the Plan, whether or not the station has been brought into use, or

   – to bring into use an assignment to a broadcasting station not appearing in the Plan, or

   – to change the characteristics of a frequency assignment to a broadcasting station for which the procedure in this Article has been successfully applied, whether or not the station has been brought into use, or

   – to cancel a frequency assignment to a broadcasting station,

the following procedure shall be applied before any notification is made under the provisions of Article 12 of the Radio Regulations (see Article 5 of this Agreement).

2. In the remainder of the present Article, the term "assignment in accordance with the Agreement means any frequency assignment appearing in the Plan or for which the procedure of this Article has been successfully applied.

3. *Proposed Changes in the Characteristics of an Assignment or the Bringing into Use of a new Assignment*

3.1 Any administration proposing a change in the characteristics of an assignment or the bringing into use of a new assignment shall seek the agreement of any other administration, if the distance from the station under consideration to the nearest point of the boundary of the country of that administration is less than the limits corresponding to the proposed power of the station, [and other characteristics listed in Annex [ ].

3.2 In effecting this consultation the Administration proposing the change shall furnish all the information specified in Appendix 1, Section A, of the Radio Regulations, together with the effective height of the antenna as defined in Annex 2 to the Agreement, its directional characteristics and the polarization of radiation.

3.3 If an agreement has been obtained with all the administrations identified in accordance with § 3.1 above, the administration proposing the change shall communicate to the IFRB the characteristics of the station, listed in [ ], indicating the names of the administrations, the agreement of which has been obtained.

3.4 If within [ ], the administration proposing the change could not obtain a reply from another administration concerned, or its agreement, it may send the characteristics of its proposed modification or new assignments to the IFRB.

3.5 At the receipt of the information referred to in 3.3 and 3.4 above, the IFRB shall :

3.5.1 identify the administrations which are concerned, in accordance to § 3.1;

3.5.2 send a telex to these administrations, informing them of the proposed modification;

3.5.3 publish the information in a special section of the IFRB weekly circular.

3.6 An administration may ask the administration proposing the modification for the additional information it considers necessary to calculate the increase of the usable field strength. Similarly, the administration proposing the modification may ask any administration whose agreement it seeks for the additional information it considers necessary. The administrations shall inform the IFRB of such requests.

3.7 Comments from administrations on information published pursuant to 3.5.3 should be sent either directly to the administration proposing the modification or through the IFRB. In any event the IFRB shall be informed that comments have been made.

3.8 An administration having received a telex from IFRB as in § 3.5.2 above shall within [ ] either :

- confirm the agreement already communicated to the administration proposing the modification to the Plan, or
- communicate its agreement on the proposed modification, or
- acknowledge receipt of the telex as a formal request for agreement.

3.9 An administration which has not notified its comments either to the administration concerned or to the IFRB within a period of [ ] following the date of the weekly circular referred to in 3.5.3 shall be understood to have agreed to the proposed change. This time limit may be extended by [ ] in the case of an administration which has requested additional information pursuant to paragraph 3.2.7.

3.10 If no comments have been received on expiry of the periods specified in 3.9, or if agreement has been reached with the administrations which have made comments, the administration proposing the modification may proceed with its project and shall inform the IFRB indicating the final characteristics of the assignment together with the names of the administrations with which agreement has been reached.

3.11 An administration may communicate to the IFRB information concerning proposed modification on the following cases :

a) the proposed modification relates to a reduction in power;

b) the distances from the station under consideration to the nearest points of the boundaries of other countries, the Administrations of which are Contracting Administrations, are equal to or greater than the limits corresponding to the proposed power of the station and other characteristics specified in Annex 1.

3.12 The IFRB shall publish in a special section of its weekly circular the information received under 3.10 or 3.11 together with the names of any administrations with which the provisions of this article have been successfully applied. With respect to Contracting Members, the assignment concerned shall enjoy the same status as those appearing in the Plan.

S.M. CHALLO
Chairman of Working Group 5A

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/19-E
7 November 1984
Original : French

PLANNING GROUP 4B

DRAFT FIRST REPORT TO COMMITTEE 4

Planning Group 4B has held one formal and one informal meeting, during which the following decisions were taken :

1) The Group was divided into three Sub-Groups with the following membership :

Sub-Group	Participants	Coordinator
Western Med. (4B1)	ALG, E, F, I, MRC, POR, UK	[.....]
Central Med. (4B2)	ALG, F, GRC, I, LBY, MLT, MCO, TUN, YUG	[.....]
Eastern Med. (4B3)	ARS, CYP, EGY, GRC, IRQ, ISR, JOR, LBN, LBY, SYR, TUR, UK	[.....]

2) The Planning Group also decided to apply a minimum interferring field strength of 60 dB(μV/m) below which delegations will not enter reservations (Form 1).

A. TOUMI
Chairman of Planning Group 4B

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/20-E
7 November 1984
Original : English

WORKING GROUP 5A

NOTE FROM THE CHAIRMAN OF WORKING GROUP 5A

At the request of the Working Group, an extract of the Stockholm 1961 Agreement is given in Annex 1.

Also attached as Annex 2, is the flowchart of this Agreement.

S.M. CHALLO
Chairman of Working Group 5A

Annexes : 2

ANNEX 1

1 (Preamble, Art. 1)

REGIONAL AGREEMENT
for the
EUROPEAN BROADCASTING AREA

Concerning the use of Frequencies by the Broadcasting Service in the VHF and UHF Bands

Preamble

The undersigned Delegates of the Administrations of the following countries:

Austria, Belgium, Bielorussian Soviet Socialist Republic, People's Republic of Bulgaria, Republic of Cyprus, Vatican City State, Denmark, Spain, Finland, France, Greece, Hungarian People's Republic, Ireland, Iceland, State of Israel, Italy, Lebanon, Luxembourg, Kingdom of Morocco, Monaco, Norway, Kingdom of the Netherlands, People's Republic of Poland, Portugal, Federal Republic of Germany, Federal People's Republic of Yugoslavia, Ukrainian Soviet Socialist Republic, Roumanian People's Republic, United Kingdom of Great Britain and Northern Ireland, Sweden, Confederation of Switzerland, Czechoslovak Socialist Republic, Overseas Territories for the international relations of which the Government of the United Kingdom of Great Britain and Northern Ireland are responsible, Turkey, Union of Soviet Socialist Republics,

meeting in Stockholm for a Regional Conference convened under the terms of Article 44 of the International Telecommunication Convention, Geneva, 1959, have adopted, subject to the approval of their Administrations, the following provisions relating to the broadcasting service (sound and television) in the European Broadcasting Area for the bands between 41 and 960 Mc/s allocated on a primary basis to broadcasting under Article 5 of the Radio Regulations, Geneva, 1959, with the exception of the bands between 68 and 73 Mc/s and between 76 and 87.5 Mc/s which are the subject of a Regional Agreement (Special Regional Conference, Geneva, 1960).

ARTICLE 1

Definitions

1 For the purposes of the present Agreement, the following terms shall have the meanings defined below:

2 *Agreement:* The whole of the present Agreement and its Annexes.

3 *Plans:* The plans forming Annex 2 to the Agreement.

4 *European Broadcasting Area:* The geographical area defined in No. 133 of the Radio Regulations, Geneva, 1959.

5 *Radio Regulations:* The Radio Regulations, Geneva, 1959.

6 *Union:* The International Telecommunication Union.

7 *The Secretary-General:* The Secretary-General of the International Telecommunication Union.

8 *I.F.R.B.:* The International Frequency Registration Board.

9 *Contracting Administration:* Any Administration which has approved or acceded to the Agreement.

ARTICLE 2

Execution of the Agreement

10 1 The Contracting Administrations shall adopt for their broadcasting stations operating in the bands referred to in the Agreement, the characteristics specified in the Plans.

11 2 The Contracting Administrations shall not change the characteristics specified in the Plans, or establish new stations, except under the conditions provided for in Article 4 of the present Agreement.

12 3 The Contracting Administrations shall endeavour to agree on the action required to reduce any harmful interference caused by the application of the Agreement.

13 4 Should agreement, as envisaged in paragraph 3 above, prove impossible, the dissenting Administrations may resort to the procedure laid down in Article 15 of the Radio Regulations, and if necessary, to that laid down in Article 27 of the International Telecommunication Convention, Geneva, 1959.

ARTICLE 3

Broadcasting Stations of Low Power

14 1 Stations in the frequency bands between 41 and 230 Mc/s having maximum effective radiated powers of less than 1 kW, and stations in the frequency bands between 470 and 960 Mc/s having maximum effective radiated powers of less than 10 kW do not appear in the Plans.

15 2 Such stations shall however have the same status as stations shown in the Plans provided:

16 *a)* that they were established in accordance with the provisions of the European Broadcasting Agreement, Stockholm, 1952;

17 *b)* or that they are established in accordance with the provisions of the present Agreement.

18 In the event of harmful interference between the stations referred to in *a)* above and those appearing in the Plans, the Contracting Administrations concerned shall reach mutual agreement as to the steps necessary to obviate such interference.

ARTICLE 4

Changes in the Characteristics of Stations covered by the Agreement

1 *Procedure in the Frequency Bands* 41-68 *Mc/s*, 87.5-100 *Mc/s*, 174-216 *Mc/s*, 470-582 *Mc/s and* 606-790 *Mc/s*

19 1.1 When a Contracting Administration proposes to change the characteristics of a broadcasting station shown in the Plans or brought into operation in accordance with the provisions of the present Agreement, or proposes to put into operation a broadcasting station not appearing in the Plans, the following action shall be taken:

20 1.1.1 If the distances from the station under consideration to the nearest points of the boundaries of other countries, the Administrations of which are Contracting Administrations, are less than the limits corresponding to the proposed power of the station and other characteristics specified in Annex 1, the Administrations of those countries shall be consulted by registered post.

21 1.1.2 In effecting this consultation the Administration proposing the change shall furnish all the information specified in Appendix 1, Section A, of the Radio Regulations, together with the effective height of the antenna as defined in Annex 2 to the Agreement, its directional characteristics and the polarization of radiation. The Administrations that are being consulted may request any other information they need to assess the probability of harmful interference to their own services.

22 1.1.3 If agreement is reached between the Administrations concerned, the Administration proposing the change may proceed with its project. Administrations which have been consulted and have not replied within **ten weeks** following the date of registration of the consultation letter in the post of the country of origin shall be reminded by urgent telegram. Administrations which have not replied within **two weeks** following the despatch of the urgent telegram shall be considered to have agreed to the proposed change.

23 1.1.4 If no agreement is reached between the Administrations concerned, the I.F.R.B. shall make any technical examination that may be requested by the Administration proposing the change, or by Administrations whose services may be affected by the proposed change, and shall inform them of the results of such examination.

24 1.2 The Administration proposing the change may proceed with its project without consulting other Administrations if:

25 *a)* the proposed modification relates to a reduction in power or to other changes of technical characteristics which would reduce the probability of harmful interference to services of other countries, or

26 *b)* the distances from the station under consideration to the nearest points of the boundaries of other countries, the Administrations of which are Contracting Administrations, are equal to or greater than the limits corresponding to the proposed power of the station and other characteristics specified in Annex 1.

27 1.3 In the cases referred to in sub-paragraph 1.1.3 and paragraph 1.2 above, the Administration proposing the change shall inform the I.F.R.B. of the particulars specified in sub-paragraph 1.1.2 above and, where appropriate, of the names of the countries consulted.

28 1.4 The I.F.R.B. shall publish the information in a special section of its weekly circular, specifying either that the proposed change is the result of consultation carried out under the provisions of sub-paragraphs 1.1.1, 1.1.2 and 1.1.3 above, or that it is being effected under the provisions of paragraph 1.2 above.

2 *Procedures in the Frequency Bands 162-174 Mc/s, 216-230 Mc/s, 582-606 Mc/s and 790-960 Mc/s*

2.1 *Procedure for Broadcasting Stations*

29 2.1.1 Any Contracting Administration proposing to change the technical characteristics of any of its broadcasting stations appearing in the Plans or to operate broadcasting stations not appearing in the Plans, shall first inform the I.F.R.B., furnishing the technical information specified in sub-paragraph 1.1.2 above.

30 2.1.2 The I.F.R.B. shall publish this information in a special section of its weekly circular, indicating that comments on such information should be sent directly to the Administration originating the proposal.

31 2.1.3 Such comments must be received by the Administration originating the proposal within the twelve weeks following the date of the weekly circular in question. Administrations which have not furnished such comments within this period shall be considered to have agreed to the proposed change.

32 2.1.4 If no comments have been received at the expiry of the period of twelve weeks referred to in sub-paragraph 2.1.3 above, or if agreement has been reached with the Administrations making these comments, the Administration proposing the change may proceed with its project, and shall inform the I.F.R.B. in the manner specified in paragraph 1.3 above.

2.2 *Procedure for Stations of Services other than Broadcasting*

33 For stations of services other than broadcasting, the provisions of the Radio Regulations shall apply, taking into account the categories of service and allocations specified in Article 5 thereof. Contracting Administrations proposing to change the technical characteristics of such stations or to establish new stations of such services shall take into account the broadcasting stations appearing in the Plans or brought into use in accordance with this Agreement and shall do so after reaching mutual agreement with the Administrations that may be concerned.

3. *Procedure common to all Frequency Bands*

34 3.1 The Secretary-General shall be informed by the I.F.R.B. of all changes made in the Plans in application of the provisions of Sections 1 and 2 above.

35 3.2 If a change, although made in accordance with the provisions of Sections 1 and 2 above, causes harmful interference to services of other Contracting Administrations, the Administration which has made the change shall take the requisite action to eliminate such interference.

(Art. 4-10) 4

36 3.3 If, after application of the procedure defined in sub-paragraphs 1.1.1, 1.1.2 and 1.1.3 on the one hand, and paragraphs 2.1 and 2.2 on the other hand, no agreement has been reached between the Administrations concerned, recourse may be had to the procedures defined in Article 15 of the Radio Regulations, or in Article 27 of the International Telecommunication Convention, Geneva, 1959, as the case may be.

ARTICLE 5

Notification of Frequency Assignments

37 Whenever an assignment in conformity with the Plans or for which the procedure prescribed in Article 4 of the present Agreement has been applied, is put into service, the Administration concerned shall notify this assignment to the I.F.R.B. in accordance with the provisions of Article 9 of the Radio Regulations.

ARTICLE 6

Accession to the Agreement

38 1 The Administration of any Member of the Union in the European Broadcasting Area which has not signed this Agreement may accede thereto at any time. Such accession shall be made without reservation. The Secretary-General shall be notified thereof, and he shall inform the other Members of the Union in the European Broadcasting Area.

39 2 Accession shall take effect on the date the notification of accession is received by the Secretary-General.

ARTICLE 7

Termination of Participation in the Agreement

40 1 Any Contracting Administration shall have the right at any time to terminate its participation in the Agreement by a communication sent to the Secretary-General, who shall inform the other Members of the Union in the European Broadcasting Area.

41 2 Such termination of participation shall take effect after a period of one year from the date of receipt, by the Secretary-General, of the said communication.

ARTICLE 8

Revision of the Agreement

42 No revision of the Agreement shall be undertaken except by an Administrative Conference of the Members of the Union in the European Broadcasting Area, convened in accordance with the procedure laid down in the International Telecommunication Convention.

ARTICLE 9

Effective Date of the Agreement

43 The Agreement shall enter into force on 1 September, 1962.

ARTICLE 10

Abrogation of the European Broadcasting Agreement, Stockholm, 1952

44 The present Agreement shall abrogate and replace the European Broadcasting Agreement, Stockholm, 1952, and the Plans annexed thereto.

ARTICLE 11

Scope of Application of the Agreement

45 1 The present Agreement shall bind Contracting Administrations in their relations with one another but does not bind those Administrations with non-Contracting Administrations.

46 2 If an Administration makes reservations with regard to any provision of the present Agreement, other Administrations shall be free to disregard the said provision in their relations with the Administration which has made such reservations.

ARTICLE 12

Approval of the Agreement

47 Administrations shall notify their approval of this Agreement, as promptly as possible, to the Secretary-General who shall at once inform the other Members of the Union in the European Broadcasting Area.

In witness whereof, the undersigned Delegates of the Administrations of the countries mentioned above have, on behalf of their respective Administrations, signed the present Agreement in a single copy in the French, English and Spanish languages, in which, in case of dispute, the French text shall be authentic. This copy shall remain in the archives of the Swedish Administration, which shall forward one certified true copy to each signatory Administration and to the Secretary-General.

Done at Stockholm, 23 June, 1961.

ANNEX 2

PROCEDURE OF ARTICLE 4 OF THE STOCKHOLM, 1961, AGREEMENT FOR MODIFICATION OF A PLAN IN THAT AGREEMENT

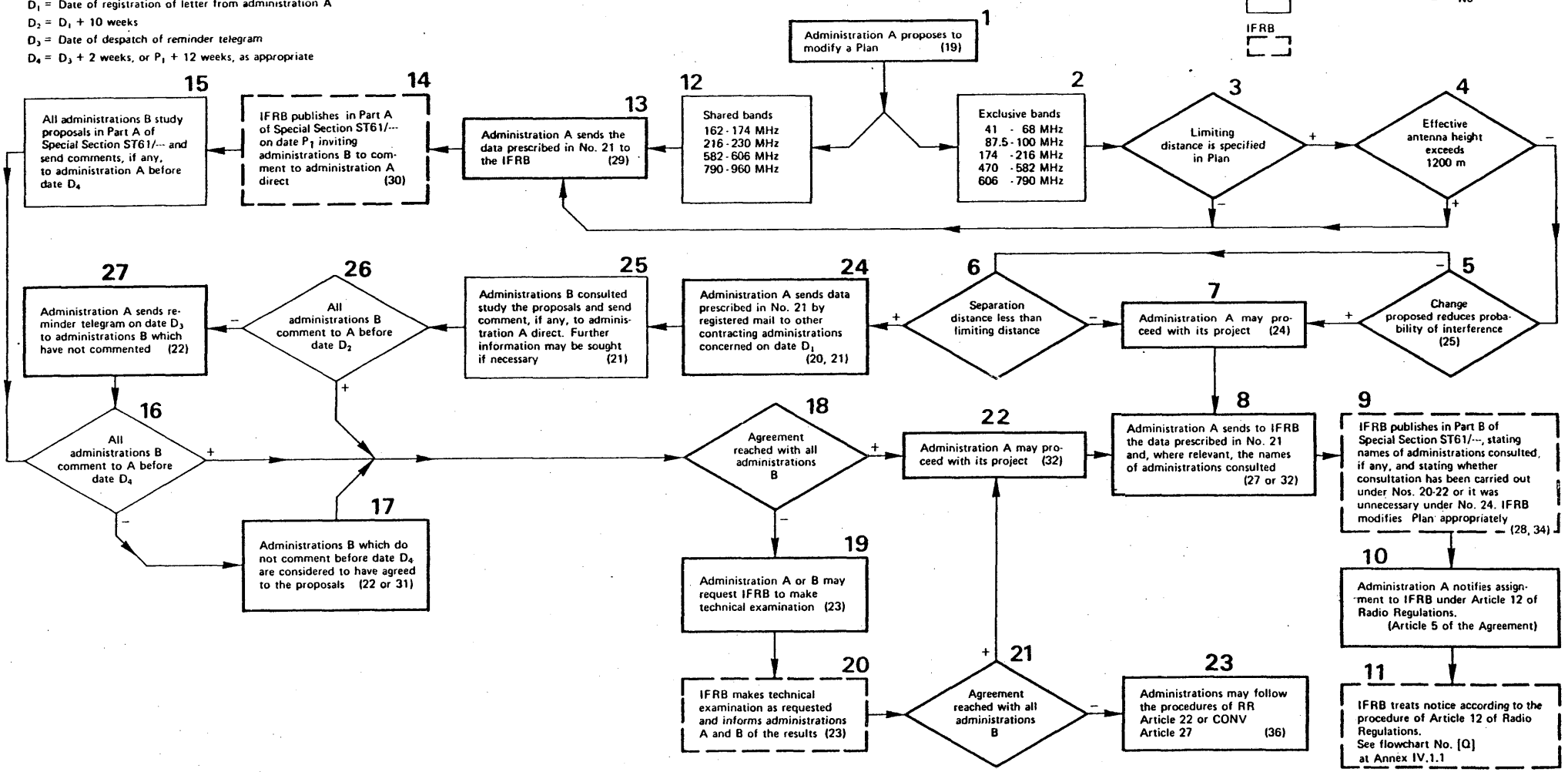
THIS FLOWCHART IS ISSUED AS AN AID TO UNDERSTANDING AND DOES NOT FORM PART OF THE RADIO REGULATIONS

FLOWCHART No. [R]
ANNEX IV.5.1
(See IV.5.4.3)

Note: All references are to provisions of Article 4 of the Stockholm, 1961, Agreement unless stated otherwise

P_1 = Date of publication in Part A of Special Section ST61/··· of weekly circular
D_1 = Date of registration of letter from administration A
D_2 = D_1 + 10 weeks
D_3 = Date of despatch of reminder telegram
D_4 = D_3 + 2 weeks, or P_1 + 12 weeks, as appropriate

Action by:
Administration A
Administration B
IFRB
+ = Yes
– = No



INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/21-E
7 November 1984
Original : English

WORKING GROUP 4C

NOTE BY THE CHAIRMAN OF WORKING GROUP 4C

The Working Group 4C, at its second meeting on 7 November 1984, established an ad hoc Group to prepare draft guidelines for the preparation of the Plan by the countries concerned. This draft is annexed for the consideration of the Group 4C.

H. AL-KINDY
Chairman

Annex : 1

ANNEX

GUIDELINES FOR PLANNING IN THE FM BAND IN THE AREA
FROM THE SHATT-AL-ARAB TO AND INCLUDING THE GULF OF OMAN

1. The CCIR has included in its report to the Second Session of the FM Conference a method for calculating interferences in the FM band for the area under consideration. This method was adopted in the meeting of IWP 5/5 held early May 1984 in Geneva.

2. Based on this method, the Administrations of Iraq* and Iran have undertaken two studies for interference calculations of FM requirements of the countries concerned. It was found from the results of both calculations that the levels of interference in the area are so high that any coordination criteria would be impossible to implement unless dramatic changes and modifications are made on the requirements.

3. An area should be covered from one site for a specific programme. To begin with, a nuisance field strength in the order of 60 dB μV/m may be used for that purpose.

4. The directivity of transmitting antennas should be such that only the required coverage areas are achieved. The use of non-directional antenna patterns should be kept to a minimum.

4.1 The topographic factors can be taken care of in the bilateral or multilateral coordination.

5. In order to reduce co-channel interferences, the maximum number of frequencies at each site should be limited to (3) three.

6. With regard to the lattice points which are located around or at the border lines or in the sea, it is concluded that :

a) those points which are located within the territory of any administration concerned should be used by that administration only;

b) those points which are located right on the border of any administration or a group of administrations should be shared by the administrations concerned;

c) those points which are located in the sea within a distance of about 40 km from any administration's territory can be used by that administration(s) only.

7. For all the stations which are located within a distance of 200 km from the sea, § 5 referred in above shall be applied.

8. Those points which are located in the sea beyond a distance of about 40 km and have not been used by the administrations, can be utilized for those stations which are co-channels or adjacent channels, and which suffer high levels of interference.

9. To consider the range at the end of the FM band from 106.2 - 107.9 (18 frequencies) may be used for low-power channels (those whose effective radiated power is less than 100 Watts).

This measure is meant also to protect the aeronautical services. It is imperative that the rest of the band can also be used for low-power channels.

10. Cross-polarization discrimination should not be used during planning, except if relevant and necessary.

INTERNATIONAL TELECOMMUNICATION UNION
REGIONAL BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1984

Document DT/22(Rev.1)-E
12 November 1984
Original : English

TECHNICAL WORKING GROUP
OF THE PLENARY

Draft

FIRST [AND FINAL] REPORT
OF SUB-WORKING GROUP PL/C

The Sub-Working Group PL/C held five meetings to discuss Documents 6, 35 and 67 + Add.1, in which some additions were proposed to the report of the first session, with the following results :

1. Proposal concerning wideband transmissions (Document 6)

In a spirit of compromise, the French delegation accepted that column 4 of Table 2 shown in the above-mentioned document will not appear in the Final Acts of this Conference on the understanding that the figures contained in that column should be used in bilateral or multilateral discussions between administrations concerned in order to enable the normal operation of the wideband transmissions in the land mobile service.

2. Proposal concerning antenna height factors (Document 35)

The method and criteria concerning antenna height factors, to be used for coordination between administrations between the broadcasting and land mobile and fixed services, are to be agreed by the administrations concerned and should be based where possible on the latest relevant CCIR Recommendations.

The United Kingdom delegation reserved its position on this conclusion.

3. Document 67 and Addendum 1

The Sub-Working Group considered the values in the above-mentioned document and [agreed on the following :

The field strengths of the interfering broadcasting station shall not be greater than those given in the table below.

Frequency separation between BC station and aeronautical mobile (OR) station	dBµV/m at an altitude of 10,000 metres
0	20
50	34
100	58
150	90

]

4. Resulting from a suggestion of the IFRB to state some values above which coordination may be necessary, if the Conference decides that such a procedure would be desirable, the Sub-Working Group established the technical limits which might be taken into consideration when coordination is required in the case of a proposed modification to the Plan (see Annex 1).

To show the consequences resulting from the application of the technical limits as mentioned in Annex 1, examples are given in Annex 2.

The delegations of Norway and Denmark reserved their position on the technical limits for the aeronautical mobile (OR) service and also on the column relating to the distances concerning the aeronautical mobile (OR) service of Annex 2.

The delegation of Italy reserved its position on Annex 1 and Annex 2.

G.H. VAN DE SCHOOT
Chairman of the
Technical Sub-Working Group PL/C

Annexes : 2

ANNEX 1

TECHNICAL LIMITS WHICH MIGHT BE TAKEN INTO CONSIDERATION FOR DETERMINING WHEN COORDINATION IS REQUIRED IN THE CASE OF A PROPOSED MODIFICATION TO THE PLAN

1. Limits relating to the land mobile service

For broadcasting stations using horizontal polarization : 18 dB(μ/Vm) and for broadcasting stations using vertical polarization : 0 dB(μV/m), both calculated at an antenna height of 10 m above ground and assuming that the land mobile service is vertically polarized.

This field strength will be based on the curves appearing in Annex [ ], (50% of locations and 10% of time). (See Figures 2.3, 2.4 and 2.5 of Document 61.)

For mixed paths the calculation method as described in § 2.1.3.4 of Document 61 will be applied.

2. Limits relating to the fixed service

For broadcasting stations : 0 dB(μV/m), calculated at an antenna height of 10 m above ground.

This field strength will be based on the curves appearing in Annex [ ], (50% of location, 10% of time). (See Figures 2.3, 2.4 and 2.5 of Document 61.)

For mixed paths the calculation method as described in § 2.1.3.4 of Document 61 will be applied.

3. Limits relating to the aeronautical mobile (OR) service

20 dB(μV/m) at an altitude of 10,000 metres. This field strength is based on free space propagation.

ANNEX 2

e.r.p. of broadcasting station/ antenna height	Distance (km) between a broadcasting station and a station in the land mobile service				Field strength dB(μV/m) for aeronautical (OR) at line-of-sight distance
	BC vertically polarized	BC horizontally polarized	Fixed service	Aeronautical mobile (OR) service	
1	2.1	2.2	3	4	5
100 kW/1,200 m	630*	430*	630*	550**	72
1 kW/ 150 m	330*	160*	330*	460*	54
100 W/ 75 m	230*	90*	230*	445*	44

* Based on the technical limits of Annex 1 to this document

** Line-of-sight distance
(effective Earth's radius is 4/3 of the actual radius)

Note : Columns 2 and 3 are based on the propogation curve shown in Figure 2.3 of Document 61.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/22-E
8 November 1984
Original : English

TECHNICAL WORKING GROUP
OF THE PLENARY

FIRST REPORT OF SUB-WORKING GROUP PL/C

After lengthy discussions, the following conclusions were reached.

1. Proposal concerning wideband transmissions (Document 6)

In a spirit of compromise, the French delegation accepted that column 4 of Table 2 shown in the above-mentioned document will not appear in the Final Acts of this Conference on the understanding that the figures contained in that column should be used in bilateral or multilateral discussions between administrations concerned in order to enable the normal operation of the wideband transmissions.

2. Proposal concerning antenna height factors (Document 35)

The following conclusion was adopted with one reservation from the United Kingdom delegation :

> The method and criteria to be used for coordination between administrations within the broadcasting and land mobile services be agreed by the administrations concerned and should be based on the latest relevant CCIR Recommendations.

G.H. VAN DER SCHOOT
Chairman of the
Technical Sub-Working Group PL/C

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/23-E
8 November 1984
Original : English

WORKING GROUP 4D

Note by the Chairman of the Working Group 4D

REQUIREMENTS OF THE MONGOLIAN PEOPLE'S REPUBLIC

Due to difficulties in communications the Administration of the Mongolian People's Republic could not present its requirements to the Conference at the date decided by the Conference. The only requirements appearing in the inventory for Mongolia are those entered by the IFRB. The Conference is requested to kindly accept the attached requirements in place of those at present in the inventory. The only administration which is likely to be affected is the USSR which informed us that these requirements do not raise any major objections. Should there by any incompatibility with stations of the USSR, these incompatibilities will be resolved during the Conference. The detailed forms will be given to the Secretariat.

A. WITHAM
Chairman of Working Group 4D

Channel	Name	Coordinates	e.r.p. kW	HEFF m
17,37,51	ULGII	90E00, 48N55,	60,	150
2,27,72	ULANGOM	92E00, 50N00,	60,	150
1,55,75	HOVD	91E40, 48N00,	20,	150
7,32,52	ULIASUTAI	97E17, 47N20,	20,	150
10,30,64	MUREN	100E05, 49N35,	60,	150
13,47,67	BAJANHONGOR	100E400, 45N56,	60,	200
15,40,60	BULG-N	103E36, 48N48,	20,	150
16,36,70	DARHAN	104E00, 46N00,	60,	150
13,39,53	ARVAIHER	102E30, 48N10,	20,	150
20,31,65	ULAN-BATOR	107E00, 48N00,	100,	250
11,36,70	DZUN-MOD	107E00, 49N45,	20	150
10,30,64	ALTAI	96E34, 46N13,	60,	150
8,19,53	MANDALGOVI	106E10, 45N50,	20,	200
4,18,38	DALANZADGAD	104E30, 43N50,	60,	200
8,22,67	TCHOIBOLSAN	114E30, 48N06,	30,	200
34,59,79	UNDERHAN	110E50, 47N20,	20,	150
20,45,79	BARUN-URT	113E15, 46N40,	60,	200
2,27,47	SAIN-SHANDA	110E06, 44N54,	60,	200
4,24,49	ERDENET	104E00, 49N00,	60,	150
1,55,69	TSETSERLIG	101E30, 47N31,	60,	150
20,40,74	SUKHE-BATOR	106E18, 50N12,	20,	150
4,38,63	BULAGAN	91E20, 46N05,	20,	200
24,49,69	BARUN-TURUN	94E05, 49N50,	20,	150
14,34,68	TOSONTSENGEL	98E05, 49N00,	20,	150
1,10,55	DZUN-KHARA	106E30, 48N40,	20,	150
3,28,48	BAGA-NUR	108E35, 47N35,	20,	150
20,45,65	SUMVER	118E35, 47N30,	20,	200
3,23,37	AIRAG	109E10, 45N40,	20,	150
23,48,68	BOGD	100E45, 45N00,	20,	150
14,34,59	HATGAL	100E05, 50N45,	20,	150

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/24-E
8 November 1984
Original : English

PLANNING GROUP 4D

DRAFT FIRST REPORT TO COMMITTEE 4

1. Planning Group 4D has held three meetings and has set up three Coordinating Groups dealing respectively with the north-eastern, western and south-eastern parts of the planning area. These Groups are working informally under the guidance of three coordinators, namely,

4DN Mr. S. Hess (Denmark)

4DW Mr. J. Doeven (Netherlands)

4DS Mr. L. Oreŝkovič (Yugoslavia)

The countries mainly involved in each Group are as follows :

4DN - D, DNK, FNL, NOR, POL, DDR, S, URS

4DW - D, BEL, CVA, F, IRL, I, LIE, LUX, MCO, HOL, G, SMR, SUI

4DS - AFG, ALB, D, AUT, BUL, GRC, HNG, IRN, MNG, ROU, TCH, TUR

2. Since certain countries are also involved in other Planning Groups, it has been decided to establish a limit to the planning area on the southern side in the following way.

The boundary line crosses France along the line Bordeaux-Avignon-Toulon. It then passes between the Islands of Corsica and Sardinia and crosses Italy along the line Naples-Taranto. From that point it passes to the south of Greece and Crete and crosses Turkey along the line of the Toras mountains from Antalya to the point where Turkey meets both Iraq and Iran (Islamic Republic of). Finally it crosses Iran (Islamic Republic of) to the corresponding point where it meets both Afghanistan and Pakistan.

3. In accordance with the terms of reference contained in Document DT/9(Rev.2), coordination will be necessary with Planning Groups 4C and 4B if unresolved problems overlap the line described above. This matter has been discussed and agreed with the Chairmen of the other two Groups concerned. The line has been drawn in such a way as to minimize the number of such problems.

4. Coordination is proceeding between many delegations on a bilateral or multilateral basis and useful results are already being obtained.

A.L. WITHAM
Chairman

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/25(Rev.1)-E
9 November 1984
Original : French

PLANNING GROUP 4A

Draft

FIRST REPORT TO COMMITTEE 4

The Working Group 4A has held three formal meetings during which the following action was taken :

1) the Group noted the organization of work outlined in Document DT/9;

2) the procedure of work outlined in Document DT/10 was discussed and after an exchange of views the Group agreed to complete Form 1 for all cases where negotiations were necessary;

3) the Group was then divided into three Sub-Groups with the following membership :

Sub-Group	Participants and countries involved							Coordinator
4A1	ALG	ARS	DJI	EGY	ETH	LBY	MLI	Saudi Arabia
	MTN	NGR	SDN	TCD	YEM	YMS		
4A2	MTN	MLI	NGR	TCD	SEN	GMB	GNB	Burkina Faso
	GUI	SRL	ASC	HVO	LBR	GHA	TGO	
	BEN	NIG	STP	GNE	CME	CPV	GAB	
	COG	ZAI	RRW	BDI	AGL	SHN	CTI	
	CAF							
4A3	SDN	ETH	DJI	UGA	KEN	SOM	ZAI	Botswana
	RRW	BDI	TZA	ZMB	MWI	NMB	BOT	
	SWZ	MOZ	LSO	SWZ	COM	MYT	MDG	
	MAU	SEY	REU	ZWE				

4) the Group also agreed that a minimum nuisance field strength of 60 dB(μV/m) should be applied as the minimum figure below which delegations would not enter objections in Form 1. Nevertheless, the countries were left free to agree on the figures which they deemed suitable for their areas.

J. NGARUIYA
Chairman of Working Group 4A

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/25-E
9 November 1984
Original : English

WORKING GROUP 4A

Draft

FIRST REPORT TO COMMITTEE 4

The Working Group 4A has held three formal meetings during which the following actions were taken :

1) the Group noted the organization of work as outlined in Document DT/9;

2) the procedure of work as outlined in Document DT/10 was discussed and after exchange of views the Group agreed to complete Form 1 for all cases where negotiations are necessary;

3) the Group was then divided into three Sub-Groups with the following membership :

Sub-Group	Participants and countries involved							Coordinator
4A1	MTN	ALG	MLI	TCD	SDN	EGY	ARS	Saudi Arabia
	YEN	ETH						
4A2	MTN	MLI	NGR	TCD	SEN	GMB	GNB	Burkina Faso
	GUI	SRL	GUI	HVO	LBR	GHA	TGO	
	BEN	NIG	STP	GNE	CME	CAP	GAB	
	COG	ZAI	RRW	BDI	AGL	SHN		
4A3	SDN	ETH	DJI	UGA	KEN	SOM	ZAI	Botswana
	RRN	BDI	TZA	ZMB	MWI	NMB	BOT	
	SWE	MOZ	LSO	SWZ	COM	MYT	MDG	
	MAU	SEY	REU					

4) the Group also agreed that a minimum interference field strength of 60 dB(μV/m) should be applied as the minimum figure below which delegations will not enter objection in Form I. Nevertheless, the countries were left free to agree on the figures which they deemed suitable for their areas.

J. NGARUIYA
Chairman of Working Group 4A

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/26(Rev.1)-E
14 November 1984

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

1. In accordance with the timetable established by the Conference (Document 78), Forms 2 were circulated to delegations on Monday, 12 November 1984. It is recalled that stations entered with their serial numbers at the top of Form 2 are the ones on which agreement is required. To this end, the administrations responsible for such stations must obtain the signature(s) of the administration(s) mentioned in the left-hand column of Form 2.

2. At its meeting on Monday, 12 November, Committee 4 decided to include in Form 2 information concerning the reduction in radiation in a given sector. This information was included in the Forms published. It was found, however, that difficulties might arise from the fact that radiation in a given direction will be shown differently in the inventory of requirements (attenuation in relation to the maximum effective radiated power) and in Form 2 (maximum effective radiated power in a given sector).

Consequently, delegations are requested to replace the heading RAD MAX-dB column in the Forms 2 circulated by the heading "Attenuation dB". For instance, in the case of a station with an omnidirectional antenna having an effective radiated power of 100 kW, for which it is agreed to reduce the power to 25 kW in the sector 110° - 150° (corresponding to an attenuation of 6 dB), Form 2 should be completed as follows :

Azim. 1	Azim. 2	~~RAD-MAX-dB~~ Attenuation dB
110°	150°	6

3. The second version of Form 2, to be circulated on Monday, 19 November, will be modified accordingly.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/26-E
13 November 1984
Original : French

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

1. In accordance with the timetable established by the Conference (Document 78), Forms 2 were circulated to delegations on Monday, 12 November 1984. It is recalled that stations entered with their serial numbers at the top of Form 2 are the ones on which agreement is required. To this end, the administrations responsible for such stations must obtain the signature(s) of the administration(s) mentioned in the left-hand column of Form 2.

2. At its meeting on Monday, 12 November, Committee 4 decided to include in Form 2 information concerning the reduction in radiation in a given sector. This information was included in the Forms published. It was found, however, that difficulties might arise from the fact that radiation in a given direction will be shown differently in the inventory of requirements (loss in relation to the maximum effective radiated power) and in Form 2 (maximum effective radiated power in a given sector).

Consequently, delegations are requested to replace the heading RAD MAX-dB column in the Forms 2 circulated by the heading "Loss dB". For instance, in the case of a station with an omnidirectional antenna having an effective radiated power of 100 kW, for which it is agreed to reduce the power to 25 kW in the sector 110° - 150° (corresponding to a loss of 6 dB), Form 2 should be completed as follows :

Azim. 1	Azim. 2	~~RAD MAX dB~~ Loss dB
110°	150°	6

3. The second version of Form 2, to be circulated on Monday, 19 November, will be modified accordingly.

INTERNATIONAL TELECOMMUNICATION UNION
REGIONAL BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1984

Document DT/27-E
13 November 1984
Original : English

WORKING GROUP 5A

NOTE RELATING TO THE AERONAUTICAL RADIONAVIGATION SERVICE

1. In accordance with the provision of No. 56 of the Convention, "The agenda of a regional administrative conference may provide only for specific telecommunication questions of a regional nature ...". Item 2.1 of the agenda of this Conference stipulates that the Conference has "to prepare an agreement and an associated frequency assignment plan for the sound broadcasting stations in the band 87.5 - 108 MHz ...". The agreement being limited to the broadcasting service (sound) in the band 87.5 - 108 MHz can in no way contain provisions to be applied by another service, the aeronautical radionavigation service, in another frequency band, the band 108 - 117.975 MHz.

2. However, the Conference was requested to prepare a plan "... taking account of the need to ensure adequate protection to stations of the aeronautical radionavigation service in the band 108 - 117.975 MHz". To this effect, the Conference requested the countries of the region to be planned to communicate the characteristics of their aeronautical radionavigation stations to be taken into account during the planning process; subsequently, the Conference received information relating to approximately 2,000 such stations, however, there is no indication which distinguishes between stations already in use and those stations at the planning stage.

3. The Conference is taking the necessary action in order to afford the appropriate protection to the radionavigation stations. However, the continuing operation of broadcasting stations and aeronautical radionavigation stations free of mutual interference cannot be covered solely by procedures developed at this Conference; the use of the band 108 - 117.975 MHz by stations of the aeronautical radionavigation service can only be determined by a competent administrative radio conference. Thus, this Conference in developing the broadcasting plan can provide protection to aeronautical radionavigation stations, existing and planned, but it cannot develop procedures which impose restrictions on the use of the band 108 - 117.975 MHz by the aeronautical radionavigation service. Clearly, the future introduction of new aeronautical radionavigation stations could result in those stations being subject to interference from broadcasting stations operating, or planned to operate, in accordance with the Plan being developed at this Conference. The resolution of these difficulties can only be finalized at a competent conference providing the necessary action is taken by this Conference. The next administrative radio conference that may be requested to consider this matter, subject to consideration by the Administrative Council is the World Administrative Radio Conference to deal with mobile services which is planned in 1987.

4. Article 12 of the Radio Regulations can be of no assistance in resolving the difficulties described above for the following reasons :

a) while the notification of individual stations is mandatory for the broadcasting service, it is not the case for the radionavigation service (see RR1223 and RR1224);

b) the action of the Board in this case is limited to the examination of notices with respect to their conformity with the Radio Regulations. The evaluation of interference can be made only at the request of an administration (see RR1244);

c) in making such examination, the Board should take into consideration the assignments recorded in the MIFR i.e. which are in use or intended to be brought into use within 90 days; thus, only part of the entries in the broadcasting plan will be considered.

5. There is however a need :

a) to have the list of the aeronautical radionavigation stations used during the planning process formally included in an ITU basic text in order that administrations use the the aeronautical radionavigation service in accordance with this list;

b) to have a procedure to be applied by the broadcasting administrations when modifying the plan in order to protect the aeronautical radionavigation service; and, to this effect, there is a need to know what modifications were entered in the list referred to in a) above;

c) to have a procedure to be adopted by a competent conference applicable to the aeronautical radionavigation stations.

6. The following action is suggested in order to overcome the difficulties with the relationship between the broadcasting service and aeronautical radionavigation service.

6.1 The Conference may adopt a Recommendation to administrations stating that it adopted a Plan affording appropriate protection to the aeronautical radionavigation stations listed in an annex to that Recommendation; the administrations shall be requested to use their aeronautical stations in accordance with that list, in order to avoid any interference that may be caused by the broadcasting service.

6.2 The Conference may adopt a Recommendation to the WARC Mobile 1987 requesting it to consider a form in which a list of aeronautical radionavigation stations be given a status permitting it to be protected against modifications to the BC Plan, it should also consider the coordination that new radionavigation stations should apply in order to be protected against modifications to the Plan.

6.3 The Conference may adopt a Recommendation to the Administrative Council in order to include this matter in the agenda of WARC 1987.

6.4 With the understanding that the above Recommendation will be followed by the appropriate organs of the ITU, the Conference may adopt the following decisions.

6.4.1 A procedure of modification to the Plan that will protect those aeronautical radionavigation stations which will appear in any list that may be adopted by WARC 1987.

6.4.2 A Resolution of interim nature in order to apply the above procedure to the aeronautical radionavigation station until the date of entry into force of the decisions of the WARC 1987.

6.4.3 A Resolution by which a collective request is made to the IFRB in accordance with RR1244 to examine new aeronautical radionavigation stations using the criteria adopted at this Conference.

S.M. CHALLO
Chairman of Working Group 5A

INTERNATIONAL TELECOMMUNICATION UNION
REGIONAL BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1984

Document DT/28-E
13 November 1984
Original : English

WORKING GROUP 5A

DRAFT NOTE TO THE TECHNICAL WORKING GROUP OF THE PLENARY

1. Working Group 5A has decided that:

Any administration proposing a change in the characteristics of an assignment or the bringing into use of a new assignment shall seek the agreement of any other administration, if the distance from the station under consideration to the nearest point of the boundary of the country of that administration is less than the limits corresponding to the proposed power of the station.

Tables of distances should be provided, to be used for the determination of administrations, the agreement of which is requested.

2. Working Group 5A has also decided that a given increase of the usable field strength should permit administrations to give their agreement without necessarily carrying out detailed calculations.

The Technical Working Group of the Plenary is requested to provide the value to be used in the procedure.

Note - It is to be noted that, proposal G/36/7 foresees the adoption of a limit for the resulting usable field strength; while this matter was not yet considered by Working Group 5A, the Technical Working Group of the Plenary may give some consideration to it.

S.M. CHALLO
Chairman of Working Group 5A

INTERNATIONAL TELECOMMUNICATION UNION
REGIONAL BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1984

Document DT/29-E
14 November 1984
Original : French

COMMITTEE 4

Note by the Chairman of Committee 4

DRAFT FORMAT OF THE PLAN

A draft format of the Plan is proposed in the annex hereto. It reflects discussions and suggestions from various delegations and takes account of the need for the Plan to be available in printed form so that it can be read in the Plenary Meeting.

This format enables the following information to be accommodated on the same line (see Annex 2):

- the basic characteristics of a station;
- four sectors of restricted radiation (data resulting from agreements between administrations or obtained from box 32 of the inventory of requirements);
- a remarks column for notes to the Plan.

This layout would also enable the number of pages printed to be kept at a minimum.

If this format were used, the Plan would comprise some 450 pages (both sides); in other words, it would already be quite voluminous. Moreover, it is proposed that neither the characteristics relating to effective antenna height (box 31B) nor the antenna characteristics (box 32) should be published in printed form, since that would require about 1,000 pages more. If this proposal were to be adopted, the data in question would be published in microfiche form.

Dr. I. STOJANOVIC
Chairman of Committee 4

Annexes: 2

ANNEX 1

DRAFT FORMAT OF THE PLAN

Basic characteristics of stations in the Plan

(excluding information on directive antennas and effective antenna height for different azimuths, to be published as microfiches)

Column	
1.	**IFRB serial number**
2.	**Assigned frequency (MHz)**
3.	**Country symbol**
4.	**Name of station**
5.	**Symbol of the geographical** area in which the station is located **(see Table 1 of the International Frequency List)**
6.	Geographical coordinates, in degrees and minutes, of the antenna site
6.1	Longitude (in degrees and minutes)
6.2	Latitude (in degrees and minutes)
7.	**Polarization**
8.	**Total effective radiated power (dBW)**
9.	**Maximum effective radiated power** in the horizontal plane (dBW)
10.	**Maximum effective radiated power** in the vertical plane (dBW)
11.	**Directivity (ND or D)**
12.	Maximum effective antenna height (m)
13.	**System**
14.	Sectors or directions of restricted e.r.p. (in degrees)
14.1	**Sector No. 1**
14.2	**Sector No. 2**
14.3	**Sector No. 3**
14.4	**Sector No. 4**

15. **Attenuation in the sector** concerned (dB)

15.1 **Attenuation for sector No. 1**

15.2 **Attenuation for sector No. 2**

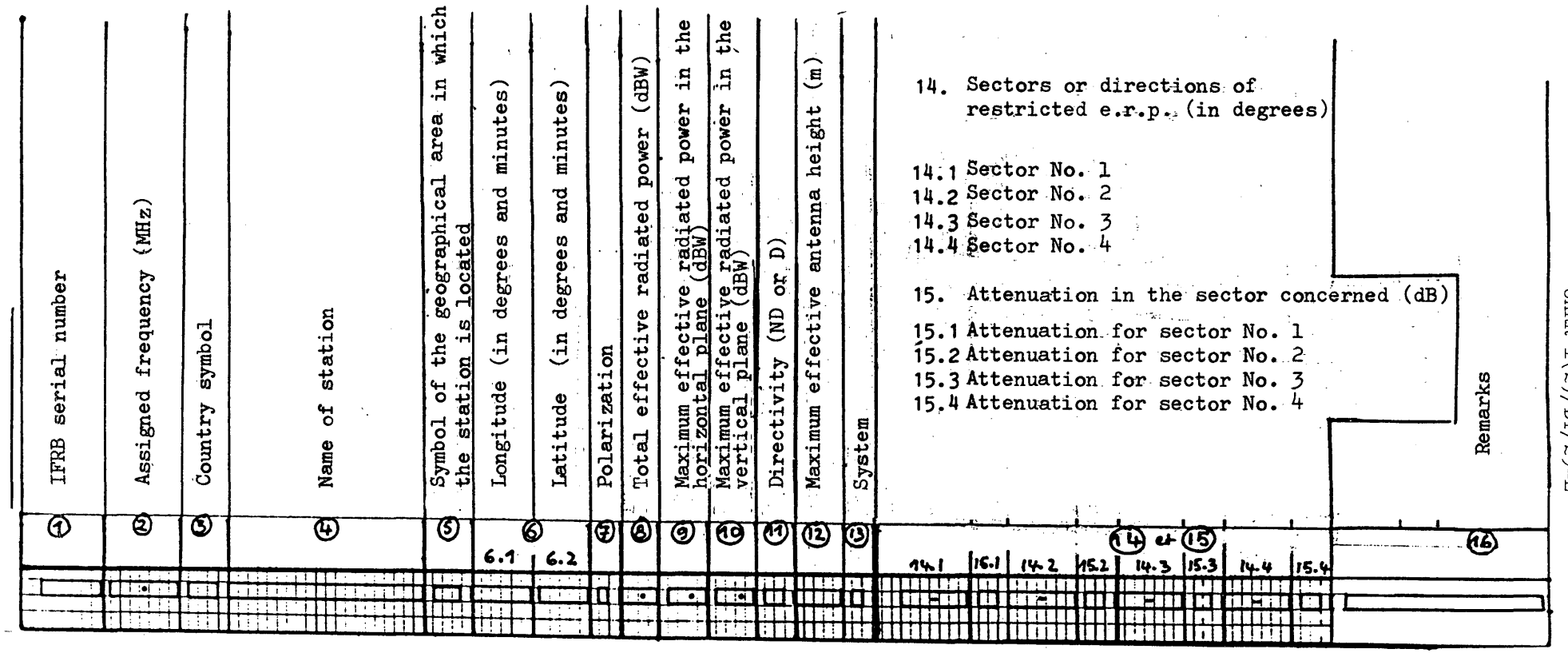
15.3 **Attenuation for sector No. 3**

15.4 **Attenuation for sector No. 4**

16. **Remarks**

ANNEX 2

DRAFT FORMAT OF THE PLAN



INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/30(Rev.1)-E
20 November 1984
Original: English

WORKING GROUP 5A

Draft

ARTICLE 3

Procedure for Modifications to the Plan

1. When a Contracting Member proposes to make a modification to the Plan, i.e. either :

- to change the characteristics of a frequency assignment to a broadcasting station shown in the Plan, whether or not the station has been brought into use, or
- to bring into use an assignment to a broadcasting station not appearing in the Plan, or
- to change the characteristics of a frequency assignment to a broadcasting station for which the procedure in this Article has been successfully applied, whether or not the station has been brought into use, or
- to cancel a frequency assignment to a broadcasting station,

the following procedure shall be applied before any notification is made under the provisions of Article 12 of the Radio Regulations (see Article 4 of this Agreement).

2. In the remainder of the present Article, the term "assignment in accordance with the Agreement means any frequency assignment appearing in the Plan or for which the procedure of this Article has been successfully applied.

[3. *Proposed Changes in the Characteristics of an Assignment or the Bringing into Use of a new Assignment*]

3.1 Any administration proposing to change the characteristics of an assignment appearing in the plan or to add a new assignment in the Plan shall obtain the agreement of any other administration whose [services] are likely to be affected.

3.2. The services of an administration are likely to be affected by a proposed modification to the Plan if the distance from the station under consideration to the nearest point of the boundary of the country of that administration is less than the limit indicated in [ ].

3.3 Administrations should preferably seek the agreement of other administrations directly or if not possible by applying the procedure contained in this article.

3.4 The agreement mentioned in 3.1 is not required if :

a) the proposed modification relates to a reduction in e.r.p. or to other changes which would reduce the level of interference to [services] of other countries;

b) the distances from the station under consideration to the nearest points of the boundaries of other countries, the Administrations of which are Contracting Administrations, are equal to or greater than the limits indicated in [ ].

[c) site tolerance to be eventually introduced.]

3.5 An administration proposing to modify the Plan shall communicate to the IFRB the information listed in /_ _/ and shall indicate:

a) **that the agreement referred to in 3.1 is not required with any administration, or otherwise,**

b) **the name of any administration which has already agreed to a proposed modification to the Plan on the basis of the characteristics communicated.**

3.6 **At the receipt of the information referred to in** 3.5 **above, the IFRB shall :**

a) **identify the administrations which are concerned in accordance with** 3.1;

b) **send immediately a telex** to those administrations identified in point a) above which have not yet given their agreement, drawing their attention to the information contained in the special section of the weekly-circular to be published, and indicating the nature of the modification to the Plan;

c) **publish, in a Special Section of the weekly-circular, the information received, together with the names of the administrations identified, indicating those,** whose agreement has been obtained.

4. Consultation of the administrations, whose stations may be affected

4.1 The Special Section of the IFRB weekly-circular, referred to in § 3.6 b), shall be considered as the formal request for agreement to those administrations whose agreement is still to be obtained.

4.2 Any administration which considers that it should have been included in the list of administrations whose frequency assignments are likely to be affected may, within /_A_/ days from the date of publication of the weekly-circular, request the IFRB by telex to include its name. A copy of the request shall be sent to the administration proposing the modification to the Plan. On receipt of the telex, the IFRB shall consider the matter and, if it finds that the name of this administration should have been included in the list, it shall :

- inform by telex the administrations concerned of its finding;
- publish the name of the administration in an addendum to the Special Section.

For such an administration, the overall period /_E_/ specified in 4.8 will run from the date of publication of the addendum to the Special Section.

4.3 An administration having received a telex from the IFRB sent in accordance with 3.6 above shall acknowledge receipt within /_B_/ days.

4.4 If at the expiry of /_B_/ days, the IFRB has not received an acknowledgement, it shall send a reminder telex and inform the administration that if no reply is received within /_C_/ days, this administration is deemed to have received the request for agreement.

4.5 On receipt of the Special Section of the IFRB weekly-circular referred to in 3.4 c), the administrations listed in it shall use the method contained in [ ]*, to calculate the increase in usable field strength at the transmitter site of their assignments which are in accordance with the agreement. An administration should normally give its agreement to the proposed modification if* :

- the resulting usable field strength is not greater than 54 dB(μV/m), or
- the resulting usable field strength is greater than 54 dB(μV/m), but is increased by 0.5 dB or less compared with the usable field strength resulting from the Plan [adopted by the Conference] or from its entry in the Plan, following the application of this article. An increase of more than 0.5 dB is open to negotiations, in which more detailed calculation methods may be used.

4.6 An administration receiving a telex from the IFRB sent in accordance with 3.6 or 4.2 may request it to calculate the increase in the usable field strength resulting from the proposed modification as indicated in 4.5 above.

4.7 An administration may ask the administration proposing the modification for the additional information it considers necessary to calculate the increase of the usable field strength. Similarly, the administration proposing the modification may ask any administration whose agreement it seeks for the additional information it considers necessary. The administrations shall inform the IFRB of such requests.

4.8 An administration which is not in a position to give its agreement to the proposed modification shall give its reasons within [E] days.

4.9 [D] days after the publication of the weekly-circular, the IFRB shall request by telex any administration which has not yet given its decision in the matter to do so and shall inform it that, if no reply is received within an overall period of [E] days following the date of publication of the weekly-circular, it is deemed to have agreed to the proposed modification to the Plan. This time limit may be extended by [F] in the case of an administration which has requested additional information or which has asked the Board to carry out technical studies.

4.10 If at the end of [E] there is continuing disagreement, the IFRB shall make any study that may be requested by these administrations; the Board shall inform them of the result of the study and shall make such recommendations it may be able to offer for the solution of the problem.

4.11 An administration may request the assistance of the IFRB in the following cases :

- in seeking the agreement of another administration;
- in applying any stage of the procedures described in this Article;
- in carrying out technical studies in relation to this procedure;
- in applying the procedure with respect to other administrations.

---

* Administrations may mutually agree upon the application of other methods and criteria.

5. Comments of other administrations

5.1 On receipt of the Special Section of the weekly-circular published pursuant to 3.6, administrations may send their comments to the administration proposing the modification either directly or through the IFRB. In any event the IFRB shall be informed that comments have been made.

5.2 An administration which has not notified its comments either to the administration concerned or to the IFRB within a period of [E] following the date of the weekly-circular referred to in 3.6 c) shall be understood to have no objection to the proposed change. This time limit may be extended by [F] in the case of an administration which has requested additional information.

6. *Cancellation of Assignments*

When an assignment in accordance with the Agreement is released, whether or not as a result of a modification (for instance a change of frequency), the administration concerned shall immediately so inform the I.F.R.B. The I.F.R.B. shall publish this information in a special section of its weekly circular.

7. Updating of the Plan

7.1 An administration which has obtained the agreement of the administrations whose names were published in the Special Section referred to in paragraphs 3.6 and 4.2, may bring the assignment under consideration into use and shall inform the IFRB, indicating the final agreed characteristics of the assignment together with the names of the administrations with which agreement has been reached.

7.2 **The IFRB shall publish in a special section of its weekly circular the information received under** 3.5 or 7.1 **together with the names of any administrations with which the provisions of this article have been successfully applied. With respect to Contracting Members, the assignment concerned shall enjoy the same status as those appearing in the Plan.**

7.3 The IFRB shall maintain an up-to-date master copy of the Plan, taking account of any modification, addition and deletion made in accordance with the procedure of this Article.

7.4 The Secretary-General shall publish an up-to-date version of the Plan in an appropriate form as and when the circumstances justify and in any case every three years.

8. Settlement of disputes

If, after application of the procedure described in this Article, the administrations concerned have been unable to reach agreement, they may resort to the procedure described in Article 50 of the Convention. Administrations may also agree to apply the Optional Additional Protocol to the Convention.

S.M. CHALLO
Chairman of Working Group 5A

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/30-E
14 November 1984
Original : English

WORKING GROUP 5A

First report of the Chairman of the ad hoc Group of 5A

DRAFT ARTICLE 3

Procedure for Modifications to the Plan

1. When a Contracting Member proposes to make a modification to the Plan, i.e. either :

   - to change the characteristics of a frequency assignment to a broadcasting station shown in the Plan, whether or not the station has been brought into use, or
   - to bring into use an assignment to a broadcasting station not appearing in the Plan, or
   - to change the characteristics of a frequency assignment to a broadcasting station for which the procedure in this Article has been successfully applied, whether or not the station has been brought into use, or
   - to cancel a frequency assignment to a broadcasting station,

the following procedure shall be applied before any notification is made under the provisions of Article 12 of the Radio Regulations (see Article 4 of this Agreement).

2. In the remainder of the present Article, the term "assignment in accordance with the Agreement means any frequency assignment appearing in the Plan or for which the procedure of this Article has been successfully applied.

3. *Proposed Changes in the Characteristics of an Assignment or the Bringing into Use of a new Assignment*

3.1 Any administration proposing a change in the characteristics of an assignment or the bringing into use of a new assignment shall seek the agreement of any other administration, if the distance from the station under consideration to the nearest point of the boundary of the country of that administration is less than the limits indicated in [ ].

3.2 The agreement mentioned in 3.1 is not required if :

a) the proposed modification relates to a reduction in e.r.p. or to other changes which would reduce the level of interference to services of other countries;

b) the distances from the station under consideration to the nearest points of the boundaries of other countries, the Administrations of which are Contracting Administrations, are equal to or greater than the limits indicated in [ ].

3.3 In seeking this agreement, the administration proposing to modify the Plan shall communicate to the IFRB the information listed in [ ] together with the name of any administration, whose agreement has already been obtained.

3.4 **At the receipt of the information referred to in** 3.3 **above, the IFRB shall :**

a) **identify the administrations which are concerned in accordance with** 3.1;

b) **send immediately a telex** to those administrations identified in point a) above which have not yet given their agreement, drawing their attention **to the information contained in the special section of the weekly-circular to be published, and indicating the nature of the modification to the Plan;**

c) **publish, in a Special Section of the weekly-circular, the information received, together with the names of the administrations identified, indicating those,** whose agreement has been obtained.

4. Consultation of the administrations, whose stations may be affected

4.1 The Special Section of the IFRB weekly-circular, referred to in § 3.4 b), shall be considered as the formal request for agreement to those administrations whose agreement is still to be obtained.

4.2 Any administration which considers that it should have been included in the list of administrations whose frequency assignments are likely to be affected may, giving its [reasons] for so doing, request the IFRB by telex within [A] days from the date of publication of the weekly-circular to include its name. A copy of the request shall be sent to the administration proposing the modification to the Plan. On receipt of the telex, the IFRB shall consider the matter and, if it finds that the name of this administration should have been included in the list, it shall :

- inform by telex the administrations concerned of its finding;

- publish the name of the administration in an addendum to the Special Section.

For this administration, the period [E] will run from the date of publication of the addendum to the Special Section.

4.3 An administration having received a telex from the IFRB sent in accordance with 3.3 above shall acknowledge receipt within [B] days.

4.4 If at the expiry of [B] days, the IFRB has not received an acknowledgement, it shall send a reminder telex and inform the administration that if no reply is received within [C] days, this administration is deemed to have received the request for agreement.

4.5 On receipt of the Special Section of the IFRB weekly-circular referred to in 3.4 c), the administrations listed in it shall use the method contained in [ ], to calculate the increase in usable field strength [at the transmitter site] of their assignments which are in accordance with the agreement. An administration should normally give its agreement to the proposed modification if :

- the resulting usable field strength is not greater than [54 dB], or

- the resulting usable field strength is greater than [54 dB], but is increased by less than [0.5 dB] compared with the usable field strength resulting from the Plan [adopted by the Conference]. An increase of more than 0.5 dB is open to negotiations, in which more detailed calculation methods may be used.

4.6 An administration receiving a telex from the IFRB sent in accordance with 3.4 may request it to calculate the increase in the usable field strength resulting from the proposed modification as indicated in 4.5 above.

4.7 An administration may ask the administration proposing the modification for the additional information it considers necessary to calculate the increase of the usable field strength. Similarly, the administration proposing the modification may ask any administration whose agreement it seeks for the additional information it considers necessary. The administrations shall inform the IFRB of such requests.

4.8 An administration which is not in a position to give its agreement to the proposed modification shall give its reasons within [E] days.

4.9 [D] days after the publication of the weekly-circular, the IFRB shall request by telex any administration which has not yet given its decision in the matter to do so and shall inform it that, if no reply is received within an overall period of [E] days following the date of publication of the weekly-circular, it is deemed to have agreed to the proposed modification to the Plan.

4.10 If at the end of [E] there is continuing disagreement, the IFRB shall make any study that may be requested by these administrations; the Board shall inform them of the result of the study and shall make such recommendations it may be able to offer for the solution of the problem.

4.11 An administration may request the assistance of the IFRB in the following cases :

- **in seeking the agreement of another administration;**
- **in applying any stage of the procedures described in this Article;**
- **in carrying out technical studies in relation to this procedure;**
- **in applying the procedure with respect to other administrations.**

5. Comments of other administrations

5.1 On receipt of the Special Section of the weekly-circular published pursuant to 3.4, administrations may send their comments to the administration proposing the modification either directly or through the IFRB. In any event the IFRB shall be informed that comments have been made.

5.2 An administration which has not notified its comments either to the administration concerned or to the IFRB within a period of [E] following the date of the weekly-circular referred to in 3.4 c) shall be understood to have no objection to the proposed change. This time limit may be extended by [F] in the case of an administration which has requested additional information.

6. ***Cancellation of Assignments***

When an assignment in accordance with the Agreement is released, whether or not as a result of a modification (for instance a change of frequency), the administration concerned shall immediately so inform the I.F.R.B. The I.F.R.B. shall publish this information in a special section of its weekly circular.

7. Updating of the Plan

7.1 An administration which has obtained the agreement of the administrations whose names were published in the Special Section referred to in § 3.4 may proceed with its project and shall inform the IFRB indicating the final agreed characteristics of the assignment together with the names of the administrations with which agreement has been reached.

7.2 **The IFRB shall publish in a special section of its weekly circular the information received under 3.2 or 7.1 together with the names of any administrations with which the provisions of this article have been successfully applied. With respect to Contracting Members, the assignment concerned shall enjoy the same status as those appearing in the Plan.**

7.3 The IFRB shall maintain an up-to-date master copy of the Plan, taking account of any modification, addition and deletion made in accordance with the procedure of this Article.

7.4 The Secretary-General shall publish an up-to-date version of the Plan in an appropriate form as and when the circumstances justify and in any case every three years.

8. Elimination of /harmful interference/

If a change, although made in accordance with the provisions of this Article, causes /harmful interference/ to services of other Contracting Administrations, the administration which has made the change shall take the requisite action to eliminate such interference.

9. Settlement of disputes

If, after application of the procedure described in this Article, the administrations concerned have been unable to reach agreement, they may resort to the procedure described in Article 50 of the Convention. Administrations may also agree to apply the Optional Additional Protocol to the Convention.

M.J. BATES
Chairman of Ad Hoc Group 5A

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/31-E
14 November 1984
Original: English

WORKING GROUP 5A

NOTE BY THE CHAIRMAN OF WORKING GROUP

The discussions in Working Group 5A regarding Document DT/27 indicated that there are two clear alternatives, upon which the Working Group has to take a decision. These two alternatives are:

First alternative

1. The calculations made during the Conference serve only as an indication to test the effect of a Plan on the radionavigation stations.

2. For this reason the radionavigation stations used for these calculations will not appear in any document of the Conference.

3. Future uses of radionavigation shall be made by administrations without a need for any procedure and similarly, the procedure for modification of BC Plan shall not contain any part relating to the protection of the radionavigation stations.

4. Any difficulty that may arise either from a modification to the Plan or the bringing into use of a radionavigation station shall be resolved by a bilateral or multilateral coordination.

Second alternative

1. The calculations made during the Conference will serve as a basis for the adoption of the Plan and as a reference for future modifications to the Plan.

2. In this case the radionavigation stations used for this purpose shall be afforded a status by a competent administrative radio conference.

3. Between the date of this Conference and the competent WARC, interim procedures shall be defined.

4. The final procedure is to be considered by a competent administrative radio conference.

S.M. CHALLO
Chairman of Working Group 5A

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/32-E(Rev.1)
27 November 1984
Original: English

WORKING GROUP 5B

DRAFT RESOLUTION No. ...

Provisional Application of Article 3 of the Agreement

The Regional Administrative Conference for the Planning of VHF Sound Broadcasting (Region 1 and part of Region 3) (Geneva, 1984).

considering

a) that administrations may need to modify the stations appearing in the Plan or to add new stations before the entry into force of this Agreement;

b) that these modifications should not result in the deterioration of the situation resulting from the Plan for broadcasting stations [as well as for stations of services to which the band is allocated on a permitted basis];

c) that in this respect it would be advisable to apply provisionally the procedure described in Article 3 of the Agreement;

resolves

1. that, before the date of entry into force of the Agreement, any administration proposing modifications to the Plan, the administrations which are likely to be affected and the IFRB shall apply the procedure described in Article 3 of the Agreement;

2. the application of this procedure shall provisionally replace the corresponding procedures existing in Stockholm, 1961 and Geneva, 1963 for those countries parties to these Agreements;

3. that in addition to the publications made in accordance with Article 3 during the period preceeding the entry into force of the Final Acts the IFRB shall, at the date of entry into force of the Final Acts, publish a recapitulative list of the modifications to the Plan made in accordance with the present Resolution together with the names of the administrations whose agreement was obtained and shall update the Plan accordingly;

4. [to be added depending on the decisions to be taken in respect to the permitted services].

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/32-E
15 November 1984
Original: English

WORKING GROUP 5B

Draft

RESOLUTION No. ...

Provisional Application of Article 3 of the Agreement

The Regional Administrative Conference for FM Sound Broadcasting in the VHF Band (Region 1 and certain countries concerned in Region 3), Geneva, 1984,

considering

a) that due to operation constraints administrations may need to modify the stations appearing in the Plan or to add new stations before the entry into force of this Agreement;

b) that these modifications should be made without deteriorating the situation resulting from the Plan for broadcasting stations [as well as for stations of services to which the band is allocated on a permitted basis];

c) that in this respect it would be advisable to apply provisionally the procedure described in Article 3 of the Agreement;

resolves

1. that, before the date of entry into force of the Agreement, any administration proposing modifications to the Plan, the administrations which are likely to be affected and the IFRB shall apply the procedure described in Article 3 of the Agreement; the application of this procedure shall provisionally replace the corresponding procedures existing in Stockholm, 1961 and Geneva, 1963 for those countries parties to these Agreements;

2. in addition to the publications made in accordance with Article 3 during the period preceding the entry into force of the Final Acts the IFRB shall, at the date of entry into force of the Final Acts, publish a recapitulative list of the modifications to the Plan made in accordance with the present Resolution together with the names of the administrations whose agreement was obtained and shall update the Plan accordingly;

3. [to be added in order to protect television stations in the Stockholm Plan];

4. [to be added depending on the decisions to be taken in respect to the permitted services].

P. PETTERSSON
Chairman of Working Group 5B

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/33-E
16 November 1984
Original: English

COMMITTEE 5

ORGANIZATION OF WORK

It is proposed to create an additional Working Group 5C with the following terms of reference:

Working Group 5C:

to establish, on the basis of the report of the first session and of the conclusions of the Technical Working Group of the Plenary and without altering or modifying them in any way:

- the draft annex with the technical data used for preparing the Plan;
- the draft annex(es) with the technical data to be used for applying the Agreement.

K. OLMS
Chairman of Committee 5

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/34(Rev.1)-E
19 November 1984
Original: English

WORKING GROUP 5B

Note from the Chairman of Working Group 5B

RESULTS OF INFORMAL DISCUSSIONS ON PROVISIONS CONCERNING THE FOOTNOTES 587 AND 589

The text presented in the annex is revised taking into account the discussions in the fifth meeting of Working Group 5B. The text within square brackets has not been agreed and is therefore open for further discussions.

P. PETTERSSON
Chairman of Working Group 5B

Annex: 1

ANNEX

INTERIM PROVISIONS RELATING TO AERONAUTICAL MOBILE (OR) SERVICE IN THE BAND 104 - 108 MHz

The contracting administrations agree that in the period comprised between the entry into force of the Agreement and 31 December 1995, broadcasting stations in the band 104 - 108 MHz producing at the border of countries indicated in RR 587 and RR 589 using aeronautical (OR) service* a field strength greater than 10 μV/m at a height of 10,000 m at the border of the country affected, will be brought into operation only after [accomplishment of the following coordination procedure].

[An administration proposing to implement broadcasting stations in the Plan or to make modifications in accordance with Article 3 shall send this information to the IFRB.] The IFRB shall publish the information in the weekly Circular not later than six months before the date of bringing into service.

An administration affected by the proposal in the above-mentioned publication shall send its comments to the proposing administration within 90 days after the date of the IFRB publication in order to initiate coordination. This coordination should be based on criteria given by the Conference or, when required, based on a bilateral or multilateral agreement.

---

* The following countries have been identified as using this band for aeronautical (OR) service: Bulgaria, Hungary, Israel, Mongolia, Poland, Syria, German Democratic Republic, Somalia, Czechoslovakia, USSR, Romania, Sweden and Turkey.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/34-E
16 November 1984
Original: English

WORKING GROUP 5B

Note from the Chairman of the Working Group 5B

RESULTS OF INFORMAL DISCUSSIONS ON PROVISIONS CONCERNING THE FOOTNOTES 587 AND 589

Several administrations concerned have informally considered possible provisions to enable an orderly changeover from the present situation in the band 104 - 108 MHz to the situation after 31 December 1995.

The result of these informal discussions, referring only to aeronautical mobile (OR) service, is presented in the Annex and is put forward for information.

In the case that all the administrations concerned could adhere to such an agreement, which would cover the implementation of the Plan as well as subsequent modifications in accordance with Article 3, the Conference would not be obliged to develop transitional procedures in accordance with Agenda item 2.3. However, the Conference may have to formally request the advanced publication by the IFRB.

P. PETTERSSON
Chairman of Working Group 5B

Annex: 1

ANNEX

INTERIM PROVISIONS RELATING TO AERONAUTICAL MOBILE (OR) SERVICE IN THE BAND 104 - 108 MHz

The contracting administrations agree that in the period comprised between the entry into force of the Agreement and 31 December 1995, broadcasting stations in the band 104 - 108 MHz producing at the border of countries indicated in RR587 and RR589 (except France and Austria) a field strength greater than 10 μV/m at a height of 10,000 m at the border of the country affected, will be brought into operation only after an advanced publication in the IFRB weekly Circular not later than six months before the date of bringing into service.

An administration affected by the proposal in the above-mentioned advanced publication, shall send its comments to the proposing administration within 90 days after the date of issue of the advanced publication.

The administration receiving comments shall initiate coordination based on criteria given by the Conference or, when required, based on a bilateral or multilateral agreement.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/35-E
19 November 1984
Original: English

WORKING GROUP 4A

Note by the Chairman of the Working Group 4A

ADDITIONAL REQUIREMENTS

The following administrations submit additional requirements for consideration:

1. Cameroon (Republic of)

1.1 Five additional channels for each of the sites given in Annex 1. (Originally a requirement for one channel for each of the sites in Annex 1 was submitted.)

1.2 Six channels for each of the sites given in Annex 2.

2. Gabonese Republic

2.1 The additional channels of Annex 3 are required.

3. Yemen Arab Republic

3.1 One additional channel is required for each of the sites listed in Annex 4.

4. Congo (People's Republic of the)

4.1 Two additional channels are required for the site given in Annex 5.

J. NGARUIYA
Chairman of Planning Group 4A

Annexes: 5

ANNEX 1

CAMEROON (REPUBLIC OF)

Sites for which five additional channels are required:

Station name	Coordinates Long.	Lat.	e.r.p. (kW)	Heff. (m)
MFOU	011E40	00E00	100.0	+0300
WUM	010E02	06N13		+0300
LOUM	009E43	04N42		+0300
KAELE	014E21	10N06		+0300
FIGUIL	013E56	09N47		+0300
GUIDER	013E54	09N56		+0300
MBANGA	009E34	04N32		+0300
MANJO	009E48	04N54		+0300
FOUMBOT	010E36	04N30		+0300
MELON	009E58	05N10		+0300
MUNDEBA	008E53	05N01		+0300
LIMBE	009E22	04N02		+0300
AKOM 2	010E34	02N38		+0300
BELABO	011E08	04N50		+0300
TONGA	010E40	04N55		+0300
NGAOUNDAL	013E10	06N26		+0300
MBANDJOCK	011E50	04N25		+0300
WAZA	014E32	11N28		+0300
TOUBORO	015E40	07N46		+0300
MAGA	014E50	10N50		+0300
MAGBA	011E08	06N00		+0300
EKONDO TITI	009E02	04N38		+0300
NGUTI	009E20	05N06		+0300
TIKA	009E20	04N00		+0300

Station name	Coordinates Long.	Lat.	e.r.p. (kW)	Heff. (m)
MUYUKA	009E20	04N20	100.0	+0300
NGOULEMEKONG	011E42	03N04		+0300
BANDJOUN	010E20	05N20		+0300
DOUALA	009E43	04N02		+0300
GAROUA BOULAI	014E08	05N54		+0300
TCHOLLIRE	014E04	08N26		+0300
MOKOLO	013E46	10N40		+0300
MBENGWI	009E10	05N58		+0300
YABASSI	009E59	04N25		+0300
OBALA	011E30	04N04		+0300
DJOUM	012E38	02N38		+0300
YAGOUA	015E04	10N20		+0300
BATOURI	014E20	04N24		+0300
CAMPO	009E56	02N22		+0300
AMBAM	011E06	02N22		+0300
KUMBO	010E34	06N10		+0300
MBOUDA	010E09	05N42		+0300
FOUMBAN	010E51	05N45		+0300
MANFE	009E20	05N43		+0300
BANGANGTE	010E18	05N10		+0300
BAFANG	010E08	05N11		+0300
AKONOLINGA	012E13	13N47		+0300
DSCHANG	010E02	05N25		+0300
RADIO EBOLOWA	011E18	02N54		+0300
MORA	014E01	11N01		+0300
MFOU	011E40	11N07		+0300
GAROUA BOULAI	014E28	05N54		+0300
MUNDEMBA	008E53	05N01		+0300
LIMBE	009E22	04N02		+0300
TIKO	009E20	04N00		+0300

ANNEX 2

CAMEROON (REPUBLIC OF)

Sites for which six additional channels are required:

Station name	Coordinates Long.	Lat.	e.r.p. (kW)	Heff. (m)
MADINGRIN	014E55	08N25	20.0	300
KETTE	014E32	04N48	100.0	300
NGOILA	014E02	02N36	100.0	300
MINTOM 2	013E28	02N39	20.0	300
MVANGAN	011E52	02N35	100.0	300
BOURRAH	013E28	10N11	100.0	300
FOTOKOL	016E12	12N16	100.0	300
MAYO DJOI	014E19	09N00	100.0	300
MAKARI	014E27	12N33	100.0	300
GOULFEY	014E90	12N04	20.0	300
AYOS	012E31	03N51	100.0	300
EYUMOJOK	008E47	05N44	20.0	300
KENZOU	015E00	04N10	20.0	300

ANNEX 3

GABONESE REPUBLIC

Additional channels required:

Frequency (MHz)	Station name	Coordinates		e.r.p. (kW)	Heff (m)
		Long.	Lat.		
91.3, 100.1, 107.2	BITAM	11E30	2N00	50.0	300.0
89.3, 97.4, 100.4	FOUGAMOU	10E30	1S20	50.0	300.0
93.8, 95.2	FRANCEVILLE	13E27	1S10	100.0	300.0
94.2, 95.1, 104.1	GAMBA	9E40	3S45	50.0	300.0
98.7	KOULAMOUTOU	12E30	1S00	100.0	300.0
107.4	LAMBARENE	10E13	0S12	100.0	300.0
94.5, 97.4, 100.5 104.0, 107.7	LIBREVILLE	9E28	0N25	100.0	300.0
107.8	MAKOKOU	12E50	0N34	100.0	300.0
91.4, 104.2	MALINGA	12E20	2S30	50.0	300.0
91.0, 101.0	MANDJI	10E00	1S45	50.0	300.0
107.9	MOUILA	11E02	1S51	100.0	300.0
91.0, 98.5, 106.0	NDENDE	11E25	2S30	50.0	300.0
104.8	PORT GENTIL	8E20	0S35	100.0	300.0
88.0, 104.5	TCHIBANGA	11E03	2S52	100.0	300.0

ANNEX 4

YEMEN ARAB REPUBLIC

Sites for which additional channels are required:

No. of additional channels required	Station name	Coordinates		e.r.p. (kW)	Heff (m)
		Long.	Lat.		
1	SUMARA	044E17	14N17	001.000	+0330
1	HYLAN	045E50	15N30	005.000	+0250
1	ALFARDHA	044E40	15N45	010.000	+0200
1	AL-TAAKER	044E07	13N52	005.000	+0140
1	MASAR	043E37	15N04	005.000	+0250
1	YESLEH	044E15	14N55	002.000	+0350
2	KOTAF	044E26	17N08	002.000	+0250
1	RYAM	044E42	14N18	010.000	+0300
1	DYN	040E05	15N40	001.000	+0270
2	AIBAN	044E05	15N15	005.000	+0400
1	ALJABAL AL AHMAR	043E43	16N45	005.000	+0500
2	AL-DARB	043E18	15N00	010.000	+0600
1	MAREB	045E20	15N35	002.000	+0200
2	BAB AL MANDAB	043E30	12N45	010.000	+0090
1	THAABAT	044E05	13N02	000.001	+1000
1	AL ASHMOUR	030E47	15N08	005.000	+0330
1	DARWA	044E07	15N57	001.000	+0300
1	ALLESSI	044E27	14N27	004.000	+0400
1	HAID ATHEMA	045E40	13N55	002.000	+0300
1	MERA'A	043E23	17N22	005.000	+0500
2	AL-AROUS	044E10	13N02	010.000	+0600
1	BANI KAITH	043E57	16N05	001.000	+0350
1	RAZEH	043E30	17N25	010.000	+0520
1	ALGOFL	043E47	16N55	000.500	+0270

ANNEX 5

Congo (People's Republic of the)

Site for which two additional channels are required:

Frequency (MHz)	Station name	Coordinates		e.r.p. (kW)	Heff (m)
		Long.	Lat.		
87.8, 94.8	KAKAMOEKA	11E12	04S05	.5	300.0

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/36-E
19 November 1984
Original: French

COMMITTEE 4

Note by the Chairman of Planning Group 4D to the Chairman of Committee 4

FORM 3

During the examination of Document DT/29 (Format of the Plan) by Committee 4 on Thursday, 15 November, some delegations expressed the wish to have included in the Plan the sectors of limited radiation which have resulted from agreements made before or during the Conference but which have not been recorded on Form 2.

The Committee noted the difficulty involved in the automatic extraction of such information from box 32. To overcome this difficulty and to meet the request, the annexed form is proposed to the Committee 4 for use by the administrations concerned.

Annex: 1

ANNEXE 1 - ANNEX 1 - ANEXO 1

FORMULAIRE 3 - FORM 3 - FORMULARIO 3

Secteurs ou directions ou la puissance apparente rayonnée est limitée (voir Colonne /15/ et /16/ du Plan, Document 116)

Sectors or directions where E.R.P. is limited (See box /15/ and /16/ of the Plan, Document 116)

Sectores o direcciones en las que la potencia aparente radiada está limitada (véanse las columnas /15/ y /16/ del Plan, Documento 116)

ADM	Date/Fecha	Signature/Firma

N° de Série IFRB IFRB Serial No. N.° de Serie IFRB	15.1 *	16.1 *	15.2*	16.2*	15.3*	16.3*	15.4*	16.4*

* Voir Document 116.
* See Document 116.
* Ver document 116.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/37-E
20 November 1984
Original: English

TECHNICAL WORKING GROUP

REPORT BY DRAFTING GROUP PL/D1

Tables of coordination distances together with an explanation of the way in which they were derived and with instructions concerning interpolation and mixed propagation paths are given in the annex. This annex is intended to form the basis for a reply by the Technical Working Group to the request of Working Group 5A formulated in Document 113.

The asterisks in Tables 1 - 3 and the related footnotes are given for information.

No decision was taken as to whether the coordination distances should apply to the distance from the transmitter concerned to the nearest point of the border of the country concerned or to that point of the border suffering the highest amount of interference, e.g. in directions of higher effective radiated power or greater effective antenna height. It was felt that this decision should be prepared by Working Group 5A.

H. EDEN
Chairman of Drafting Group PL/D1

Annex: 1

ANNEX

COORDINATION DISTANCES

The coordination distances of Tables 1 - 4 are given for use in the coordination procedure of Article [3] and apply to cases where the propagation path is over land (index L), over cold sea (SC), over warm sea (SW), or in an area of super-refractivity and ducting (SS), respectively. To simplify coordination the distances that would be adequate for the various FM sound-broadcasting systems were unified by starting from a unique value of 54 dB(μV/m) for the nuisance field and by taking mean values for the protection ratio (39 dB for tropospheric, 47 dB for steady interference). The larger of the two distance values resulting from tropospheric and steady interference was retained and rounded to the nearest multiple of 10 km or 5 km for coordination distances above or below 100 km, respectively.

Tables 1 - 3 are based on the propagation curves of Figures 2.1, 2.2, 2.6, 2.7 and 2.8 of Document 61 and were obtained by using their tabular form [CCIR, 1982-1986], whilst Table 4 is based on the equations given in section 2.1.2.1 of Document 61 for over-sea paths in the Mediterranean East of 30° E. The equation for the area from the Shatt-al-Arab to the Gulf of Oman would yield identical results except for 1 %, where the difference is negligible.

Linear interpolation shall be used for effective radiated powers, in dBW, differing from those given in the tables and also for effective antenna heights other than those in Tables 1 - 3. Antenna heights of 10 m or 1,800 m, respectively, shall be used when the actual height is below the former or above the latter value.

For mixed paths the coordination distance, D_M, shall be the sum of the pertinent fractions of the coordination distances, D_i, applicable to every type of propagation path involved.

$$D_M = \sum_i \frac{d_i}{d_T} D_i \qquad (i = L, SC, SW, SS)$$

where

d_T is the total path length from the transmitter to [the nearest point of] the border of the country concerned; and

d_i are the total lengths of those parts of the path which are over land, over cold sea, over warm sea or in areas of super-refractivity and ducting, as the case may be.

REFERENCES

[CCIR, 1982-1986] Document 5/2 (IWP 5/5)

TABLE 1

Coordination distances D_L, in km, for propagation paths over land

EFFECTIVE RADIATED POWER		EFFECTIVE ANTENNA HEIGHT (m)							
dBW	W	10	37.5	75	150	300	600	1200	1800
55	300k	520	520	530	540	560	600	630	670
50	100k	460	460	470	490	510	540	580	610
45	30k	410	410	420	430	450	480	520	560
40	10k	350	350	370	380	400	430	470	500
35	3k	300	300	310	330	340	380	420	450
30	1k	250	250	260	270	290	320	360	400
25	300	140	190	210	220	240	280	320	350
20	100	70	140	160	180	190	230	270	300
15	30	45*	100	130	140	150	190	230	260
10	10	35*	65	90	100	120	150	190	220
5	3	30*	45*	65	75	95	120	160	180
0	1	20*	35*	50*	60*	80*	100*	140	150

* Steady interference

TABLE 2

Coordination distances D_{SC}, in km, for propagation paths over cold sea

EFFECTIVE RADIATED POWER dBW	W	EFFECTIVE ANTENNA HEIGHT (m)							
		10	37.5	75	150	300	600	1200	1800
55	300k	790	790	800	820	850	880	910	950
50	100k	680	680	700	720	740	770	810	850
45	30k	590	590	610	630	650	670	730	750
40	10k	510	510	530	540	560	590	640	670
35	3k	440	440	460	470	490	530	570	600
30	1k	380	380	390	400	430	460	500	530
25	300	320	320	330	350	370	400	440	470
20	100	260	260	280	290	310	350	380	420
15	30	150	210	220	240	260	300	340	360
10	10	75	150	170	180	200	250	290	300
5	3	40	100	120	130	150	200	240	260
0	1	25*	65	80	95	120	150	200	210

* Steady interference

TABLE 3

Coordination distances D_{SW}, in km, for propagation paths over warm sea

EFFECTIVE RADIATED POWER dBW	W	EFFECTIVE ANTENNA HEIGHT (m)							
		10	37.5	75	150	300	600	1200	1800
55	300k	1300	1300	1300	1300	1300	1300	1300	1300
50	100k	1300	1300	1300	1300	1300	1300	1300	1300
45	30k	1100	1100	1130	1150	1170	1200	1230	1280
40	10k	800	800	840	870	900	940	970	1010
35	3k	610	610	650	680	700	740	780	800
30	1k	490	490	520	550	560	600	650	670
25	300	390	390	410	440	460	490	540	560
20	100	310	310	330	360	370	400	440	480
15	30	210	240	260	290	300	330	360	400
10	10	85	170	200	220	240	270	300	340
5	3	40	110	140	160	190	220	250	290
0	1	25*	70	90	120	140	170	200	240

* Steady interference

TABLE 4

Coordination distances D_{SS}, in km, for propagation paths in areas of super-refractivity and ducting

EFFECTIVE RADIATED POWER		D_{SS} (km)
dBW	W	
55	300k	1480
50	100k	1400
45	30k	1320
40	10k	1230
35	3k	1150
30	1k	1070
25	300	980
20	100	900
15	30	820
10	10	730
5	3	650
0	1	560

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/38-E
20 November 1984
Original: English

WORKING GROUP 5A

Information Note

RELATIONSHIP BETWEEN SOUND BROADCASTING AND TELEVISION, MOBILE AND FIXED SERVICES

1. In accordance with the agenda of this Conference the Plan shall be developed without a deterioration to the service area of television stations in the band 87.5 - 100 MHz which are in accordance with Stockholm, 1961. To this effect a reference situation was calculated at test points communicated by the administration concerned.

2. After the Conference, administrations may modify the Geneva, 1984 Plan and possibly affect television stations. Similarly, administrations may modify their television stations or add new stations and possibly affect stations in the Geneva, 1984 Plan. The Conference is composed of countries party to Stockholm, 1961 and countries which are not. The television stations to be considered may be in Stockholm, 1961 or not. In order to deal with this matter in a simple way the following action is proposed in the attached annex.

3. It is proposed to use the same approach (with appropriate values) for fixed and mobile services in Region 3.

S.M. CHALLO
Chairman of Working Group 5A

Annex : 1

ANNEX

Add paragraphs to Article 3 as follows :

1 bis This procedure shall also be applied by administrations using the band 87.5 - 100 MHz for their television stations with respect to sound broadcasting assignments which are in conformity with the Agreement.

4.5 bis On receipt of the Special Section of the IFRB weekly-circular referred to in 3.4 c), the administrations listed in it shall use the method contained in /- -/, to calculate the increase in usable field strength at /-the test points contained-/ in the Annex /- -/ /-the transmitter site-/ of their assignments to television stations in conformity with Stockholm, 1961 at the date of the conference and those to which the procedure contained in this article was successfully applied. An administration should normally give its agreement to the proposed modification if:

- the resulting usable field strength is not greater than /-54 dB-/, or
- the resulting usable field strength is greater than /-54 dB-/, but is increased by less than /-0.5 dB-/ compared with the usable field strength resulting from the Plan /-adopted by the Conference-/. An increase of more than 0.5 dB is open to negotiations, in which more detailed calculation methods may be used.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/39-E
21 November 1984
Original: English

COMMITTEE 5

Information Note

RELATING TO THE PARTIAL ABROGATION OR REVISION OF STOCKHOLM, 1961 AND GENEVA, 1963

(87.5 - 100 MHz)

When considering Document 104, the following approaches were foreseen:

1) Convening of two conferences

In addition to practical problems of dates and procedures for the convening of such conferences, the cost aspect is not negligible. This approach should not be pursued.

2) Termination of participation

The termination is an individual decision to be taken by each administration and may lead to complex situations. The process may take a long time until completion. This approach should not be pursued.

3) Suspension by consent of all parties

This would require the consultation of all parties for which no provisions exist in the Convention. This approach should not be pursued.

4) Successive treaties

This approach appears to be the most simple to implement. However, the principles outlined in the Vienna Convention are not reflected in the ITU Convention. In addition, there may be some difficulties resulting from the fact that the parties to Stockholm, 1961, Geneva, 1963 and Geneva, 1984 will be different.

5) Separate protocols

This approach consists in having two separate protocols, one for Stockholm, 1961 and one for Geneva, 1963 reviewing these agreements. This approach, more practicably, is not literally in accordance with the provisions of these agreements, in the sense that the countries signing the protocols are not meeting in a conference convened in accordance with the Convetion.

For this approach delegations must request from their administrations the necessary power to sign these protocols.

6) Continued coexistence of Plans

Due to lack of competency of this Conference to revise or abrogate Stockholm, 1961 nor Geneva, 1963, action may be deferred.

Until then:

- Stockholm, 1961 is not applied as far as monophonic sound broadcasting is concerned;

- Stockholm, 1961 television will remain in force and will be protected by the procedure of Article 3 (and Document DT/38), and

- Geneva, 1963 could be abrogated later.

Such a solution, although taking into account the incompetency of this Conference, would require only later, action to clarify relations between the administrations. It would thus lead to approach No. 1 and should therefore not be pursued for the same reasons.

K. OLMS
Chairman of Committee 5

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/40-E
21 November 1984
Original: French

PLANNING GROUP 4B

DRAFT NOTE BY THE CHAIRMAN OF PLANNING GROUP 4B TO COMMITTEE 4

Planning Group 4B held its seventh meeting on Wednesday, 21 November 1984, to consider the results of the second Conference analysis. For the eastern Mediterranean region, where new propagation criteria have been applied, a strong increase has been observed in the level of interference between stations. This increase proved to be unjustified in many cases.

In view of the sufficiently advanced state of negotiations and the arrangements already concluded among administrations, and given the very limited time available to the Conference, the administrations members of Sub-Group 4B-3 decided unanimously:

1. that negotiations should be continued on the basis of the first analysis (ANAL III);

2. that a second analysis based on the software used for the first analysis and taking account of modifications submitted by 1800 hours on Thursday, 15 November 1984, should be carried out as soon as possible;

3. that subsequent analyses should be based on the software mentioned in point 2.

A. TOUMI
Chairman of Planning Group 4B

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/41-E
21 November 1984
Original: English

WORKING GROUP 5A

SECOND REPORT OF THE CHAIRMAN OF THE AD HOC GROUP 5A

The ad hoc Group considered the text proposed by the delegation of France for paragraph 4.5 of Article 3 of the Agreement.

The following revision of that text is submitted in the annex for consideration by Working Group 5A as an alternative to paragraph 4.5 as it appears in Document DT/30(Rev.1).

M.J. BATES
Chairman of ad hoc Group 5A

Annex: 1

ANNEX

4.5 On receipt of the Special Section of the IFRB weekly Circular referred to in sections 3.6 c) and 4.2 any administration listed therein shall calculate the nuisance field resulting from the proposed modification. The administration proposing to modify the Plan and the administration consulted should agree on the increase in usable field strength which would be acceptable. To this end they may use either the method contained in [ ] or any method and criteria they may agree upon.

4.5 bis If no agreement can be obtained on the method and criteria to be used, the administration consulted should normally accept an increase in the usable field strength at the transmitter site, provided that:

a) it remains less than or equal to 54 dB(μV/m), or

b) the nuisance field at the transmitter site is lower than [45 dB(μV/m)] or lower than the fourth highest nuisance field resulting from the Plan adopted by the Conference.

However, when the station to be modified already appears among the four highest nuisance fields, its nuisance field resulting from the Plan adopted by the Conference or from its first entry in the Plan following the application of this procedure may be increased by no more than [0.5 dB].

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/42-E
21 November 1984
Original: English

WORKING GROUP 5B

Note from the Chairman of Working Group 5B

RESULTS OF INFORMAL DISCUSSIONS ON PROVISIONS CONCERNING THE FOOTNOTES 587 AND 589

The text presented in the annex is proposed to constitute a base for a procedure relating to the mobile services in the band 104 - 108 MHz. The intention is that this text could go into an annex to the Final Acts or constitute a base for a Resolution. In any case it should be included in the Agreement of Geneva 1984.

P. PETTERSSON
Chairman of Working Group 5B

Annex: 1

ANNEX

DRAFT PROCEDURE RELATING TO MOBILE SERVICES IN THE BAND 104 - 108 MHz

a) The FM Broadcasting Plan, Geneva 1984, shall be implemented in the frequency band 104 - 108 MHz in such a way that normal operation of the existing mobile services in this band is enabled on the conditions specified in the Radio Regulations.

b) Protection of the mobile services in the band 104 - 108 MHz shall not hinder a gradual implementation of the FM Broadcasting Plan in the period from the coming into force of the Agreement, Geneva 1984, until 31 December 1995 when full implementation of the broadcasting service is expected.

c) The gradual implementation of the band for FM broadcasting service should take place through the implementation of different frequency segments of the band 104 - 108 MHz at different stages in time during the period / 1986 / - 31 December 1995.

d) This gradual implementation shall be subject to bilateral or multilateral agreements between administrations concerned during or after this Conference and if possible before the entry into force of the Broadcasting Plan, but not later than one year after this date.

INTERNATIONAL TELECOMMUNICATION UNION
REGIONAL BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1984

Document DT/43-E
22 November 1984
Original: English

WORKING GROUP 5A

Information Note

RELATIONSHIP BETWEEN SOUND BC AND TELEVISION BC

Based on the discussions relating to Document DT/38, the following additional paragraphs to Article 3 are proposed.

1 bis This procedure shall also be applied by administrations using the band 87.5 - 100 MHz for their television stations with respect to sound broadcasting assignments which are in conformity with the Agreement.

3.2 bis An administration proposing a modification of characteristics of a frequency assignment for a TV station or putting into operation a new station in the band 87.5 - 100 MHz should follow the procedures of the present Agreement.

4.5 bis On receipt of the Special Section of the IFRB weekly-circular referred to in 3.4 c), the administrations listed in it shall use the method contained in [ ], to calculate the increase in usable field strength at [ ] the test points contained in the Annex [ ] [ ] the transmitter site [ ] of their assignments to television stations in conformity with Stockholm, 1961 at the date of the conference and those to which the procedure contained in this article was successfully applied. An administration should normally give its agreement to the proposed modification if:

[- indents as in 4.5 (final version)
-]

S.M. CHALLO
Chairman of Working Group 5A

INTERNATIONAL TELECOMMUNICATION UNION
REGIONAL BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1984

Document DT/44-E
22 November 1984
Original: English

WORKING GROUP 5A

THIRD REPORT OF THE CHAIRMAN OF THE AD HOC GROUP OF 5A

The ad hoc Group of 5A has revised the contents of Document DT/6 (draft Agreement) in the light of the discussion of it in Working Group 5A. The Group submits for consideration:

- at Annex I, a revised draft structure of the Agreement;
- at Annex II, revised texts for the Articles.

The text of the Article on modification procedures (numbered 4 in this proposed structure) has been developed separately and has not been included here. Texts have not been proposed for the Articles on the partial abrogation of the Stockholm 1961 and Geneva 1963 Agreements (numbered 11 and 12 in this proposed structure), pending decisions on how to proceed on these questions.

M.J. BATES
Chairman of the ad hoc Group of 5A

ANNEX I

DRAFT STRUCTURE OF THE REGIONAL AGREEMENT

PREAMBLE

Article 1: Definitions

Article 2: Execution of the Agreement

Article 3: Content of the Plan

Article 4: Procedure for modifications to the Plan

Article 5: Notification of frequency Assignments

Article 6: Accession to the Agreement

Article 7: Scope of application of the Agreement

Article 8: Approval of the Agreement

Article 9: Denunciation of the Agreement

Article 10: Revision of the Agreement

Article 11: Partial abrogation of the Regional Agreement for the European Broadcasting Area (Stockholm, 1961)

Article 12: Partial abrogation of the Regional Agreement for the African Broadcasting Area (Geneva, 1963)

Article 13: Duration and entry into force

ANNEX II

DRAFT REGIONAL AGREEMENT

PREAMBLE

The delegates of the following Members of the International Telecommunications Union:

[ ]
meeting in Geneva for a Regional Administrative Radio Conference convened under the terms of Articles 7 and 54 of the International Telecommunication Convention, Nairobi 1982, have adopted to establish a Plan for sound broadcasting in the band 87.5 to 108 MHz in accordance with Resolution No. 510 of the World Administrative Radio Conference (Geneva, 1975), and in order to comply with provision number 584 of the Radio Regulations, subject to the approval of the competent authorities of their respective countries the following provisions and the related Plan concerning to the broadcasting service in the band 87.5 to 108 MHz in the planning area as defined in Article 1.

ARTICLE 1

Definitions

1 For the purposes of this Agreement, the following terms shall have the meanings defined below:

2 Union: The International Telecommunication Union.

3 Secretary-General: The Secretary-General of the Union.

4 IFRB: The International Frequency Registration Board.

5 CCIR: The International Radio Consultative Committee.

6 Convention: The International Telecommunication Convention.

7 Radio Regulations: The Radio Regulations, annexed to the Convention.

8 Planning area: The countries of Region 1 as defined in number 393 of the Radio Regulations (Geneva, 1979) together with Iran and Afghanistan.

9 Agreement: This Agreement and its Annexes.

10 Plan: The Plan forming Annex [2] to this Agreement.

11 Contracting Member: Any Member of the Union which has approved or acceded to this Agreement.

ARTICLE 2

Execution of the Agreement

2.1 The Contracting Members shall adopt for their broadcasting stations in the planning area in the band 87.5 - 108 MHz the characteristics specified in the Plan.

2.2 The Contracting Members shall not use characteristics exceeding those specified in the Plan or establish new stations, except under the conditions provided for in Article 3 of the present Agreement.

2.3 The Contracting Members undertake to study and, in common agreement and to the extent possible, to put into practice the measures necessary to avoid or to reduce any harmful interference that might result from the application of this Agreement.

2.4 Should agreement, as envisaged in paragraph 3 above, prove impossible, the dissenting Members may resort to the procedure laid down in Article 22 of the Radio Regulations and, if necessary, to that laid down in Article 35 of the Convention.

ARTICLE 3

Content of the Plan

The Plan contains frequency assignments and associated characteristics to sound broadcasting stations in the band 87.5 - 108 MHz and is composed of two parts which are:

1) The first part, containing frequency assignments in the band 87.5 - 100 MHz, is intended to replace the sound broadcasting plans appearing in the Regional Agreements Stockholm 1961 and Geneva 1963. The provisions of this Agreement are applicable to these assignments in the relations between all contracting Members in the planning area.

2) The second part contains frequency assignments in the band 100-108 MHz prepared in accordance with No. 584 of the Radio Regulations in order to permit all countries of Region 1 to use this band for sound broadcasting. In the absence of provisions applicable to all countries in Region 1, to be adopted by a competent administrative Radio Conference, the provisions of this agreement are applicable to these assignments in the relations between all Contracting Members in the planning area. Non-Contracting members will be recommended to apply these provisions until a competent administrative Radio Conference adopts provisions applicable to them (see Resolution No. ...).

ARTICLE 4

Procedure for Modifications to the Plan

[see DL/30(Rev. 1)]

ARTICLE 5

Notification of Frequency Assignments

5.1 When an administration proposes to bring into use an assignment in conformity with the Agreement, it shall notify it to the IFRB in accordance with the provisions of Article 12 of the Radio Regulations.

ARTICLE 6

Accession to the Agreement

6.1 Any Member of the Union in the planning area which has not signed the Agreement may at any time deposit an instrument of accession with the Secretary-General, who shall immediately inform the other Members of the Union. Accession shall apply to the Plan as it stands at the time of accession and shall be made without reservations.

6.2 Accession to the Agreement shall become effective on the date on which the instrument of accesion is received by the Secretary-General.

ARTICLE 7

Scope of Application of the Agreement

7.1 This Agreement shall bind Contracting Members in their relations with one another but shall not bind those Members in the relations with non-Contracting Members. *

7.2 If a contracting Member makes reservations with regard to any provision of this Agreement, other Contracting Members shall be free to disregard the said provision in their relations with the Member which has made such reservations.

ARTICLE 8

Approval of the Agreement

8.1 Members shall notify their approval of this Agreement, as promptly as possible, to the Secretary-General, who shall at once inform the other Members of the Union.

ARTICLE 9

Denunciation of the Agreement

9.1 Any Contracting Member may denounce the Agreement at any time by a notification sent to the Secretary-General, who shall inform the other members of the Union.

9.2 Denunciation shall become effective one year after the date on which the Secretary-General receives the notification of denunciation.

9.3 On the date on which the denunciation becomes effective, the IFRB shall delete from the Plan the assignments appearing in the name of the Member that has denounced the Agreement.

---

* For relations with non-Contracting Members with respect to the band 100-108 MHz, see Article 3.

ARTICLE 10

Revision of the Agreement

10.1 No revision of this Agreement will be undertaken except by Regional Administrative Radio Conference convened in accordance with the procedure laid down in the international Telecommunication Convention, to which shall be invited at least all the Members of the Union in the planning area.

ARTICLE 11

Partial abrogation of the Regional Agreement for the European Broadcasting Area (Stockholm, 1961)

[to be developed]

ARTICLE 12

Partial abrogation of the Regional Agreement for the African Broadcasting Area (Geneva, 1963)

[to be developed]

ARTICLE 13

Duration and Entry into force of the Agreement

13.1 This Agreement and the annexed Plan have been established with a view to meeting the requirements of the broadcasting services in the band 87.5 - 108 MHz for a period of [ ] years from the date of entry into force of the Agreement.

13.2 This Agreement shall enter into force on [1 January 1987, at 0001 hours UTC].

13.3 This agreement shall remain in force until it is revised by a Regional Administration Radio Conference convened in accordance with the procedure laid down by the International Telecommunication Convention, to which shall be invited at least all the Members of this Union in the planning area.

In witness whereof, the undersigned Delegates of the Members of the Union mentioned above have, on behalf of the competent authorities of this respective countries, signed this Agreement in a single copy in the French, English and Spanish languages, in which, in case of dispute, the French text shall be authentic. This copy shall remain deposited in the archives of the Union. The Secretary-General shall forward one certified true copy to each Member of the Union signatory to this Agreement.

Done at Geneva, December 1984

INTERNATIONAL TELECOMMUNICATION UNION
REGIONAL BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1984

Document DT/45-E
23 November 1984
Original: English

WORKING GROUP 5A

THE CONSIDERATION OF FIXED AND MOBILE SERVICES IN MODIFICATION PROCEDURE TO THE PLAN IN REGION 3

From the conclusion of discussion in using coordination distances in procedure of modification to the Plan (Article 3), it is proposed that the following paragraph be included in this procedure.

4.5bis On receipt of the special section of the IFRB weekly circular referred to in 3.4c the administrations in Region 3 whose fixed and mobile services in the band 87.5 to 100 MHz may be affected shall use the method contained in / _ / to calculate the nuisance field. They should normally give their agreement to the proposed modification if the nuisance field is within the following limits:

Limits relating to mobile service

For broadcasting stations using only horizontal polarization: / 18 / dB(μV/m) and for broadcasting stations using vertical or mixed polarization: / 0 / dB(μV/m) both calculated at antenna height of / 10 / m above ground and assuming that the mobile service is vetically polarized.

These field strengths will be based on the curves appearing in Annex / _ / (50% of locations and 10% of time) / see Figures 2.3, 2.4 and 2.5 of Document 61 /. For mixed paths the calculation method as described in / 2.1.3.4 / of Document 61 will be applied.

Limits relating to fixed service

For broadcasting station / 0 / dB(μV/m), calculated at antenna height of / 10 / m above ground. This field strength will be based on the curves appearing in Annex / _ / (50% of location, 10% of time) / see Figures 2.3, 2.4 and 2.5 of Document 61 /. For mixed paths the calculation method as described in / 2.1.3.4 / of Document / 61 / will be applied.

H. MARVASTI
Chairman of Ad Hoc Group 5A-2

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/46-E
23 November 1984
Original: English

WORKING GROUP 5B

DRAFT RESOLUTION No. . . .

Procedure relating to fixed and mobile services in the band 104-108 MHz

The Regional Administrative Conference for the Planning of VHF Sound Broadcasting (Region 1 and part of Region 3) (Geneva, 1984).

noting

a) The FM Broadcasting Plan, Geneva 1984, shall be implemented in the frequency band 104-108 MHz in such a way that normal operation of the existing fixed and mobile services in this band is enabled on the conditions specified in the Radio Regulations.

b) Protection of the fixed and mobile services in the band 104-108 MHz shall not hinder a gradual implementation of the FM Broadcasting Plan in the period from the coming into force of the Agreement, Geneva 1984, until 31 December 1995 when full implementation of the broadcasting service is expected.

resolves

1. The gradual implementation of the band for FM broadcasting service should take place through the implementation of different frequency segments of the band 104-108 MHz at different stages in time during the period [1986] — 31 December 1995.

2. This gradual implementation shall be subject to bilateral or multilateral agreements between adminitrations concerned during or after this Conference and if possible before the entry into force of the Broadcasting Plan, but not later than one year after this date.

P. PETTERSSON
Chairman of Working Group 5B

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Corrigendum 1 to
Document DT/47
28 November 1984
Original: English

TECHNICAL WORKING GROUP

SECOND REPORT BY DRAFTING GROUP PL/D1

In the light of discussions in Working Group 5C the following corrections to Document DT/47 are offered for consideration.

1. To align the texts of the two reports by Drafting Group PL/D1, it is proposed to replace the last paragraph of the Annex to Document DT/47 by the last paragraph of the Annex to Document 131 (formerly Document DT/37), subject to the suppression of "SS" from the symobols identifying the type of propagation to be applied in the formula.

2. To account for steady interference, it is proposed to add in the Annex to Document DT/47 after the first paragraph the following new paragraph:

"Coordination distances for steady interference are included in Tables 5-7 when they exceed those for tropospheric interference. They were derived from Figures 2. and 2.2 of Document 61 and protection-ratio values 10 dB above those for tropospheric interference."

and correct in Table 5 the coordination distance given for P = 1 W and h_{eff} = 10 m to read "45" km.

H. EDEN
Chairman of PL/D1

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/47-E
26 November 1984
Original: English

TECHNICAL WORKING GROUP

SECOND REPORT BY DRAFTING GROUP PL/D1

In addition to the coordination-distance tables of the earlier Report, coordination distances are given in the Annex for use in the coordination procedure of Article / 3 / to ensure compatibility with television in the band 87.5 - 100 MHz according to the Regional Agreement, Stockholm, 1961.

The corrections in Table 8 were derived from Figure 4.1 of the Report to the second session of the Conference. To protect the accompanying sound signal in the television channels protection ratios were taken from Table II of Document 74 for the case of monophonic reception and tropospheric interference. They were modified, however, to account for the vision-to-sound power ratio of 10 dB.

H. EDEN
Chairman of PL/D1

ANNEX

COORDINATION DISTANCES FOR SOUND-BROADCASTING STATIONS CAUSING INTERFERENCE TO TELEVISION STATIONS

The coordination distances in Tables 5-7 shall be used in the coordination procedure of Article [3] to ensure compatibility with television stations in countries using the band 87.5 - 100 MHz for television in accordance with the Regional Agreement, Stockholm, 1961. The Tables apply to propagation paths which are fully overland or oversea (cold or warm) and are derived from the propagation curves of Figures 2.1, 2.2, 2.6, 2.7 and 2.8 of Document 61 in their tabular form [CCIR, 1982-1986]. They are based on a nuisance field of 52 dB(μV/m) obtained by interpolation between values given for the bands 41 - 68 MHz and 174 - 223 MHz in the "Technical Data used by the European VHF/UHF Broadcasting Conference, Stockholm, 1961" (part 4, section 4.2) and a protection ratio of 50 dB for tropospheric interference in accordance with section 4.2 of the "Report to the second session of the Conference". The coordination distances so obtained were rounded to the nearest multiple of 10 km or 5 km, respectively, for coordination distances above or below 100 km.

The corrections presented in Table 8 take account of the frequency dependency of the television signal's susceptibility to interference. To account for this effect the effective radiated power, in dB(W), shall be reduced by this correction before the coordination distance is determined. A value of 0 dB shall be used when the corrected effective radiated power, in dB(W), is negative.

Linear interpolation shall be used for effective radiated powers, in dB(W), and for effective antenna heights, in m, not appearing in Tables 5-7. Height values of 10 m or 1800 m, respectively, shall be taken when the actual effective antenna height is below the former or above the latter value.

For mixed paths the coordination distance, D_M, shall be the sum of the pertinent fractions of the coordination distances, D_L or D_S, for overland or oversea (either cold or warm sea, as the case may be) paths:

$$D_M = \frac{d_L}{d_T} + \frac{d_{Si}}{d_T} D_{Si} \quad (i = c \text{ or } w)$$

where

d_T is the total length of the propagation path; and

d_L, d_S are those parts of the path lengths which are fully overland or oversea of type i (cold or warm), respectively.

REFERENCE

[CCIR, 1982-1986] Document 5/2 (IWP 5/5)

TABLE 5

Coordination distances, D_L, for propagation paths over land

Effective radiated power		Effective antenna height (m)							
dBW	W	10	37.5	75	150	300	600	1,200	1,800
55	300 k	660	660	670	690	710	740	780	810
50	100 k	600	600	620	630	650	680	720	760
45	30 k	550	550	560	580	600	630	670	700
40	10 k	500	500	510	520	540	570	610	650
35	3 k	440	440	450	470	490	520	560	590
30	1 k	390	390	400	410	430	460	500	530
25	300	330	330	340	360	370	410	450	480
20	100	280	280	290	300	320	360	390	430
15	30	200	230	240	250	270	300	340	380
10	10	110	170	190	200	220	260	300	330
5	3	60	130	150	160	180	210	260	280
0	1	40	90	110	120	140	170	220	240

TABLE 6

Coordination distances, D_{Sc}, for propagation paths over cold sea

Effective radiated power		Effective antenna height (m)							
dBW	W	10	37.5	75	150	300	600	1,200	1,800
55	300 k	1,160	1,160	1,190	1,220	1,240	1,250	1,270	1,300
50	100 k	990	990	1,000	1,040	1,050	1,070	1,130	1,160
45	30 k	860	860	870	890	910	940	980	1,010
40	10 k	750	750	760	780	800	840	870	910
35	3 k	640	640	660	680	700	730	780	810
30	1 k	560	560	580	590	610	640	700	720
25	300	480	480	500	510	530	570	610	640
20	100	410	410	430	440	470	500	540	570
15	30	350	350	370	380	400	440	480	510
10	10	300	300	310	320	350	380	420	450
5	3	230	240	260	270	290	330	360	390
0	1	110	190	200	220	230	280	320	340

TABLE 7

Coordination distances, D_{SW}, for propagation paths over warm sea

Effective radiated power		Effective antenna height (m)							
dBW	W	10	37.5	75	150	300	600	1,200	1,800
55	300 k	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
50	100 k	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
45	30 k	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
40	10 k	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
35	3 k	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
30	1 k	950	950	990	1,020	1,050	1,080	1,110	1,150
25	300	720	720	750	780	810	850	890	920
20	100	560	560	600	620	640	680	730	750
15	30	440	440	480	500	520	560	600	620
10	10	350	350	380	400	420	460	500	510
5	3	280	280	300	330	350	370	400	450
0	1	140	210	230	260	280	300	340	370

TABLE 8

Correction, in dB, accounting for the television signal's frequency-dependent susceptibility to interference

Frequency MHz	Corr. dB	Frequency MHz	Corr. dB	Frequencies MHz	Corr. dB	Frequencies MHz	Corr. dB	Frequencies MHz	Corr. dB
92.0	25	93.2	2	95.2	8	88.4, 96.4	15	90.4, 98.4	14
92.1	22	93.3	0	95.3	9	88.5, 96.5	14	90.5, 98.5	16
92.2	19	to	!	95.4	10	88.6, 96.6	12	90.6, 98.6	18
92.3	16	94.3	0	95.5	11	88.7, 96.7	10	90.7, 98.7	21
92.4	13	94.4	1	87.6, 95.6	12	88.8, 96.8	9	90.8, 98.8	23
92.5	10	94.5	2	87.7, 95.7	13	88.9, 96.9	7	90.9, 98.9	25
92.6	8	94.6	3	87.8, 95.8	14	89.0, 97.0	5	to to	!
92.7	7	94.7	4	87.9, 95.9	15	to to	!	91.6, 99.6	25
92.8	6	94.8	5	88.0, 96.0	15	90.0, 98.0	5	91.7, 99.7	12
92.9	5	94.9	6	88.1, 96.1	16	90.1, 98.1	7	91.8, 99.8	12
93.0	4	95.0	6	88.2, 96.2	17	90.2, 98.2	10	91.9, 99.9	25
93.1	3	95.1	7	88.3, 96.3	17	90.3, 98.3	12		

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/48-E
26 November 1984
Original: English

COMMITTEE 5

Note from the Chairman of Committee 5

DRAFT NEW ARTICLE RELATING TO THE COMPATIBILITY WITH AERONAUTICAL RADIONAVIGATION SERVICES

The attached draft new Article is presented as a first draft for consideration by Committee 5.

K. OLMS
Chairman of Committee 5

Annex: 1

ANNEX

DRAFT NEW ARTICLE

COMPATIBILITY WITH AERONAUTICAL RADIONAVIGATION SERVICES

1. Implementation of the Plan

1.1 The Plan prepared by the Conference has identified the B1 interference to the aeronautical radionavigation stations. These cases have been resolved during the Conference or will be resolved before the entry into force of the Final Acts (see Resolution ...).

1.2 Before bringing into use an assignment in the Plan which has a symbol X, the administration responsible for the station shall inform the administration indicated in that symbol at the latest /X/ days before the bringing into use, indicating the dates and conditions under which the broadcasting station shall make experimental transmissions during a period of at least /Y/ days.

1.3 The two administrations concerned shall agree on the dates, duration and conditions of the test period.

1.4 The administration responsible for the aeronautical radionavigation station shall verify the interference situation resulting from the experimental transmission, and, in cases where it finds that the level of interference at the test point contained in Appendix /.../ exceeds the level indicated in the Annex /../, it shall inform the administration responsible for the broadcasting station with a copy to the Board.

1.5 The administration responsible for the broadcasting station shall adopt appropriate measures in order to eliminate the interference to the aeronautical radionavigation station.

1.6 When notifying the assignment of the broadcasting station in accordance with Article 12 of the Radio Regulations, the administration responsible for the broadcasting station shall indicate the agreement of the administration whose name appears in the symbol /X/.

2. Modifications to the Plan

2.1 Any administration wishing to modify the Plan shall obtain the agreement of any other administration whose aeronautical radionavigation stations are likely to be affected.

2.2 The aeronautical radionavigation stations of an administration are likely to be affected if the distance from the broadcasting station under consideration to the nearest point of the boundary of that country is less than the limit indicated in //.

2.3 The two administrations concerned shall agree on the criteria and methods to be used, using updated lists of the broadcasting and aeronautical radionavigation services as well as any criteria appearing in the latest relevant CCIR Recommendation.

2.4 Administrations may request the IFRB to carry out this coordination on their behalf, including any necessary calculations for the protection of the aeronautical services, provided they supply the necessary information to the IFRB.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/49-E
26 November 1984
Original: English

COMMITTEE 5

REPORT OF AD HOC GROUP 2 OF THE PLENARY

1. The rules contained in the Annex are proposed for application during this Conference in order to solve cases of type B1 incompatibility where non-European countries are involved.

2. It is suggested that these rules be also applied by European countries in resolving their type B1 incompatibility cases during or after this Conference.

3. The question has been discussed, how the incompatibility cases not resolved during this Conference should be indicated in the Plan. It is proposed that in this case the remarks column should indicate, that the broadcasting station in question must not be brought into operation before the resolution of type B1 incompatibility with the aeronautical radionavigation station/s of country/ies...

A form to identify unresolved cases of this kind will be developed by the IFRB.

4. The question was raised whether type A1 incompatibility cases should be indicated in the Plan. The majority view was that they should not. One delegation would however favour their indication in the Plan.

5. The opinion was expressed that in view of the great number of incompatibility cases in Europe the protection criteria might have to be reconsidered in the Technical Working Group of the Plenary. There was strong opposition to that from one delegation.

E. GEORGE
Chairman of ad hoc Group

Annex : 1

ANNEX

RULES FOR THE SETTLEMENT OF TYPE B1 INTERFERENCE INCOMPATIBILITIES OF BROADCASTING STATIONS WITH REGARD TO AERONAUTICAL RADIONAVIGATION STATIONS

The following definitions apply:

Primary station: Broadcasting station, the power of which at the input to the aeronautical radionavigation receiver is equal to or above the trigger level. The frequency of primary stations appear in column 1 of the IFRB computer analysis.

Secondary station: Broadcasting station, the power of which at the input to the aeronautical radionavigation receiver is equal to or above the cut-off level but below the trigger level. A station identified in the IFRB computer list, column 4, is a secondary station unless it does not appear again for the same intermodulation case in column 1.

1. If all broadcasting stations contributing to the incompatibility case belong to the country operating the aeronautical radionavigation station, this case will not be treated at the Conference. The IFRB shall offer assistance to the country concerned, if it cannot resolve the case itself.

All cases for which this rule applies can easily be identified from the IFRB computer analysis.

2. If all broadcasting stations contributing as "primary stations" to the incompatibility case belong to the country operating the aeronautical radionavigation station, this case should be treated as Rule 1 after Rule 4 has been applied for the foreign broadcasting station contributing as "secondary station" to the incompatibility.

3. If at least one broadcasting station contributing as "primary station" to the incompatibility is situated in a country other than that operating the aeronautical radionavigation station, the following measures shall be considered:

a) reduction of power of all primary stations in the direction to the test point considered (by reducing the transmitter output power, by reducing the e.r.p. by means of an appropriate antenna diagram, or both);

b) an alternative frequency for one of the broadcasting stations shall be searched;

c) in exceptional cases an alternative frequency for the aeronautical radionavigation station may be searched.

a) to c) are not given in the order of priority. The most appropriate measure will depend on the particular case.

Before applying any measure indicated in a) to c) Rule 4 shall be applied for primary and secondary broadcasting stations involved.

4. All broadcasting stations involved shall reduce their power in the direction to the test point considered, where this is possible without reducing their service area.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/50-E
26 November 1984
Original: English

Source: Report of the first session
CCIR Volume IX, Part 1, page 59,
Documents 61 and 74

WORKING GROUP 5C

FIRST REPORT OF DRAFTING GROUP 5C-1

The annex contains texts proposed for Annex 2 to the Final Acts.

E. GEORGE
Chairman of the Drafting Group

Annex: 1

ANNEX

ANNEX 2 TO THE FINAL ACTS

Technical data used for the preparation of the Plan

CHAPTER 1

DEFINITIONS

The following definitions supplement those contained in the Convention and in the Radio Regulations.

1.1 Coverage area

The area within which the field strength of the wanted transmitter is equal to or greater than the usable field strength.

In this area the protection against interference is provided for 99% of time.

Note: The field strength of the wanted transmitter is derived from the propagation curve relating to 50% of locations and for 50% of time.

1.2 Service area

The part of the coverage area in which the administration has the right to demand that the agreed protection conditions be provided.

1.3 Usable field strength (E_u)

Minimum value of the field strength necessary to permit a desired reception quality, under specified receiving conditions, in the presence of natural and man-made noise and interference, either in an existing situation or as determined by agreements or frequency plans.

Note 1. – **The desired quality is determined in particular by the protection ratios against noise and interference and, in the case of fluctuating noise or interference, by the percentage of time during which the required quality must be ensured.**

Note 2. – **The receiving conditions include, amongst others:**

- **the type of transmission and frequency band used;**
- **the receiving equipment characteristics (antenna gain, receiver characteristics, siting);**
- **receiver operating conditions, particularly the geographical zone, the time and the season, or if the receiver is mobile, the local variations of the field strength due to propagation effects.**

Note 3: The usable field strength is calculated by the simplified multiplication method, tropospheric interference being derived from the propagation curves relating to 50% of locations and for 1% of time, and steady interference being derived from propagation curves relating to 50% of locations and for 50% of the time. However, for comparison purposes, the power sum method[1] will be used, in the area from the Shatt-al-Arab to the Gulf of Oman, at the request of administrations concerned.

1.4 Nuisance field

The field strength of the interfering transmitter (at its pertinent e.r.p.) enlarged by the relevant protection ratio.

---

[1] See CCIR Recommendation 499.

CHAPTER 2

PROPAGATION

2.1 Propagation data for VHF broadcasting

2.1.1 General

The propagation data given in this chapter are intended for use in the planning of the broadcast service. They are based on CCIR Recommendation 370-4. They relate field strength to path length and the effective transmitting antenna height. They represent the field strength exceeded at 50% of locations for 50% and 1% of the time and apply to both horizontal and vertical polarization of the transmitting antenna.

The data are given for various types of areas and climates, namely, land, cold sea, warm sea and areas subject to extreme super-refractivity. The definition of these categories has to be based on statistical data and so is to a certain extent arbitrary, but experience indicates that the following distinctions are appropriate for the application of the data set out in this chapter.

Cold sea

Seas, oceans and other substantial bodies of water at latitudes greater than 23.5° North or South, but excluding the Mediterranean, the Black Sea, the Red Sea and the area extending from the Shatt-al-Arab to and inlcuding the Gulf of Oman.

Warm sea

Seas, oceans and other substantial bodies of water at latitudes less than 23.5° North or South, including the Mediterranean and the Black Sea.

Areas of extreme super-refractivity

Seas, oceans and other substantial bodies of water in the area extending from the Shatt-al-Arab to and including the Gulf of Oman and possibly the Red Sea.

2.1.2 Areas subject to extreme super-refractivity

2.1.2.1 Oversea paths

For oversea path calculations for 50% of the time, Figure 2.2 has been used. For the application of the 1% time curves, the sea area included also a coastal strip extending up to 50 km inland, and it shall also include for the Nile delta region (from 30°E to 32°E) a coastal strip extending up to 200 km inland.

For oversea paths in the area from the Shatt-al-Arab to (and including) the Gulf of Oman, calculations for propagation occurring for 1% of the time have been based on the following formulae :

$E = 106.9 - 20 \log d$ for $10 \leqslant d \leqslant 400$

$E = 78.9 - 0.06\ d$ for $d > 400$

where d = path length in km

E = field strength in dB(μV/m)

2.1.2.2 Overland paths

For overland path calculations for 50% of the time, Figure 2.1 has been used. For overland path calculations for 1% of the time, Figure 2.6 has been used, but any coastal strip as defined in 2.1.2.1 has been treated as sea.

2.1.2.3 Mixed paths

For both 1% and 50% of the time mixed paths have been appraised according to the procedure set out in section 2.1.3.5.

2.1.3 Application of the curves

2.1.3.1 Time variability

The values of field strengths given in Figures 2.1 to 2.5, are those exceeded for 50% and 1% of the time. They are expressed in decibels relative to 1 μV/m and correspond to an effective radiated power of 1 kW.

The 50% time curves have been used for the determination of coverage areas. The 50% and 1% time curves have been used for interference calculations for steady and tropospheric interference respectively.

2.1.3.2 Effective transmitter antenna height

The effective height of the transmitting antenna is defined as its height over the average level of the ground between distances of 3 km and 15 km from the transmitter in the direction to the receiver. The height of the receiving antenna, h_2, has been assumed to be 10 m above local terrain.

The curves given in Figures 2.1 to 2.5 correspond to effective transmitter antenna heights from 37.5 to 1,200 metres. For effective antenna heights of 20 m and 10 m additional curves can be derived from the 37.5 m curve by applying correction factors of -5 dB and -11 dB for distances up to 25 km, and 0 dB in both cases for distances in excess of 250 km, with linear interpolation for intermediate distances. For effective transmitter antenna heights, h_1, of less than 10 m, the values derived for 10 m have been used. For effective transmitter antenna heights, h_1, in excess of 1,200 m, the field strength at a distance of x km from the transmitter has been taken to be the same as the field strength given by the curve for an effective height of 300 m at a distance of $(x + 70 - 4.1\sqrt{h_1})$ km.

As this extrapolation is only applicable to trans-horizon distances its use is limited to distances beyond $x = (4.1\sqrt{h_1} + 70)$ km. For distances, between 100 km and $x = (4.1\sqrt{h_1} + 70)$ km it is assumed that the field strength exceeds that for 1,200 m by the same amount as at $x = (4.1\sqrt{h_1} + 70)$ km calculated in accordance with the above procedure. For smaller distances this increment has been determined by linear interpolation between 0 dB at 20 km and the height-dependent value at 100 km distance. This is subject to the condition that the free space field strength is not exceeded.

2.1.3.3 Location variability

The curves given are representative for 50% of locations, the percentage which has been used for planning purposes.

2.1.3.4 Terrain irregularity correction

The curves for propagation overland refer to the kind of irregular rolling terrain found in many parts of Region 1. No terrain irregularity correction has been taken into account in establishing the Plan.

2.1.3.5 Mixed land/sea path calculations

When the propagation path is partially over land and partially over sea, the following method has been **used for interpolation between the appropriate land and sea curves.**

Let

$E_{L,\,t}$: **field strength for land path equal in length to the mixed path for t% of the time,**

$E_{S,\,t}$: **field strength for sea path equal in length to the mixed path for t% of the time,**

$E_{M,\,t}$: **field strength for mixed path for t% of the time,**

d_S : **length of sea path,**

d_T : **length of total path.**

The field strength for the mixed path ($E_{M,\,t}$) **is then determined by using the formula :**

$$E_{M,\,t} = E_{L,\,t} + \frac{d_S}{d_T}\left[E_{S,\,t} - E_{L,\,t}\right]$$

2.2 Propagation data for the aeronautical radionavigation service

In the incompatibility calculations the free space propagation conditions are used. The calculations are limited to the test points of the aeronautical radionavigation station in line-of-sight from the broadcasting station. It being assumed that the effective Earth's radius is 4/3 of the actual radius.

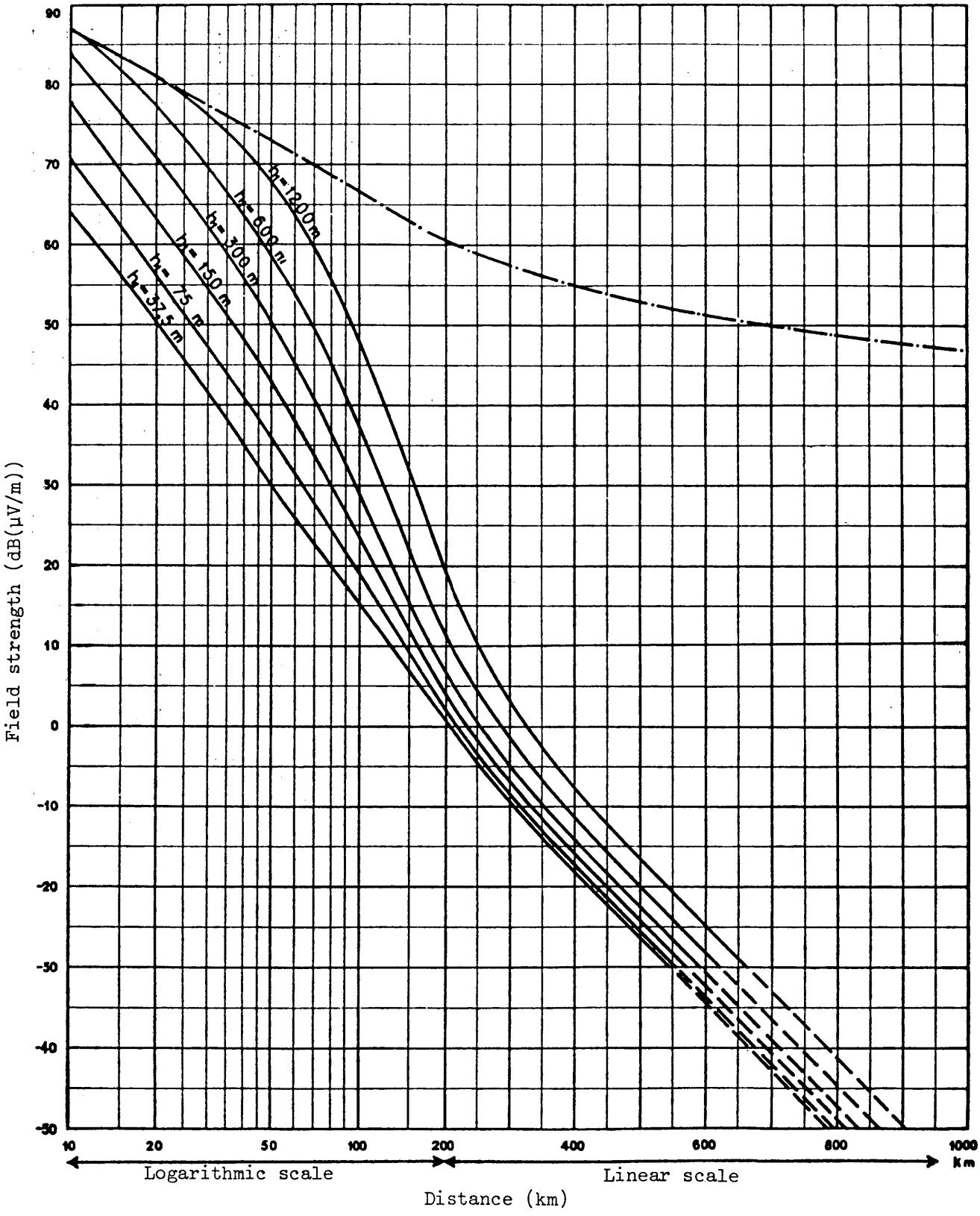


FIGURE 2.1

Field strength (dB(μV/m)) for 1 kW e.r.p.

Propagation over land

50% of the time; 50% of the locations; h_2 = 10 m

-.-.-.- Free space

PROPAGATION CURVES FOR THE BROADCASTING SERVICE

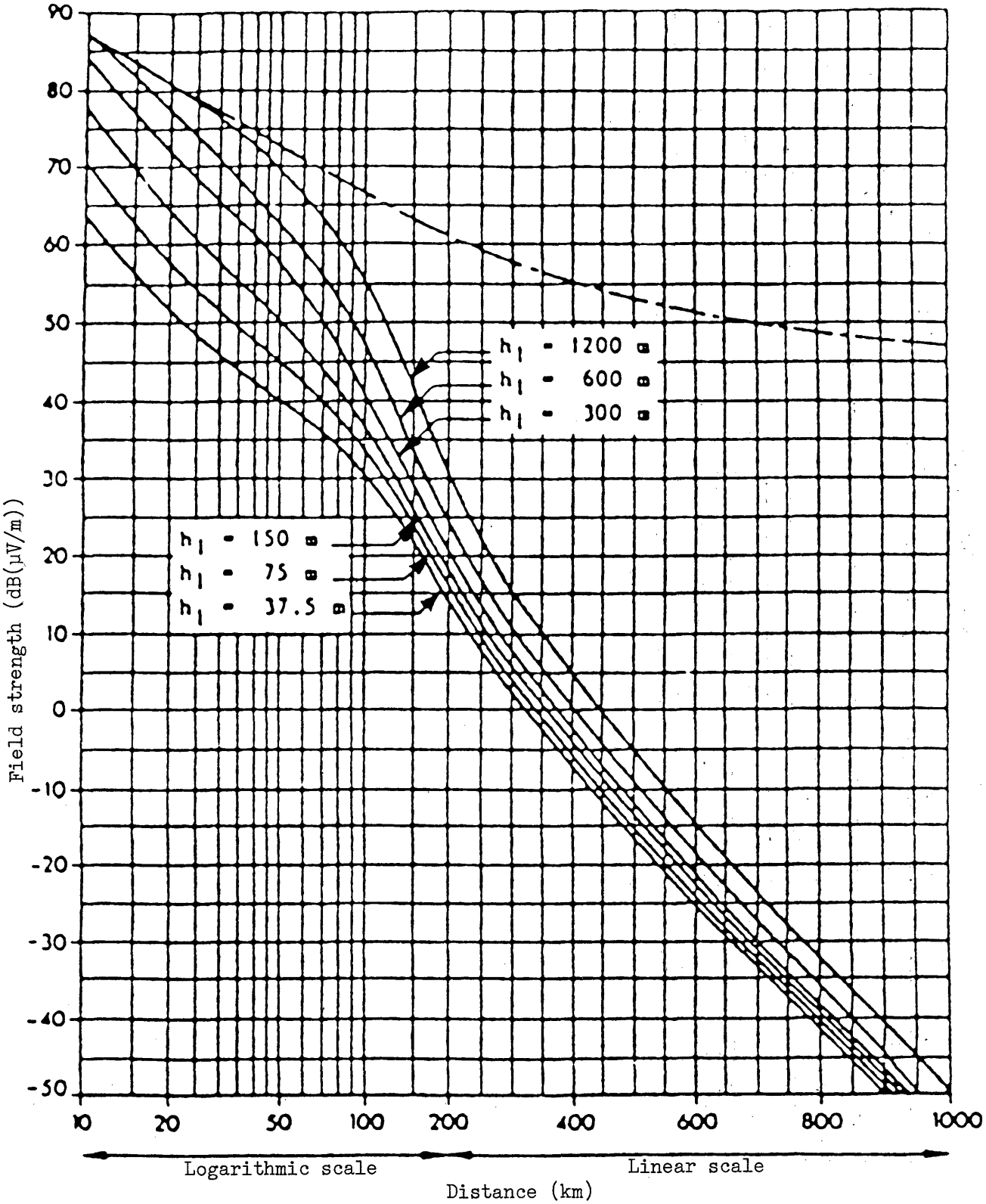


FIGURE 2.2

Field strength (dB(μV/m)) for 1 kW e.r.p.

Propagation over sea
50% of the time; 50% of the locations; h_2 = 10 m
-.-.-.- Free space

PROPAGATION CURVES FOR THE BROADCASTING SERVICE

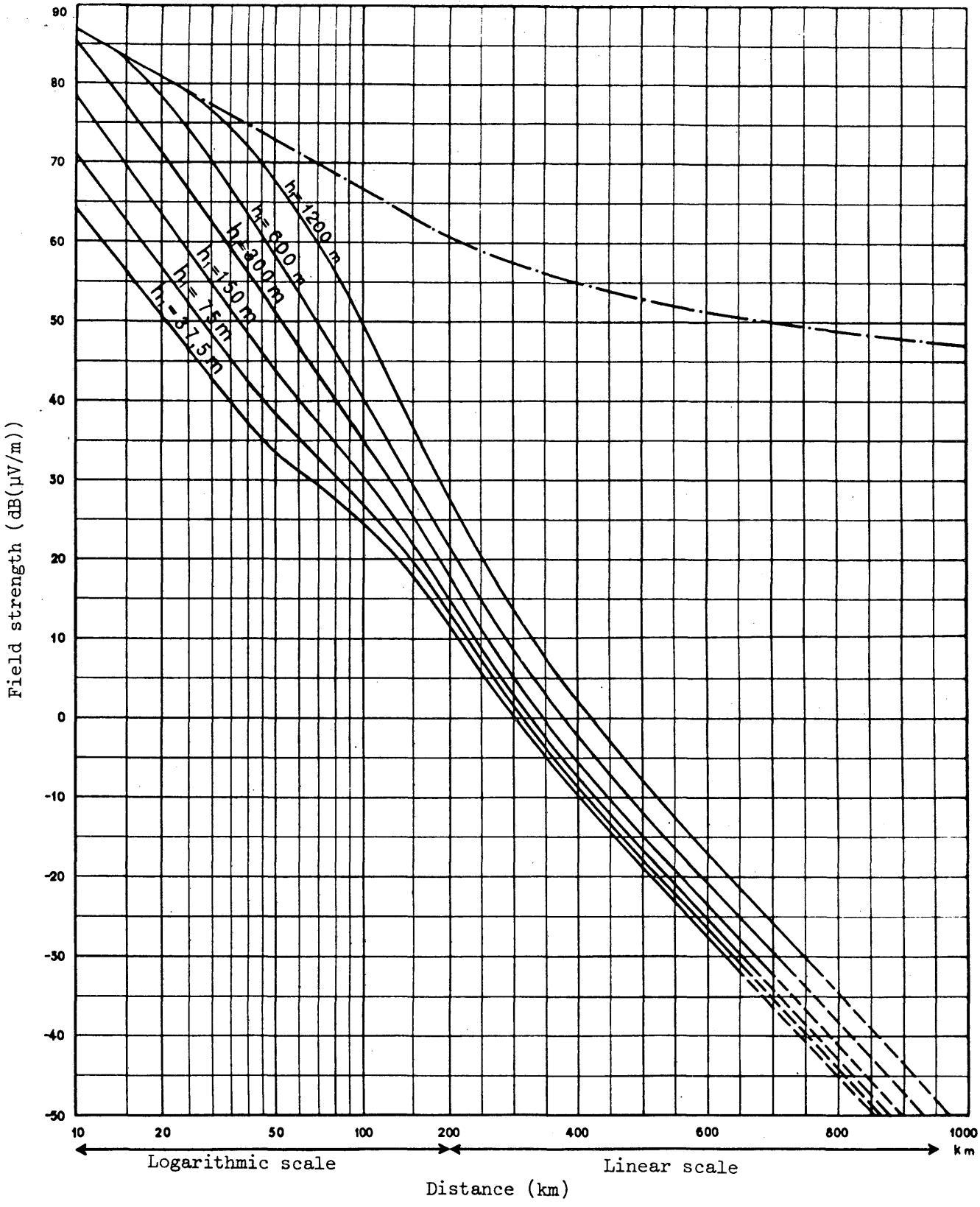


FIGURE 2.3

Field strength (dB(μV/m)) for 1 kW e.r.p.

Propagation over land
1% of the time; 50% of the locations; h_2 = 10 m
-.-.-.- Free space

PROPAGATION CURVES FOR THE BROADCASTING SERVICE

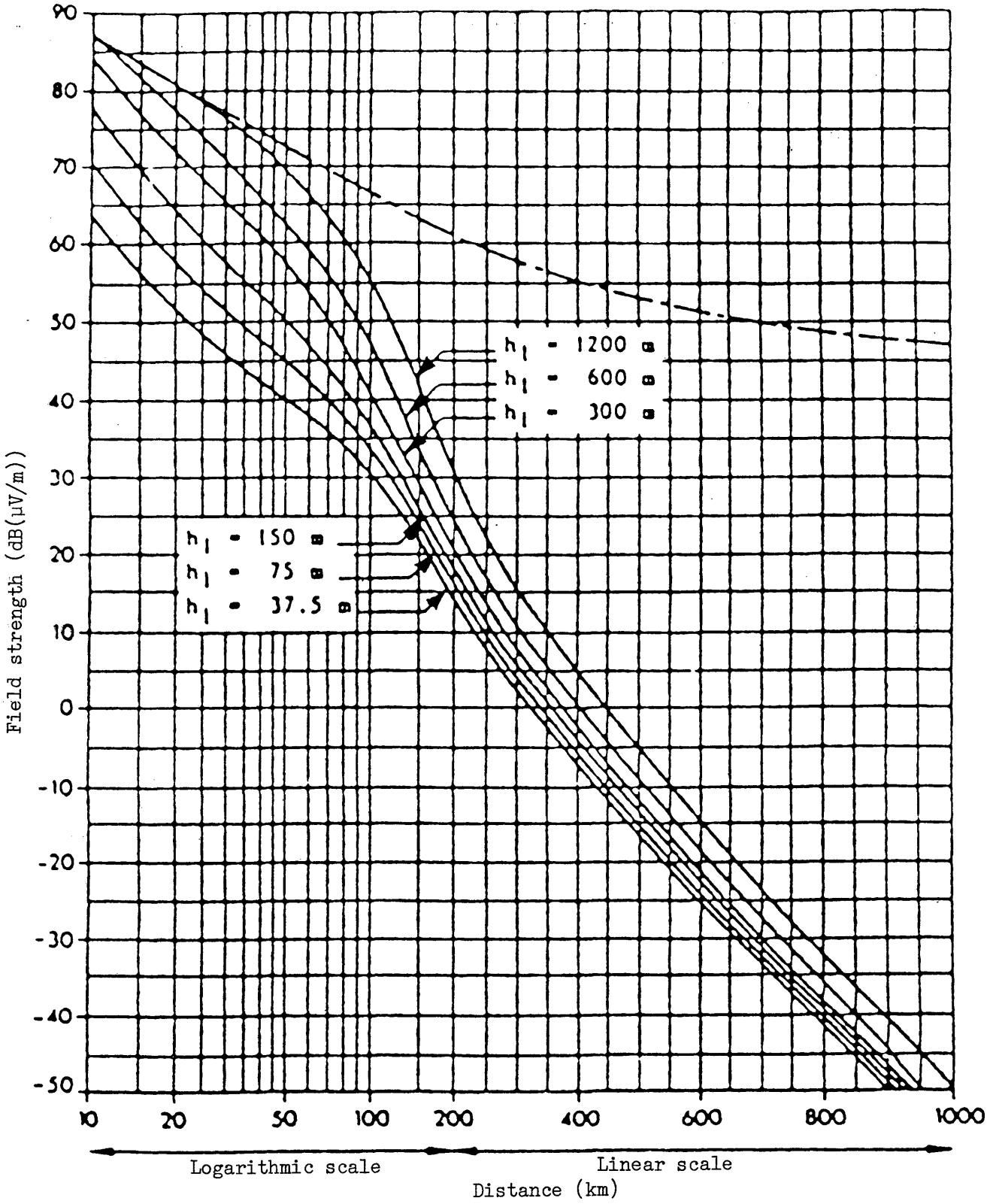


FIGURE 2.4

Field strength (dB(μV/m)) for 1 kW e.r.p.

Propagation over cold sea
1% of the time; 50% of the locations; h_2 = 10 m
-.-.-.- Free space

PROPAGATION CURVES FOR THE BROADCASTING SERVICE

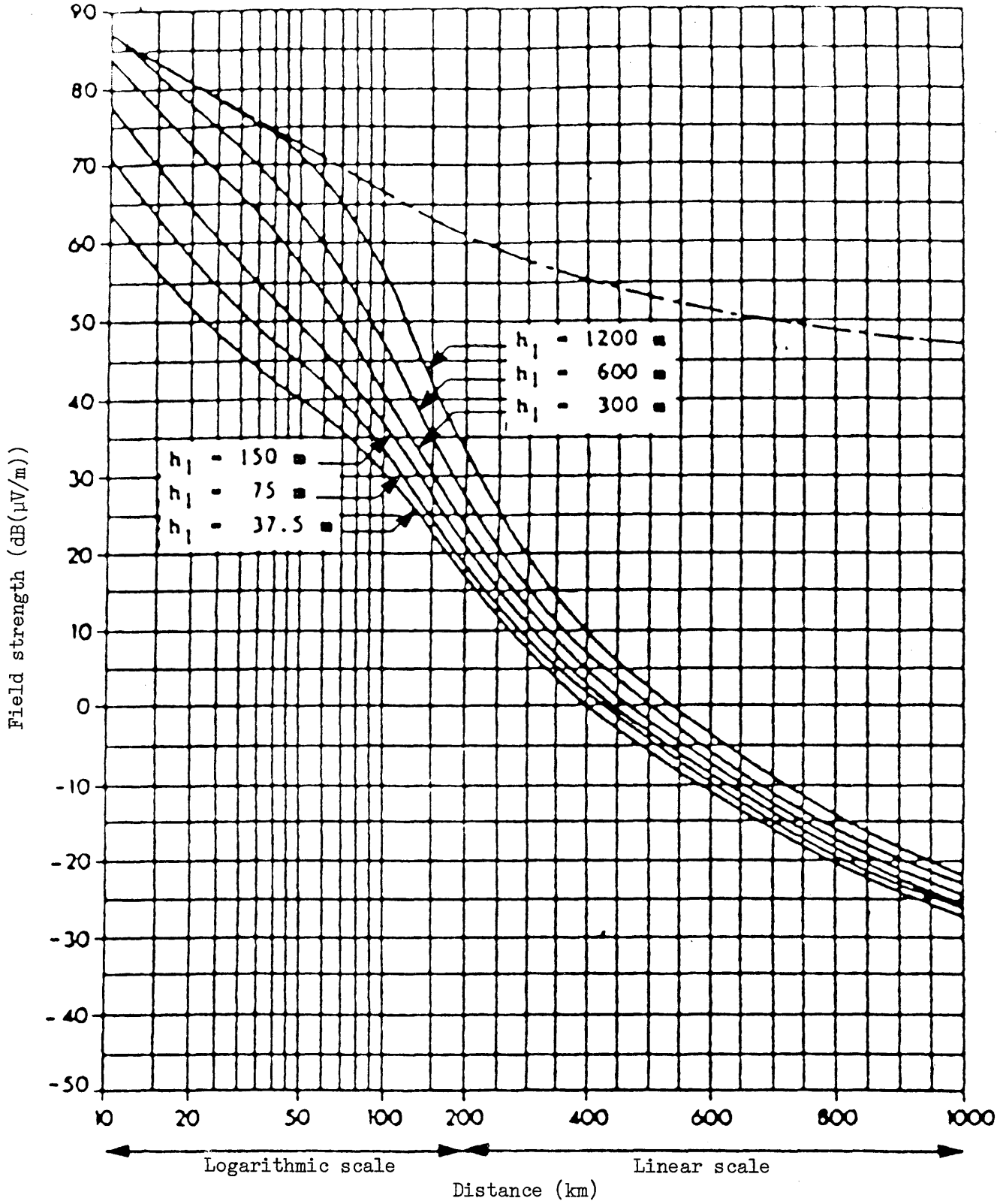


FIGURE 2.5

Field strength (dB(μV/m)) for 1 kW e.r.p.

Propagation over warm sea (excluding areas subject to extreme super-refractivity)
1% of the time; 50% of the locations; h_2 = 10 m
-.-.-.- Free space

PROPAGATION CURVES FOR THE BROADCASTING SERVICE

CHAPTER 3

TECHNICAL STANDARDS AND TRANSMISSION CHARACTERISTICS FOR THE SOUND BROADCASTING SERVICE

3.1 General

Planning has been based on stereophonic transmissions only.

3.2 Channel spacing

A uniform spacing of 100 kHz has been adopted in principle. The nominal carrier frequencies are in principle integral multiples of 100 kHz.

3.3 Modulation standards

The radio-frequency signal consists of a carrier, frequency modulated by a baseband signal according to the specifications of the polar-modulation system or of the pilot-tone system. The maximum frequency deviation is ±50 kHz for the polar-modulation system and ±75 KHz or ±50 kHz for the pilot-tone system.

The pre-emphasis characteristics of the sound signals [M and S] are identical to the admittance-frequency curve of a parallel resistance-capacitance circuit having a time constant of 50 µs.

Note - Supplementary signals may be added by means of sub-carriers, provided that the maximum carrier frequency deviation and protection ratio relevant to the stereophonic transmission are not exceeded.

3.4 Protection ratios

The radio-frequency protection ratios required to give satisfactory stereophonic reception for 99% of the time, for transmissions using the pilot-tone system and a maximum frequency deviation of ±75 kHz, are given by curve S2 in Figure 3.1. For steady interference, a higher degree of protection is required; this is shown by curve S1 in Figure 3.1. The protection ratios at important frequency spacing values are also given in Table 3.1.

The radio-frequency protection ratios for satisfactory reception in the case of tropospheric interference (99% of time), or for steady interference for stereophonic transmissions using the pilot-tone system, or the polar modulation system with a maximum frequency deviation of ±50 kHz are given by Table 3.2 and Figure 3.2.

The radio-frequency protection ratios for satisfactory stereophonic reception in the case of tropospheric interference (99% of time), or for steady interference where the wanted and interfering transmitters use different maximum frequency deviations, are given in Table 3.3.

The protection ratios for stereophonic broadcasting assume the use of a low-pass filter following the frequency-modulation demodulator in the receiver designed to reduce interference and noise at frequencies greater than 53 kHz in the pilot-tone system and greater than 46.25 kHz in the polar-modulation system. Without such a filter or an equivalent arrangement in the receiver, the protection-ratio curves for stereophonic broadcasting cannot be met, and significant interference from transmissions in adjacent or nearby channels is possible.

Note 1 - Data systems or other systems providing supplementary information, if introduced, should not cause more interference to stereophonic services than is indicated by the protection-ratio curves in Figure 3.1[1]. It has not been considered practicable in the planning to provide additional protection to data systems or other systems providing supplementary information.

Note 2 - The protection ratios for steady interference provide approximately 50 dB signal-to-noise ratio. (Weighted quasi-peak measurement according to Recommendation 468 of the CCIR, with a reference signal at maximum frequency deviation.)[2]

---

[1] For further information see CCIR Report 463.

[2] For further information see CCIR Report 796.

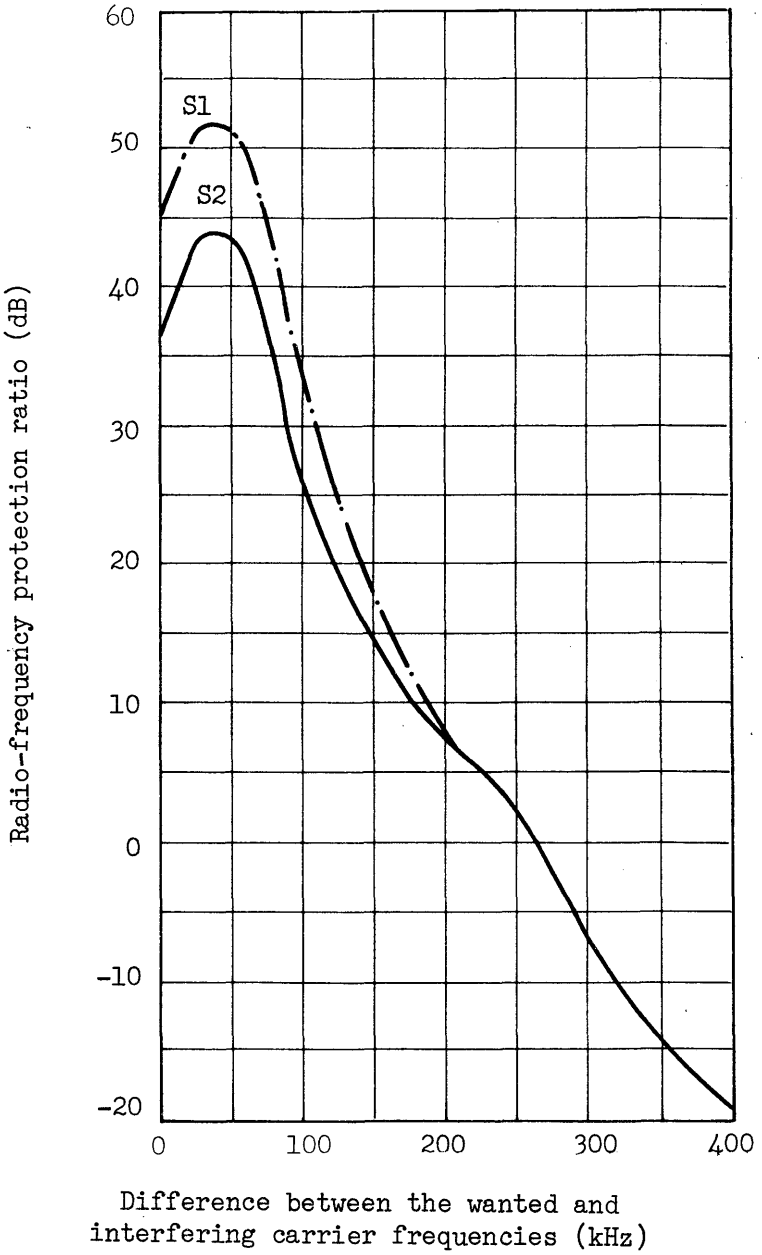


FIGURE 3.1

Radio-frequency protection ratio required by broadcasting services in band 8 (VHF) at frequencies between 87.5 MHz and 108 MHz using a maximum frequency deviation of ±75 kHz

Curve S1 : Stereophonic broadcasting; steady interference
Curve S2 : Stereophonic broadcasting; tropospheric interference (protection for 99% of the time)

TABLE 3.1

Frequency spacing (kHz)	Radio-frequency protection ratio (dB) using a maximum frequency deviation ±75 kHz	
	Stereophonic transmission	
	Steady interference	Tropospheric interference
0	45	37
25	51	43
50	51	43
75	45	37
100	33	25
150	18	14
200	7	7
250	2	2
300	-7	-7
350	-15	-15
400	-20	-20

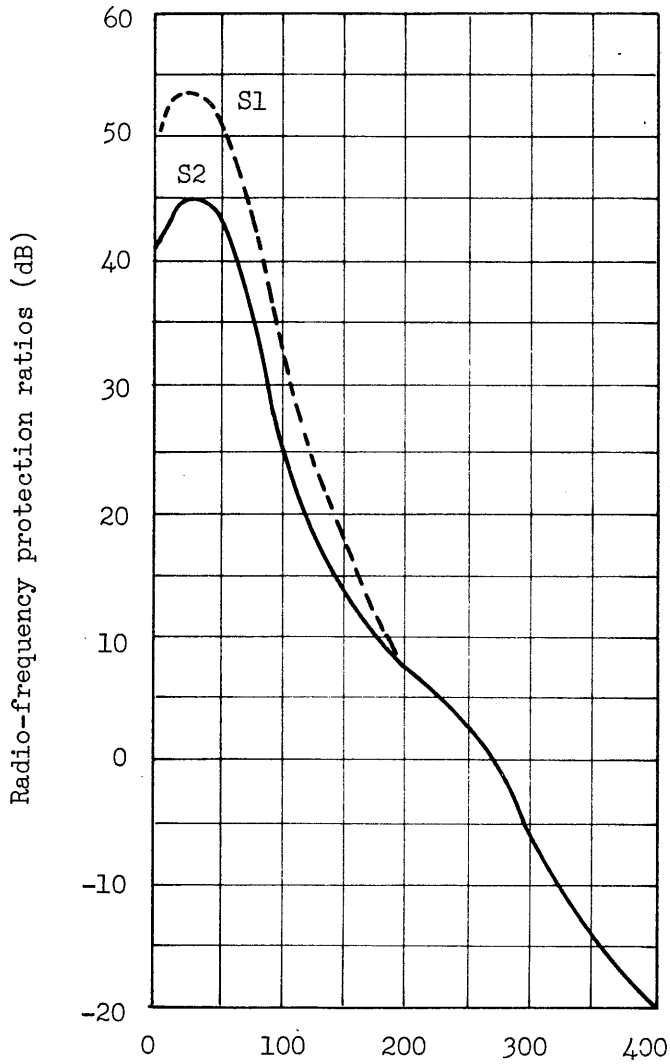


FIGURE 3.2

Radio-frequency protection ratios required by broadcasting services in band 8 (VHF) using a maximum frequency deviation of ± 50 kHz

Curve S1 : Stereophonic broadcasting, steady interference
Curve S2 : Stereophonic broadcasting, tropospheric interference (99% of the time)

TABLE 3.2

Frequency spacing (kHz)	Radio-frequency protection ratios (dB) using a maximum frequency deviation of ±50 kHz	
	Stereophonic transmission	
	Steady interference	Tropospheric interference
0	49	41
25	53	45
50	51	43
75	45	37
100	33	25
125	25	18
150	18	14
175	12	11
200	7	7
225	5	5
250	2	2
275	0	0
300	-7	-7
325	-10	-10
350	-15	-15
375	-17.5	-17.5
400	-20	-20

TABLE 3.3

Frequency spacing (kHz)	Radio-frequency protection ratios (dB) stereophonic transmission			
	Maximum frequency deviation: wanted transmitter ±50 kHz interfering transmitter ±75 kHz		Maximum frequency deviation: wanted transmitter ±75 kHz interfering transmitter ±50 kHz	
	Steady interference	Tropospheric interference	Steady interference	Tropospheric interference
0	49	41	45	37
25	53	45	51	43
50	51	43	51	43
75	45	37	45	37
100	33	25	33	25
125	25	18	24.5	18
150	18	14	18	14
175	12	11	11	10
200	7	7	7	7
225	5	5	4.5	4.5
250	2	2	2	2
275	0	0	-2	-2
300	-7	-7	-7	-7
325	-10	-10	-11.5	-11.5
350	-15	-15	-15	-15
375	-17.5	-17.5	-17.5	-17.5
400	-20	-20	-20	-20

3.5 Calculation of nuisance field

To apply the protection-ratio curves of Figure 3.1 it is necessary to determine whether, in the particular circumstances, the interference is to be regarded as steady or tropospheric[1]. A suitable criterion for this is provided by the concept of "nuisance field" which is the field strength of the interfering transmitter (at its pertinent e.r.p.) enlarged by the relevant protection ratio.

Thus, the nuisance field for steady interference is given by the formula

$$E_t = P + E(50,50) + A_s$$

and the nuisance field for tropospheric interference is given by the formula

$$E_t = P + E(50,T) + A_t$$

where

P : e.r.p. (dB(1 kW)) of the interfering transmitter;
A : radio-frequency protection ratio (dB);
E(50,T) : field strength (dB(μV/m)) of the interfering transmitter, normalized to 1 kW, and exceeded during T% of the time,

and where indices s and t indicate steady or tropospheric interference respectively.

The protection-ratio curve for steady interference is applicable when the resulting nuisance field is stronger than that resulting from tropospheric interference.

i.e. $E_s \geqslant E_t$
This means that A_s should be used in all cases when :
$E(50,50) + A_s \geqslant E(50,T) + A_t$.

3.6 Minimum usable field strength

The planning has been based on the following median values of the minimum usable field strength (measured 10 m above ground level) for the stereophonic service: 54 dB(μV/m) in rural areas.

This value applies for systems with a maximum frequency deviation of ±50 kHz or ±75 kHz.

3.7 Maximum radiated power

No values for maximum power limits have been specified.

---

[1] For further information see CCIR Recommendation 412.

3.8 Characteristics of transmitting and receiving antennas - polarization

3.8.1 Transmitting antennas

The maximum effective radiated power and, in the case of directional antennas, the azimuth(s) relative to true north together with the azimuths of the -3 dB points anti-clockwise and clockwise respectively from the azimuth of the maximum, have been indicated in accordance with Appendix 1 of the Radio Regulations (section D, column 9).

The attenuation (dB) with respect to the maximum value of the effective radiated power has been specified at 10° intervals in a clockwise direction starting at true north. Where it has not been possible to provide information in this detail, administrations have provided, if possible, the values at 30° intervals in a clockwise direction starting at true north.

In the case of mixed polarized transmissions the effective radiated powers and radiation patterns of the horizontally and vertically polarized components have been specified separately.

3.8.2 Receiving antennas

The directivity curve of Figure 3.3 [1] has been used for the planning of stereophonic sound services, the antenna being assumed to be at a height of 10 m above ground.

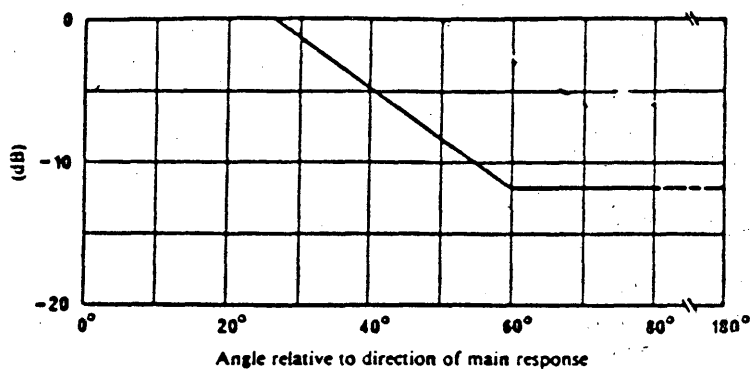


FIGURE 3.3

Discrimination obtained by the use of directional receiving antennas

stereophonic-sound broadcasting

Note 1 : It is considered that the discrimination shown will be available at the majority of antenna locations in built-up areas. At clear sites in open country, slightly higher values will be obtained.

Note 2 : The curve in Figure 3.3 is valid for signals of vertical or horizontal polarization, when both the wanted and the unwanted signals have the same polarization.

---

[1] For further information see CCIR Recommendation 599.

3.8.3 Polarization

Administrations have been free to choose which polarizations are to be used in their countries[1].

Polarization discrimination has not been taken into account in the planning procedure except in specific cases with the agreement of affected administrations. In such cases a value of 10 dB for orthogonal polarization discrimination has been used.

3.9 Receiver sensitivity and selectivity

Receiver sensitivity and selectivity have been taken into account when specifying the values of the minimum usable field strength and the protection ratios.

---

[1] For further information see CCIR Report 464.

CHAPTER 4

DETERMINATION OF THE USABLE FIELD STRENGTH BY THE SIMPLIFIED MULTIPLICATION METHOD

4.1 Principle of calculation

The usable field strength is determined for a specified coverage probability (with respect to time and location) and depends on the values of the nuisance fields.

$$E_{si} = P_i + E_{ni}\ (50, T) + A_i + B_i$$

where : E_{si} : the nuisance field of the i^{th} transmitter corrected by the discrimination factor of the receiving antenna.

P_i : the e.r.p. in dB(kW), of the i-th unwanted transmitter;

$E_{ni}\ (50, T)$: the field strength, in dB(μV/m), normalized to an e.r.p. of 1 kW, of the i-th unwanted transmitter. The field strength is exceeded at 50 % of the locations during at least T % (e.g. 1 %) of the time;

A_i : the radio-frequency protection ratio associated with the i-th unwanted transmitter, expressed in dB;

B_i : the receiving antenna discrimination, expressed in dB.

Appropriate account of the effect of multiple interference can be taken by the use of statistical computation methods among which the simplified multiplication method is the least complex. With this method the usable field-strength E_u can be calculated by way of iteration from :

$$p_c = \prod_{i=1}^{n} L(E_u - E_{si})$$

where : p_c : the coverage probability (e.g. 50 % of locations, (100 - T) % of time);

$L(x)$: the probability integral for a normal distribution.

4.2 Calculation by computer

The calculation of the usable field strength with the simplified multiplication method is based on the probability integral for a normal distribution :

$$L(x) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{x} e^{-\frac{t^2}{2}}\, dt$$

This integration however can be avoided in the practical calculation in replacing it by a polynomial approximation as follows :

$$L(x) \approx 1 - \tfrac{1}{2}(1 + a_1 x + a_2 x^2 + a_3 x^3 + a_4 x^4)^{-4} + \varepsilon(x)$$

with $a_1 = 0.196854$

$a_2 = 0.115194$

$a_3 = 0.000344$

$a_4 = 0.019527$

$\varepsilon(x)$ represents the error between the approximation and the exact value, received by the probability integral. Since $|\varepsilon(x)|$ is less than $2.5 \cdot 10^{-4}$ this error can be neglected.

The above approximation may also be used to calculate the multiple interference with the simplified multiplication method.

4.3 Manual calculation

In the following the basic material for the manual calculation of the usable field strength in applying the simplified multiplication method is given.[1]

The manual calculation needs only additions, subtractions, multiplications, divisions and the reading of a value from Table 4.1.

An example with five interfering transmitters is given in Table 4.2.

Experience has shown that it is expedient to begin with a value for E_u, which is 6 dB larger than the largest of the E_{si} values. If the difference between 0.5[2] and the result (product of the 5 values of $L(x_i)$) equals Δ, it is appropriate to modify the value of E_u by $\frac{\Delta}{0.05}$ to obtain a better approximation. The whole process can be repeated to receive better accuracy.

Table 4.2 shows, that even after the first step the difference to the precise value is in the order of 0.2 dB.

---

[1] For further details see CCIR Report 945.

[2] 0.5 represents the coverage probability for 50% of locations.

TABLE 4.1

Probability integral

$$\varphi(x) = \frac{2}{\sqrt{2\pi}} \int_0^x [\exp(-t^2/2)]\, dt$$

x	$\varphi(x)$	x	$\varphi(x)$	x	$\varphi(x)$	x	$\varphi(x)$
0.00	0.0000	0.60	0.4515	1.20	0.7699	1.80	0.9281
01	0.0080	61	0.4581	21	0.7737	81	0.9297
02	0.0160	62	0.4647	22	0.7775	82	0.9312
03	0.0239	63	0.4713	23	0.7813	83	0.9328
04	0.0319	64	0.4778	24	0.7850	84	0.9342
0.05	0.0399	0.65	0.4843	1.25	0.7887	1.85	0.9357
06	0.0478	66	0.4907	26	0.7923	86	0.9371
07	0.0558	67	0.4971	27	0.7959	87	0.9385
08	0.0638	68	0.5035	28	0.7995	88	0.9399
09	0.0717	69	0.5098	29	0.8029	89	0.9412
0.10	0.0797	0.70	0.5161	1.30	0.8064	1.90	0.9426
11	0.0876	71	0.5223	31	0.8098	91	0.9439
12	0.0955	72	0.5285	32	0.8132	92	0.9451
13	0.1034	73	0.5346	33	0.8165	93	0.9464
14	0.1113	74	0.5407	34	0.8198	94	0.9476
0.15	0.1192	0.75	0.5467	1.35	0.8230	1.95	0.9488
16	0.1271	76	0.5527	36	0.8262	96	0.9500
17	0.1350	77	0.5587	37	0.8293	97	0.9512
18	0.1428	78	0.5646	38	0.8324	98	0.9523
19	0.1507	79	0.5705	39	0.8355	99	0.9534
0.20	0.1585	0.80	0.5763	1.40	0.8385	2.00	0.9545
21	0.1663	81	0.5821	41	0.8415	05	0.9596
22	0.1741	82	0.5878	42	0.8444	10	0.9643
23	0.1819	83	0.5935	43	0.8473	15	0.9684
24	0.1897	84	0.5991	44	0.8501	20	0.9722
0.25	0.1974	0.85	0.6047	1.45	0.8529	2.25	0.9756
26	0.2041	86	0.6102	46	0.8557	30	0.9786
27	0.2128	87	0.6157	47	0.8584	35	0.9812
28	0.2205	88	0.6211	48	0.8611	40	0.9836
29	0.2282	89	0.6265	49	0.8638	45	0.9857
0.30	0.2358	0.90	0.6319	1.50	0.8664	2.50	0.9876
31	0.2434	91	0.6372	51	0.8690	55	0.9892
32	0.2510	92	0.6424	52	0.8715	60	0.9907
33	0.2586	93	0.6476	53	0.8740	65	0.9920
34	0.2661	94	0.6528	54	0.8764	70	0.9931
0.35	0.2737	0.95	0.6579	1.55	0.8789	2.75	0.9940
36	0.2812	96	0.6629	56	0.8812	80	0.9949
37	0.2886	97	0.6680	57	0.8836	85	0.9956
38	0.2961	98	0.6729	58	0.8859	90	0.9963
39	0.3035	99	0.6778	59	0.8882	95	0.9968
0.40	0.3108	1.00	0.6827	1.60	0.8904	3.00	0.99730
41	0.3182	01	0.6875	61	0.8926	10	0.99806
42	0.3255	02	0.6923	62	0.8948	20	0.99863
43	0.3328	03	0.6970	63	0.8969	30	0.99903
44	0.3401	04	0.7017	64	0.8990	40	0.99933
0.45	0.3473	1.05	0.7063	1.65	0.9011	3.50	0.99953
46	0.3545	06	0.7109	66	0.9031	60	0.99968
47	0.3616	07	0.7154	67	0.9051	70	0.99978
48	0.3688	08	0.7199	68	0.9070	80	0.99986
49	0.3759	09	0.7243	69	0.9090	90	0.99990
0.50	0.3829	1.10	0.7287	1.70	0.9109	4.00	0.99994
51	0.3899	11	0.7330	71	0.9127		
52	0.3969	12	0.7373	72	0.9146	4.417	$1-10^{-5}$
53	0.4039	13	0.7415	73	0.9164		
54	0.4108	14	0.7457	74	0.9181	4.892	$1-10^{-6}$
0.55	0.4177	1.15	0.7499	1.75	0.9199	5.327	$1-10^{-7}$
56	0.4245	16	0.7540	76	0.9216		
57	0.4313	17	0.7580	77	0.9233		
58	0.4381	18	0.7620	78	0.9249		
59	0.4448	19	0.7660	79	0.9265		
0.60	0.4515	1.20	0.7699	1.80	0.9281		

TABLE 4.2

1. Approximation E_u = 78 dB					σ_n = 8.3 dB
i	E_{si} (dB)	$z_i = E_u - E_{si}$ (dB)	$x_i = \frac{z_i}{\sigma_n\sqrt{2}}$	$\varphi_d(x_i)$ (from Table 1)	$L(x_i) = \frac{\varphi(x_i)}{2} + \frac{1}{2}$
1	64	14	1.19	0.7660	0.8830
2	72	6	0.51	0.3899	0.6950
3	60	18	1.53	0.8740	0.9370
4	50	28	2.39	0.9831	0.9916
5	45	33	2.81	0.9950	0.9975
					$\prod_{i=1}^{5} L(x_i) = 0.5688$
					$\frac{\Delta}{0.05} = \frac{0.5-0.5688}{0.05} = -1.38$ dB
2. Approximation E_u = 76.62 dB					
1	64	12.62	1.08	0.7199	0.8600
2	72	4.62	0.39	0.3035	0.6518
3	60	16.62	1.42	0.8444	0.9222
4	50	26.62	2.26	0.9762	0.9881
5	45	31.62	2.69	0.9929	0.9965
					$\prod_{i=1}^{5} L(x_i) = 0.5090$
					$\frac{\Delta}{0.05} = \frac{0.5-0.5090}{0.05} = -0.18$ dB
3. Approximation E_u = 76.44 dB					
1	64	12.44	1.06	0.7109	0.8555
2	72	4.44	0.38	0.2961	0.6481
3	60	16.44	1.40	0.8385	0.9193
4	50	26.44	2.25	0.9756	0.9878
5	45	31.44	2.68	0.9927	0.9964
					$\prod_{i=1}^{5} L(x_i) = 0.5016$
					$\frac{\Delta}{0.05} = \frac{0.5-0.5016}{0.05} = -0.03$ dB

The 4th approximation yields E_u = 76.44 − 0.03 = 76.41 dB.
This value can be considered as sufficiently exact.

CHAPTER 5

FREQUENCY SHARING BETWEEN SOUND TELEVISION AND BROADCASTING

5.1 Introduction

Several countries are operating television transmitters using the D/SECAM system in the band 87.5 to 100 MHz. All sound broadcasting requirements in the coordination area with countries using this band for television in accordance with the Regional Agreement, Stockholm, 1961, have been assessed for compatibility with television stations.

5.2 Protection to sound broadcasting stations within the coordination area

Calculations have been carried out to verify that there is no deterioration in the service areas of existing sound broadcasting stations which are operating in accordance with the Regional Agreement, Stockholm, 1961 (notified to IFRB before 1 December 1983) and which are situated in the coordination area with countries using this band for television in accordance with the Regional Agreement, Stockholm, 1961. For comparison purposes, the reference situation (as described in paragraph 5.4 below) has been used as a basis.

A sound broadcasting station has been considered to be situated in the coordination area when its distance from the nearest point of the border of the country using this band for television in accordance with the Regional Agreement, Stockholm, 1961, is less than the distance given in Table B of Annex 1 of the Stockholm Agreement.

5.3 Comparison

For the purpose of assessing compatibility with television stations (see paragraph 5.1 above) or protection to service areas of existing sound broadcasting transmitters (see paragraph 5.2 above), the existing situation has been used as a reference situation and has been compared with the new plan in the course of its development. To permit these comparisons it has been necessary to calculate (as in paragraph 5.7 below) the usable field strength (E_u) for all television transmitters and all existing sound broadcasting stations (as in paragraphs 5.1 and 5.2 above) at a number of test locations (not more than 12) within the existing service area, as specified by the administrations concerned.

5.4 Reference situation

All existing or planned assignments to television, or sound broadcasting, stations in the band 87.5 to 100 MHz appearing in the Regional Plan, Stockholm, 1961 and those for which the procedure of the Regional Agreement, Stockholm, 1961, has been successfully applied before 1 December 1983 have been taken into account. The sound broadcasting stations in Region 3 and in the part of Turkey not covered by the Regional Agreement, Stockholm, 1961 which are operating in accordance with the Radio Regulations and notified before 1 December 1983 to the IFRB have been included in the reference situation. The calculation for the reference situation has only been made once.

5.5 Situation resulting from planning

All existing or planned assignments to television stations (as in paragraph 5.4 above) and all sound broadcasting transmitters in the draft plan have been taken into account.

5.6 Usable field strength for a transmitter at the specified test location

5.6.1 The nuisance field from each interfering transmitter has been calculated according to section 3.4 of Chapter 3 using, in principle, propagation curves for 1% of the time and the appropriate protection ratio taken:

5.6.1.1 for the wanted television transmitter,

- from Table 5.1 for interference from a television transmitter, or
- from Figure 5.1 for interference from a sound broadcasting transmitter;

5.6.1.2 for a wanted sound broadcasting transmitter,

- from Table 5.2 or Figure 5.2 for interference from a television transmitter, using protection ratio values for tropospheric interference, or
- from paragraph 3.3 of Chapter 3 for interference from a sound broadcasting transmitter.

5.6.2 Receiving antenna discrimination shall be taken

- from Figure 5.3 for a wanted television transmitter;
- from Figure 3.3 of Chapter 3 for a wanted sound broadcasting transmitter.

5.6.3 In the case of orthogonal polarization a discrimination value of 10 dB has been applied for a wanted television transmitter. No polarization discrimination has been applied for a wanted sound broadcasting transmitter.

5.6.4 The interference contribution of each interfering transmitter is the value of the nuisance field derived in paragraph 5.6.1 above, including any discrimination value derived in paragraphs 5.6.2 and 5.6.3 above.

5.6.5 The usable field strength E_u has been calculated from the individual interference contributions using the simplified multiplication method, taking into account the 20 largest (either TV or sound broadcasting) contributions and specified to one decimal place.

5.7 Result of examination

An incompatibility with a television station or a deterioration of the service area of a sound broadcasting station only exists if any value of Eu obtained (as in paragraph 5.6 above), in accordance with paragraph 5.5 above, exceeds the corresponding value of E_u in the reference situation defined in paragraph 5.4 above by more than 0.5 dB.

TABLE 5.1

Protection ratios, in dB, for colour television[1]

Offset (multiples of 1/12 line-frequency)	0	1	2	3	4	5	6	7	8	9	10	11	12
Co-channel Transmitter stability = 500 Hz (non-precision offset)	45	44	40	34	30	28	27	28	30	34	40	44	45
Lower adjacent channel	-6												
Upper adjacent channel	+4												

[1] For further information see CCIR Report 306-4.

TABLE 5.2

Radio-frequency protection ratio required by FM sound broadcasting against interference from D/SECAM television transmissions in the band 87.5 to 100 MHz

(Steady interference)

Wanted signal frequency (MHz) relative to vision carrier	RF-protection ratio (dB) stereo
-2.0	-12
-1.0	18
-0.5	20
-0.15	25
-0.1	35
-0.05	50
0.0	45
0.05	50
0.1	35
0.15	31
0.25	25
0.5	20
1.0	20
2.0	18
3.0	17
4.0	15
4.18	25
4.25	26
4.41	26
4.48	25
4.7	15
5.0	0
6.0	-5
6.25	-6
6.3	5
6.4	26
6.45	40
6.475	43
6.5	35
6.525	43
6.55	40
6.6	26
6.7	0
7.0	-13

Note 1.- For tropospheric interference (protection 99% of the time) these values may be reduced by 8 dB.

Note 2.- Values for frequencies from 0.5 to 4 MHz are greatly affected by picture content. The figures given are for a test pattern and are representative of the on-the-air test picture transmissions.

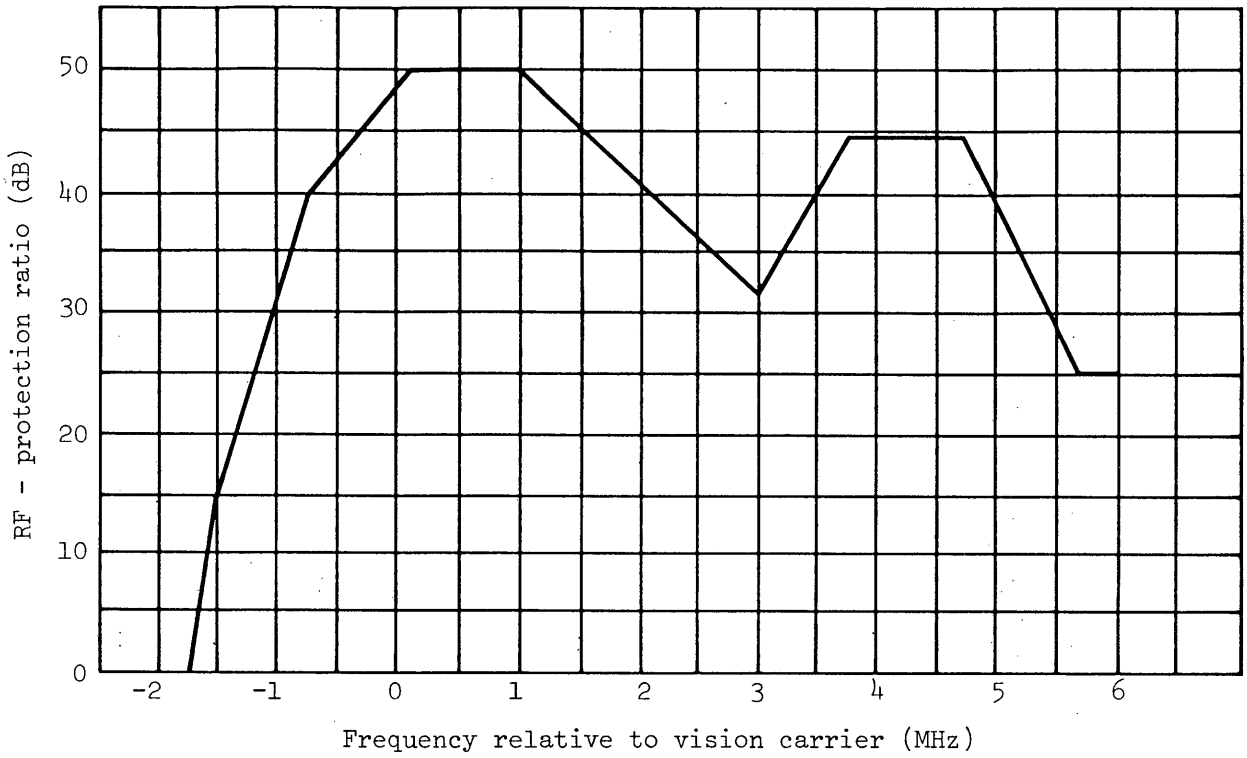


FIGURE 5.1

D/SECAM television system protection ratio
in the case of frequency-modulated
sound broadcasting tropospheric interference

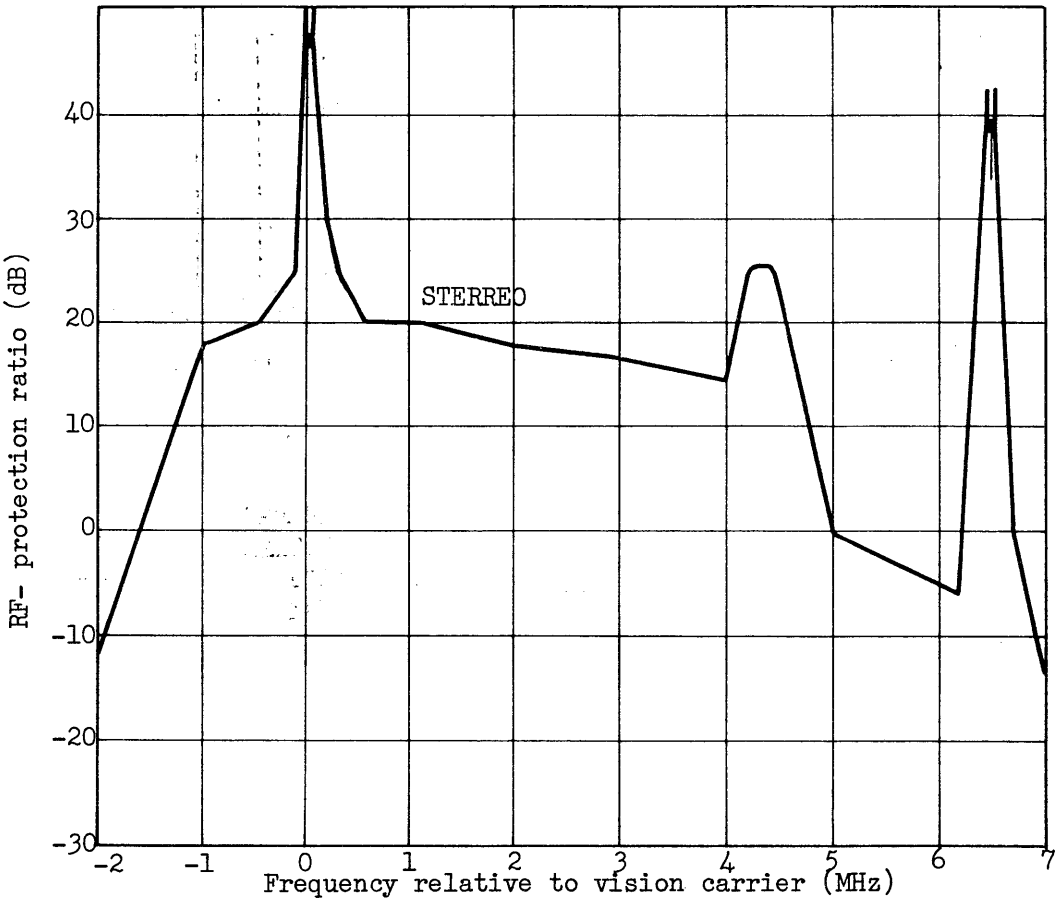


FIGURE 5.2

Radio-frequency protection ratio required by FM sound broadcasting against interference from D/SECAM television transmissions in the band 87.5 to 100 MHz (steady interference)

Note - For tropospheric interference (protection 99% of the time) these values may be reduced by 8 dB.

RECEIVING ANTENNA DISCRIMINATION - CCIR RECOMMENDATION 419

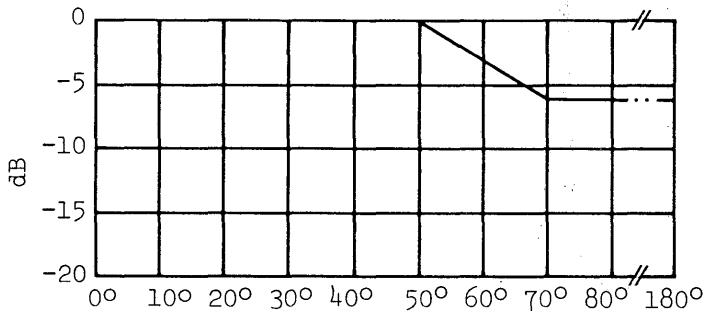


FIGURE 5.3

Discrimination obtained by the use of a directional receiving antenna for the television stations in the band 87.5 to 100 MHz

INTERNATIONAL TELECOMMUNICATION UNION
REGIONAL BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1984

Document DT/51-E
26 November 1984
Original: English

WORKING GROUP 5B

INFORMATION NOTE

The ad hoc Working Group on "OR" would like to inform Working Group 5B about the outcome of the consultations between some administrations during the informal meetings, see Annex 1.

LARS BERGMAN
Chairman of ad hoc Working Group (OR)

Annex: 1

ANNEX

INFORMATION NOTE BETWEEN THE

ADMINISTRATIONS OF THE GERMAN DEMOCRATIC REPUBLIC,

DENMARK, NORWAY, POLAND, SWEDEN AND THE USSR

During the FM-Sound Broadcasting Conference RARC, 1984, the above-mentioned administrations had unofficial consultations concerning the implementation of the FM-broadcasting service in accordance with the Plan in the frequency band 104 - 108 MHz.

As a result of these informal consultations the Document /DT/42/ was agreed upon as principles for the implementation of the FM-service. The text of /Document 42/ is expected to go into the Final Acts of the Conference.

The countries concerned had discussed two possible solutions of the agreed principle of gradual implementation of the band in question for the broadcasting service:

1) that parts of the band 104 - 108 MHz is made available at certain dates ending at 31 December 1995;

2) that segments of the band in between the bands used by the OR-service are made available at certain dates ending at 31 December 1995.

It is the understanding that the requirement for starting the implementation of the broadcasting service is in the order of 20 broadcasting channels by the coming into force of the Agreement, Geneva 1984.

The countries concerned find it useful to discuss the details of the implementation at multilateral meetings in the period until the coming into force of the Agreement, Geneva 1984.

It has been proposed, that Denmark convenes a meeting in the first half of 1985.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/52-E
26 November 1984
Original: English

COMMITTEE 5

Note from the Chairman of Committee 5

REVISION OF THE STOCKHOLM AGREEMENT 1961
AND OF THE GENEVA AGREEMENT, 1963

On the basis of the Decision of Committee 5 not to have an additional Protocol signed during this Conference but to determine/recommend appropriate action by administrations after this Conference, the text annexed is proposed for consideration.

K. OLMS
Chairman of Committee 5

Annex: 1

ANNEX

DRAFT RESOLUTION /RECOMMENDATION/

Convening of a Regional Administrative Conference of the Members of the Union in the European Broadcasting Area and a Regional Administrative Conference of the Members of the Union in the African Broadcasting Area in accordance with Articles 63 and 62 of the International Telecommunication Convention, Nairobi, 1982

The Regional Administrative Conference for FM Sound Broadcasting in the VHF Band (Region 1 and certain countries in Region 3) Geneva, 1984,

considering

a) that, in accordance with its mandate contained in Administrative Council Resolution 896, it adopted the Regional Agreement for FM Sound Broadcasting in the VHF Band in Region 1 and certain countries in Region 3 and the Associated Frequency Assignment Plan for the Sound Broadcasting Stations in the band 87.5 - 108 MHz;

b) the provision in Article 8 of the Regional Agreement for the European Broadcasting Area, Stockholm, 1961;

c) the provision in Article 7 of the Regional Agreement for the African Broadcasting Area, Geneva, 1963;

d) that its mandate referred to under a) above did not include the revision and/or abrogation of any of the two Regional Agreements referred to under b) and c) above and of their annexed Plans or parts thereof;

recognizing

a) that the afore-mentioned parts of the two earlier Agreements and their annexed Plans shall, from the date of entry into force /date/ of the new Regional Agreement and Associated Plan, be considered in accordance with Article 3 of the Agreement as replaced by the latter;

b) that there is consequently a need for:

- abrogating and revising certain parts of the Regional Agreement and annexed Plans for the European Broadcasting Area, Stockholm, 1961 (see Annex 1 to the present Resolution specifying these parts);

- abrogating certain parts of the Regional Agreement and annexed Plans for the African Broadcasting Area, Geneva, 1963 (see Annex 2 to the present Resolution specifying these parts);

- those abrogations/revisions taking effect at the time of the entry into force of the new Regional Agreement and Associated Plan;

realizing

a) that, on the one hand, the Administrative Council will hold its next, 40th session only in July 1985 and that, in view of the foregoing, it would be too late to request the Council to take remedial action, within the framework of the provisions of Article 54 of the Nairobi Convention, at that time only;

b) that, on the other hand, Article 63 in connection with Article 62 of the Nairobi Convention provides a procedure to respond timely to the need specified in recognizing - paragraph c) above;

resolves

to recommend to the Members of the Union in the European Broadcasting Area and in the African Broadcasting Area to take, in conformity with Article 63 in connection with Article 62 of the Nairobi Convention, immediately appropriate action for the convening of two very short Regional Administrative Conferences possibly during the WARC-ORB (first session) in 1985;

consequently urges the Members of the Union in the European Broadcasting Area

a) to request, in conformity with Nos. 371, 361 and 362 of the Nairobi Convention, the convening in Geneva during the WARC-ORB (first session) 1985 of a Regional Administrative Conference of the Members of the Union in the European Broadcasting Area with an agenda covering the items specified in Annex 1 to the present Resolution;

b) to send, taking into account the requirements stipulated in Nos. 371 and 362 of the Nairobi Convention, their concordant request to the Secretary-General of the Union as early as possible and not later than /.....7;

consequently further urges the Members of the Union in the African Broadcasting Area

a) to request, in conformity with Nos. 371, 361 and 362 of the Nairobi Convention, the convening in Geneva, during the WARC-ORB (first session) 1985 of a Regional Administrative Conference of the Members of the Union in the African Broadcasting Area with an agenda covering the items specified in Annex 2 to the present Resolution;

b) to send, taking into account the requirements stipulated in Nos. 371 and 362 of the Nairobi Convention, their concordant requests to the Secretary-General of the Union as early as possible and not later than /.....7;

invites the Secretary-General

a) to carry out immediately upon receipt of the required minimum of requests (see No. 371 of the Nairobi Convention) the consultation and other procedure stipulated in the provisions of Article 62 of the Nairobi Convention;

b) to ensure, if the proposals to hold these two Regional Administrative Conferences are accepted respectively by the required majority of the Members of the Union concerned, in conformity with the provisions of Articles 63 and 62 of the Nairobi Convention, the holding of these two Conferences as decided by the respective Members concerned of the Union.

Annexes: 2

ANNEX 1

A. Parts of the Stockholm Agreement, 1961, which should not appear:

pages 47-122: Plan for sound broadcasting stations in the frequency band 87.5 - 100 MHz

B. Amendment to be made to the Stockholm Agreement, 1961

page 2, Article 2, point 1:

"The Contracting Administrations shall adopt for their broadcasting stations operating in the bands referred to in the Agreement the characteristics specified in the Plans with the exception of sound broadcasting stations in Band II".

Article 2, point 2: add: "with the exception of sound broadcasting stations in Band II".

ANNEX 2

A. Parts of the Geneva Agreement, 1963, which should not appear :

Page 1, footnote :

Frequencies 87.5 - 100 MHz : Band II

Page 2, Article 3, title of point 1 : 87.5 - 100

Page 18, Annex 1, all of Table B

Pages 35 to 158 : "Plan for sound broadcasting stations in the frequency band 87.5 - 100 MHz

Page 321, Annex 3, part 2, point 2.1 :

"Standards for FM sound broadcasting in the VHF band"

Page 324, point 2.3; "Use of Band II."

Page 327, Annex 3, part 3, point 3.1 :

"Protection ratios for VHF sound broadcasting."

Page 333, Annex 3, part 4, point 4.1 :

"Minimum field strengths to be protected in FM sound broadcasting."

Pages 337, 338, 339, Annex 3, part 5, all of point 5.4 :

"Planning in FM sound broadcasting Band II"

Page 385, Figure 43 :

"Protection ratio for FM sound broadcasting."

Page 397, Figure 55 :

"Theoretical lattice for Band II."

Pages 398 and 399, Figures 56 and 57 :

"Protection necessary against oscillator radiation for FM broadcasting receivers."

Page 402, Figure 60 :

"Lattice used for the establishment of the Plan in Band II."

Page 410, Appendix II to Annex 3 :

"Table of limiting distances for Band II."

Pages 417 to 424, Recommendation No. 5 :

"Relating to frequency modulation transmissions and low-cost receivers."

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/53-E
26 November 1984
Original: English

WORKING GROUP 5C

FIRST REPORT FROM DRAFTING GROUP 5C-2

Draft texts for Annex 3 (Basic characteristics to be furnished in notices relating to broadcasting stations) and Annex 4 (Limits for determining when coordination with another administration is required as a result of a proposed modification to the Plan) are proposed in the annex.

G.J. PHILLIPS
Chairman of the Drafting Group 5C-2

Annex: 1

ANNEX

ANNEX 3

Basic characteristics to be furnished in notices relating to the broadcasting stations

(For the application of Article 4)

Column

1.	**Assigned frequency (MHz)**
2.	**Country symbol**
3.	**Name of transmitting station**
4.	Symbol of the geographical area in which the station is located (see Table No. 1 of the Preface of the International Frequency List)
5.	Geographical coordinates, in degrees and minutes, of the antenna site
5.1	Longitude (in degrees and minutes)
5.2	Latitude (in degrees and minutes)
6.	**Altitude of site of transmitting antenna above sea level (m)**
7.	Polarization
8.	System
9.	Total effective radiated power (dBW)
10.	Maximum effective radiated power in the horizontal plane (dBW)
11.	Maximum effective radiated power in the vertical plane (dBW)
12.	Directivity (ND or D)
13.	Maximum effective antenna height (m)
14.	**Sectors or directions of restricted e.r.p. (in degrees)**
14.1	Sector No. 1
14.2	Sector No. 2
14.3	Sector No. 3
14.4	Sector No. 4
15.	**Attenuation in the sector concerned (dB)**
15.1	Attenuation for sector No. 1
15.2	Attenuation for sector No. 2
15.3	Attenuation for sector No. 3
15.4	Attenuation for sector No. 4

16. Coordination effected

17. Supplementary information

Note 1: When the proposed modification involves the addition of a new frequency assignment at an existing station, the frequency assignment(s) at the existing station shall be included under Supplementary information.

Note 2: The Board shall develop and keep up-to-date a form of notice for the above requirements.

Note 3: In order to handle the large number of requirements during the Conference, an IFRB serial number was created. As the Board is already using an ID number within the framework of the application of Article 12, the IFRB serial number used during the Conference will be deleted and will be replaced by another number.

ANNEX 4

Limits for determining when coordination with another administration is required as a result of a proposed modification to the Plan

1. Limits relating to sound broadcasting

In applying paragraph 2.2 of Article 4 of the following tables of distances between the broadcasting station and the nearest point on the boundary of any other administration shall be used to identify administrations whose broadcasting services may be considered as affected (Tables 1 to 4).

The coordination distances of Tables 1 to 4 apply to cases where the propagation path is over land (index L), over cold sea (SC), over warm sea (SW), or in an area of super-refractivity and ducting (SS), respectively. To simplify coordination the distances that would be adequate for the various FM sound-broadcasting systems were unified by starting from a unique value of 54 dB(μV/m) for the nuisance field and by taking mean values for the protection ratio (39 dB for tropospheric, 47 dB for steady interference). The larger of the two distance values resulting from tropospheric and steady interference was retained and rounded to the nearest multiple of 10 km or 5 km for coordination distances above or below 100 km, respectively.

Linear interpolation shall be used for effective radiated powers, in dBW, differing from those given in the tables and also for effective antenna heights other than those in Tables 1 - 3. Antenna heights of 10 m or 1,800 m, respectively, shall be used when the actual height is below the former or above the latter value.

For mixed paths the coordination distance, D_M, shall be the sum of the pertinent fractions of the coordination distances, D_i, applicable to every type of propagation path involved.

$$D_M = \sum_i \frac{d_i}{d_T} D_i \qquad (i = L, SC, SW, SS)$$

where

d_T is the total path length from the transmitter to the nearest point of the border of the country concerned; and

d_i are the total lengths of those parts of the path which are over land, over cold sea, over warm sea or in areas of super-refractivity and ducting, as the case may be.

TABLE 1

Coordination distances D_L, in km, for propagation paths over land

EFFECTIVE RADIATED POWER dBW	W	EFFECTIVE ANTENNA HEIGHT (m)							
		10	37.5	75	150	300	600	1200	1800
55	300 k	520	520	530	540	560	600	630	670
50	100 k	460	460	470	490	510	540	580	610
45	30 k	410	410	420	430	450	480	520	560
40	10 k	350	350	370	380	400	430	470	500
35	3 k	300	300	310	330	340	380	420	450
30	1 k	250	250	260	270	290	320	360	400
25	300	140	190	210	220	240	280	320	350
20	100	70	140	160	180	190	230	270	300
15	30	45*	100	130	140	150	190	230	260
10	10	35*	65	90	100	120	150	190	220
5	3	30*	45*	65	75	95	120	160	180
0	1	20*	35*	50*	60*	80*	100*	140	150

* Steady interference

TABLE 2

Coordination distances D_{SC}, in km, for propagation paths over cold sea

EFFECTIVE RADIATED POWER dBW	W	EFFECTIVE ANTENNA HEIGHT (m)							
		10	37.5	75	150	300	600	1200	1800
55	300k	790	790	800	820	850	880	910	950
50	100k	680	680	700	720	740	770	810	850
45	30k	590	590	610	630	650	670	730	750
40	10k	510	510	530	540	560	590	640	670
35	3k	440	440	460	470	490	530	570	600
30	1k	380	380	390	400	430	460	500	530
25	300	320	320	330	350	370	400	440	470
20	100	260	260	280	290	310	350	380	420
15	30	150	210	220	240	260	300	340	360
10	10	75	150	170	180	200	250	290	300
5	3	40	100	120	130	150	200	240	260
0	1	25*	65	80	95	120	150	200	210

* Steady interference

TABLE 3

Coordination distances D_{SW}, in km, for propagation paths over warm sea

EFFECTIVE RADIATED POWER dBW	W	EFFECTIVE ANTENNA HEIGHT (m)							
		10	37.5	75	150	300	600	1200	1800
55	300k	1300	1300	1300	1300	1300	1300	1300	1300
50	100k	1300	1300	1300	1300	1300	1300	1300	1300
45	30k	1100	1100	1130	1150	1170	1200	1230	1280
40	10k	800	800	840	870	900	940	970	1010
35	3k	610	610	650	680	700	740	780	800
30	1k	490	490	520	550	560	600	650	670
25	300	390	390	410	440	460	490	540	560
20	100	310	310	330	360	370	400	440	480
15	30	210	240	260	290	300	330	360	400
10	10	85	170	200	220	240	270	300	340
5	3	40	110	140	160	190	220	250	290
0	1	25*	70	90	120	140	170	200	240

* Steady interference

TABLE 4

Coordination distances D_{SS}, in km, for propagation paths in areas of super-refractivity and ducting

EFFECTIVE RADIATED POWER		D_{SS} (km) *
dBW	W	
55	300k	1480
50	100k	1400
45	30k	1320
40	10k	1230
35	3k	1150
30	1k	1070
25	300	980
20	100	900
15	30	820
10	10	730
5	3	650
0	1	560

* No dependency on effective antenna height.

2. Limits relating to TV broadcasting

In applying paragraph 2.2 of Article 4, the following tables of distances between the broadcasting station and the nearest point on the boundary of any other administration shall be used to identify administrations whose TV broadcasting services may be considered as affected (Tables 5 to 8).

The coordination distances in Tables 5 to 7 shall be used to ensure compatibility with television stations in countries using the band 87.5 - 100 MHz for television in accordance with the Regional Agreement, Stockholm, 1961. The tables apply to propagation paths which are fully overland or oversea (cold or warm). They are based on a nuisance field of 52 dB(μV/m) obtained by interpolation between values given for the bands 41 - 68 MHz and 174 - 223 MHz in the "Technical Data used by the European VHF/UHF Broadcasting Conference, Stockholm, 1961" (part 4, section 4.2) and a protection ratio of 50 dB for tropospheric interference in accordance with section 4.2 of the "Report to the second session of the Conference". The coordination distances so obtained were rounded to the nearest multiple of 10 km or 5 km, respectively, for coordination distances above or below 100 km.

The corrections presented in Table 8 take account of the frequency dependency of the television signal's susceptibility to interference. To account for this effect, the effective radiated power, in dB(W), shall be reduced by this correction before the coordination distance is determined. A value of 0 dB shall be used when the corrected effective radiated power, in dB(W), is negative.

Linear interpolation shall be used for effective radiated powers, in dB(W), and for effective antenna heights, in m, not appearing in Tables 5 to 7. Height values of 10 m or 1,800 m, respectively, shall be taken when the actual effective antenna height is below the former or above the latter value.

For mixed paths the coordination distance, D_M, shall be the sum of the pertinent fractions of the coordination distances, D_L or D_{Si} for overland or oversea (either cold or warm sea, as the case may be) paths:

$$D_M = \frac{d_L}{d_T} + \frac{d_{Si}}{d_T} D_{Si} \qquad (i = c \text{ or } w)$$

where:

d_T is the total length of the propagation path; and

d_L, d_S are those parts of the path lengths which are fully overland or oversea of type i (cold or warm), respectively.

TABLE 5

Coordination distances D_L, for propagation paths over land

EFFECTIVE RADIATED POWER		EFFECTIVE ANTENNA HEIGHT (m)							
dBW	W	10	37.5	75	150	300	600	1200	1800
55	300k	660	660	670	690	710	740	780	810
50	100k	600	600	620	630	650	680	720	760
45	30k	550	550	560	580	600	630	670	700
40	10k	500	500	510	520	540	570	610	650
35	3k	440	440	450	470	490	520	560	590
30	1k	390	390	400	410	430	460	500	530
25	300	330	330	340	360	370	410	450	480
20	100	280	280	290	300	320	360	390	430
15	30	200	230	240	250	270	300	340	380
10	10	110	170	190	200	220	260	300	330
5	3	60	130	150	160	180	210	260	280
0	1	40	90	110	120	140	170	220	240

TABLE 6

Coordination distances D_{SC}, for propagation paths over cold sea

EFFECTIVE RADIATED POWER		EFFECTIVE ANTENNA HEIGHT (m)							
dBW	W	10	37.5	75	150	300	600	1200	1800
55	300k	1160	1160	1190	1220	1240	1250	1270	1300
50	100k	990	990	1000	1040	1050	1070	1130	1160
45	30k	860	860	870	890	910	940	980	1010
40	10k	750	750	760	780	800	840	870	910
35	3k	640	640	660	680	700	730	780	810
30	1k	560	560	580	590	610	640	700	720
25	300	480	480	500	510	530	570	610	640
20	100	410	410	430	440	470	500	540	570
15	30	350	350	370	380	400	440	480	510
10	10	300	300	310	320	350	380	420	450
5	3	230	240	260	270	290	330	360	390
0	1	110	190	200	220	230	280	320	340

TABLE 7

Coordination distances, D_{SW}, for propagation paths over warm sea

EFFECTIVE RADIATED POWER		EFFECTIVE ANTENNA HEIGHT (m)							
dBW	W	10	37.5	75	150	300	600	1200	1800
55	300k	1300	1300	1300	1300	1300	1300	1300	1300
50	100k	1300	1300	1300	1300	1300	1300	1300	1300
45	30k	1300	1300	1300	1300	1300	1300	1300	1300
40	10k	1300	1300	1300	1300	1300	1300	1300	1300
35	3k	1300	1300	1300	1300	1300	1300	1300	1300
30	1k	950	950	990	1020	1050	1080	1110	1150
25	300	720	720	750	780	810	850	890	920
20	100	560	560	600	620	640	680	730	750
15	30	440	440	480	500	520	560	600	620
10	10	350	350	380	400	420	460	500	510
5	3	280	280	300	330	350	370	400	450
0	1	140	210	230	260	280	300	340	370

TABLE 8

Correction, in dB, accounting for the television signal's frequency-dependent susceptibility to interference

Frequency MHz	Corr. dB	Frequency MHz	Corr. dB	Frequencies MHz	Corr. dB	Frequencies MHz	Corr. dB	Frequencies MHz	Corr. dB
92.0	25	93.2	2	95.2	8	88.4, 96.4	15	90.4, 98.4	14
92.1	22	93.3	0	95.3	9	88.5, 96.5	14	90.5, 98.5	16
92.2	19	to	⋮	95.4	10	88.6, 96.6	12	90.6, 98.6	18
92.3	16	94.3	0	95.5	11	88.7, 96.7	10	90.7, 98.7	21
92.4	13	94.4	1	87.6, 95.6	12	88.8, 96.8	9	90.8, 98.8	23
92.5	10	94.5	2	87.7, 95.7	13	88.9, 96.9	7	90.9, 98.9	25
92.6	8	94.6	3	87.8, 95.8	14	89.0, 97.0	5	to to	⋮
92.7	7	94.7	4	87.9, 95.9	15	to to	⋮	91.6, 99.6	25
92.8	6	94.8	5	88.0, 96.0	15	90.0, 98.0	5	91.7, 99.7	12
92.9	5	94.9	6	88.1, 96.1	16	90.1, 98.1	7	91.8, 99.8	12
93.0	4	95.0	6	88.2, 96.2	17	90.2, 98.2	10	91.9, 99.9	25
93.1	3	95.1	7	88.3, 96.3	17	90.3, 98.3	12		

3. Limits relating to aeronautical radionavigation services

In applying paragraph 2.2 of Article 4, the aeronautical radionavigation services of another administration are considered to be affected if the distance from the braodcasting station to the nearest point on the boundary of another administration is less than 500 km.

4. Limits relating to the land mobile service

In applying paragraph 2.2 of Article 4, the land mobile services /of administrations listed in RR587 and RR589 and/ of administrations of Region 3 (in the band 87.5 - 100 MHz) are considered to be affected if the field strength from the broadcasting station exceeds the following limits at the nearest point on the border of another administration:

- for broadcasting stations using only horizontal polarization: 18 dB(μV/m);
- for broadcasting stations using vertical or mixed polarization: 0 dB(μV/m).

The field strengths shall be calculated at an antenna height of 10 m above ground, based on the curves in Figures Ann4.1, Ann4.2 and Ann4.3 (50% of locations, 10% of time). For mixed paths the calculation method as described in 2.1.3.5 of Annex 2 will be applied.

In the case of mixed polarization, only the vertical component of the total e.r.p. of the broadcasting station should be taken into account. It is assumed that the land mobile service is vertically polarized and that in the case of mixed polarization of the broadcasting station at least one-tenth of the total e.r.p. of the broadcasting station is radiated in the vertical component.

5. Limits relating to the fixed service

In applying paragraph 2.2 of Article 4, the fixed services /of the administrations listed in RR589/ and of administrations of Region 3 in the 87.5 - 100 MHz band shall be considered as affected if the field strength of the nearest point of the border of another administration exceeds the following limit.

For broadcasting stations: 0 dB(μV/m).

This field strength will be calculated at an antenna height of 10 m above ground, using curves of Figures Ann4.1, Ann4.2 and Ann4.3 (50% of locations, 10% of time). For mixed paths, the calculation method as described in 2.1.3.5 of Annex 2 will be applied.

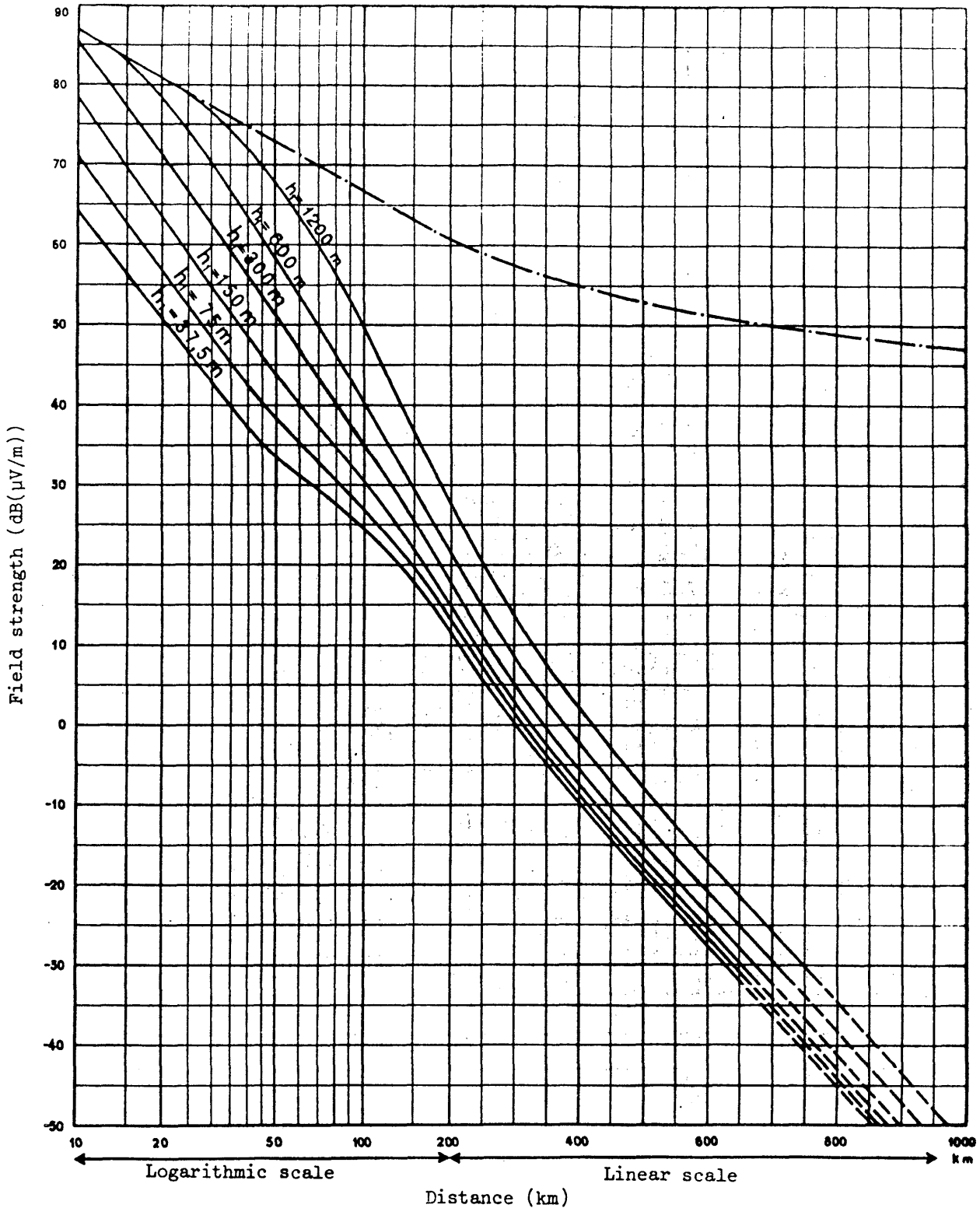


FIGURE Ann4.1

Field strength (dB(μV/m)) for 1 kW e.r.p.

Propagation over land

10% of the time; 50% of the locations; h_2 = 10 m

.-.-.- Free space

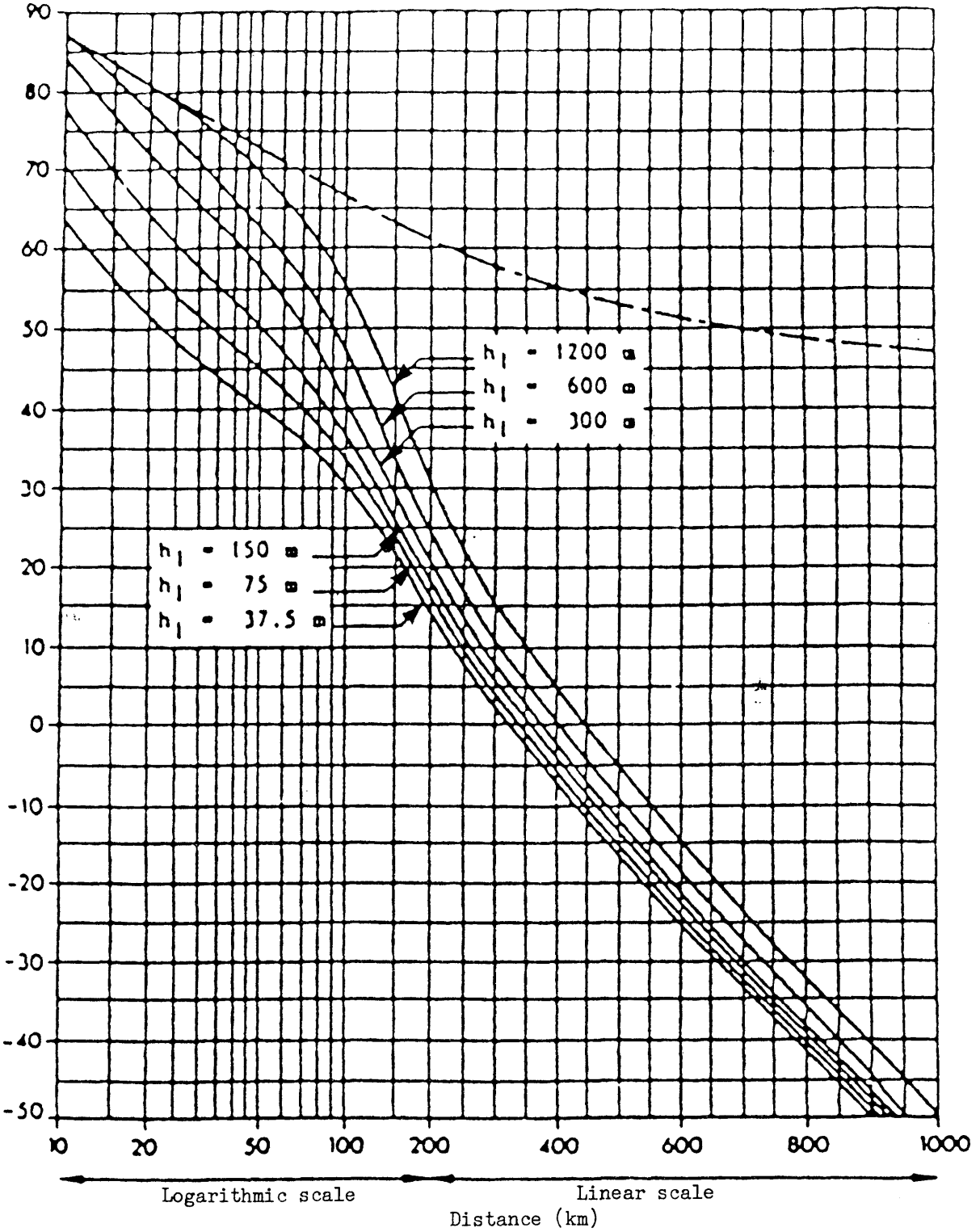


FIGURE Ann4.2

Field strength (dB(μV/m)) for 1 kW e.r.p.

Propagation over cold sea

10% of the time; 50% of the locations; h_2 = 10 m

.-.-.- Free space

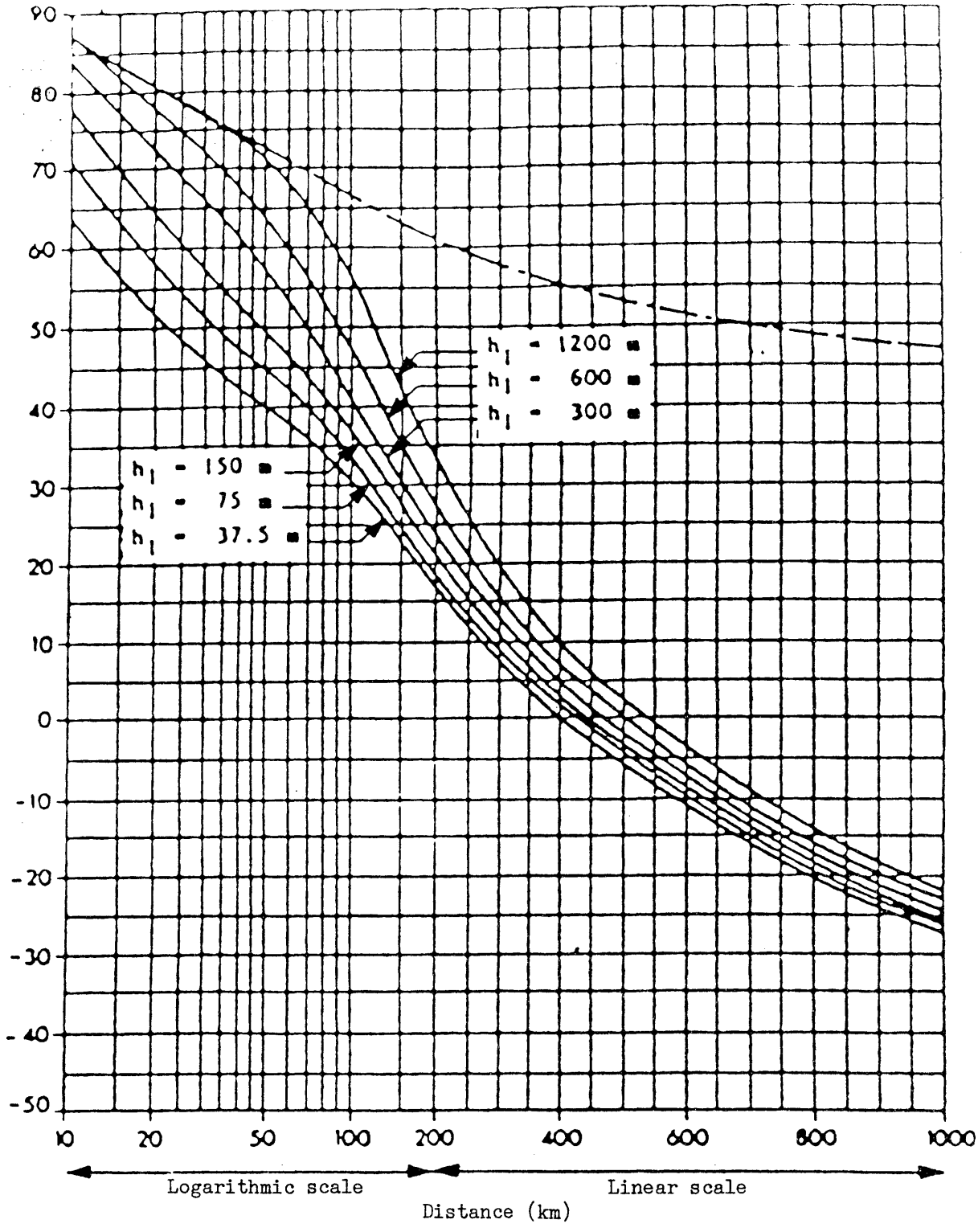


FIGURE Ann4.3

Field strength (dB(μV/m)) for 1 kW e.r.p.

Propagation over warm sea

10% of the time; 50% of the locations; h_2 = 10 m

.-.-.- Free space

6. Limits relating to the aeronautical mobile (OR) service

In applying paragraph 2.2 of Article 4, the aeronautical mobile (OR) services of another administration are considered to be affected if the field strength of the broadcasting station at the border of another administration exceeds 20 dB(μV/m) at an altitude of 10,000 metres. This field strength is based on free space propagation. This coordination distance shall be limited to a maximum of the line-of-sight distance.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/54-E
26 November 1984
Original: English

WORKING GROUP 5C

SECOND REPORT FROM DRAFTING GROUP 5C-2

The annex contains texts proposed for Annex 5 of the Final Acts.

G.J. PHILLIPS
Chairman of the Drafting Group

Annex: 1

ANNEX

ANNEX 5 OF THE FINAL ACTS

Additional technical data which may be used in coordination between administrations

1. Separation distance for compatibility

Table Ann5.1 gives the minimum distances between a test point of the radionavigation station to be protected at a broadcasting station at which the protection criteria for A1, A2, B1 and B2 types of interference are all met. The more critical requirements are those for A1 and B1; the higher of the two separation distances is shown in each case. The A1 distances assume the protection ratio for frequency coincidence, and that transmitter spurious emissions conform to [section 5.2.3.1.2 of Document 86]. The B1 distances ensure that the signal level is below the cut-off value [(as given in section 5.2.3.3.4 of Document 86)] with free-space propagation, but are subject to an upper limit of 500 km from practical considerations of the line-of-sight limit, in conformity with [paragraph 3.3 of Document 86].

Where two or more assignments are used at a common site, the highest e.r.p. must be taken.

Linear interpolation shall be used for values of e.r.p. and frequency not appearing in the table.

Preliminary analyses based on these distances assumes, in the case of A1 and B1 types of interference, that there is frequency coincidence between a spurious emission or intermodulation product and the frequency of the radionavigation station. When the frequencies of the radionavigation station and of all broadcast transmitters that may be involved are known, detailed calculations can be made for all types of interference using the data for protection of the aeronautical radionavigation service given in [ ] of Annex 2. However, in the case of A1 type interference it will be necessary to check that the transmitter does not generate significant spurious components apart from third-order intermodulation products.

Any case-by-case study may take into account other relevant factors such as detailed consideration of the propagation path between the broadcasting station and the aeronautical test point, and the radiation pattern of the broadcasting antenna in both vertical and horizontal planes.

TABLE Ann5.1

MINIMUM SEPARATION DISTANCE BETWEEN A TEST POINT
OF A RADIONAVIGATION STATION AND A BROADCASTING STATION
REQUIRED TO ENSURE COMPATIBILITY

Effective radiated power of broadcasting station		Broadcast frequency (MHz)					
dBW	W	⩽ 100	102	104	106	107	107.7 to 107.9
55	300k	40	53	99	245	500	500
50	100k	22	31	57	141	302	500
45	30k	20	20	31	77	166	494
40	10k	20	20	20	45	96	285
35	3k	20	20	20	24	52	156
30	1k	20	20	20	20	30	90
25	300	20	20	20	20	20	49
20	100	20	20	20	20	20	29
⩽ 15	30	20	20	20	20	20	20

2. Future improvements in aeronautical receivers

It is expected that future receivers will permit a significant relaxation of compatibility criteria and that revised criteria could be applied from 1 January 1998. Present indications from the ICAO are that the two-signal case criterion for B1 type interference given in [section 5.2.3.3.1 of Document 86] could be replaced by:

$$2N_1 + N_2 + 72 - 60 \log \frac{\max(0.4;\ 108.1 - f_1)}{0.4} > 0$$

for both ILS and VOR.

Subject to further study of type B1 interference by the CCIR it is expected that a comparable relaxation in the criterion for the three-signal case can be developed and that the trigger and cut-off values given in [section 5.2.3.3.4 of Document 86] could be raised by 16 dB.

Studies on possible improvements are requested in [Recommendation GTECH/1].

3. Land mobile and fixed services

The method and criteria concerning antenna height factors, to be used for coordination between administrations between the broadcasting and land mobile and fixed services, are to be agreed by the administrations concerned and should be based where possible on the latest relevant CCIR Recommendations.*

Where the frequencies of the broadcasting and the land mobile or fixed service stations are known, the following table of protection ratios as a function of frequency separation may be used to derive correction factors relative to the case of frequency coincidence.

Frequency separation between carriers of the two services (kHz)	Protection ratio for AM land mobile services (dB)	Protection ratio for FM land mobile services (dB)
0	18	8
25	16	6
50	4.5	- 5.5
75	- 7.5	-17.5
100	-17.5	-27.5

* The United Kingdom reserved its position on this paragraph.

4. Aeronautical mobile (OR) service

When the frequencies of the broadcasting and the aeronautical mobile stations are both known, the field strengths given in the table below may be used as sharing criteria. /Table in paragraph 3 of Annex to Document 108./

Frequency separation between BC station and aeronautical mobile (OR) station	dB(μV/m) at an altitude of 10,000 metres
0	20
50	34
100	58
150	90

The delegations of Denmark, Italy and the Islamic Republic of Iran reserved their position.

INTERNATIONAL TELECOMMUNICATION UNION
REGIONAL BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1984

Document DT/55-E
27 November 1984
Original: English

WORKING GROUP 5A

FOURTH REPORT OF THE CHAIRMAN OF THE AD HOC GROUP OF 5A

The ad hoc Group has prepared the texts annexed as replacements for paragraphs 2.2 and 3.6 of Article 4 in Document 139, taking into account the discussion in Working Group 5A on Documents DT/43 and DT/45.

Notes:

1. The Group put square brackets around the words "should normally accept" in 3.6 b) to 3.6 d) in order to draw attention to the difficulties reported to the Group, relating to the authority for this Conference to adopt provisions to be applied by services other than sound broadcasting.

If the Conference considers itself authorized to adopt provisions that these other services should apply, the square brackets should be deleted, and the steps indicated in the rest of Article 4 will be mandatory for these services.

If alternatively the Conference does not consider itself authorized to do so, the contents of the square brackets should be reworded in order to become a recommended action, and, in this case, an additional provision would need to be added, which could be worded as follows:

> "Administrations referred to in 3.6 b) to 3.6 d) are recommended to apply the procedure contained in these Articles."

However, the absence of any reply from such an administration could not be considered as an agreement to the proposed modification.

2. The Group put square brackets around the words "resulting from the Plan ...." in 3.6 b) for the following reasons:

a) the reference situation to which these values apply is supposed to be at the transmitter site, while the calculations made during the Conference were at test points notified by the administrations concerned. If the Conference maintains the decision of the First Session, i.e. test points, these test points should be indicated in an annex to the Plan;

b) the reference situations were calculated at the Conference taking account of television stations in accordance with the Stockholm Agreement at the date of the Conference. These stations may be modified in accordance with the Stockholm Agreement, and other stations may be entered in the Stockholm Agreement; there is therefore a need to indicate how to calculate the reference situation for these stations;

c) the above television stations and associated test points are only those to which the Stockholm Agreement applies, i.e. in the European Broadcasting Area. The situation of television stations not in the European Broadcasting Area needs to be considered.

Should the Conference decide to protect those stations which would be modified in accordance with the Stockholm Agrement, this implies that countries not party to the Stockholm Agreement will endorse these modifications.

3. The Group noted that, in paragraphs 3.6 b) to 3.6.d), there is no indication that the agreement is not required when the assigned bandwidths are not overlapping.

M.J. BATES
Chairman of ad hoc Group of 5A

Annex: 1

ANNEX

1. Replace 2.2 by the following provisions:

"2.2.a) The sound broadcasting stations of an administration are likely to be affected by a proposed modification to the Plan if the distance from the station under consideration to the nearest point of the boundary of the country of that administration is less than the limit indicated in / /.

2.2.b) The television stations of an administration in the band 87.5 - 100 MHz are likely to be affected by a proposed modification to the Plan if the distance from the station under consideration to the nearest point of the boundary of the country of that administration is less than the limit indicated in / /.

2.2.c) The fixed and mobile stations of an administration of a contracting member in Region 3 in the band 87.5 - 100 MHz are likely to be affected by a proposed modification to the Plan if the distance from the station under consideration to the nearest point of the boundary of the country of that administration is less than the limit indicated in / /.

2.2.d) The aeronautical radionavigation stations of an administration in the band 108 - 117.975 MHz are likely to be affected by a proposed modification to the Plan if the distance from the station under consideration to the nearest point of the boundary of the country of that administration is less than the limit indicated in / /. However, in this case, the procedure to be applied is contained in Article / /.".

2. Add to 3.5:

"If in any case no agreement can be obtained on the method and criteria to be used, paragraphs 3.6 a) to 3.6 d) apply".

3. Replace 3.6 by the following:

"3.6a) If the administration consulted is responsible for a sound broadcasting station, it should normally accept an increase in the usable field strength at the transmitter site, calculated by the method contained in / /, provided that:

- the resulting usable field strength is not greater than 54 dB(μV/m), or

- the resulting usable field strength is greater than 54 dB(μV/m), but is increased by 0.5 dB or less compared with the usable field strength resulting from the Plan adopted by the Conference or from its first entry in the Plan, following the application of this procedure. An increase of more than 0.5 dB is open to negotiations, in which more detailed calculation methods may be used.

3.6.b) If the administration consulted is responsible for a television station, it / should normally accept / an increase in the usable field strength at the transmitter site, calculated by the method contained in / / , provided that:

- the resulting usable field strength is not greater than 54 dB(μV/m), or

- the resulting usable field strength is greater than 54 dB(μV/m), but is increased by 0.5 dB or less compared with the usable field strength / resulting from the Plan adopted by the Conference or from its first entry in the Plan, following the application of this procedure /. An increase of more than 0.5 dB is open to negotiations, in which more detailed calculation methods may be used.

3.6.c) If the administration consulted is responsible for a land mobile station, the following interfering field strengths /should normally be accepted /:

-18 dB(μV/m) if the sound broadcasting station uses horizontal polarization

-0 dB(dB(μV/m) if the sound broadcasting station uses vertical or mixed polarization.

These field strengths are calculated using the method contained in / / at 10 m above ground at the site of the base station using vertical polarization.

3.6.d) If the administration consulted is responsible for a station in the fixed services an interfering field strength of 0 dB(μV/m) at 10 m above ground, calculated in accordance with the method in / / / should normally be accepted /.".

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/56-E
27 November 1984
Original: English

WORKING GROUP 5A

DRAFT RECOMMENDATION No. ...

The Regional Administrative Conference for the Planning of VHF Sound Broadcasting (Region 1 and part of Region 3) (Geneva, 1984).

considering that

a) in accordance with its agenda, it shall prepare a Plan for sound broadcasting stations in the band 87.5-108 MHz;

b) in accordance with provision No. 584 of the Radio Regulations. Broadcasting stations in the band 100-108 MHz in Region 1 shall be stablished and operated in accordance with the Plan to be adopted by this Conference by countries in Region 1 (Contracting and non-Contracting Members);

c) that the provisions of a Regional agreement are binding only parts to this agreement;

d) that the Conference entered in the frequency assignments Plan to all countries in the planning area;

recommends to the Administrative Council

to include in the agenda of a forthcoming competent Conference the consideration of the provision RR 584 in the light of the Plan and the associated provisions of the agreement.

recommends to Administrations of non-Contracting Members

1. to acceed to the Agreement as soon as possible;

2. to apply the provisions of Article 4 before notifying modifications to their stations appearing in the Plan or the additions of a new station.

recommends to the IFRB

to adopt the technical criteria adopted by this Conference when stablishing its technical standards and rules of procedure to be applied in the relation between Contracting and non-Contracting Members.

INTERNATIONAL TELECOMMUNICATION UNION
REGIONAL BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1984

Document DT/57-E
28 November 1984
Original: English

COMMITTEE 4

DRAFT SECOND REPORT OF THE CHAIRMAN OF PLANNING GROUP 4D TO COMMITTEE 4

1. The Planning Group has held nine meetings and has already issued one report in Document 97.

2. Work has proceeded almost continuously between individual delegations under the guidance of the three coordinators previously appointed. Daily meetings of these Coordination Groups have provided the opportunity to report on progress, establish contact between delegations, and exchange views on general problems.

3. Coordination has proceeded in an endeavour always to improve the Plan and modifications have been introduced in accordance with the agreed method contained in Document 119. The Planning Group also adopted its own working procedure as set out in Documents DL/8 and DL/12.

4. The Planning Group has considered possible ways of dealing with the future transition in certain countries from television to sound broadcasting in the band 87.5 - 100 MHz. Document 146, which deals with this matter has been submitted to Committee 4 and approved.

5. With the willing cooperation of delegates and the able assistance of the coordinators and IFRB staff, it has been possible for the Group to process a very large number of modifications to the original requirements with comparatively few difficulties.

6. Nevertheless, several delegations have been under extreme pressure to complete coordination of their principal high power requirements in the time schedule laid down in Document 78. In consequence these delegations wish to continue coordination of subsidiary and low power stations during the days of the Conference which remain after 29 November. It would be very helpful to these delegations if arrangements could be made to introduce consequent modifications at the time of the first reading of the draft Plan.

It is proposed that, if such modifications are already fully coordinated and submitted by the delegations concerned in a suitable written form by an appropriate deadline, [1800 hours, Tuesday, 4 December 1984] they might be considered coincidentally with the draft Plan.

If this proposal is acceptable to Committee 4 it may be possible to agree a standard form for the abbreviated presentation of such modifications.

A.L. WITHAM
Chairman of Planning Group 4D

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/58-E
28 November 1984
Original: English

WORKING GROUP 5C

THIRD REPORT FROM DRAFTING GROUP 5C-2

The annex contains texts proposed for Annex 5 of the Final Acts.

G.J. PHILLIPS
Chairman of the Drafting Group

Annex: 1

ANNEX 5

(continued)

2. Fixed and mobile services of administrations in Region 3 /and of certain administrations in Region 1/

2.1 Sharing criteria for the protection of the land mobile service in the bands 87.5 - 88 MHz and 104 - 108 MHz

Field strength to be protected : 15 dB (μV/m) at a height of 3 m

Protection ratio : See Table below

Frequency separation between carriers of the two services (kHz)	Protection ratio for AM land mobile services (dB)	Protection ratio for FM land mobile services (dB)
0	18	8
25	16	6
50	4.5	- 5.5
75	- 7.5	-17.5
100	-17.5	-27.5

Propagation data to be used for sharing calculations.

Propagation curves for the land mobile service operating in the VHF bands may be derived from the broadcasting propagation curves of Figures 4.1, 4.2 and 4.3 of Annex 4 with the -9 dB correction for a mobile station antenna height of 3 m as indicated in /section 2.1.3.3 of Document 61/. See note.

Percentage of locations to be protected : 50%

Percentage of time to be protected : 90%

Polarization discrimination for horizontal polarized broadcasting emission : 18 dB Base Station
8 dB Mobile Station

Note - The method and criteria concerning antenna height factors, to be used for coordination between administrations between the broadcasting and land mobile and fixed services, are to be agreed by the administrations concerned and should be based where possible on the latest relevant CCIR Recommendations.

The United Kingdom delegation reserved its position on this note, and also pointed out that 3 m antenna height is not appropriate for a base station.

2.2 Sharing criteria between the FM sound broadcasting service and the fixed service in the band 87.5 - 108 MHz

The basic criteria can be those as established for the land mobile service (see paragraph 2.1 in this annex). The field strength to be protected, the height gain factor and the effect of the directivity of the anntenna in the fixed service are for consideration between the administrations concerned.

3. Aeronautical mobile (OR) service

When the frequencies of the broadcasting and the aeronautical mobile stations are both known, the field strengths given in the table below may be used as sharing criteria.

Frequency separation between BC station and aeronautical mobile (OR) station	dB(μV/m) at an altitude of 10,000 metres
0	20
50	34
100	58
150	90

The delegations of Denmark, Italy and the Islamic Republic of Iran reserved their position.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/59-E
28 November 1984
Original: English

WORKING GROUP 5C

SECOND REPORT OF SUB-WORKING GROUP 5C-1

The annex contains corrections to Document 155.

E. GEORGE
Chairman

Annex: 1

ANNEX

1. Chapter 1, definition 1.3, replace Note 3 by the following text:

"Note 3: The usable field strength can be calculated by the simplified multiplication method[1], or the power sum method[2].

---

[1] See Chapter 3, section 3.5.

[2] See CCIR Recommendation 499.".

2. Chapter 2, section 2.1.3.4, replace the note by the following text:

"Note: Some administrations, in bilateral or multilateral coordinations during the Conference, have taken account of actual path profiles.".

3. Chapter 3, replace section 3.1 by the following text:

"3.1 Transmission systems

In planning, the following transmission systems have been used, as specified by the administrations when notifying their requirements:

System 1: Monophonic (maximum frequency deviation ±75 kHz)

System 2: Monophonic (maximum frequency deviation ±50 kHz)

System 3: Stereophonic, polar modulation system (maximum frequency deviation ±50 kHz)

System 4: Stereophonic, pilot-tone system (maximum frequency deviation ±75 kHz)

System 5: Stereophonic, pilot-tone system (maximum frequency deviation ±50 kHz)

The system used is indicated in the Plan, Column 9, according to the above classification.

The addition of sub-carriers for the transmission of supplementary information[1] has been considered as being included in any of the five systems given above, provided that the maximum carrier frequency deviation is not exceeded and the protection required is not increased.

---

[1] See CCIR Recommendation 450.".

4. Chapter 3, section 3.8.2, add the following note:

"Note 3 - In the computer analysis during the Conference, no account was taken of the receiving antenna directivity.".

5. Chapter 4, section 4.1, delete in the formula for p_c the underlining of n.

6. Chapter 4, section 4.3, last sub-paragraph, replace "first" by "second".

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/60-E
28 November 1984
Original: English

WORKING GROUP 5C

THIRD REPORT OF SUB-WORKING GROUP 5C-1

The annex contains Chapters 6 and 7 of Annex 2 of the Final Acts.

E. GEORGE
Chairman

Annex: 1

ANNEX

CHAPTER 6

ANALYSIS OF THE PLAN

6.1 Introduction

The Plan has been analyzed on the basis of information supplied by administrations before or during the second session of the Conference or entered by the IFRB for those administrations which did not supply information.

6.2 Method of analysis

In each analysis the nuisance field from each potentially interfering transmitter has been calculated at the site of the wanted transmitter according to the method given in paragraph 3.4 of Chapter 3.

The usable field strength, E_u, has then been calculated by the simplified multiplication method taking into account the 20 largest values of nuisance field, specified to one decimal place. For the analysis of the Plan during the Conference, the simplified multiplication method has been used for the whole of the planning area; however, for comparison purposes the power sum method[1] was also used.

Sharing with television broadcasting in the European Broadcasting Area in the band 87.5 to 100 MHz (see Chapter 5) has been taken into account.

The method of analysis used during the Conference with respect to compatibility with the aeronautical radionavigation service in the band 108 to 117.975 MHz is described in Chapter 7.

6.2.1 Analysis during the Conference

The computer analysis of the Plan during the Conference was based on the methods and criteria given in Chapters 2 to 5 and 7, but it did not take into account any receiving antenna discrimination.

6.2.2 Post Conference analysis

In the analysis subsequent to the Conference the coverage area of all transmitters above /_ _/ kW e.r.p. has been evaluated by additional calculations. These calculations, in which account is taken of the receiving antenna discrimination, determine on each of 36 radials at 10° intervals the distance at which the field strength from that the transmitter is equal to E_u.

---

[1] See CCIR Recommendation 499.

CHAPTER 7

COMPATIBILITY BETWEEN THE BROADCASTING SERVICE IN THE BAND 87.5 TO 108 MHz AND THE AERONAUTICAL RADIONAVIGATION SERVICE IN THE BANDS 108 TO 117.975 MHz

7.1 Introduction

7.1.1 The criteria contained in this chapter have been used in the assessment of compatibility between sound broadcasting stations in the band 87.5 - 108 MHz, and aeronautical radionavigation stations in the band 108 - 117.975 MHz.

7.1.2 Use of the coordination contour method, as specified in section 7.3, has been made in the determination of a potential conflict between the sound broadcasting stations of one country and the aeronautical radionavigation stations of another country. In such cases resolution has been or will be effected through bilateral and multilateral negotiations between the administrations concerned.

7.1.3 Where the stations of the broadcasting service and the aeronautical radionavigation service belong to one and the same country, the assessment and resolution of conflicts have been or will be made by the administration concerned.

7.2 Interference mechanisms

7.2.1 Type A interference - Due to radiation at frequencies in the aeronautical radionavigation band

These comprise the following:

Type A1: Intermodulation or other spurious products radiated from the broadcasting station;

Type A2: Out-of-band emissions from broadcasting stations in the aeronautical radionavigation band immediately above the band edge of 108 MHz.

7.2.2 Type B interference - Due to radiation at frequencies outside the aeronautical radionavigation band

These comprise the following:

Type B1: Intermodulation generated in the receiver;

Type B2: Desensitization in the RF section of the receiver.

7.3 Coordination contour around the test point of an aeronautical radionavigation station

7.3.1 The coordination contour is defined by a circle of a radius, as specified below, around each test point of the radionavigation station to be protected, as projected on the surface of the Earth. Broadcasting stations outside the coordination contour are considered not being likely to affect the service provided by the aeronautical radionavigation station concerned and need, therefore, not be considered.

7.3.2 For types A1, A2 and B2 interference the radius is 125 km.

7.3.3 For type B1 interference the radius is 500 km.

7.3.4 Only broadcasting stations which are in line-of-sight to the test point concerned are taken into account (see section 2.2 of Chapter 2).

7.4 Test points

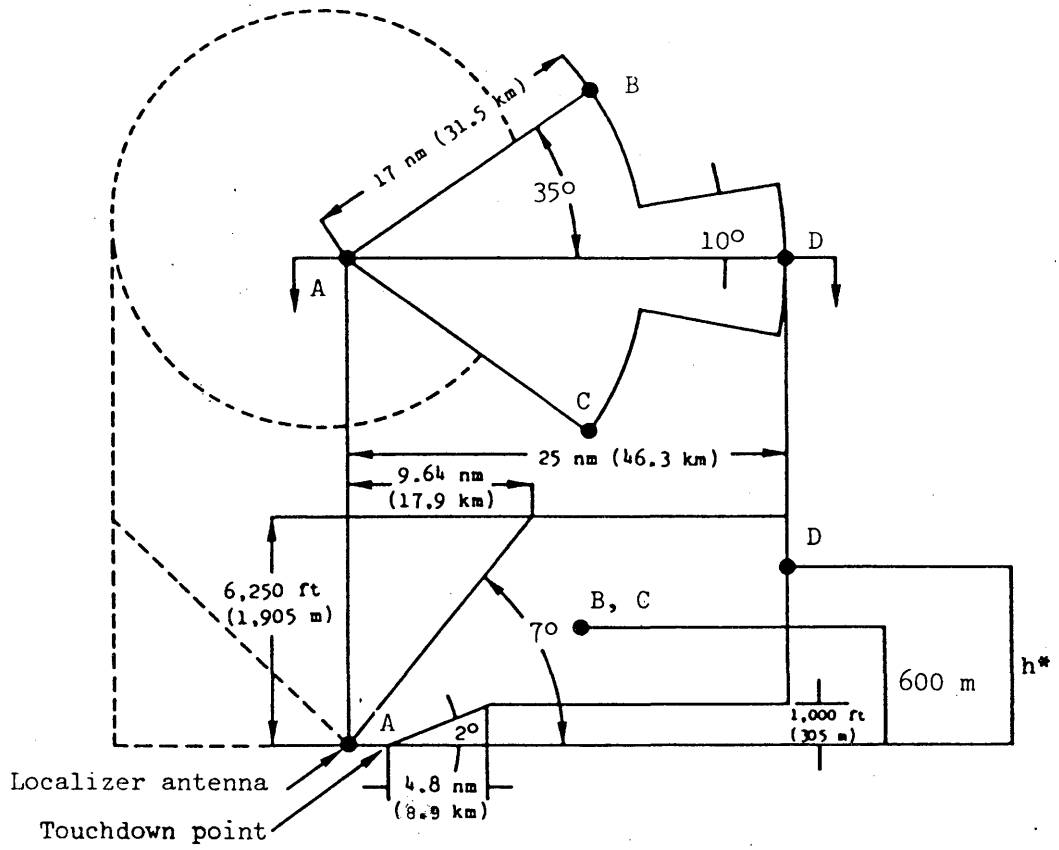
The calculations have been limited to four test points only. These test points have been chosen by the administration concerned in accordance with the constraints given in sections 7.4.1 and 7.4.2.

7.4.1 Instrument landing system (ILS)

The points A, B, C and D are defined in Figure 7.1. In some cases the height of test point A has differed from that indicated in Figure 7.1

7.4.2 VHF omnidirectional range (VOR)

The four cardinal points (N, E, S and W) of the circle forming the boundary of the service area at a height of 1,000 m above the VOR have been chosen as test points. In a number of cases the test point height has differed from the standard height of 1,000 m.



Note: The dashed line shows the limits of ILS back beam protection volume; in this case, the range and height are indicated.

• (A, B, C, D): test points for the ILS localizer

* (h): altitude as indicated by the administration

FIGURE 7.1

ILS localizer protection volume

7.5 Polarization

No account has been taken of polarization differences between the broadcasting and the aeronautical radionavigation signals except in special cases, (e.g. circular polarization of the broadcasting signal).

The interfering signals have been assumed to have the same polarization (vertical or horizontal) as the navigation system. If, instead, the broadcasting station has a different polarization, there is in theory some reduction of received interfering signal levels, but it has been agreed that no allowance was made. In cases, however, where an equal power in the other plane of polarization is added at the transmitter (e.g. circular polarization) an allowance has been made by adding 1 dB to the effective radiated power of the polarization component in the same plane as that used by the navigation system.

7.6 Protection criteria for ILS and VOR

Annex 10 to the Convention on International Civil Aviation contains specifications and characteristics relevant to the protection of both ILS and VOR.

7.6.1 Wanted signal

The minimum field strength to be protected is:

- ILS: 40 μV/m (32 dB(μV/m))
- VOR: 90 μV/m (39 dB(μV/m))

7.6.2 Principles of calculation

The field strength of every broadcasting station in the band 87.5 - 108 MHz inside the coordination contour of and within line-of-sight to a test point of an aeronautical radionavigation station has been calculated at this test point as an interfering signal.

For types A1 and A2 interference this field strength has been compared with the minimum field strength to be protected of the wanted signal, as indicated in section 7.6.1

For type B1 interference the relevant intermodulation formulae have been applied.

For type B2 interference the broadcasting signal level has been compared with the maximum permitted level.

Where applicable, field strength E has been converted to signal power N at the receiver input according to the following formula:

$$E\ (dB(\mu V/m)) = N\ (dBm) + 118 + L_s + L(f)$$

where:

L_s: system fixed loss of 3.5 dB;

L(f): system frequency-dependent loss at frequency f of 1 dB per MHz from 108 - 100 MHz and then 0.5 dB per MHz below 100 MHz.

7.6.3 Al interference

7.6.3.1 Protection ratio

A protection ratio of 17 dB has been assumed and this includes a small safety margin in order to take account of multiple interference entries resulting from different broadcast transmitters.

7.6.3.2 The field strength of the interfering signal at the test point has been calculated on the basis of the following level of the spurious component (in the case of several transmitters contributing to one spurious component - see category a) below - the most powerful transmitter is taken as the reference in the calculations):

- 40 dB below the transmitter e.r.p. for transmitter e.r.p.s below and equal to 2.5 W;
- 250 µW e.r.p. for transmitter e.r.p.s above 2.5 W and below 79 kW;
- 85 dB below the transmitter e.r.p. for transmitter e.r.p.s equal to and above 79 kW;

An antenna gain of 10 dB has been assumed in defining the levels given above.

The levels of the spurious emission given above are valid in the band 108 - 137 MHz.

7.6.3.3 For the analysis of type Al interference the following two categories of spurious emissions exist:

a) spurious emissions resulting from an intermodulation process generated at the transmitter site, e.g. by multiple transmitters feeding the same antenna;

b) spurious emissions with the exclusion of those covered by a) above.

Where the actual frequency of the spurious emission is known, Table 7.1 gives the values of protection ratio to be used for frequency differences up to 200 kHz. Type Al interference need not be considered for frequency differences greater than 200 kHz.

TABLE 7.1

Frequency difference (kHz) between spurious emission and wanted signal	Protection ratio (dB)
0	17
50	10
100	-4
150	-19
200	-38

In the computer analysis during the Conference, the worst case has been assumed for category b), i.e. a spurious component exactly at the aeronautical frequency under consideration.

7.6.3.4 During the Conference no analysis has been made for category a) due to lack of necessary data.

7.6.4 Type A2 interference

The protection ratio values are given in Table 7.2.

TABLE 7.2

Frequency difference (kHz) between wanted signal and broadcasting signal	Protection ratio (dB)
150	-41
200	-50
250	-59
300	-68

A frequency difference below 150 kHz cannot occur. For frequency differences greater than 300 kHz this type of interference need not be considered.

7.6.5 Type B1 interference

Third order intermodulation products of the form :

$f_{aero} = 2 f_1 - f_2$ (two-signal case)

or $f_{aero} = f_1 + f_2 - f_3$ (three-signal case)

with $f_1 > f_2 > f_3$,

generated in the airborne ILS or VOR receiver will cause an unacceptable degradation of receiver performance, if the inequalities given below are fulfilled subject to the conditions in 7.6.5.4.

Intermodulation of the second order is irrelevant and intermodulation of a higher order than three has not been considered.

N_1, N_2 and N_3 in the inequalities below have the following meaning :

N_1 ... level in dBm of the broadcasting signal of frequency f_1 in MHz at the input of the aeronautical radionavigation receiver

N_2 ... level in dBm of the broadcasting signal of frequency f_2 in MHz at the input of the aeronautical radionavigation receiver

N_3 ... level in dBm of the broadcasting signal of frequency f_3 in MHz at the input of the aeronautical radionavigation receiver

max (0.4; 108.1 - f) in the inequalities below has the following meaning : either 0.4 or 108.1 - f, whichever is greater.

7.6.5.1 Two-signal case

$$2\left(N_1 - 20 \log \frac{\max (0.4;\ 108.1 - f_1)}{0.4}\right) +$$

$$N_2 - 20 \log \frac{\max (0.4;\ 108.1 - f_2)}{0.4} + 120 > 0$$

7.6.5.2 Three-signal case

$$N_1 - 20 \log \frac{\max (0.4;\ 108.1 - f_1)}{0.4} +$$

$$N_2 - 20 \log \frac{\max (0.4;\ 108.1 - f_2)}{0.4} +$$

$$N_3 - 20 \log \frac{\max (0.4;\ 108.1 - f_3)}{0.4} + 126 > 0$$

7.6.5.3 Frequency offset conditions

Table 7.3 contains corrections to be applied to each broadcast signal level before applying the formulae in 7.6.5.1 or 7.6.5.2.

$$N_{1,2,3}\ (\text{corrected}) = N_{1,2,3} - \text{correction term}$$

TABLE 7.3

Frequency difference between wanted signal and intermodulation product (kHz)	Correction term (dB)
0	0
±50	2
±100	8
±150	16
±200	26

For frequency differences beyond ±200 kHz, type B1 interference need not be considered.

7.6.5.4 Trigger and cut-off values

The trigger value is the minimum power level at the input to the airborne ILS or VOR receiver, considered necessary for a broadcasting signal to initiate the generation of intermodulation products which are of sufficient power to infringe potentially the receiver interference threshold. The trigger value for each contributing broadcasting signal of frequency f at the ILS or VOR receiver input is derived from the following formula:

$$N = -42 + 20 \log \frac{\max (0.4;\ 108.1 - f)}{0.4}$$

The cut-off value is the minimum power level at the input to the airborne ILS or VOR receiver, considered necessary for a broadcasting signal to be one input to the non-linear process which results in the formation of an intermodulation product of sufficient power to infringe potentially the receiver interference threshold.

For the compatibility analysis a cut-off value of 12 dB below the trigger value has been chosen.

An intermodulation analysis has, therefore, only been carried out if at least one signal has been equal to or above the trigger value provided that the other signal or signals have been equal to or above the cut-off value.

7.6.6 Type B2 interference

Table 7.4 contains maximum permitted levels of broadcasting signals at the input to the airborne ILS or VOR receiver.

TABLE 7.4

Frequency of broadcasting signal (MHz)	Level (dBm)
107.9	-20
106	-5
102	5
$\leq$ 100	10

Between the frequency values given above, the maximum permitted level has been determined by linear interpolation.

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/61-E
29 November 1984
Original : French

COMMITTEE 2

DRAFT

REPORT OF COMMITTEE 2 TO THE PLENARY MEETING

CREDENTIALS

1. Terms of reference of the Committee

The terms of reference of the Committee are set out in Document 40.

2. Meetings

The Committee met twice, on 31 October and 30 November 1984.

At its first meeting, it set up a Working Group consisting of the Chairman and Vice-Chairman of the Committee and one delegate from the People's Democratic Republic of Algeria, from Austria and from the Islamic Republic of Iran to verify delegations' credentials in accordance with Article 67 of the International Telecommunication Convention, Nairobi (1982).

3. Conclusions

The conclusions reached by the Committee are reproduced in the Annex attached hereto and submitted to the Plenary Meeting for approval.

4. Final remark

The Committee recommends that the Plenary Meeting authorize the Chairman and the other members of the Working Group to verify the credentials received after the date of the present Report and to report to the Plenary Meeting on the matter.

J. SZEKELY
Chairman of Committee 2

Annex : 1

A N N E X

1. ** Credentials found to be in order, deposited by the delegations of countries having the right to vote

AFGHANISTAN (Democratic Republic of)
ALBANIA (Socialist People's Republic of)
ALGERIA (People's Democratic Republic of)
GERMANY (Federal Republic of)
ANGOLA (People's Republic of)
SAUDI ARABIA (Kingdom of)
AUSTRIA
BELGIUM
BENIN (People's Republic of)
BYELORUSSIAN SOVIET SOCIALIST REPUBLIC
BOTSWANA (Republic of)
BULGARIA (People's Republic of)
BURKINA FASO
CAMEROON (Republic of)
CYPRUS (Republic of)
VATICAN CITY STATE
CONGO (People's Republic of)
IVORY COAST (Republic of the)
DENMARK
EGYPT (Arab Republic of)
SPAIN
FINLAND
FRANCE
GABONESE REPUBLIC
GHANA *
GREECE
GUINEA (Republic of)
HUNGARIAN PEOPLE'S REPUBLIC
IRAN (Islamic Republic of)
IRAQ (Republic of)
IRELAND
ISRAEL (State of)
ITALY
JORDAN (Hashemite Kingdom of)
KENYA (Republic of)
KUWAIT (State of)
LESOTHO (Kingdom of)
LIBYA (Socialist People's Libyan Arab Jamahiriya)
LIECHTENSTEIN (Principality of)
LUXEMBOURG
MALI (Republic of)
MALTA (Republic of)
MOROCCO (Kingdom of)
MONACO
MONGOLIAN PEOPLE'S REPUBLIC

* The delegation of this country is not present to the Conference; the credentials have been received by mail.

** French alphabetical order

NIGER (Republic of the)
NORWAY
OMAN (Sultanate of)
UGANDA (Republic of)
NETHERLANDS (Kingdom of the)
POLAND (People's Republic of)
PORTUGAL
QATAR (State of)
SYRIAN ARAB REPUBLIC
GERMAN DEMOCRATIC REPUBLIC
UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND
SAN MARINO (Republic of)
SWEDEN
SWITZERLAND (Confederation of)
SWAZILAND (Kingdom of)
TANZANIA (United Republic of)
CZECHOSLOVAK SOCIALIST REPUBLIC
TOGOLESE REPUBLIC
TUNISIA
TURKEY
UNION OF SOVIET SOCIALIST REPUBLICS
YEMEN ARAB REPUBLIC
YEMEN (People's Democratic Republic of)
YUGOSLAVIA (Socialist Federal Republic of)
ZAMBIA (Republic of)
ZIMBABWE (Republic of)

Conclusion : The delegations of these countries are entitled to vote and to sign the Final Acts.

2. Credentials found to be in order, deposited by the delegations of countries which do not have the right to vote (see Document 31 Rev.)

CHAD (Republic of)

Conclusion : The delegation of this country is not entitled to vote, but may sign the Final Acts.

3. Delegations attending the Conference which have not deposited credentials

UNITED ARAB EMIRATES (this country has not the right to vote, see document 31 Rev.)

ETHIOPIA (credentials announced)

UKRAINIAN SOVIET SOCIALIST REPUBLIC

ROMANIA (Socialist Republic of) (credentials announced)

RWANDESE REPUBLIC

SENEGAL (Republic of)

Conclusion : The delegations of these countries are entitled neither to vote nor to sign the Final Acts

INTERNATIONAL TELECOMMUNICATION UNION

REGIONAL BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1984

Document DT/62-E
3 December 1984
Original: French

BUDGET CONTROL COMMITTEE

DRAFT

REPORT OF THE BUDGET CONTROL COMMITTEE

TO THE PLENARY MEETING

The Budget Control Committee held three meetings during the Conference and examined the questions arising from its terms of reference.

Under Nos. 475 to 479 of the International Telecommunication Convention (Nairobi, 1982), the Committee's terms of reference are :

a) to determine the organization and the facilities available to delegates;

b) to examine and approve the accounts for expenditure incurred throughout the duration of the Conference;

c) to estimate the costs that may be entailed by the execution of the decisions taken by the Conference.

1. Determination of the organization and facilities available to delegates

As there were no comments by delegations on the subject, Committee 3 congratulated the Secretary-General on the efficient organization of and excellent arrangements made for holding the Conference.

2. Conference budget

The Budget Control Committee examined the Conference budget, amounting to 3,438,000 Swiss francs, which was approved by the Administrative Council at its 38th session (1983).

The Committee also noted that the Conference budget had been adjusted by 292,300 Swiss francs to take into account changes in the common system of the United Nations and the specialized agencies with regard to the salaries and allowances of short-term supernumerary staff and fluctuations in the rate of exchange between the US dollar and the Swiss franc, as required by Administrative Council Resolution No. 647.

The Conference budget was also revised to take account of the additional credits amounting to 223,000 Swiss francs approved by the Administrative Council at its 39th session (1984) in Resolution No. 905. As a result of these adjustments, the budget of the second session of the Regional Broadcasting Conference stands at 3,953,300 Swiss francs, i.e. an increase of 515,300 Swiss francs. It is set out in Annex 1 to this report.

3. Final Acts of the Conference

Under the terms of Administrative Council Resolution No. 83 (amended):

"... if a conference prints, for its own use, documents of which the typographical composition can subsequently be used, in whole or in part, for the printing of the Final Acts, it must bear a percentage of the composition costs and the whole of the printing costs of the said document;

... the percentage of the composition cost mentioned in the above paragraph ... shall be decided by the Plenary Meeting of the conference.".

Parts of the texts making up the Final Acts of the Conference which are to be signed by delegations can be used for the final printing.

The Plenary Meeting of the Conference must decide what share of the cost of preparing these texts should be borne, respectively, by the Conference budget and the supplementary publications budget.

Taking into account decisions adopted by previous conferences and by the Administrative Council when it approved the Conference budget, the Budget Control Committee proposes that these costs be distributed as follows:

1/3 to be charged to the Conference budget;

2/3 to be charged to the supplementary publications budget.

The estimate of expenditure given in Annex 2 takes account of a 1/3 - 2/3 distribution.

4. Situation of Conference expenditure

Under No. 478 of the Convention, the Budget Control Committee has to submit a report to the Plenary Meeting showing, as accurately as possible, the estimated total expenditure of the Conference.

Accordingly, Annex 2 contains a statement showing the budget of the Conference, together with a breakdown of credits among the budget subheads and items, as well as the actual expenditure incurred as at 30 November 1984. There is also an indication of the expenditure committed up to that date and an estimate of expenditure up to the date of closure of the Conference.

Credits transferred from subhead to subhead in accordance with Article 15, paragraph 3, of the Financial Regulations of the Union are also given in Annex 2.

The statement shows that total expenditure is estimated at Swiss francs, i.e. Swiss francs less than the amount approved by the Administrative Council and adjusted by virtue of its Resolutions Nos. 647 and 905.

5. Recognized private operating agencies and international organizations taking part in the Conference

No recognized private operating agency is taking part in the Conference. All the participating international organizations are exempted from financial contributions under Administrative Council Resolution No. 574. The list of participating international organizations exempted from contributions is found in Annex 3 to this report.

6. Sharing of Conference expenditure

Since the present Conference is a Regional Conference within the meaning of No. 50 in Article 7 of the Nairobi Convention (1982), the expenditure arising from it must be borne by all the Members of Region 1 and the Members of other regions which have taken part in the Conference, according to the class of contribution they have chosen pursuant to No. 115 in Article 15 of the Convention. Annex 4 gives a list of the Members which must bear the costs of the Conference.

According to the statement of account in Annex 2, the total expenditure is estimated at Swiss francs. On the basis of the contributions of the international organizations (see 5 above) and the number of contributory units of the Members required to bear the Conference expenditure (see Annex 4), the amount of the contributory unit may be estimated at Swiss francs.

Under Article 28 of the Financial Regulations of the Union, interest is payable on regional conference accounts after a period of 60 days from the date of their dispatch. Since invoices can probably be sent to participants on 28 February 1985, they should be settled not later than 30 April 1985. From 1 May 1985 they will be subject to interest at 3% for the first 180 days and at 6% thereafter.

Under Resolution No. 905, the amount of 223,000 Swiss francs will be charged to Members after the close of the financial year 1985, i.e. probably at the end of February 1986.

7. Additional expenditure to be envisaged for implementation of the decisions of the Conference

No. 478 of the International Telecommunication Convention (Nairobi, 1982) provides that the Budget Control Committee's report to the Plenary Meeting must show, as accurately as possible, the costs that may be entailed by the execution of the decisions taken by the Conference. Article 80 of the Convention, concerning the financial responsibilities of administrative conferences, specifies that before adopting proposals with financial implications, conferences must take account of all the Union's budgetary provisions with a view to ensuring that those proposals will not result in expenses beyond the credits which the Administrative Council is empowered to authorize. Furthermore, Resolution No. 48 of the Nairobi Conference provides:

"that before adopting resolutions or taking decisions which are likely to result in additional and unforeseen demands upon the budgets of the Union, future administrative conferences ..., having regard to the need for economy, shall:

1.1 prepare and take into account estimates of the additional demands made on the budgets of the Union;

1.2 where two or more proposals are involved, arrange them in an order of priority;

1.3 prepare and submit to the Administrative Council a statement of the estimated budgetary impact, together with a summary of the significance and benefit to the Union of financing the implementation of those decisions, and an indication of priorities where appropriate;".

(To be completed on the basis of the reports by the IFRB, the CCIR and the Chairmen of Committees 4 and 5.)

In accordance with No. 479 of the Convention, this report will be transmitted together with any comments by the Plenary Meeting to the Secretary-General for reference to the Administraive Council at its next annual session.

The Plenary Meeting is requested to approve this report.

F. MOLINA NEGRO
Chairman of the Budget Control Committee

Annexes: 4

ANNEX 1

Regional Administrative Broadcasting Conference, Region 1+ Items		Budget 1984	Additional credits under Res.905 (CA 39)	Additional credits under CA Res.647	Total budget 1984 (revised)
Sub-head I	Preparatory work			Swiss francs	
20.301	IFRB salaries and related expenses	613,000		43,400	656,400
20.302	Insurance	119,000		12,900	131,900
20.303	Office space, furniture	30,000		-	30,000
20.304	Electronic equipment	50,000		-	50,000
20.311	CCIR preparatory work	48,000		-	48,000
		860,000		56,300	916,300
Sub-head II	Staff expenses				
20.351	Salaries and related expenses of the Conference Secretariat staff	1,314,000		163,000	1,477,000
20.352	Salaries and related expenses of the translation, typing and reproduction services staff	604,000		72,000	676,000
20.353	Travel (recruitment)	75,000		1,000	76,000
20.354	Insurance	47,000		-	47,000
		2,040,000		236,000	2,276,000
Sub-head III	Travel expenses				
20.361	Transport at the conference venue	-		-	
20.362	Travel to and from the conference venue	-		-	
20.363	Shipping of equipment to and from the conference	-		-	
Sub-head IV	Premises and equipment				
20.371	Premises, furniture, machines	55,000			55,000
20.372	Document production	58,000			58,000
20.373	Office supplies and overheads	30,000			30,000
20.374	Postage, telephone calls, telegrams	50,000			50,000
20.375	Technical installations	5,000			5,000
20.376	Sundry and unforeseen	10,000			10,000
20.377	Use of outside computers	90,000			90,000
		298,000	-	-	298,000
Sub-head V	Other expenses				
20.381	Interest credited to the ordinary budget	64,000	-	-	64,000
Sub-head VI	Final Acts				
20.391	Final Acts of the Conference	176,000	-	-	176,000
	Total, I to VI	3,438,000		-	
Sub-head VII	Additional credits	-	223,000	-	223,000
		3,438,000	223,000	292,300	3,953,300

ANNEX 2

This Annex will comprise the table in the document entitled:

"Position as regards Conference expenditure at 30 November 1984."

ANNEX 3

PARTICIPATION BY RECOGNIZED PRIVATE OPERATING AGENCIES AND INTERNATIONAL ORGANIZATIONS IN THE WORK OF THE CONFERENCE

	Number of contributory units
1. Recognized private operating agencies	
None	
2. International organizations	
International Civil Aviation Organization (ICAO)	*)
International Association of Broadcasting (AIR)	*)
International Air Transport Association (IATA)	*)
International Radio and Television Organization (OIRT)	*)
Arab States Broadcasting Union (ASBU)	*)
European Broadcasting Union (EBU)	*)
Union of National Radio and Television Organizations of Africa (URTNA)	*)

*) International organizations exempt from contribution under Administrative Council Resolution No. 574.

ANNEX 4

CONTRIBUTION BY MEMBERS OF THE UNION TO DEFRAYING THE EXPENSES OF THE REGIONAL CONFERENCE

Under No. 115 of the International Telecommunication Convention (Nairobi, 1982), expenses incurred by regional administrative conferences shall be borne by all the Members of the Regions concerned. These Members are the following:

Members of Region 1	Contributory units
1. Albania (Socialist People's Republic of)	1/4
2. Algeria (People's Democratic Republic of)	1
3. Germany (Federal Republic of)	30
4. Angola (People's Republic of)	1/4
5. Saudi Arabia (Kingdom of)	10
6. Austria	1
7. Bahrain (State of)	1/2
8. Belgium	5
9. Benin (People's Republic of)	1/4
10. Byelorussian Soviet Socialist Republic	1/2
11. Botswana (Republic of)	1/2
12. Bulgaria (People's Republic of)	1
13. Burundi (Republic of)	1/8
14. Cameroon (Republic of)	1/2
15. Cape Verde (Republic of)	1/8
16. Central African Republic	1/8
17. Cyprus (Republic of)	1/4
18. Vatican City State	1/4
19. Comoros (Islamic Federal Republic of the)	1/8
20. Congo (People's Republic of the)	1/2
21. Ivory Coast (Republic of the)	1
22. Denmark	5
23. Djibouti (Republic of)	1/8
24. Egypt (Arab Republic of)	1
25. United Arab Emirates	1
26. Spain	3
27. Ethiopia	1/8
28. Finland	5
29. France	30
30. Gabonese Republic	1/2
31. Gambia (Republic of the)	1/8
32. Ghana	1/4
33. Greece	1
34. Guinea (Republic of)	1/8
35. Guinea-Bissau (Republic of)	1/8

		Contributory units
36.	Equatorial Guinea (Republic of)	1/8
37.	Upper Volta (Republic of)	1/8
38.	Hungarian People's Republic	1
39.	Iraq (Republic of)	1/4
40.	Ireland	2
41.	Iceland	1/4
42.	Israel (State of)	1
43.	Italy	10
44.	Jordan (Hashemite Kingdom of)	1/2
45.	Kenya (Republic of)	1/4
46.	Kuwait (State of)	1
47.	Lesotho (Kingdom of)	1/8
48.	Lebanon	1/4
49.	Liberia (Republic of)	1/4
50.	Libya (Socialist People's Libyan Arab Jamahiriya)	1 ½
51.	Liechtenstein (Principality of)	1/2
52.	Luxembourg	1/2
53.	Madagascar (Democratic Republic of)	1/4
54.	Malawi	1/8
55.	Mali (Republic of)	1/8
56.	Malta (Republic of)	1/4
57.	Morocco (Kingdom of)	1
58.	Mauritius	1/4
59.	Mauritania (Islamic Republic of)	1/4
60.	Monaco	1/4
61.	Mongolian People's Republic	1/4
62.	Mozambique (People's Republic of)	1/4
63.	Namibia	-
64.	Niger (Republic of the)	1/8
65.	Nigeria (Federal Republic of)	2
66.	Norway	5
67.	Oman (Sultanate of)	1/2
68.	Uganda (Republic of)	1/8
69.	Netherlands (Kingdom of the)	10
70.	Poland (People's Republic of)	2
71.	Portugal	1
72.	Qatar (State of)	1/2
73.	Syrian Arab Republic	1/2
74.	German Democratic Republic	3
75.	Ukrainian Soviet Socialist Republic	1
76.	Romania (Socialist Republic of)	1/2
77.	United Kingdom of Great Britain and Northern Ireland	30
78.	Rwandese Republic	1/8
79.	San Marino (Republic of)	1/4
80.	Sao Tome and Principe (Democratic Republic of)	1/8
81.	Senegal (Republic of)	1
82.	Sierra Leone	1/8
83.	Somali Democratic Republic	1/8
84.	Sudan (Democratic Republic of the)	1/8
85.	Sweden	10

		Contributory units
86.	Switzerland (Confederation of)	10
87.	Swaziland (Kingdom of)	1/4
88.	Tanzania (United Republic of)	1/8
89.	Chad (Republic of the)	1/8
90.	Czechoslovak Socialist Republic	2
91.	Togolese Republic	1/4
92.	Tunisia	1
93.	Turkey	1
94.	Union of Soviet Socialist Republics	30
95.	Yemen Arab Republic	1/4
96.	Yemen (People's Democratic Republic of)	1/8
97.	Yugoslavia (Socialist Federal Republic of)	1
98.	Zaire (Republic of)	1/2
99.	Zambia (Republic of)	1/4
100.	Zimbabwe (Republic of)	1/2
	Members of Region 3:	
-	Afghanistan (Democratic Republic of)	1/8
-	Iran (Islamic Republic of)	1
	Total	239 7/8