



**Documents of the Regional Administrative LF/MF Broadcasting Conference
(Regions 1 and 3) (2nd session) (Geneva, 1975)**

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- The complete set of conference documents includes Document No. 1 - 330, DT No. 1 - 52.

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BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 1-E
15 February 1975
Original : French

PLENARY MEETING

Memorandum by the Secretary-General

AGENDA OF THE SECOND SESSION

OF THE

CONFERENCE

The agenda of the Second Session of the Conference is contained in Resolution R No. 743 which was adopted by the Administrative Council at its 29th Session in 1974.

The text of the Resolution is attached hereto.

M. MILI

Secretary-General

Annex : 1



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A N N E X

R No. 743

SECOND SESSION OF THE REGIONAL ADMINISTRATIVE
CONFERENCE (REGIONS 1 AND 3) TO DRAW UP FREQUENCY
PLANS FOR LF/MF BROADCASTING

The Administrative Council,

considering

the result of the consultation made in telegram
No. A 96 dated 21 June 1974 (Document No. 4626);

considering

Resolution No. 719 of the Administrative Council;

resolves

1. that the Conference shall be convened on 6 October 1975
for a duration of seven weeks;
2. that the agenda of the Conference shall be as follows :
 - a) to consider the report of the first session of the
Regional Administrative LF/MF Broadcasting Conference
on technical and operational criteria and methods for
frequency planning in the LF/MF broadcasting bands in
Regions 1 and 3;
 - b) on the basis of these technical and operational
criteria and planning methods, to draw up an agreement
and an associated frequency plan of assignments in
the LF/MF broadcasting bands in Regions 1 and 3 to
replace, as appropriate, existing plans for those
bands.

Ref. : Docs. 4687 and 4673/CA29 - June/July 1974

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 2-E

15 February 1975

Original : French

PLENARY MEETING

Memorandum by the Secretary-General

REPORT OF THE FIRST SESSION

1. In Resolution D adopted at the First Session, the Chairman of the Conference was instructed to transmit under his signature the Report of the First Session to the Second Session of the Conference and the Secretary-General was asked to transmit the report to all administrations of Regions 1 and 3.
2. The I.F.R.B. was instructed in Resolution B, inter alia, to prepare a list of the requirements submitted by administrations, to study those requirements and to draw up a report on the subject for the Second Session.
3. The C.C.I.R. was invited in Resolution A to expedite its studies of planning methods.
4. The Report was sent out in the middle of November 1974 and a booklet of C.C.I.R. texts of interest to the Conference (with a corrigendum relating to pages 56 and 71 of the Report) was dispatched towards the end of that month.
5. For economy reasons, it was decided to produce as few copies of the Report as possible and, since it can now be assumed that all administrations have received a sufficient number to meet their actual needs, it should be pointed out that very few copies will be available at the Conference.

M. MILI

Secretary-General



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Addendum No. 1 to

Document No. 3-E

20 August 1975

Note by the Secretary-General

LIST OF FREQUENCY REQUIREMENTS

(RESOLUTION B OF THE FIRST SESSION)

In addition to Circular-letter No. 324 of 23 May 1975, referred to in Document No. 3, the I.F.R.B. has sent the following Circular-letters to the Administrations concerned :

- | | |
|--------------------------|---|
| - No. 325 (27 June 1975) | Errata and corrigenda to the List of Frequency Requirements |
| - No. 326 (30 June 1975) | Addendum to the List of Frequency Requirements |
| - No. 327 (1 July 1975) | Report by the I.F.R.B. on the result of the studies carried out pursuant to Resolution B of the first session |

M. MILI

Secretary-General



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 3-E
29 May 1975

PLENARY MEETING

Note by the Secretary-General

LIST OF FREQUENCY REQUIREMENTS

(RESOLUTION B OF THE FIRST SESSION)

I have the honour to inform the Second Session of the Conference that the List of Frequency Requirements received by the I.F.R.B. pursuant to Resolution B of the First Session (Geneva, 1974) was sent to the administrations of the Member countries concerned with I.F.R.B. Circular-Letter No. 324 dated 23 May 1975. The text of this Circular-Letter is annexed below.

The I.F.R.B. Circular-Letter has two very long appendices, two copies of which were sent to each administration. In view of their bulk and weight, these appendices will be distributed to delegations during the Second Session of the Conference. However, if any administration wishes to obtain copies in advance of the Second Session of the Conference, it should request them from the General Secretariat of the I.T.U.

M. MILI

Secretary-General

Annex : 1



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A N N E X

COMITÉ INTERNATIONAL
D'ENREGISTREMENT DES FRÉQUENCES
I.F.R.B.



JUNTA INTERNACIONAL
DE REGISTRO DE FRECUENCIAS
I.F.R.B.

INTERNATIONAL
FREQUENCY REGISTRATION BOARD
I.F.R.B.

Référence à rappeler dans la réponse :
When replying, please quote :
Indiquez en la respuesta esta referencia :

I.F.R.B. Circular-letter
N° 324

Ø 34 70 00 - 34 80 00
Burinterna. Genève
Tx 23000

GENÈVE, 23 May 1975
PLACE DES NATIONS

Subject: List of frequency requirements received by the I.F.R.B.
pursuant to Resolution No. B of the Regional Administra-
tive LF/MF Broadcasting Conference (Regions 1 and 3)
(First Session), Geneva, 1974

Reference: I.F.R.B. Circular-letter No. 315 dated 14 November 1974

To the Director-General

Dear Sir,

On behalf of the International Frequency Registration Board, I wish to inform you that the List of frequency requirements prepared in conformity with paragraphs 1 and 2 of Resolution No. B is in the course of being despatched to you under separate cover by airmail. Two copies of the List are being included in the consignment so as to permit one of these to be passed urgently to the Organization or Service dealing, within your country, with the technical preparation for the Conference.

2. The List, which constituted Appendix 1 to the present Circular-letter, contains all the frequency requirements received by the I.F.R.B. as of 12 May 1975. These are arranged by countries in alphabetical order of the symbol designating the country as they appear in Table No. 1 of the Preface to the International Frequency List.

./.

Prière d'adresser toute correspondance officielle à
Please address all official correspondence to
Toda correspondencia oficial debe dirigirse a

Monsieur le Président de l'I.F.R.B.
The Chairman of the I.F.R.B.
Señor Presidente de la I.F.R.B.
Union internationale des télécommunications
1211 GENÈVE 20
Suisse - Switzerland - Suiza

2.1 The frequency requirements are arranged for each country in the following order:

- a) requirements for which a desired frequency was given, in ascending order of frequency;
- b) requirements pertaining to synchronized networks, in ascending order of frequency;
- c) requirements where no desired frequency was given, but for which a desired frequency range was given, in ascending order of the first frequency of the first desired frequency range indicated; and last
- d) requirements pertaining to low power channels (LPC), in alphabetical order of the station name.

2.2 There are three Annexes to the List, namely:

Annex 1 which contains information on the characteristics of transmitting antennae other than a simple vertical antenna;

Annex 2 which contains information on the proximity of the antenna sites to the sea, in different azimuths, and

Annex 3 which contains the explanation of Remarks appearing as numbers in Column 17 of the List; these Remarks originate either with the Administration submitting the requirement or with the I.F.R.B.

3. To provide Administrations with a ready reference to the situation channel by channel, the I.F.R.B. has prepared an Index to the List of requirements arranged in ascending frequency order. The Index constitutes Appendix 2 to the present Circular-letter.

4. The I.F.R.B. has not received any requirements from a small number of countries for which assignments appear in the Master International Frequency Register or in the African Plan, Geneva, 1966. The requirements which may be received from these countries will be the subject of Addenda to the List of requirements which will be issued in due course.

5. The List of requirements, together with any Addenda which may be published later, will be the only document available to the Second Session of the Conference containing all the characteristics of the frequency requirements. The Report by the I.F.R.B., called for in paragraph 3 of Resolution No. B, will not reproduce all the information contained in the List of requirements.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'A. Berrada', written over a horizontal line.

A. Berrada
Chairman

Appendices: 2 (airmailed under separate cover)

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 4-E
27 August 1975
Original : French

PLENARY MEETING

Note by the Secretary-General

CREDENTIALS FOR DELEGATIONS

Delegations taking part in the proceedings of the Second Session of the Regional Administrative LF/MF Broadcasting Conference will be required, on behalf of their Governments, to draw up multilateral plans which will constitute a multilateral agreement between Governments.

In order to establish these plans, delegations will doubtless find it necessary to exercise their right to vote.

Moreover, once the agreement has been drawn up it will have to be signed by the delegations.

Consequently, delegations to the Conference must be duly accredited, not only in order to attend the Conference but also to be able to vote and to sign the Final Acts in conformity with the provisions of Article 67 of the Convention (see Annex).

The attention of delegations is drawn in particular to No. 361 and Nos. 363 to 366 of these provisions.

It should be borne in mind that instruments of accreditation deposited at the time of the First Session of the Conference (1974) will not be valid for the Second Session (1975).

M. MILI

Secretary-General

Annex : 1



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A N N E X

ARTICLE 67

Credentials for Delegations to Conferences

- 359 1. The delegation sent by a Member of the Union to a conference shall be duly accredited in accordance with 360 to 366.
- 360 2. (1) Accreditation of delegations to Plenipotentiary Conferences shall be by means of instruments signed by the Head of State, by the Head of the Government or by the Minister for Foreign Affairs.
- 361 (2) Accreditation of delegations to administrative conferences shall be by means of instruments signed by the Head of State, by the Head of the Government, by the Minister for Foreign Affairs or by the Minister responsible for questions dealt with during the conference.
- 362 (3) Subject to confirmation prior to the signature of the Final Acts, by one of the authorities mentioned in 360 or 361, delegations may be provisionally accredited by the Head of the diplomatic mission of the country concerned to the government of the country in which the conference is held. In the case of a conference held in the country of the seat of the Union, a delegation may also be provisionally accredited by the Head of the Permanent Delegation of the country concerned to the United Nations Office at Geneva.
- 363 3. Credentials shall be accepted if they are signed by the appropriate authority mentioned under 360 to 362, and fulfil one of the following criteria:
- 364 — they confer full powers;
- 365 — they authorize the delegation to represent its government, without restrictions;
- 366 — they give the delegation, or certain members thereof, the right to sign the Final Acts.
- 367 4. (1) A delegation whose credentials are found to be in order by the Plenary Meeting shall be entitled to exercise the right to vote of the Member concerned and to sign the Final Acts.
- 368 (2) A delegation whose credentials are found not to be in order by the Plenary Meeting shall not be entitled to exercise the right to vote or to sign the Final Acts until the situation has been rectified.
- 369 5. Credentials shall be deposited with the secretariat of the conference as early as possible. A special committee shall be entrusted with the verification thereof and shall report on its conclusions to the Plenary Meeting within the time specified by the latter. Pending the decision of the Plenary Meeting thereon, a delegation of a Member of the Union shall be entitled to participate in the conference and to exercise the right to vote of the Member concerned.
- 370 6. As a general rule, Members of the Union should endeavour to send their own delegations to conferences of the Union. However, if a Member

is unable, for exceptional reasons, to send its own delegation, it may give the delegation of another Member powers to vote and sign on its behalf. Such powers must be conveyed by means of an instrument signed by one of the authorities mentioned in 360 or 361.

371 7. A delegation with the right to vote may give to another delegation with the right to vote a mandate to exercise its vote at one or more meetings at which it is unable to be present. In such a case it shall, in good time, notify the Chairman of the conference in writing.

372 8. A delegation may not exercise more than one proxy vote.

373 9. Credentials and the transfer of powers sent by telegram shall not be accepted. Nevertheless, replies sent by telegram to requests by the Chairman or the secretariat of the conference for clarification of credentials shall be accepted.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 5-E

1 September 1975

Original : English

PLENARY MEETING

State of Israel

PROPOSALS FOR THE WORK OF THE CONFERENCE

1. It is foreseen that circumstances might arise in which the available spectrum may preclude the meeting of all requirements submitted to be reasonably free from any possible harmful interference.
 2. If, regretfully, such circumstances materialize it is suggested to ensure for each administration a minimum of frequency-hours within its most preferred listening periods - in which it will be given complete priority for interference-free operation.
-



UNION INTERNATIONALE DES TELECOMMUNICATIONS
CONFERENCE DE RADIODIFFUSION
(DEUXIEME SESSION) GENEVE, 1975

Document N° 6-F/E/S
23 septembre 1975
Original : français, anglais,
espagnol

SEANCE PLENIERE/PLENARY MEETING/
SESION PLENARIA

Note du Secrétaire général

LISTE DES DEMANDES DE FREQUENCE RECUES PAR L'I.F.R.B. EN
APPLICATION DE LA RESOLUTION B DE LA CONFERENCE ADMINISTRATIVE
REGIONALE DE RADIODIFFUSION A ONDES KILOMETRIQUES ET HECTOMETRIQUES
(REGIONS 1 ET 3), PREMIERE SESSION, GENEVE 1974

La liste mentionnée ci-dessus a été publiée sous couvert de la lettre-circulaire N° 324 de l'I.F.R.B. du 23 mai 1975. Ce document est disponible en version trilingue, français, anglais et espagnol. Cependant, compte tenu de son volume et de son format (A3) il n'a pas fait l'objet d'une distribution générale mais il peut être obtenu sur demande au Service de distribution des documents.

Annexe : publiée séparément

Note by the Secretary-General

LIST OF FREQUENCY REQUIREMENTS RECEIVED BY THE I.F.R.B.
PURSUANT TO RESOLUTION B OF THE REGIONAL ADMINISTRATIVE
LF/MF BROADCASTING CONFERENCE (REGIONS 1 AND 3)
(FIRST SESSION), GENEVA, 1974

The above List was first issued with I.F.R.B. Circular-letter No. 324 dated 23 May 1975. The document is available in a single trilingual French, English and Spanish version however, being voluminous and in double format (A3), it is not being given a general distribution but may be obtained upon request from the Document Distribution Desk.

Annex : issued separately

Nota del Secretario General

LISTA DE SOLICITUDES DE FRECUENCIAS RECIBIDAS POR LA I.F.R.B.
DE CONFORMIDAD CON LA RESOLUCIÓN B DE LA CONFERENCIA ADMINISTRATIVA
REGIONAL DE RADIODIFUSIÓN POR ONDAS KILOMÉTRICAS Y HECTOMÉTRICAS
(REGIONES 1 Y 3), PRIMERA REUNIÓN, GINEBRA, 1974

Esta Lista se publicó con la carta circular de la I.F.R.B. N.º 324, de 23 de mayo de 1975. El documento esta disponible en versión trilingüe, francés, inglés y español. Sin embargo, debido a su volumen y formato (A3), no se ha procedido a su distribución general pero puede obtenerse en el servicio de Distribución de Documentos.

Anexo : publicado aparte

M. MILLI

Secrétaire général



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Original: French,
English,
Spanish

PLENARY MEETING

Note by the Secretary-General

Errata and Corrigenda to the List of Frequency Requirements
and Addendum to the List of Frequency Requirements
(I.F.R.B. Circular-letters No. 325 and No. 326)

The above Errata and Corrigenda were first issued with I.F.R.B. Circular-letter No. 325 dated 27 June 1975 and the above Addendum with I.F.R.B. Circular-letter No. 326 dated 30 June 1975. These documents are issued in separate French, English and Spanish versions and a further limited supply is available upon request at the Document Distribution Desk by specifying which language is required.

M. MILI
Secretary-General

Annexes: issued separately



CONFERENCE DE RADIODIFFUSION

(DEUXIEME SESSION)

GENEVE, 1975

Document N° 8-F/E/S

23 septembre 1975

Original : français, anglais,
espagnol

SEANCE PLENIERE/PLENARY MEETING/
SESIÓN PLENARIA

Note du Secrétaire général

RAPPORT DE L'I.F.R.B. SUR LE RESULTAT DES ETUDES QU'IL A EFFECTUEES
EN APPLICATION DE LA RESOLUTION B DE LA CONFERENCE ADMINISTRATIVE
REGIONALE DE RADIODIFFUSION A ONDES KILOMETRIQUES ET HECTOMETRIQUES
(REGIONS 1 ET 3, GENEVE, 1974)

Le Rapport mentionné ci-dessus a été publié sous couvert de la lettre-circulaire N° 327 de l'I.F.R.B. du 1er juillet 1975. Il est disponible en version trilingue (français, anglais et espagnol). Cependant, compte tenu de son volume, il n'a pas fait l'objet d'une distribution générale mais il peut être obtenu sur demande, au Service de distribution des documents.

Annexe : publiée séparément

Note by the Secretary-General

REPORT BY THE I.F.R.B. ON THE RESULTS OF THE STUDIES CARRIED
OUT PURSUANT TO RESOLUTION B OF THE REGIONAL
ADMINISTRATIVE LF/MF BROADCASTING CONFERENCE
(REGIONS 1 AND 3), GENEVA, 1974

The above Report was first issued with I.F.R.B. Circular-letter No. 327 dated 1 July 1975. It is available in a single trilingual French, English and Spanish version however, being voluminous it is not being given a general distribution but may be obtained upon request from the Document Distribution Desk.

Annex : issued separately

Nota del Secretario General

INFORME DE LA I.F.R.B. SOBRE EL RESULTADO DE LOS ESTUDIOS POR ELLA
EFFECTUADOS EN CUMPLIMIENTO DE LA RESOLUCIÓN B DE LA
CONFERENCIA ADMINISTRATIVA REGIONAL DE RADIODIFUSIÓN POR ONDAS
KILOMÉTRICAS Y HECTOMÉTRICAS (REGIONES 1 Y 3), GINEBRA, 1974

Este Informe se publicó con la carta circular de la I.F.R.B. N.º 327, de 1.º de julio de 1975. Está disponible en versión trilingüe, francés, inglés y español. Sin embargo, dado su volumen, no se ha procedido a su distribución general pero puede obtenerse en el servicio de Distribución de Documentos.

Anexo : publicado aparte

M. MILI
Secrétaire général



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 9-E
23 September 1975

Original: French,
English,
Spanish

PLENARY MEETING

Note by the Secretary-General

Frequency requirements addressed to the Second Session of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975, received by the I.F.R.B. after the preparation of the Report by the I.F.R.B. dated 1st July, 1975 prescribed in paragraph 3.3 of Resolution B of the First Session of the Conference

The above frequency requirements and corrigenda were first issued with I.F.R.B. Circular-letter No. 337 dated 17 September 1975. The information contained therein was received by the I.F.R.B. after it had begun its calculations and therefore could not be taken into consideration in the preparation of the Report containing the results of the studies, issued with I.F.R.B. Circular-letter No. 327 dated 1 July 1975, Conference Document No. 8 (Second Session) also refers.

M. MILI
Secretary-General

Annex: I.F.R.B. Circular-letter No. 337





INTERNATIONAL
FREQUENCY REGISTRATION BOARD
I. F. R. B.

Référence à rappeler dans la réponse :
When replying, please quote :
Indique en la respuesta esta referencia :

I.F.R.B. Circular-letter
N° 337

Ø 34 70 00 - 34 80 00
Burinterna. Genève
Tx 23000

GENÈVE, 17th September, 1975
PLACE DES NATIONS

Subject: Frequency requirements addressed to the Second Session of the Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975, received by the I.F.R.B. after the preparation of the Report by the I.F.R.B. dated 1st July, 1975 prescribed in paragraph 3.3 of Resolution B of the First Session of the Conference.

References: I.F.R.B. Circular-letter No. 324 dated 23rd May, 1975
I.F.R.B. Circular-letter No. 325 dated 27th June, 1975
I.F.R.B. Circular-letter No. 326 dated 30th June, 1975
I.F.R.B. Circular-letter No. 327 dated 1st July, 1975.

To the Director-General

Dear Sir,

On behalf of the International Frequency Registration Board, I wish to refer to the above subject and Circular-letters.

2. Upon the completion of the mandate given to the I.F.R.B. in paragraphs 3 and 3.1 to 3.4 of Resolution B of the First Session of the Conference by the mailing of the Report contained in I.F.R.B. Circular-letter No. 327 dated 1st July, 1975, the Board continued to receive a small number of frequency requirements submitted for the first time and corrections to frequency requirement forms already received.

3. Consequently these frequency requirements could not be included in the studies carried out by the I.F.R.B. pursuant to Resolution B of the First Session of the Conference and, in particular, in the calculations of the usable field strengths prescribed in paragraph 3.1 of that Resolution.

./..

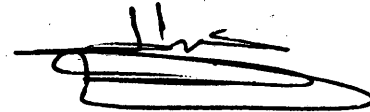
Prière d'adresser toute correspondance officielle à
Please address all official correspondence to
Toda correspondencia oficial debe dirigirse a

Monsieur le Président de l'I.F.R.B.
The Chairman of the I.F.R.B.
Señor Presidente de la I.F.R.B.
Union internationale des télécommunications
1211 GENÈVE 20
Suisse - Switzerland - Suiza

4. The frequency requirements and corrections in question are enclosed herewith for your information. They will also be reproduced in a Report by the I.F.R.B. to the Second Session of the Conference.

5. Two copies of the present Circular-letter together with the enclosures are being sent to you by registered airmail, in order that you may be able to transmit a copy with the least possible delay to the organization or service in your country responsible for the technical preparation of the Conference.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'A. Berrada', enclosed within a large, hand-drawn oval.

A. Berrada
Chairman

Enclosure


A N N E X to
I.F.R.B. Circular-letter No. 337

17 September 1975

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A - DEMANDES RECUES PAR L'I.F.R.B. APRES LE 6 JUIN 1975

A - REQUIREMENTS RECEIVED BY THE I.F.R.B. AFTER 6 JUNE 1975

A - SOLICITUDES RECIBIDAS POR LA I.F.R.B. DESPUÉS DEL 6 DE JUNIO DE 1975

CAF		Centrafricaine (République)		Central African Republic		Centrafricana (República)		CAF																CAF	
1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C	17	
7352	648		BAMBARI	CAF	20E40 05N45	9	30	14	115	1		1844	37.77	A	647		04 - 23	20E40 05N45	53		5	-13	-5	5	
7353	783		BOCARANGA	CAF	15E39 07N05	9	10	10	95	1		1064	12.59	A	782		04 - 23	15E39 07N05	35		5	-9	-6	8	
7354	792		BANGASSOU	CAF	22E50 04N48	9	10	10	94	1		1064	12.59	A	791		04 - 23	22E50 05N48	35		5	-15	-4	4	
7355	819		KAGABANDORO	CAF	19E11 06N59	9	10	10	91	1		1064	12.59	A	818		04 - 23	19E11 06N59	35		5	-10	-5	7 B009	
7356	855		NDELE	CAF	20E49 08N25	9	1	0	20	1		337	1.26	A	854		04 - 23	20E49 08N25	18		5	-7	-4	8 A055	
7357	891		NOLA	CAF	16E03 03N31	9	1	0	20	1		337	1.26	A	890		04 - 23	16E03 03N31	18		3	-18	-7	4 A055	
7358	963		RAFAI	CAF	23E56 04N58	9	10	10	78	1		1064	12.59	A	962		04 - 23	23E56 04N58	30		5	-15	-4	4	
7359	1035		MBAIKI	CAF	17E50 03N53	9	10	10	72	1		1064	12.59	A	1034		04 - 23	17E50 03N53	30		3	-17	-6	4	
7360	1062		BOSSANGOA	CAF	17E27 06N30	9	30	14	70	1		1844	37.77	A	1061		04 - 23	17E27 06N30	38		5	-11	-6	7 B006	
7361	1089		BOUAR	CAF	15E35 05N58	9	100	20	68	1		3366	125.89	A	1088		04 - 23	15E35 05N58	50		5	-12	-7	6 B006	
7362	1161		KEMBE	CAF	21E55 04N36	9	10	10	64	1		1064	12.59	A	1160		04 - 23	21E55 04N36	29		5	-16	-4	4	
7363	1197		DEKOA	CAF	19E05 06N19	9	1	0	20	1		337	1.26	A	1196		04 - 23	19E05 06N19	16		5	-12	-5	6 A055	
7364	1215		CARNOT	CAF	15E52 04N59	9	1	0	20	1		337	1.26	A	1214		04 - 23	15E52 04N59	16		3	-14	-7	5 A055	
7365	1242		OBO	CAF	26E29 05N24	9	1	0	20	1		337	1.26	A	1241		04 - 23	26E29 05N24	15		5	-13	-3	4 A055	
7366	1323		SIBUT	CAF	19E06 05N46	9	10	10	56	1		1064	12.59	A	1322		04 - 23	19E06 05N46	26		5	-13	-5	6	
7367	1386		BODA	CAF	17E28 04N19	9	30	14	54	1		1844	37.77	A	1385		04 - 23	17E28 04N19	34		5	-16	-6	4	
7368	1404		BOSSEMBELE	CAF	17E39 05N15	9	30	14	53	1		1844	37.77	A	1403		04 - 23	17E39 05N15	34		5	-14	-6	5	
7369	1422		BERBERATI	CAF	15E48 04N10	9	30	14	52	1		1844	37.77	A	1421		04 - 23	15E48 04N10	35		3	-16	-7	5	
7370	1440		BANGUI	CAF	18E35 04N22	9	100	20	52	1		3366	125.89	A	1439	1	04 - 23	18E35 04N22	37		3	-16	-6	4	
7371	1485		BAKAIA	CAF	23E41 05N25	9	1	0	20	1		337	1.26	A	1484		04 - 23	27E40 05N25	7		5	-14	-4	4 B009 A055	
7372	1485		BIRAO	CAF	22E40 10N10	9	1	0	20	1		337	1.26	A	1484		04 - 23	22E40 10N10	7		5	-2	-3	9 B009 A055	
7373	1503		BATANGAFO	CAF	18E18 07N18	9	10	10	49	1		1064	12.59	A	1502		04 - 23	18E18 07N18	22		5	-9	-5	7	
7374	1548		BAKOUMA	CAF	22E47 05N42	9	1	0	20	1		337	1.26	A	1546		04 - 23	22E47 05N42	13		5	-13	-4	5 A055	
7375	1566		OUANGO	CAF	22E33 04N19	9	1	0	20					A	1562		04 - 23	22E33 04N19	13		3	-16	-4	3 A055	
7376	CFP	1323 - 1377	BAMBIO	CAF	17E00 03N56	9	1	0	20	1		337	1.26				04 - 23	17E00 03N56			3	-17	-7	4 A055	
7377	CFP	900 - 945	BOUCA	CAF	18E16 06N30	9	1	0	20	1		337	1.26	A	1484		04 - 23	18E36 06N30			5	-11	-6	6 B009 A055	
7378	CFP	1008 - 1044	BRIA	CAF	21E25 06N00	9	1	0	20	1		337	1.26				04 - 23	21E25 06N00			5	-12	-4	5 A055	
7379	CFP	1143 - 1188	KOUANGO	CAF	19E58 05N01	9	1	0	20	1		337	1.26				04 - 23	19E58 05N01			3	-15	-5	5 A055	
7380	CFP	1305 - 1557	OUADDA	CAF	22E24 08N04	9	1	0	20	1		337	1.26	A	1594		04 - 23	22E24 08N04			5	-7	-4	7 B009 A055	
7381	CFP	549 - 594	PAOUA	CAF	16E26 07N15	9	5	7	131	1		753	6.29				04 - 23	16E26 07N15			5	-9	-6	8	
7382	CFP	1467 - 1593	YALINGA	CAF	23E15 06N30	9	1	0	20	1		337	1.26	A	1484		04 - 23	23E15 06N30			5	-11	-4	5 B009 A055	
7383	CFP	1278	ZEMIO	CAF	26E50 05N00	9	1	0	20	1		337	1.26				04 - 23	26E50 05N00			5	-14	-3	3 A055	

GNE

GNE		Guinée équatoriale (République de la)		Equatorial Guinea (Republic of)				Guinea Ecuatorial (República de)								GNE								
1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C	17
7118	675		BATA	GNE	09E46	01N48	20	100	20					C	674	50					-20	-10	3	A044 B007

GUI

GUI		Guinée (République de)				Guinea (Republic of)				Guinea (República de)																GUI	
1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C	17			
7104	567	558 - 576	KANKAN	GUI	09W17 10N20	9	100	20	264	2		3777	158.49		A	566		00 - 24	09W17 10N20		4	8	-13	15			
7105	666	657 - 675	NZEREKORE	GUI	08W58 07N54	9	100	20	226	2		3777	158.49					00 - 24	08W58 07N54		4	3	-14	13			
7106	801	792 - 810	LABE	GUI	12W17 11N19	9	50	17	94	2		2671	79.24		A	800		00 - 24	12W17 11N19		4	12	-14	17			
7107	1296		TUMBO	GUI	13W39 09N36	9	10	10	95	2		1194	15.85	C		1295	10	00 - 24	13W39 09N36		4	9	-14	15			
7108	1314	1305 - 1323	DABOLA	GUI	11W09 10N46	9	20	13	57	2		1689	31.70		A	1313		00 - 24	11W09 10N46		4	10	-14	16			
7109	1404		KIPE	GUI	13W39 09N36	9	400	26			D 2	7554	633.96	C		1403	60	00 - 24	13W39 09N36	200	4	9	-14	15			
7110	1476	1476 - 1485	KINDIA	GUI	13W15 10N02	9	30	14	51	2		2069	47.55	C				00 - 24	13W15 10N02		4	10	-14	16			
7111	1593	1584 - 1602	BOKE	GUI	14W18 10N56	9	1	0	47	4		475	2.51	C				08 - 18	14W18 10N56		4	12	-14	17			
7112	1593	1584 - 1602	KOUNDARA	GUI	13W15 12N41	9	2	-7	47	2		169	0.32		A	1594		08 - 18	13W15 12N41		4	15	-14	18			
7113	1593	1584 - 1602	MACENTA	GUI	09W28 08N13	9	1	0	47	2		378	1.58					08 - 18	09W28 08N13		4	4	-14	13			

UGA																	UGA														
UGA																	UGA														
Ouganda (République de l')																	Uganda (Republic of)														
Uganda (República de)																	Uganda (República de)														
1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C	17							
7119	549	594 - 603		NEBBI	UGA	31E00	02N30	9	10	10	135	0	949	10.00			03 - 21	31E00	02N30	60					4	-19	-2	0	A048		
7120	576			MAWAGA	UGA	32E09	00N23	9	100	20							03 - 21								4	-24	-2	-1	A047	A048	
7121	639			KIBIRA RD KLA	UGA	32E36	00N16	9	20	13	100	0	1342	20.00			03 - 21	32E36	00N16	75					4	-24	-2	-2	A048		
7122	702	684 - 702		KOTIDO	UGA	34E06	03N00	9	10	10	105	0	949	10.00	A	701	03 - 21	34E06	03N00	55					4	-17	-1	0	B009	B006	A048
7123	729			BUTEBO	UGA	32E26	01N05	9	100	20	103	0	3000	100.00		728	03 - 21	32E26	06N05	90					4	-22	-2	-1	A048		
7124	783	837 - 873 / 1377 - 1395		KAMPALA	UGA	32E36	00N20	9	20	13	96	0	1342	20.00			03 - 21	32E36	00N20	60					4	-24	-2	-1	A048		
7125	810			BOBI	UGA	32E23	02N33	9	100	20	93	0	3000	100.00		809	03 - 21	32E23	02N33	75					4	-19	-1	0	A048		
7126	864	837 - 873 / 1377 - 1395		KAMPALA	UGA	32E36	00N20	9	20	13	87	0	1342	20.00			03 - 21	32E36	00N20	55					4	-24	-2	-1	A048		
7127	909			KAMPALA	UGA	32E36	00N20	9	20	13						908	03 - 21	32E36	00N20	35					4	-24	-2	-1	A047	A048	
7128	927	945 - 963		YUMBE	UGA	31E25	03N30	9	10	10	80	0	949	10.00	A	926	03 - 21	31E25	03N30	32					4	-17	-1	1	B009	A048	
7129	999			KABALE	UGA	29E55	01S15	9	100	20						998	03 - 21							4	-28	-3	-2	A047	A048		
7130	1044	1377 - 1404		MASINDI	UGA	31E45	01N41	9	20	13	70	0	1342	20.00			03 - 21	31E45	01N41	45					4	-21	-2	0	A048		
7131	1071	1350 - 1377		FT PORTAL	UGA	30E16	00N39	9	20	13	70	0	1342	20.00			03 - 21	30E16	00N39	45					4	-24	-2	-1	A048		
7132	1098	1071 - 1098		MUBENDE	UGA	31E20	00N30	9	10	10	68	0	949	10.00	A	1097	03 - 21	31E20	00N30	35					4	-24	-2	-1	B009	A048	
7133	1125	1233 - 1260		MOROTO	UGA	34E39	02N30	9	10	10	65	0	949	10.00			03 - 21	34E39	02N30	35					5	-18	-1	0	A048		
7134	1161			MBALE	UGA	34E10	01N05	9	10	10	55	0	949	10.00		1160	03 - 21	32E10	01N05	30					4	-22	-1	-1	A048		
7135	1224	1206 - 1242		JINJA	UGA	33E14	00N29	9	10	10	60	0	949	10.00	A	1223	03 - 21	33E14	00N29	30					4	-23	-2	-1	B009	A048	
7136	1278	1404 - 1422		KALANGALO	UGA	32E20	00S20	9	2	3	60	0	424	2.00	A	1277	03 - 21	32E20	00S20	22					4	-25	-2	-2	B009	A048	
7137	1305	1449 - 1476		MOROTO	UGA	34E39	02N30	9	10	10	55	0	949	10.00	A	1304	03 - 21	34E39	02N30	27					5	-18	-1	0	A048		

YMS																	YMS														
Yémen (République Démocratique Populaire du)																	Yemen (People's Democratic Republic of)														
Yemen (República Democrática Popular del)																	Yemen (República Democrática Popular del)														
1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C	17							
7350	756			HISWA	YMS	44E53	12N43	10	50	17	108			C	755	50	03 - 22			100					200	4	10	1	7		
7351	1197	1170 - 1224		HISWA	YMS	44E54	12N49	10	200	23	130			C			03 - 22	45E10	14N20	120	49E00	16N00	200	4	10	1	7				

B - DEMANDES ADDITIONNELLES A CELLES QUI FIGURENT DANS
LA LISTE DES DEMANDES RECUES APRES LE 6 JUIN 1975

B - ADDITIONAL REQUIREMENTS TO THOSE APPEARING IN THE
LIST OF REQUIREMENTS RECEIVED AFTER 6 JUNE 1975

B - SOLICITUDES ADICIONALES A LAS QUE FIGURAN EN LA LISTA
DE SOLICITUDES RECIBIDAS DESPUES DEL 6 DE JUNIO DE 1975

AFG		Afghanistan (République d')		Afghanistan (Republic of)		Afganistán (República de)		AFG		AFG														
1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C	17
7114		999 - 1404	HERAT	AFG	62E12 34N20	9	500	27			3	9476	997.63				01 - 20	62E12 34N20	70	67E00 32N00	500	52	2	26
7115		999 - 1404	KABOUL	AFG	69E12 34N31	9	1000	30			3	13400	1995.26				01 - 20	69E12 34N31	100	65E00 34N00	700	52	1	25
7116		999 - 1404	KANDAHAR	AFG	65E40 31N40	9	1000	30			3	13400	1995.26				01 - 20	65E40 31N40	100	64E00 34N00	500	48	1	23
7117		999 - 1404	MAZAR I SHARIF	AFG	67E08 36N40	9	500	27			3	9476	997.63				01 - 20	67E08 36N40	70	64E00 33N00	600	55	2	28

ARS		Arabie Saoudite (Royaume de l')		Saudi Arabia (Kingdom of)		Arabia Saudita (Reino de)		ARS		ARS																
1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C	17		
7138	531	531 - 612	GIZAN	ARS	42E31 16N52	9	1000	30	120	-1		8455	794.33	C			00 - 24	42E31 16N52	400	42E31 16N52	1500	4	18	2	12	B022 A050
7139	549		DIRIYAH	ARS	46E37 24N39	10	1	0	107	-2		238	0.63		548	1	03 - 23	46E37 24N39	88			4	35	3	19	A050
7140	549	531 - 612	DUBA	ARS	35E36 27N25	9	2000	33			8	33700	2619.14	C			01 - 17	32E00 29N00	300			4	38	3	23	A050
7141	549	531 - 612	GIZAN	ARS	42E31 16N52	9	1000	30	120	-1		8455	794.33	C			00 - 24	42E31 16N52	400	42E31 16N52	1500	4	18	2	12	A050
7142	558		UMMLAJJ	ARS	37E15 25N05	9	20	13	120	-1		1196	15.89	C			00 - 24	37E15 25N05	100	37E15 25N05	200	4	34	3	21	A050
7143	567		JEDDAH	ARS	39E25 21N22	10	50	17	107	-2		1685	31.55	C	566	50	03 - 23	39E25 21N22	550	39E25 21N22	750	3	27	2	17	A050
7144	576		GIZAN	ARS	42E31 16N52	9	20	13	107	-2		1066	12.62	C	575	1	00 - 24	42E31 16N52	200	42E31 16N52	400	4	18	2	12	A050
7145	585		RIYADH	ARS	46E23 24N30	20	1200	30			-2	8255	757.15		587	1200	03 - 23	46E00 24N40	324	36E00 28N00	525	4	35	3	19	A050
7146	594		SULAIYIL	ARS	45E30 20N30	9	20	13	120	-1		1196	15.89				00 - 24	45E30 20N30	100	45E30 20N30	200	7	27	2	15	A050
7147	603		BURAIDA	ARS	44E00 26N20	9	20	13	120	-1		1196	15.89				00 - 24	44E00 26N20	100	44E00 26N20	200	7	38	3	21	A050
7148	612	558 - 675	GURIAT	ARS	37E25 31N25	9	2000	33			8	33700	2619.14				01 - 17	36E00 32N30	150			4	45	3	27	A050
7149	630		GURIAT	ARS	37E25 31N25	9	1000	30	120	-1		8455	794.33				00 - 24	36E00 32N30	400	36E00 33N00	1500	4	45	3	27	A050
7150	648	549 - 648	JEDDAH	ARS	39E09 21N14	10	2000	33			5	23858	6324.55	C	647	50	00 - 24	39E00 20N00	400	42E00 17N30	1500	4	27	2	17	A050
7151	657		GURIAT	ARS	37E25 31N25	9	500	27	120	-1		5979	397.16				00 - 24	36E00 32N30	400	36E00 33N00	1500	4	45	3	27	A050
7152	675		QAISOMAH	ARS	46E00 28N00	9	20	13	120	-1		1196	15.89				00 - 24	46E00 28N00	80	46E00 28N00	150	7	41	3	22	A050
7153	684		GURIAT	ARS	37E25 31N25	9	1000	30	120	-1		8455	794.33				00 - 24	36E00 32N30	400	36E00 33N00	1500	4	45	3	27	A050
7154	693		AFIF	ARS	43E00 24N00	9	20	13	120	-1		1196	15.89				00 - 24	43E00 24N00	80	43E00 24N00	150	7	33	3	19	A050
7155	702		NUZLAH	ARS	39E13 21N39	10	50	17	106	-2		1685	31.55	C	704	50	03 - 23	39E13 21N39	500	39E13 21N39	780	3	28	2	17	A050
7156	711	594 - 810	GIZAN	ARS	42E31 16N52	9	1000	30	120	-1		8455	794.33	C			00 - 24	42E31 16N52	400	42E31 16N52	1500	4	18	2	12	A050
7157	720	693 - 900	DAMMAM	ARS	50E10 26N24	9	1000	30	120	-1		8455	794.33	C			00 - 24	50E10 26N24	400	50E10 26N24	1500	4	39	3	20	A050
7158	729	693 - 900	DAMMAM	ARS	50E10 26N24	9	500	27	120	-1		5979	397.16	C			00 - 24	50E10 26N24	400	50E10 26N24	1500	4	39	3	20	A050
7159	747		AFLAJ	ARS	46E40 22N15	9	20	13	120	-1		1196	15.89				00 - 24	46E40 22N15	100	46E40 22N15	200	7	31	2	16	A050
7160	765	693 - 900	DAMMAM	ARS	50E10 26N24	9	1000	30	120	-1		8455	794.33	C			00 - 24	50E10 26N24	400	50E10 26N24	1500	4	39	3	20	A050
7161	783		JEDDAH	ARS	39E09 21N14	10	500	27	120	-1		5979	397.16	C			00 - 24	39E00 20N00	400	37E30 15N30	1500	4	27	2	17	A050
7162	801		RAFHA	ARS	43E30 29N40	9	20	13	120	-1		1196	15.89				00 - 24	43E30 29N40	100	43E30 29N40	200	7	43	4	24	A050
7163	810	693 - 900	DAMMAM	ARS	50E10 26N24	9	500	27	120	-1		5979	397.16	C			00 - 24	50E10 26N24	400	50E10 26N24	1500	4	39	3	20	A050
7164	819	693 - 900	DAMMAM	ARS	50E10 26N24	9	1000	30	120	-1		8455	794.33	C			00 - 24	50E10 26N24	400	50E10 26N24	1500	4	39	3	20	A050
7165	828		BEESHA	ARS	42E45 20N15	9	20	13	120	-1		1196	15.89				00 - 24	42E45 20N15	100	42E45 20N15	200	7	26	2	15	A050
7166	846	693 - 900	DAMMAM	ARS	50E10 26N24	9	500	27	120	-1		5979	397.16	C			00 - 24	50E10 26N24	400	50E10 26N24	1500	4	39	3	20	A050
7167	855	693 - 900	DAMMAM	ARS	50E10 26N24	9	1000	30	120	-1		8455	794.33	C			00 - 24	50E10 26N24	400	50E10 26N24	1500	4	39	3	20	A050
7168	864	693 - 900	DAMMAM	ARS	50E10 26N24	9	500	27	120	-1		5979	397.16	C			00 - 24	50E10 26N24	400	50E10 26N24	1500	4	39	3	20	A050
7169	864	765 - 864	JEDDAH	ARS	39E09 21N14	10	500	27	120	-1		5979	397.16	C			00 - 24	39E00 20N00	400	37E30 15N30	1500	4	27	2	17	A050
7170	882		DAMMAM	ARS	50E10 26N24	10	100	20	135	-1		2674	79.43	C	885	100	03 - 23	50E10 26N24	480	50E10 26N24	1050	3	39	3	20	A050
7171	900	810 - 990	GURIAT	ARS	37E25 31N25	9	1000	30			6	18929	3981.06				15 - 03	36E00 31N30	100	36E00 33N00	100	4	45	3	27	A050
7172	918		TABOUK	ARS	36E30 28N25	9	20	13	120	-1		1196	15.89				00 - 24	36E30 28N25	100	36E30 28N25	200	7	40	3	24	A050
7173	927	810 - 990	GURIAT	ARS	37E25 31N25	9	500	27	120	-1		5979	397.16				00 - 24	36E00 31N30	400	36E00 33N00	1500	4	45	3	27	A050
7174	945	810 - 990	GURIAT	ARS	37E25 31N25	9	1000	30	120	-1		8455	794.33				00 - 24	36E00 31N30	400	36E00 33N00	1500	4	45	3	27	A050
7175	981		OULA	ARS	37E50 26N40	9	20	13	120	-1		1196	15.89				00 - 24	37E50 26N40	100	37E50 26N40	200	7	37	3	22	A050
7176	990	810 - 990	GURIAT	ARS	37E25 31N25	9	500	27	120	-1		5979	397.16				00 - 24	36E00 31N30	400	36E00 33N00	1500	4	45	3	27	A050
7177	999	567 - 657	GIZAN	ARS	42E31 16N52	9	1000	30	120	-1		8455	794.33	C			00 - 24		400		1500	4	18	2	12	A050
7178	1017		HAIL	ARS	41E45 27N30	9	20	13	120	-1		1196	15.89				00 - 24	41E45 27N30	80	41E45 27N30	150	7	39	3	22	A050
7179	1035		YAMBO	ARS	38E05 24N10	9	20	13	120	-1		1196	15.89	C			00 - 24	38E05 24N10	100	38E05 24N10	200	3	32	3	20	A050
7180	1053		HOFUF	ARS	49E40 25N20	9	20	13	120	-1		1196	15.89	C			00 - 24	49E40 25N20	100	49E40 25N20	200	7	37	2	19	A050
7181	1062		MAJMAA	ARS	45E20 25N55	9	20	13	120	-1		1196	15.89				00 - 24	45E20 25N55	100	45E20 25N55	200	7	37	3	20	A050
7182	1080		TAIF	ARS	40E15 21N15	9	20	13	120	-1		1196	15.89	C			00 - 24	40E15 21N15	100	40E15 21N15	200	7	27	2	17	A050
7183	1098		ABHA	ARS	42E30 18N15	9	20	13	120																	

ARS 2

1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C			
7186	1152		HAQL	ARS	34E55 29N20	9	20	13	120	-1		1196	15.89	C			00 - 24	34E55 29N20	100	34E55 29N20	300	3	41	3	25	A050
7187	1161		JOWF	ARS	39E55 29N45	9	20	13	120	-1		1196	15.89				00 - 24	39E55 29N45	100	39E55 29N45	200	7	43	3	25	A050
7188	1179		HARAD	ARS	49E05 24N10	9	20	13	120	-1		1196	15.89				00 - 24	49E05 24N10	100	49E05 24N10	200	7	35	2	18	A050
7189	1197		JOBAIL	ARS	49E40 27N00	9	20	13	120	-1		1196	15.89	C			00 - 24	49E40 27N00	100	49E40 27N00	200	3	40	3	21	A050
7190	1206		KHURMAH	ARS	42E00 22N00	9	20	13	120	-1		1196	15.89				00 - 24	42E00 22N00	100	42E00 22N00	200	7	29	2	17	A050
7191	1215		MEDINAH	ARS	39E33 24N28	10	50	17	69	-2		1685	31.55		1217	1	03 - 23	39E33 24N28	50		4	33	3	20	A050	
7192	1224		DIRIYAH	ARS	46E37 24N39	10	50	17	107	-1		1891	39.72		1222	1	03 - 23	46E37 24N39	40		4	35	3	19	A050	
7193	1233		JEDDAH	ARS	39E09 21N14	9	20	13	120	-1		1196	15.89	C			00 - 24	39E09 21N14	100	39E09 21N14	200	4	27	2	17	A050
7194	1242		GIZAN	ARS	42E31 16N52	9	20	13	120	-1		1196	15.89	C			00 - 24	42E31 16N52	100	42E31 16N52	200	4	18	2	12	A050
7195	1251		RIYADH	ARS	46E23 24N30	9	20	13	120	-1		1196	15.89				00 - 24	46E23 24N30	100	46E23 24N30	200	7	35	3	19	A050
7196	1260		DAMMAM	ARS	50E10 26N24	9	20	13	120	-1		1196	15.89	C			00 - 24	50E10 26N24	100	50E10 26N24	200	4	39	3	20	A050
7197	1287		MECCA	ARS	39E40 21N30	9	20	13	120	-1		1196	15.89	C			00 - 24	39E40 21N30	100	39E40 21N30	200	7	27	2	17	A050
7198	1296		MEDINAH	ARS	39E33 24N28	9	50	17	120	-1		1891	39.72				00 - 24	39E33 24N28	100	39E33 24N28	200	7	33	3	20	A050
7199	1323		DIRIYAH	ARS	46E37 24N39	9	20	13	120	-1		1196	15.89				00 - 24	46E37 24N39	100	46E37 24N39	200	7	35	3	19	A050
7200	1332		HOFUF	ARS	49E40 25N20	9	20	13	120	-1		1196	15.89	C			00 - 24	49E40 25N20	100	49E40 25N20	200	4	37	2	19	A050
7201	1350		TAIF	ARS	40E15 21N15	9	20	13	120	-1		1196	15.89	C			00 - 24	40E15 21N15	100	40E15 21N15	200	7	27	2	17	A050
7202	1359		ABHA	ARS	42E30 18N15	9	20	13	120	-1		1196	15.89	C			00 - 24	42E30 18N15	100	42E30 18N15	200	7	21	2	13	A050
7203	1368		TABOUK	ARS	36E30 28N25	9	20	13	120	-1		1196	15.89				00 - 24	36E30 28N25	100	36E30 28N25	200	7	40	3	24	A050
7204	1377		DHAHRAN	ARS	50E06 26N18	9	20	13	120	-1		1196	15.89	C			00 - 24	50E06 26N18	100	50E06 26N18	200	4	39	3	20	A050
7205	1395		GIZAN	ARS	42E31 16N52	9	20	13	120	-1		1196	15.89	C			00 - 24	42E31 16N52	100	42E31 16N52	200	4	18	2	12	A050
7206	1404		DAMMAM	ARS	50E10 26N24	9	20	13	120	-1		1196	15.89	C			00 - 24	50E10 26N24	100	50E10 26N24	200	4	39	3	20	A050
7207	1422		RIYADH	ARS	46E23 24N30	9	20	13	120	-1		1196	15.89				00 - 24	46E23 24N30	100	46E23 24N30	200	7	35	3	19	A050
7208	1449		JEDDAH	ARS	39E09 21N14	10	500	27						C			00 - 24	39E00 20N00	400	37E30 15N30	1500	4	27	2	17	A050
7209	1458		JEDDAH	ARS	39E09 21N14	9	20	13	120	-1		1196	15.89	C			00 - 24	39E09 21N14	100	39E09 21N14	200	4	27	2	17	A050
7210	1476		GIZAN	ARS	42E31 16N52	9	1000	30	120	-1		8455	794.33	C			00 - 24	42E31 16N52	400	42E31 16N52	1500	4	18	2	12	A050
7211	1476		DHAHRAN	ARS	50E06 26N18	9	20	13	120	-1		1196	15.89	C			00 - 24	50E06 26N18	100	50E06 26N18	200	4	39	3	20	A050
7212	1503		MECCA	ARS	39E40 21N30	9	20	13	120	-1		1196	15.89	C			00 - 24	39E40 21N30	100	39E40 21N30	200	7	27	2	17	A050
7213	1512	1404 - 1602	JEDDAH	ARS	39E09 21N14	10	1200	30			5	18480	3794.73	C			00 - 02	39E00 20N00	400	37E30 15N30	1500	4	27	2	17	A050
7214	1521	1368 - 1602	DUBA	ARS	35E36 27N25	9	2000	33			8	33700	2619.14	C			15 - 03			23E00 30N00	1000	4	38	3	23	A050
7215	1530		GIZAN	ARS	42E31 16N52	9	1000	30	120	-1		8455	794.33	C			00 - 24	42E31 16N52	400	42E31 16N52	1500	4	18	2	12	A050
7216	1539		MEDINAH	ARS	39E33 24N28	9	50	17	120	-1		1891	39.72				00 - 24	39E33 24N28	100	39E33 24N22	200	7	33	3	20	A050
7217	1566	1458 - 1602	JEDDAH	ARS	39E09 21N14	9	500	27						C			00 - 24	39E00 20N00	400	37E30 15N30	1500	4	27	2	17	A050
7218	1593		JEDDAH	ARS	39E13 21N30	10	50	17	60	-2		1685	31.55	C			03 - 23	39E13 21N39	187		3	27	2	17	A050	
7219	900		UDHAILIYAH	ARS	49E42 25N09	20	0.1	-10	15	0		95	0.10	C	1594	1	01 - 24			49E42 25N09	20	4	37	2	19	A050
7220	1017		ABQAIQ	ARS	49E40 25N57	20	0.1	-10	15	0		95	0.10	C	900	0.1	01 - 24			49E40 25N57	20	4	38	2	20	A050
7221	1044		SAFANIYA	ARS	48E45 27N59	20	0.1	-10	15	0		95	0.10	C	1020	0.1	01 - 24			48E45 27N59	20	4	41	3	22	A050
7222	1098		NAJMAH	ARS	50E04 26N42	20	0.1	-10	24	0		95	0.10	C	1048	0.1	01 - 24			50E04 26N42	20	4	39	3	20	A050
7223	1251		DHAHRAN	ARS	50E06 26N18	20	0.1	-10	38	0		95	0.10	C	1095	0.1	01 - 24			50E06 26N18	20	4	39	3	20	A050
7224	1440		SAFANIYA	ARS	48E45 27N59	20	0.1	-10	15	0		95	0.10	C	1250	0.1	01 - 24			48E45 27N59	20	4	41	3	22	A050

AUS

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1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C	17
7241	612		BYROCK NSW	AUS	146E26 30S39	20	10	10						C							-62	9	-39	A008 A021 B007
7242	720		OMEQ VIC	AUS	147E38 37S09	20	2	3						C							-68	11	-45	A008 A021 B007
7243	1044		WEIPA QLD	AUS	141E54 12S39	20	0.5	-3						C							-39	5	-22	A008 A021 B007
7244	1161		FINGAL TAS	AUS	147E59 41S37	20	1	0						C							-72	13	-50	A008 A021 B007

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BOT		République de Botswana		Botswana Republic		República de Botswana		BOT		BOT																
1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C	17		
7325	648		ORAPA	BOT	25E20 21S18	20	50	17	100	-1		1891	39.72				03 - 21	25E20 21S18	200							
7326	972		SEBELE	BOT	25E58 24S34	20	50	17			1	2380	62.95				03 - 21	25E40 24S10	150	24E00 22S00	500	4	-59	-15	-21	A053
7327	1215		SEBELE	BOT	25E58 24S34	20	50	17			1	2380	62.95	A	971	50	03 - 21	25E00 24S00	150	24E00 22S00	500	4	-62	-17	-25	A052
7328		549 - 702	ORAPA	BOT	25E20 21S15	20	50	17	100	-1		1891	39.72		1214		03 - 21	25E20 21S18	200			4	-62	-17	-25	B009 A054
																	03 - 21				4	-59	-15	-21	A054	
7329	CFP		FRANCISTOWN	BOT	27E33 21S13	20	2	3	40	-1		378	1.59	A	1403		03 - 21	27E33 21S13	30			4	-59	-14	-22	A053
7330	CFP		FRANCISTOWN	BOT	27E33 21S13	20	2	3	40	-1		378	1.59				03 - 21	27E33 21S13	30			4	-59	-14	-22	A054
7331	CFP		GHANZI	BOT	21E40 21S40	20	2	3	40	-1		378	1.59				03 - 21	21E40 21S40	30			4	-59	-16	-21	A053
7332	CFP		GHANZI	BOT	21E40 21S40	20	2	3	40	-1		378	1.59				03 - 21	21E40 21S40	30			4	-59	-16	-21	A054
7333	CFP		LOBATSI	BOT	25E42 25S12	20	2	3	40	-1		378	1.59	A	1052		03 - 23	25E42 25S12	30			4	-62	-18	-25	B009 A053
7334	CFP		LOBATSI	BOT	25E42 25S12	20	2	3	40	-1		378	1.59				03 - 21	25E42 25S12	30			4	-62	-18	-25	A054
7335	CFP		MAUN	BOT	23E26 19S58	20	2	3	40	-1		378	1.59				03 - 21	23E26 19S58	30			4	-58	-14	-20	A053
7336	CFP		MAUN	BOT	23E26 19S58	20	2	3	40	-1		378	1.59				03 - 21	23E26 19S58	30			4	-58	-14	-20	A054
7337	CFP		ORAPA	BOT	25E26 21S15	20	2	3	40	-1		378	1.59				03 - 21	25E26 21S15	30			4	-59	-15	-21	A053
7338	CFP		ORAPA	BOT	25E26 21S20	20	2	3	40	-1		378	1.59				03 - 21	25E26 21S15	30			4	-59	-15	-21	A054
7339	CFP		SELEBE PIKWE	BOT	27E50 22S01	20	2	3	40	-1		378	1.59				03 - 21	27E50 22S01	30			4	-60	-14	-22	A053
7340	CFP		SELEBE PIKWE	BOT	27E50 22S01	20	2	3	40	-1		378	1.59				03 - 21	27E50 22S00	30			4	-60	-14	-22	A054
7341	CFP		SEROWE	BOT	26E42 22S23	20	2	3	40	-1		378	1.59	A	1322		03 - 21	26E42 22S30	30			4	-60	-15	-23	A053
7342	CFP		SEROWE	BOT	26E42 22S23	20	2	3	40	-1		378	1.59				03 - 21	26E42 22S23	30			4	-60	-15	-23	A054

COG		Congo (République Populaire du)	Congo (People's Republic of the)	Congo (República Popular del)		COG																	COG	
1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C	17
7286	540		PNT NOIRE	COG	12E01 04S51	20	100	20	278	0		3000	100.00	C	A	791	00 - 24	60		5	-34	-12	-2	A049 B009
7287	603		BRAZZAVILLE	COG	15E18 04S16	20	100	20	249	0		3000	100.00		A	539	00 - 24	53		5	-34	-10	-3	A049
7288	738		DOLISIE	COG	12E41 04S14	20	50	17	163	-1		1891	39.72		A	1430	00 - 24	35		5	-33	-11	-2	A049 B009
7289	792		BRAZZAVILLE	COG	15E18 04S16	20	100	20	189	0		3000	100.00				00 - 24	43		5	-34	-10	-3	A049
7290	828		KOMONO	COG	13E14 03S16	20	5	7	91	-2		533	3.15	A	827		00 - 24	17		5	-31	-11	-1	B009 A049
7291	864		FT ROUSSET	COG	15E35 00S24	20	10	10	87	-2		754	6.31	A	1562		00 - 24	21			-26	-9	0	A049 B009
7292	972		MPOUYA	COG	16E17 02S40	20	2	3	77	-2		337	1.26	A	1594		00 - 24	13		5	-31	-9	-1	A049 B009
7293	981		MADINGOU	COG	13E33 04S10	20	20	13	101	-1		1196	15.89	A	1079		00 - 24	24		5	-33	-11	-2	A049 B009
7294	990		MAKOUA	COG	15E35 00S00	20	10	10	76	-2		754	6.31	A	1061		00 - 24		21	9	-25	-8	1	A049 B006
7295	1017		OUESSO	COG	16E20 01N40	20	30	14	118	-1		1464	23.83	A	1016		00 - 24	24		5	-22	-8	2	B009 A049
7296	1053		MOSSENDJO	COG	12E50 03S00	20	30	14	114	-1		1464	23.83	A	1052		00 - 24	21		5	-31	-11	-1	A049
7297	1071		KINKALA	COG	14E49 04S18	20	30	14	112	-1		1464	23.83	A	737		00 - 24	21		5	-34	-10	-2	A049
7298	1089		LOUDIMA	COG	13E05 04S06	20	10	10	69	-2		754	6.31	A	1594		00 - 24	19		5	-33	-11	-2	A049 B009
7299	1107		ZANAGA	COG	13E50 02S49	20	20	13	81	-1		1196	15.89	A	1304		00 - 24	21		5	-31	-10	-1	A049 B009 B006
7300	1143		BOUNDJI	COG	15E29 01S20	20	5	7	66	-2		533	3.15	A	1142		00 - 24		13	9	-28	-9	0	A049 B009
7301	1170		SIBITI	COG	13E50 03S45	20	10	10	64	-2		754	6.31	A	1412		00 - 24	18		5	-33	-11	-2	A049 B009
7302	1188		MOSSAKA	COG	16E48 01S13	20	5	7	63	-2		533	3.15	A	1187		00 - 24	13			-28	-8	0	A049 B009
7303	1215		KIBANGOU	COG	12E21 03S28	20	10	10	62	-2		754	6.31	A	1214		00 - 24	16		5	-32	-11	-1	B009 A049
7304	1233		GAMBOMA	COG	15E52 01S52	20	10	10	61	-2		754	6.31				00 - 24	15		5	-29	-9	0	A049
7305	1269		IMPFONDO	COG	18E03 01N39	20	10	10	59	-2		754	6.31	A	1268		00 - 24	14		5	-22	-7	2	B009 B006 A049
7306	1323		JACOB	COG	13E16 04S11	20	30	14	91	-1		1464	23.83				00 - 24	20		5	-33	-11	-2	A049
7307	1377		MAKABANA	COG	12E46 03S29	20	5	7	54	-2		533	3.15				00 - 24	11		5	-32	-11	-1	A049
7308	1395		NGABE	COG	16E12 03S12	20	2	3	54	-2		337	1.26	A	1484		00 - 24	9		5	-32	-9	-2	A049 B009
7309	1413		BOKO	COG	14E36 04S51	20	10	10	53	-2		754	6.31	A	1196		00 - 24	13			-35	-11	-3	A049 B009
7310	1431		ABALA	COG	15E35 01S03	20	5	7	52	-2		533	3.15	A	917		00 - 24	11			-28	-9	0	A049 B009
7311	1458		SOUANKE	COG	14E00 02N00	20	2	3	51	-2		337	1.26	A	1484		00 - 24	9			-21	-9	3	A049 B009
7312	1476		MPIAKA BRAZZA	COG	15E18 04S15	20	100	20	102	0		3000	100.00		1475	20	00 - 24	26			-34	-10	-3	A049
7313	1485		MAYAMA	COG	15E15 04S16	20	5	7	56	-2		533	3.15	A	1484		00 - 24		11	5	-34	-10	-3	A049 B009
7314	1503		NGO	COG	15E45 02S29	20	2	3	50	-2		337	1.26				00 - 24	8			-30	-9	-1	A049
7315	1521		MINDOULI	COG	14E50 04S15	20	10	10	57	-2		754	6.31	A	1520		00 - 24	14		5	-34	-10	-2	A049 B009
7316	1521		PNT NOIRE	COG	12E01 04S51	20	100	20	99	0		3000	100.00	C	1520	1	00 - 24	25			-34	-12	-2	A049
7317	1548		DJAMBALA	COG	14E59 02S32	20	10	10	48	-2		754	6.31	A	1546		00 - 24	12			-30	-10	-1	A049
7318	1566		EWO	COG	14E49 00S53	20	5	7	48	-2		533	3.15	A	863		00 - 24	10			-27	-9	0	A049 B009
7319	CFP		DONGOU	COG	18E00 02N30	20	2	3		-3		300	1.00	A	1205		00 - 24				-20	-7	3	A049 B009
7320	CFP		EPENA	COG	17E29 01N22	20	2	3		-3		300	1.00	A	1232		00 - 24				-23	-7	2	A049 B009
7321	CFP		INONI	COG	15E39 03S04	20	2	3		-3		300	1.00	A	1594		00 - 24				-32	-9	-1	A049 B009
7322	CFP		KIMONGO	COG	12E55 04S27	20	2	3		-3		300	1.00	A	1484		00 - 24				-34	-11	-2	A049 B009
7323	CFP		SEMBE	COG	14E36 01N39	20	2	3		-3		300	1.00	A	1484		00 - 24				-22	-8	2	A049 B009

CYP

Chypre (République de)

Cyprus (Republic of)

Chipre (Repubblica de)

CYP

CYP

1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C			
7324	1233	1224 - 1242	C GRECO	CYP	34E04 34N57	20	600	27			D 6	14662	2388.64	C	1232	600	00 - 24	36E00 32N00	600	39E00 30N00	1200	4	50	3	31	A051

GRC

Grèce

Greece

Grecia

GRC

GRC

1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C
7343	CFP		AMFILOCHIA	GRC	21E08 38N50	9	1	0	40	-2		238	0.63				00 - 24	20		4	54	0	37
7344	CFP		GREVENA	GRC	21E25 40N06	9	1	0	40	-2		238	0.63				00 - 24	20		4	55	1	39
7345	CFP		KOS	GRC	27E05 36N47	9	1	0	40	-2		238	0.63				00 - 24	20		4	51	2	34
7346	CFP		LAMIA	GRC	22E27 38N53	9	1	0	40	-2		238	0.63				00 - 24	20		4	54	1	37
7347	CFP		MYTILINI	GRC	26E33 39N07	9	1	0	40	-2		238	0.63				00 - 24	20		4	54	2	37
7348	CFP		SAMOS	GRC	26E40 37N42	9	1	0	40	-2		238	0.63				00 - 24	20		4	53	2	35
7349	CFP		VEROIA	GRC	22E13 40N31	9	1	0	40	-2		238	0.63				00 - 24	20		4	56	1	39

HVO

Haute-Volta (République de)

Upper Volta (Republic of)

Alto Volta (República del)

HVO

HVO

1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C	
7245	585	540 - 594	DEDOUGOU	HVO	03W28 12N57	20	30	14	256	1		1844	37.77	A	1340		00 - 24	70		4	11	-11	17	B006
7246	612		BANFORA	HVO	04W45 10N38	20	20	13	123	-1		1196	15.89				00 - 24	50		4	6	-12	15	
7247	675	639 - 693	NOUNA	HVO	03W52 12N44	20	10	10	111	-1		846	7.94	A	845		00 - 24	40		4	11	-12	17	B009
7248	747		OUAGADOUGOU	HVO	01W31 12N22	20	100	20	80	-1		2674	79.43		737	100	00 - 24	70		4	9	-11	16	
7249	783		GAOUA	HVO	04W20 10N30	20	30	14	192	1		1844	37.77	A	1340		00 - 24	55		4	6	-12	15	B006
7250	846		BOROMO	HVO	02W56 11N46	20	2	3	89	-1		378	1.59	A	1241		00 - 24	27		4	8	-12	16	B009
7251	873		HOUNDE	HVO	03W31 11N34	20	10	10	86	-1		846	7.94	A	782		00 - 24	35		4	8	-12	16	B009
7252	909		DIEBOUGOU	HVO	03W09 11N10	20	10	10	82	-1		846	7.94	A	908		00 - 24	33		4	7	-12	15	B009
7253	990		DIAPAGA	HVO	01E47 12N04	20	50	17	151	1		2380	62.95	A	1586		00 - 24	47		4	7	-10	15	B009
7254	1008		BOBO DILOULASSO	HVO	04W17 11N10	20	100	20	149	1		3366	125.89	A	1007		00 - 24	55		4	7	-12	15	B006
7255	1044	1026 - 1053	POUYTENG	HVO	00W30 12N10	20	20	13	72	-1		1196	15.89				00 - 24	33		4	8	-11	16	
7256	1080		FADA NGOURMA	HVO	00E21 12N03	20	30	14	139	1		1844	37.77	A	1079		00 - 24	44		4	7	-11	15	
7257	1143		DORI	HVO	00W01 14N02	20	30	14	131	1		1844	37.77	A	1340		00 - 24	40		4	12	-10	17	B009 B006
7258	1188		OUAGADOUGOU	HVO	01W31 12N22	20	10	10	63	-1		846	7.94				00 - 24	30		4	9	-11	16	
7259	1224		PO	HVO	01W08 11N10	20	30	14	123	1		1844	37.77	A	1340		00 - 24	37		4	6	-11	15	B009 B006
7260	1242		KOUDOUGOU	HVO	02W30 12N22	20	10	10	60	-1		846	7.94	A	1340		00 - 24	26		4	9	-11	16	B009
7261	1269		TENKODOGO	HVO	00W22 11N46	20	30	14	118	1		1844	37.77	A	1385		00 - 24	34		4	7	-11	15	B006
7262	1386		BARSALOG KAYA	HVO	01W00 13N28	20	50	17	108	1		2380	62.95	A	1385		00 - 24	40		4	11	-11	17	B006 B009
7263	1512		LEO	HVO	02W06 11N05	20	50	17	99	1		2380	62.95	A	1511		00 - 24	37		4	6	-12	15	B006 B009
7264	1539		TOUGAN	HVO	03W09 13N23	20	10	10	49	-1		846	7.94	A	1538		00 - 24	21		4	12	-11	17	B009
7265	1584		BOBO DILOULASSO	HVO	04W17 11N10	20	10	10	39	-1		846	7.94		1586	1	00 - 24	19		4	7	-12	15	
7266/00	1341		SYNC																					
7266/01			OUAGADOUGOU	HVO	01W31 12N22	20	2	3	40	-1		378	1.59		1340	1	00 - 24	18		4	9	-11	16	
7266/02			OUAHIGOUYA	HVO	02W25 13N34	20	100	20	112	1		3366	125.89	A	1340		00 - 24	46		4	12	-11	17	B009 B006
7267	CFP		ARIBINDA	HVO	00W50 14N20	20	2	3		-3		300	1.00	A	1484		00 - 24			4	13	-10	18	B009
7268	CFP		ARLY	HVO	01E30 11N30	20	2	3		-3		300	1.00				00 - 24			4	6	-10	15	
7269	CFP		BOGANDE	HVO	00W08 13N00	20	2	3		-3		300	1.00	A	1340		00 - 24			4	10	-11	16	B009 B006
7270	CFP		BOULSA	HVO	00W33 12N39	20	2	3		-3		300	1.00	A	1520		00 - 24			4	9	-11	16	B009
7271	CFP		COALA	HVO	00W07 13N28	20	2	3		-3		300	1.00	A	1594		00 - 24			4	11	-10	17	B009
7272	CFP		DJIBASSO	HVO	04W15 13N15	20	2	3		-3		300	1.00	A	1594		00 - 24			4	12	-12	17	B009
7273	CFP		DJIBO	HVO	01W38 14N04	20	2	3		-3		300	1.00	A	1223		00 - 24			4	13	-11	18	B009
7274	CFP		GOROM GOROM	HVO	00E15 14N26	20	2	3		-3		300	1.00				00 - 24			4	13	-10	18	
7275	CFP		KANTCHARI	HVO	01E28 12N39	20	2	3		-3		300	1.00	A	1594		00 - 24			4	8	-10	16	B009
7276	CFP		KONGOUSSI	HVO	01W35 11N20	20	2	3		-3		300	1.00				00 - 24			4	7	-11	15	
7277	CFP		MANGA	HVO	01W00 11N00	20	2	3		-3		300	1.00	A	1484		00 - 24			4	6	-11	15	B009
7278	CFP		NDORALA	HVO	04W56 11N50	20	2	3		-3		300	1.00	A	1484		00 - 24			4	9	-12	16	B009

HVO 2

1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C	17
7279	CFP		ORODARA	HVO	04W55 10N59	20	2	3		-3		300	1.00				00 - 24			4	7	-12	15	
7280	CFP		PAMA	HVO	00E30 13N10	20	2	3		-3		300	1.00	A	1484		00 - 24			4	10	-10	16	8009
7281	CFP		SEBBA	HVO	00E30 13N30	20	2	3		-3		300	1.00	A	1484		00 - 24			4	10	-10	17	8009
7282	CFP		SINDOU	HVO	05W04 10N35	20	2	3		-3		300	1.00	A	1594		00 - 24			4	7	-12	15	8009
7283	CFP		SOLENZO	HVO	04W00 12N20	20	2	3		-3		300	1.00	A	1594		00 - 24			4	10	-12	16	8009
7284	CFP		TOMA	HVO	02W56 12N44	20	2	3		-3		300	1.00	A	1484		00 - 24			4	10	-11	17	8009
7285	CFP		TOUGOURI	HVO	00W25 13N15	20	2	3		-3		300	1.00	A	1594		00 - 24			4	10	-11	17	8009

TUR

Turquie

Turkey

Turquia

TUR

TUR

1	2	3	4A	4B	5	6	7A	7B	8A	8B	8C	9A	9B	10	11	12	13	14A	14B	15	16A	16B	16C	17
7225	648	720 - 774	RIZE	TUR	40E30 41N02	20	100	20	115	0		3000	100.00	C			02 - 23		110		4	58	6	36
7226	1044		KAHRAMANMARAS	TUR	36E56 37N35	20	50	17	72	0		2121	50.00				02 - 23		50		4	54	4	33
7227	1143	1134 - 1161	MANAVGAT	TUR	31E26 37N47	20	100	20	131	1		3366	125.89	C			02 - 23		100		4	53	3	34
7228		263 - 272	ARDAHAN	TUR	42E42 41N07	20	200	23	285	0		4243	200.00				02 - 23		230		4	59	6	36
7229		540 - 612	GEVAS	TUR	43E07 38N19	20	300	24	130	0		5196	300.00				02 - 23		190		4	55	5	33
7230		540 - 612	TAVAS	TUR	29E04 37N34	20	300	24			5	9240	948.68	C			02 - 23	29E04 37N34	230		4	53	3	35
7231		648 - 684	URLA	TUR	26E46 38N19	20	600	27			5	13068	1897.36	C			02 - 23	27E35 38N19	170		4	53	2	36
7232		783 - 855	DALAMAN	TUR	28E48 36N46	20	300	24	92	0		5196	300.00	C			02 - 23		130		4	51	3	34
7233		783 - 855	EDIRNE	TUR	26E33 41N40	20	300	24	183	1		5830	377.68				02 - 23		150		4	57	3	39
7234		972 - 999	YERKESIK	TUR	28E22 37N13	20	100	20	75	0		3000	100.00	C			02 - 23		100		4	52	2	34
7235		1080 - 1125	TEKIRDAG	TUR	27E31 40N59	20	300	24	135	1		5830	377.68	C			02 - 23		100		4	57	3	38
7236		1296 - 1395	ADANA	TUR	35E20 36N59	20	100	20	110	1		3366	125.89	C			02 - 23		70		4	53	4	33
7237		1296 - 1395	MARDIN	TUR	40E44 37N19	20	100	20	112	0		3000	100.00				02 - 23		130		4	54	5	32
7238		1404 - 1422	ORDU	TUR	37E53 40N59	20	50	17	106	1		2380	62.95	C			02 - 23		70		4	58	5	36
7239		1458 - 1476	CARSAMBA	TUR	36E44 41N11	20	100	20	102	1		3366	125.89	C			02 - 23		80		4	58	5	37
7240		1503 - 1575	ANTAKYA	TUR	36E10 36N12	20	50	17	97	1		2380	62.95	C			02 - 23		55		4	52	4	32

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1	2	3	4	5																																ARS (cont.)				
				0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	
ARS	531	GIZAN	7138																	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	549	DUBA	7140																	70	30	0	0	0	0	0	0	0	0	0	0	0	2	2	3	3	5	5	5	
ARS	549	GIZAN	7141																	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	558	UMMLAJJ	7142																	90	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	567	JEDDAH	7143																		80	70	60	50	40	20	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	576	GIZAN	7144																	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	612	GURIAT	7148																																					
ARS	630	GURIAT	7149																																					
ARS	648	JEDDAH	7150																		80	70	60	50	40	20	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	657	GURIAT	7151																																					
ARS	675	QAISOMAH	7152																																					
ARS	684	GURIAT	7153																																					
ARS	702	NUZLAH	7155																		90	80	70	60	50	40	30	20	0	0	0	0	0	0	0	0	60	70	80	
ARS	711	GIZAN	7156																	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	720	DAMMAM	7157	0	0	0	0	0	0	0	0	0	0	0	10	20	20	20	25	30	30	40	30	10													90	0	0	0
ARS	729	DAMMAM	7158	0	0	0	0	0	0	0	0	0	0	0	10	20	20	20	25	30	30	40	30	10													90	0	0	0
ARS	765	DAMMAM	7160	0	0	0	0	0	0	0	0	0	0	0	10	20	20	20	25	30	30	40	30	10													90	0	0	0
ARS	783	JEDDAH	7161																	80	70	60	50	40	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	810	DAMMAM	7163	0	0	0	0	0	0	0	0	0	0	0	10	20	20	20	25	30	30	40	30	10													90	0	0	0
ARS	819	DAMMAM	7164	0	0	0	0	0	0	0	0	0	0	0	10	20	20	20	25	30	30	40	30	10													90	0	0	0
ARS	828	BEESHA	7165																																					
ARS	846	DAMMAM	7166	0	0	0	0	0	0	0	0	0	0	0	10	20	20	20	25	30	30	40	30	10													90	0	0	0
ARS	855	DAMMAM	7167	0	0	0	0	0	0	0	0	0	0	0	10	20	20	20	25	30	30	40	30	10													90	0	0	0
ARS	864	DAMMAM	7168	0	0	0	0	0	0	0	0	0	0	0	10	20	20	20	25	30	30	40	30	10													90	0	0	0
ARS	864	JEDDAH	7169																	80	70	60	50	40	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	882	DAMMAM	7170	0	0	0	0	0	0	0	0	0	0	0	10	20	20	20	25	30	30	40	30	10													90	0	0	0
ARS	900	GURIAT	7171																																					
ARS	918	TABOUK	7172																																					
ARS	927	GURIAT	7173																																					
ARS	945	GURIAT	7174																																					
ARS	981	OULA	7175																																					
ARS	990	GURIAT	7176																																					
ARS	999	GIZAN	7177																	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
ARS	1035	YAMBO	7179																30	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10	80			
ARS	1053	HOFUF	7180			80	80	70	75	65	70	70	80	85																										
ARS	1080	TAIF	7182																																					
ARS	1098	ABHA	7183																		80	80	75	75	80	80	90													
ARS	1152	HAQL	7186	5	30																0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	1179	HARAD	7188																																					
ARS	1197	JOBAIL	7189	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	60																	25	20	25	25	10
ARS	1206	KHURMAH	7190																																					
ARS	1215	MEDINAH	7191																																					
ARS	1233	JEDDAH	7193																		80	70	60	50	40	20	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	1242	GIZAN	7194																	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	1260	DAMMAM	7196	0	0	0	0	0	0	0	0	0	0	0	10	20	20	20	25	30	30	40	30	10													90	0	0	

ARS (cont.)—GUI (cont.)

				ARS (cont.) — GUI (cont.)																																					
1	2	3	4	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
ARS	1287	MECCA	7197																						80	75	70	70	75	75	70	70	70	80	90						
ARS	1296	MEDINAH	7198																																						
ARS	1332	HOFUF	7200			80	80	70	75	65	70	70	80	85																											
ARS	1350	TAIF	7201																																						
ARS	1359	ABHA	7202																						80	80	75	75	80	80	90										
ARS	1368	TABOUK	7203																																						
ARS	1377	DHAHRAN	7204	20	20	20	20	25	20	20	20	20	15	15	20	20	20	23	23	23	25	30	20	15	15	15													75	20	
ARS	1395	GIZAN	7205																0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	1404	DAMMAM	7206	0	0	0	0	0	0	0	0	0	0	0	10	20	20	20	25	30	30	40	30	10													90	0	0	0	
ARS	1449	JEDDAH	7208																	80	70	60	50	40	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	1458	JEDDAH	7209																	80	70	60	50	40	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	1476	GIZAN	7210																0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	1476	DHAHRAN	7211	20	20	20	20	25	20	20	20	20	15	15	20	20	20	23	23	23	25	30	20	15	15	15													75	20	
ARS	1503	MECCA	7212																					80	75	70	70	75	75	70	70	70	80	90							
ARS	1512	JEDDAH	7213																	80	70	60	50	40	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	1521	DUBA	7214																70	30	0	0	0	0	0	0	0	0	0	0	2	2	3	3	5	5	5				
ARS	1530	GIZAN	7215																0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
ARS	1539	MEDINAH	7216																																						
ARS	1566	JEDDAH	7217																	80	70	60	50	40	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
ARS	1593	JEDDAH	7218																	80	70	60	50	40	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ARS	900	UDHAILIYAH	7219			80	75	75	75	80	80	80																													
ARS	1017	ABQAIQ	7220			75	70	70	40	35	35	45	50	60	75																										
ARS	1044	SAFANIYA	7221	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	5										0	0	0	0	0	0		
ARS	1098	NAJMAH	7222	0	0	0	0	0	0	0	0	0	0	0	10	15	15	15	5	10	10	10	15	15	15	15	15	15	15						0	0	0	0	0		
ARS	1251	DHAHRAN	7223	20	20	20	20	25	20	20	20	20	15	15	20	20	20	23	23	23	25	30	20	15	15	15												75	20		
ARS	1440	SAFANIYA	7224	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	0	5												0	0	0	0	0	0	
AUS	720	OMEQ VIC	7242																																						
AUS	1044	WEIPA QLD	7243	0																0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
AUS	1161	FINGAL TAS	7244	80	75	75	70	45	30	30	30	25	25	30	40	50	60	70	80	90	50	80															98	80	90	80	
COG	540	PNT NOIRE	7286														0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30			
COG	738	DOLISIE	7288																																						
COG	828	KOMONO	7290																																						
COG	972	MPOUYA	7292																																						
COG	1053	MOSSENDJO	7296																																						
COG	1089	LOUDIMA	7298																																						
COG	1170	SIBITI	7301																																						
COG	1215	KIBANGOU	7303																																						
COG	1323	JACOB	7306																																						
COG	1377	MAKABANA	7307																																						
COG	1413	BOKO	7309																																						
COG	1521	PNT NOIRE	7316														0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30		
COG	CFP	KIMONGO	7322																																						
CYP	1233	C GRECO	7324	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3					78	63	56	11	11	7	
GNE	675	BATA	7118																	85	90	95			80	40	40	10	0	0	0	0	0	0	0	0	0	0	0	0	
GUI	666	NZEREKORE	7105																																						

1 2 3 4

5

GUI (cont.)—YMS

- 16 -

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350

GUI 801 LABE 7106
GUI 1296 TUMBO 7107
GUI 1314 DABOLA 7108
GUI 1404 KIPE 7109
GUI 1476 KINDIA 7110
GUI 1593 BOKE 7111
GUI 1593 KOUNDARA 7112
GUI 1593 MACENTA 7113
TUR 648 RIZE 7225
TUR 1044 KAHRAMANMARAS 7226
TUR 1143 MANAVGAT 7227
TUR 263 ARDAHAN 7228
TUR 540 TAVAS 7230
TUR 648 URLA 7231
TUR 783 DALAMAN 7232
TUR 783 EDIRNE 7233
TUR 972 YERKESIK 7234
TUR 1080 TEKIRDAG 7235
TUR 1296 ADANA 7236
TUR 1404 ORDU 7238
TUR 1458 CARSAMBA 7239
TUR 1503 ANTAKYA 7240
YMS 756 HISWA 7350
YMS 1197 HISWA 7351

38 28 24 35 15 10 0 0 0 0 20 25 35
38 28 24 35 15 10 0 0 0 0 20 25 35
58 53 53
90 75 60 60 60 40 42 53 50 50 45 80
25 20 12 12 10 5 5 5 5 5
92 88
15 5 5 15 15 18 18 30 30 10 10 10 10 10 28 28 28 28 30 40 40 28 5 5 10 10 15 15 15
15 15 15 15 22 25 10 10 10 10 10 12 18 18 20 72 60
48 52 64 48 40 40 45 45 88 80 68 32
88 88 7 7 7 5 0 0 0 0 0 0 0 0 0 0 55 70
60 52 40 40 48 48 40 40 32 40 32 32 32 35 40 48
15 15 10 8 8 10 10 10 10 10 18 20 20 20 20 20 15 15 15
28 28 28 28 28 25 25 25 25 60 30 30 35 30 33
80 80 60 48 20 20 20 25 25 30 40 42 45 45 50 60
5 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 5 5 10 15
20 5 5 5 5 0 0 0 0 0 0 0 0 0 0 0 0 20 20 30

ANNEXE A LA LETTRE-CIRCULAIRE N° 337 DE L'I.F.R.B. (CONT.)
17 septembre 1975

E - OBSERVATIONS (COLONNE 17 DE LA LISTE)

- AO44 L'Administration de la République de la Guinée équatoriale n'est pas en mesure de prévoir maintenant les fréquences qui pourraient être utilisées dans le futur.
- AO45 "L'Administration italienne désire que les observations suivantes soient portées à la connaissance des autres administrations:
- "1) On n'a pas indiqué les gammes de fréquences désirées pour les fréquences de remplacement au but d'une majeure souplesse pour conclure pendant la Conférence des arrangements pour chaque cas particulier.
 - "2) On a indiqué une largeur de bande nécessaire de 20 kHz; néanmoins l'Administration italienne est prête, par accords bilatéraux avec les administrations ayant des stations utilisant les canaux adjacents, à réduire ladite largeur de bande.
 - "3) Les puissances ont été déterminées en prévoyant, à la limite des zones à desservir, les champs nominaux utilisables suivants:
 - service par onde de sol pendant la nuit: 77 dB μ compte tenu des interférences mutuelles entre les stations synchronisées et de la limitation par les évanouissements dûs à l'onde ionosphérique du même émetteur;
 - service limité aux heures de jour: 63 dB μ ;
 - service par onde ionosphérique: 66 dB μ .
 - "4) Les puissances demandées sont celles minimales pour assurer la couverture des zones à desservir avec les valeurs susindiquées des champs nominaux utilisables.
 - "5) L'Administration italienne est prête à modifier dans quelque cas la puissance rayonnée dans certaines directions ainsi que l'emplacement de la station afin de faciliter la planification, mais elle se réserve le droit d'augmenter les valeurs des puissances si des demandes de puissances excessive d'autres pays entraînent une diminution inacceptable de la zone à desservir.

ANNEX TO I.F.R.B. CIRCULAR-LETTER No. 337 (CONT.)
17 September 1975

E - REMARKS (COLUMN 17 OF THE LIST)

- AO44 It is not possible for the Administration of the Republic of Equatorial Guinea to foresee at present what frequencies may be used in the future.
- AO45 "The Italian Administration wishes to bring the following remarks to the attention of other administrations:
- "1) The reason why the frequency ranges desired for alternative frequencies have not been specified is to allow greater flexibility when it comes to making arrangements during the Conference for each particular case.
 - "2) A necessary bandwidth of 20 kHz has been indicated; the Italian Administration is nevertheless prepared to reduce this bandwidth by bilateral agreements with administrations which have stations using adjacent channels.
 - "3) The power values have been determined by providing for the following nominal usable field strengths at the edge of the service areas:
 - ground-wave service at night: 77 dB μ allowing for mutual interference between the synchronized stations and the limitation by fading due to the skywave of the same transmitter;
 - service limited to daylight hours: 63 dB μ ;
 - service by skywave: 66 dB μ .
 - "4) The powers asked for are the minimum needed to cover the service areas with the above values of nominal usable field strength.
 - "5) The Italian Administration is prepared in some instances to change the power radiated in certain directions and also the site of the station in order to facilitate planning, but it reserves the right to increase the power values if requests for excessive power on the part of other countries reduce the service area to an unacceptable extent.

ANEXO A LA CARTA CIRCULAR N.° 337 DE LA I.F.R.B. (CONT.)
17 de septiembre de 1975

E - OBSERVACIONES (COLUMNA 17 DE LA LISTA)

- AO44 La Administración de la República de Guinea Ecuatorial no puede por ahora prever las frecuencias que se utilizarán en lo futuro.
- AO45 "La Administración italiana desea poner en conocimiento de las demás administraciones las observaciones siguientes:
- "1) No se han indicado las gamas de frecuencias deseadas para las frecuencias de sustitución, con el fin de tener más flexibilidad para concluir acuerdos en la Conferencia sobre cada caso particular.
 - "2) Se ha indicado un anchura de banda necesaria de 20 kHz; sin embargo, la Administración italiana está dispuesta a reducirla mediante acuerdos bilaterales con las Administraciones que tengan estaciones que utilicen los canales adyacentes.
 - "3) Las potencias se han determinado previendo, en el límite de las zonas de servicio, las siguientes intensidades de campo nominales utilizables:
 - servicio por onda de superficie durante la noche: 77 dB μ , habida cuenta de las interferencias mutuas entre las estaciones sincronizadas y de la limitación por los desvanecimientos debidos a la onda ionosférica del mismo transmisor;
 - servicio limitado a las horas diurnas: 63 dB μ ;
 - servicio por onda ionosférica: 66 dB μ .
 - "4) Las potencias solicitadas son las mínimas para asegurar la cobertura de las zonas de servicio con los valores arriba indicados de las intensidades de campo nominales utilizables.
 - "5) La Administración italiana esta dispuesta a modificar, en algunos casos, la potencia radiada en ciertas direcciones, así como el emplazamiento de la estación, con objeto de facilitar la planificación, pero se reserva el derecho de aumentar los valores de las potencias si solicitudes de potencias excesivas de otros países entrañan una disminución inaceptable de la zona de servicio.

(cont.)

- "6) Pour ce qui concerne le calcul éventuel du facteur de couverture, compte tenu du fait que la plupart des zones à desservir comprend des côtes, petites îles et des zones de mer, la couverture ne peut être référée seulement à la superficie du pays."
- AO46 Constatons que lors examen demandes australiennes par I.F.R.B. celui-ci ne tient pas compte, en évaluant niveaux de brouillages internes, des caractéristiques de directivité des systèmes d'antennes existants. Administration australienne avait pourtant supposé que deuxième session de Conférence prendrait cet élément en considération au cours étude détaillée des questions pertinentes.
- Ci-après liste numéros I.F.R.B. pour stations ondes hectométriques en territoire australien qui seront pourvues systèmes antennes à effet directif:
- 1) avant mise en service (dans le cas nouvelles stations) ou
 - 2) avant augmentation de puissance (dans le cas stations existantes).

3419	3436	3438	3439	3447	3450	3453	3454	3456	3457	3461
3463	3471	3472	3473	3474	3483	3486	3488	3490	3491	3495
3502	3504	3505	3507	3508	3509	3511	3513	3514	3517	3519
3523	3524	3530	3531	3532	3536	3537	3539	3542	3544	3545
3547	3551	3554	3555	3559	3561	3562	3563	3564	3565	3566
3567	3568	3569	3571	3572	3573	3574	3578	3579	3581	3582
3584	3585	3586	3587	3588	3590	3594	3595	3597	3599	3440
3485	361401	361702	361902	362202	362501	362902	363101	363102	363602	364002
364101	364201	364202	364301	364302	364401	364402	364502	362102	362201	

Principal effet systèmes directifs sera limiter rayonnements dans la direction Nouvelle-Zélande à force cymomotrice 500 V ou à une valeur convenue par accord mutuel, et limiter, au besoin, rayonnements vers autres zones de service stations territoire australien partageant la même voie à force cymomotrice 100 V.

- "6) As regards the possible calculation of the coverage factor, this cannot be based purely and simply on the area of the country since most of the service areas comprise coasts, small islands and stretches of sea."
- AO46 It is noted that I.F.R.B. examination of Australian submissions does not take into consideration directional characteristics of existing aerial systems in assessment of internal interference levels. This Administration has assumed these factors will be considered during more detailed examination of these matters at second session of conference.
- Following is list of I.F.R.B. serial numbers for m.f. radio stations, within Australia, which will be installing directional aerial systems:
- 1) before going to air (in case of new station) or
 - 2) before increasing power (in case of existing station).

Principal effects of directional aerial systems will be to limit radiation in direction of New Zealand to a c.m.f. of 500 V, or such a value as is decided by mutual agreement, and to limit radiation towards other service areas within Australia, sharing same channel, to a c.m.f. or order of 100 V where required.

- "6) En cuanto al cálculo eventual del factor de cobertura, teniendo en cuenta que la mayoría de las zonas de servicio comprenden costas, pequeñas islas y zonas marítimas, la cobertura no puede referirse solamente a la superficie del país."
- AO46 Se toma nota de que en el examen por la I.F.R.B. de las solicitudes australianas no se tiene en cuenta las características directivas de los sistemas de antenas existentes al evaluar los niveles de interferencia internos. Esta Administración presume que dichos factores se considerarán en un examen más detallado de estas cuestiones en la segunda reunión de la conferencia.
- A continuación figura la lista de los números de serie asignados por la I.F.R.B. a las estaciones radioeléctricas de ondas hectométricas que, dentro de Australia, van a instalar sistemas de antenas direccionales:
- 1) antes de entrar en servicio (en el caso de nuevas estaciones) o
 - 2) antes de aumentar la potencia (en el caso de estaciones existentes).

El principal efecto de los sistemas de antenas direccionales será limitar la radiación en dirección de Nueva Zelandia a una f.c.m. de 500 V, o al valor que se determine por acuerdo mutuo, y limitar la radiación hacia otras zonas de servicio dentro de Australia que compartan el mismo canal, a una f.c.m. del orden de 100 V, siempre que se solicite.

Réponse de l'I.F.R.B. datée du 5 septembre 1975

"référence votre télex 19 août i.f.r.b. a bien tenu compte dans ses calculs des caractéristiques de directivité des antennes chaque fois qu'elles apparaissent dans les cases quinze à dix-sept de la formule de demande stop contenu votre télex sera inclus dans corrigendum et addendum à publier pour seconde session conférence stop quatre formules de demande de fréquence supplémentaires ont été préparées dans la mesure du possible pour 612 khz byrock 720 khz omeo 1044 khz weipa et 1161 khz fingsal stop salutations président ifrb"

A047 Nous sommes encore dans l'impossibilité de procéder à des mesures pour déterminer le diagramme de rayonnement des antennes à effet directif utilisées avec cette fréquence. C'est pourquoi nous ne pouvons fournir les renseignements demandés (cases 15, 16 et 17 du formulaire); les antennes ont néanmoins été construites de façon à respecter les dispositions du Plan de 1966 pour la région africaine. Nous confirmons n'avoir reçu aucune plainte en brouillage nuisible depuis que nous utilisons cette fréquence.

A048 J'ai l'honneur de vous communiquer, pour que le Comité international d'enregistrement des fréquences les examine pendant les travaux préparatoires à la Conférence administrative régionale de radiodiffusion à ondes kilométriques et hectométriques dont la seconde session s'ouvrira à Genève le 6 octobre 1975, les demandes de fréquences de l'Ouganda. Nous vous prions d'excuser le retard avec lequel ces demandes vous sont transmises, mais nous espérons procéder à certaines mesures - que nous ne sommes cependant pas encore à même d'effectuer.

A049 J'ai l'honneur de vous transmettre ci-joint une nouvelle série de formulaires de demande de fréquences qui annule les précédentes déjà soumises avant le 1er mai 1975.

La présente modification découle d'un examen approfondi des nécessités réelles de notre pays en matière de radiodiffusion O.M.

Les puissances indiquées sont les minimales pour couvrir les zones de service prévues au cours de la Conférence. Le Congo se réserve le droit d'augmenter le niveau de puissance, pour conserver les zones de service déclarées, dans le cas où le niveau de brouillage est tel que les puissances demandées ne sont plus suffisantes.

I.F.R.B. reply dated 5 September 1975

"reference your telex 19 august i.f.r.b. has repeat has taken into account in its calculations directional antenna characteristics in each case where these appeared in boxes fifteen to seventeen of requirement form stop contents your telex will be included in corrigendum and addendum to be published for second session of conference stop four additional frequency requirement forms have been prepared as far as possible for 612 khz byrock 720 khz omeo 1044 khz weipa and 1161 khz fingsal stop regards chairman ifrb"

A047 We are as yet unable to carry out measurements to determine the radiation patterns of the directional antenna operating on this frequency. Therefore it is not possible to provide information required (boxes 15, 16 and 17 of the requirement form) but the aerials were constructed in conformity with the African Plan 1966. It is confirmed that since we have been operating on this frequency we have not received any complaint from anywhere of us causing harmful interference.

A048 We are forwarding to you Uganda's Frequency requirements for the consideration of the International Frequency Registration Board as a preparation of the Regional Administrative Conference for LF/MF Broadcasting (Second Session) to be held in Geneva and starting on 6th October, 1975. We apologise for the late submission of our requirements, but this was caused by our hope to carry out some measurements and which measurements we are as yet unable to carry out.

A049 I have the honour to send you herewith a new set of frequency requirement forms which cancel those submitted before 1 May 1975.

This modification results from a more detailed study of our country's real needs for MF broadcasting.

The powers indicated are the minimum required to cover the service areas envisaged at the Conference. The Congo reserves the right to increase the power level to maintain the declared service areas in the event of the interference levels being such that the requested powers are insufficient.

Respuesta de la I.F.R.B. de fecha 5 de septiembre de 1975

"referencia su télex 19 agosto la i.f.r.b. ha tenido repetidos ha tenido en cuenta en sus cálculos las características de las antenas directivas cada vez que éstas figuran en las casillas quince a diecisiete del formulario de solicitud punto el contenido de su télex se incluirá en corrigendum y addendum que se publicarán para la segunda reunión de la conferencia punto se han preparado en la medida de lo posible cuatro formularios adicionales de solicitud de frecuencias para 612 khz byrock 720 khz omeo 1044 khz weipa y 1161 khz fingsal punto saludos presidente ifrb"

A047 No podemos por el momento efectuar mediciones para determinar los diagramas de radiación de las antenas directivas que trabajan en esta frecuencia, por lo que no nos es posible facilitar la información requerida (casillas 15, 16 y 17 del formulario) si bien las antenas se construyeron siguiendo el Plan Africano de 1966. Se confirma que desde que operamos en esta frecuencia no hemos recibido ninguna queja por interferencia perjudicial producida por nuestras estaciones.

A048 Nos es grato enviarle las solicitudes de frecuencias de Uganda para su examen por la Junta Internacional de Registro de Frecuencias como preparación de la Conferencia administrativa regional de radiodifusión por ondas kilométricas y hectométricas (segunda reunión) que ha de celebrarse en Ginebra a partir del 6 de octubre de 1975. Rogamos nos disculpe por el retraso en la presentación de nuestras solicitudes, debido a que esperábamos efectuar algunas mediciones, que hasta ahora nos ha sido imposible llevar a cabo.

A049 Tengo el honor de enviarle adjunta una nueva serie de formularios de solicitudes de frecuencias que anula los ya presentados antes del 1.º de mayo de 1975.

La presente notificación es consecuencia de un examen detenido de las necesidades reales de nuestro país en materia de radiodifusión por ondas medias.

Las potencias indicadas son las mínimas necesarias cubrir las zonas de servicio previstas en la Conferencia. El Congo se reserva el derecho de aumentar el nivel de potencia para conservar las zonas de servicio declaradas, cuando como consecuencia del nivel de interferencia dejen de ser suficientes las potencias solicitadas.

A050 Nous nous permettons de vous indiquer que le Gouvernement n'ayant approuvé que tout récemment le Plan de développement quinquennal du Royaume, il nous a été impossible de présenter plus tôt nos demandes de fréquences. Les demandes que nous soumettons aujourd'hui sont conformes aux besoins prévus. Etant donné que les ondes hectométriques (MF) constituent pour notre vaste pays le principal moyen de radiodiffusion, l'Administration de l'Arabie saoudite souhaite que ses demandes soient étudiées avec l'attention qu'elles méritent, que toutes les fréquences requises lui soient allouées et qu'elles trouvent place dans le plan final qu'approuvera la prochaine session de la Conférence.

A051 * L'antenne ayant une forte protection arrière, un changement de fréquence obligerait soit à déplacer les pylônes, soit à réduire considérablement la protection arrière.

A052 Service principal.

A053 Prévu comme service principal.

A054 Prévu comme service secondaire.

A055 Antenne en T de 20 mètres de hauteur

A056 De l'Administration de Papua-Nouvelle-Guinée :

"15/09/adit, référence : Conférence de radio-diffusion à ondes hectométriques et kilométriques, attributions de fréquences.

a) papua-nouvelle-guinée désire attribution 100 kw sur canal 24 fréquence 738 khz

b) retirons demande relative à canal 7 fréquence 585 khz et canal 23 fréquence 729 khz

c) demandons attribution canal 5 fréquence 567 khz et canal 33 fréquence 819

d) ces modifications impliqueraient nouvelles attributions autres fréquences à groupes synchronisés d'émetteurs."

A050 It may be pointed out that the Five Year Development Plan of the Kingdom has recently been approved by the Government. All the frequency requirements, therefore, could not be submitted earlier. The frequency requirements now being submitted are in accordance with the planned requirements. Since medium frequency (MF) is the principal means of broadcasting for this vast Kingdom, this Administration requests that due importance may kindly be given to our requirements and all the requested frequencies may please be allocated to Saudi Arabia and adjusted in the final plan to be approved by the forthcoming conference.

A051 * Since the antenna has a powerful rear protection, a change of frequency would make it necessary either to move the towers or to reduce the rear protection considerably.

A052 Main service.

A053 Projected for main service.

A054 Projected for second service.

A055 T-antenna with height of 20 metres.

A056 From the Administration of Papua New Guinea:

"15/09/adit re mf/lf broadcasting conference frequency allocations.

a) png wish to seek 100 kw allocation on channel 24 frequency 738 khz

b) also wish to withdraw request for channel 7 frequency 585 khz and channel 23 frequency 729 khz

c) seek allocation of channel 5 frequency 567 khz and channel 33 frequency 819

d) these changes would involve reallocation of other frequencies to synchronised groups of transmitters."

A050 Ha de señalarse que el Gobierno ha aprobado recientemente el Plan Quinquenal de Desarrollo del Reino. Por esta razón no pudieron presentarse antes todas las solicitudes de frecuencia. Las solicitudes de frecuencia que ahora se presentan corresponden a las necesidades previstas. Habida cuenta de que las ondas hectométricas constituyen el medio principal de radiodifusión de este vasto Reino, esta Administración ruega que se conceda la debida importancia a nuestras necesidades y que se adjudiquen a Arabia Saudita las frecuencias solicitadas, incluyéndalas en el plan final que ha de aprobar la próxima conferencia.

A051 * Dada la gran discriminación hacia atrás de la antena, un cambio de frecuencia obligaría a desplazar los mástiles o a reducir considerablemente la discriminación hacia atrás.

A052 Servicio principal.

A053 Previsto como servicio principal.

A054 Previsto como servicio secundario.

A055 Antenna en forma de T de 20 metros de altura.

A056 De la Administración de Papua Nueva Guinea:

"15/09/adit atribuciones frecuencias conferencia radiodifusión por ondas kilométricas y hectométricas.

a) png deseamos atribución 100 kw en canal 24 frecuencia 738 khz

b) también deseamos retirar solicitud para canal 7 frecuencia 585 khz y canal 23 frecuencia 729 khz

c) deseamos atribución en canal 5 frecuencia 567 khz y en canal 33 frecuencia 819

d) estos cambios entrañarían nueva atribución de otras frecuencias a grupos sincronizados de transmisores.

17.9.1975

F - Corrigendum to the List of Requirements and its Annexes

(Appendix 1 to I.F.R.B. Circular-letter No. 324, I.F.R.B. Circular-letter No. 325 and I.F.R.B. Circular-letter No. 326 refer)

Country

Symbol Corrigendum to the List of Frequency Requirements

AFG I.F.R.B. Serial Nos. 0064-0072, 603-702 kHz, for 9 stations, Col. 7A read 10.

AUT 585 kHz, HIFLAU, Col. 14A read 14E45 47N36
774 kHz, KLAGENFURT SEE, Col. 11 read 728
774 kHz, Col. 4A read LAENGENFELD
774 kHz, Col. 4A read S MICHAEL L
1053 kHz, Col. 4A read LAENGENFELD

AUS I.F.R.B. Serial Nos.

3419	3436	3438	3439	3440	3447	3450	3453	3454
3456	3457	3461	3463	3471	3472	3473	3474	3483
3485	3486	3488	3490	3491	3495	3502	3504	3505
3507	3508	3509	3511	3513	3514	3517	3519	3523
3524	3530	3531	3532	3536	3537	3539	3542	3544
3545	3547	3551	3554	3555	3559	3561	3562	3563
3564	3565	3566	3567	3568	3569	3571	3572	3573
3574	3578	3579	3581	3582	3584	3585	3586	3587
3588	3590	3594	3595	3597	3599			

3614/01	3617/02	3619/02	3621/02	3622/01
3622/02	3625/01	3629/02	3631/01	3631/02
3636/02	3640/02	3641/01	3642/01	3642/02
3643/01	3643/02	3644/01	3644/02	3645/02

Col. 17 add AO46

BDI 738 kHz, Col. 4A read MUHINGA
Col. 5 read 30E20 02S58
Col. 8A and 8B add 101 0
Col. 13 read 05 - 01
Col. 14A add 30E20 02S58 37
Col. 15 add 4

774 kHz, Col. 8A and 8B add 97 0
Col. 13 read 05 - 01
Col. 14A add 29E30 03S25 47
Col. 15 add 4

1053 kHz, Col. 5 read 30E51 03S28
Col. 8A and 8B add 71 0
Col. 13 read 05 - 01
Col. 14A add 30E51 03S28 34
Col. 15 add 4

1116 kHz Col. 4A read GITEGA
Col. 8A and 8B add 134 2
Col. 13 read 05 - 01
Col. 14A add 29E30 03S25 60
Col. 15 add 4

(Cont).

Country
Symbol

BDI (Cont.) 1170 kHz, Col. 8A and 8B add 64 0
 Col. 13 read 05 - 01
 Col. 14A add 29E50 02S54 35
 Col. 15 add 4

 1242 kHz, Col. 4A read BUJUMBURA
 Col. 8A and 8B add 120 2
 Col. 13 read 05 - 01
 Col. 14A add 29E30 03S28 75
 Col. 15 add 4

 1287 kHz, Col. 8A and 8B add 58 0
 Col. 13 read 05 - 01
 Col. 14A add 29E59 03S55 20
 Col. 15 add 4

 1350 kHz, Col. 8A and 8B add 55 0
 Col. 13 read 05 - 01
 Col. 14A add 29E30 04S14 21
 Col. 15 add 4

 1476 kHz, Col. 4A read BUJUMBURA
 Col. 8A and 8B add 51 0
 Col. 13 read 05 - 01
 Col. 14A add 29E30 03S25 17
 Col. 15 add 4

 1584 kHz, Col. 4A read GISAGARA
 Col. 8A and 8B add 47 0
 Col. 13 read 05 - 01
 Col. 14A add 30E40 03S12 16
 Col. 15 add 4

 1602 kHz, Col. 8A and 8B add 47 0
 Col. 13 read 05 - 01
 Col. 14A add 29E13 02S47 14
 Col. 15 add 4

BGD

I.F.R.B. Serial No.

3961, Col. 2 replace CFP by 1431
3962, Col. 2 replace CFP by 1413
3963, Col. 2 replace CFP by 1170
 Col. 4A read DACCA
3964, Col. 2 replace CFP by 1260
 Col. 4A read DACCA
3965, Col. 2 replace CFP by 1341
3966, Col. 2 replace CFP by 1080
3967, Col. 2 replace CFP by 1053
3968, Col. 2 replace CFP by 963
 Col. 4A read SYLHET
3969, Col. 2 replace CFP by 1143
 Col. 4A read SYLHET
3970, Col. 2 replace CFP by 1098

Country
Symbol

D 675 kHz, HANNOVER, Col. 1 add N, Col. 14A read 115
Add new line
Col. 1 read 3834 J, Col. 2 675
Col. 3 540 - 828, Col. 7A 100, Col. 7B 20,
Col. 9A 3000, Col. 9B 100.00, Col. 11 520,
Col. 12 20, Col. 13 06 - 18, Col. 14A 50,
1197 kHz MUENCHEN ISMAN

I.F.R.B. Serial No.
3851 J, Col. 13 read 06 - 18
N, Col. 8C read D 10, Col. 9A 16431,
Col. 9B 3000, Col. 13 18 - 06
Col. 14A 1100

G 720 kHz, BELFAST and LONDONDEIRY add SYNC
774 kHz, HUDDERSFIELD, Col. 7A read 0.5
990 kHz, EXETER, Col. 9A and 9B read 232 0.60, Col. 16A, 16B
and 16C read 66 9 54
1593 kHz, FOXDALE, Col. 14A read 04W30 54N15

G: GIB 1485 kHz, WELLINGTON FT, Col. 12 read 2

G: OMA 702 kHz, MASIRAH 1, Col. 14B add 64E00 22N00 1600

G/F: NHB 1422 kHz, PT VILA, Col. 3 read 1395 - 1449
Col. 11 add 1420
Col. 12 add 1

I All requirements, Col. 17 add A045
540 kHz, CATANIA, Col. 5 read 14E05 37N32
567 kHz, SASSARI, Col. 5 read 08E27 40N45
1116 kHz, CAGLIARI, Col. 5 read 09E04 39N17
1170 kHz, CATANIA, Col. 5 read 14E05 37N32
1332 kHz, CATANIA, Col. 5 read 14E05 37N32
1368 kHz, SASSARI, Col. 5 read 08E27 40N45
1431 kHz, SASSARI, Col. 5 read 08E27 40N45
Col. 8A and 8B 112 0

CFP CATANIA, Col. 5 read 14E05 37N32

CFP SONDRIO CFP1, add to SYNC on 621 kHz,
Col. 8A add 61

CFP SONDRIO CFP2, add to SYNC on 1035 kHz,
Col. 8A add 61
Col. 8B read -2

CFP TRAPANI, I.F.R.B. Serial No. 3776, add to
SYNC on 621 kHz, Col. 5 read 12E34 37N55,
Col. 8A add 110,
Col. 8B read -1

TRAPANI, I.F.R.B. Serial No. 3777, add to SYNC on
936 kHz, Col. 5 read 12E34 37N55, Col. 7A
read 5, Col. 8A add 110, Col. 8B read -1

CFP UDINE, CFP 1, add to SYNC on 1575 kHz,
Col. 8A add 103, Col. 8B read 0

Country
Symbol

I (Cont.)

CFP UDINE, CFP2, add to SYNC on 1035 kHz,
Col. 8A add 103, Col. 8B read -1
CFP VERONA, CFP1, add to SYNC on 1062 kHz,
Col. 8A add 62, Col. 8B read -2
CFP VERONA, CFP2 add to SYNC on 1431 kHz,
Col. 8A add 62, Col. 8B read -2

IND

594 kHz, JAMMU, Col. 15 add 4
639 kHz, Col. 4A replace KAISALMER by JAISALMER
765 kHz, DHARWAR, Col. 8A add 200
837 kHz, SURATGARH 2, delete in its entirety
909 kHz, Col. 4A, replace CHHINDWARA MAD by CHHINDWARA
918 kHz, BANGALORE, Col. 3 read 873 - 963
927 kHz, TURA, Col. 14A read 100
1017 kHz, Col. 4A, replace CHHINDWARA MAD by CHHINDWARA
1287 kHz, PARBHANI 2, Col. 5 read 76E50 19N08
1350 kHz, JULLUNDUR 1, Col. 5 read 75E18 31N19
1440 kHz, KANPUR 1, Col. 15 add 3
1458 kHz, BHAGALPUR 1, Col. 14A read 65
1557 kHz, POONA, Col. 14A read 20
Col. 15 read 4
1566 kHz, Col. 4A, replace BHARATPUR RAJA by BHARATPUR
1566 kHz, Col. 4A, replace DAMAO by DAMOH
Col. 5 read 79E29 23N50, Col. 10 delete C
1566 kHz, Col. 4A, replace KHARGONE by KHARGON
1584 kHz, Col. 4A, replace FATEHPUR ALLAH by FATEHPUR
1584 kHz, LITTLE NICOBAR, Col. 5 read 93E50 07N10
1593 kHz, Col. 4A, replace CHHINDWARA MAD by CHHINDWARA
1593 kHz, Col. 4A, replace ELLORE by ELURU
1602 kHz, ARRAH, Col. 7A and 7B read 10 10
CFP Col. 4A read BELLARY
CFP Col. 4A read DAMOH, Col. 5 read 79E29 23N50
CFP Col. 4A read ELURU
CFP Col. 4A read FATEHPUR
CFP KOLORIANG, Col. 5 read 93E27 27N52
CFP LITTLE NICOBAR, Col. 5 read 93E50 07N10
CFP Col. 4A read MOTIHARI
CFP NAHAN, Col. 5 read 77E10 30N30

IRN

I.F.R.B. Serial No.
2694, Col 2 read 702
2702, Col. 2 read 585
2713, Col. 2 read 1188
2728, Col. 2 read 1053
2738, Col. 2 read 1404
2746, Col. 2 read 1287
2753, Col. 2 read 1323

Country
Symbol

J 1161 kHz, I.F.R.B. Serial No. 1209 Col. 4A read OBAMA FUKUI
1404 kHz, GOTEMBA, HAMAMATSU and SHIZUOKA read SYNC
(I.F.R.B. Serial Nos. 1324, 1325 and 1327)
1431 kHz, (I.F.R.B. Serial Nos. 1330 and 1334)
GIFU and TAJIMI read SYNC
1494 kHz, BIZEN, KASAOCA and OKAYAMA read SYNC (I.F.R.B.
Serial Nos. 1361, 1362 and 1365)
1557 kHz, ATAMI and MISHIMA read SYNC (I.F.R.B. Serial
Nos. 1432 and 1438)

J:RYU 1431 kHz, ISHIGAKI Col. 11 and 12 delete 1430 kHz 1 kW
1521 kHz, ISHIGAKI Col. 4B replace J by RYU, all other
characteristics unchanged as shown on page J6

LAO 576 kHz, LUANG PRABANG, Col. 6 read 20, Col. 7A 10, Col. 8A 100,
Col. 8B 0, Col. 13 23 - 14,
Col. 14A 102E08 19N51 100,
Col. 14B 102E08 19N51 400, Col. 15 5
639 kHz, VIENTIANE, Col. 6 read 15, Col. 7A 10, Col. 8A 55,
Col. 8B 0, Col. 13 23 - 15, Col. 14A 102E38
17N59 100, Col. 14B 102E38 17N59 400,
Col. 15 5
702 kHz, LUANG PRABANG, Col. 6 read 20, Col. 7A 2, Col. 8A 100,
Col. 8B 0, Col. 13 23 - 14,
Col. 14A 102E08 19N51 60,
Col. 14B 102E08 19N51 400, Col. 15 5
738 kHz, PAKSE, Col. 6 read 20, Col. 7A 10, Col. 8A 77, Col. 8B 0,
Col. 13 23 - 15, Col. 14A 105E50 15N06 100,
Col. 14B 105E50 15N06 400, Col. 15 5
1026 kHz, VIENTIANE, Col. 6 read 15, Col. 7A 10, Col. 8A 55,
Col. 8B 0, Col. 13 05 - 15,
Col. 14A 102E38 17N59 100,
Col. 14B 102E38 17N59 400, Col. 15 5
1368 kHz, PAKSE, Col. 6 read 20, Col. 7A 10, Col. 8A 77, Col. 8B 0,
Col. 13 23 - 15, Col. 14A 105E50 15N06 100,
Col. 14B 105E50 15N06 400, Col. 15 5

MLI 1584 kHz, KIDAL 1, Col. 4A read KIDAL
1584 kHz, KIDAL 2, Col. 4A read KITA

NZL 1431 kHz, DUNEDIN, Col. 11 and 12 add 1430 0.3

OMA 1035 kHz, Col. 14A add 54E06 17N03 120, Col. 14B 54E06 17N03 300

PAK (List of Frequency Requirements - I.F.R.B. Circular letter No. 324)
540 kHz, Col. 11 and 12 add 540 300
567 kHz, Col. 11 and 12 add 570 10
585 kHz, Col. 11 and 12 add 580 1000
612 kHz, GWADAR, Col. 11 and 12 add 610 10

(Cont.)

Country
Symbol

PAK (Cont.) 612 kHz, RATODERO, Col. 13 read 00 - 14
630 kHz, Col. 11 and 12 add 630 100
639 kHz, Col. 11 and 12 add 640 10
693 kHz, BATTAL, Col. 13 read 00 - 14
693 kHz, Col. 4A read MULTAN II, Col. 11 and 12 add 690 10
729 kHz, Col. 11 and 12 add 730 10
756 kHz, Col. 11 and 12 add 750 80
792 kHz, LAR, Col. 13 read 00 - 14
792 kHz, MUZAFARABAD, Col. 11 and 12 add 790 100
828 kHz, Col. 11 and 12 add 830 100
855 kHz, Col. 11 and 12 add 860 10
927 kHz, Col. 11 and 12 add 930 10
954 kHz, Col. 11 and 12 add 870 10
1008 kHz, Col. 11 and 12 add 1010 10
1035 kHz, Col. 11 and 12 add 1030 120
1053 kHz, KUCHLAK, Col. 13 read 00 - 14
1053 kHz, RAWALPINDI, Col. 11 and 12 add 1050 120
1080 kHz, Col. 5 read 72E00 35N50, Col. 11 and 12 add 1080 10
1089 kHz, Col. 11 and 12 add 1090 10
1098 kHz, Col. 11 and 12 add 1100 10
1134 kHz, Col. 11 and 12 add 1140 10
1152 kHz, Col. 11 and 12 add 1150 100
1161 kHz, Col. 11 and 12 add 1160 10
1170 kHz, Col. 11 and 12 add 1170 10
1215 kHz, Col. 11 and 12 add 1210 10
1260 kHz, Col. 11 and 12 add 1260 300
1341 kHz, Col. 11 and 12 add 1340 10
1377 kHz, FT SANDEMAN, Col. 11 and 12 add 1280 10
1377 kHz, SHAHDAB, Col. 7A read 2, Col. 11 and 12 add 1380 10
1404 kHz, Col. 11 and 12 add 1410 10
1413 kHz, Col. 13 read 00 - 14
1431 kHz, Col. 11 and 12 add 1430 10
1449 kHz, KARACHI, Col. 11 and 12 add 1450 10
1449 kHz, NAHAQI, Col. 13 read 00 - 14
1476 kHz, Col. 11 and 12 add 1470 10
1512 kHz, BHIRIA, Col. 13 read 00 - 14
1512 kHz, RAHIMYAR KHAN, Col. 11 and 12 add 1510 10,
Col. 15 add 4
1539 kHz, Col. 13 read 00 - 14
1548 kHz, Col. 11 and 12 add 1540 10, Col. 15 add 4

PAK (Addendum - I.F.R.B. Circular-letter No. 326)
675 kHz, Col. 8A read 121

PNG 585 kHz, for all stations, Col. 17 add A056
729 kHz, for all stations, Col. 17 add A056
738 kHz, KARKAR I, Col. 17 add A056

POL 819 kHz, Col. 5 read 21E17 52N27

S 191 kHz, Col. 11 and 12 add 191 600

Country
Symbol

YUG CFP, BEOGRAD 202, Col. 7A read 10
 CFP, BOR, Col. 7A read 10
 CFP, KRAGUJEVAC, Col. 7A read 10
 CFP, KRALJEVO, Col. 7A read 10
 CFP, KRUSEVAC, Col. 7A read 10
 CFP, LOZNICA, Col. 7A read 10
 CFP, NIKSIC 2, Col. 7A read 10
 CFP, PLEVLJA 2, Col. 7A read 10
 CFP, SABAC, Col. 7A read 10
 CFP, SOMBOR, Col. 7A read 10
 CFP, STUDIO B 1, Col. 7A read 10
 CFP, TITOVO UZICE, Col. 7A read 10
 CFP, VALJEVO, Col. 7A read 10

17.9.1975

Corrigendum to Annex 1 - Antenna characteristics

D 873 kHz, FRANKFURT MAIN, Col. 6 Az 280° read 0 dB
 G 693 kHz, CROMER, Col. 6 Az 110° read -2 dB
 999 kHz, NOTTINGHAM, Col. 6 Az 200° read -5 dB
 Az 210° read -8 dB

17.9.1975

Corrigendum to Annex 2 - Proximity of the antenna site to the sea

D 1269 kHz, NEUMUENSTER, Col. 5 from Az 10° to 90°
read 70 53 40 56 60 80 84 74 60
 G 1485 kHz, EDINBURGH, Col. 5 Az 90° read 6
 Az 100° read 8
 Az 210-270° read > 100
 Az 280° read 18
 Az 290° read 5
 Az 300° read 3
 Az 310-350° read 2
 IND 1566 kHz, DAMAO, delete in its entirety
 1593 kHz, Col. 3 replace ELLORE by ELURU
 NZL 801 kHz, TWIZEL, Col. 5 from Az 290° to 350°
read 95 91 88 88 83 90 98
 810 kHz, DUNEDIN, Col. 5 from Az 0° to 240°
read 15 13 13 12 13 10 10 10 10 8 5
 5 5 5 5 5 5 5 5 5 6 7 8 10

CHN - République Populaire de Chine

" 1. Veuillez prendre note que les émetteurs que nous utilisons ou que nous prévoyons d'utiliser dans les 12 canaux suivants participent à un réseau synchronisé : 540 kHz, 630 kHz, 639 kHz, 720 kHz, 756 kHz, 855 kHz, 945 kHz, 981 kHz, 1035 kHz, 1215 kHz, 1305 kHz, 1359 kHz.

" 2. Veuillez corriger les fréquences des émetteurs suivants : En regard des numéros de série 6553/01, 6553/02 et 6553/03, remplacer la fréquence prévue de 657 kHz par 666 kHz et la fréquence utilisée de 660 kHz par 670 kHz. En regard des numéros de série 6554/01, 6554/02, 6554/03, 6554/04 et 6554/05, remplacer la fréquence prévue de 666 kHz par 657 kHz et la fréquence utilisée de 670 kHz par 660 kHz.

" 3. Veuillez apporter les corrections suivantes : Dans la colonne 14A et en regard du numéro de série 6266, remplacer 117E53 par 114E53. Dans la colonne 4A et en regard du numéro de série 6613/05, remplacer XI UJUMQIN par XI UJUMQIN QI.

CHN - People's Republic of China

" 1. Please note that our transmitters, both used and planned in each of the following 12 channels are working in a synchronized network : 540 kHz, 630 kHz, 639 kHz, 720 kHz, 756 kHz, 855 kHz, 945 kHz, 981 kHz, 1035 kHz, 1215 kHz, 1305 kHz, 1359 kHz.

" 2. Please correct the frequencies of the following transmitters : In serial numbers 6553/01, 6553/02 and 6553/03, the planned frequency 657 kHz should be changed to 666 kHz and the used frequency 660 kHz should be changed to 670 kHz, and in serial numbers 6554/01, 6554/02, 6554/03, 6554/04 and 6554/05, the planned frequency 666 kHz should be changed to 657 kHz and the used frequency 670 kHz should be changed to 660 kHz.

" 3. Please correct the following: In column 14A of serial number 6266, 117E53 should be 114E53, and in column 4A of serial number 6613/05, XI UJUMQIN should be XI UJUMQIN QI."

CHN - República Popular de China

" 1. Le ruego se sirva tomar nota de que nuestros transmisores, tanto en servicio como previstos, en cada uno de los 12 canales siguientes, trabajan en régimen de red sincronizada: 540 kHz, 630 kHz, 639 kHz, 720 kHz, 756 kHz, 855 kHz, 945 kHz, 981 kHz, 1035 kHz, 1215 kHz, 1305 kHz, 1359 kHz.

" 2. Sírvasse rectificar las frecuencias de los transmisores siguientes: En los números de serie 6553/01, 6553/02 y 6553/03, la frecuencia prevista de 657 kHz se sustituirá por la de 666 kHz y la frecuencia en servicio de 660 kHz será sustituida por la de 670 kHz. En los números de serie 6554/01, 6554/02, 6554/03, 6554/04 y 6554/05, la frecuencia prevista de 666 kHz se sustituirá por la de 657 kHz y la frecuencia en servicio de 670 kHz pasará a 660 kHz.

" 3. Le rogamos proceda a las rectificaciones siguientes: En la columna 14A del número de serie 6266, donde dice 117E53 debe decir 114E53; en la columna 4A del número de serie 6613/05, donde dice XI UJUMQIN debe decir XI UJUMQIN QI."

INTERNATIONAL TELECOMMUNICATION UNION

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 10-E

1 October 1975

Original : French

PLENARY MEETING

Note by the Secretary-General

REPORT OF THE I.F.R.B. TO THE
2ND SESSION OF THE CONFERENCE

I have the honour to submit to the Conference the
annexed Report of the I.F.R.B.

M. MILI

Secretary-General

Annex : 1



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A N N E X

REPORT BY THE INTERNATIONAL FREQUENCY REGISTRATION BOARD
TO THE REGIONAL ADMINISTRATION LF/MF BROADCASTING CONFERENCE
(Second Session)

In the last paragraph of Resolution B, the First Session of the Conference instructed the I.F.R.B. "to prepare for the Second Session of the Conference a document containing the report sent to administrations, together with any comments it has received since sending it." The present Report contains a brief description of the action taken by the I.F.R.B. since the end of the First Session in pursuance of Resolution B and reproduces the comments received from administrations.

The volume of the Report which was the subject of I.F.R.B. Circular-letter No. 327 does not permit of its reproduction in the framework of the present document, see Conference Document No. 8 (Second Session).

I. I.F.R.B. Circular-letter No. 315 of 14 November 1974

To assist administrations in formulating their frequency requirements, the I.F.R.B. attached explanatory notes to the above-mentioned Circular-letter. No comments were received from administrations.

In reply to this Circular-letter the I.F.R.B. received
300 requirements up to 20 April (10 days before the date limit);
9,321 requirements up to 13 May (date of printing of List of Requirements);
9,353 requirements up to 6 June (date on which the Board began its calculations).

II. I.F.R.B. Circular-letter No. 324 of 23 May 1975

II.1 The requirements received by the I.F.R.B. were published in Appendix 1 to I.F.R.B. Circular-letter No. 324 under the symbol designating the country of the administration from which the requirement forms were received.

II.2 The Circular-letter with two appendices has been issued as Conference Document No. 6 (Second Session).

II.3 The Administration of the Arab Republic of Egypt sent a telegram to the I.F.R.B. about requirements submitted by the Administration of Israel; the telegram was reproduced in I.F.R.B. Circular-letter No. 330 of 8 July 1975. The I.F.R.B. subsequently received communications on the same subject from the Administrations of the Kingdom of Saudi Arabia, the United Arab Emirates, the Republic of Iraq, the Hashemite Kingdom of Jordan, the State of Kuwait, the Syrian Arab Republic, the Democratic Republic of the Sudan and the People's Democratic Republic of the Yemen as well as from the Arab States Broadcasting Union, the Egyptian Broadcasting Television (Engineering Sector), the General Director of Broadcasting of the Yemen Arab Republic and the General Director of Broadcasting of the Islamic Republic of Mauritania.

II.4 The I.F.R.B. also received, on 22 September 1975, a letter from the Administration of the State of Israel referring to I.F.R.B. Circular-letter No. 330; the text of this letter was the subject of I.F.R.B. Circular-letter No. 338 of 23 September 1975.

II.5 The I.F.R.B. received a memorandum from the Administration of the U.S.S.R. on the use of the name "Berlin" for "West Berlin". The text of this memorandum, a copy of which has been sent to the Administration of the Federal Republic of Germany, is reproduced in Annex 1 to the present Report.

III. I.F.R.B. Circular-letter No. 325 of 27 June 1975

A number of administrations sent corrections of their frequency requirements to the I.F.R.B. The corrections which it was not possible to include in I.F.R.B. Circular-letter No. 324 are the subject, in part, of I.F.R.B. Circular-letter No. 325 which has been issued as Conference Document No. 7 (Second Session).

IV. I.F.R.B. Circular-letter No. 326 of 30 June 1975

IV.1 Between 13 May 1975, when requirements to be included in the List were drawn up (I.F.R.B. Circular-letter No. 324), and 6 June 1975, when the Board began its calculations, 32 new requirements were received from 3 countries. These were published in I.F.R.B. Circular-letter No. 326 and were taken into consideration in the Board's calculations.

IV.2 This Circular-letter is the subject, in part, of Conference Document No. 7 (Second Session).

V. I.F.R.B. Circular-letter No. 327 of 30 June 1975

V.1 The I.F.R.B. carried out the studies required in Resolution B and published the results in Appendices 1 and 2 to I.F.R.B. Circular-letter No. 327.

V.2 This Circular-letter was issued as Conference Document No. 8 (Second Session).

V.3 By the date of publication of the present Report, the I.F.R.B. had received comments from the Administrations of Belgium, China, India and New Zealand.

V.4 The comments of the Belgian Administration are reproduced in Annex 2 to the present Report.

V.5 The Chinese Administration pointed out in a telegram that the I.F.R.B. had introduced the sea gain in the whole of Region 3.

V.6 The Administration of India submitted comments to the I.F.R.B. on the calculation method used. The Administration also requested that its comments be circulated. The letter is reproduced at Annex 3 to the present Report.

The Indian Administration's comments relate to the following:

- hours of operation;
- low-power channels;
- excess polarization coupling loss;
- application of sea gain to Region 3.

Annex 4 to the present Report contains additional explanation of the calculation procedures used by the I.F.R.B. with reference to the points raised by the Administration of India.

V.7 The New Zealand Administration has drawn the Board's attention to the fact that the results obtained from the calculations by the said Administration in the case of some stations were different from the results published by the Board. The cases have been dealt with by direct correspondence.

VI. Frequency assignments not included in the calculations

VI.1 Since 6 June 1975 the I.F.R.B. has received new requirements and corrections to requirements previously received; these additions, changes or corrections were published in I.F.R.B. Circular-letter No. 337 of 17 September 1975. This Circular-letter is published as Conference Document No. 9 (Second Session). It contains 208 new requirements received from 14 countries; in the case of 5 of these countries it is the first submission of requirements. Owing to their late receipt, these requirements could not be taken into consideration in the calculations made by the I.F.R.B.

VI.2 Similarly, the assignments of a few countries or territories for which no requirements were received could not be included in the calculations. The I.F.R.B. felt that the Conference might find it useful to know the assignments used by such countries or territories when they appear in the Master Register and the assignments appearing in the African Plan but which are not yet in service; these are therefore listed in Annex 5 to the present Report.

VII. Computer programmes

To obtain the results required for Appendices 1 and 2 to I.F.R.B. Circular-letter No. 327, the objective was fixed of producing, in the limited time allowed for the purpose, a computer programme which could be used to calculate the approximate value of the usable field strength and to indicate the administrations with which discussions could be initiated. Since that date, the I.F.R.B. has improved this programme and in addition has prepared a computer programme in order to calculate the usable field strength for various azimuths around a station and enable the drawing of the service area contour. Since the use of this programme calls for a fairly long computer time it will be advisable not to use it until the planning is completed.

VIII. Shared bands

Part of the band 150 - 285 kHz, allocated to the Broadcasting Service in Region 1, is also allocated to other Services in that Region and it is allocated in Regions 2 and 3 to other radiocommunication services. Similarly, the band 525 - 535 kHz is shared in Region 3 by the broadcasting and mobile services. The I.F.R.B., using its technical standards, examined the frequency requirements in these band from the point of view of the interference they might cause to the frequency assignments of other radiocommunication services recorded in the Master Register. The volume and the form of these results do not lend themselves to the publication. The Technical Secretariat of the Conference will have one copy for the purposes of consultation.

It is recalled also that three low-frequency requirements come from Region 3; they are therefore out-of-band and could only operate strictly in accordance with the provisions of No. 115 of the Radio Regulations.

IX. Information Meetings

Recognizing the complexity of the questions facing the Second Session of the Conference, the provisions of No. 482 of the Radio Regulations, the I.F.R.B. organized two days of information meetings on 2 and 3 October 1975 and has extended an invitation to Administrations by I.F.R.B. Circular-letter No. 328 of 2 July 1975.

ANNEX 1

MEMORANDUM RECEIVED FROM THE U.S.S.R.

Original: Russian

PERMANENT MISSION OF THE U.S.S.R.
TO THE U.N. AND OTHER INTERNATIONAL
ORGANIZATIONS IN GENEVA

Geneva, 19 August 1975

The Administration of the U.S.S.R. has requested me to draw the attention of the I.F.R.B. to the fact that in I.F.R.B. Circular-letter No. 324 frequency requirements of the Federal Republic of Germany (frequencies 567 kHz, 687 kHz, 810 kHz, 855 kHz, 936 kHz, 990 kHz and 531-1602 kHz) assigned to broadcasting stations in West Berlin, are designated as BERLIN instead of WEST BERLIN in column 4a.

Such a mistaken inscription of WEST BERLIN does not comply with the spirit of the four-party agreement on West Berlin, and the Soviet Union asks that it be corrected.

The Administration of the Soviet Union hopes that the I.F.R.B. will take the necessary steps to correct this error.

G. KOZYRITSKI
First Secretary,
Permanent Mission of the U.S.S.R.

Mr. GROMOV A.N.
Acting Chairman, I.F.R.B.

Mr. MILI
Secretary-General,
I.T.U.

ANNEX 2

Original: French

TELEX RECEIVED FROM BELGIUM

"Burinterna Geneva
from Radiogen Brussels

Brussels, 23 September 1975

"To the Chairman of the I.F.R.B.

" According to point 3 of Resolution C (First Session) "any frequency already being used shall first be replaced by the frequency of the nearest new channel and subsequent changes desired shall be negotiated ...". To make such a statement is to recognize a situation which, in the general opinion, is rather deplorable but it also shows a wish to see that it does not degenerate.

What would be the point of drawing up a plan if the outcome were worse than the chaotic situation which exists at present?

" What is, in fact, the situation? Firstly, a general trend to increase powers which those who do not need them (such as Belgium) are obliged to follow if they do not wish to find themselves in a still worse position. In the medium-wave bands, powers of 600 kW, 1000 kW and even 1500 kW are requested. It seems to us that if the limits imposed in Copenhagen cannot be observed - and no doubt this is practically impossible - a reasonable limit must be fixed which may in no case be exceeded.

" Unless this procedure is adopted, there is bound to be expenditure on transmitters and electric power which at the beginning perhaps will benefit the richest but in the end - as we all know - will only be of benefit to the suppliers of transmitters and to power producers. Generally speaking, daytime services will benefit somehow but not enough to justify such increases in power.

" Secondly, requests are being made for frequencies and powers which should be negotiated between administrations and which would cause impairment of the service as it now exists de facto (same channel or adjacent channel interference).

" It seems to us that requests which result in an increase of the usable field exceeding a reasonable limit (to be determined) should be considered refused, particularly when the frequency suffering interference has legal status (by virtue either of the Copenhagen Plan or the African Plan or of recognition by the I.F.R.B.).

" Confining ourselves to the latter (frequencies granted to Belgium in Copenhagen and used since with the powers authorized there) and dealing only with the requests contained in Appendix 1 to I.F.R.B. Circular-letter No. 324, the Belgian Administration cannot agree to the following requests:

No. of request	Frequency kHz	Country	Location
3686/00	621	I	Synchr (*)
1489	918	DDR	Dresden
3844	918	D	Giessen
2123	918	YUG	Ljubljana
0715	927	GRC	Zakynthos
3072/00	927	TUR	Synchr (*)
2864	1125	BUL	Starà Zagora
2151/00	1125	YUG	Synchr (*)
2152/00	1134	YUG	Synchr (*)
1781	1503	POL	Stargard szcze
5865/00	1512	UKR-	Synchr (*)
		URS	
0738	1512	GRC	Chania
2155/00	1512	YUG	Synchr (*)
1869/00	1521	TCH	Synchr (*)

Distance to the transmitter suffering interference (km)	Power (kW)
1384	130
640	250
300	100
900	600
1290	50
2250	200
1850	500
1080	400
1120	1650
750	1000
2060	85
2320	50
1650	302
820	822

" *) indicates a synchronized network for which the distance to the transmitter subject to interference has been calculated from the "centre of gravity" of the synchronized network defined in paragraph 9.5.1.1 of the Report of the First Session of the Regional Administrative LF/MF Broadcasting Conference.

" With regard to long waves which are only used in the European broadcasting area, the Belgian Administration would favour a channel spacing of 8 kHz.

" I would ask you, Mr. Chairman, to take account of these comments, according to point 4 of Resolution B of the First Session of the Broadcasting Conference. Salutations."

ANNEX 3

LETTER RECEIVED FROM INDIA

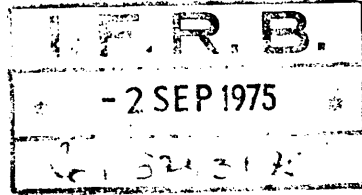
सारा पत्र-व्यवहार, सचिव,
भारत सरकार, संचार मंत्रालय
के पदनाम से होना चाहिए,
नाम से नहीं।

तार : "संचारमंत्रालय"

All communications should
be addressed to the Secretary,
to the Government of India,
Ministry of Communications,
by title, NOT by name.

Telegram :—

"COMMUNICATIONS"



भारत सरकार
सं चार मंत्रालय
सरदार पटेल भवन, पार्लियामेन्ट स्ट्रीट
नई दिल्ली-1

GOVERNMENT OF INDIA
MINISTRY OF COMMUNICATIONS
SARDAR PATEL BHAVAN, PARLIAMENT STREET
NEW DELHI-1

No.J.20011(200)/74-WF.Pt. Dated:- 23 August, 1975.

To

The Chairman,
International Frequency Registration Board,
I.T.U. Building,
Place Des Nations,
Geneva. (SWITZERLAND).

Subject:- Report by the I.F.R.B. on the result of the
studies carried out pursuant to Resolution-B
of the Regional Administrative LF/MF Broadcasting
Conference (Region 1 & 3), Geneva, 1974.

....

Sir,

I am directed to acknowledge the receipt of IFRB
Circular letter No.327 of 1st July 1975 alongwith its enclosures
and send the following comments of Indian Administration on the
same.

2. It has been observed from the analysis carried out by
IFRB that no account has been taken of the hours of operation
indicated in Column 9 of the Form for submission of frequency
assignment requirement. Apparently, this has been done to
simplify the computations in order to complete the task before
the scheduled date of 1st July 1975. However, this simplification
resulted in incorrect display of the interference situation on
all the frequencies, in so far as Indian Administration is
concerned, as given below:

2.1. A large number of requirements projected by India
relate to the period 0000-1200 hrs. GMT, which corresponds to
Day light hours in this sub-continent. Therefore, there would
be no interference from or to these operations at night
(1200-0400 hrs. GMT), since these transmitters are not operative
at that time. Further, little or no skywave interference could
be expected to or from these transmitters during daylight hours.
However, in the results of the analysis given by IFRB, a large
number of such operations were shown to be interfering and also
being interfered with, due to skywave. Had the hours of

(enclosed in a
separate cover)

operation indicated in Column 9 of the Form being taken into account by IFRB, the position of interference to and from a large number of Indian requirements would have been entirely different, as indicated in the enclosed photostat copy of sample sheets wherein the incorrect entries have been indicated by a cross. This type of correction is necessary in almost all sheets where a reference is made to Indian operations either in the interfering or interfered transmitter position.

2.2. Mere deletion of the incorrect entries, as indicated in the sample sheet, will not give the correct picture of interference since all the six most-interfering transmitters will not be indicated in the analysis. Further, the resultant values of usable Field strength and usable distance would be in error. It is, therefore, necessary to correct the situation by issuing suitable amendments and additions to Appendices 1 & 2 of the Circular No.327, as early as possible.

2.3. The incorrect indication of the interference situation is all the more pertinent, in case of Indian requirements for the channels between 1557 KHz and 1602 KHz. In this sub-band, the Indian Administration projected a large number of closely-spaced transmitters of power 10 KW, for day-time operation i.e. 0000-1200 hrs. GMT. On almost all these operations, it has been shown that the other Indian operations were interfering as a result of skywave. The situation would have been entirely different had the hours of operations indicated in Col.9 of the Form been considered by IFRB for the analysis.

3. Indian Administration had submitted a number of requirements relating to "Low-power channels". These, as pointed out in para 9 of your circular letter, have not been included in Appendix 2 for the calculation of usable field strength. In accordance with the instructions issued by the IFRB for filling up the requirement forms, the desired frequencies were not indicated. However, it was the intention of the Indian Administration to propose setting aside six 9 KHz. spaced channels from 1557 KHz to 1602 KHz to be designated as "L.P.Cs". India's national frequency assignment plan on which the requirements submitted to the IFRB were based, envisages use of these channels on 10 KW power during day-time (0000 hrs. - 1200 hrs. GMT), as detailed in Para 2.3 above, and on 1 KW power during night time (1200-0000 hrs. GMT), at the indicated locations. If modifications are carried out to show the operation to be on lower power of 1 KW power from 1200-0000 hrs. GMT on these six channels, all the requirements relating to LPCs submitted by the Indian Administration will automatically be taken care of. Indian Administration requests that this may please be noted.

4. In para 4.3 of the Annex. to Circular 327, the factors that have been taken into account, while estimating the skywave field strength, are indicated. It is seen that no mention has been made about the polarisation coupling loss. However, it appears that this factor has been taken into account in the estimation of skywave field strength by the IFRB. As an example, the interference evaluation from the transmitter at Port Blair (India) on a frequency of 684 KHz to the transmitter at Bangkok (Thailand) may be quoted. It may, therefore, be appropriate to suitably indicate this position in para 4.3 of the Annexure to Circular 327, since the polarisation coupling loss may be as high as about 40 db (both ends taken together) in certain cases.

5. The method of estimating skywave field strength in the Asian part of Region 3 is given in Appendix 'E' of the Report of the conference. In this method, it is not required to take into account the sea gain factor. However, it appears that this factor has, in fact, been taken into account by IFRB, while estimating the field strength from transmitters located in the Asian part of Region 3, even when estimating their interference potential to other transmitters located in the same Region (Asian part of Region 3). As an example, the interference from the transmitter located at Kohima (India) to the transmitters located at Phuket (Thailand) on a frequency of 639 KHz. may be quoted. The interference evaluation may be incorrect in such cases, since the sea gain factor may be as high as 18 db in certain cases.

6. The points mentioned above were also discussed by Mr. M.K. Basu, Wireless Adviser to the Government of India with Mr. Ch. W. Sowton, acting Chairman, IFRB, when the former contacted the latter on phone earlier this month. As indicated by Mr. Basu, the above points are required to be kept in view and amendments/addendums issued for projecting a true picture of the mutual interference between transmitters during the conference. Mr. Basu also had a preliminary discussion on the subject with Mr. A. Berrada, Chairman, IFRB, at Geneva, at the end of June 1975.

7. Since the issue of amendments/additions to the Appendices 1 and 2 of Circular 327 may or may not be possible due to the short time available, the Indian Administration would be grateful if IFRB would suitably bring the points mentioned in paras 2-5 above to the notice of all Administrations, in order to post them with the deviations from the true interference picture to and from the projected requirements of the Indian Administration.

Yours faithfully,

(B.S. Nargas)

Assistant Wireless Adviser to the Govt. of
India.

ANNEX 4

Additional explanation of the calculation procedures
used by the I.F.R.B. with reference to these points
raised by the Administration of India

The Indian Administration's comments relate to:

- hours of service;
- low-power channels;
- excess polarization coupling loss;
- application of sea gain to Region 3.

1. Hours of service

Very few requirements indicated daily hours of service sufficiently less than 24 hours for time sharing to be envisaged at this stage of the studies within the prescribed time limits. The diurnal loss factor curve in Appendices B and E to the Report of the First Session shows that there are periods of the day when this loss may not be considered sufficient. The Board therefore considered that in the rare cases where time sharing was possible it should be discussed by the delegations concerned during the Conference. As the case of India shows, moreover, any administration may have plans which are connected with other Proposals it intends to submit to the Conference. With regard to India, in some cases, service extends round the clock since this Administration proposes to use these same frequencies as low-power channels.

2. Low-power channels

The First Session of the Conference specified neither the number of low-power channels nor the carrier frequencies.

3. Polarization coupling loss (L_p)

As the aim was to keep the Annex to I.F.R.B. Circular-letter No. 327 succinct, it was considered unnecessary to describe the procedure for calculating the factor (L_p) which in any case did not give rise to any difficulty.

4. Sea gain

4.1 Sea gain for the interfering transmitter

To simplify the calculations, a process of preliminary elimination applied which took account inter alia of the sea gain of each interfering transmitter and the Board made no distinction between Regions 1 and 3. Due to an oversight, it continued not to distinguish between the two Regions when more precise calculations were carried out. The computer programme has been amended in order not to include the transmission sea gain whenever the midpoint of the path is in the northern part of Region 3.

4.2 Sea gain for the receiving point

4.2.1 As the calculations were made in respect of six interfering transmitters, each of these transmitters may be affected by sea gain even when it is situated in the northern part of Region 3.

4.2.2 It will be recalled that the method used by the I.F.R.B. consists in defining the main interfering transmitter and then making all calculations in the direction of this transmitter, so that it is possible to define a receiving point where sea gain can be reckoned. As the sea gain depends on the distance from the receiving point to the sea along the great circle containing the propagation path, it would have been a laborious task to make the calculation for each transmitter and the Board therefore made the computation for the main interfering transmitter only.

4.2.3 The sea gain calculated in the direction of the main interfering transmitter is then added to the usable field strength produced by all 6 transmitters, even if the former is not affected by the sea gain; the other interfering transmitters may be subject to the sea gain affected. It would therefore have been necessary to repeat the calculation for each of these transmitters, which would be an extremely lengthy process. To avoid this kind of complication, the Board decided to include systematically the sea gain at the receiving point even when the midpoint of the path lies in the northern part of Region 3. The Board has modified the computer programme to take account of the reception sea gain from the first usable field strength calculation. For this purpose, it has developed a geometrical approximation which may be used to estimate the distance from the sea of the receiving point in relation to each of the interfering transmitters concerned (for which sea gain applies).

Pays pour lesquels l'I.F.R.B. n'a reçu aucune demande d'assignation de fréquence

Countries for which no frequency assignment requirement has been received by the I.F.R.B.

Países de los que la I.F.R.B. no ha recibido ninguna solicitud de asignación de frecuencia

- A. Assignations de fréquence qui, selon le Fichier de référence international des fréquences, sont en service
 Frequency assignments which, according to the Master International Frequency Register, are in use
 Asignaciones de frecuencia que, según el Registro internacional de frecuencias, están en servicio

1	2a	2c	4a	4c	5a	5b	7	8	9a	9b	9c	10	13a	13b	13c
AGL — ANGOLA (kHz)								(kW)							
944	8.07.68	15.07.68	LUANDA	13E14 08S48	CIRAF 52		10A3	1	ND			0524	A		AF66
1010		1.01.59	LUANDA ECCLESIA	13E49 08S48	CIRAF 52	1000	10A3	1	69	7	13	0507	A	C	AR300159 C64
		1.01.59			CIRAF 52	1000			69	7	13	0813	A	C	AR59 C170264
		1.01.59			CIRAF 52	1000			69	7	13	1416	A	C	AR59 C170264
		1.01.59			CIRAF 52	1000			69	7	13	1721	A	C	AR59 C170264
		1.01.59			CIRAF 52	1000			69	7	13	1314	A	C	103 AR59 C64
		1.01.59			CIRAF 52	1000			69	7	13	1617	A	C	103 AR59 C64
1160	8.07.68	15.07.68	N LISBOA	15E45 12S47	CIRAF 52		10A3	5	ND			0523	A		AF66
1169	8.07.68	15.07.68	MALANGE	16E22 09S33	CIRAF 52		10A3	5	ND			0621	A	A	AF66
1214	8.07.68	15.07.68	LUSO	19E55 11S48	CIRAF 52		10A3	1	ND			0522	A		AF66
1295	8.07.68	15.07.68	SERPA PINTO	17E40 14S40	CIRAF 52		10A3	5	ND			1701	A		AF66
1331	8.07.68	15.07.68	MOCAMEDES	12E09 15S14	CIRAF 52		10A3	1	ND			0623	A		AF66
1349	8.07.68	15.07.68	CABINDA	12E12 05S35	CIRAF 52		10A3	1	ND			0622	A		AF66
1385	8.07.68	15.07.68	SILVA PORTO	16E58 12S23	CIRAF 52		10A3	1	ND			0522	A		AF66
1403	8.07.68	15.07.68	LOBITO	13E33 12S23	CIRAF 52		10A3	1	ND			0623	AU		AF66
1421	8.07.68	15.07.68	HENRIQ CARVALHO	20E24 09S38	CIRAF 52		10A3	1	ND			1701	A		AF66
1484	8.07.68	15.07.68	N REDONDO	13E54 11S13	CIRAF 52		10A3	05	ND			1122	A		AF66
1502	8.07.68	15.07.68	BENGUELA	13E25 12S35	CIRAF 52		10A3	5	ND			0523	A		AF66
1529	8.07.68	15.07.68	SA DA BANDEIRA	13E30 14S56	CIRAF 52		10A3	5	ND			0624	A		AF66
1570	8.07.68	15.07.68	CABINDA	12E12 05S35	CIRAF 52		10A3	5	ND			1701	A		AF66
1586	8.07.68	15.07.68	LUANDA	13E14 08S48	CIRAF 52		10A3	5	ND			0524	A		AF66
1594	8.07.68	15.07.68	N LISBOA	15E45 12S47	CIRAF 52		10A3	05	ND			0523	A		AF66

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1	2a	2b	2c	4a	4c	5a	5b	7	8	9a	10	13a	13b	13c
CBG — KHMER (République) KHMER (Republic) KHMER (República)														
(kHz)									(kW)					
740		31.05.66	01.05.66	PHNOM PENH	104E55 11N34	INTR	100	10A3	1	ND	H24	B	515	B100167
955		31.05.66	01.05.66	PHNOM PENH	104E55 11N34	INTR	100	10A3	1	ND	H24	B	515	B100167
1000		31.05.66	01.05.66	PHNOM PENH	104E55 11N34	INTR	200	10A3	120	ND	H24	B	515	B100167
1240		31.05.66	01.05.66	PHNOM PENH	104E55 11N34	INTR	100	10A3	1	ND	H24	B	515	B100167
1315		31.05.66	01.05.66	PHNOM PENH	104E55 11N34	INTR	100	10A3	1	ND	H24	B	515	B100167
1340	31.05.66		01.05.66	PHNOM PENH	104E55 11N34	INTR	100	10A3	1	ND	H24	A	A	
1410	28.08.53		01.12.53	PHNOM PENH	104E55 11N34	INTR VTN THA LAO	500	10A3	20	ND	2302	AU	C	C050661
	28.08.53		01.12.53			INTR VTN THA LAO	500			ND	0408	AU	C	C050661
	28.08.53		01.12.53			INTR VTN THA LAO	500			ND	0916	AU	C	C050661
1435		31.05.66	1.05.66	PHNOM PENH	104E55 11N34	INTR	100	10A3	1	ND	H24	B	515	B100167
1540	28.08.53		12.53	PHNOM PENH	104E50 11N33	INTR THA	300	10A3	1	ND	0016	AY		Y010764
STP — ST. TOME ET PRINCIPE ST. THOME AND PRINCIPE STO. TOME Y PRINCIPE														
(kHz)														
746			1.10.65	S TOME	06E45 00N21	INTR	200	8A3	5	ND	0607	A		AR181065 1)
			1.10.65			INTR	200			ND	1213	A		AR181065
			1.10.65			INTR	200			ND	1822	B	515	AR65 B140366

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- 1) AR (suivi de 6 chiffres représentant une date) La date représentée par les chiffres qui suivent immédiatement ce symbole est celle qui était inscrite dans la colonne 2a ou la colonne 2b de la présente inscription avant la date d'entrée en vigueur de l'Accord régional pour la Zone africaine de radiodiffusion (Genève, 1966) et qui a été biffée conformément aux dispositions du paragraphe 2 de la Résolution N° 2 adoptée par la Conférence africaine de radio-diffusion à ondes kilométriques et hectométriques de Genève (1966). C'est uniquement dans ses relations avec les autres administrations parties audit Accord que, selon ladite Résolution, l'administration dont relève la présente assignation a renoncé à tout droit qu'elle pouvait détenir, aux termes de l'article 9 du Règlement des radiocommunications, d'après la date qui était inscrite dans la colonne 2a ou la colonne 2b.

AR (followed by 6 digits representing a date) The date represented by the digits immediately following the symbol is the date which was recorded in Column 2a or Column 2b of the present entry before the date of entry into force of the Regional Agreement for the African Broadcasting Area, Geneva, 1966, and which was deleted in accordance with the provisions of paragraph 2 of Resolution No. 2 adopted by the African LF/MF Broadcasting Conference, Geneva, 1966. It is solely in its relation with the other Administrations parties to the said Regional Agreement that, in accordance with that Resolution, the Administration which is responsible for the present assignment has surrendered any right it might hold, according to the provisions of Article 9 of the Radio Regulations, as a result of the date formerly recorded in Column 2a or Column 2b of the Master Register.

AR (seguido de seis cifras que representan una fecha) La fecha representada por las cifras que siguen inmediatamente al símbolo es aquella que estaba inscrita en la columna 2a o en la columna 2b de esta inscripción, antes de la fecha de entrada en vigor del Acuerdo Regional para la Zona africana de radiodifusión (Ginebra, 1966) y que ha sido anulada de conformidad con las disposiciones del párrafo 2 de la Resolución N.º 2 adoptada por la Conferencia Africana de Radiodifusión por ondas kilométricas y hectométricas de Ginebra (1966). Según esta Resolución, la administración de que depende la presente asignación ha renunciado a todos los derechos que pudiera tener, según el artículo 9 del Reglamento de Radiocomunicaciones y en virtud de la fecha anteriormente inscrita en la columna 2a o en la columna 2b, únicamente en sus relaciones con las demás administraciones parte del citado Acuerdo.

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B - Assignations de fréquence figurant dans le Plan africain, Genève, 1966, mais qui n'ont pas encore été notifiées et inscrites dans le Fichier de référence aux termes de l'article 9 du Règlement des radiocommunications

Frequency assignments appearing in the African Plan, Geneva, 1966, but which have not yet been notified and recorded in the Master Register according to Article 9 of the Radio Regulations

Asignaciones de frecuencia que figuran en el Plan Africano, Ginebra, 1966, pero que aún no han sido notificadas e inscritas en el Registro de conformidad con el artículo 9 del Reglamento de Radiocomunicaciones

Fréquence Frequency Frecuencia kHz	Nom de la station Station name Nombre de la estación	Coordonnées géographiques Geographical coordinates Coordenadas geográficas	Puissance Power Potencia kW	Antenne Antenn Antena	Observations Remarks Observaciones
AGL - ANGOLA					
611	LUANDA	13E49 08S48	5	ND	
656	N REDONDO	13E50 11S10	5	ND	
701	LUANDA	13E49 08S48	5	ND	
773	LUANDA	13E20 08S50	10	ND	
809	V SALAZAR	14E55 09S18	5	ND	
854	N LISBOA	15E42 12S45	5	ND	
863	LUANDA	13E49 08S48	1	ND	
890	V SALAZAR	14E55 09S55	1	ND	
908	CARMONA	15E08 07S40	5	ND	
989	SILVA PORTO	16E57 12S25	5	ND	
1043	SERPA PINTO	17E40 14S30	1	ND	
1088	LUANDA	13E49 08S48	100	DR	45 2)
1133	CACONDA	15E00 13S45	5	ND	
1196	MOCAMEDES	12E10 15S10	5	ND	
1223	SA DA BANDEIRA	13E30 14S55	5	ND	
1232	LUANDA	13E20 08S50	5	ND	
1241	HENRIQCARVALHO	20E24 09S40	5	DR	62 3)
1313	SA DA BANDEIRA	13E30 14S55	1	ND	
1367	LUANDA	13E20 08S50	100	DR	
1457	SANTA COMBA	15E00 11S20	5	ND	
1562	LOBITO	13E53 12S22	5	ND	
1594	S SALVADOR	14E00 06S20	05	ND	

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Fréquence Frequency Frecuencia kHz	Nom de la station Station name Nombre de la estación	Coordonnées géographiques Geographical coordinates Coordenadas geográficas	Puissance Power Potencia kW	Antenne Antenn Antena	Observations Remarks Observaciones
GNP – GUINEE-BISSAU GUINEA-BISSAU GUINEA-BISSAU					
899	BISSAU	15W35 11N51	5	ND	
926	BISSAU	15W35 11N51	05	ND	
1034	BISSAU	15W35 11N51	5	ND	
1196	BAFATA	14W39 12N09	5	ND	
1232	BAFATA	14W39 12N09	5	ND	
STP – ST. TOME ET PRINCIPE ST. THOME AND PRINCIPE STO. TOME Y PRINCIPE					
845	S TOME	06E45 00N21	5	ND	
944	S TOME	06E45 00N21	5	ND	
1502	PRINCIPE	07E25 01N40	1	ND	
1594	PRINCIPE	07E25 01N40	1	ND	

- 2) 45 La puissance apparente rayonnée ne doit pas dépasser 20 kW dans l'azimut 84° (Congo-Kinshasa)
The effective radiated power shall not exceed 20 kW in the azimuth 84° (Congo-Kinshasa)
La potencia radiada aparente no debe ser superior a 20 kW en el acimut 84° (Congo-Kinshasa)
- 3) 62 La puissance apparente rayonnée ne doit pas dépasser 1 kW dans la direction de la Zambie
The effective radiated power shall not exceed 1 kW in the direction of Zambia
La potencia radiada aparente no debe ser superior a 1 kW en la dirección de Zambia

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C.- Aucune assignation à des stations de radiodiffusion dans les bandes en question n'a été notifiée et inscrite au Fichier de référence pour les pays suivants : Guinée-Bissau, République Populaire Démocratique de Corée et Viet-Nam (République Démocratique du).

No assignment to broadcasting stations in the bands in question has been notified and recorded in the Master Register for the following countries : Guinea-Bissau, the People's Democratic Republic of Korea and Viet-Nam (Democratic Republic of).

Ninguna asignación a estaciones de radiodifusión en las bandas en cuestión ha sido notificada e inscrita en el Registro respecto de los países siguientes: Guinea-Bissau, República Popular Democrática de Corea y Viet Nam (República Democrática del).

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 11-E
24 September 1975
Original : English

PLENARY MEETING

New Zealand

PROPOSALS FOR THE WORK OF THE CONFERENCE

Introduction

1. Specific matters arising out of the First Session
2. Observations on providing MF broadcast coverage

1. Specific matters arising out of the First Session

1.1 Heterodyne interference between existing Region II 10 kHz systems and the proposed Regions I and III 9 kHz system

New Zealand's views on the over-riding need for a common world-wide channelling standard has been stated in the last I.T.U. Document No. 25. Although the last I.T.U. Documents Nos. 34 and 54 explain the historical situation, it is still the New Zealand view that a common world-wide standard will eventually become necessary.

Regarding the footnote No. A008 to the recent I.F.R.B. output*) on the proposed 9 kHz channelling, it should be noted that the rechannelling of the New Zealand, Australian and Papua New Guinea stations to avoid Region II heterodyne interference, only takes into account the worst effects.

1.2 NZPO/BCNZ July 1975 sea gain measuring programme

During the First Session of the I.T.U. LF/MF Broadcasting Conference some parties questioned the phenomena of sea gain as given in C.C.I.R. Report, Doc. 6/1083-E Rev.1 (1974). In order to gain a first order practical indication of this effect, simultaneous measurements were taken over a two week period at four sites in the early hours of darkness. The New Zealand sites used were :

*) Circular-letter 324, Appendix 1



<u>Name</u>	<u>Latitude</u>	<u>Longitude</u>
Ohope Beach	37°S 58	177°E 02
Lake Rotoma	38°S 04	176°E 35
Lake Rerewhakaaitu	38°S 18	176°E 30
Lake Taupo	38°S 54	175°E 56

Graphs Nos. 1 to 10 of the mean results obtained along with the corresponding curve given by C.C.I.R. Report Doc. 6/1083-E Rev.1 (1974) are attached (Annex 1). It appears from these that the phenomena of sea gain does occur and approximates the basic shape of the C.C.I.R. curve. It is obvious that extensive measurements over a long period of time would be needed before refinements to the C.C.I.R. curve could be justified.

1.3 Disparity between methods of MF field strength prediction as laid down by the First Session

During recent discussions between Australia, New Zealand and Papua New Guinea the disparity of two of the methods of prediction of fields as laid out in the report at the First Session of the Conference, i.e. Australia - New Zealand formulae (Equation 13) and the Asian Equation for areas north of 11°S were discussed and the following table given.

From	To	N.Z. - Australia Equation (dBu)	Asian Equation North of 11° South (dBu)	Diff. (dB)
Rabaul PNG	Auckland NZL	18	14	4
	Perth AUS	14	12	2
	Hobart AUS	18	14	4
	Brisbane AUS	32	22	10
Lae PNG	Auckland NZL	17	13	4
	Perth AUS	16	13	3
	Hobart AUS	19	15	4
	Brisbane AUS	32	24	8
Wewak PNG	Auckland NZL	17	12	5
	Perth AUS	17	13	4
	Hobart AUS	18	14	4
	Brisbane AUS	31	21	10

The above fields are based on a base power of 1 kW and a short aerial. It is probable that in many cases problems will occur in areas where interference sources lie either side of 11° S and therefore it would be desirable to have a unified approach to field prediction.

2. Observations on providing MF broadcast coverage

2.1 Comments on conventional MF coverage systems

2.1.1 MF systems using the same power night and day do not make optimum use of the spectrum.

2.1.2 While extensions to MF services may be possible during day-time, operation of these services at night will increase interference.

2.1.3 In some parts of the world it may be possible to set aside portions of the MF band exclusively for separate low and medium power operation. This should provide these stations with very much lower minimum usable field-strength requirements.

2.2 Comments on separately planned day-time only systems

2.2.1 Existing super power and high power stations can be retained without causing extensive interference.

2.2.2 Networks of synchronized low power and medium power stations can be provided to give complete national coverage.

2.2.3 Multiple programme coverage for urban areas may possibly be retained and expanded.

2.2.4 Adequate adjacent and co-channel separation is more readily achievable. Well planned day-time systems may be able to provide high quality broadcasting.

2.3 Comments on separately planned night-time only systems

2.3.1 Two coverage techniques using sky wave coverage along with the conventional ground wave coverage technique appear practical at this time.

2.3.2 The first technique is to use a vertical incidence horizontally polarized system that radiates most of its power upwards at angles of greater than 40 degrees to the horizon. The preliminary study of such systems using a 4 element horizontal array of dipoles has shown that a 200 kW station will yield 71 dBu field strength coverage to a radius of about 500 km.

2.3.3 The second technique is the one wave length vertical radiator. If during the day-time the station was to radiate on a conventional half wave mast at say 700 kHz it would have an extensive ground wave coverage. If at night-time it was to change its frequency to 1 400 kHz, the radiator would now be one wave length and most of this energy would be directed upwards as a sky wave. The ground wave component would be severely reduced bringing the fading zone close to the transmitter. This would then allow large areas to be covered by sky wave.

ANNEXE - ANNEX - ANEXO

MESURES BCNZ/NZPO (JUILLET 1975)

BCNZ/NZPO MEASUREMENTS (JULY 1975)

MEDICIONES DE LA POST.OFFICE Y DE LA RADIODIFUSION NEOZELANDESA (JULIO DE 1975)

REGION 2 (U.S.A.)

Figure 1 - Graph 1 - Gráfico 1

Station/Estación KOB, 770 kHz, d = 11.300 km

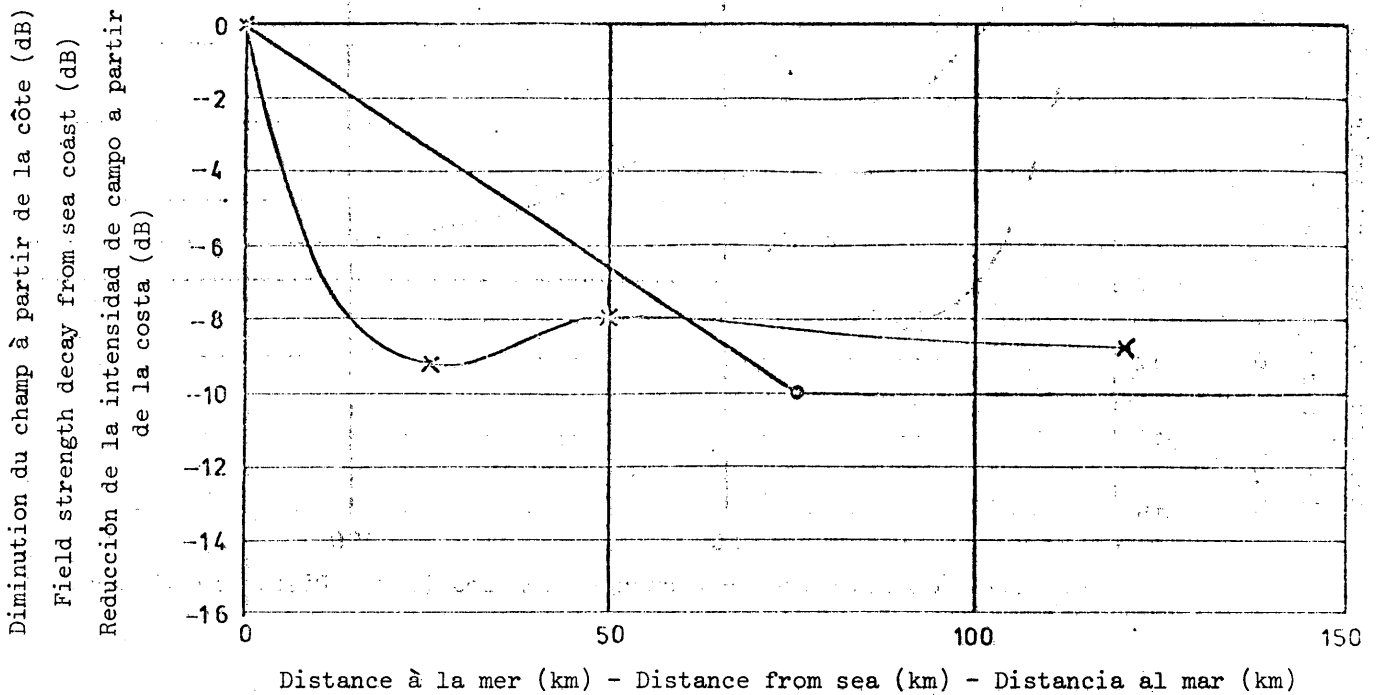
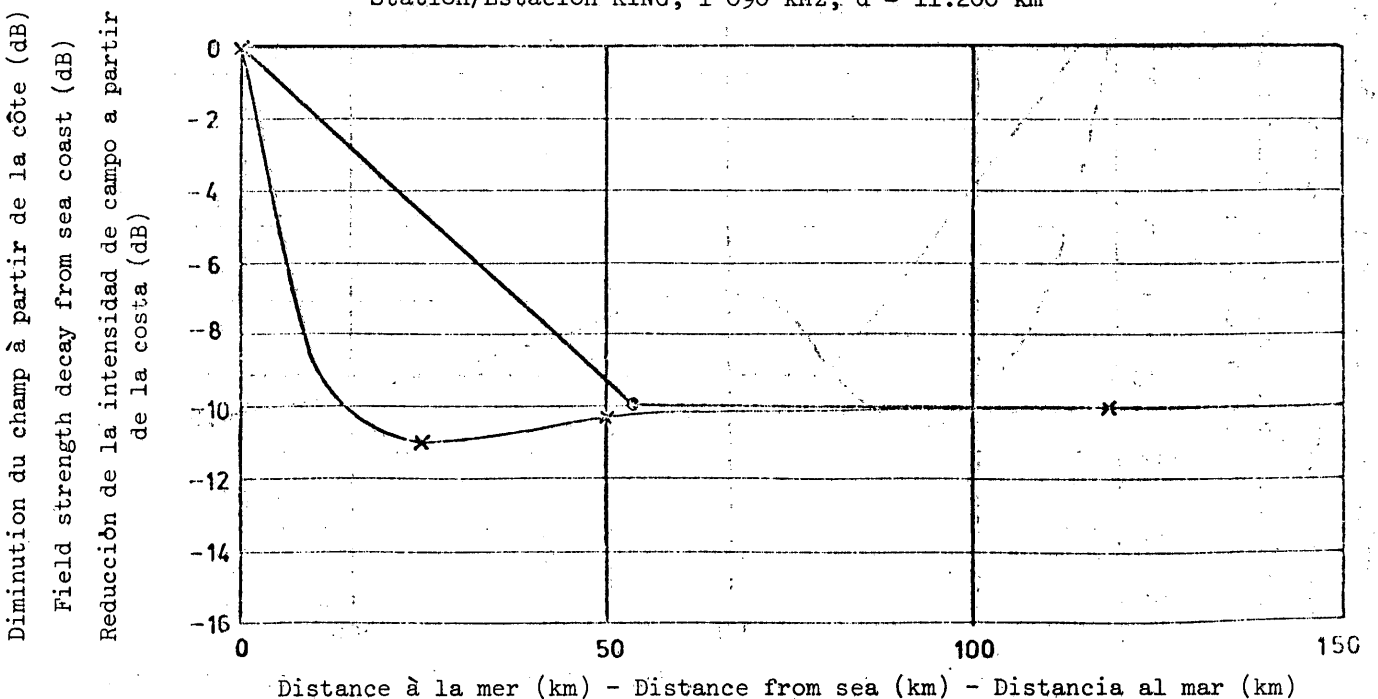


Figure 2 - Graph 2 - Gráfico 2

Station/Estación KING, 1 090 kHz, d = 11.200 km



REGION 2 (U.S.A.)

Figure 3 - Graph 3 - Gráfico 3

Station/Estación KEX, 1 190 kHz, d = 11.000 km

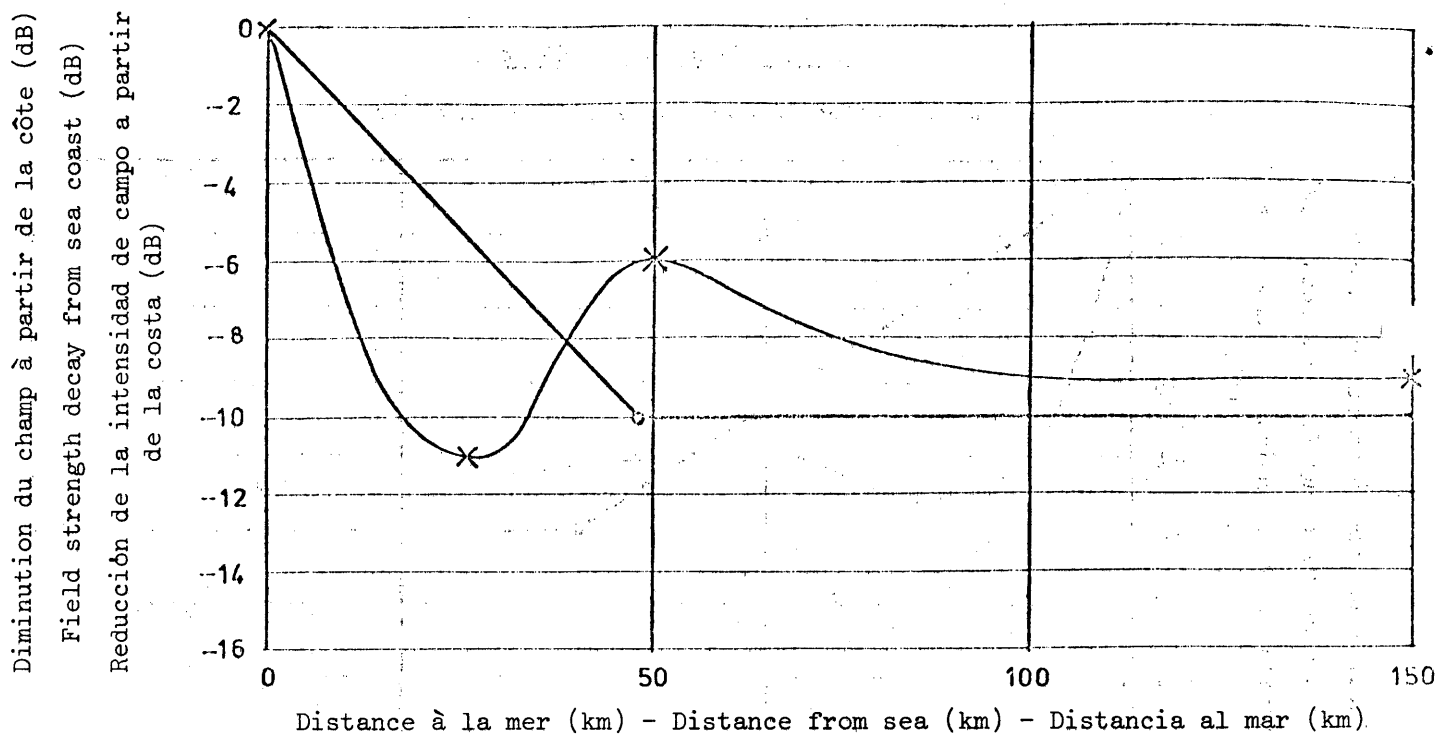
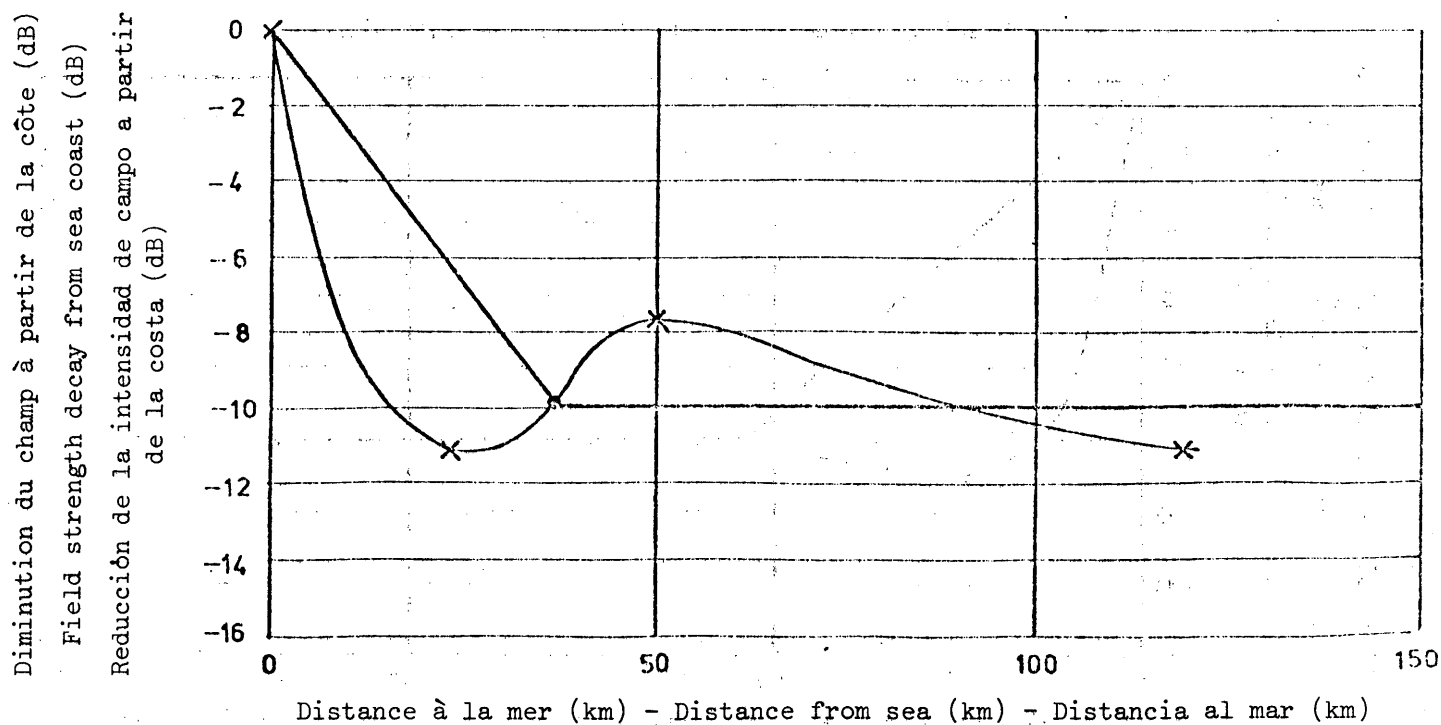


Figure 4 - Graph 4 - Gráfico 4

Station/Estación KFBK, 1 530 kHz, d = 10.500 km

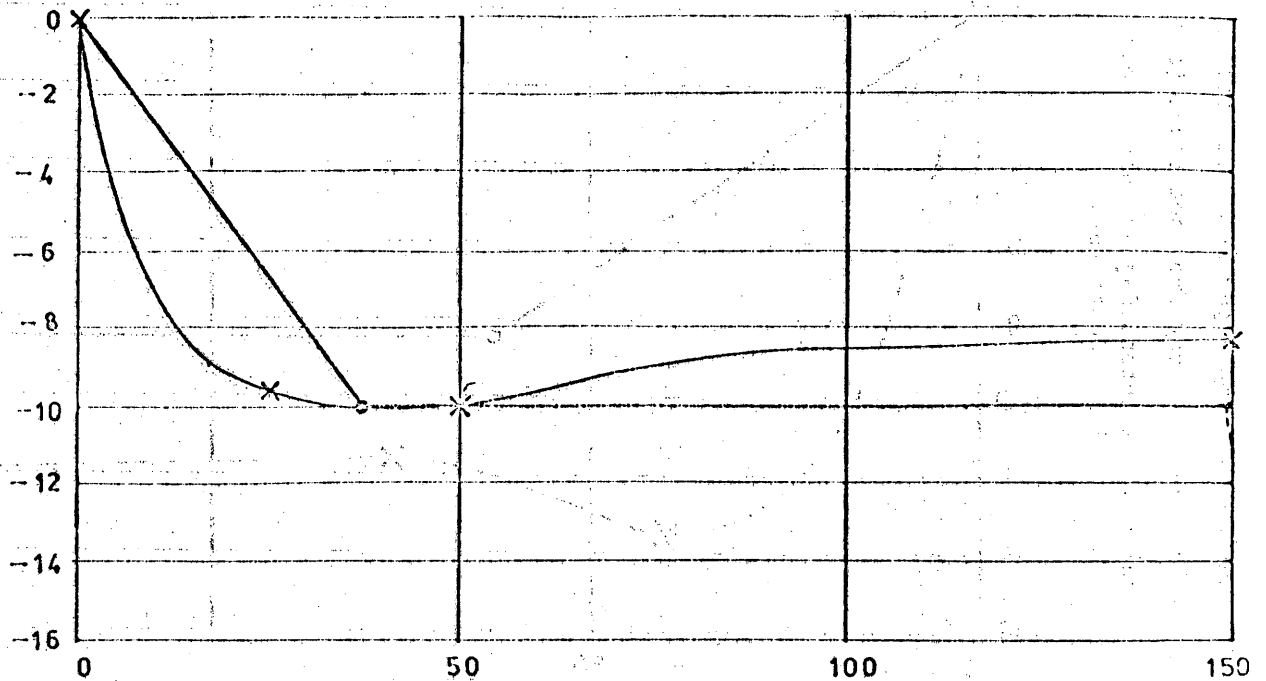


REGION 2 (U.S.A.)

Figure 5 - Graph 5 - Gráfico 5

Station/Estación KDAY, 1 590 kHz, d = 10.350 km

Diminution du champ à partir de la côte (dB)
Field strength decay from sea coast (dB)
Reducción de la intensidad de campo a partir
de la costa (dB)



Distance à la mer (km) - Distance from sea (km) - Distancia al mar (km)

REGION 3 (PACIFIQUE - PACIFIC - PACIFICO)

Figure 6 - Graph 6 - Gráfico 6

Nouméa - Noumea - Numea, 670 kHz, 2.000 km

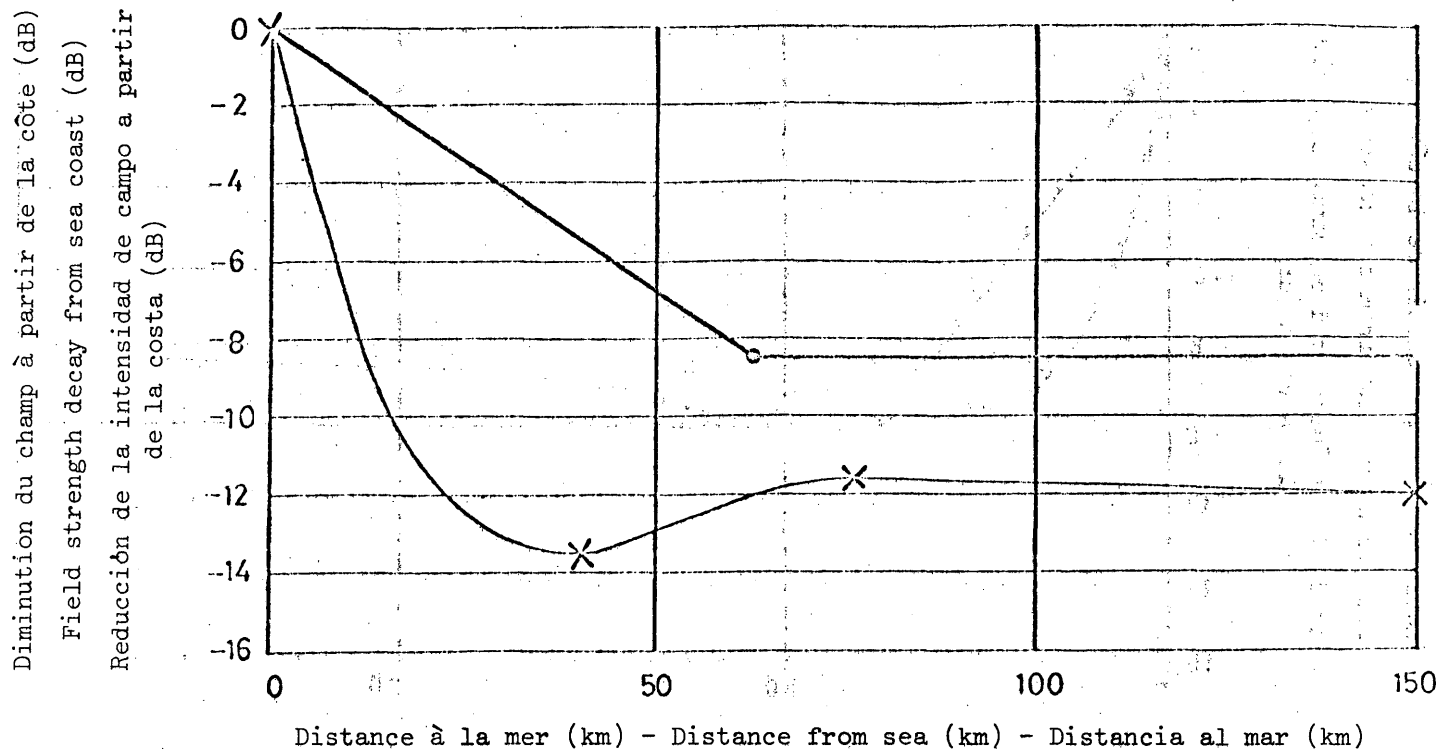
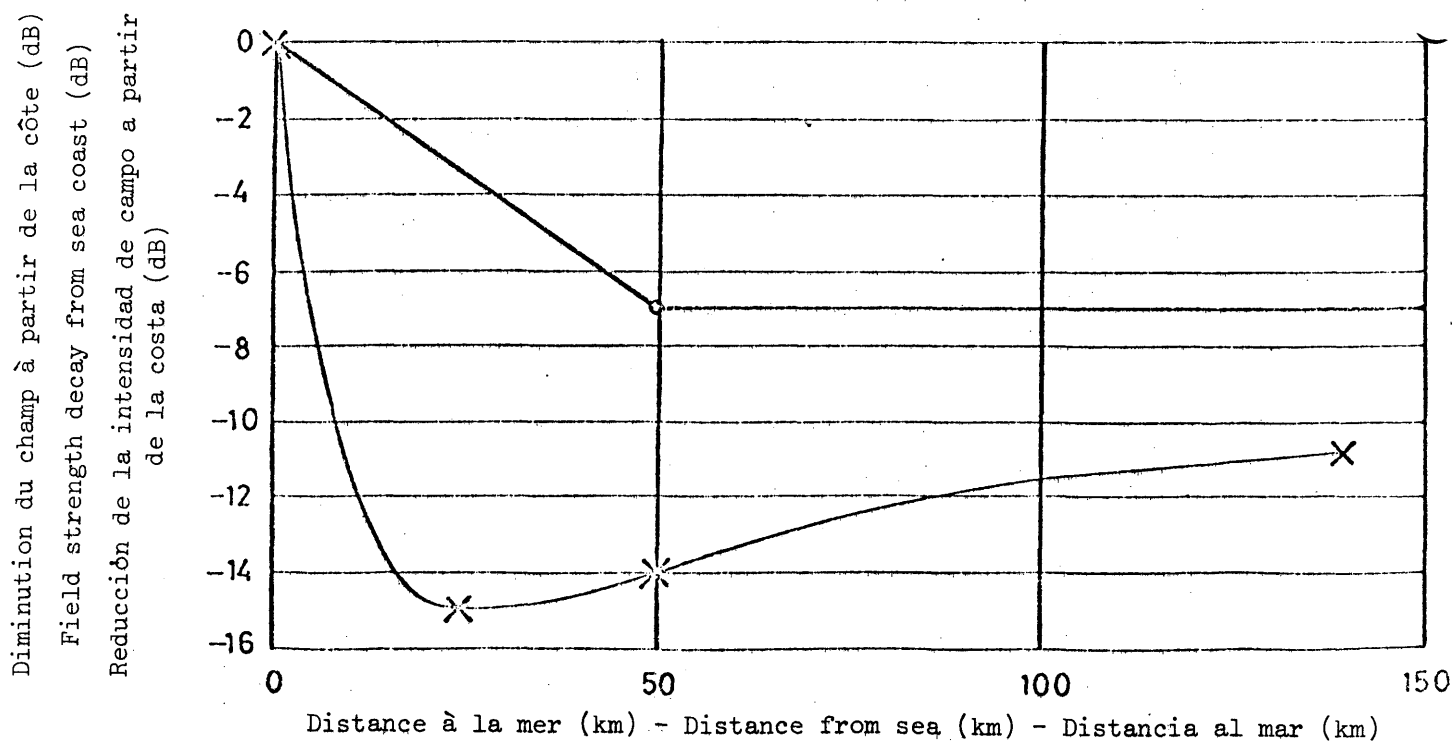


Figure 7 - Graph 7 - Gráfico 7

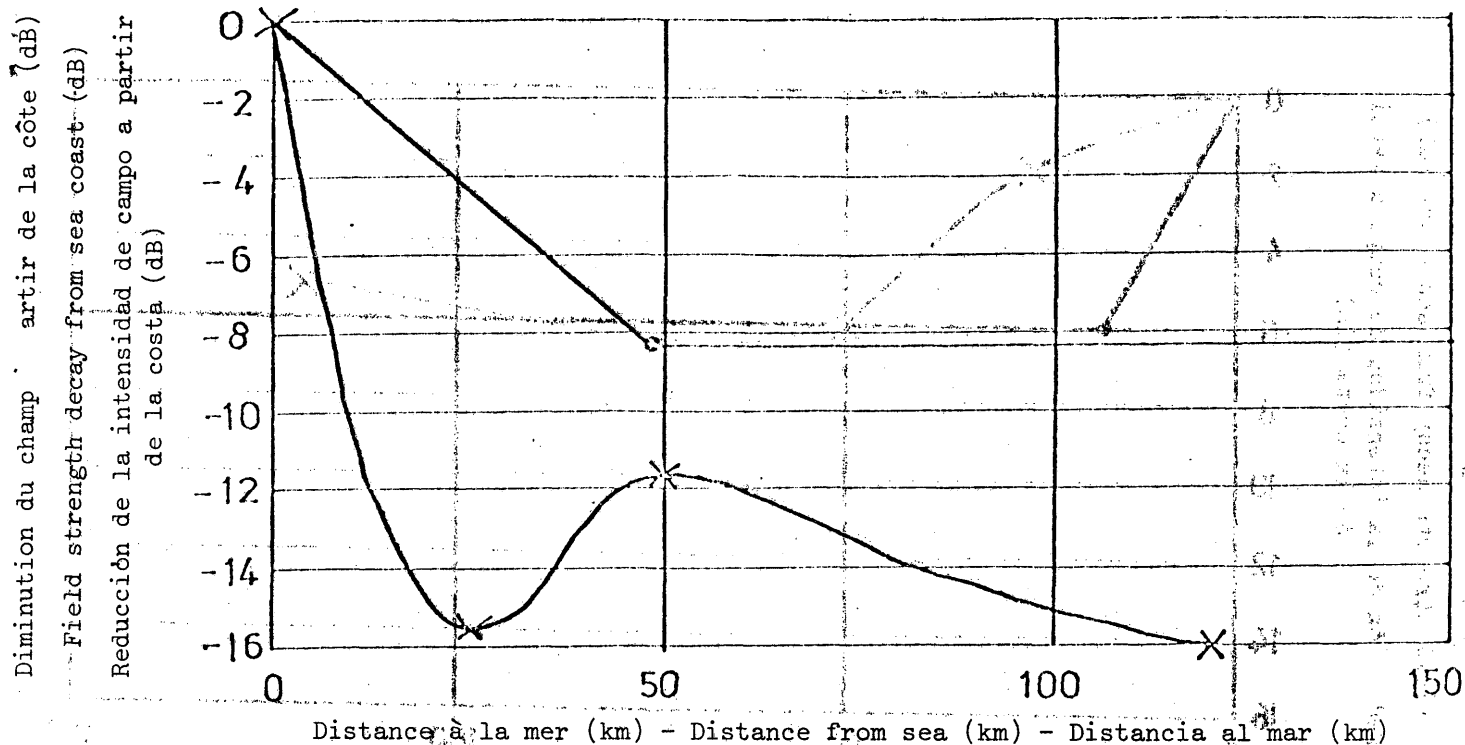
Fidji - Fiji - Fidji, 710 kHz, 2.250 km



REGION 3 (PACIFIQUE - PACIFIC - PACIFICO)

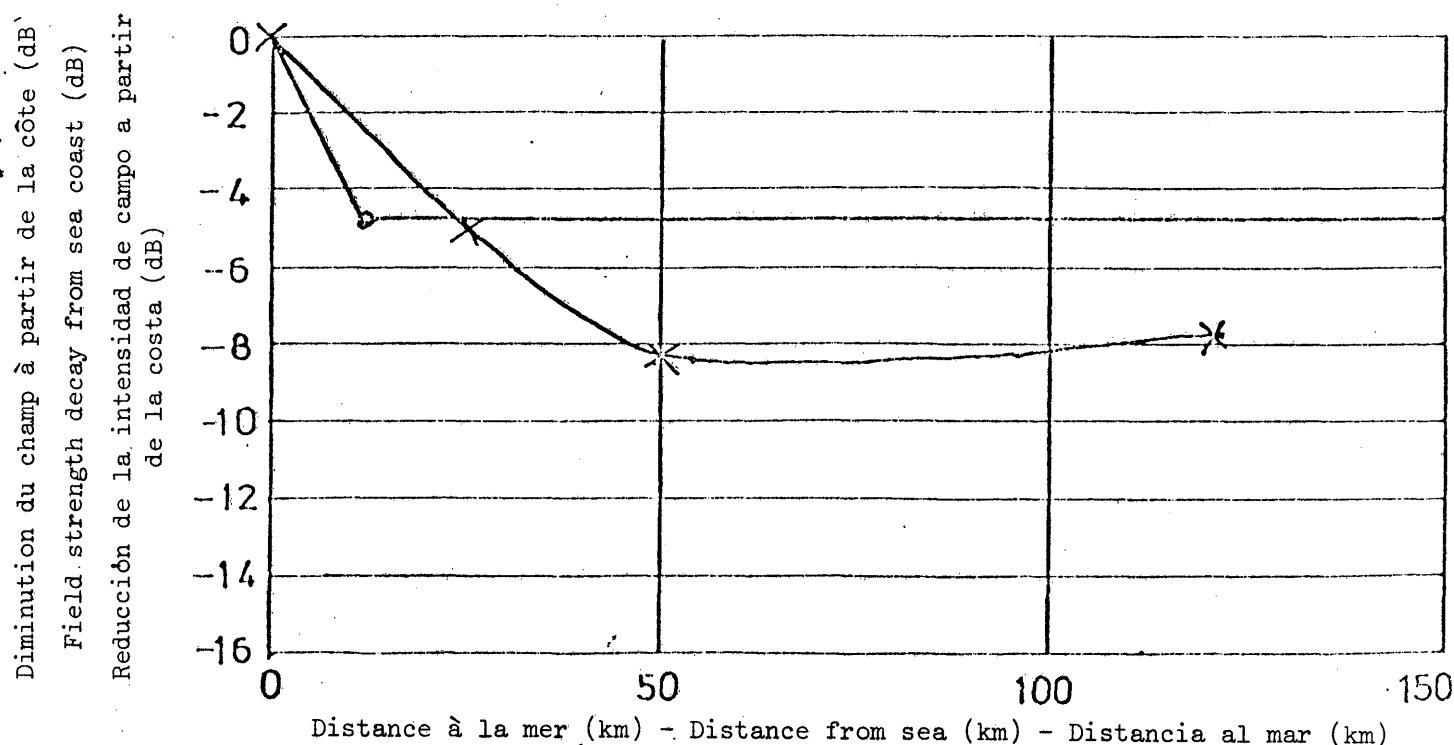
Tonga, 1 020 kHz, 2.050 km

Figure 8 - Graph 8 - Gráfico 8



Samoa Américain - American Samoa - Samoa Estadounidense, 1 120 kHz, 2.900 km

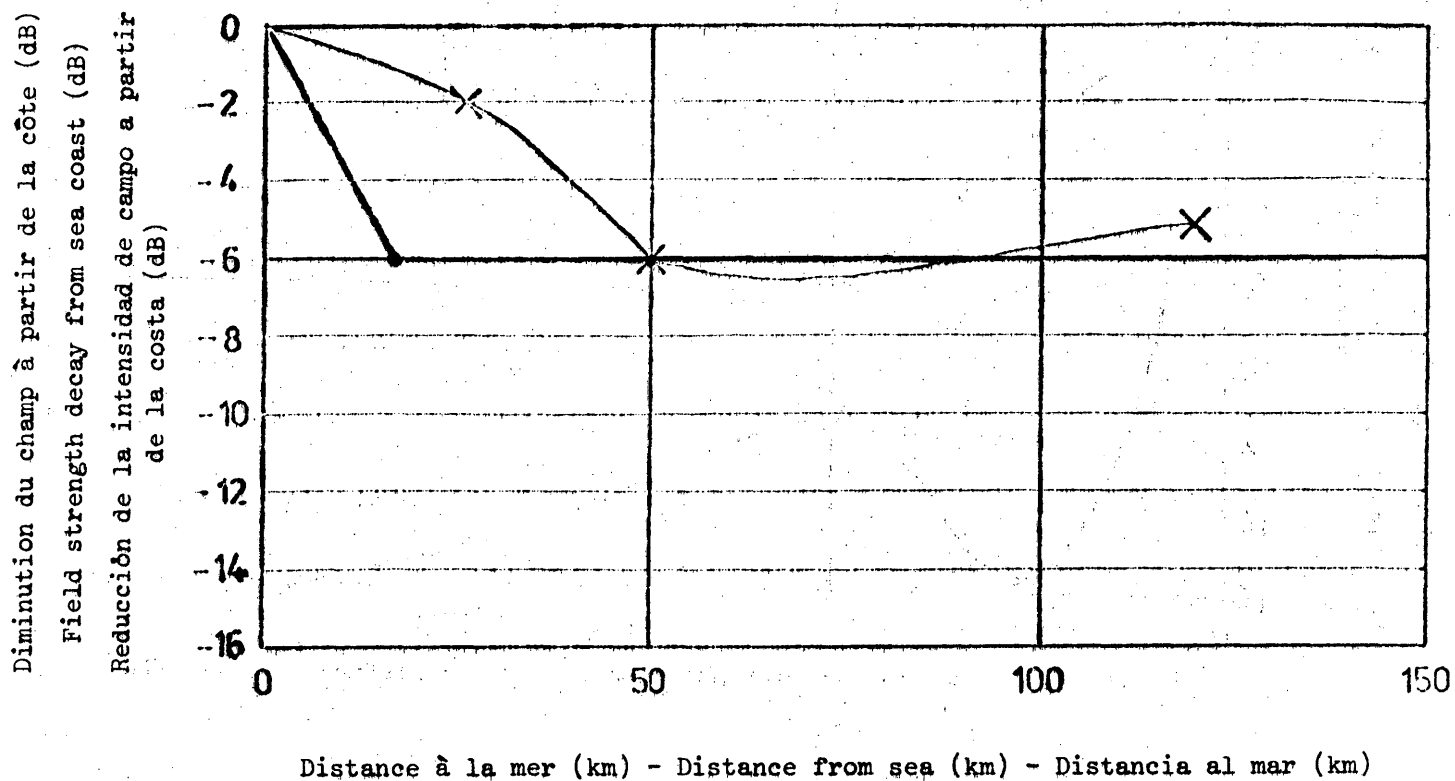
Figure 9 - Graph 9 - Gráfico 9



REGION 3 (PACIFIQUE - PACIFIC - PACIFICO)

Fidji - Fiji - Fidji, 1 320 kHz, 2.350 km

Figure 10 - Graph 10 - Gráfico 10



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 12-E
24 September 1975
Original : English

PLENARY MEETING

New Zealand

PROPOSALS FOR THE WORK OF THE CONFERENCE

Introduction

This document covers a computational method for MF sky wave field strength prediction.

1. It makes use of nomograms and is suited to rapid estimation of individual cases of field strength with a minimum of calculation.

2. Nomograms

2.1 The various methods of sky wave MF field strength prediction decided upon at the First Session are given in Appendices B and E of the report of the First Session. The three methods laid down, Appendix B equations 1 and 13 and Appendix E equation 1 (referred to as B1, B13 and E1) involve the addition of terms derived by relatively complex methods. The following set of nomograms can be used to provide a rapid means of calculating the values of these terms and also for deriving some other path information. Calculation sheets are also given for tabulating and adding the results, one sheet for B1 and B13 and one sheet for E1.

The nomograms are as follows :

1. Great circle distance and angle from longitudes and latitudes.
2. Path azimuths from great circle angle longitudes and latitudes,
3. Magnetic latitude from longitudes and latitudes.
4. Monopole antenna gain from frequency and electrical height.
5. Excess polarization coupling loss from magnetic bearing and dip.
6. Basic field strength for equation B1.
7. Basic field strength for equation B13.



8. Basic field strength for equation E1.
9. Ionospheric absorption for equation B1.
10. Ionospheric absorption for equation B13.
11. Sea gain for equations B1 and B13.

2.2 Use of the nomograms

With the exception of nomograms 1 and 2, start by selecting the variables on the lowest numbered pair of lines and draw a line through these points to intersect the next line. Continue this process for the next pair if necessary i.e. lines ① and ② give a point on ③ lines ③ and ④ give a point on ⑤.

Except in cases where it is clearly not so, when a line does not intersect its target line, the result is zero. For nomograms 1 and 11 there are two versions given for different great circle distances, labelled versions (a) and (b).

When using nomograms 1 and 2 first draw a line from point P1 through line ①, then from point P2 through line ②, so that the lines intersect. The line from ③ to ④ goes through the intersection of these two lines.

Where signs are not marked on lines they need not be taken into consideration. This applies to some angles on 1, 2 and 5.

2.3 Notes on calculations

The nomograms cover the range of great circle distances 1000 km to 12,000 km. Number 4 is derived from Appendix B Figure 1 and its error may be up to 0.5 dB for distances less than 1500 km.

In some cases decisions must be made during the calculations. For equations B1 and B13 if the path length is less than 3000 km the mean magnetic latitude is used in nomograms 9 and 10. If the path is greater than 3000 km values of

$$\frac{\phi_1 + 3\phi_2}{4} \quad \text{and} \quad \frac{3\phi_1 + \phi_2}{4}$$

are used and the mean of the two values of ionospheric absorption used.

If the dip at a terminal is greater than 45° the excess polarization coupling loss may be neglected at that terminal, which means that the path azimuth need not be calculated for that terminal.

Dips and declinations may be found from maps such as those given in Appendix B Figures 8 and 9 and Appendix E Figures 3 and 4 of the report of the 1st session of the conference.

Equations B1 and B13 CALCULATION SHEET

<u>Nomogram</u>	<u>Data</u>		
	Transmitter	Receiver	
	Latitude		
	Longitude		
	Longitude difference		
1	Great circle distance		
1	Great circle angle		
	Transmitter power		
6 or 7	Basic field strength		
3	Magnetic latitude		
	Frequency		
9 or 10	Ionospheric absorption	()	
	Mean Ionospheric absorption		
	Coast distances		
11	Sea gain		
11	Sea gain		
4	Antenna height	Gain	
	Dips (gt. 45°)		
2	Path azimuths (E of N)		
	Declinations (E of N)		
	Magnetic azimuth		
5	Excess polarisation coupling loss(es)		

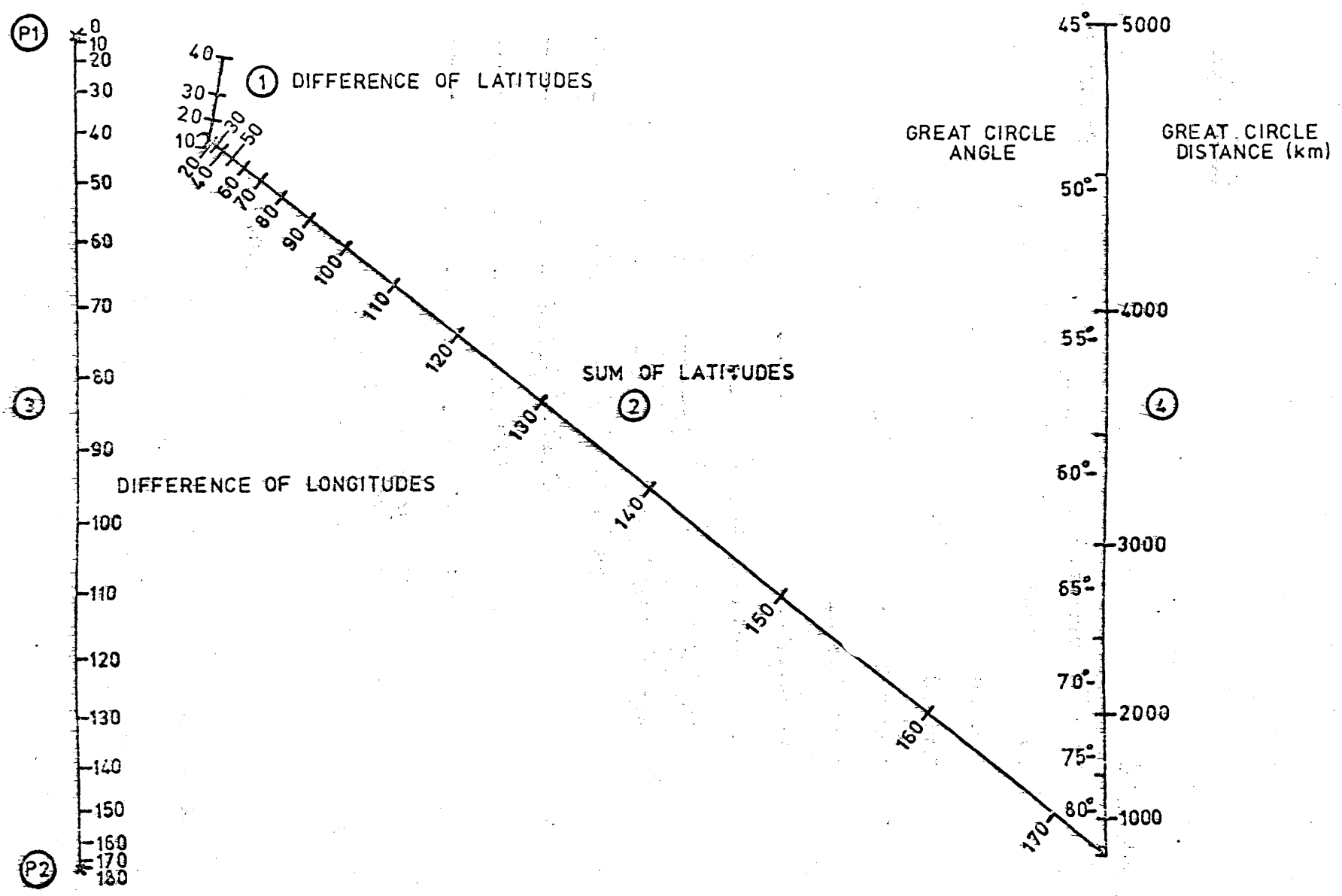
FIELD STRENGTH

Equation E1 CALCULATION SHEETNonogramData

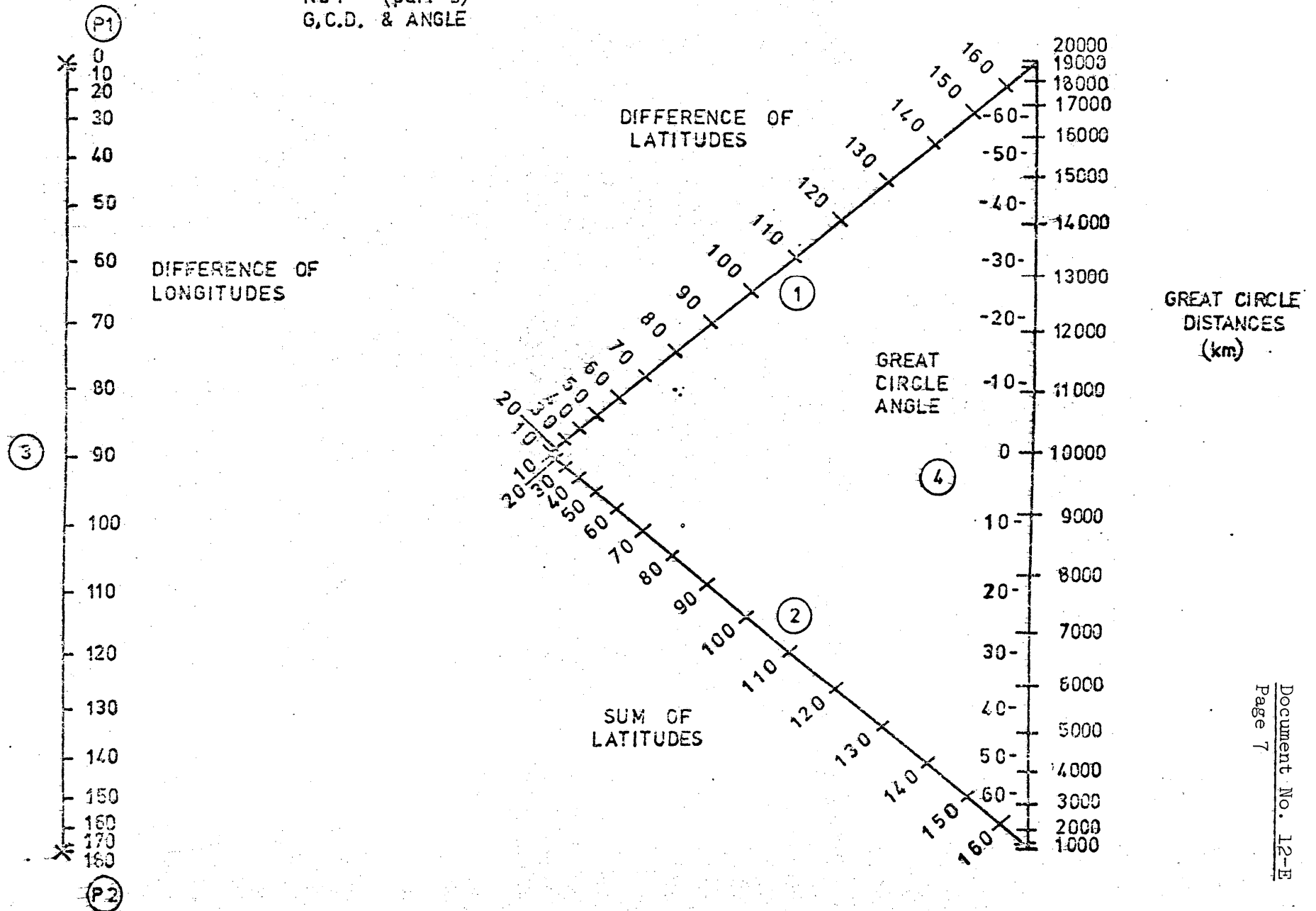
	Transmitter	_____	Receiver	_____
	Latitude	_____		_____
	Longitude	_____		_____
	Longitude Difference	_____		
1	Great circle Distance	_____		
1	Great circle Angle	_____		
	Transmitter power	_____		
8	Basic field strength	_____		
	Frequency	_____		
4	Antenna height	_____	Gain	_____
	Dips (gt. 45°)	_____		_____
2	Path azimuths (E of N)	_____		_____
	Declinations (E of N)	_____		_____
	Magnetic azimuths	_____		_____
	Excess polarisation coupling loss(es)			_____

FIELD STRENGTH

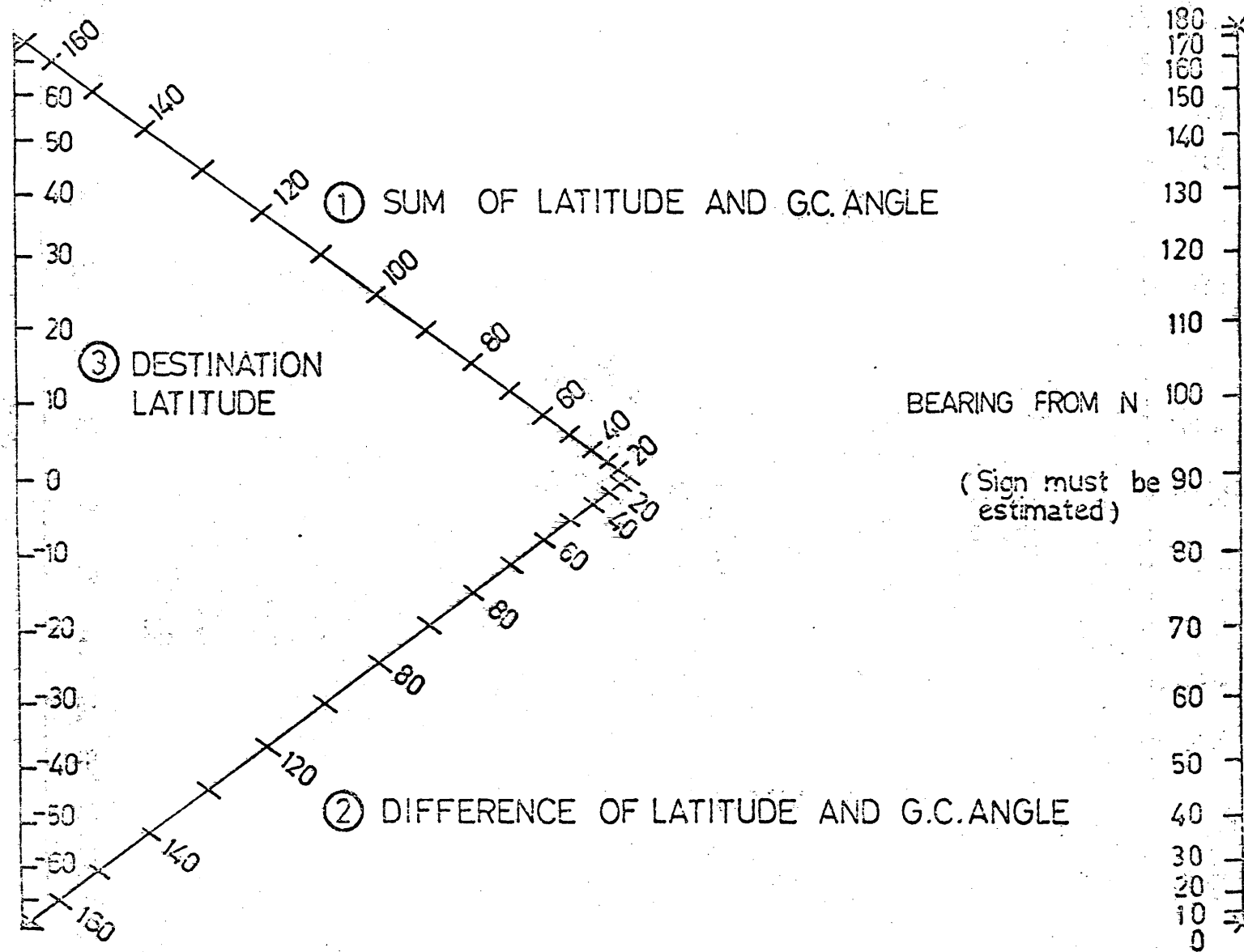
№ 1 (Part a) GREAT CIRCLE DISTANCE AND ANGLE



No1 (part b)
G.C.D. & ANGLE



Nº 2 PATH AZIMUTH

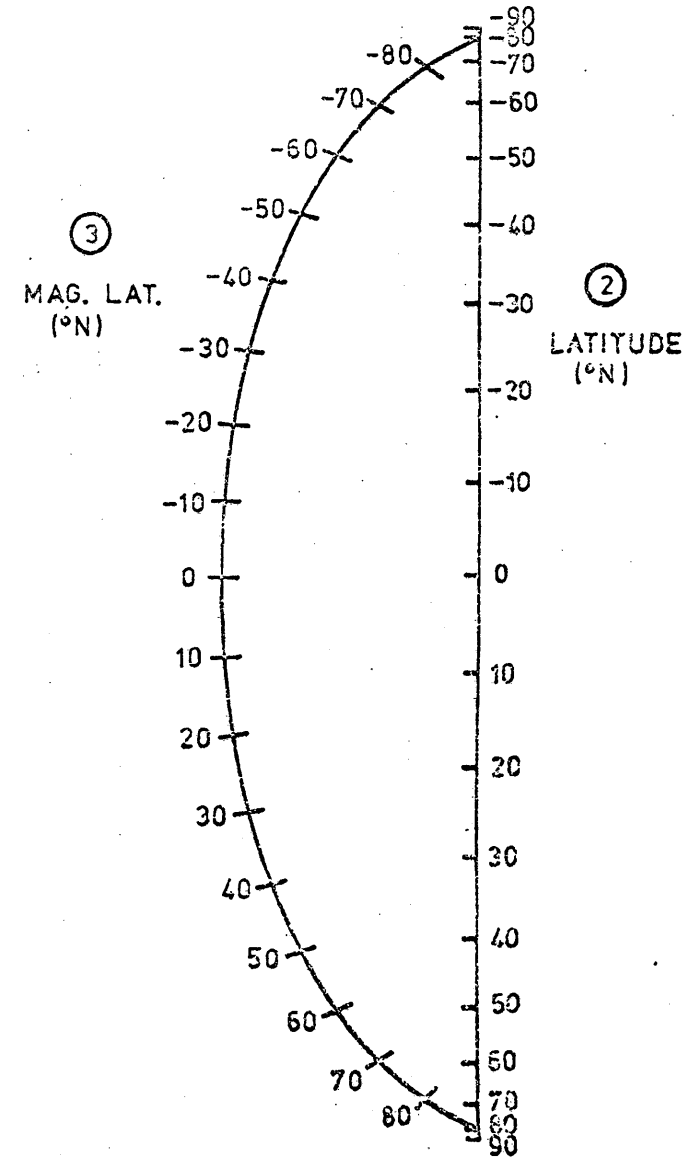
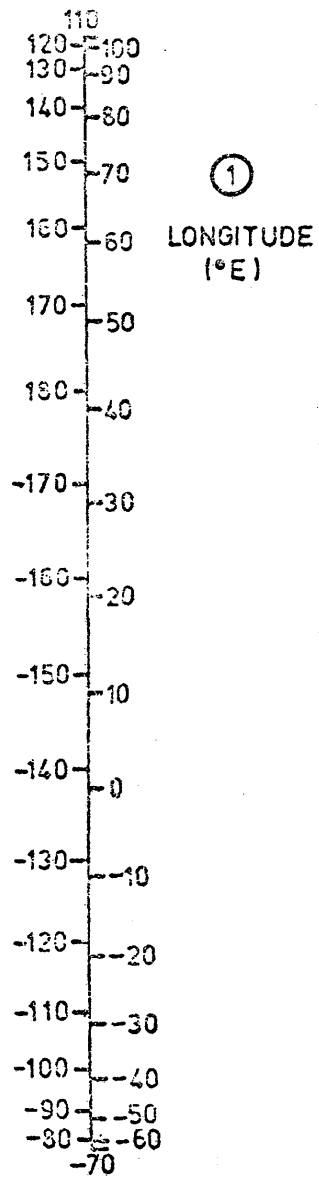


P1

4

P2

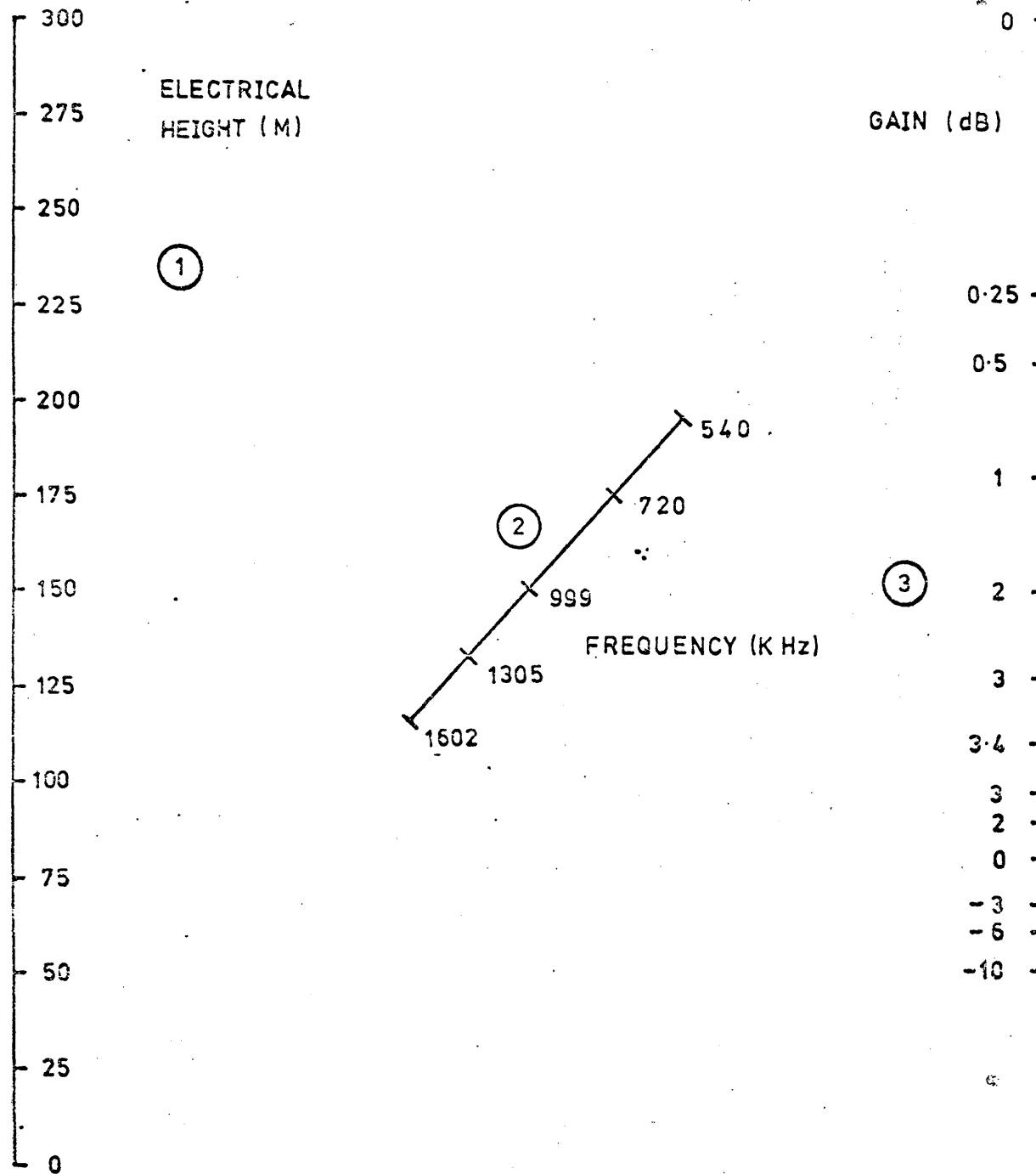
№3 MAGNETIC LATITUDE



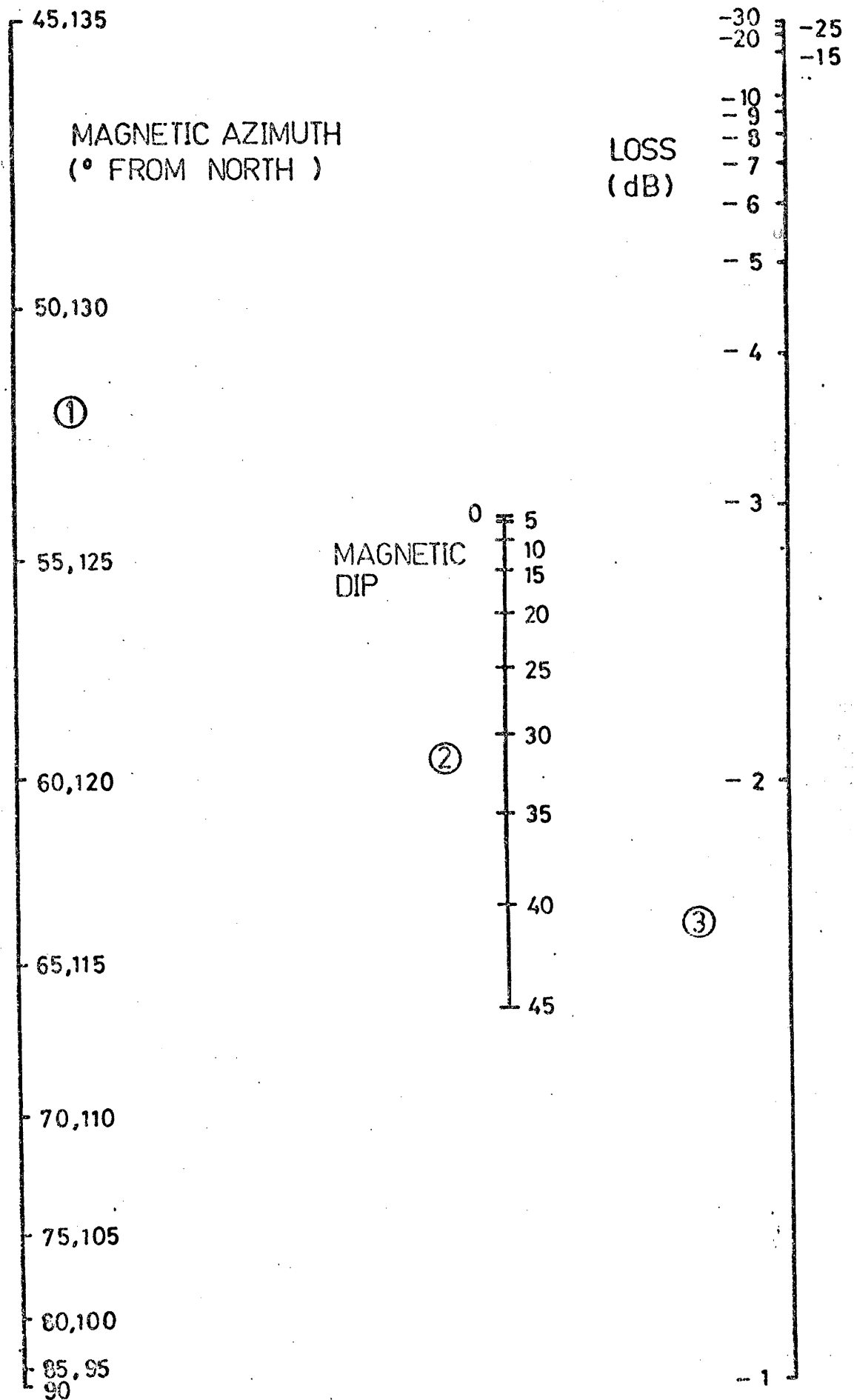
NO. 4

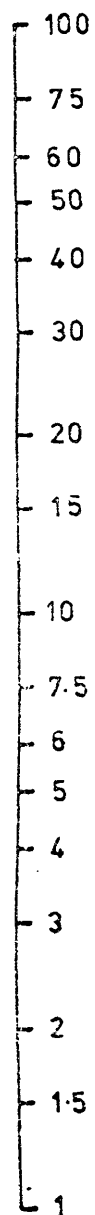
VERTICAL MONOPOLE GAIN

($d \geq 1500$ KM)



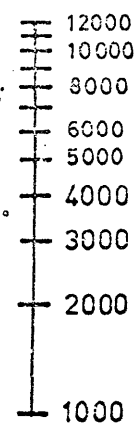
Nº 5 EXCESS POLARISATION COUPLING LOSS





TRANSMITTER
POWER (KW)

GREAT CIRCLE
DISTANCE (KM)

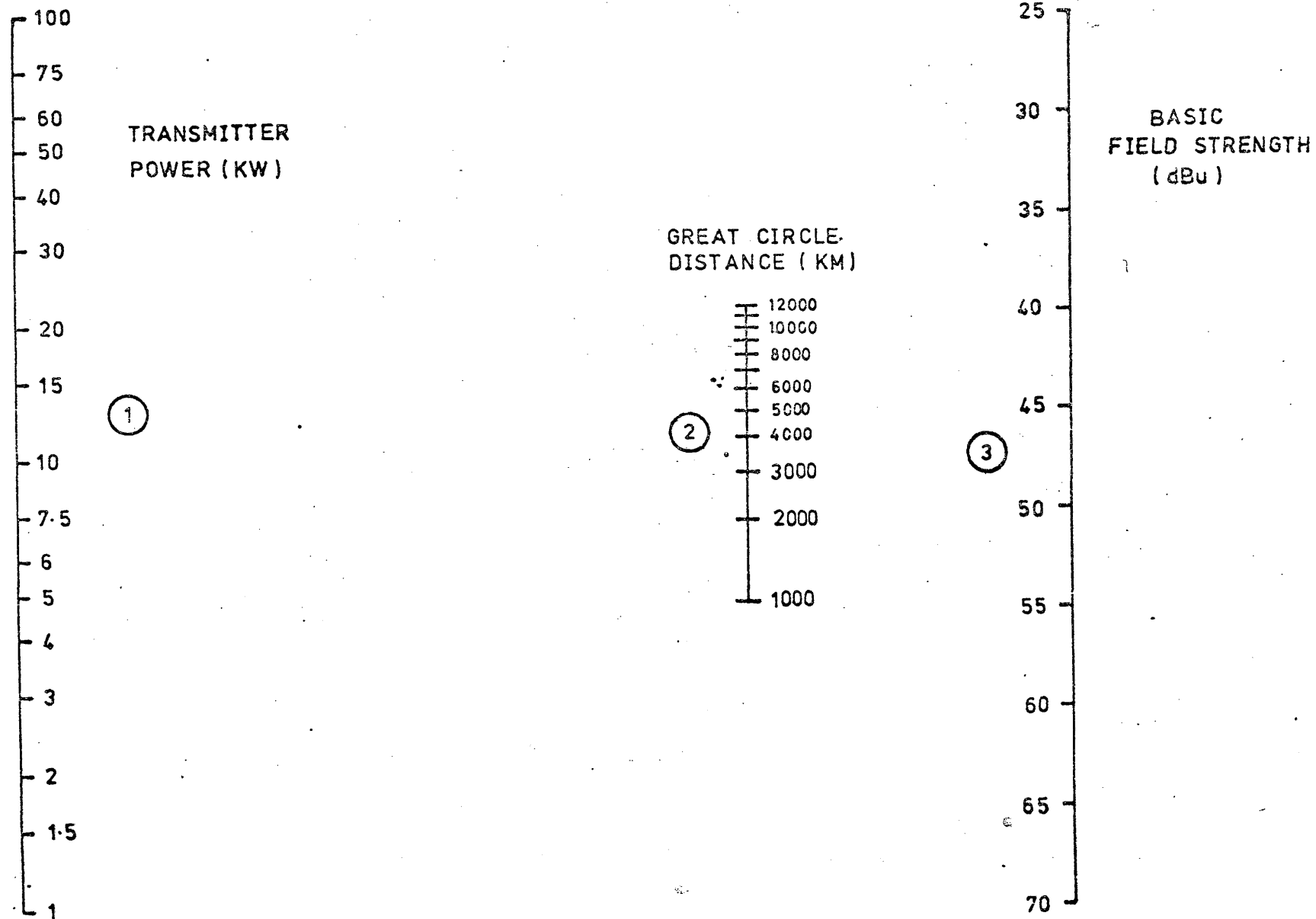


BASIC
FIELD STRENGTH
(dBu)

NO. 7

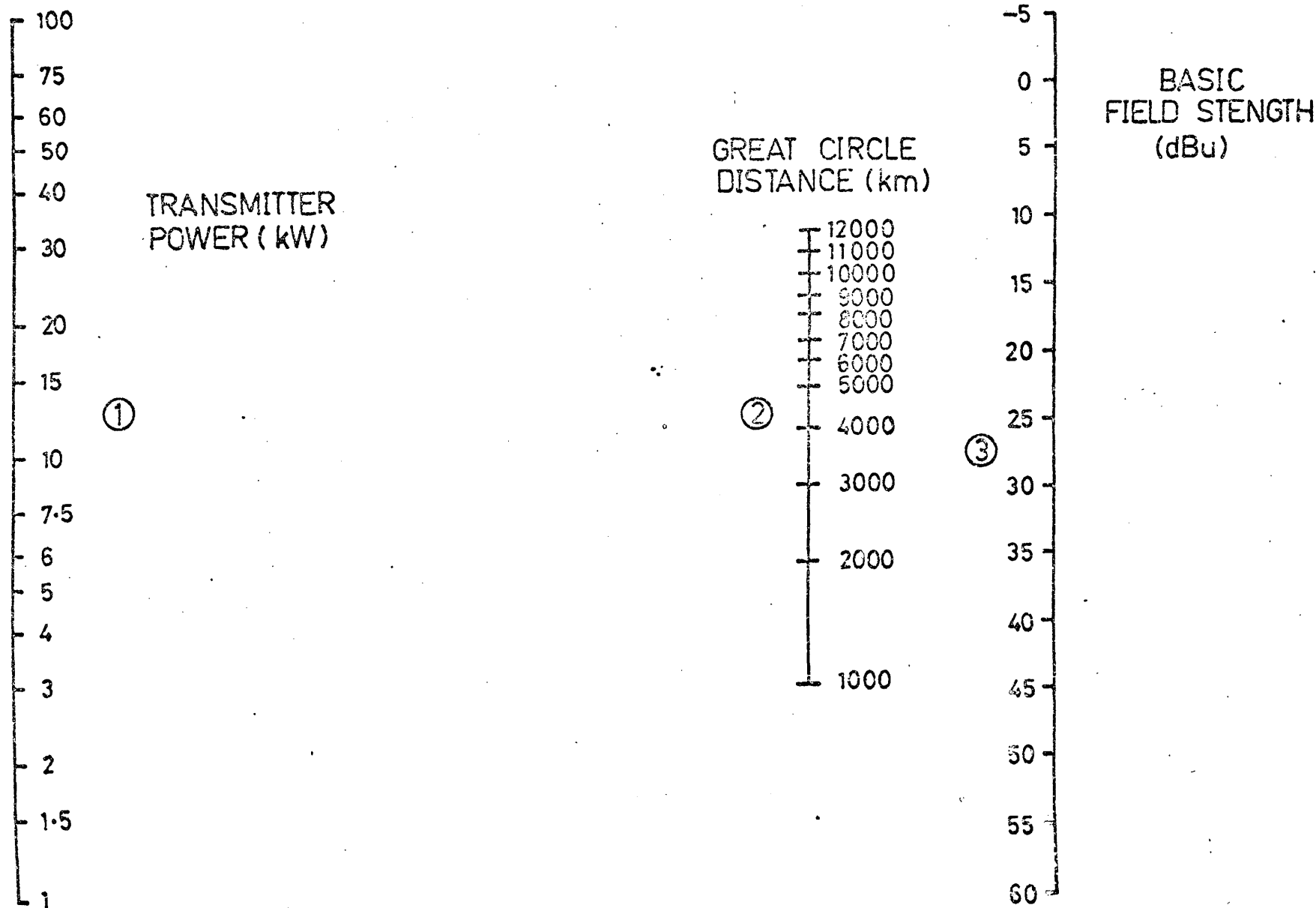
B13

BASIC FIELD STRENGTH



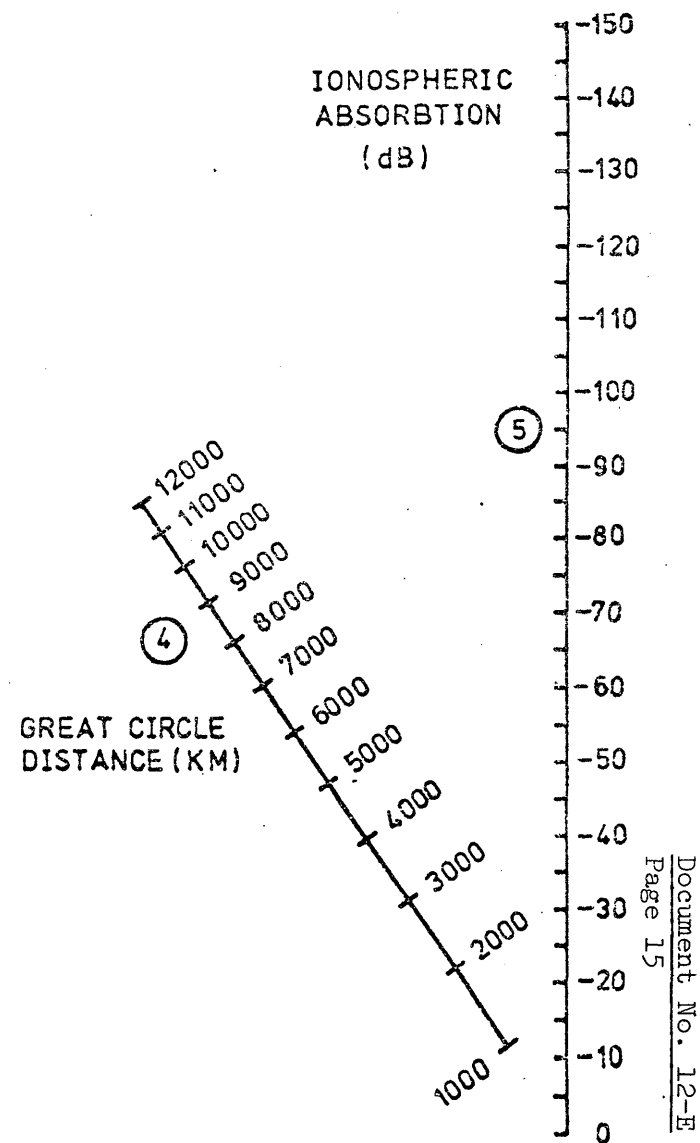
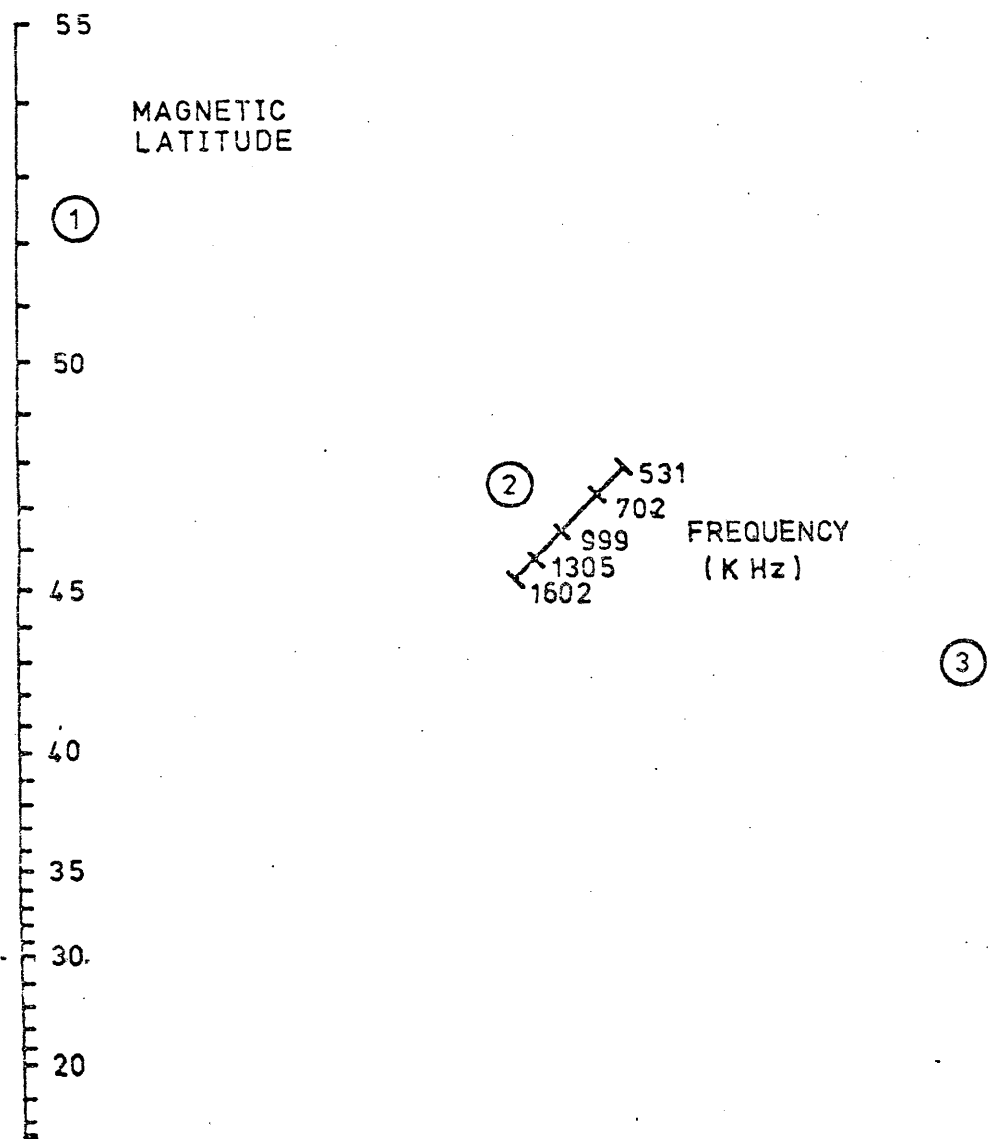
Nº 8

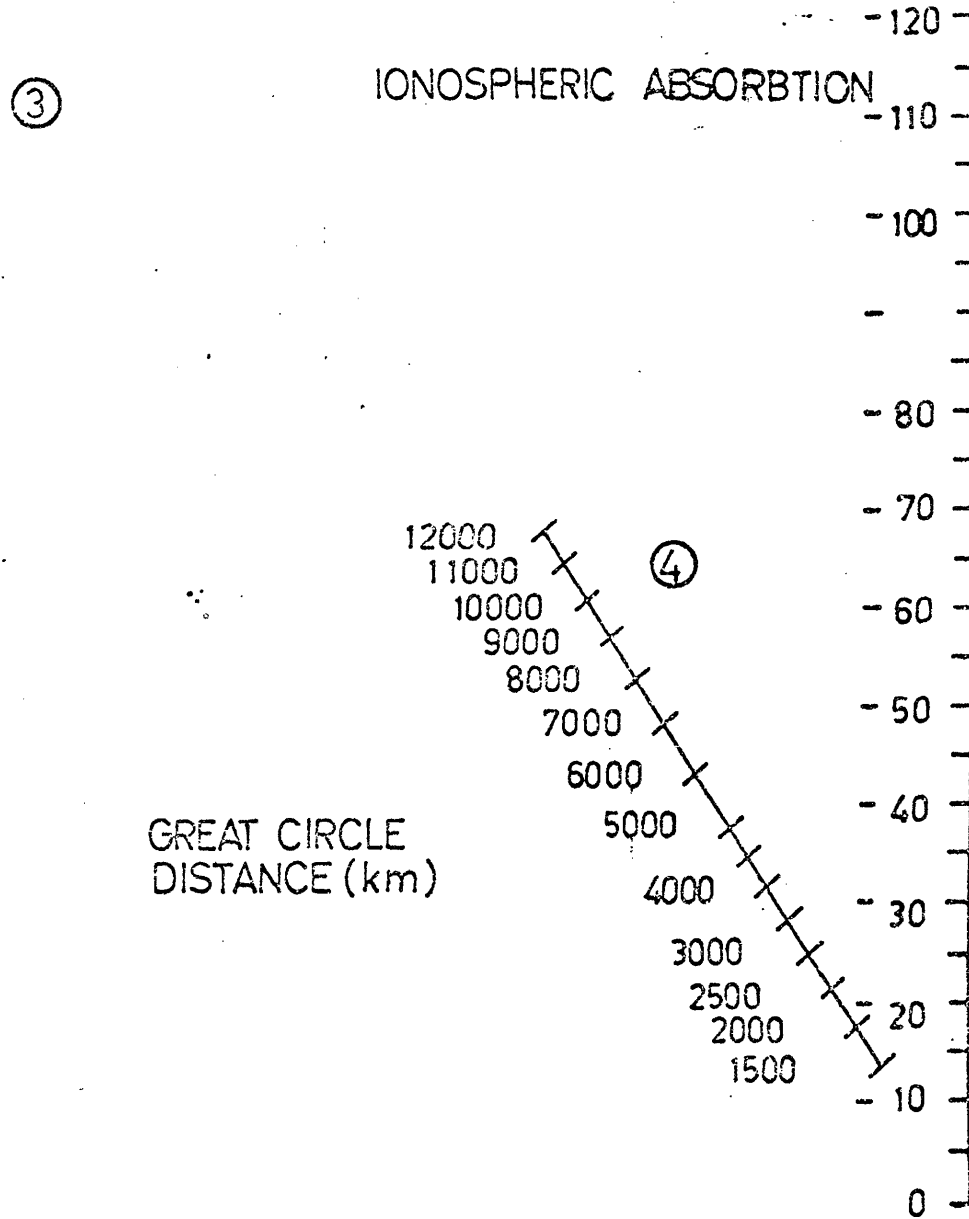
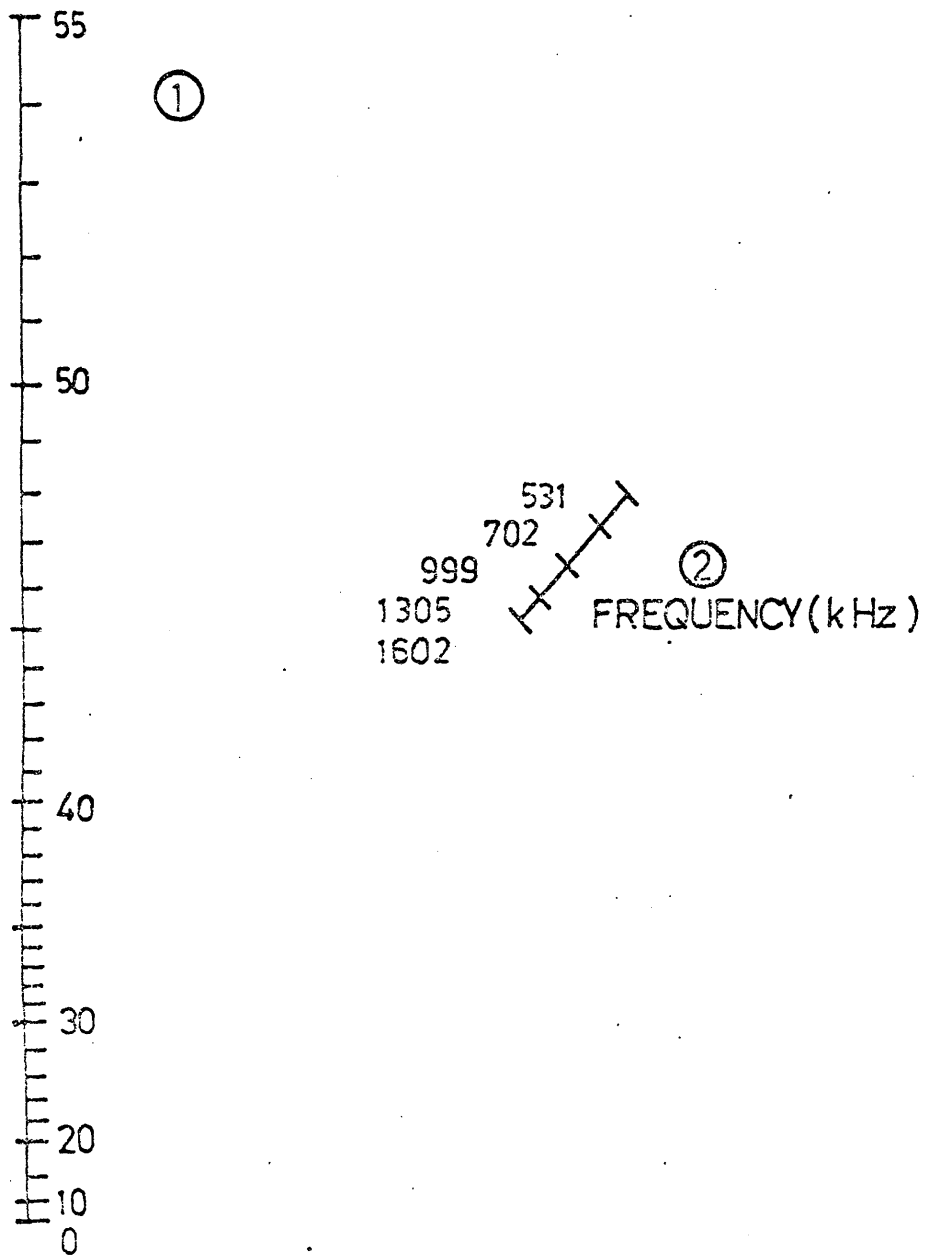
E1 BASIC FIELD STRENGTH



NO. 9

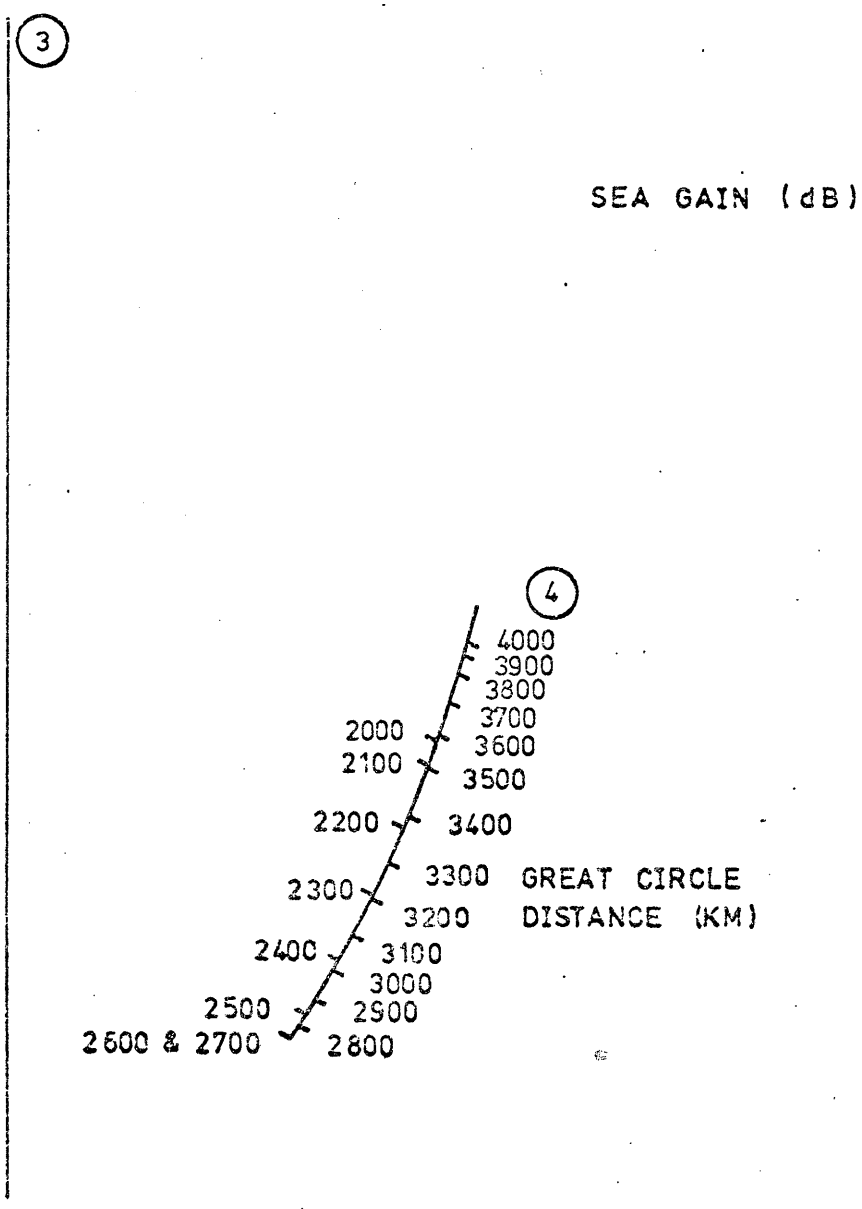
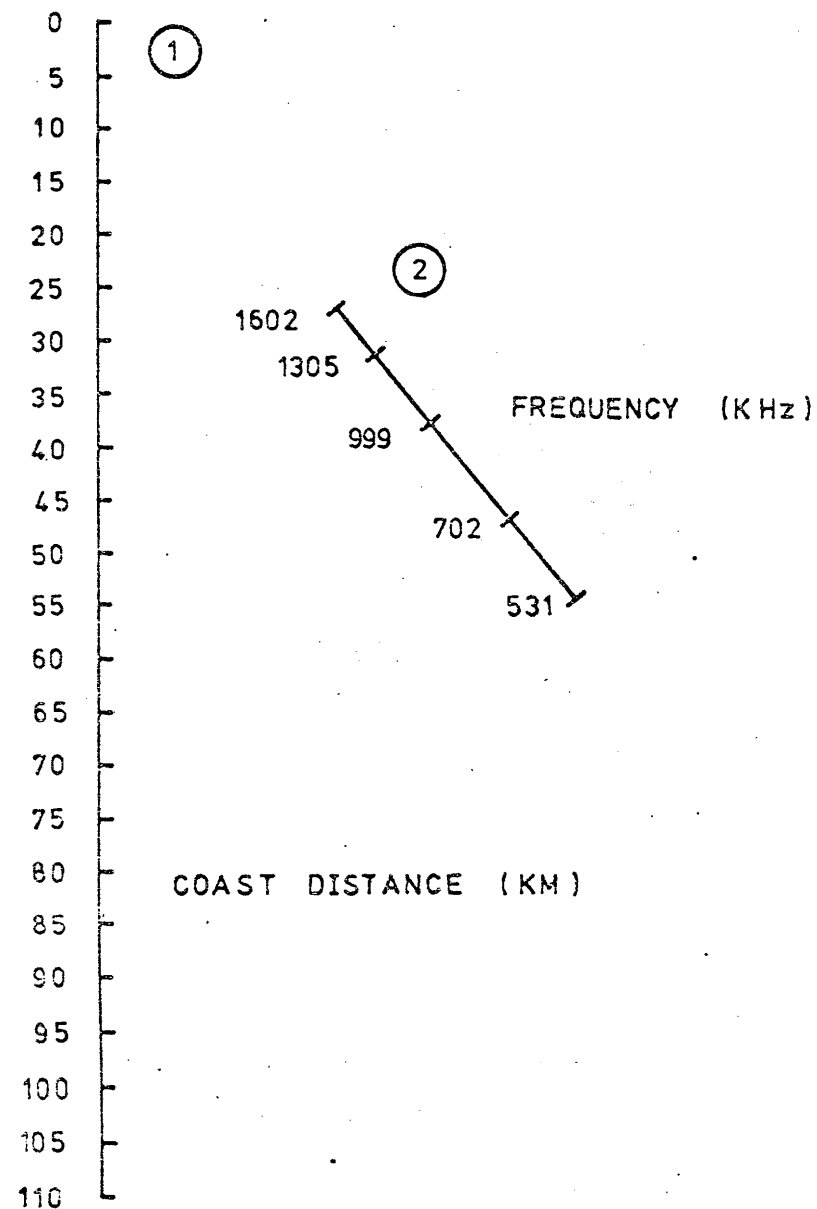
B1 IONOSPHERIC ABSORPTION





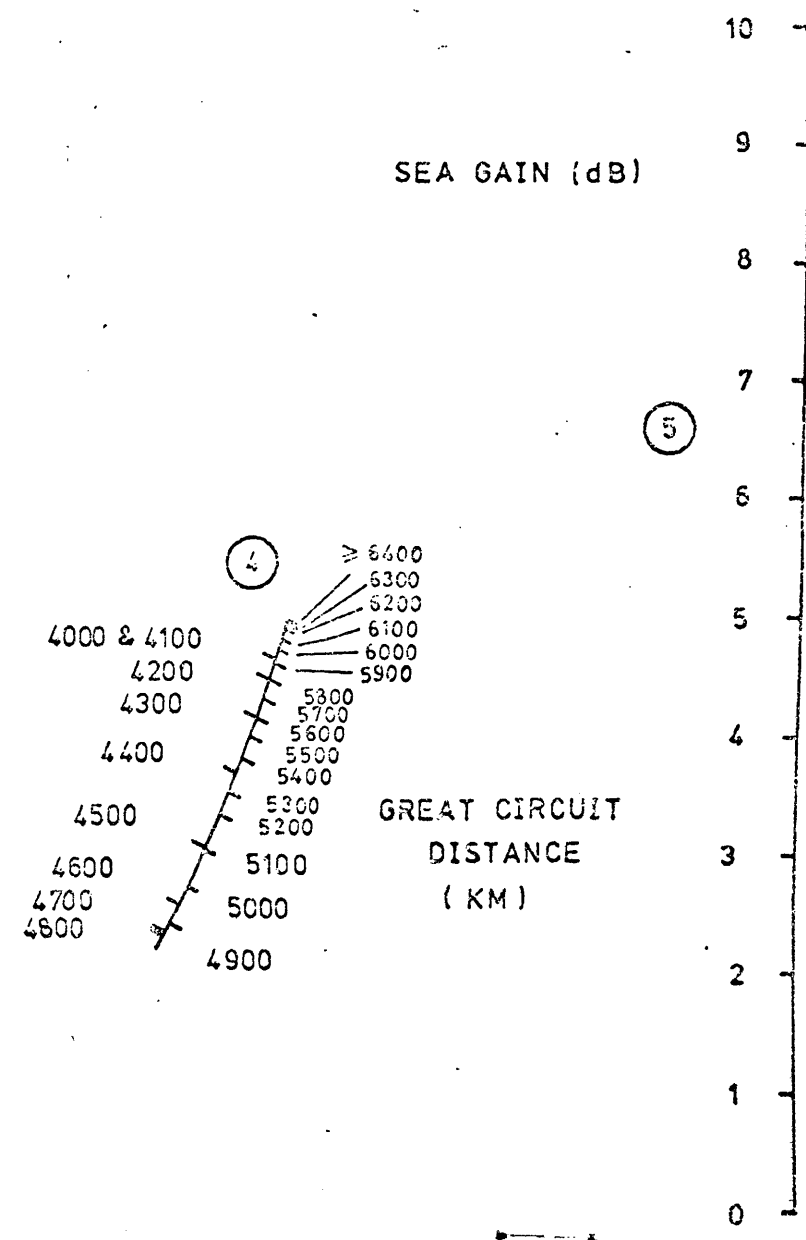
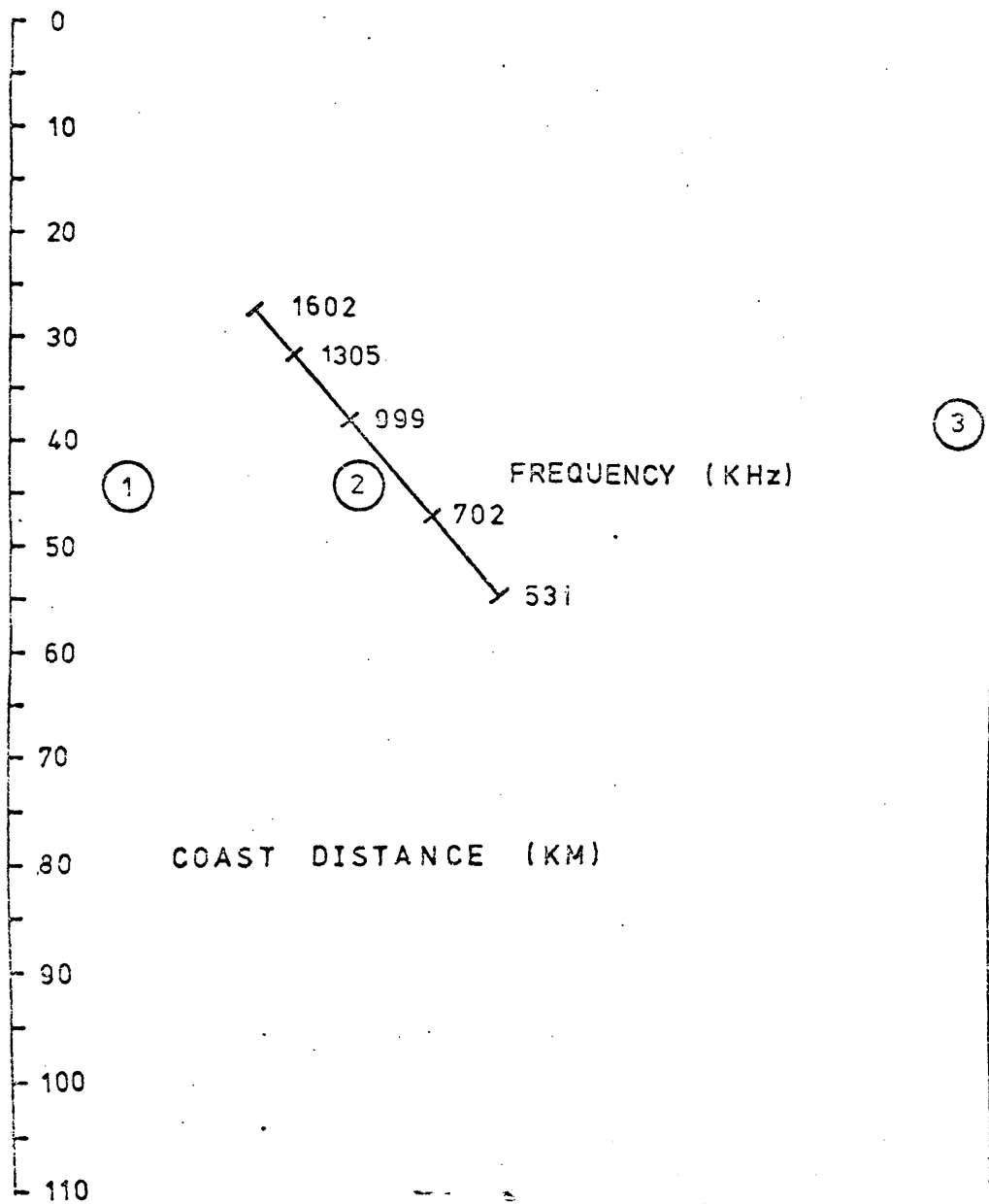
NO. 11 (PART a)

SEA GAIN, $D < 4000$ KM



NO. 11 (PART 5)

SEA GAIN, $D > 4000$ KM



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 13-E

24 September 1975

Original : EnglishPLENARY MEETINGNew Zealand

PROPOSALS FOR THE WORK OF THE CONFERENCE

"SKYWAV" computer programme for MF Sky Wave fieldStrength prediction

The "SKYWAV" programme implements the formulae detailed in the "Report of the First Session, Regional Administrative LF/MF Broadcasting Conference (Geneva 1974)". These formulae calculate the received field strength of sky wave propagated radio waves in Broadcasting Bands 5 and 6 in Regions I and III. The calculation is fully automatic requiring only the data relating to the transmitting and receiving site.

The flow graph of Figure 1 shows the programme operation. Each site is described by three data cards. The first card gives the location, base power, frequency and aerial gain. The second and third cards contain nearest sea distances along every 10° radial. The data card deck consists of three cards for the transmitter site followed by three cards for the receiver site, repeated for each circuit required. The receiving site cards have the same format as the transmitting site cards; the programme ignores the power, frequency and aerial gain entries. This allows the site cards to be interchanged. The field strength for each path is calculated and printed, the process repeating itself until the data is exhausted. A typical application of SKYWAV is shown in Figure 2.

At short distances (≤ 300 km) the C.C.I.R. formula 4 is used (Reference 2). At greater distances a choice is made between C.C.I.R. formulae 1 and 13, and the Cairo North/South curve, by identifying the zone in which the path mid-point falls. Where a zone boundary is not simply represented, the automatic choice fails. In this case the mid-point co-ordinates are printed with a warning message, and the calculation is performed using the two (or more) relevant formulae. This allows the correct result to be chosen later without interrupting the run.



The magnetic dip and declination at the transmitting and receiving sites is calculated from a spherical harmonic model derived from 360,000 magnetic measurements (Reference 3). The time corrections included in the model should maintain the accuracy for about 30 years for the epoch date 1970. This allows calculation of the "Excess polarization coupling loss".

The effect of Sea Gain is calculated by quantizing the graph given (Reference 1, Appendix B, Figure 2) and interpolating with the third order Newton forward difference formula. The Cairo North/South curve (Reference 1, Appendix E, Figure 1) is approximated by a fifth order polynomial. The expected error of these curve fittings is 0.1 dB. Figures 3 and 4, show the relevant subroutines from SKYWAV to perform these curve fittings.

Some 20,000 paths have already been analyzed by this programme for the New Zealand, Australia, Papua New Guinea and South Pacific Area.

SKYWAV was written by engineering staff of the Broadcasting Council of New Zealand and run on the Burroughs B3500 computer operated by the Council. The programme contains about 500 FORTRAN cards and required 50K bytes of core storage. Every effort has been made to follow the ASA standard FORTRAN.

BIBLIOGRAPHY

1. I.T.U. "Report of the First Session (Geneva 1974)", Regional Administrative LF/MF Broadcasting Conference.

Formula 1 Appendix B, page 46.

Formula 13 Appendix B, page 49.

Cairo Formula Appendix E, page 68.

2. C.C.I.R. "Methods for Predicting Sky-Wave Field Strengths of Frequencies between 150 kHz and 1 600 kHz."

C.C.I.R. Study Group 6; Document No. 6/1083-E (Rev.1).

Formula 4, page 5.

3. Hurwitz L., Fabiano E.B., Peddie N.W.
"A model of the Geomagnetic Field for 1970" Journal of Geophysical Research Volume 79, No. 11, 10 April 1974, pages 1716 to 1718.

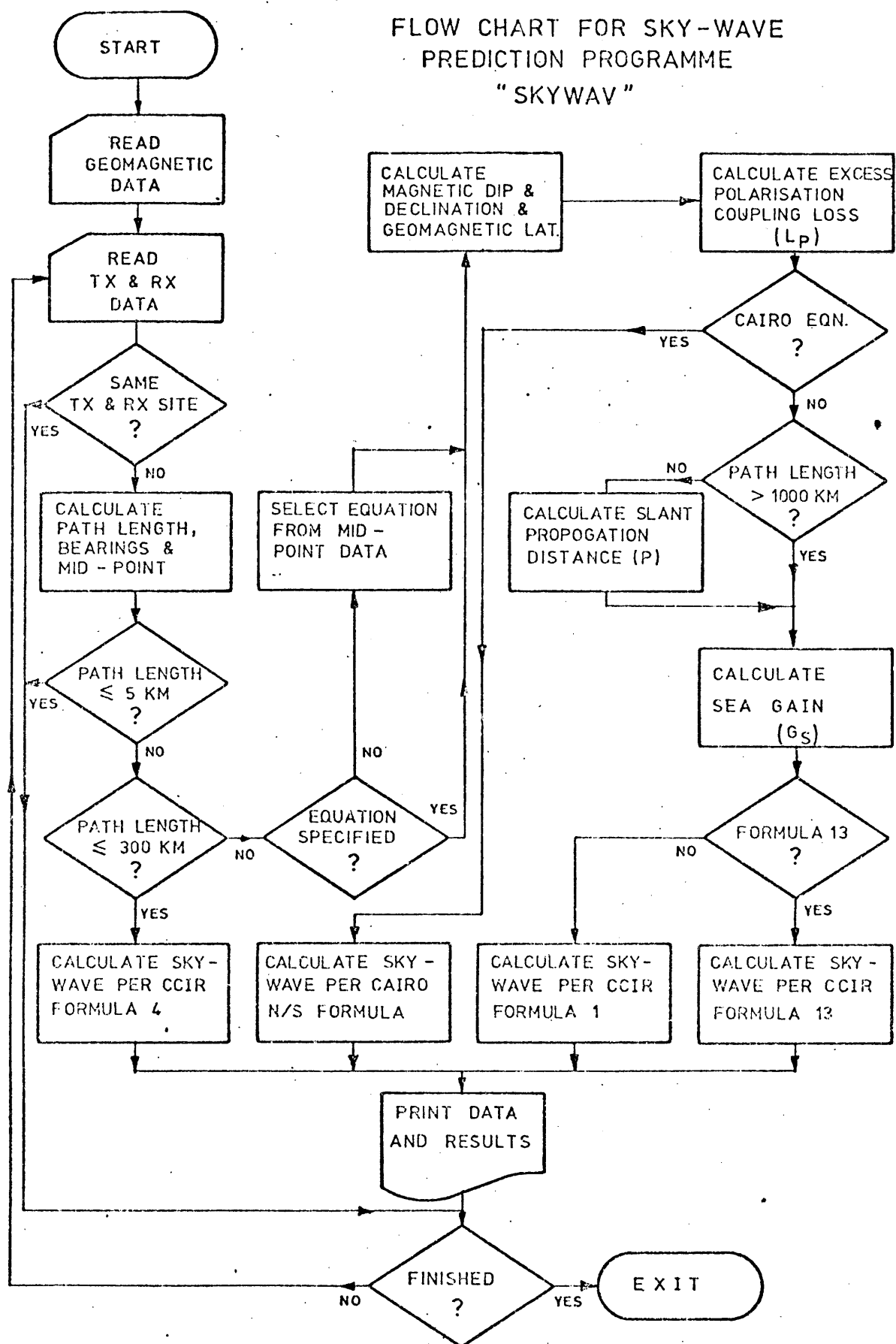


Figure 1 - "SKYWAV" Flow chart

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BEGIN TX SEARCH AT M.F. CHANNEL 1											Document No
											Page 5 F/E
TRANSMITTING STATION	LATITUDE NTH(+VE)	LONGITUDE WEST(+VE)	FREQUENCY KHZ	POWER KW	AERIAL GAIN(DB)						
3413	-34.50	-118.34	531	0.50	0.00						
COAST DISTANCES											
99	99	99	99	99	99	99	99	99	99	99	
RECEIVING STATION	LATITUDE NTH(+VE)	LONGITUDE WEST(+VE)	DISTANCE KM	BEARING TX TO RX	(DEG-TRUE) RX TO TX	SKY WAVE DBU/M	FIELD STRENGTH UV/M			EQUATION USED	
14b	-36.51	-171.38	3239.3	104.6	263.0	23.66	15.24			CCIR13	
24F	-39.02	-171.07	3173.5	109.0	267.2	26.11	20.21			CCIR13	
24L	-39.04	-175.52	3410.3	109.4	265.8	18.32	8.24			CCIR13	
24M	-41.18	-174.48	3227.6	113.9	270.9	23.33	14.68			CCIR13	
3Y2	-43.34	-171.08	2947.1	119.1	278.1	25.14	16.08			CCIR13	
34F	-43.33	-172.35	3062.7	118.7	276.8	19.58	9.53			CCIR13	
44E	-45.53	-171.35	2952.0	124.3	283.2	19.75	9.72			CCIR13	
4Y2	-46.19	-161.37	2817.6	126.1	286.2	20.66	10.79			CCIR13	
						MAX UV/M	20.21	MIN UV/M	8.24		
TRANSMITTING STATION	LATITUDE NTH(+VE)	LONGITUDE WEST(+VE)	FREQUENCY KHZ	POWER KW	AERIAL GAIN(DB)						
3414	-17.32	-118.03	531	5.00	2.00						
COAST DISTANCES											
12	13	13	15	15	15	15	15	15	15	15	
RECEIVING STATION	LATITUDE NTH(+VE)	LONGITUDE WEST(+VE)	DISTANCE KM	BEARING TX TO RX	(DEG-TRUE) RX TO TX	SKY WAVE DBU/M	FIELD STRENGTH UV/M			EQUATION USED	
14E	-36.51	-171.38	3526.0	133.3	299.8	44.68	171.37			CCIR13	
24F	-39.02	-171.07	3614.6	137.2	303.4	47.99	251.03			CCIR13	
24L	-39.04	-175.52	3818.6	135.2	300.0	39.18	91.02			CCIR13	
24M	-41.18	-171.48	3804.9	140.0	305.4	46.60	213.88			CCIR13	
3Y2	-43.34	-171.08	3730.7	146.2	313.0	46.88	220.86			CCIR13	
34F	-43.33	-172.35	3816.3	145.0	310.9	37.92	70.69			CCIR13	
44E	-45.53	-171.35	3880.7	149.7	316.2	37.04	71.09			CCIR13	
4Y2	-46.19	-161.37	3814.7	151.9	319.5	37.07	71.33			CCIR13	
						MAX UV/M	251.03	MIN UV/M	71.09		
TRANSMITTING STATION	LATITUDE NTH(+VE)	LONGITUDE WEST(+VE)	FREQUENCY KHZ	POWER KW	AERIAL GAIN(DB)						
3415	-31.06	-152.50	531	5.00	2.00						
COAST DISTANCES											
19	19	19	10	22	22	26	27	20	0	99	
RECEIVING STATION	LATITUDE NTH(+VE)	LONGITUDE WEST(+VE)	DISTANCE KM	BEARING TX TO RX	(DEG-TRUE) RX TO TX	SKY WAVE DBU/M	FIELD STRENGTH UV/M			EQUATION USED	
14E	-36.51	-171.38	2103.8	113.6	281.3	53.49	472.70			CCIR13	
24F	-39.02	-171.07	2121.5	120.4	288.0	55.10	568.90			CCIR13	
24L	-39.04	-175.52	2350.3	118.7	284.8	42.22	129.13			CCIR13	
24M	-41.18	-171.48	2264.4	126.1	293.0	48.72	272.76			CCIR13	
3Y2	-43.34	-171.08	2121.9	135.9	304.7	53.79	489.28			CCIR13	
34F	-43.33	-172.35	2218.5	134.1	302.0	44.20	162.14			CCIR13	
44E	-45.53	-171.35	2245.5	142.1	310.9	42.64	135.55			CCIR13	
4Y2	-46.19	-161.37	2163.2	145.8	315.8	44.02	156.82			CCIR13	
						MAX UV/M	568.90	MIN UV/M	129.13		
TRANSMITTING STATION	LATITUDE NTH(+VE)	LONGITUDE WEST(+VE)	FREQUENCY KHZ	POWER KW	AERIAL GAIN(DB)						
3416	-38.06	-145.56	531	5.00	2.00						
COAST DISTANCES											
99	99	99	90	99	99	99	99	99	99	99	
RECEIVING STATION	LATITUDE NTH(+VE)	LONGITUDE WEST(+VE)	DISTANCE KM	BEARING TX TO RX	(DEG-TRUE) RX TO TX	SKY WAVE DBU/M	FIELD STRENGTH UV/M			EQUATION USED	
14E	-36.51	-171.38	2526.3	95.8	258.1	37.58	75.67			CCIR13	
24F	-39.02	-171.07	2442.6	101.3	263.5	42.30	130.31			CCIR13	
24L	-39.04	-175.52	2677.8	102.0	262.4	35.38	56.73			CCIR13	
24M	-41.18	-171.48	2483.4	107.4	268.7	38.39	83.09			CCIR13	
3Y2	-43.34	-171.08	2195.8	114.1	277.4	45.61	190.85			CCIR13	
34F	-43.33	-172.35	2311.6	113.7	276.0	37.38	73.97			CCIR13	
44E	-45.53	-171.35	2201.8	121.0	284.3	37.80	77.61			CCIR13	
4Y2	-46.19	-161.37	2069.6	123.4	288.1	38.90	86.10			CCIR13	
						MAX UV/M	190.85	MIN UV/M	58.73		

Fig. 2 : Sortie typique montrant l'emploi du programme "SKYWAV" pour déterminer les champs de l'onde ionosphérique entre des emplacements d'émission et de réception envisagée en Australie et en Nouvelle Zélande.

Fig. 2 : "SKYWAV" Programme output - illustrates the use of SKYWAV to determine skywave field strengths on paths between proposed transmitters in Australia and receiving sites in New Zealand.

Fig. 2 : Tabulación típica que muestra el empleo del programa "SKYWAV" para determinar las intensidades de campo de la onda ionosférica entre transmisores propuestos de Australia y ocho ubicaciones receptoras de Nueva Zelanda.

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C
IDENT XMEF
SUBROUTINE XMEF
C
C CALCULATES TGD BY INTERPOLATION IN GRAPH USING NEWTON FORWARD-
C DIFFERENCE FORMULA. (3RD ORDER)
C
COMMON PI,PI2,QPI,D2R,R2D,DISK,TGD,CDBU,IFORM,DIP,DEC,DB4,BEARG
REAL GRAPH(30) / 0.0, 0.5, 1.2, 2.0, 3.0, 4.0, 5.5, 7.1, 8.5, 7.0,
1      4.75, 4.4, 5.3, 6.6, 8.0, 9.1, 9.6, 9.1, 7.4, 6.2,
2      6.75, 7.75, 8.6, 9.2, 9.7, 9.8, 4*10.0 /
C
F=DISK
G=F/250.
N=3
F=1
G=G-F
TGD=10.0
IF (DISK.GE.6500.) GO TO 9
IF (N) 8,1,1
8 STOP "NEGATIVE DISTANCE IN XMEF"
1 N=N+1
A=GRAPH(N)
B=GRAPH(N+1)
C=GRAPH(N+2)
D=GRAPH(N+3)
Y=0.33333333*(G-2.)*(D-A+3.*(B-C))
Y=0.5*(G-1.)*(Y+A-B-B+C)
Y=A+G*(Y+B-A)
TGD=Y
9 RETURN
END

```

Fig. 3: "SKYWAV" Subroutine to determine G_0
(Ref. 1 Appendix B Fig. 2)

```

IDENT XMEK
SUBROUTINE XMEK
COMMON PI,PI2,QPI,D2R,R2D,DISK,TGD,CDBU,IFORM,DIP,DEC,DB4,BEARG
DOUBLE PRECISION A/5.770231872D1/,B/-2.0896049D-2/,
1 C/3.781463677D-6/,D/-3.828987103D-10/,E/1.951881493D-14/,
2 F/-3.968100975D-19/
DOUBLE PRECISION X
X=DISK
X=A+X*(B+X*(C+X*(D+X*(E+X*(F))))
CDBU=X
RETURN
END

```

Fig. 4: "SKYWAV" Subroutine to determine F_0
(Ref. 1 Appendix E Fig. 1)

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Addendum No. 1 to
Document No. 14-E
6 November 1975
Original : French

Note by the Secretary-General

INVITATIONS TO THE CONFERENCE

The People's Republic of Mozambique acceded to the Convention of Malaga-Torremolinos on 4 November 1975. Since that date, therefore, that country is a Member of the Union.

The People's Republic of Mozambique has now sent a delegation to the Conference.

M. MILI

Secretary-General



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 14-E

1 October 1975

Original : French

PLENARY MEETING

Memorandum by the Secretary-General

INVITATIONS TO THE SECOND SESSION OF THE REGIONAL ADMINISTRATIVE LF/MF BROADCASTING CONFERENCE (REGIONS 1 AND 3)

1. Members of the Union

1.1 Regions 1 and 3

On 6 October 1974, invitations were sent to all Members of the Union in Regions 1 and 3 (except Portugal and the Republic of South Africa).

Invitations were also sent to Bahrain and the People's Democratic Republic of Korea after they had acceded to the Convention.

Pursuant to Administrative Council Resolution No. 765 (30th Session, 1975), an invitation was sent to Portugal.

1.2 Region 2

Pursuant to Administrative Council Decision No. D 307, the Members of the Union in Region 2 were invited to send observers to the Conference.

1.3 Replies received

A summary of the replies received to date is contained in the Annex hereto.

2. Recognized private operating agencies

The letters of invitation stipulated that any country or Associate Member could forward the invitation to the private operating agencies which it recognized.

To date, no private operating agency has been announced as taking part.



3. United Nations and specialized agencies

On 7 October 1974, invitations were sent to the Secretary-General of the United Nations, the International Labour Organization (I.L.O.), the World Meteorological Organization (W.M.O.) and the United Nations Educational, Scientific and Cultural Organization (UNESCO). On 18 September 1975, an invitation was also sent to the International Civil Aviation Organization (I.C.A.O.).

Only the latter accepted this invitation.

M. MILI

Secretary-General

Annex : 1

A N N E XPARTICIPATION IN REGIONAL
BROADCASTING CONFERENCE
(2ND SESSION)A - Members (Regions 1 and 3)

Name of country	Yes	No
Afghanistan (Republic of)	X	
Albania (People's Republic of)	X	
Algeria (Algerian Democratic and Popular Republic)	X	
Germany (Federal Republic of)	X	
Saudi Arabia (Kingdom of)	X	
Australia	X	
Austria	X	
Bahrain (State of)	X	
Bangladesh (People's Republic of)	X	
Belgium	X	
Byelorussian Soviet Socialist Republic		
Burma (Socialist Republic of the Union of)		X
Botswana (Republic of)	X	

Name of country	Yes	No
Bulgaria (People's Republic of)		
Burundi (Republic of)	X	
Cameroon (United Republic of)	X	
Central African Republic	X	
China (People's Republic of)	X	
Cyprus (Republic of)	X	
Vatican City State	X	
Congo (People's Republic of the)	X	
Korea (Republic of)	X	
Korea (People's Democratic Republic of)		
Ivory Coast (Republic of the)	X	
Dahomey (Republic of)	X	
Denmark	X	
Egypt (Arab Republic of)	X	
United Arab Emirates	X	
Spain	X	
Ethiopia	X	
Fiji	X	

Name of country	Yes	No
Finland	X	
France	X	
Gabon Republic	X	
Gambia (Republic of the)	X	
Ghana	X	
Greece	X	
Guinea (Republic of)	X	
Equatorial Guinea (Republic of)		
Upper Volta (Republic of)	X	
Hungarian People's Republic	X	
India (Republic of)	X	
Indonesia (Republic of)	X	
Iran	X	
Iraq (Republic of)	X	
Ireland	X	
Iceland	X	
Israel (State of)	X	
Italy	X	
Japan	X	

Name of country	Yes	No
Jordan (Hashemite Kingdom of)	X	
Kenya (Republic of)	X	
Khmer Republic		
Kuwait (State of)	X	
Laos (Kingdom of)	X	
Lesotho (Kingdom of)	X	
Lebanon	X	
Liberia (Republic of)	X	
Libyan Arab Republic	X	
Liechtenstein (Principality of)	X	
Luxembourg	X	
Malaysia	X	
Malawi	X	
Maldives (Republic of)		X
Malagasy Republic	X	
Mali (Republic of)	X	
Malta (Republic of)	X	
Morocco (Kingdom of)	X	

Name of country	Yes	No
Mauritius	X	
Mauritania (Islamic Republic of)	X	
Monaco	X	
Mongolian People's Republic	X	
Nauru (Republic of)		
Nepal		
Niger (Republic of the)	X	
Nigeria (Federal Republic of)	X	
Norway	X	
New Zealand	X	
Oman (Sultanate of)	X	
Uganda (Republic of)	X	
Pakistan	X	
Papua New Guinea	X	
Netherlands (Kingdom of the)	X	
Philippines (Republic of the)	X	
Poland (People's Republic of)	X	
Portugal	X	

Name of country	Yes	No
Qatar (State of)	X	
Syrian Arab Republic	X	
German Democratic Republic	X	
Ukrainian Soviet Socialist Republic	X	
Roumania (Socialist Republic of)	X	
United Kingdom of Great Britain and Northern Ireland	X	
Rwanda (Republic of)	X	
Senegal (Republic of the)	X	
Sierra Leone	X	
Singapore (Republic of)	X	
Somali Democratic Republic		
Sudan (Democratic Republic of the)	X	
Sri Lanka (Ceylon) (Republic of)	X	
Sweden	X	
Switzerland (Confederation of)	X	
Swaziland (Kingdom of)		X
Tanzania (United Republic of)	X	
Chad (Republic of the)	X	

Name of country	Yes	No
Czechoslovak Socialist Republic	X	
Thailand	X	
Togolese Republic	X	
Tonga (Kingdom of)		X
Tunisia	X	
Turkey	X	
Union of Soviet Socialist Republics	X	
Viet-Nam (Republic of)		
Yemen Arab Republic		
Yemen (People's Democratic Republic of)	X	
Yugoslavia (Socialist Federal Republic of)	X	
Zaire (Republic of)	X	
Zambia (Republic of)	X	

B - Members (Region 2) (Observers)

Haiti (Republic of)	X	
Panama (Republic of)	X	

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 15-E

1 October 1975

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PLENARY MEETING

Note by the Secretary-General

NOTIFICATIONS TO INTERNATIONAL ORGANIZATIONS

In accordance with No. 330 of the International Telecommunication Convention (Torremolinos, 1973), notifications of the convening of the Regional Broadcasting Conference were sent to those international organizations which seemed likely to be interested in its work.

Formal requests for admission to the Conference were received from the organizations listed in the Annex.

In pursuance of No. 332 of the Convention, the Conference is invited to decide whether these organizations are to be admitted.

M. MILI

Secretary-General

Annex : 1



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A N N E X

INTERNATIONAL ORGANIZATIONS

International Air Transport Association (IATA)

International Special Committee on Radio Interference (CISPR)

International Radio and Television Organization (OIRT)

Arab Telecommunication Union (ATU)

Asian Broadcasting Union (ABU)

Arab States Broadcasting Union (ASBU)

Union of National Radio and Television Organizations of Africa (URTNA)

European Broadcasting Union (EBU)

INTERNATIONAL TELECOMMUNICATION UNION

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 16-E(Rev.4)

14 November 1975

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PLENARY MEETING

Memorandum by the Secretary-General

SITUATION OF CERTAIN COUNTRIES WITH RESPECT TO THE INTERNATIONAL TELECOMMUNICATION CONVENTION (Torremolinos, 1973)

Attention is drawn to the fact that the following countries of Regions 1 and 3 have not yet acceded to the International Telecommunication Convention (Torremolinos, 1973) and therefore do not at present have the right to vote :

Albania (People's Republic of)

Nauru (Republic of)

Syrian Arab Republic

Tonga (Kingdom of)

M. MILI

Secretary-General



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

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7 November 1975

Original : French

PLENARY MEETING

Memorandum by the Secretary-General

SITUATION OF CERTAIN COUNTRIES WITH RESPECT TO THE INTERNATIONAL TELECOMMUNICATION CONVENTION (Torremolinos, 1973)

1. Attention is drawn to the fact that the following countries of Regions 1 and 3 have not yet acceded to the International Telecommunication Convention (Torremolinos, 1973) and therefore do not at present have the right to vote :

Albania (People's Republic of)

Nauru (Republic of)

Portugal

Syrian Arab Republic

Tonga (Kingdom of)

2. It is further to be noted that Papua-New Guinea acceded to the Torremolinos Convention on 31 October 1975. Since that date, therefore, that country is a full Member of the I.T.U.

M. MILI

Secretary-General



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 16-E(Rev.2)

6 November 1975

Original : English

PLENARY MEETING

Memorandum by the Secretary-General

SITUATION OF CERTAIN COUNTRIES WITH RESPECT TO THE
INTERNATIONAL TELECOMMUNICATION CONVENTION
(Torremolinos, 1973)

1. Attention is drawn to the fact that the following countries of Regions 1 and 3 have not yet acceded to the International Telecommunication Convention (Torremolinos, 1973) and therefore do not at present have the right to vote :

Albania (People's Republic of)
Nauru (Republic of)
Portugal
Qatar (State of)
Syrian Arab Republic
Tonga (Kingdom of)

2. It is further to be noted that Papua-New Guinea acceded to the Torremolinos Convention on 31 October, 1975. Since that date, therefore, that country is a full Member of the I.T.U.

M. MILI

Secretary-General



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

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28 October 1975

Original : English

PLENARY MEETING

Memorandum by the Secretary-General

SITUATION OF CERTAIN COUNTRIES WITH RESPECT TO THE
INTERNATIONAL TELECOMMUNICATION CONVENTION
(Malaga-Torremolinos, 1973)

Attention is drawn to the fact that the following countries of Regions 1 and 3 have not yet acceded to the International Telecommunication Convention, Malaga-Torremolinos, 1973, and therefore do not at present have the right to vote :

Albania (People's Republic of)

Gambia (Republic of the)

Nauru (Republic of)

Portugal

Syrian Arab Republic

Tonga (Kingdom of)

M. MILI

Secretary-General



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 16-E

1 October 1975

Original : English

PLENARY MEETING

Memorandum by the Secretary-General

SITUATION OF CERTAIN COUNTRIES WITH RESPECT TO THE INTERNATIONAL TELECOMMUNICATION CONVENTION (Malaga-Torremolinos, 1973)

Attention is drawn to the fact that the following countries of Regions 1 and 3 have not yet acceded to the International Telecommunication Convention, Malaga-Torremolinos, 1973, and therefore do not at present have the right to vote :

Albania (People's Republic of)
Gambia (Republic of the)
Nauru (Republic of)
Portugal
Qatar (State of)
Syrian Arab Republic
Tonga (Kingdom of)

M. MILI

Secretary-General



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Addendum No. 1 to
Document No. 17-E
3 October 1975
Original : English

PLENARY MEETING

Australia

ADOPTION OF A MODIFIED CAIRO N-S CURVE AS THE MF SKYWAVE PROPAGATION PREDICTION METHOD APPLICABLE TO AUSTRALIA AND NEW ZEALAND

This addendum presents the graphical data, tables and general analysis of the results of the test programme carried out in Australia since the first session of the LF/MF Broadcasting Conference as discussed in the above referenced primary document. The relationship of these results to similar studies previously performed is also analysed. The addendum, as a supplement to the Australian paper (Document No. 17), graphically supports the conclusions that :

- a) sufficient evidence exists to establish doubt concerning the magnitude of the sea-gain factor and the extent to which it is applicable inland from the coast;
- b) further work is required on the measurement of sea-gain, particularly over various distances, before it can be confidently used as a practical basis for planning;
- c) a more practical basis for predicting MF skywave field strengths is proposed in the form of the expression $136 - 13 \ln(d)$, where d is the grand distance between stations. This expression is equivalent to the Cairo N-S curve $+ 4 \ln(d) - 20$.

The curve proposed is plotted in graph 1 and is shown in relationship to the Cairo N-S curve and the Inverse Distance curve.

The test programme conducted in Australia has established, in the manner as set out in the primary document, the relative sea-gain effect over three paths, i.e. 2,100 km, 2,600 km and 5,900 km. Graph 2 shows that a curve, similar to that recorded in C.C.I.R. Report 575, can be drawn based on the results obtained. The curves are shown in relationship to the "E" layer, 1 hop "F" layer and 2 hop "F" layer curves established in the Proc. IEE, June 1969 paper by Knight and Thoday.



The sea-gain factor as embodied in equation 13 enables a maximum value of 10 dB to be realized as shown in graph 2 at the 6,000 km path distance point. Graph 2 also shows that the practical measurements would indicate that sea-gain approaches a maximum of 5 dB only. Based on these practical results the rate of fall-off of sea-gain would increase and reach zero much closer to the coast line as depicted in graph 3 for frequencies of 560, 1 000 and 1 560 kHz. The programme of tests conducted for various distances from the coast supports the conclusion that sea-gain does not exceed about 5 dB and reduces to zero close to the coast line in the manner also demonstrated by graph 3.

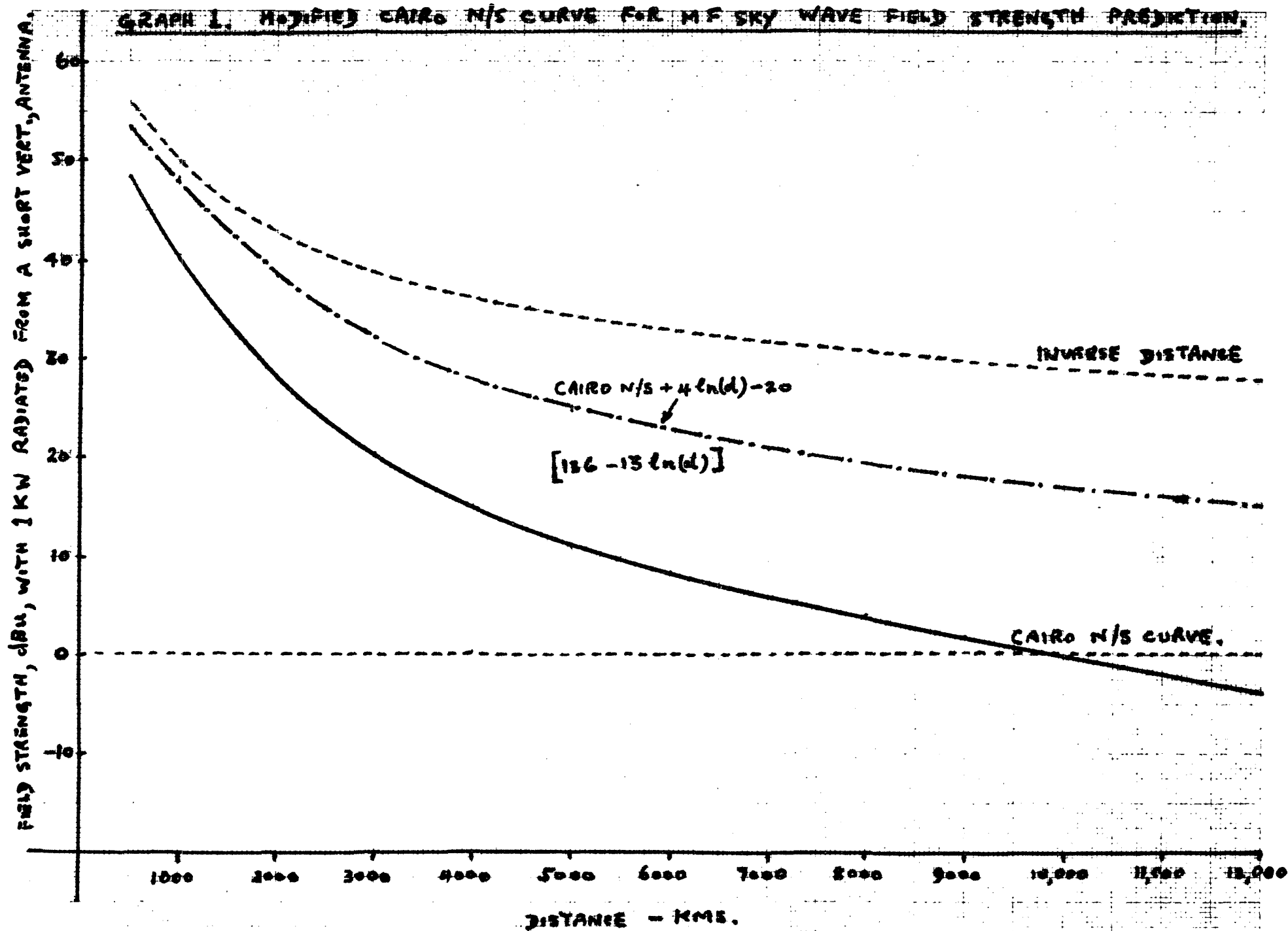
Graphs 4 to 6 plot the values of field strength measured and show the relationships between these points and the proposed modified Cairo N-S curve as well as with the curve for equation 13 for these paths :

Graph 4 - Mauritius/Perth

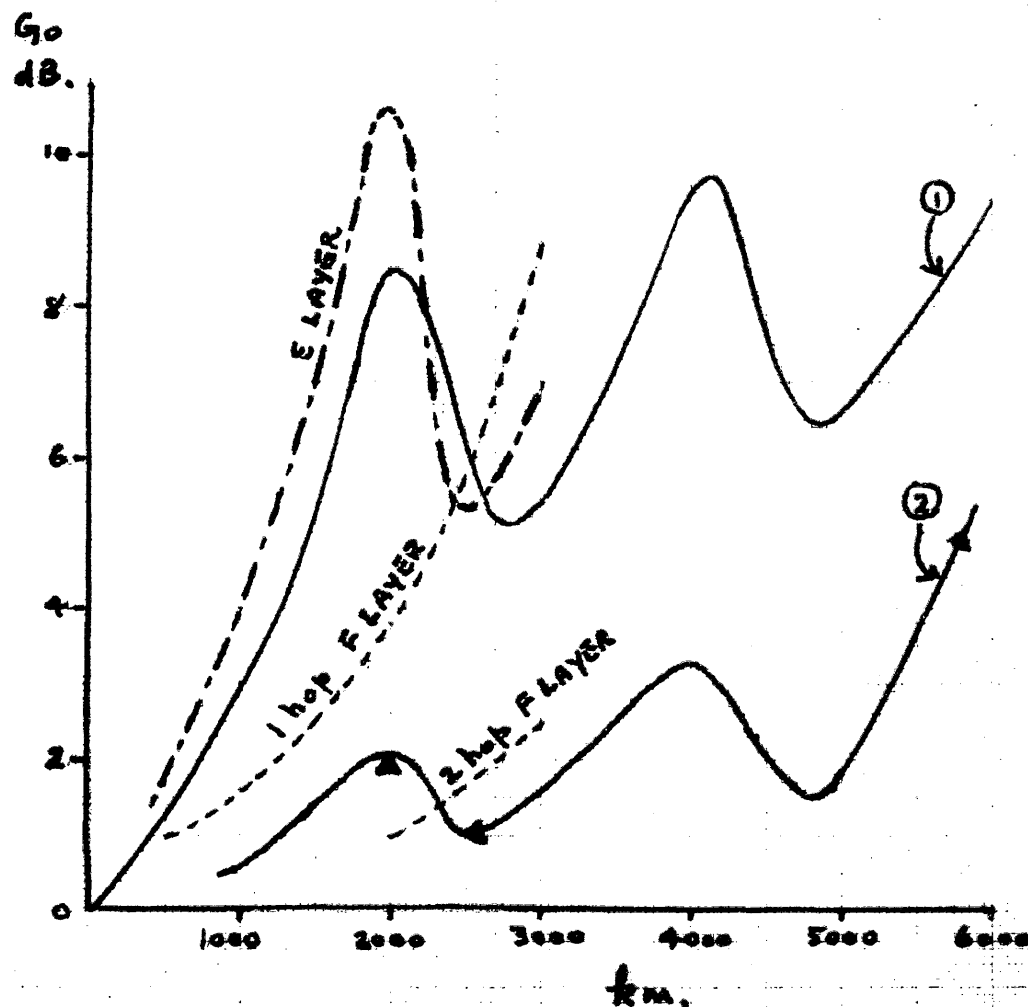
Graph 5 - Wellington/Melbourne

Graph 6 - Auckland/Newcastle

Appendices 1-3 are the tables of measurements made at each site in Australia and Appendices 4-6 set out the tables of parameters used in the calculation of field strengths based on equation 13. Appendix 7 is a summary of the practical results and presents a comparison with the use of equation 13, the Cairo N-S curve and the proposed modified Cairo N-S curve.



GRAPH 2. SEA GAIN FACTOR.



FACTOR G_0 IN SEA GAIN EXPRESSION

$$G_s = G_0 - 10^{-3} \frac{Q_s f}{G_0}$$

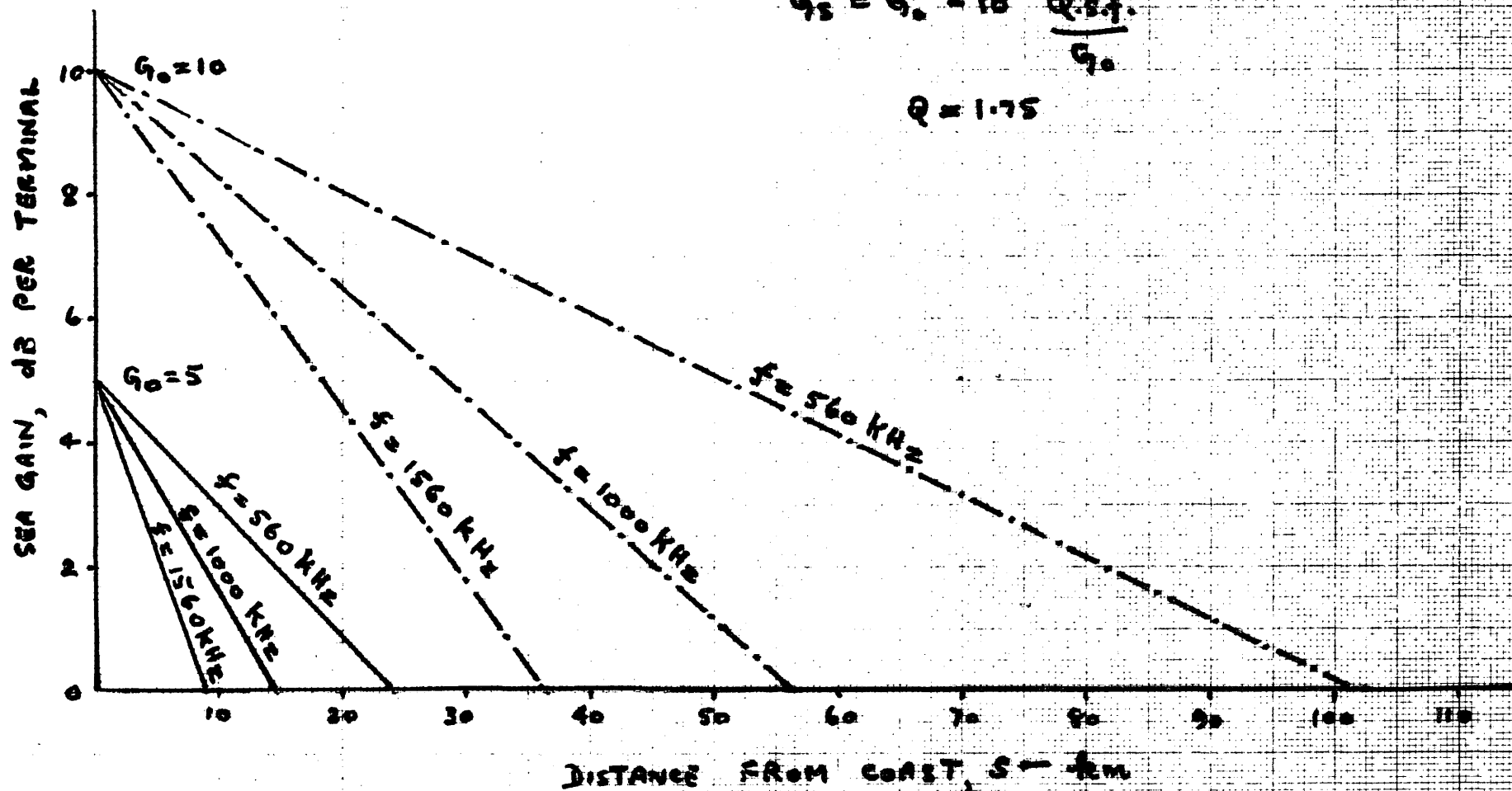
- ① C.C.I.R. REPORT 575
- KNIGHT AND THORP, PROC. IEE
JUNE 1969, - E LAYER.
- " " " " " F LAYER.
- ② AUSTRALIAN MEASUREMENTS
1975, POSSIBLE INTERPRETATION

GRAPH 3. SEA GAIN REDUCTION WITH DISTANCE FROM COASTLINE.

EXAMPLES FOR $G_0 = 10$ AND 5

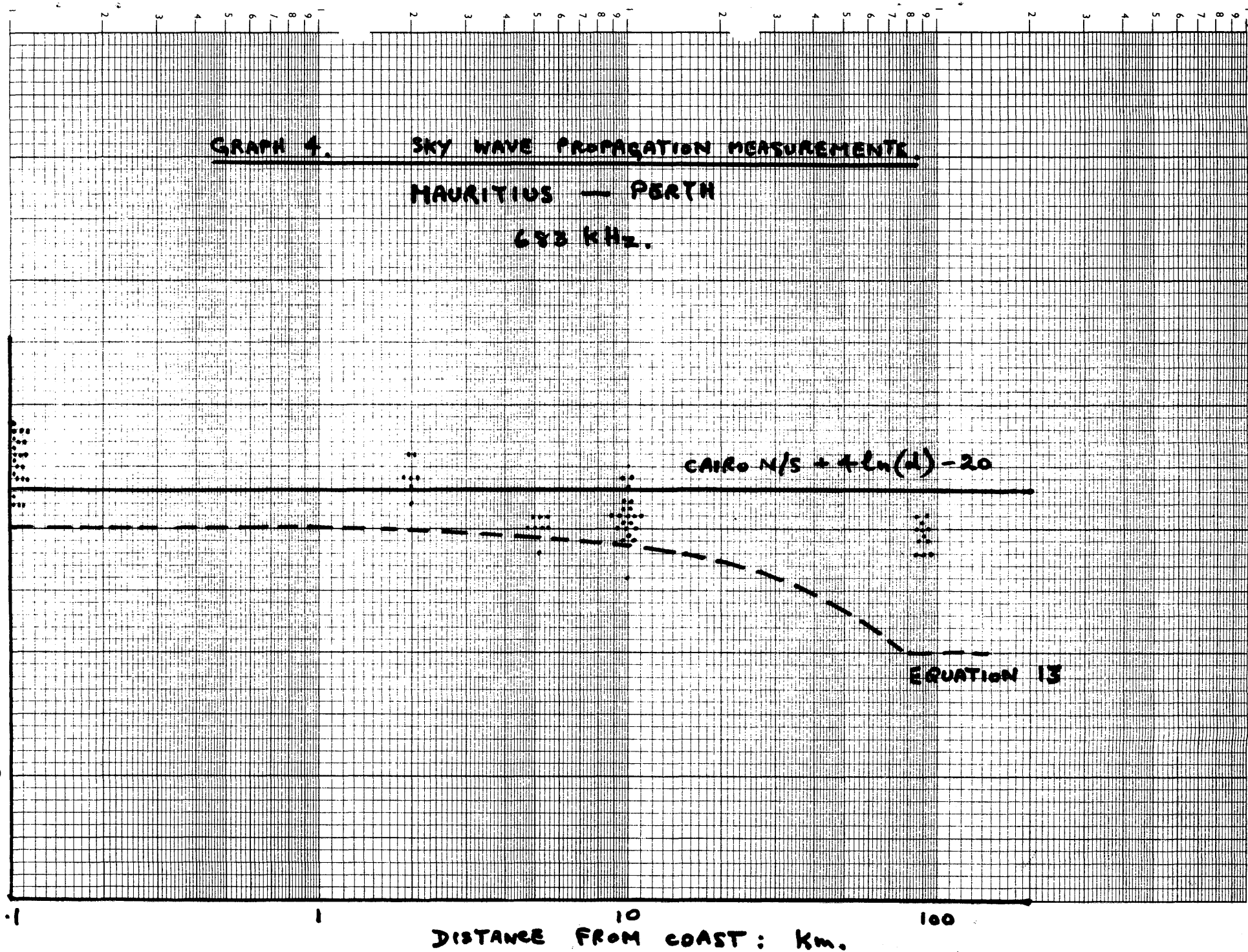
$$G_S = G_0 - 10^{-3} \frac{Q \cdot f}{G_0}$$

$$Q = 1.75$$



FIELD STRENGTH : dBu

40
30
20
10

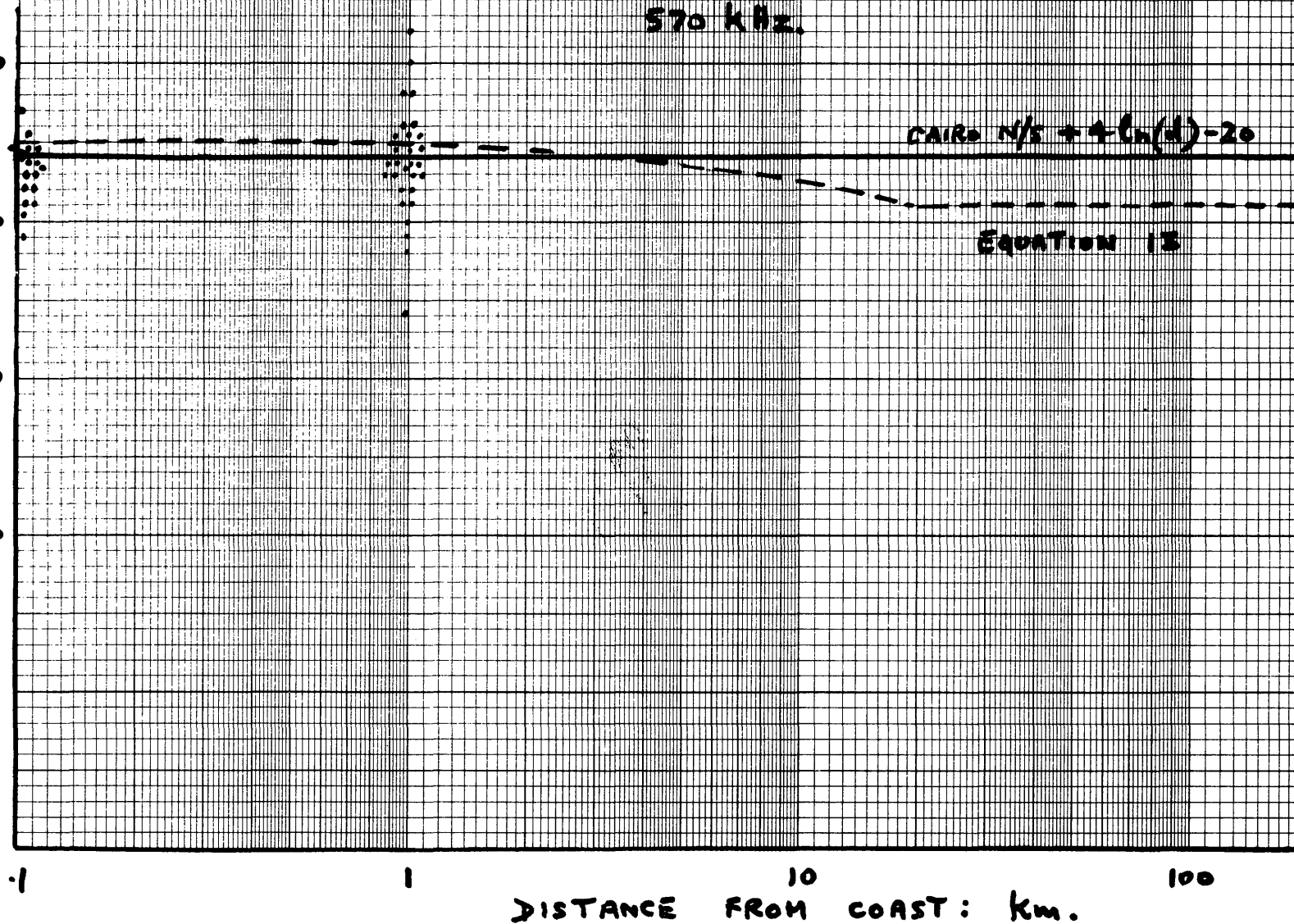


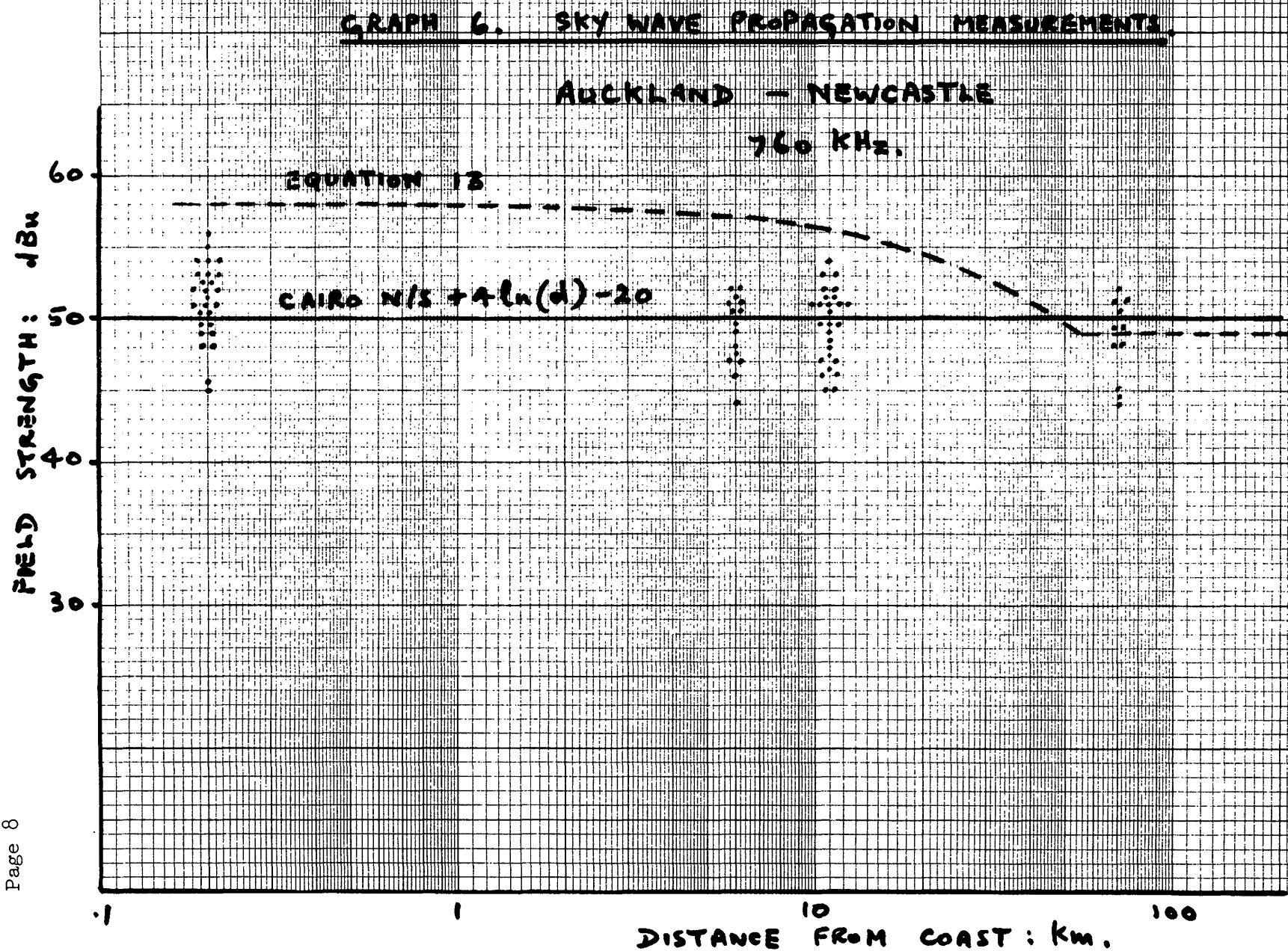
GRAPH 5. SKY WAVE PROPAGATION MEASUREMENTS.

WELLINGTON — MELBOURNE

570 kHz.

FIELD STRENGTH: dBu





Appendix 1. Nightly median field strengths - Perth

Site	Measurement Area	Distance to Coast
1:	Swanbourne Meteorological Station	0.1 km
2:	Wembley Downs	2.0 km
3:	Wembley	5.5 km
4:	Channel 9 Television Studios	10.0 km
5:	Northam	90.0 km

Date	Median values dBu				
	1	2	3	4	5
21 May	38			34	30
22	34			30	31
23	37			35	35
24	35			29	30
25	36			31	30
26	33			30	30
27	35			31	
28	32			30	28
30	35			30	30
31	34			31	28
1 June	32			29	29
2	36			32	29
3	36			33	31
4	32			29	28
5	36		30	31	
6	34	34	30	31	
7	38	36	31	32	
8	34	34	30	30	
9	38	36	31	34	
10	38	33	31	31	
11	37	34	30	31	
12	32	32	28	26	

Appendix 2. Nightly median field strengths - Melbourne

Site	Measurement area	Distance to Coast
1.	Torquay Motor Yacht Club	0.05 km
2.	Torquay	1.0 km
3.	Melbourne	200.0 km

Date	Median Values dBu		
	1	2	3
18 May		52	50
19		55	53
20		48	50
21		55	53
22		53	51
23		55	53
24		55	53
25		54	53
26		44	45
28		62	57
29		55	57
30		56	56
31		60	50
1 June		58	59
2		56	56
11 July	52	52	
12	51	50	
14	53		
15	53		
16	54	54	
17	54	54	
18	53	53	
19	49	49	
20	51		
21	54	54	
22	53	53	
23	57	58	
24	54	53	
25	51	51	
26	54	53	
27	54	54	
28	51	51	

Appendix 3. Nightly median field strengths -

Newcastle

Site	Measurement Area	Distance to Coast			
1	Newcastle sewerage works	0.2 km			
2	Blackbut plant nursery	6.0 km			
3	Wallsend football club	11.0 km			
4	Singleton Army barracks	72.0 km			

Date	Median values dBu			
	1	2	3	4
1 July	52		49	
2	52	50	51	
3	54	52	52	
4	51	50	51	
5	52	51	51	
6	51	49	50	
7	53	52	51	
8	49	47	46	
9	49	47	47	
10	48	47	47	
11	45	44	45	
12	49	46	46	
13	50	48	47	
14	53	51	51	
15	53	52	50	
16	51	50	49	
17	52		51	49
18	54		53	51
19	54		53	49
20	48		48	48
21	52		51	50
22	56		54	52
23				
24	50		50	45
25	55		53	51
26	45		45	44
27	52		51	48
28	50		47	44

Appendix 4.

SKY WAVE CALCULATION.

	Tx	Rx	F/S
Terminals	MAURITIUS	PERTH	
Distance	5890 km		
Frequency	683 kHz		
Power	10 kW		
Aerial Gain, Elevation	0		
Aerial Gain, Azimuth	- 6		
Magnetic Dip	54	67	
Path Azimuth to E-W	7	15	
Geomagnetic Latitude	26	43	
Lat./long.	20° 19' 57° 31'	31° 52' 115° 49'	
Calculated Field Strength			12
Sea Gain			18
Distance to Coast	15 km	150 m	
Sea Gain Value	8	10	
Total			30 dBu

SKY WAVE CALCULATION.

	Tx	Rx	F/S
Terminals	MAURITIUS	NORTHAM	
Distance	5945 km		
Frequency	683 kHz		
Power	10 kW		
Aerial Gain, Elevation	0		
Aerial Gain, Azimuth	- 6		
Magnetic Dip	54	68	
Path Azimuth to E-W	7	15	
Geomagnetic Latitude	26	45	
Lat./Long.	20° 19' 57° 31'	31° 40' 116° 37'	
Calculated Field Strength			12
Sea Gain			
Distance to Coast	15 km	95 km	
Sea Gain Value	8	0	8
Total			20 dBu

Appendix 5.

SKY WAVE CALCULATION.

	Tx	Rx	F/S
Terminals	WELLINGTON	TORQUAY	
Distance	2605		
Frequency	570 kHz		
Power	100 kw		
Aerial Gain, Elevation	0		
Aerial Gain, Azimuth	1		
Magnetic Dip	67	69	
Path Azimuth to E-W	27	18	
Geomagnetic Latitude	45	47	
Lat./long.	41° 6' 174° 46'	78° 20' 146° 20'	
Calculated Field Strength			47
Sea Gain			
Distance to Coast	2 km	1 km	
Sea Gain Value	4 dB	4 dB	
Total			55 dBu

SKY WAVE CALCULATION.

	Tx	Rx	F/S
Terminals	WELLINGTON	MELBOURNE	
Distance	2560		
Frequency	570 kHz		
Power	100 kw		
Aerial Gain, Elevation	0		
Aerial Gain, Azimuth	1		
Magnetic Dip	67	69	
Path Azimuth to E-W	27	19	
Geomagnetic Latitude	45	46	
Lat./Long.	41° 6' 174° 46'	37° 53' 145° 4'	
Calculated Field Strength			47
Sea Gain			
Distance to Coast	2 km	180 km	
Sea Gain Value	4 dB	0	4
Total			51 dBu

Appendix 6.

SKY WAVE CALCULATION.

	Tx	Rx	F/S
Terminals	AUCKLAND	NEWCASTLE	
Distance	2132		
Frequency	760 kHz		
Power	20 kw		
Aerial Gain, Elevation	0		
Aerial Gain, Azimuth	1		
Magnetic Dip	63	68	
Path Azimuth to E-W	2	13	
Geomagnetic Latitude	41	44	
Lat./Long.	36° 51' 174° 38'	35° 52' 151° 42'	
Calculated Field Strength			45
Sea Gain			13
Distance to Coast	19 km	0.1 km	
Sea Gain Value	5	8	
Total			58 dBu

SKY WAVE CALCULATION.

	Tx	Rx	F/S
Terminals	AUCKLAND	SINGLETON	
Distance	2192		
Frequency	760 kHz		
Power	20 kW		
Aerial Gain, Elevation	0		
Aerial Gain, Azimuth	1		
Magnetic Dip	63	68	
Path Azimuth to E-W	2	13	
Geomagnetic Latitude	41	44	
Lat./Long.	36° 51' 174° 38'	32° 37' 151° 10'	
Calculated Field Strength			44
Sea Gain			
Distance to Coast	19 km	70 km	
Sea Gain Value	5	0	5
Total			49

Appendix 7 - Summary of Results

	Mauritius to Perth	Wellington to Melbourne	Auckland to Newcastle
1. Median field strength			
on coast	35	54	51
inland	30	53	49
2. Measured Sea Gain Factor on Coast G_o .	5	1	2
3. Calculated Sea Gain from equation 1. for receiver, G_o .	10	4	8
4. Predicted skywave from equation 13,			
on coast	30	55	58
inland	20	51	49
5. Predicted from Cairo, N.S. curve	18	43	39
6. Cairo N-S + $4 \ln(d) - 20$ ($136 - 13 \ln(d)$)	33	54	50

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 17-E
29 September 1975
Original : English

PLENARY MEETING

Australia

ADOPTION OF A MODIFIED CAIRO N-S CURVE AS THE MF SKY WAVE PROPAGATION PREDICTION METHOD APPLICABLE TO AUSTRALIA AND NEW ZEALAND

1. Proposal

Australia proposes that a modified Cairo N-S Curve of the form - Cairo N-S Curve $+4 \ln(d) - 20$ be adopted for prediction of sky wave signals into Australia and New Zealand in Region 3, south of eleven degrees south (11 degrees s) latitude in place of Equation 13, as proposed at the first session of the LF/MF Conference in Geneva.

2. Consequences of adopting proposal

Agreement to this proposal would :

- a) enable Australia and New Zealand to plan on a more consistent and logical basis;
- b) bring the basis for planning in Australia and New Zealand closer to that being used by the rest of Region 3.

Detailed investigation into the use of Equation 13 in the Australia-New Zealand area has shown that many anomalies are evident that will make difficult the detailed planning of the use of MF channels in a logical manner. Field strength predictions in this part of Region 3 calculated on the basis of Equation 13 have been shown to vary from +7 to -10 dB when compared with the results of an extensive series of field strength measurement programmes conducted in Australia since the first Session of the Conference. The adoption of this modified Cairo Curve will greatly aid the planning of meaningful service areas in the region, as well as prediction of sky wave interference values which are more consistent with the actual measured values.



3. Derivation of modified Cairo Curve

The results of the testing programmes conducted in Australia have provided sufficient grounds for doubt concerning the accuracy of Equation 13, particularly in regard to the sea gain component. It is therefore considered that further work is necessary before this equation could be considered a suitable basis for consistent planning.

The test results demonstrate a similarity to the Cairo Curve but show that higher levels of interference than those produced by that curve were recorded in practice. By adopting a best fit curve to the practical results achieved, a curve equivalent to Cairo North-South $+4 \ln(d) - 20$, where $\ln(d)$ is the log to base "e" of the ground distance between stations, was derived.

The increase in field strength, calculated from this equation, can be plotted as a function of distance.

distance km	Level above Cairo N-S Curve dB
500	5
1,000	8
2,000	10
3,000	12
5,000	14
7,000	15

4. Anomalies arising from use of Equation 13

The use of Equation 13 and Cairo N-S Curve in Region 3 has shown that significant anomalies can result; for example, the I.F.R.B. computer calculations show that, for the predicted field strength existing on paths which cross from the northern part of Region 3 (where the Cairo N-S Curve is used) to the southern part (Australia and New Zealand - where Equation 13 is currently planned to be used), differences as large as 18 dB can result dependent upon whether the mid-point of the path occurs north or south of eleven degrees south latitude (11 degrees S) where the applicable calculating method changes.

This is particularly relevant in calculations involving paths such as those from Indonesia, the Philippines and Papua New Guinea into Australia. For example, consider interference levels from a transmitter at Zamboanga City calculated into Port Hedland and Dalwallina in Western Australia, where both paths are on a similar north-south bearing. Dalwallina, which is 1,150 km further south of Port Hedland has 16 dB greater predicted field strength from a given interfering station to the north using Equation 13 than does Port Hedland. This anomaly occurs simply because the Cairo N-S Curve applies to one calculation and Equation 13 applied to the other. In simpler terms, the existing planning arrangements using Equation 13 would show that Dalwallina is to be subjected to 16 dB greater interference than Port Hedland, which is 1,150 km closer to the source of interference.

To economise computer time, the I.F.R.B. in using Equation 13 in the calculation of interference levels has found it necessary to simplify application of the sea gain factor such that the sea gain term for the main interfering transmitter applicable to a service area is also applied to the secondary interfering transmissions, although these paths may not involve any sea path influence. Similarly, if the main interfering signal does not involve a sea path, no sea gain factor is taken into account on any secondary interfering transmissions although, in some cases, a sea gain factor may be applicable. This expedient produces a false impression of the real effects of the secondary interference levels and, hence complicates planning studies where comparisons and compromises are being assessed.

5. Sea gain factor

An extended programme of field strength recordings was initiated in Australia to measure the practical effects of this term, and therefore assist in assessing the validity of Equation 13. Initial studies indicated that the effects of the sea gain term in Equation 13 is the most significant factor that would create planning anomalies in the Australia area.

Evaluation of test results show that the sea gain or land decay factor is not as large, by up to 6 dB and that its effect decays to zero much closer to the coast (i.e. of the order of ten wavelengths inland) than that predicted by Equation 13. The test programme while limited to a one year period, was conducted simultaneously at several sites on the coast, and at predetermined distances inland and therefore would be considered to constitute sufficient evidence to cast doubts on our present knowledge of the methods of predicting sea gain by Equation 13.

The application of Equation 13 to the planning of stations in Australia has shown inconsistencies in relation to the practical measurements and, in particular, the effects of the sea gain term. These inconsistencies would indicate field strengths which are sometimes greater than the calculated values by as much as 10 dB. The net result is that Equation 13 in its present form is not a practical basis for planning and should be abandoned by Australia and New Zealand until such time as further studies can be conducted.

6. Measurement programme

As there was a limited time in which to conduct the measurements, it was considered that it would only be possible to arrive at relative values resulting from the extended recording programmes. It was assumed that if simultaneous recordings were made at several sites with a separation limited to only 100 km, after a propagation distance of 2,000 to 6,000 km, any long term fading would affect both sites to the same degree and a comparison of levels between the sites could be made.

Field strength recordings were made on a Hewlett Packard chart recorder connected to a Potomac F.I.M. 21 receiver. After initial tuning and calibration, the equipment was switched on automatically for several hours each night and the charts collected at weekly intervals. The field strength variations on the charts were scanned by a Wang computer, which sampled every two minutes and then computed the median value for the selected period. Checks made over various time periods gave consistent results indicating reliability in the scanning process. The nightly median values were plotted on a graph and compared with the theoretical field strengths obtained by calculation.

Simultaneous measurements were made at terminals at increasing distances from the coast on three separate paths into Australia, one from Mauritius and two from New Zealand. A short programme was also conducted to measure transmitter sea gain effects to a common receiver site in New Zealand from two Australian transmitters - one on the coast and the other inland.

A summary of the results is :

path	distance km	sea gain, receive terminal	
		measured	predicted
Mauritius - Perth	5,890	5	10
Wellington - Melbourne	2,600	1	4
Auckland - Newcastle	2,130	2	8

New Zealand measurements - the measurements conducted in New Zealand agree broadly with the Australian measurements in that the sea gain effect reduced at a greater rate than that predicted by Equation 13. The magnitude of the sea gain term, as measured by New Zealand, was greater than that measured in Australia and this may have been due to the effects of differing ground conductivities, which are not taken into account by Equation 13.

The New Zealand measurements would support the contention that considerable further work is necessary on the prediction of sea gain as it is applied to Equation 13, and that it is possible that a ground conductivity factor is appropriate.

7. Propagation modes and the effect on the sea gain factor

An important aspect in the determination of the basic sea gain curve is the influence of the predominant propagation mode. As sea gain measurements had only previously been made on 1-hop paths, theoretical determination of the sea gain factor at 6,000 km assumed a 3-hop mode would predominate, and at 2,000 km it was assumed the 1-hop mode predominated. If the 4-hop and 2-hop modes predominate at these respective distances, then the theoretical sea gains reduce to 5 and 3 dB which would agree with the results of the Australian measurements. In addition the theory would also indicate that the sea gain effect would fall to zero within 20 and 10 km for these two cases which would be consistent with the results obtained by the Australian tests again agreeing with the practical results.

As the basis sea gain curve had only previously been checked on 1-hop paths, further measurements in addition to those carried out in Australia are necessary at longer distances to positively determine which propagation mode predominates and hence the realistic sea gain factor to be applied before use is made of this prediction method in MF planning calculations.

8. Conclusions

- i) Maximum sea gain factors are less than those predicted by the sea gain term in Equation 13 by up to 6 dB per terminal.
- ii) The influence of the sea gain factor is restricted to within about 10 wave lengths of the coast, and not to 100 km as predicted by Equation 13.
- iii) Field strength measurements are consistently above the predictions based on the Cairo N-S Curve, by a factor determined by $4 \ln(d) - 20$.

- iv) Further extensive measurement programmes are necessary, particularly in regard to sea gain before an equation such as Equation 13 could be considered as being a reasonable basis for planning of services for the Australian and New Zealand portion of Region 3.

9. Recommendation

It is recommended that a modified Cairo N-S Curve of the form - Cairo N-S Curve $+4 \ln(d) - 20$ - be adopted for prediction of sky wave signals into Australia and New Zealand in Region 3, south of eleven degrees south (11 degrees s) latitude in place of Equation 13, as proposed at the first Session of the LF/MF Conference in Geneva.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 18-E

30 September 1975

Original : French

PLENARY MEETING

France

PROCEDURE FOR MODIFICATIONS OF THE PLAN

(between broadcasting stations)

The part of the Agreement dealing with modifications of the Plan (changes in the characteristics of stations shown in the Plan or new stations) should give clear answers to the following two questions :

- in what cases should the other contracting administrations be consulted?
- how should such a consultation be conducted?

1. Case of consultation

The French Administration considers that there is no need for every modification to be approved by all contracting Administrations, since this would involve an extremely cumbersome procedure and deprive the Plan of all flexibility. It proposes that :

1.1 Consultations should be confined to administrations whose stations occupy the same channel or adjacent channels.

1.2 For stations using the same channel or of adjacent channels, provision should be made for cases where consultation is unnecessary. The Agreement should therefore allow the Plan to be modified without any prior consultation - within certain limits. It is impossible to enumerate all the modifications which can be permitted without consultation; it would be better to specify in the Agreement that the increase in the interference caused in the service area of a transmitter should not exceed a given value. Such interference should therefore be defined in the Agreement (this definition is considered at the end of the Document).



Calculation of the increase in the interference caused may be a long and complicated process. The French Administration therefore takes the view that it would be preferable to ask the I.F.R.B. to carry out these calculations, rather than leave them to the administrations (this does not preclude prior calculations by administrations).

However, to avoid unnecessary increase in the work of the I.F.R.B., the Agreement might list certain types of modification which do not require coordination and which need not be submitted to the I.F.R.B. for calculation; the French Administration considers that these cases are the following :

1.2.1 reduction of the nominal power of the transmitter (without any change in the antenna characteristics);

1.2.2 shifting of the transmitter within limits to be specified in the Agreement;

1.2.3 change in the constitution of a synchronized network, in conditions to be defined in the Agreement.

(The limits and conditions under points 1.2.2 and 1.2.3 would obviously have to be so chosen as to be compatible with the maximum tolerated value of increase in interference.)

To assess the increase in interference and ascertain whether it is below the fixed maximum value, all the changes made in the Plan must be known; it therefore seems necessary to provide in the Agreement for a procedure by which administrations and the I.F.R.B. would be informed of any modifications envisaged, even if they do not give rise to consultation, or to calculations by the I.F.R.B.

2. Consultation procedure

The Agreement should specify who is to draw up the list of administrations to be consulted and how they are to be consulted.

2.1 The list of contracting administrations to be consulted can only be drawn up by the requesting country or by the I.F.R.B. In view of the calculations involved, the French Administration considers that it would be simpler if the I.F.R.B. were entrusted with the task of affecting these calculations and listing the countries to be consulted (this does not preclude direct prior consultations between certain administrations, if they so desire).

2.2 To avoid any dispute, calculations should be made with the technical data and by the methods specified in the Agreement.

2.2.1 To compile the list of the countries to be consulted, an increase in interference, or in other words a relative value, has to be determined. The choice of the method to be adopted for these calculations and to be specified in the Agreement does not seem to be of critical importance; the adoption of the methods employed during the Conference, or in the latest C.C.I.R. texts, or a combination of the two might, for example, be envisaged. As for the data (inter alia, the service area), only those adopted during the Conference should be used.

2.2.2 On the other hand, it would be desirable to recommend in the Agreement that, during the study of the proposed modifications, the administrations consulted should use more precise data and the most recent C.C.I.R. methods (real service area, allowing for variations in ground conductivity over the surface covered and not average conductivity, the latest C.C.I.R. propagation curves and so on).

DEFINITION OF INTERFERENCE TO BE CONSIDERED
FOR CONSULTATION PURPOSES

1. The interference limit which is not to be exceeded might be defined :
 - either as an absolute value, i.e., by fixing a maximum value (in dB or $\mu\text{V/m}$) not to be exceeded, either for the interfering field strength or for the usable field strength;
 - or as a relative value, i.e., by limiting the increase in the interfering field strength.

The Plan will represent a compromise in which not all the transmitters will be protected in exactly the same way. To maintain this balance, the French Administration considers that the maximum interference value must be a relative value, i.e., a limit on the increase in interference.

2. The concept of increase in interference may be applied :
- either to the interfering transmitter, i.e., the increase in the interfering field strength of the interfering transmitter is taken at a given point in the service area of the transmitter subject to interference. In this case, the maximum value fixed for the tolerable increase in interference would not be linked to the deterioration which the transmitter subject to interference may already have suffered as a result of the modification of other stations in the Plan and there would be a risk of cumulative deteriorations resulting from successive modifications;
 - or to the transmitter subject to interference, i.e., the total deterioration suffered by the transmitter subject to interference is considered, whether the deterioration is caused by one or more interfering transmitters.

The French Administration considers that the notion of increase in interference suffered by the transmitter subject to interference should be applied.

3. The increase in interference may be calculated :
- either at the site of the transmitter subject to interference,
 - or at the limit of the service area of the transmitter subject to interference.

The first method is simpler, but has the drawback of not allowing for the variation in size of the service area of the transmitter subject to interference. This is why the French Administration is in favour of a calculation based on the limit of the service area of the transmitter subject to interference. This means that the Agreement should define the service area of a transmitter.

This service area should be that resulting from the Plan adopted by the Conference, at least insofar as the characteristics of the transmitter subject to interference are those recorded in the Plan; if, as the result of a consultation (or a modification involving no consultation), the characteristics of the transmitter subject to interference are modified, the calculation of the increase in interference should be based on these new characteristics.

It should be noted that consideration might be given to the possibility of linking the increase in interference to a deterioration of a given percentage of the service area; but this would give rise to complex calculations and would seem to offer no advantageous calculations and would seem to yield no advantages.

INTERNATIONAL TELECOMMUNICATION UNION
BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1975

Document No. 19-E
2 October 1975
Original : French

BUDGET CONTROL
COMMITTEE

Note by the Secretary-General

BUDGET OF THE CONFERENCE

The budget of the Regional Administrative LF/MF Broadcasting Conference, Second Session, as approved provisionally by the Administrative Council of the Union at its 30th Session in 1975, is annexed hereto for the information of the Budget Control Committee.

At its 27th Session, the Administrative Council decided that this Regional Conference should be divided into two sessions. However, with the entry into force of a new Convention on 1 January 1975, the expenses of the first session in 1974 were posted separately to Members' accounts at the end of 1974.

This Regional Conference concerns the countries in Regions 1 and 3 within the meaning of Article 5 of the Radio Regulations. Consequently under No. 95 of the International Telecommunication Convention (Torremolinos, 1973), the relevant expenditure must be borne by all the Members of these two Regions in accordance with the class of contribution they have chosen and, on the same basis, by any Members in Region 2 which may participate in the Conference.

The Members which will have to defray the expenses of the Conference are listed in Annex 2 below.

A list of the recognized private operating agencies and international organizations participating in the Conference which are not exempt from contribution to the defrayal of expenses, with the number of contributory units they have chosen, will be published later.

The attention of the Budget Control Committee is drawn to the fact that, since the Administrative Council approved the budget of the conference, the fact has emerged that it will probably be necessary to use an outside computer in addition to that of the Union as the I.T.U. computer is not fast enough to calculate the plans within a reasonable time. It will therefore certainly be necessary, at the beginning and end of the conference, and possibly also in the middle, to hire a more powerful computer. The cost of this computer is 10,000 Swiss francs per week-end.

M. MILI
Secretary-General



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A N N E X 1

REGIONAL ADMINISTRATIVE LF/MF BROADCASTING CONFERENCE

Second Session - Geneva, October-November 1975

1. Staff expenditure

It will be necessary to engage supernumerary staff to reinforce the established staff both with the preparatory work and with the servicing of the Conference itself.

a) Salaries and related expenditure

	Preparatory work	Conference		Swiss francs
	Days	Number of staff	Days	
Chairman's Office	-	-	-	-
Executive Secretariat	100	1	52	14,400
Personnel	90	1	47	16,600
Finance	30	1	47	7,000
Delegates' service	-	2	99	12,100
Documents control	-	3	146	17,400
Meeting room service, agenda	-	1	52	6,300
Interpretation (French, English Spanish, Russian, Chinese, Arabic)	-	65	2,671	943,800
Translation	860	21	987	371,000
Proof-readers	-	3	43	5,600
Minute-writers	-	13	581	119,000
Typing	450	32	1,504	195,500
Document reproduction	360	13	611	71,400
Document distribution	100	12	564	47,400
Ushers (Meeting rooms)	-	7	344	23,800
Messengers	-	6	282	18,800
Telephone	-	1	47	3,600
Sundry replacements	-	5	200	24,300
Extra staff for I.F.R.B.	-	-	-	35,000
				1,933,000
Provision for overtime				150,000
Total, salaries and related expenditure				2,083,000
b) <u>Travel</u>				138,000
c) <u>Insurance</u> (accident insurance, sickness insurance, etc.)				43,000
Total				2,264,000

Article 17 of the Financial Regulations of the Union stipulates in point 2 that, when permanent staff of the Union is seconded to the regional administrative conferences mentioned in No. 95 of the Convention, all the expenses of such staff shall be borne by the Regional Administrative Conference. The amounts thus charged, corresponding to the salaries (including allowances payable in accordance with the Staff Regulations and Staff Rules and the Regulations of the S.S. & B. Funds) of the staff seconded, shall be credited to the I.T.U. as income in the budget, but excluding the cost of recruiting supernumerary staff to replace the seconded staff members.

For the first session of the October 1974 Conference, these provisions were not applied, since it was relatively short (three weeks), so that the permanent staff members helping to service the conference continued to perform their normal duties.

The second session of the Conference is scheduled to last seven weeks. Certain permanent staff members will therefore not be able to work for the conference over so long a period and at the same time perform their normal duties. The sum of 120,000 Swiss francs is therefore to be included in the budget of the regional conference to cover the resultant expenditure.

2. Premises and equipment

a) Premises, furniture, machines

The experience of the first session showed that provision should be made to rent the whole of the International Conference Centre of Geneva. The credits to be allocated for this purpose are as follows :

	<u>Swiss francs</u>
- Contract concluded between I.T.U. and C.I.C.G. for the hire of the Conference Centre from 6 October to 21 November 1975	573,400
- Surveillance costs	4,000
- Technical services for use of simultaneous interpretation, sound and recording equipment during meetings	10,000

Swiss francs

- Upkeep of conference rooms (cleaning, servicing, insurance)	16,600	
		604,000
- Hire of typewriters, photocopying machines, etc.		6,000
Total		610,000
		=====

b) Document production

The volume of documents for the second session is expected to be approximately the same as for the first session. Since document costs for the first session totalled 46,400 Swiss francs, it is proposed to provide, for the second session, a credit of

		50,000
In addition, a number of documents had to be produced by printing firms outside the Union. The cost of these was		113,000
Total		163,000
		=====

c) Office supplies and overheads

The budget estimates cover :

- office supplies and equipment	14,000	
- local transport and internal removals	5,000	
Total		19,000
		=====

d) Postage, telephone calls, telegrams

It is proposed that the following credits be provided :

- postage (including the despatch of preparatory documents)	20,000	
- telephone calls	3,000	
- telegrams	1,000	
Total		24,000
		=====

Swiss francse) Technical installations

The rental for the I.C.C. includes the use of the technical installations for simultaneous interpretation, telex, etc. with which the building is equipped. The budget estimates therefore cover only additional expenses (for example, magnetic tapes).

1,000
=====f) Sundry and unforeseen

It is proposed that the credit for this purpose should amount to

10,000
=====3. Other expenditurea) Preparatory work by the I.F.R.B.

The I.F.R.B. will undertake preparatory work for which the following credits are proposed :

- supernumerary staff : a credit for this purpose is provided in point 1. a) above	-	
- supplies for work performed by the I.T.U. computer	7,000	
- document reproduction	4,000	
- office supplies and miscellaneous	2,000	13,000
	=====	=====

b) Final Acts of the Conference

The Final Acts of the Conference will comprise the Regional Agreement on the use of frequencies in Regions 1 and 3. This Agreement will be accompanied by a frequency assignment plan, technical data, protocols and resolutions.

It is planned to have all this work done by the internal services of the Union. For this purpose it is intended to produce the following numbers of conference documents (blue and pink) : 600 French, 1,000 English and 300 Spanish. In addition, copies of the Final Acts (white document) will be required for signature. This document will comprise about 230 pages, and 750 copies will be produced (200 French, 450 English, 100 Spanish).

To meet the cost of producing the Final Acts the following credits are proposed :

	<u>Swiss francs</u>
- paper	26,000
- printing and preparation	23,000
- supplies	4,000
	<u>53,000</u>
- translation into Chinese	25,000
- translation into Russian	25,000
	<u>103,000</u>
Total	<u>=====</u>

c) Interest to be credited to the ordinary budget

In accordance with Article 44 iii) of the Financial Regulations of the Union, interest must be paid on sums advanced from the ordinary budget to finance a regional administrative conference. This interest is at the rate of 4% per annum during periods when no advances have been requested from the Swiss Confederation and at the interest rates applied by the Swiss Confederation during periods when it has been necessary to request advances from the Confederation.

As the second session of the Conference is to meet from 6 October to 21 November 1975, the relevant accounts will probably be sent to participants on 31 January 1976. Allowing 60 days for payment, the invoices must be settled by 31 March 1976 at the latest. It is therefore until that date that interest should be included in the accounts of the second session of the Conference. This interest is estimated at

90,000
=====

	Initial budget 1974	Revised budget 1974
	- <u>Swiss francs</u> -	
1. <u>Staff</u>		
Salaries and related expenditure	2,168,000	2,083,000
Reimbursement of salaries in the ordinary budget	120,000	120,000
Travel	50,000	138,000
Insurance	45,000	43,000
	2,383,000	2,384,000
2. <u>Premises and equipment</u>		
Premises, furniture, machines	477,000	610,000
Document production	20,000	163,000
Office supplies and overheads	19,000	19,000
Postage, telephone, telegrams	24,000	24,000
Technical installations	1,000	1,000
Sundry and unforeseen	10,000	10,000
	551,000	827,000
3. <u>Other expenses</u>		
I.F.R.B. preparatory work	13,000	13,000
Report to the second session	103,000	103,000
Interest credited to the ordinary budget	40,000	90,000
	156,000	206,000
Total, Section 14	3,090,000	3,417,000

A N N E X 2LIST OF UNION MEMBERS AND THEIR CONTRIBUTORY UNITS

A. <u>Members in Regions 1 and 3</u>	<u>Contributory units</u>
1. Afghanistan (Republic of)	$\frac{1}{2}$
2. Albania (People's Republic of)	$\frac{1}{2}$
3. Algeria (Algerian Democratic and Popular Republic)	1
4. Germany (Federal Republic of)	20
5. Saudi Arabia (Kingdom of)	1
6. Australia	18
7. Austria	1
8. Bahrain (State of)	$\frac{1}{2}$
9. Bangladesh (People's Republic of)	1
10. Belgium	5
11. Byelorussian Soviet Socialist Republic	1
12. Burma (Socialist Republic of the Union of)	$\frac{1}{2}$
13. Botswana (Republic of)	$\frac{1}{2}$
14. Bulgaria (People's Republic of)	1
15. Burundi (Republic of)	$\frac{1}{2}$
16. Cameroon (United Republic of)	$\frac{1}{2}$
17. Central African Republic	$\frac{1}{2}$
18. China (People's Republic of)	20
19. Cyprus (Republic of)	$\frac{1}{2}$
20. Vatican City State	$\frac{1}{2}$
21. Congo (People's Republic of the)	$\frac{1}{2}$
22. Korea (Republic of)	1
23. Ivory Coast (Republic of the)	1
24. Dahomey (Republic of)	$\frac{1}{2}$
25. Denmark	5
26. Egypt (Arab Republic of)	2
27. United Arab Emirates	1
28. Spain	3
29. Ethiopia	1
30. Fiji	$\frac{1}{2}$
31. Finland	3
32. France	30
33. Gabon Republic	$\frac{1}{2}$
34. Gambia	$\frac{1}{2}$
35. Ghana	1
36. Greece	1
37. Guinea (Republic of)	$\frac{1}{2}$
38. Equatorial Guinea (Republic of)	$\frac{1}{2}$
39. Upper Volta (Republic of)	$\frac{1}{2}$
40. Hungarian People's Republic	1

<u>Members in Regions 1 and 3 (continued)</u>	<u>Contributory units</u>
41. India (Republic of)	13
42. Indonesia (Republic of)	1
43. Iran	1
44. Iraq (Republic of)	$\frac{1}{2}$
45. Ireland	2
46. Iceland	$\frac{1}{2}$
47. Israel (State of)	1
48. Italy	10
49. Japan	20
50. Jordan (Hashemite Kingdom of)	$\frac{1}{2}$
51. Kenya (Republic of)	$\frac{1}{2}$
52. Khmer Republic	$\frac{1}{2}$
53. Kuwait (State of)	1
54. Laos (Kingdom of)	$\frac{1}{2}$
55. Lesotho (Kingdom of)	$\frac{1}{2}$
56. Lebanon	1
57. Liberia (Republic of)	1
58. Libyan Arab Republic	$\frac{1}{2}$
59. Liechtenstein (Principality of)	$\frac{1}{2}$
60. Luxembourg	$\frac{1}{2}$
61. Malaysia	3
62. Malawi	$\frac{1}{2}$
63. Maldives (Republic of)	$\frac{1}{2}$
64. Malagasy Republic	1
65. Mali (Republic of)	$\frac{1}{2}$
66. Malta (Republic of)	$\frac{1}{2}$
67. Morocco (Kingdom of)	1
68. Mauritius	$\frac{1}{2}$
69. Mauritania (Islamic Republic of)	$\frac{1}{2}$
70. Monaco	$\frac{1}{2}$
71. Mongolian People's Republic	$\frac{1}{2}$
72. Nauru (Republic of)	$\frac{1}{2}$
73. Nepal	$\frac{1}{2}$
74. Niger (Republic of the)	$\frac{1}{2}$
75. Nigeria (Federal Republic of)	2
76. Norway	5
77. New Zealand	3
78. Oman (Sultanate of)	$\frac{1}{2}$
79. Uganda (Republic of)	$\frac{1}{2}$
80. Pakistan	2
81. Netherlands (Kingdom of the)	10
82. Philippines (Republic of the)	1
83. Poland (People's Republic of)	3
84. Portugal	$\frac{1}{2}$
85. Qatar (State of)	$\frac{1}{2}$
86. Syrian Arab Republic	$\frac{1}{2}$
87. German Democratic Republic	3
88. Ukrainian Soviet Socialist Republic	3

<u>Members in Regions 1 and 3 (continued)</u>	<u>Contributory units</u>
89. Roumania (Socialist Republic of)	1
90. United Kingdom of Great Britain and Northern Ireland	30
91. Rwanda (Republic of)	$\frac{1}{2}$
92. Senegal (Republic of the)	1
93. Sierra Leone	$\frac{1}{2}$
94. Singapore (Republic of)	1
95. Somali Democratic Republic	$\frac{1}{2}$
96. Sudan (Democratic Republic of the)	1
97. Sri Lanka (Ceylon) (Republic of)	$\frac{1}{2}$
98. Sweden	10
99. Switzerland (Confederation of)	10
100. Swaziland (Kingdom of)	$\frac{1}{2}$
101. Tanzania (United Republic of)	$\frac{1}{2}$
102. Chad (Republic of the)	$\frac{1}{2}$
103. Czechoslovak Socialist Republic	3
104. Thailand	$\frac{1}{2}$
105. Togolese Republic	$\frac{1}{2}$
106. Tonga (Kingdom of)	$\frac{1}{2}$
107. Tunisia	2
108. Turkey	2
109. Union of Soviet Socialist Republics	30
110. Viet-Nam (Republic of)	$\frac{1}{2}$
111. Yemen Arab Republic	$\frac{1}{2}$
112. Yemen (People's Democratic Republic of)	$\frac{1}{2}$
113. Yugoslavia (Socialist Federal Republic of)	1
114. Zaire (Republic of)	1
115. Zambia (Republic of)	$\frac{1}{2}$
B. <u>Members in Regions 1 and 3 having special status</u> <u>(Additional Protocol IV of the Convention, Malaga-Torremolinos, 1973)</u>	
1. Papua New Guinea	$\frac{1}{2}$
C. <u>Members in Region 2 participating in the conference</u>	
1. Haiti (Republic of)	$\frac{1}{2}$
2. Panama (Republic of)	$\frac{1}{2}$
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	331 $\frac{1}{2}$
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PLENARY MEETINGFrance

DIRECTIONAL ANTENNAE IN LF AND MF BROADCASTING

CALCULATION OF RADIATION PATTERN

Document No. 20 gives some standard directional antennae patterns, with a high degree of protection in a large sector, indicating the front-to-back ratio "p" (in dB).

The first addendum to this document gives the maximum gain g_m (in dB) of these antennae with base-fed quarter-wave or half-wave masts (in which case the maximum radiation is in the horizontal plane).

We can thus deduce the antenna gain in the protected sector :

$$\underline{g_p = g_m - p}$$

Example :

Let us take the case of the three-mast antenna dealt with in Figure 9, with half-wave masts. The maximum gain (at 0°) is $g_m = 7.9$ dB and the theoretical protection $p \geq 30$ dB.

For a feed of 100 kW, the maximum forward radiation is :

- in e.m.r.p. 100 kW + 7.9 dB = 617 kW
- in c.m.f 3 000 V + 7.9 dB = 7 450 V.

The backward gain is :

$$g_p = 7.9 - 30 = - 22.1 \text{ dB}$$

and the radiation is :

- in e.m.r.p. $100 \text{ kW} - 22.1 \text{ dB} = 0.62 \text{ kW}$
- in c.m.f. $3\,000 \text{ V} - 22.1 \text{ dB} = 235 \text{ V}$

It should be noted that, to obtain, in the direction of the maximum, the radiation shown above with a single half-wave (i.e. equidirectional) mast, a power of 617 kW would be required instead of 100 kW.

It should also be pointed out that the protection of 30 dB is theoretical. As is explained in Document No. 20, so high a figure is fairly difficult to achieve. Assuming a practical protection of 25 dB, the radiation in the protected sector would be increased by 5 dB (i.e. 2 kW e.m.r.p. or 420 V in c.m.f.).

Note 1

For the protected sector, we have considered the radiation near the horizontal plane, since the patterns given in Document No. 20 are in this plane. In fact, the interfering radiations may be in directions diverging considerably from the horizontal, according to the distance from the transmitter suffering interference, particularly if multiple-hop propagations on the E or F layers are considered.

A more thorough calculation is therefore required, for which the entire pattern in space of the antennae must be known, particularly in the vertical plane in the direction of the transmitter suffering interference.

These patterns will be determined later, presumably in collaboration with the C.C.I.R. However, for antennae with aligned masts (Figures 2 to 16 in Document No. 20), the protection indicated can be taken as assured in the vertical plane, between the horizontal and an elevation angle equal to half the angle of the horizontal sector shown in the figures, irrespective of the mast height.*) For high angles of elevation (e.g. $> 30^\circ$), protection is substantially improved by using half-wave masts. Moreover, the multiple-hop paths (generally at high elevation angles) have higher attenuations than single-hop paths.

*) The total radiation surface is in fact the "product" of the characteristic surface of a single mast multiplied by the characteristic surface of the network of isotropic sources, which, in the case of aligned masts, is the surface obtained by rotating the horizontal pattern around the axis of the masts.

To give an example, the antenna in Figure 2 of Document No. 20 has, in the azimuth 180° , a lobe at an elevation angle of 60° :

- at 14 dB from the maximum with quarter-wave masts;
- at 24 dB from the maximum with half-wave masts.

All this shows the utility of antennae with high protection in a large horizontal sector, particularly if short masts are used (LF broadcasting).

In particular, the protection indicated in the figures is provided in the vertical plane, even with quarter-wave masts, with the three-mast antennae of Figures 9, 10, 11 and 12 and, a fortiori, with the four-mast antennae of Figures 15 and 16.

Note 2

When directional antennae are used, it is clear that the transmitting centres must be sited at the edge of the service area, which involves no great difficulty for new stations.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Addendum No. 1 toDocument No. 20-E

29 October 1975

Original : FrenchPLENARY MEETINGFrance

DIRECTIONAL ANTENNAE IN LF AND MF BROADCASTING

To supplement the information in Document No. 20, we show below the theoretical gain, in dB, in relation to the short vertical antenna, of the antennae referred to in Figures 2 to 17 of Document No. 20 in the case of quarter-wave or half-wave masts. These gains have been calculated by integrating the energy radiated in the half-circle above the horizontal plane.

Antenna in Figure	Theoretical gain (dB)	
	Masts $\lambda/4$	Masts $\lambda/2$
2	3	4.8
3	3.8	5.4
4	3	4.9
5	4.5	6.6
6	4	6.1
7	3.3	5
8	4.1	6
9	6.6	7.9
10	5.7	7.1
11	5.3	6.8
12	4.3	5.9
13	5.8	8
14	5.9	7.3
15	8	9.1
16	6.7	8.1
17	6.1	8

France

DIRECTIONAL ANTENNAE IN LF AND MF BROADCASTING

CATALOGUE OF STANDARD PATTERNS FOR USE IN PLANNING

(Radiation patterns in the horizontal plane of vertical masts)

1. Determination of radiation patterns

Determining the radiation pattern of an antenna with several masts is a very complex matter, because of the number of parameters, which increases rapidly with the number of masts. For example (taking only identical masts) :

- With two masts, there are three parameters (distance, amplitude and relative phase);
- With three masts, there are seven (three geometrical, four amplitudes and relative phase);
- With four masts, there are eleven.

In point of fact, although patterns can be obtained which are extremely varied in form, very few of them are of use in practice. On the other hand, it is very useful, in planning a transmitter network, to work out patterns permitting a very large gain over a certain sector, or a very substantial attenuation in certain sectors, in order to reduce interference.

The basic aim of this paper is to provide information on a number of standard patterns which seem useful for planning purposes. They are essentially radiation patterns in the horizontal plane (or with low angles of elevation).

But it must be made clear that these are only examples; many patterns similar to the ones given could be calculated.

These horizontal patterns are valid whatever the height of the masts, which, nevertheless, are assumed to be identical. The gain, on the other hand, depends on the height of the masts.

The patterns given below are theoretical ones; at the end of the paper we shall consider the possibility of achieving them in practice.



2. Two-mast antennae

Fig. 1 gives the standard patterns one can obtain with two vertical masts, depending on :

- The distance d of the masts (d is expressed in terms of the wavelength);
- The phase difference α of the RF currents at the antinode of the masts (in degrees).

In Fig. 1, it is assumed that the mast antinode currents are equal.

Patterns are given for different values of the parameters d and α . Between these values, patterns with intermediate forms are obtained.

One of the most frequently used patterns is the so-called "cardioid" one, with $d = 0.25 \lambda$ and $\alpha = 90^\circ$, when the aim is to reduce the radiation greatly in one particular direction (for example, to avoid interfering with a transmitter situated in that direction). This pattern, however, is not generally the optimal one. Thus, the pattern in Fig. 2 ($d = 0.32 \lambda$, $\alpha = -72^\circ$) gives a "backward" attenuation of 24 dB, but over an angle of 56° , which makes it possible to protect a wide sector, e.g. a large reception zone of another transmitter.

Greater protection could theoretically be obtained in a less wide sector by taking intermediate values of between 0.25λ and 0.32λ for d and between -90° and -72° for α .

It should also be noted that once the antennae have been built, the distance between the masts cannot be changed. This is often regarded as a drawback of directional antennae in the event of a change of frequency. The ratio d/λ does indeed vary with the frequency. However, for small variations in frequency, the variation in d/λ can be corrected by making the appropriate variation in α , calculated in such a way as to preserve certain essential characteristics of the radiation*). In the present case, if it is wished to preserve the backward protection, the patterns in Figs. 3 and 4 illustrate how protection of 24 dB can be maintained for values of d/λ varying between 0.25 and 0.37, which corresponds to a possible frequency variation of about $\pm 20\%$ around the value corresponding to $d = 0.31 \lambda$. Admittedly, the pattern is modified, but in a way that may be acceptable in practice.

Fig. 5 shows a pattern which offers a protection of 24 dB in two opposite 45° sectors ($d = 0.52 \lambda$ and $\alpha = 0^\circ$).

*) It may also be noted that the electrical height of the mast changes with the frequency and that with large frequency variations, the new height may be very far from the optimum.

Fig. 6 shows a pattern of the same type, but on the assumption that after a change in frequency, $d = 0.48 \lambda$ (i.e. a frequency variation of 8 per cent). Taking $\alpha = -14^\circ$, the 24 dB protection is preserved over a sector of 46° , but only on one side. On the other side, the protection is reduced to 15 dB at 0° and to 14 dB at $\pm 10^\circ$, which may be quite enough in practice.

With $d = 0.48 \lambda$ and $\alpha = +14^\circ$, an attenuation of 24 dB would have been obtained on the 0° side.

The foregoing patterns provide substantial attenuation over certain angles. Often such attenuation is not necessary, and it may even be desirable to have a certain amount of backward radiation, and particularly to eliminate zeros. It is very easy to calculate such an antenna (which is also easier to regulate).

Fig. 7 shows a pattern of the same type as in Figure 3, but there is no longer a zero and the "backward" radiation, although lower than in front, remains regular. It is possible to regulate the "backward" attenuation more or less at will.

Naturally, a large number of different patterns can be obtained by choosing the appropriate parameters. Once again, we may repeat that the foregoing patterns have been given merely as an example.

3. Antennae with three masts in line

With three masts it is obviously possible to obtain patterns with better characteristics, and in particular with substantial attenuation over large angles.

Fig. 8 shows a pattern with an attenuation of 40 dB over an angle of 80° .

Figs. 9, 10, 11 and 12 give patterns with attenuations of 30 to 34 dB over an angle varying between 106° and 140° . In these four patterns, the wide bandwidth of the antennae can easily be seen. In the event of a change in frequency, the pattern is modified to a certain extent, but the backward attenuation remains greater than 30 dB over an angle of at least 106° , with d varying between 0.21λ and 0.32λ , giving a possible frequency variation of $\pm 23^\circ$.

Fig. 13 gives a pattern with two opposite 30 dB attenuation sectors, each 66° wide.

Finally, as with two-mast antennae, it is possible with three-mast antennae to eliminate theoretical zeros and to obtain reduced attenuation, but over a wide angle (see Fig. 14). Once again the backward attenuation can be regulated more or less at will.

4. Four-mast antenna

With four masts, the radiation characteristics may, of course, be even more marked.

If a large attenuation value is sought over a very large sector, the pattern in Fig. 15 can be obtained with four aligned masts. The antenna thus obtained obviously has a very considerable forward gain and 31 dB of attenuation in a sector of 185° .

Fig. 16 shows a pattern of the same type (30 dB in a sector of 176°), where d has risen from 0.25 to 0.30 λ , which, for installed masts, corresponds to a frequency variation of 20 per cent.

By way of example, Fig. 17 shows the pattern of an antenna with four masts arranged rhombically with strong backward protection. These antennae with rhombically arranged masts generally give slightly less favourable patterns than antennae with aligned masts. They may, however, be easier to instal on a given terrain. Moreover, in the case of Fig. 17, two masts may be fed in parallel, and the adjustment is therefore simpler, because there are only three feed points.

It would, of course, be possible, as in the case of two or three-mast antennae, to eliminate all zeros, so as to obtain a given attenuation value in a large sector. A pattern very close to the pattern aimed at, may, however, often be obtained with only three masts.

5. Possible designs and adjustments

The above patterns are theoretical. In practice, it is obviously difficult to achieve the calculated attenuation values, particularly when they are over 30 dB. Several directional antennae have been constructed in France and various studies carried out suggest the following conclusions :

The terrain must be sufficiently flat, without major obstacles in the neighbourhood. Terrain of good conductivity is, of course, preferable, and more particularly a very well developed earth network is needed under each mast (for example 120 radii of at least one half-wave for MF, or more if the terrain is not very good). Also, the masts must not be too close to each other, at a distance of less than 0.2 λ , for example.

The masts must, of course, be fed separately from a central cabin comprising the circuits required to ensure that each mast has the appropriate current at the antinode (in amplitude and phase).

Methods of calculating the distribution of currents along the masts, whatever their length*), enable the impedance at the base of the masts to be predetermined in operating conditions, i.e. with current antinodes corresponding to the desired pattern. The voltage (amplitude and phase) to be applied at the base of the masts may also be determined. The matching circuits at the base of the masts and the distribution circuits in the central cabin can then be easily determined.

*) Particularly new methods developed in France in the past few years, which have proved their practical value.

Voltage meters (or possibly current meters) are also required at the base of the mast, so that the various circuits can be adjusted in situ. Pattern measuring instruments on the ground are then needed to adjust the currents in the masts, if large attenuation values (e.g. above 15 dB) are required. With these instruments, the adjustment of the antenna, and hence the radiation pattern, can also be checked during operation. These methods of adjustment have been used in France for several antennae. Some practical results are shown below.

For an antenna corresponding to Fig. 2 with quarter-wave MF masts, an attenuation value of 20 dB has been obtained in the desired sector of 54° and of 25 dB in the theoretical zeros (with summary adjustments).

For an antenna corresponding to Fig. 8, with MF masts of 0.625λ , an attenuation value of 24 dB (in the desired sector) has been obtained by adjustments solely made with measurement instruments at the base of the masts. Measurements of the radiation pattern then made it possible to obtain a backward attenuation value of 28 dB (again in the desired sector), despite the presence of other masts a few hundred metres away.

For another three-mast MF antenna, an attenuation very close to 30 dB in a sector of at least $\pm 20^{\circ}$ was measured.

Other antennae were also adjusted by these methods, but these directional antennae did not correspond to the above radiation patterns. However, it was possible to verify the validity of the methods of circuit calculation and of adjustment.

Similar results were obtained in other countries.

Another important finding : for four antennae thus adjusted (and in particular for the antennae corresponding to Figs. 2 and 8), the backward radiation and the voltages at the base of the mast were checked continuously, in some cases for two and in others for three years. No appreciable variation of the backward field strength (i.e. above 0.5 dB) was observed.

Similarly, voltages at the base of the pylons, which varied with the voltage of the sector, were virtually unchanged in relative value. The phase meter did not vary by more than $\pm 1^{\circ}$. All this happened whatever the weather conditions and the season.

It might be concluded from this stability in time that the adjustments could have been further improved in order to increase backward protection still more. However, in practice it seems difficult to exceed 30 dB for backward protection. On the other hand, 20 dB protection hardly poses any problem in an average terrain.

A N N E X

ECONOMIC CONSIDERATIONS REGARDING DIRECTIONAL ANTENNAE

The price of an antenna with several masts is obviously higher than that of a single antenna. There are additional masts and more complicated circuits and the feeders. The cost of all these items varies in each case since :

- the price of masts varies enormously not only with their height, but also with the mechanical requirements imposed (more particularly maximum wind strength);
- the price of the circuits varies with the power of emission.

Lastly, there are the local economic conditions, the cost of transport, and so on.

Estimates can therefore be made only in certain particular cases or they will have to be made in relative values.

For a power of 300 kW, for example, the total cost of a two-mast antenna is about 2.5 times the price of a one-mast antenna. For three masts, it will be four times the price of a one-mast antenna.

It may also be estimated that a half-wave, two-mast 150 m antenna, for the mechanical requirements imposed in France (particularly with a maximum wind of 200 km/h) and with all the related equipment and the radio circuits, will be about 50 per cent of the price of a 300 kW transmitter (compared with 20 per cent for an antenna with a single mast).

It should be remembered that the maintenance costs for an antenna are negligible compared with the operating costs of a transmitter (valves, power).

Lastly, for transmitters required only for a certain angular sector, directional antennae make it possible, for the same service in the wanted zone, to reduce the necessary power of emission substantially because of their gain. In the case of large power values, the use of such an antenna ultimately results in a much less costly installation as regards both investment and operating costs.

It should also be pointed out that these antennae require a much larger area than single antennae.

Antenne à 2 Pylônes à courants égaux

Two-mast antennae with equal currents

Antena de dos mástiles de corrientes iguales

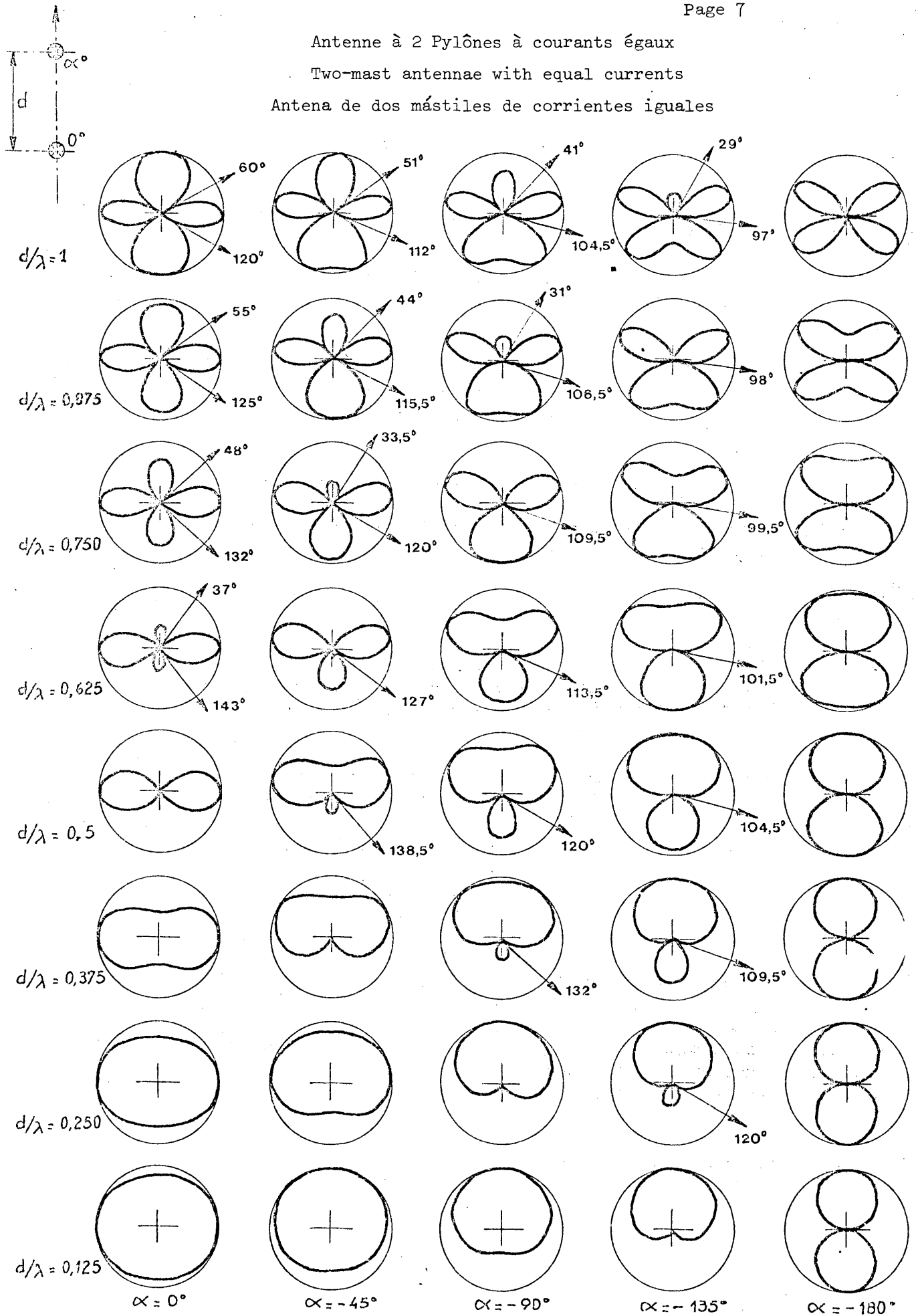


Fig. 1

Fig. 2

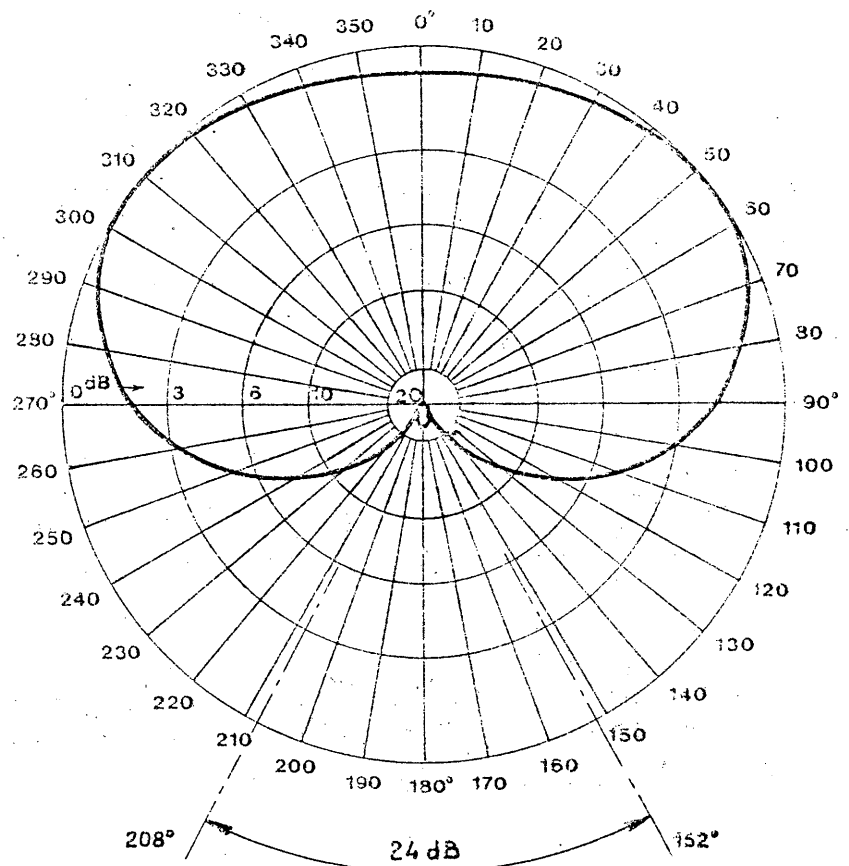
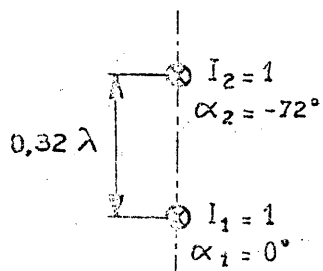


Fig. 3

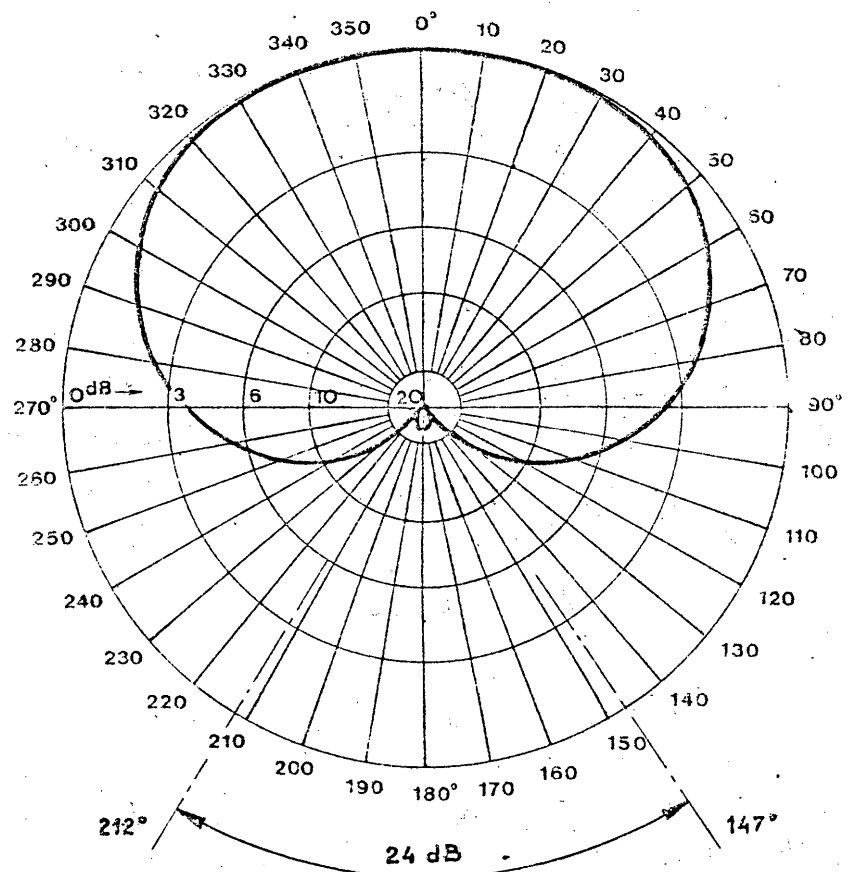
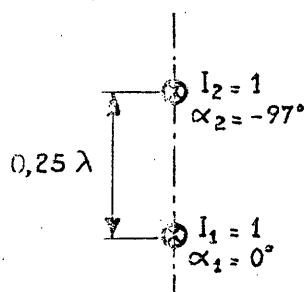


Fig. 4

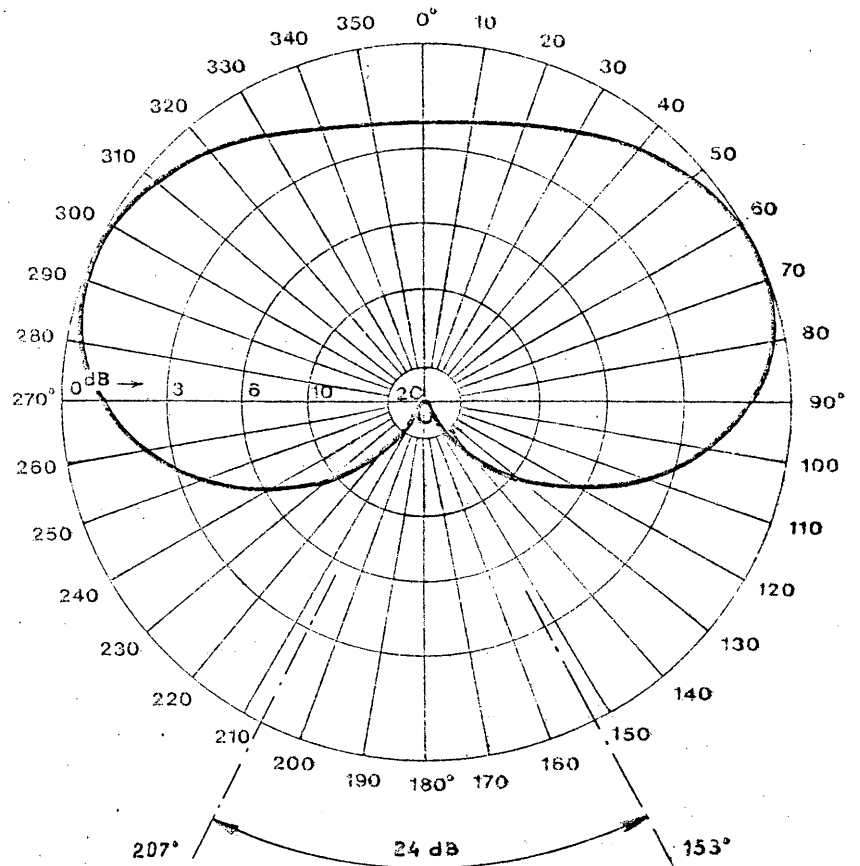
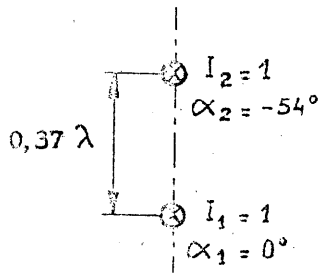


Fig. 5

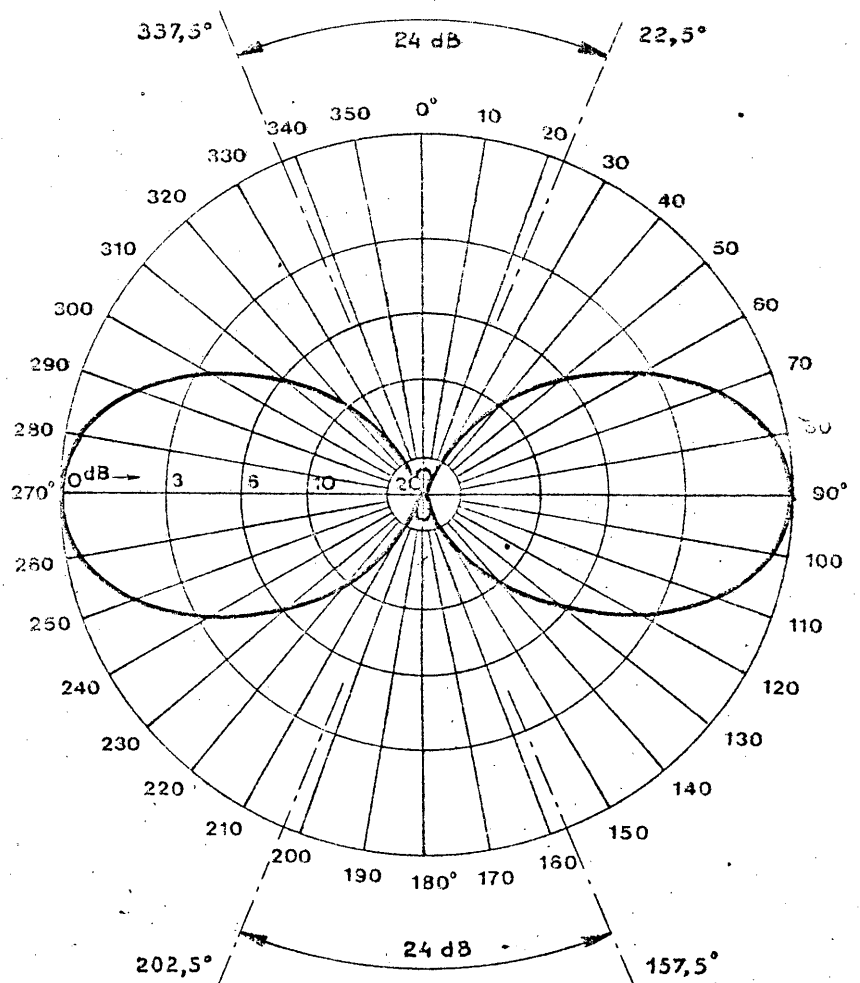
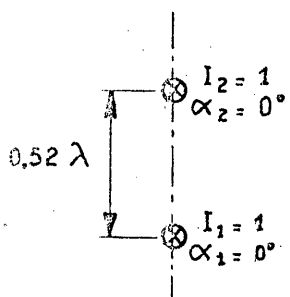


Fig-6

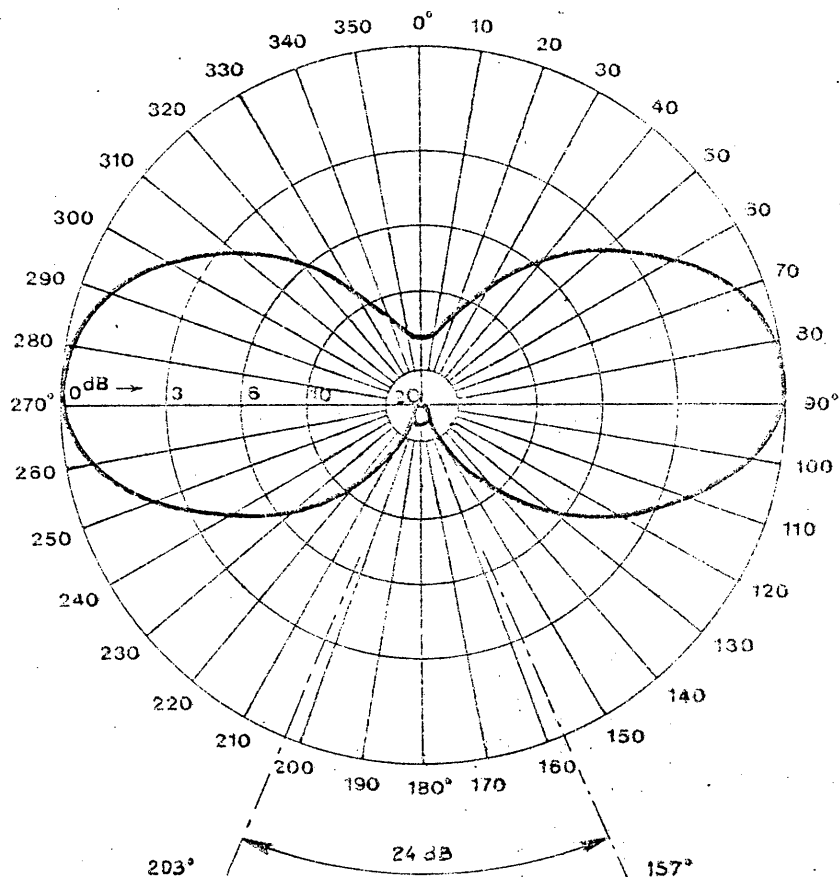
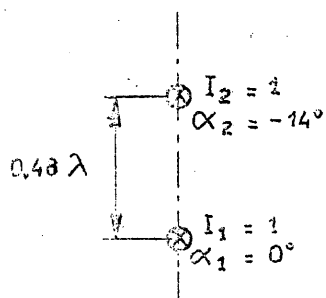


Fig-7

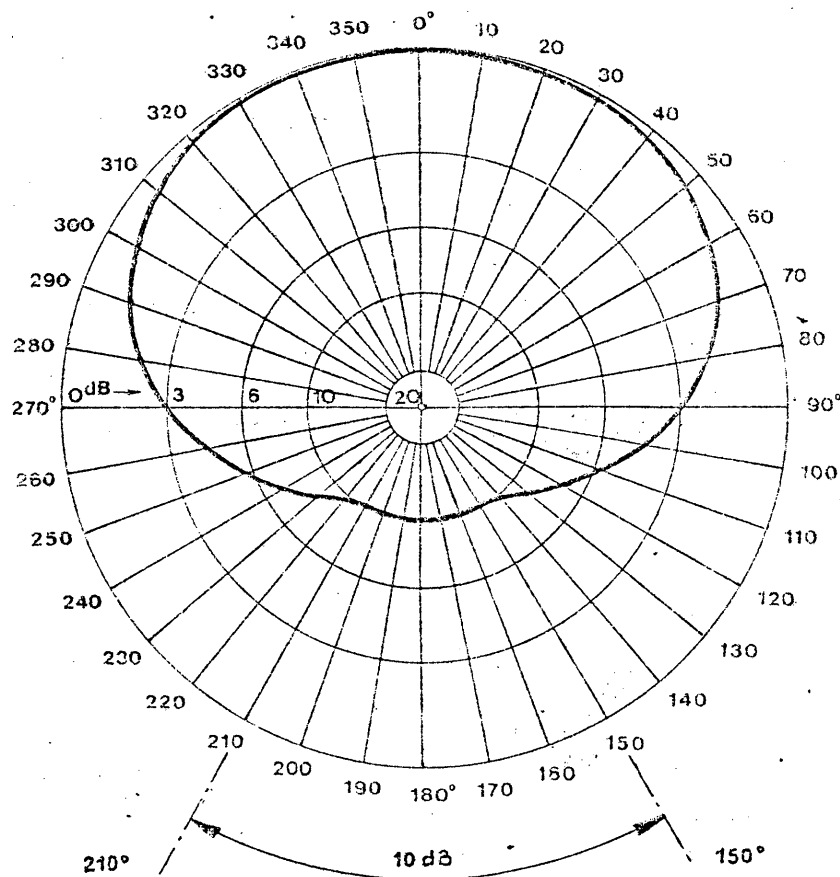
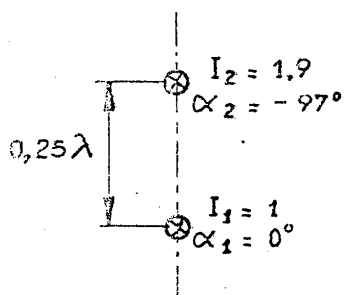


Fig-3

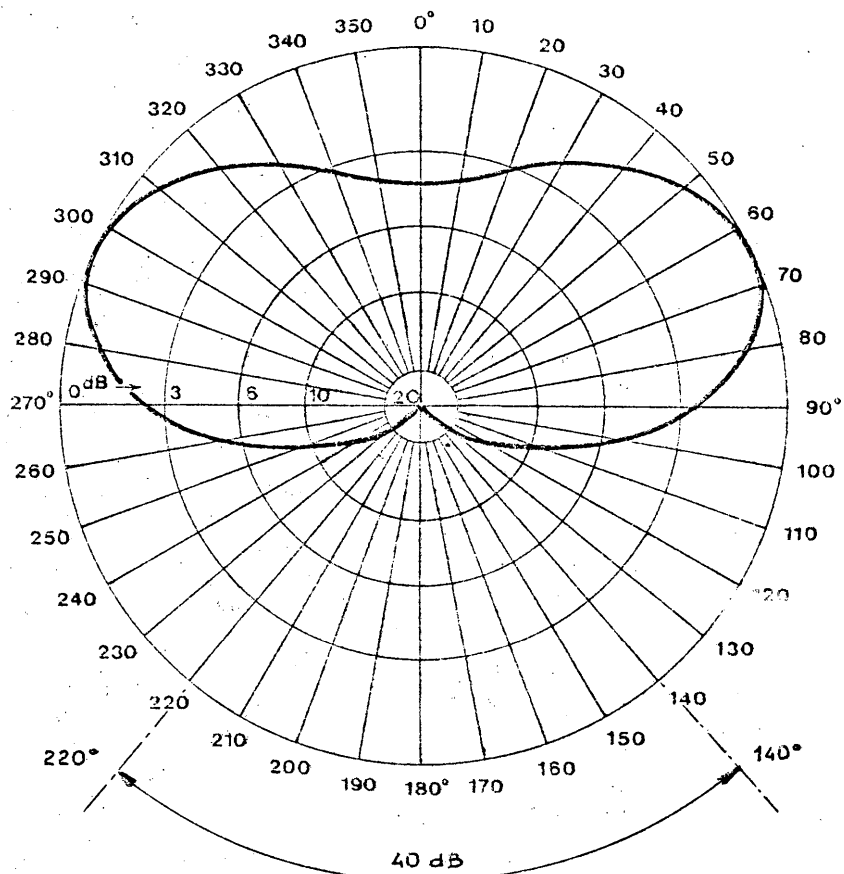
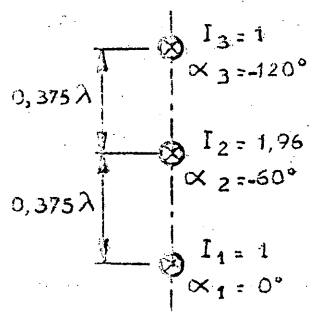


Fig-9

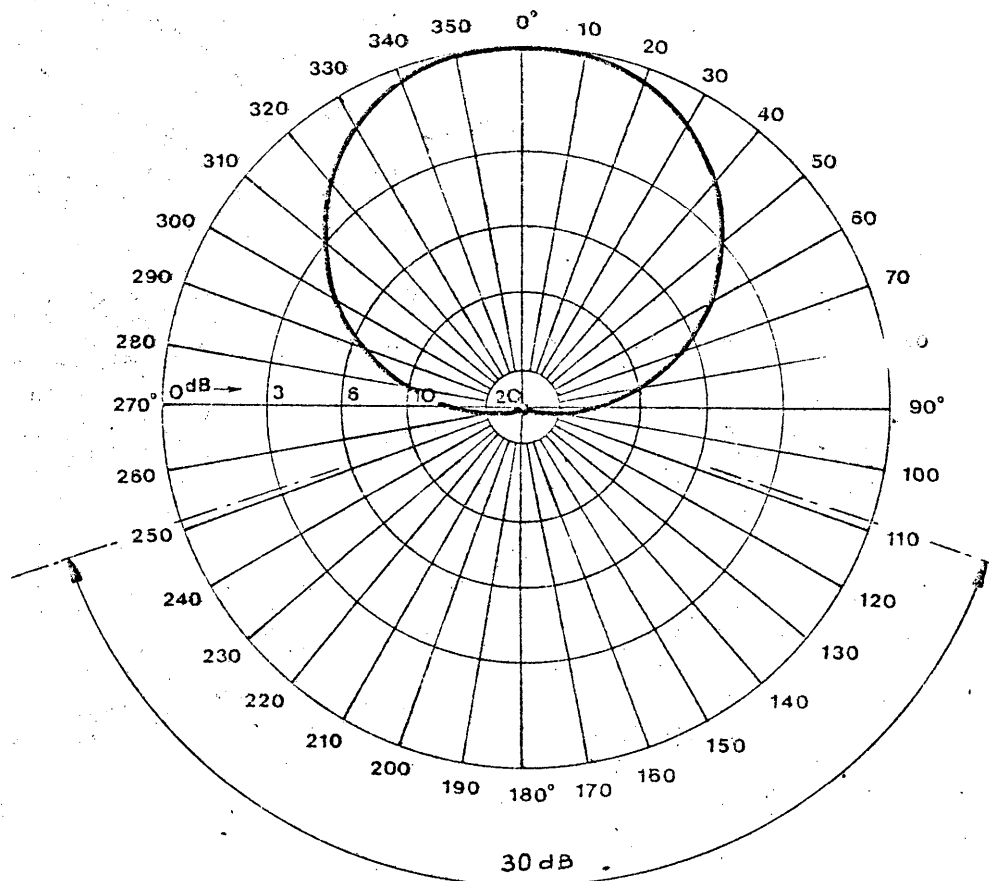
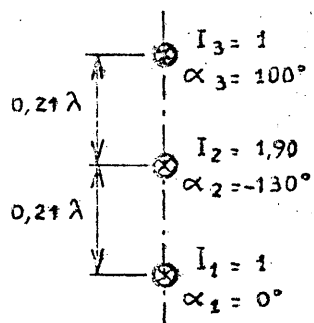


Fig. 10

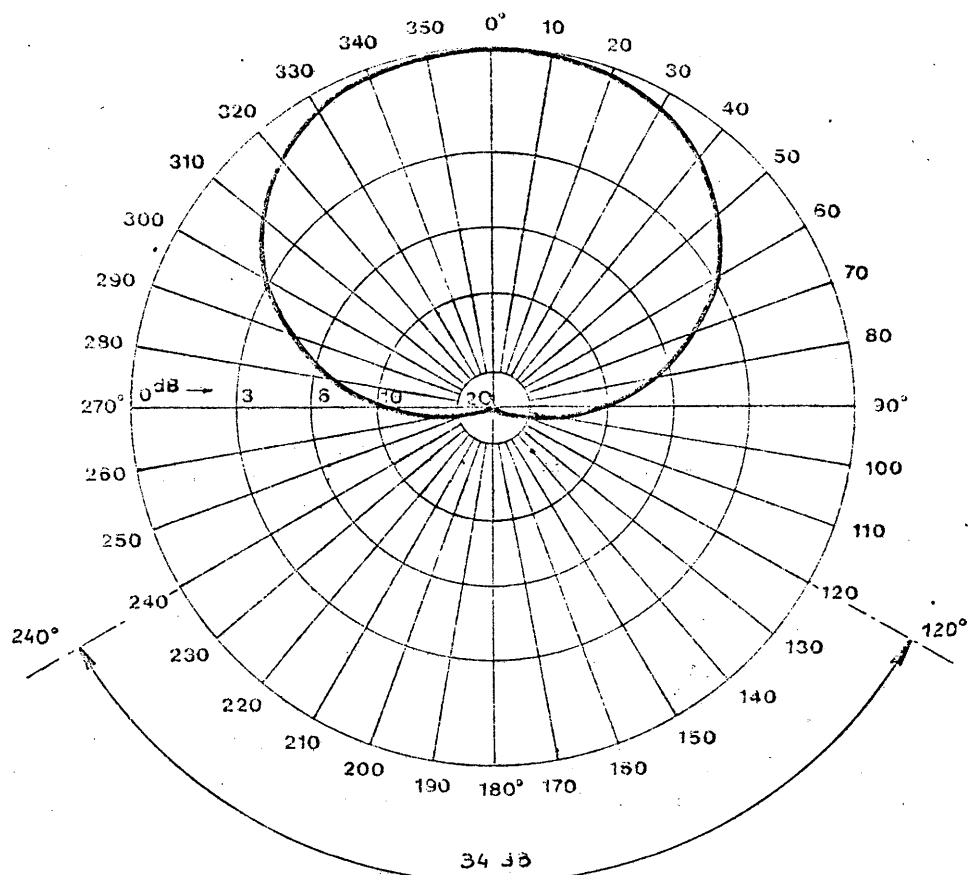
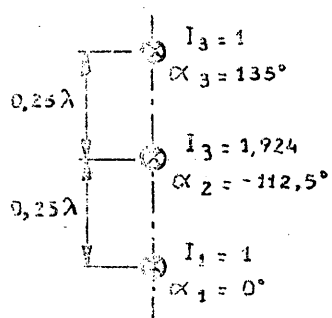


Fig. 11

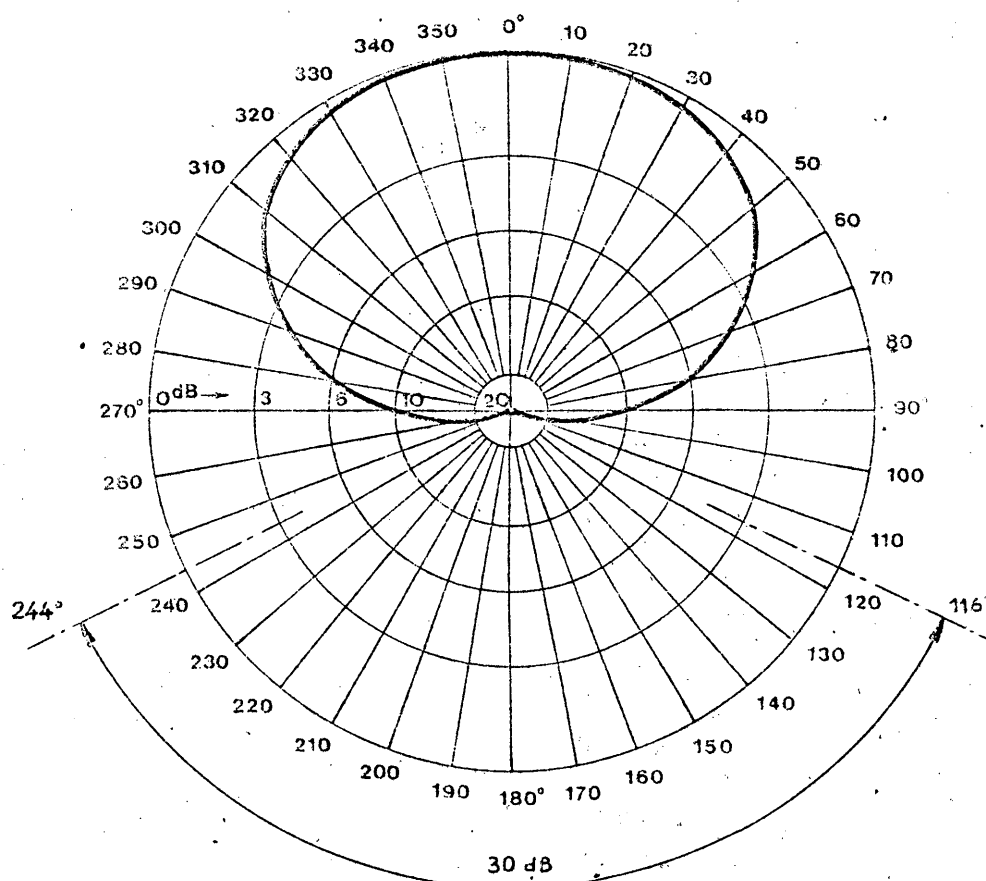
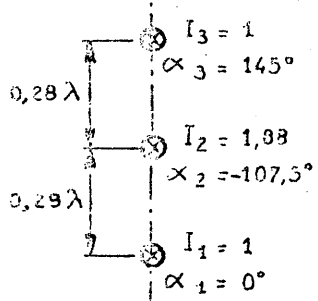


Fig. 12

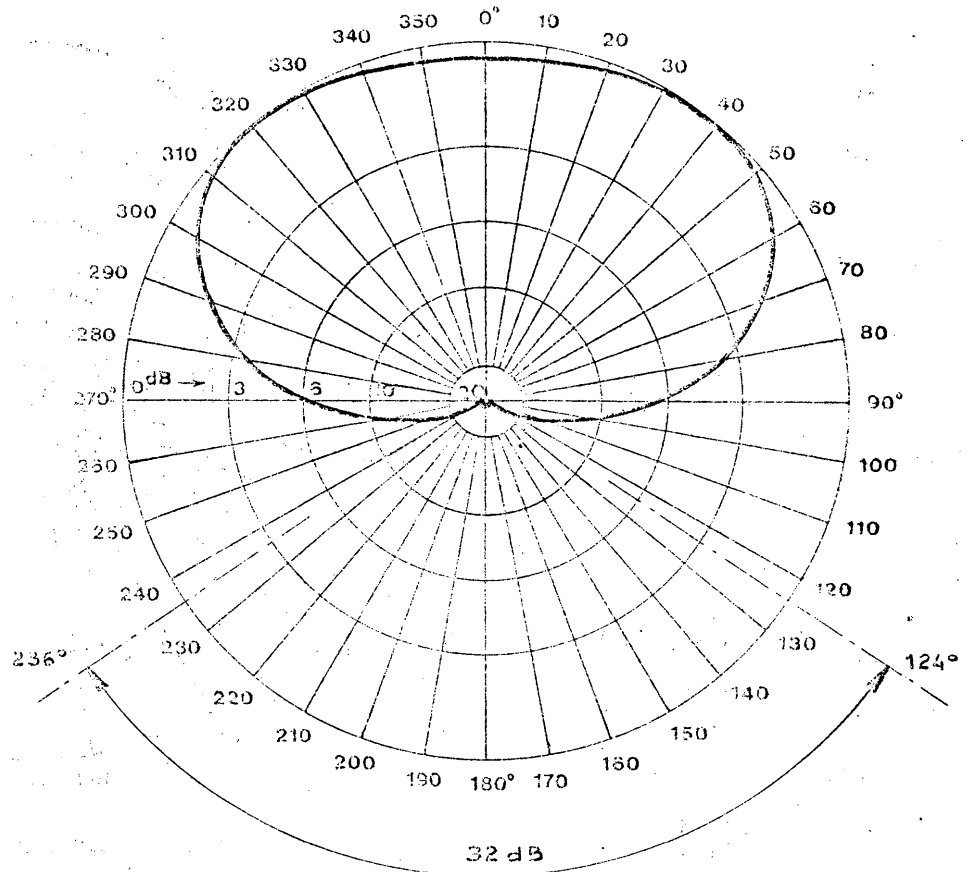
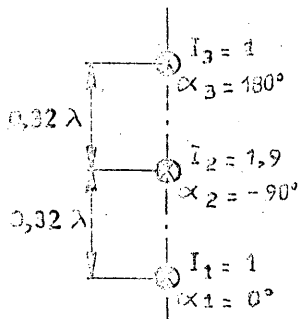


Fig. 13

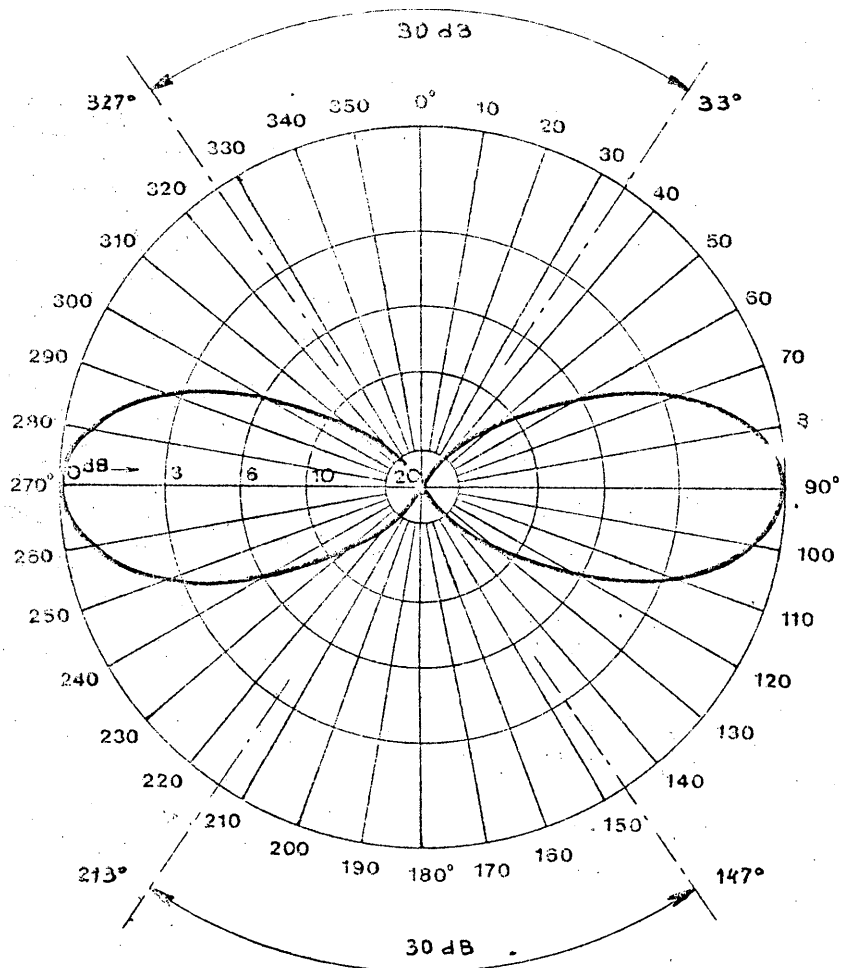
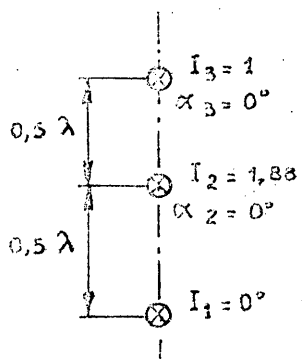


Fig. 14

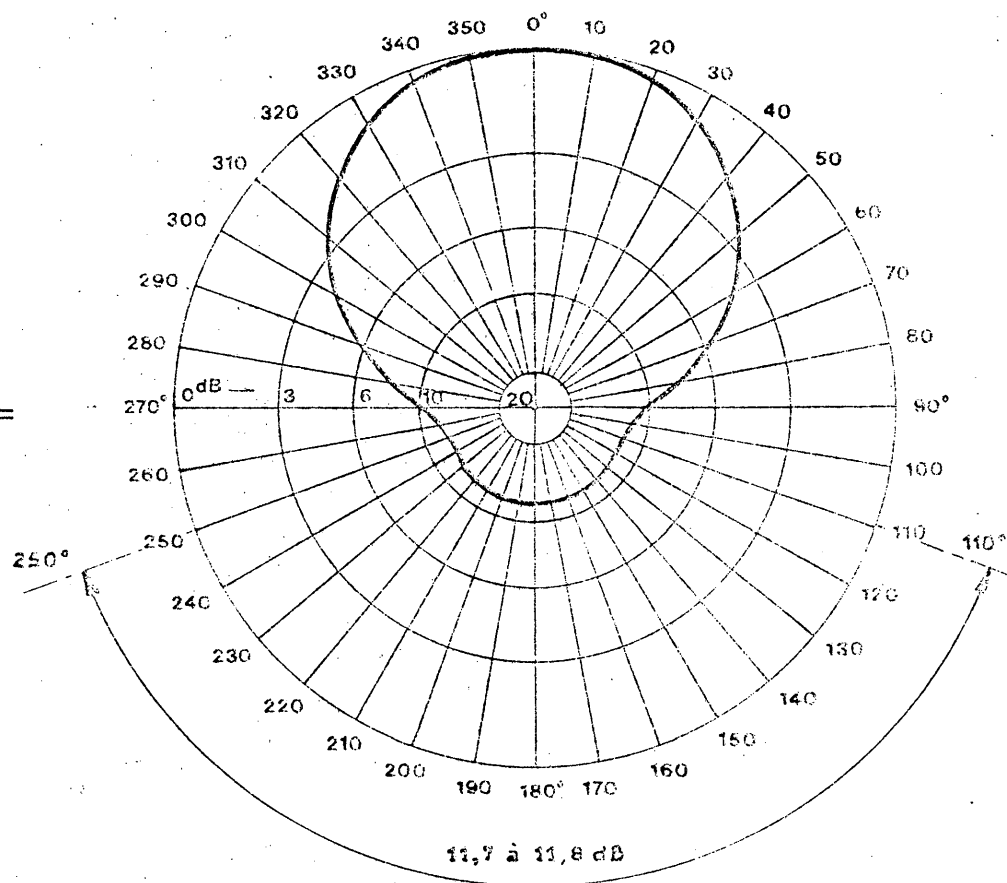
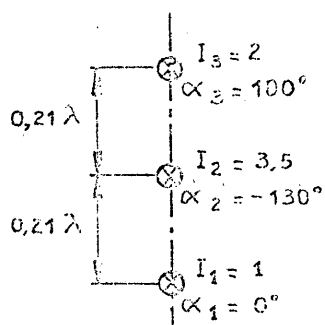


Fig. 15

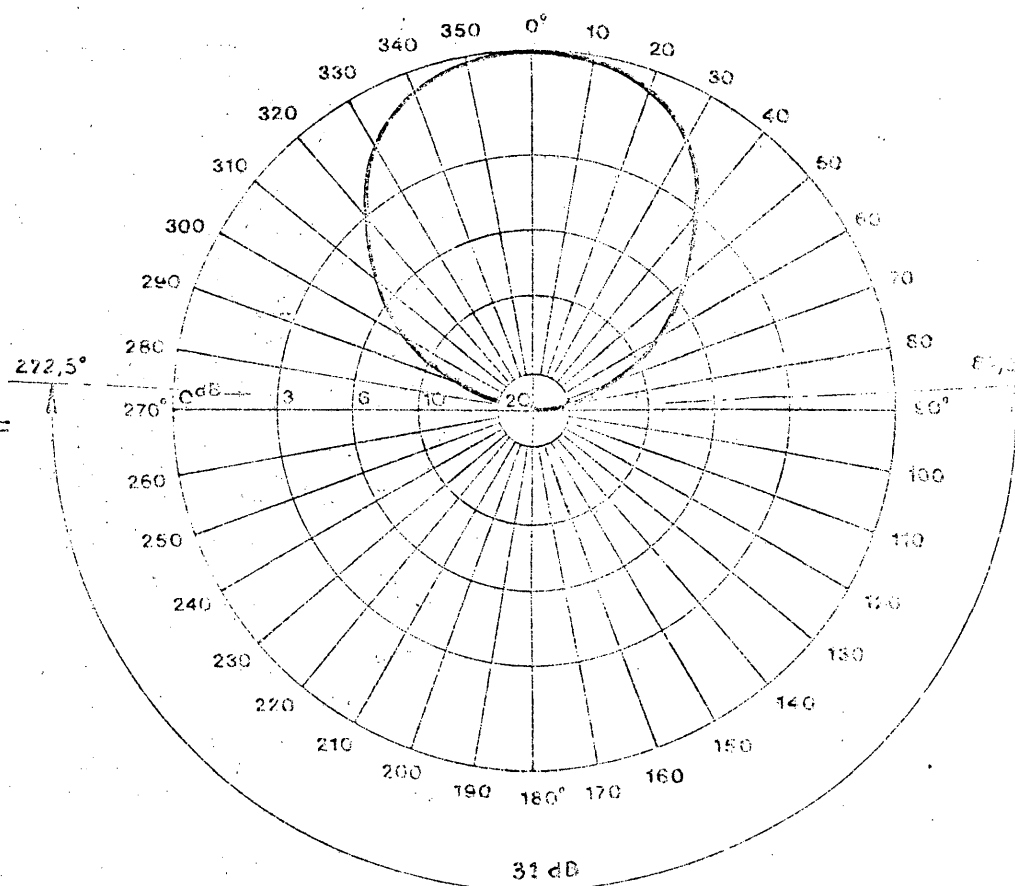
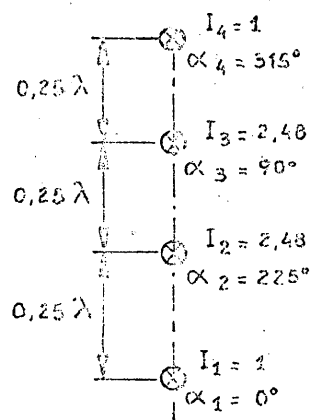


Fig 16

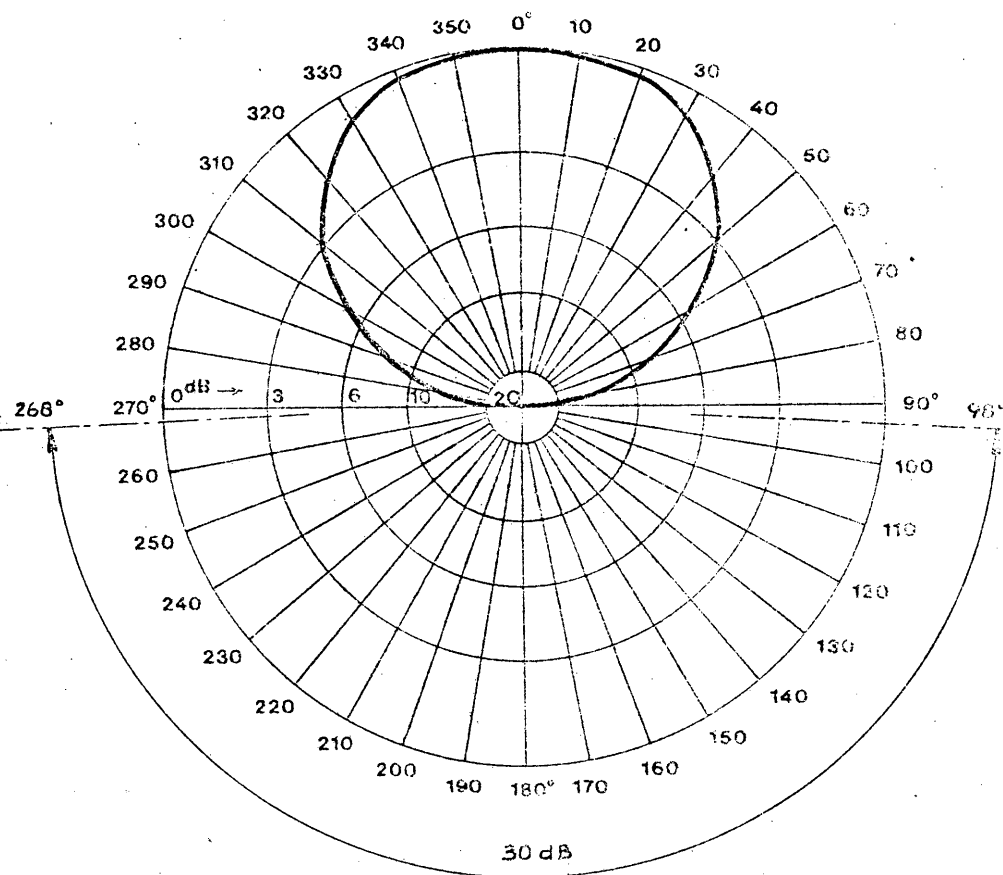
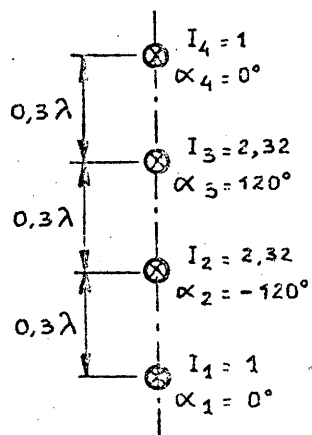
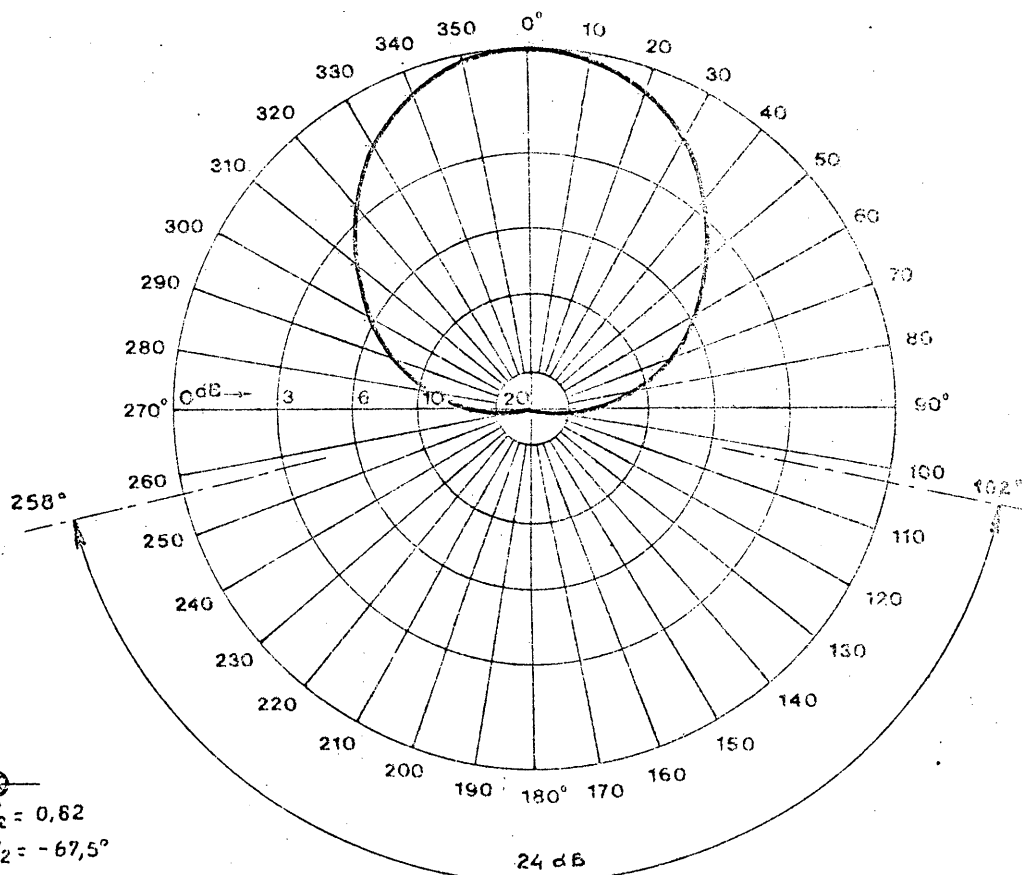
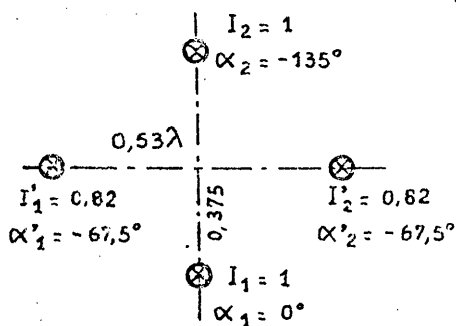


Fig 17



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 21-E

3 October 1975

Original : FrenchPLENARY MEETINGFrance

REGIONAL ADMINISTRATIVE LF/MF BROADCASTING CONFERENCE

Excess polarization coupling loss

The methods of calculating the sky-wave field strength adopted by the first session of the Conference (Report of the First Session, appendices B and E) allow for the loss due to polarization coupling. This is given by the formula :

$$L_p = 180 (36 + \theta^2 + I^2)^{-\frac{1}{2}} - 2$$

where I is the magnetic dip in degrees at the path terminal and

θ is the path azimuth measured in degrees from the magnetic E-W direction such that $|\theta| \leq 90^\circ$.

The most unfavourable cases are those in which the path terminal is at the magnetic equator, with a path corresponding to the magnetic E-W direction. The formula then gives an attenuation at this terminal of 28 dB. In addition, since the path is in the magnetic E-W direction, the other terminal is also close to the magnetic equator (and the direction of propagation, as seen from that terminal, is also close to the magnetic E-W direction). It follows that at the other terminal the loss due to coupling will also be 28 dB, making a total polarization coupling loss of 56 dB.

This means that if at a given distance in the north or south direction a transmitter with c.m.f. of 300 V (e.m.r.p. - 1 kW) just causes disturbance, the same will be true of a transmitter with c.m.f. of 190,000 V (e.m.r.p. - 40,000 kW) situated at the same distance in the east or west direction, daytime interference by the ground wave not being taken into account. As an example, Figures 1 and 2, based on the values adopted at the first session, show, for two hypothetical transmitter sites on the magnetic equator, the distance at which a 100 kW transmitter would give a field strength 30 dB lower than the nominal usable field strength.



The French Administration does not wish to reopen the discussion either on this idea of coupling loss, which is observable and physically explained, or on the formula adopted at the first session, which reflects the results found on paths which are not in the immediate vicinity of the magnetic equator. However, it wonders whether it is realistic to apply this formula to paths that are too close to the magnetic equator and whether in such cases other phenomena neglected in a first approximation do not become of major importance.

It therefore proposes that for planning purposes the polarization coupling loss at a path terminal should be limited to 6 dB.

DISTANCE A LAQUELLE UN EMETTEUR DE 100 kW DONNE UN CHAMP
INFERIEUR DE 30 dB DU CHAMP NOMINAL UTILISABLE

DISTANCE AT WHICH A 100 kW TRANSMITTER GIVES A FIELD STRENGTH
30 dB LESS THAN THE NOMINAL USABLE FIELD STRENGTH

DISTANCIA A LA CUAL UN TRANSMISOR DE 100 kW PRODUCE UNA INTENSIDAD
DE CAMPO 30 dB INFERIOR AL CAMPO NOMINAL UTILIZABLE

Fig. 1 -

Point de coordonnées
géographiques

inclinaison magnétique : 2°
déclinaison magnétique : -11°

Point with geographical
coordinates

magnetic dip : 2°
magnetic declination : -11°

Coordenadas geográficas
del punto

inclinación magnética : 2°
declinación magnética : -11°

{ 0 E 00
10 N 00

{ 0 E 00
10 N 00

{ 0 E 00
10 N 00

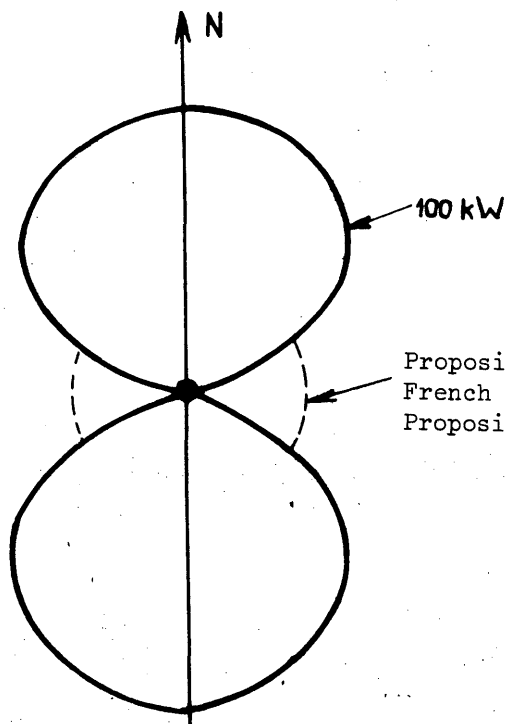


Fig. 2 -

Point de coordonnées
géographiques

inclinaison magnétique : $-0,5^{\circ}$
déclinaison magnétique : -2°

Point with geographical
coordinates

magnetic dip : $-0,5^{\circ}$
magnetic declination : -2°

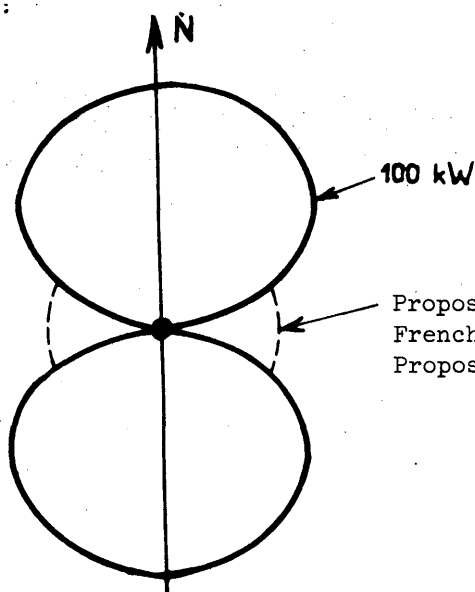
Coordenadas geográficas
del punto

inclinación magnética : $-0,5^{\circ}$
declinación magnética : -2°

{ 120 E 00
7 N 30

{ 120 E 00
7 N 30

{ 120 E 00
7 N 30



Echelle : 2 cm pour 1000 km
Scale : 2 cm = 1000 km
Escala : 2 cm por 1000 km

BROADCASTING CONFERENCE

(SECOND SESSION)

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6 October 1975

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PLENARY MEETING

EUROPEAN BROADCASTING UNION

E.B.U. computer programmes for assisting frequency planning in the LF/MF bands

Introduction

Studies have recently been made by the E.B.U. with the aim of finding out to what extent the countries in a given area of sufficiently large size (e.g. the area where there are E.B.U. Members) would have the possibility of improving an initial frequency plan by a multilateral exchange of frequencies within that area.

1. General principles

To assess the effect of interference from outside a given group of countries a limited number of test locations is chosen, more or less equally distributed over the countries' surface area (see examples in Figs. 1 to 4). The aim of these computer programmes is to calculate the usable field-strengths at these test locations, taking no account of interference from inside the country group under consideration. In order to evaluate the utility of frequency channels in a particular geographical region, it is then necessary to introduce usable field-strength ranges, different in Zones A, B and C of Regions 1 and 3 and appropriate for the definition of the following cases:

1. Channel of very high utility - where the level of interference is very low. This type of channel is suitable for all services, particularly for sky-wave services (*SW*).
2. Channel of high utility - where the level of interference is higher than in the preceding case, but is still low enough to permit a ground-wave service during the hours of darkness to cover large (rural) areas (*GW rural*).



3. Channel of limited utility - where the level of interference is so high that only small areas can be served by the ground wave during the hours of darkness. This type of channel is suitable for a ground-wave service to cover urban areas (*GW urban*).

The method of analysis applied is described in greater detail in [1].

The calculation shows how countries in a given area could improve an initial frequency plan by a mutual exchange of frequencies within that area, assuming that the frequency use in the surrounding area remained unchanged. This process of improving an initial frequency plan by mutual exchange of frequencies would obviously have to begin in the part of the area that is closest to the outer edge, where the number of existing possibilities is smallest. It should, however, be noted that each decision taken reduces the flexibility for rearranging the initial situation in the remaining area.

2. Application of the computer method

The E.B.U. believes that these computer programmes might be of assistance during the normal planning procedures of the Conference. If there should be an interest in making use of these programmes, the E.B.U. observers who are familiar with the application of the method would be prepared to give the required assistance.

The programmes have been designed to be compatible with the I.T.U. computer. Preliminary tests have shown that two and a half hours CPU time is required to process each set of thirteen test locations.

The test locations are towns for the convenience of using the computer print-outs, and may be chosen freely. Figs. 1 to 4 should therefore be considered as examples only. In addition, the group of countries in which the planning possibilities are to be investigated may be chosen according to the planning needs.

Table I gives an example (for the E.B.U.) of the print-out that could be obtained with the computer programmes, a lay-out of which is given in Fig. 5.

Bibliographical references

- [1] R. Gressmann and D. Kopitz, "Some possibilities for computer-assisted planning of the LF/MF bands", E.B.U. Review - Technical, No. 151, June 1975.
- [2] Report of the First Session of the I.T.U. Regional Administrative LF/MF Broadcasting Conference, Geneva, 1974.

A N N E XAssumptions made in the computations

- Aerial lengths indicated in the requirements were considered in order to determine their vertical radiation characteristics.
- For omni-directional aerials the effective gain was taken into account.
- Sky-wave interference was calculated according to the prediction method adopted by the First Session [2] (including sea gain on the transmission side only and directional aerials).
- Protection ratios
 - Co-channel: 27 dB for a sky-wave service and 30 dB for a ground-wave service.
 - Adjacent-channel: C.C.I.R. Recommendation 449-2.
Curve A was used for $\Delta f > 10$ kHz and Curve D for $\Delta f \leq 10$ kHz.
(Δf = bandwidth of emission as indicated in the requirements)
- Minimum field-strength: 60 dB μ in Zone A, 70 dB μ in Zone B, and 63 dB μ in Zone C for 1000 kHz respectively, according to [2]. The frequency correction given in Appendix D to [2] was used.
- Transmission schedule as indicated in the requirements. The utility of a channel at a test location was calculated for midnight local time at the test location. All transmitters operating during the period 6 hours before and after the reference time were considered. The interference was determined on the assumption that the transmitter operated at the reference time. Transmitters changing their transmission characteristics during the 12 hour period were marked in the print-outs.

TABLE I

Example of a Table giving the carrier frequencies at each test location in increasing order of usable field-strength, making evident the validity of each channel at the various test locations. This table indicates principally the planning possibilities in the area surrounding the test locations.

HELSINKI		KOBENHAVN		OSLO		LONDON		BELGRADE		WIEN		FRANKFURT		ROMA		BEYRUTH		ISTANBUL		TUNIS		MADRID		CASABLANCA	
FU	KHZ	FU	KHZ	FU	KHZ	FU	KHZ	FU	KHZ	FU	KHZ	FU	KHZ	FU	KHZ	FU	KHZ	FU	KHZ	FU	KHZ	FU	KHZ	FU	KHZ
64.7	1269	70.2	1008	64.4	1008	62.9	1269	72.8	1269	75.2	1269	70.6	1134	68.3	1269	73.9	1269	72.8	1269	66.5	1008	62.1	1008	63.2	1440
70.0	1008	73.3	1026	65.9	1269	64.1	1134	78.2	1026	77.1	1134	71.5	1467	71.6	1008	78.3	1440	78.6	1008	68.7	1269	62.4	1440	65.3	1134
73.4	1125	73.6	1134	68.3	900	64.3	1008	78.5	1440	78.4	1440	72.3	1269	71.6	1440	79.4	1134	80.2	1332	68.7	1440	63.0	1269	65.8	1008
73.8	1467	74.1	900	68.8	1440	64.5	1026	78.9	1008	79.6	1467	75.1	1026	75.4	1026	80.2	1008	80.8	1440	73.5	1422	63.2	1134	65.9	1269
74.1	1440	74.2	1269	69.9	846	64.8	1467	81.1	1224	80.3	245	75.2	846	76.2	1422	80.7	990	81.7	927	74.0	720	66.6	1197	66.3	1071
74.7	1296	74.3	846	70.3	720	67.0	1440	84.0	245	81.8	254	75.3	1008	76.4	1413	81.4	900	85.0	1026	74.4	1467	66.6	1332	66.3	801
75.3	1026	74.8	720	70.8	1134	67.1	1449	84.1	1422	82.2	1026	75.7	245	76.5	245	81.4	164	85.0	245	74.6	245	67.6	810	66.5	1197
76.0	900	76.0	1467	71.8	1062	67.5	1179	84.3	1413	82.5	1008	76.3	900	77.5	1467	81.6	245	85.3	801	74.9	792	67.8	1026	66.7	1377
77.4	1035	76.9	621	71.9	1449	68.2	846	84.4	1332	82.6	1413	76.4	1062	77.9	1134	82.1	1449	85.6	792	74.9	1332	68.0	1449	68.1	846
77.6	1413	77.2	1449	72.3	621	68.5	900	85.1	1467	83.4	846	76.4	810	78.1	810	82.1	720	86.0	720	75.0	810	68.1	720	69.4	1404
77.6	981	77.4	245	72.7	927	68.5	1062	85.6	801	83.4	1422	76.7	1449	78.9	801	82.4	1206	86.4	1197	75.3	1134	68.1	927	69.6	882
77.7	963	77.5	1062	73.0	981	68.6	810	86.1	1197	83.7	585	76.9	1179	79.6	1332	83.1	531	86.7	900	75.4	1026	68.4	1422	69.8	891
78.4	1134	78.1	837	73.2	1413	69.6	837	86.4	218	84.4	837	77.0	837	79.7	927	83.4	281	87.3	918	76.0	927	69.1	846	69.8	927
78.5	1215	78.9	810	73.5	837	69.9	1413	86.9	191	84.6	810	78.8	621	79.7	254	84.2	657	87.5	990	76.4	900	69.3	1467	69.8	1449
78.8	990	79.2	254	73.5	594	70.3	1197	87.1	927	84.8	1062	78.8	1413	80.7	720	84.7	1332	87.7	729	76.5	801	69.5	801	69.8	990

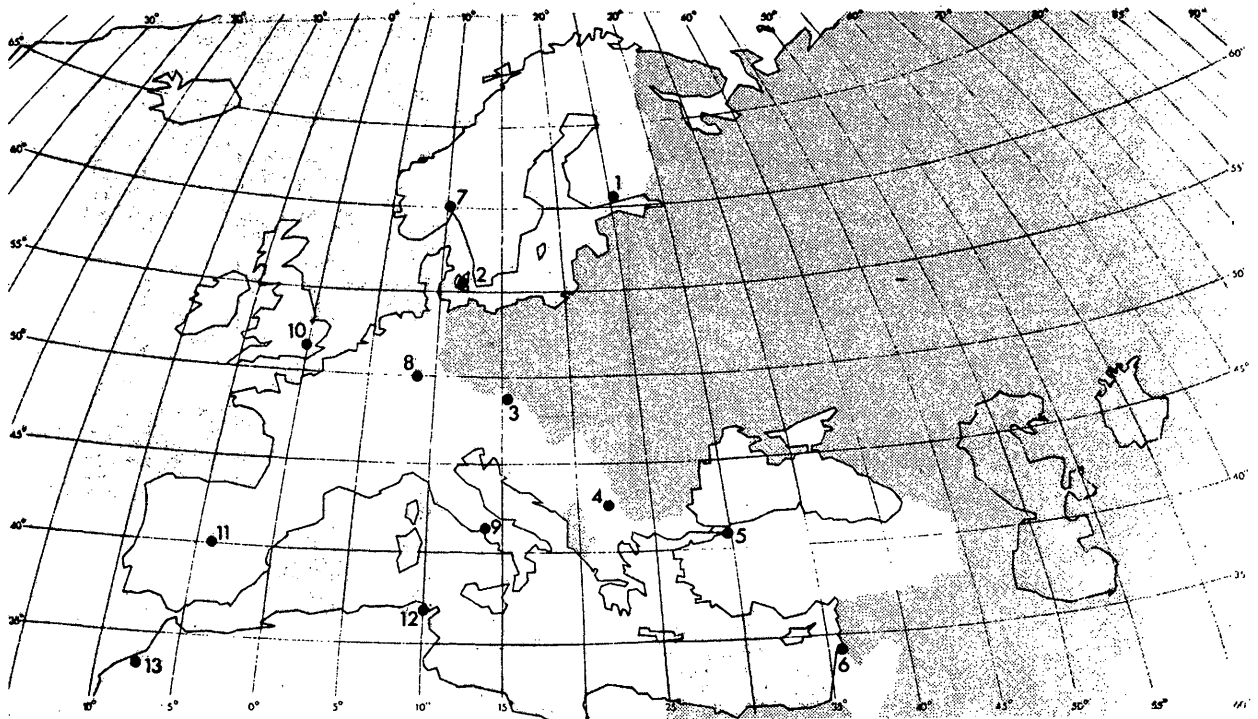


Fig. 1 - Example of test locations for the assessment of interference to the E.B.U. member countries. The test locations may be freely chosen according to the planning needs.

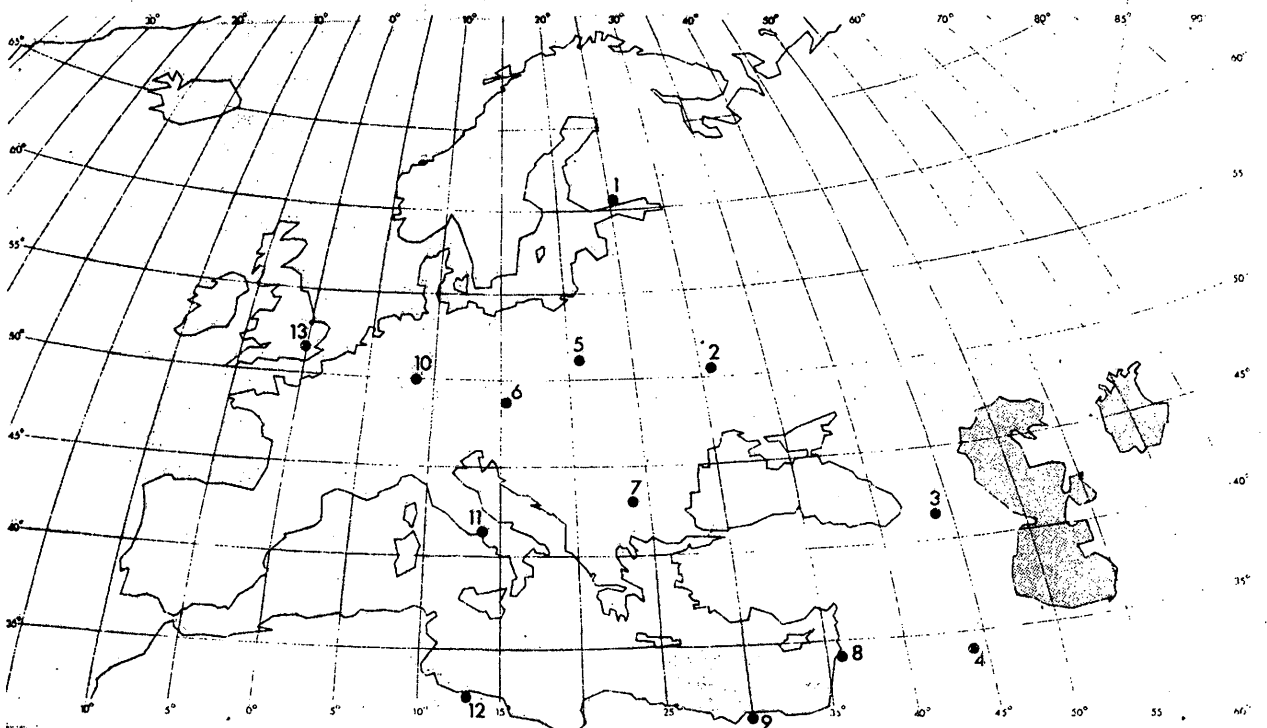


Fig. 2 - Example of test locations for the assessment of interference to countries in the European Broadcasting Area. The test locations may be freely chosen according to the planning needs.

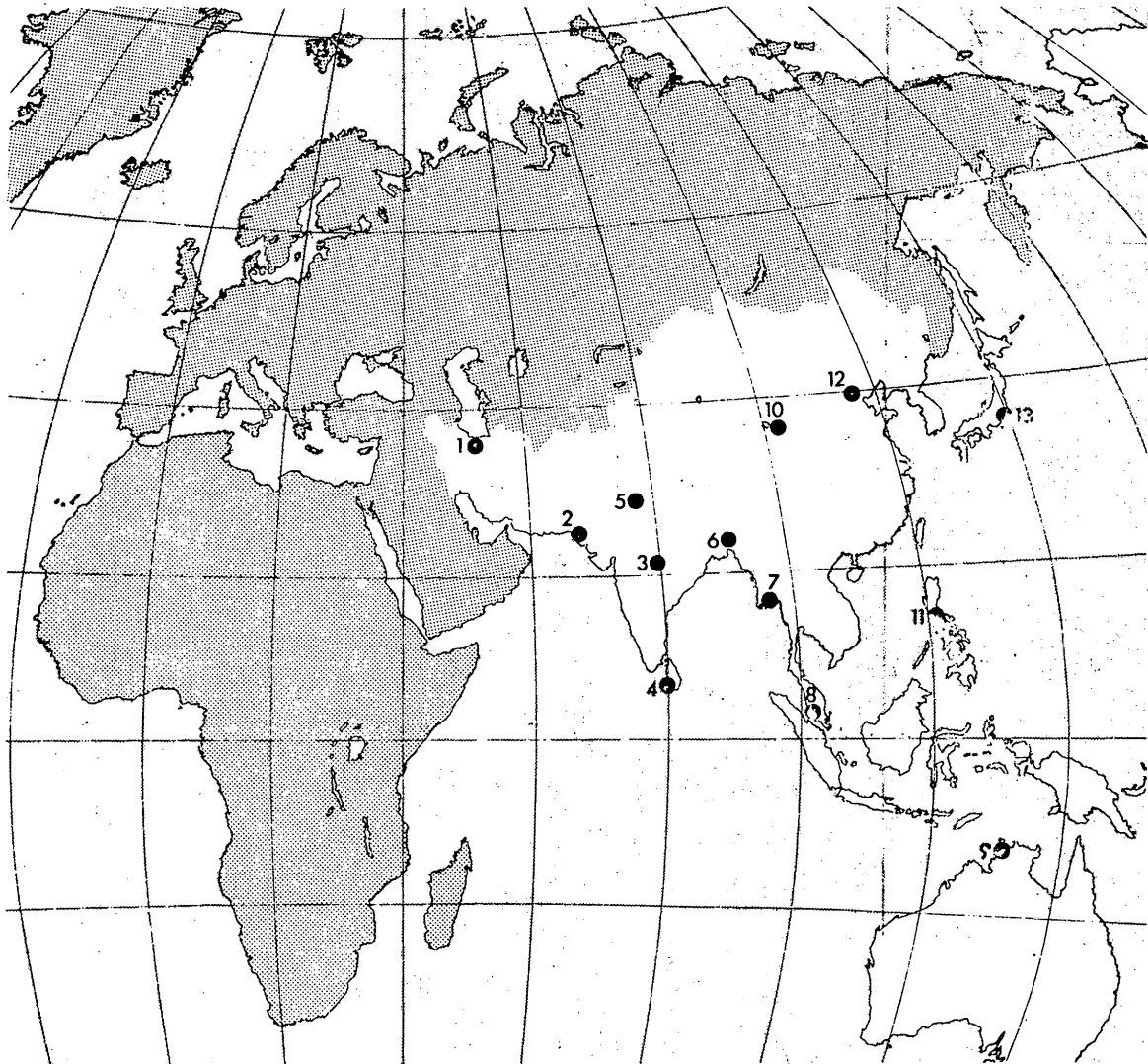


Fig. 3 - Example of test locations for the assessment of interference to the South-east Asian countries and Australasia. The test locations may be freely chosen according to the planning needs.

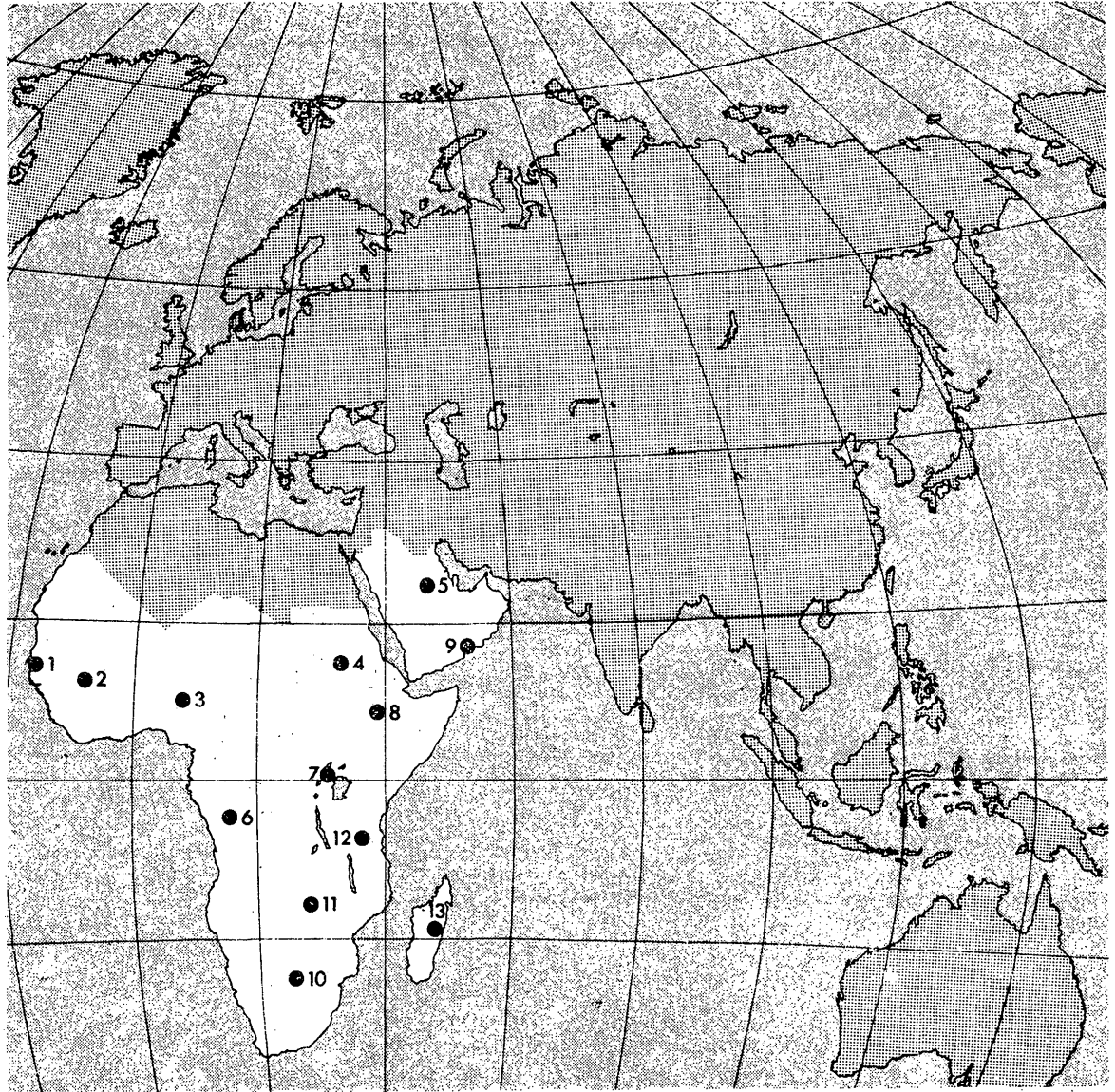


Fig. 4 - Example of test locations for the assessment of interference to African and Arab countries south of the Sahara. The test locations may be freely chosen according to the planning needs.

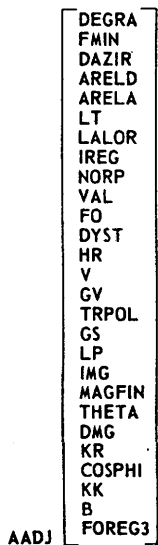


Fig. 5 - Lay-out of the E.B.U. computer programmes

BROADCASTING CONFERENCE

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Original : French/
EnglishPLENARY MEETINGEUROPEAN BROADCASTING UNIONBandwidth of emission in the LF and MF bands

The E.B.U. undertook an analysis of the existing situation, in the LF/MF bands, mainly with the aim of investigating the effect of using a large (20 kHz) or a reduced (9 kHz) bandwidth of emission for all transmitters considered. The computer method applied in this analysis was that described in 1.

The E.B.U. transmitter-data file, containing entries for transmitters in Europe, Africa, Asia and Australasia, was used. The present carrier frequencies were automatically changed by the computer to the nearest new nominal values corresponding to a regular channel system. In the area where there are E.B.U. Members the interference from transmitters operating outside that area was determined, but no account was taken of interference from transmitters inside that area and a limited number of test locations were chosen, more or less equally distributed over the E.B.U. member countries' surface area, in order to determine the usable field-strength (depending on noise and interference) as a figure of merit in all channels of the LF and MF bands.

The results show that the effect of reducing the bandwidth of emission and using a high degree of modulation compression is very considerable.

Table 1 gives an example of the more detailed results obtained. The test locations of Vienna and Belgrade close to the eastern border are considered to be typical.

It appears from Table 1 that the utility of the ten best channels found at the test locations is greater with a reduced bandwidth and using a high degree of modulation compression.



TABLE 1Effects of different bandwidths for 9 kHz spacing

Test location	Bandwidth**)	Number of channels found at the test location*)			$F_u(10)^{***})$ dBu
		SW	GW (rural)	SW + GW (rural)	
Vienna	20	6	5	11	73.5
	9	10	15	25	70.0
Belgrade	20	5	14	19	73.4
	9	12	15	27	69.0

SW : sky-wave service

GW : ground-wave service

*) Using Minne formula for sky-wave interference calculation
(see C.C.I.R. Report 575)

**) In the computations the relative RF protection ratio curves A and D were used for 20 kHz and for 9 kHz bandwidth, respectively

***) Arithmetical mean values of the usable field-strength, in $\mu\text{V/m}$, found in the ten best channels

It appeared consequently that a clear advantage could be gained from a general reduction of the audio bandwidth and adoption of a high degree of compression. The importance of reducing adjacent-channel interference by these means is paramount in view of the decisions of the First Session and of the requirements submitted.

Taking into account the selectivity of the majority of existing receivers in the planning area, it is certain that a reduction of the transmitted audio bandwidth to about half of the channel spacing would not affect the quality of reception.

If a bandwidth reduction could not be achieved generally, it would at least be desirable to reduce the bandwidth of emission wherever adjacent-channel interference is important. Obviously, for day-time services and during daylight hours the full bandwidth may be used.

BIBLIOGRAPHICAL REFERENCE

1. Conference document no. ... (E.B.U. contribution "E.B.U. computer programmes for assisting frequency planning in the LF/MF bands")
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BROADCASTING CONFERENCE

(SECOND SESSION)

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Document No. 24-E

6 October 1975

Original : English

PLENARY MEETING

Papua New Guinea

SKYWAVE SERVICE PRESENTATION OF SITUATION

1. The nominal field strength for skywave service was set by the first session as $E_m + 6$ dB.

i.e. Zone A 66 dB ($\mu V/m$)
 Zone B 76 dB ($\mu V/m$)
 Zone C 69 dB ($\mu V/m$)
2. Explanatory notes for Appendix 2 to I.F.R.B. Circular-letter No. 327 explain the meaning of the Symbols D, N & S in Column 7. Some requirements whilst not seeking to provide a skywave service have a print out opposite "S" because the skywave signal exceeds that given in paragraph 1 above. The information given in columns 13 and 14 can be 0, * 300 which indicates no protection at all for the skywave signal.
3. In the case of PNG we are endeavouring to provide some service by skywave to the remote areas and indicate this by completing Box 11 of the requirement sheet i.e. service area by skywave.
 - 3.1 As the proposed transmitter power was only 100 kW (frequency 594 kHz) then the skywave signal would not reach the required 76 dB ($\mu V/m$) and therefore no print out appeared opposite symbol "S".
 - 3.2 In this particular case the signal level would be approximately 72 dB ($\mu V/m$) which would have a protection ratio of about 17 dB over the strongest interfering station.
 - 3.3 It would be helpful to provide this information to an Administration who is endeavouring to provide a skywave service.
4. The proposal is therefore : that all requirements which show service area by skywave, irrespective of power, should have a print out against symbol "S".



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PLENARY MEETING

EUROPEAN BROADCASTING UNION

LF/MF sky-wave field-strength calculations

1. Introduction

The first session of the Regional Administrative LF/MF Broadcasting Conference has approved methods of sky-wave field-strength prediction for use in the various parts of Regions 1 and 3; these methods are detailed in Appendices B and E of the Report of this session. Although these Appendices contain all the information required for the prediction, some of the calculations (particularly for Region 1 and Australasia) are somewhat more complex than those required in previous methods.

This note provides a series of figures intended to ease manual calculations. For this purpose the calculation process can be considered as comprising corrections for cymomotive force (or radiated power), sea-gain, excess polarisation coupling loss, and time of day, to be applied to a field-strength value for unit power derived from a set of basic propagation curves. These curves and the necessary corrections can be considered individually. Other figures extracted from the Report of the first session and which are also necessary to the calculation are contained in the annex to this note.

2. Basic field-strength/distance curves

The curves comprising Figs. 1a to 1f show the variation of annual median field strength with distance at six hours after sunset for a c.m.f. of 300 V. The curves are drawn for specific frequencies with



geomagnetic latitude ϕ as parameter derived from the formula :

$$F_o = 105.3 - 20 \log_{10} p - 10^{-3} k_r p$$

where

F_o is in dB ($\mu V/m$)

p = slant path length in km

$$k_r \approx k = 1.9f^{0.15} + 0.24f^{0.4} (\tan^2 \phi - \tan^2 37^\circ) \quad (\text{up to } \phi = 60^\circ)$$

f being the frequency in kHz.

Notes :

- a) These curves are appropriate for calculations in Region 1 only; in Australasia field strengths would be somewhat higher being based on the formula :

$$F_o = 108 - 20 \log_{10} p - 0.8 (10^{-3} k_r p)$$

- b) The curves are for a sunspot number = 0, this being the condition giving the highest field strengths. It is assumed that this will be considered as the condition appropriate for future planning.
- c) For paths shorter than 3000 km, the appropriate value of ϕ is the average of the two terminals. For longer paths field strengths are estimated for the full path length using the average values of ϕ for each half of the path; the required field strength is the mean of these two results.
- d) Fig. 2 of this note is a map of geomagnetic latitude to a more convenient scale than that in the report of the first session.
- e) Figs. 1a to 1e are valid for distances in excess of 300 km assuming E-layer reflection. The prediction method envisages that at distances below 450 km propagation may, dependent upon frequency, be by the F-layer propagation mode. This is further discussed in section 5 of this note.
- f) Superimposed on Figs. 1a to 1f is the "Cairo North-South" curve*, appropriate for use in the Asian part of Region 3. This curve is referred to the annual midnight median value of field strength.

* The measurements upon which the "Cairo North-South" curve is based were obtained at sunspot maximum and no correction is proposed in this instance.

3. Power corrections

The reference in Figs. 1a to 1f is a semi-isotropic aerial with a c.m.f. of 300 V, i.e. equivalent in a horizontal direction to a short vertical aerial radiating 1 kW with 100 % efficiency. The appropriate power correction of the actual transmitting installation in dB relative to this reference should be applied; the curves reproduced in Fig. 1 of the annex indicate the further corrections for the vertical radiation pattern as a function of distance and of the effective height for a simple vertical aerial.

4. Sea-gain

This is given by : $G_s = G_o - Q s f / G_o$

where

G_o is the value of gain for a site on the coast (dB)

Q is a constant; 0.44 at LF, 1.75 at MF

s is the distance of the terminal from the coast (in km along the great circle path)

f is the frequency in MHz

Fig. 3b, which can be used in conjunction with the basic curve (Fig. 3a) giving the gain at a coastal site, allows the full correction to be easily calculated. G_s can never be negative i.e. the numerical value of $Q s f$ cannot exceed G_o^2 .

In principle, sea-gain corrections should, if appropriate, be calculated for both terminals, but at the receiver terminal this may lead to very variable values of usable field strength within the service area of coastal stations.

Sea-gain corrections are not applicable in the Asian part of Region 3.

5. Excess polarisation coupling loss (to be applied at MF only)

This is dependent upon both the magnetic dip latitude of each terminal and the direction of propagation from each terminal relative to the magnetic meridian. The graphical form of this relationship is reproduced in the annex, and convenient maps for determining dip latitude and declination as Figs. 4 and 5. Manual computation of this correction is tedious but there are certain simplifying factors :

- a) The correction is only required between dip latitudes 45° N and 45° S : hence no correction is required for terminals in the European Broadcasting Area, the U.S.S.R., southern Africa, and most of Australasia.
- b) Although it is necessary to estimate the bearing of the great circle path relative to the magnetic meridian rather than the geographic meridian, the difference between these (the magnetic declination) is small over much of the area of Africa and Asia in which the correction must be applied.

Fig. 6 represents a map of Regions 1 and 3 using a conic projection based on standard parallels at 28° N and 9° S i.e. a projection centred approximately on the magnetic dip equator in this area. Great circle paths represented approximately by straight lines on this map measured from any one terminal near this dip equator have bearing errors less than 2° for distances up to 4000 km.

Although bearing errors become somewhat greater as the distance of the terminal from the dip equator increases, this is associated with a reduction in the value of the predicted polarisation coupling loss and hence of the possible absolute error in prediction.

Superimposed on Fig. 6 is the extent of the area within which errors in coupling loss prediction exceeding 1 dB can result from neglecting magnetic declination. In the remaining part of Africa and the Asian mainland, bearings may be referred to the geographic rather than the magnetic meridian with negligible error.

This map may also be used for measuring distances up to 4000 km with errors less than 4 % provided one terminal lies between 0° N and 20° N, but errors may increase significantly if neither terminal is between these limits.

6. Diurnal correction

It is presumed that planning at the second session will be based mainly upon median field strengths at the reference time, namely 6 hours after sunset in Region 1 and Australasia, and midnight elsewhere in Asia. Nevertheless the prediction method makes provision for calculations at other times of the day and for completeness Fig. 7 provides the necessary information for applying such a correction.

It is first necessary to determine the geographic co-ordinates of the path midpoint (for paths less than 2000 km in length) or of the point 750 km from the terminal where the sun sets last or rises first (for longer paths). Having established this reference point, the time of sunset or sunrise at the appropriate time of year is derived from Fig. 7b, and the correction for the required time of day from Fig. 7a.

It should be noted that this diurnal correction factor is only valid for path lengths which are sufficiently great for propagation to be sustained by the E-layer mode throughout the night. At short distances (i.e. < 500 km) and at the high frequency end of the MF band there will be a transition from the E-layer mode to the F-layer mode during the evening with a consequent reduction in field strength. This is an aspect of the prediction method not discussed at the first session of the Conference and to which Working Party A may wish to give consideration. To simplify planning and to avoid the risk of underestimating interfering field strengths, it may be appropriate to assume E-layer propagation to be maintained throughout the night at all distances and frequencies within the MF band.

7. Example of calculation

Estimate the median field strength at 2000 hrs local time at the beginning of December due to a transmitter operating at 850 kHz with a short vertical transmitting aerial and c.m.f. = 10 kV (e.m.r.p. + 30 dB rel. to 1 kW) sited at Masirah (20°41' N, 58°54' E) at :

- i) a point 20 km inland from Dar es Salaam (6°51' S, 39°18' E)
- ii) Rangoon (16°47' N, 96°10' E)

- a) Masirah to Dar es Salaam (geomagnetic latitudes 13° N and 11° S respectively)

Step 1 : Basic field-strength calculation. Path entirely within Region 1. Path length 3736 km (approximate value measured from Fig. 6 = 3750 km). Since the path exceeds 3000 km in length and is virtually bisected by the geomagnetic equator, the field strengths calculated for the geomagnetic latitudes relevant to each half-path ($\approx 6^\circ$) are the same. Interpolating between Fig. 1c and Fig. 1d (virtually identical for low values of Φ)

$$F_o = 21 \text{ dB } (\mu\text{V/m})$$

Step 2 : Power correction = + 30 dB

Step 3 : Sea-gain

Masirah site effectively at coast. Sea-gain correction from Fig. 3 = 9 dB.

Dar es Salaam : Calculation required for point 20 km inland. From Fig. 3b : $Q_s f = 30$ whence $G_o = 9 - \frac{30}{9} \approx 6 \text{ dB}$.

Step 4 : Excess polarisation coupling loss

- i) Great circle bearing from Masirah as measured from Fig. 6 = 215° (true value = 217°).
Magnetic declination negligible (from Fig. 5), hence bearing relative to magnetic east-west axis = 55° .
Dip latitude at Masirah $\approx 30^\circ$ (from Fig. 4).
Hence, (from Fig. 2 in annex) excess coupling loss at Masirah terminal = 1 dB.
- ii) Great circle bearing from Dar es Salaam as measured from Fig. 6 = 32° (true value = 35°).
Dip latitude = -40° , hence excess polarisation coupling loss at Dar es Salaam = 1 dB.

N.B. : Using the bearing derived from Fig. 6 and neglecting declination, the bearing relative to magnetic east-west is 58° , whereas the true value allowing for the actual magnetic declination of 4° west is 59° ; the difference is negligible.

Step 5 : Diurnal correction

Geographic latitude of point on great circle path 750 km from terminal where sun sets last in mid April (Dar es Salaam) = 2° S.
From Fig. 7b time of sunset ≈ 1800 hrs, hence required time is at sunset + 2 hrs.
(Difference between local times at receiving terminal and reference point is negligible).
From Fig. 7a correction = - 2.5 dB.

Step 6 : Summation

$$\begin{aligned}\text{Field strength} &= F_o + \text{corrections} \\ &= 21 + 30 + 9 + 6 - 1 - 1 - 2.5 = 61.5 \text{ dB } (\mu\text{V/m})\end{aligned}$$

b) Masirah to Rangoon

Step 1 : Basic field-strength calculation. Mid-point within Asian part of Region 3.

Path length = 3940 km (approximate value measured from Fig. 6 = 3850 km).

From Fig. 1 $F_o \approx 16$ dB ($\mu\text{V/m}$) (Cairo N/S curve is frequency independent).

Step 2 : Power correction : + 30 dB.

Step 3 : Sea-gain. Correction not applicable in this part of Region 3.

Step 4 : Excess polarisation coupling loss.

i) Great circle bearing from Masirah as measured from Fig. 6
 $= 93^\circ$ (true value $= 90^\circ$).
 Dip latitude (from Fig. 4) $\approx 30^\circ$ N.
 Hence polarisation coupling loss (for bearing virtually
 along magnetic east-west bearing) ≈ 4 dB.

ii) Great circle bearing from Rangoon as measured from Fig. 6
 $= 280^\circ$ (true value $= 283^\circ$).
 Bearing relative to magnetic east-west $= 10^\circ$ (declination
 negligible).
 Dip latitude (from Fig. 4) $= 15^\circ$.
 Hence polarisation coupling loss $= 7.5$ dB.

Step 5 : Diurnal correction

Geographical latitude of point 750 km from terminal where sun
 sets last (Masirah) $\approx 20^\circ$ N.

From Fig. 7b time of sunset at this reference point at begin-
 ning of December $= 1715$ hrs. 2000 hrs local time at Rangoon
 is approximately 1800 hrs at this reference point, i.e.
 sunset $= + 45$ min.

From Fig. 7a, correction $= - 7.5$ dB.

Step 6 : Summation

$$\begin{aligned}\text{Field strength} &= F_0 + \text{corrections} \\ &= 16 + 30 - 4 - 7.5 - 7.5 \\ &= 27 \text{ dB } (\mu\text{V/m})\end{aligned}$$

It may be of interest to compare this result to that in the first
 part of the example. The difference is 35 dB although the path length
 differs by only 5 %.

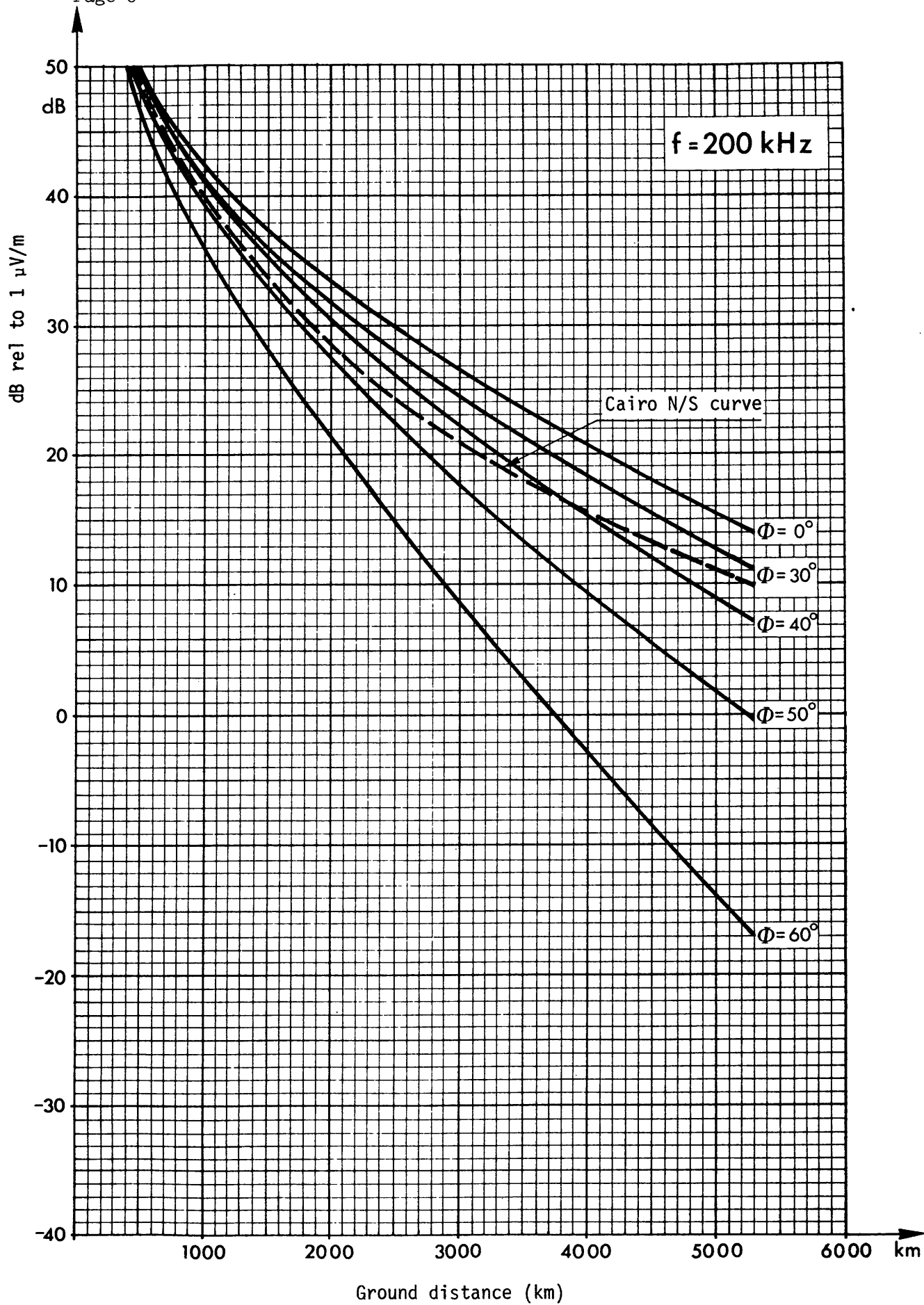


Fig 1a

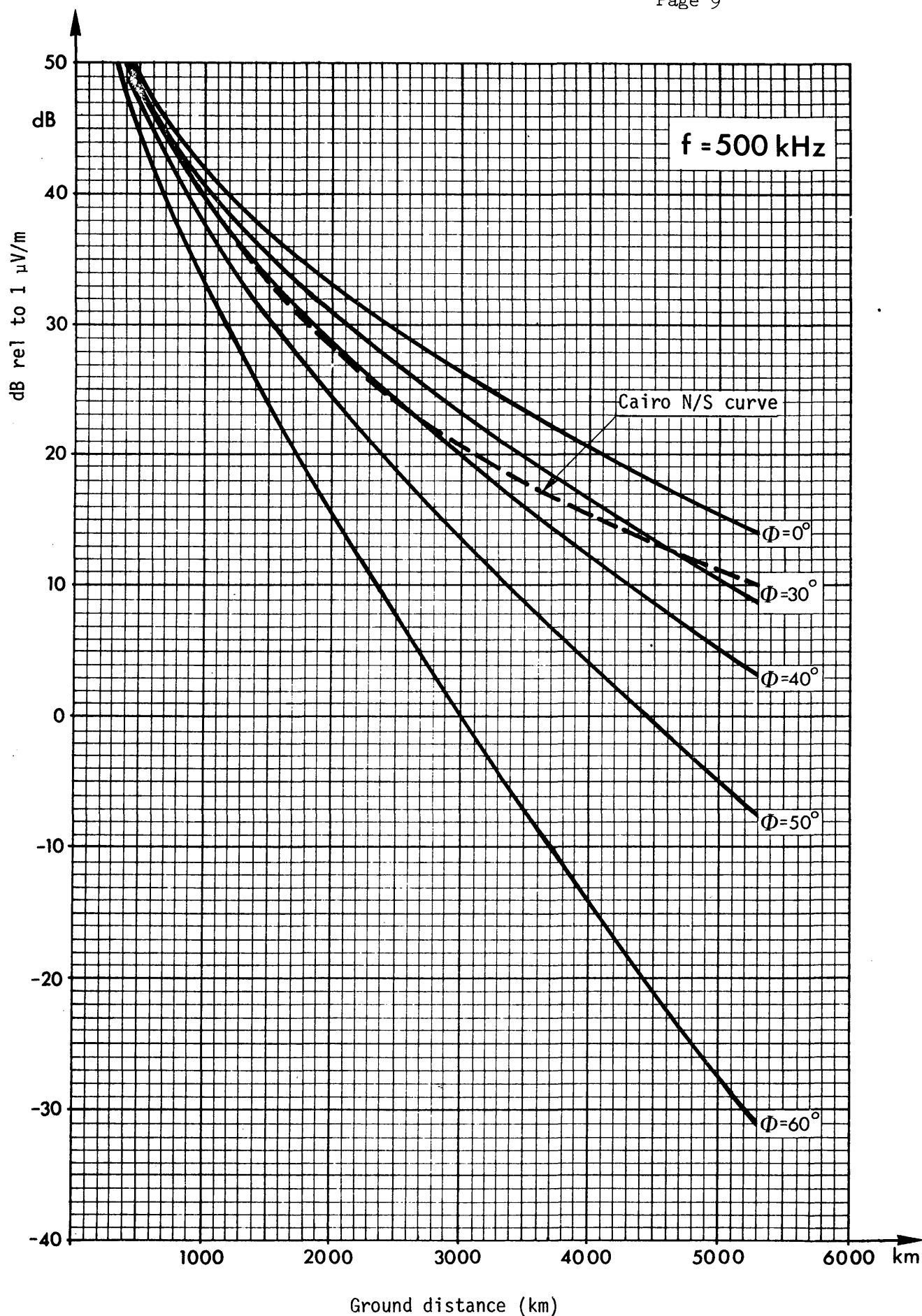


Fig 1b

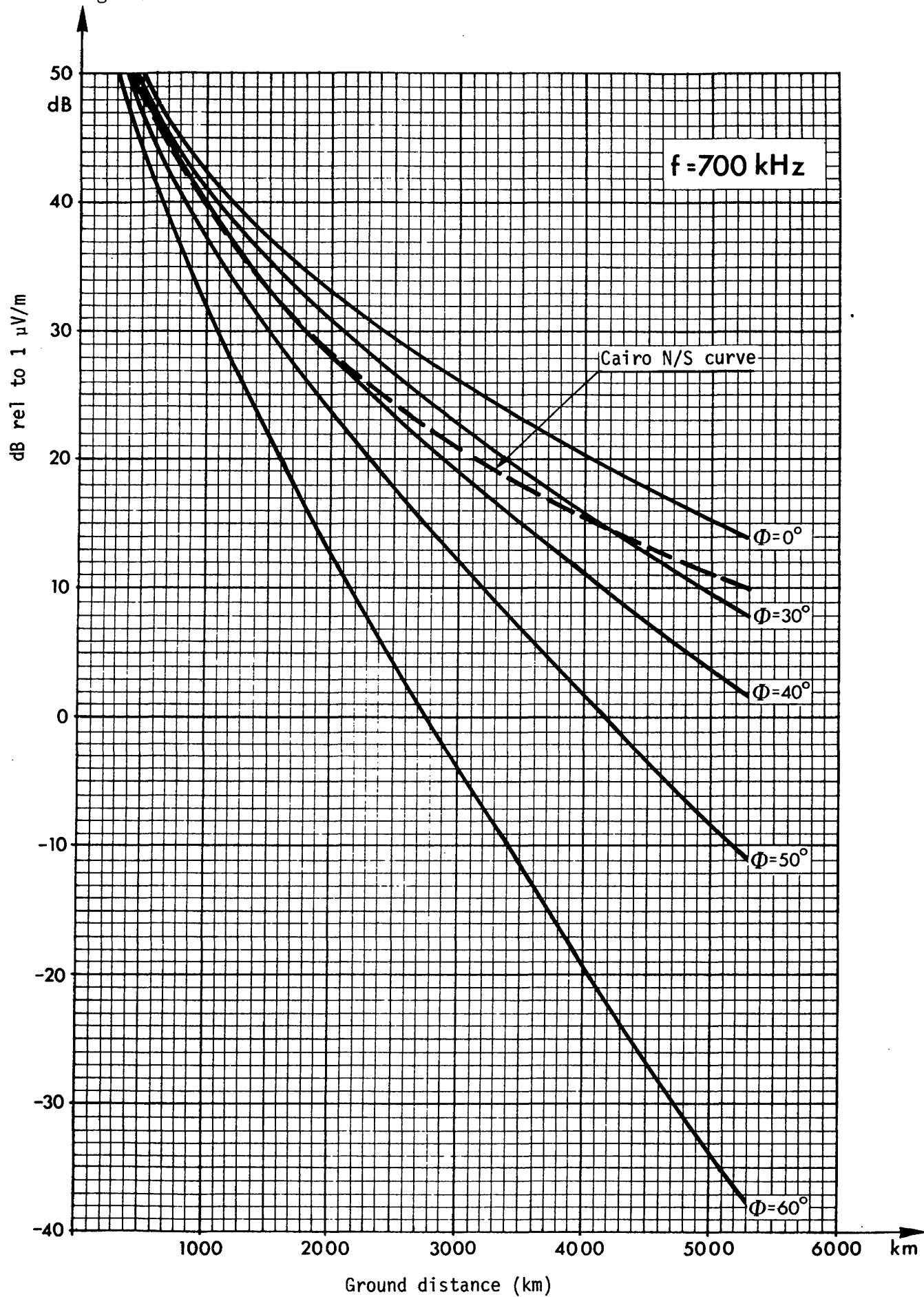


Fig 1c

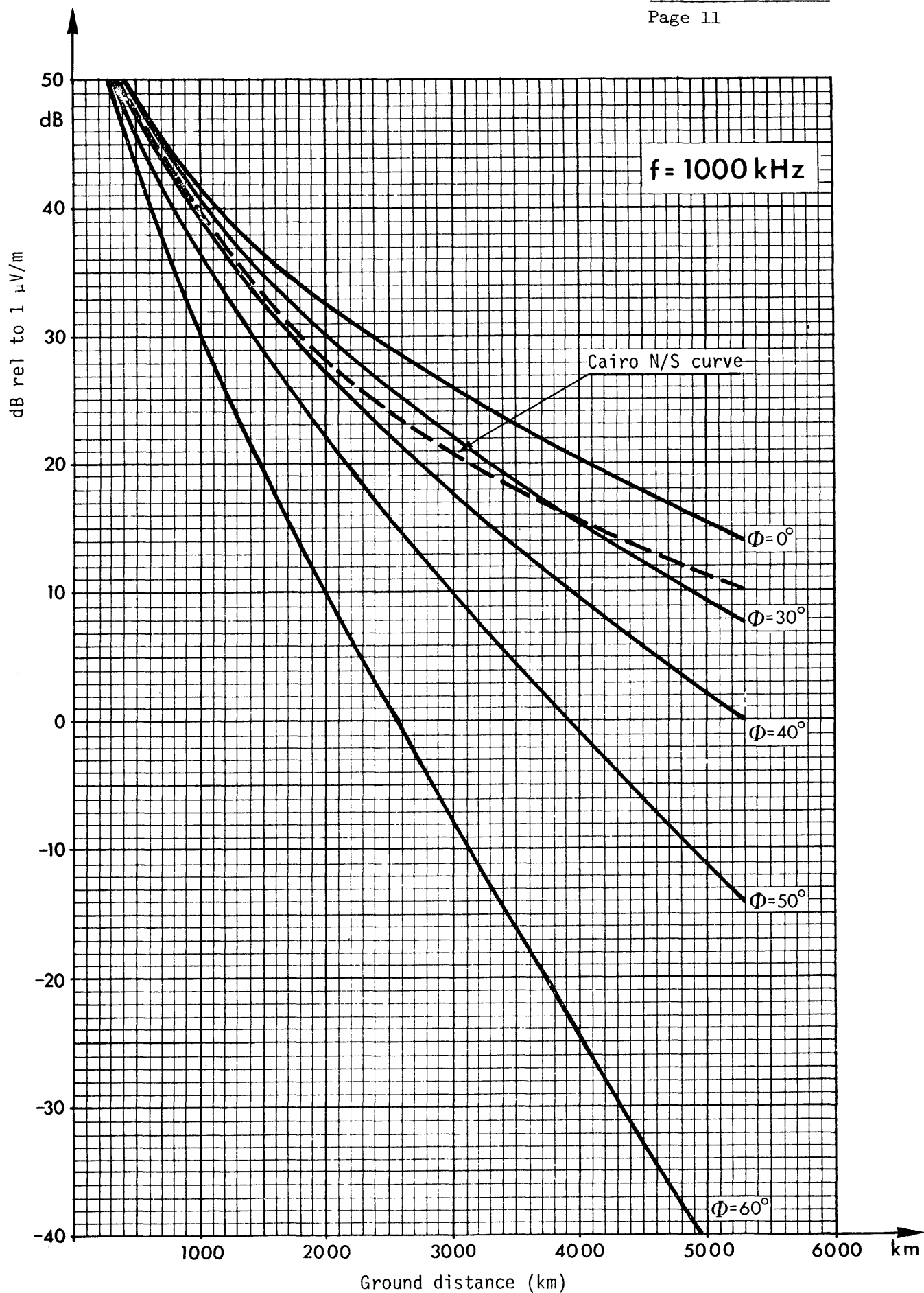


Fig 1d

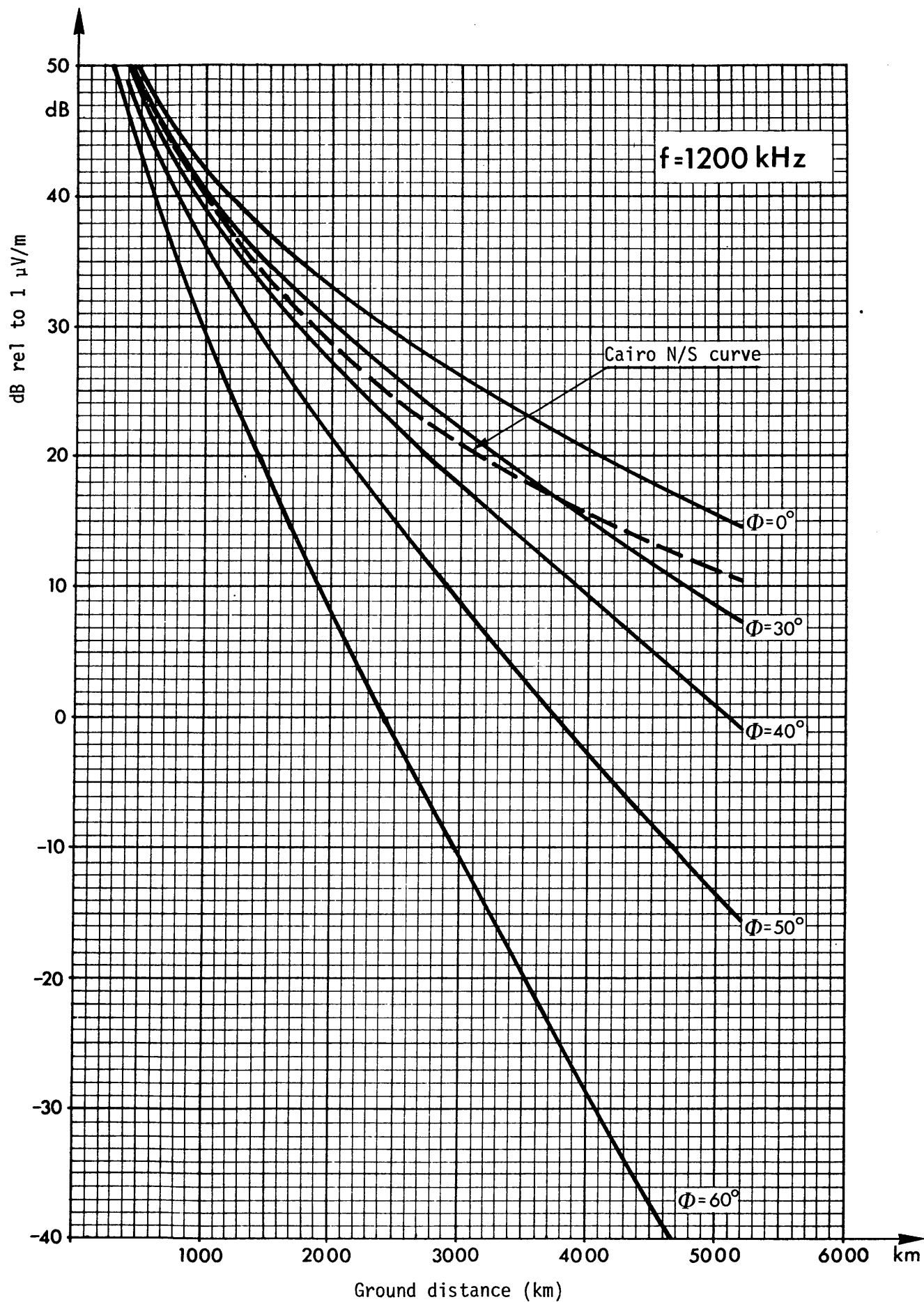


Fig 1e

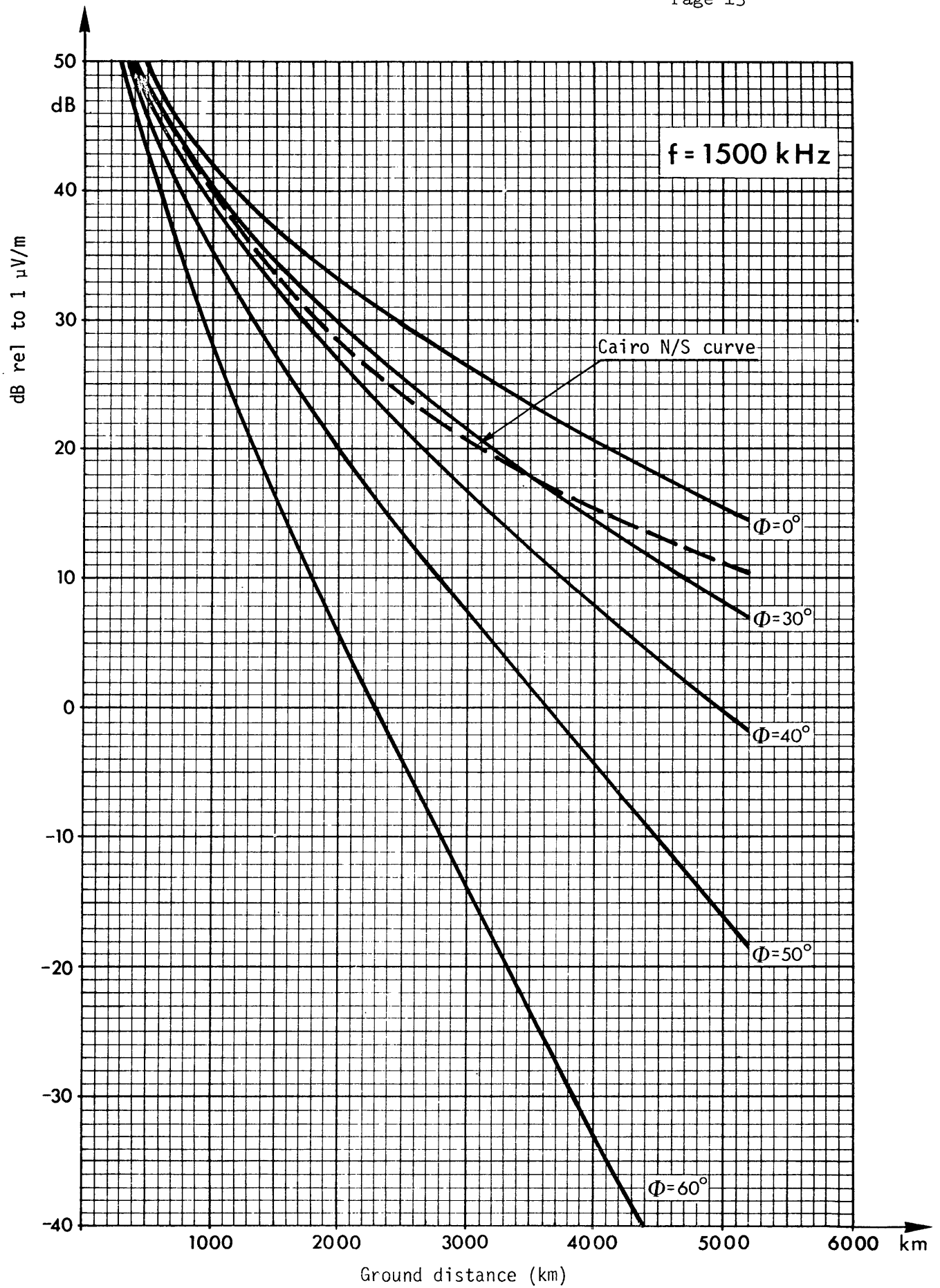
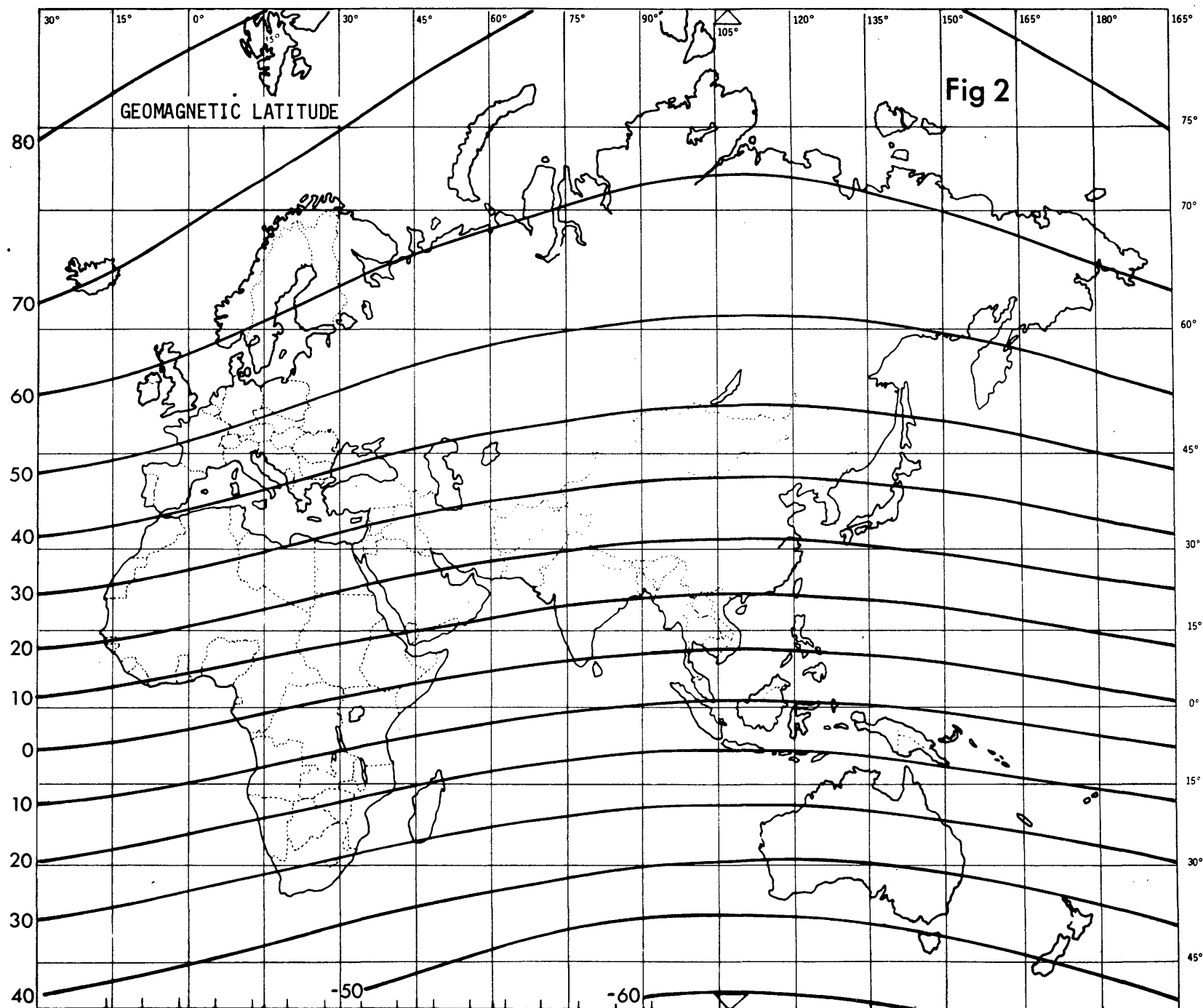
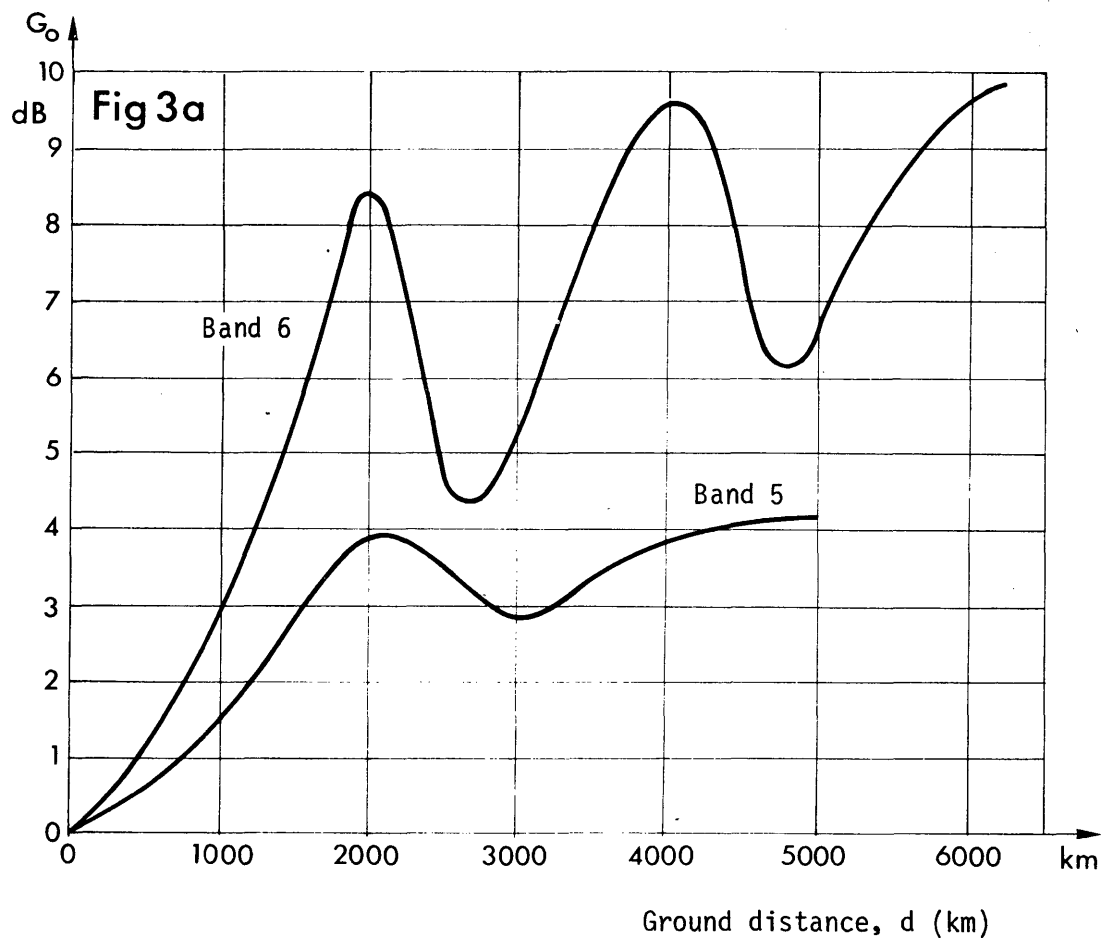
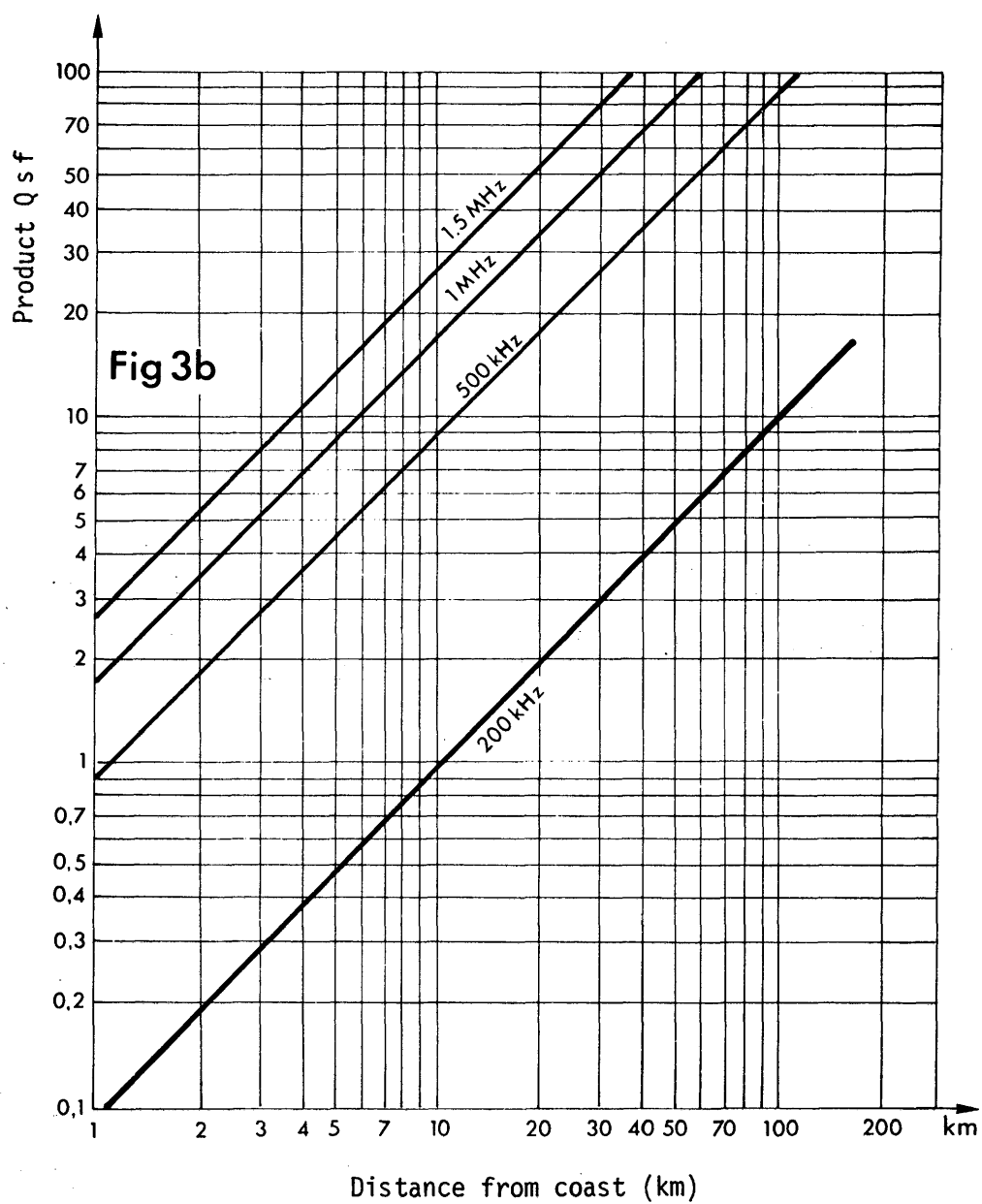
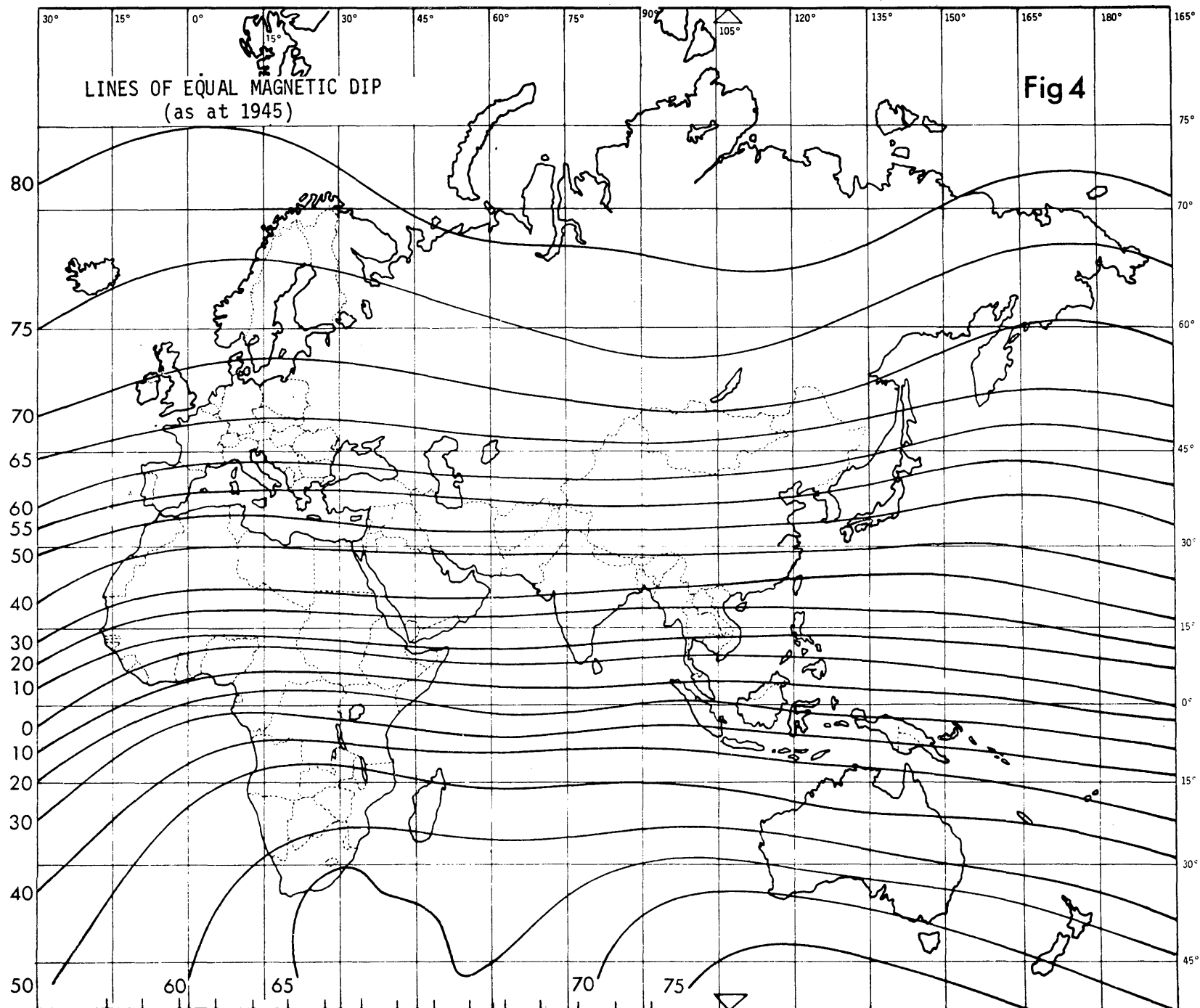


Fig 1f









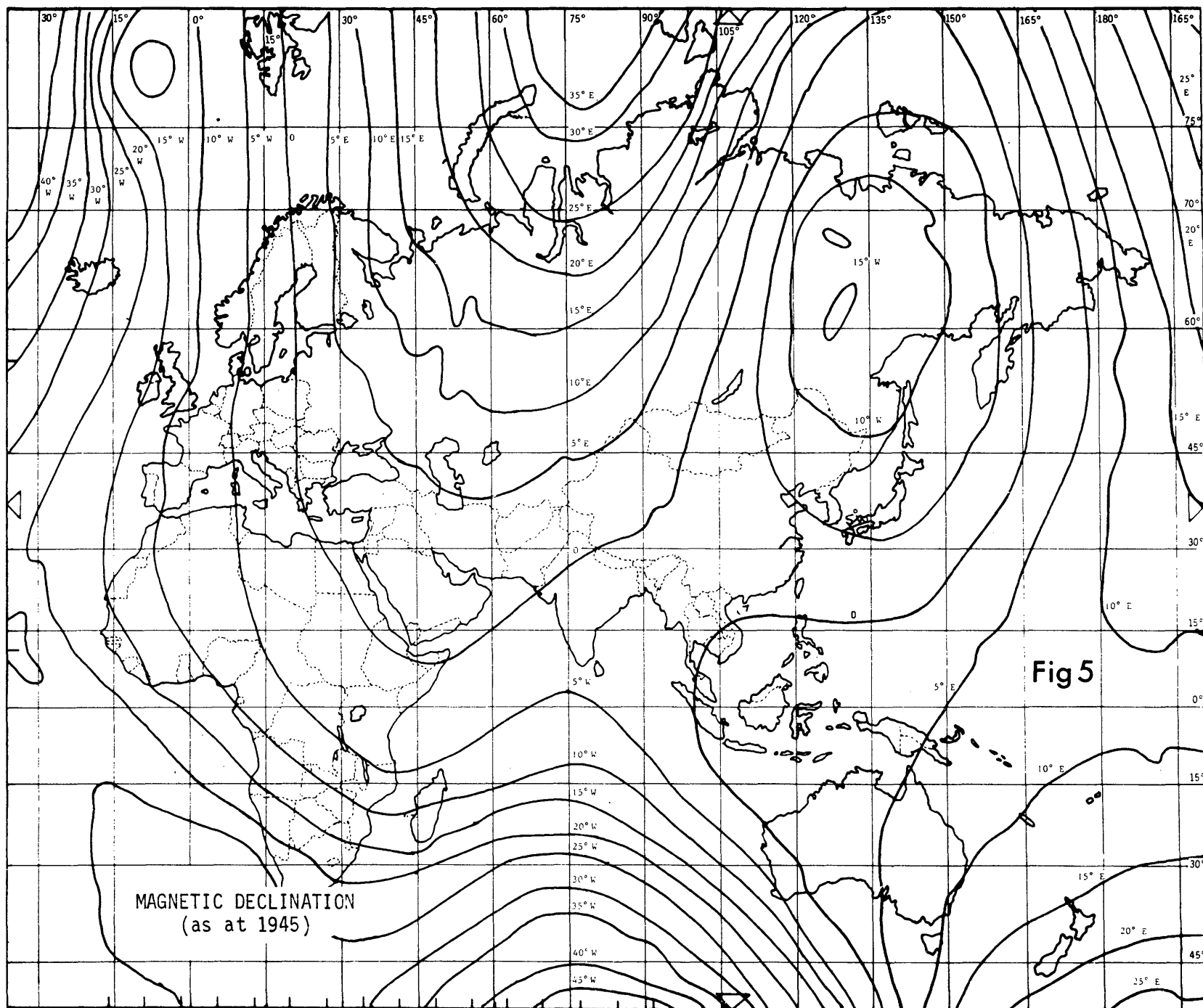
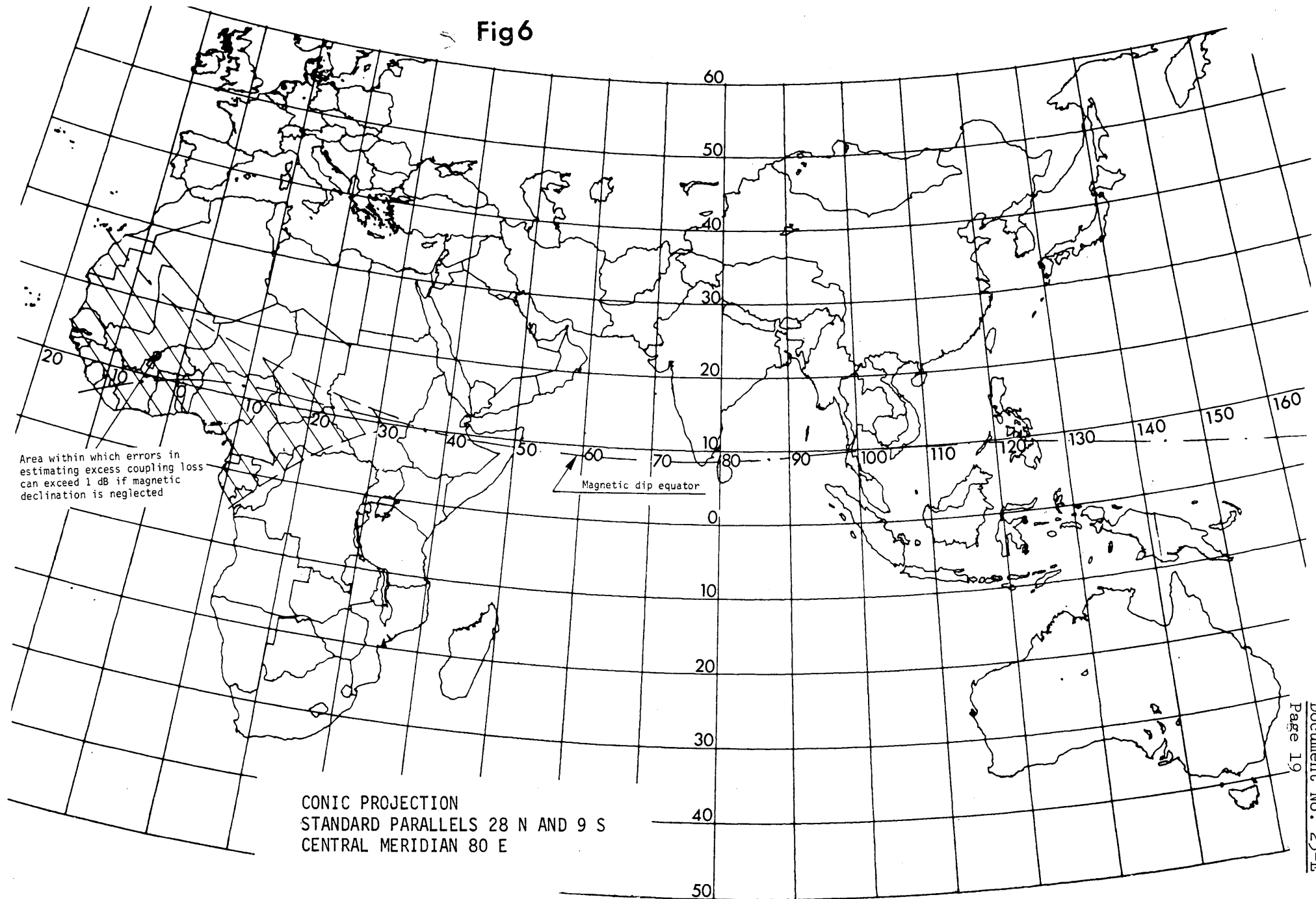
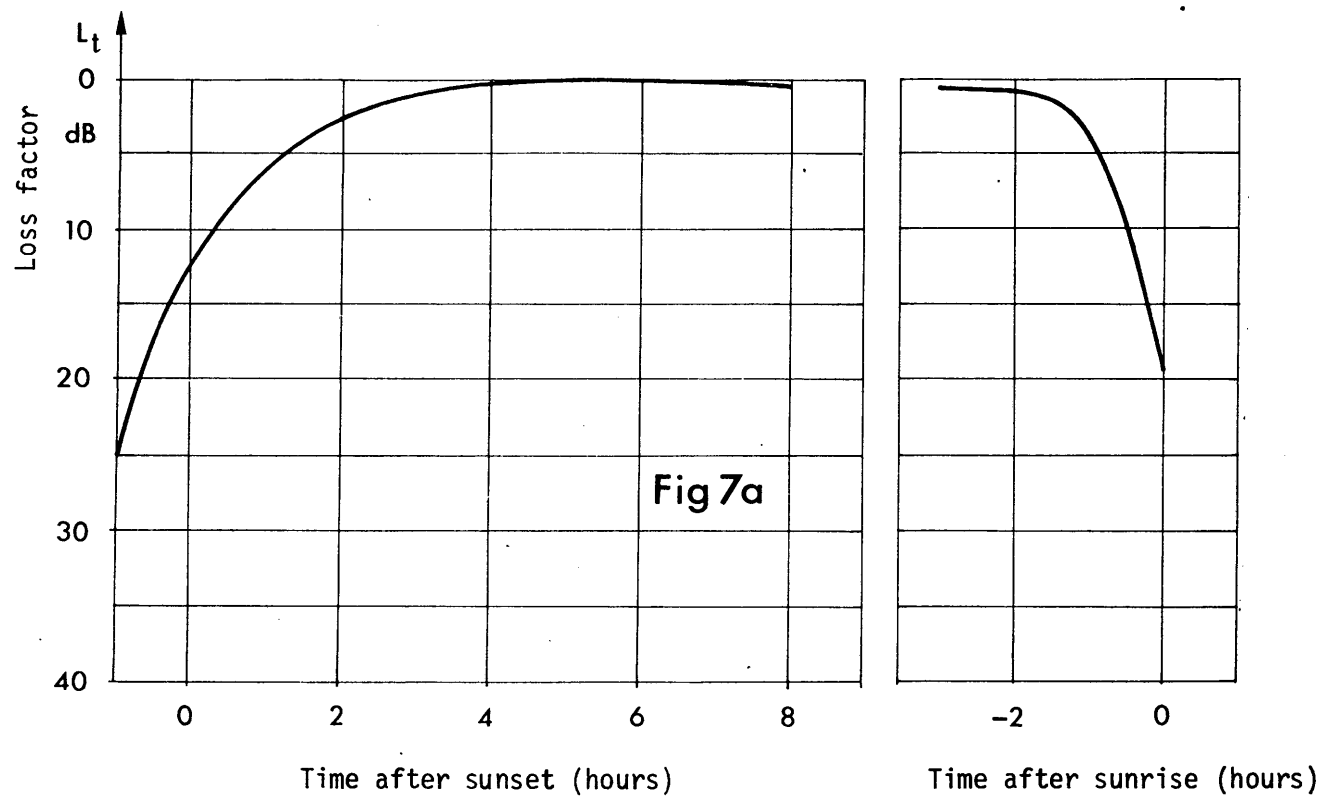
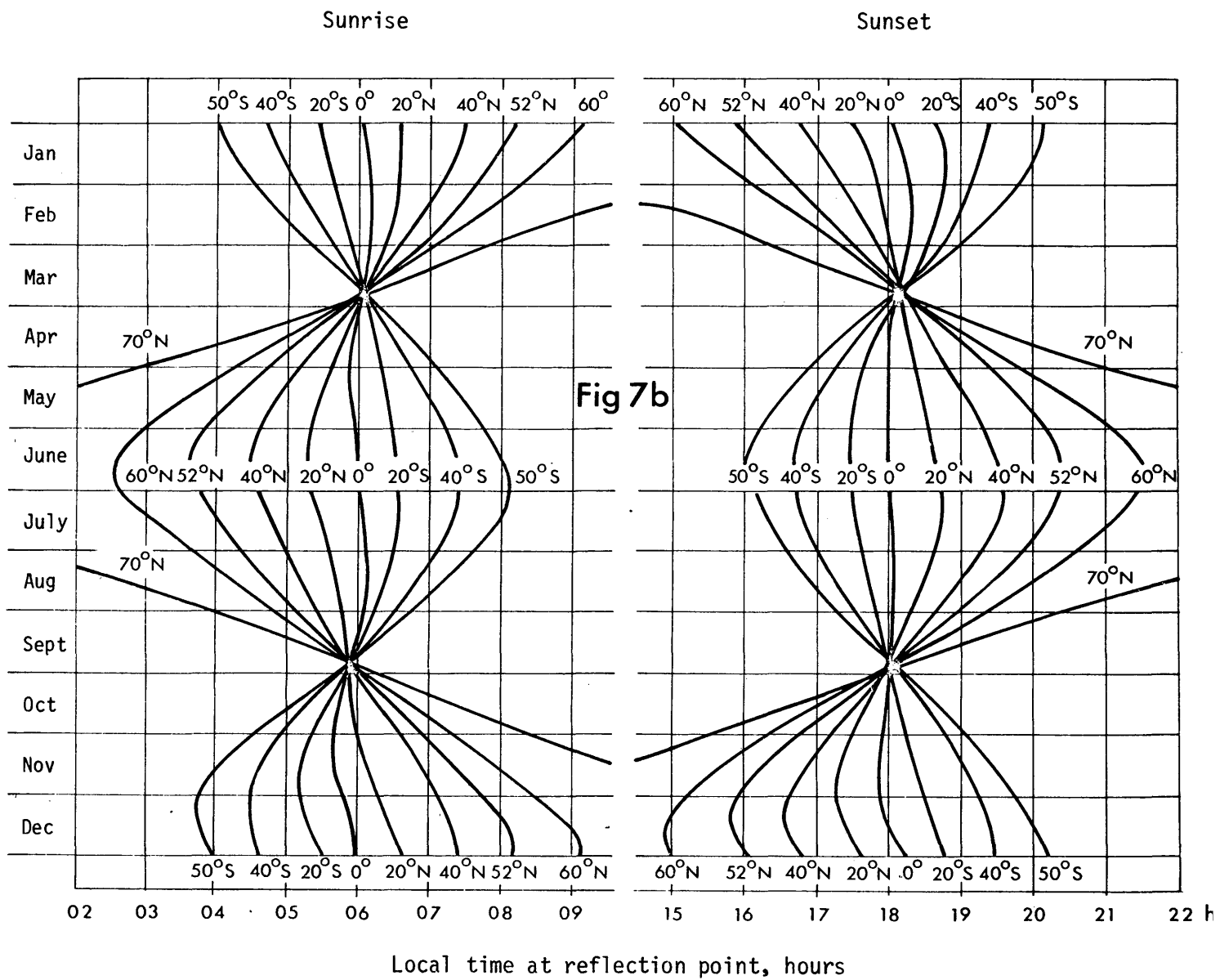


Fig 6



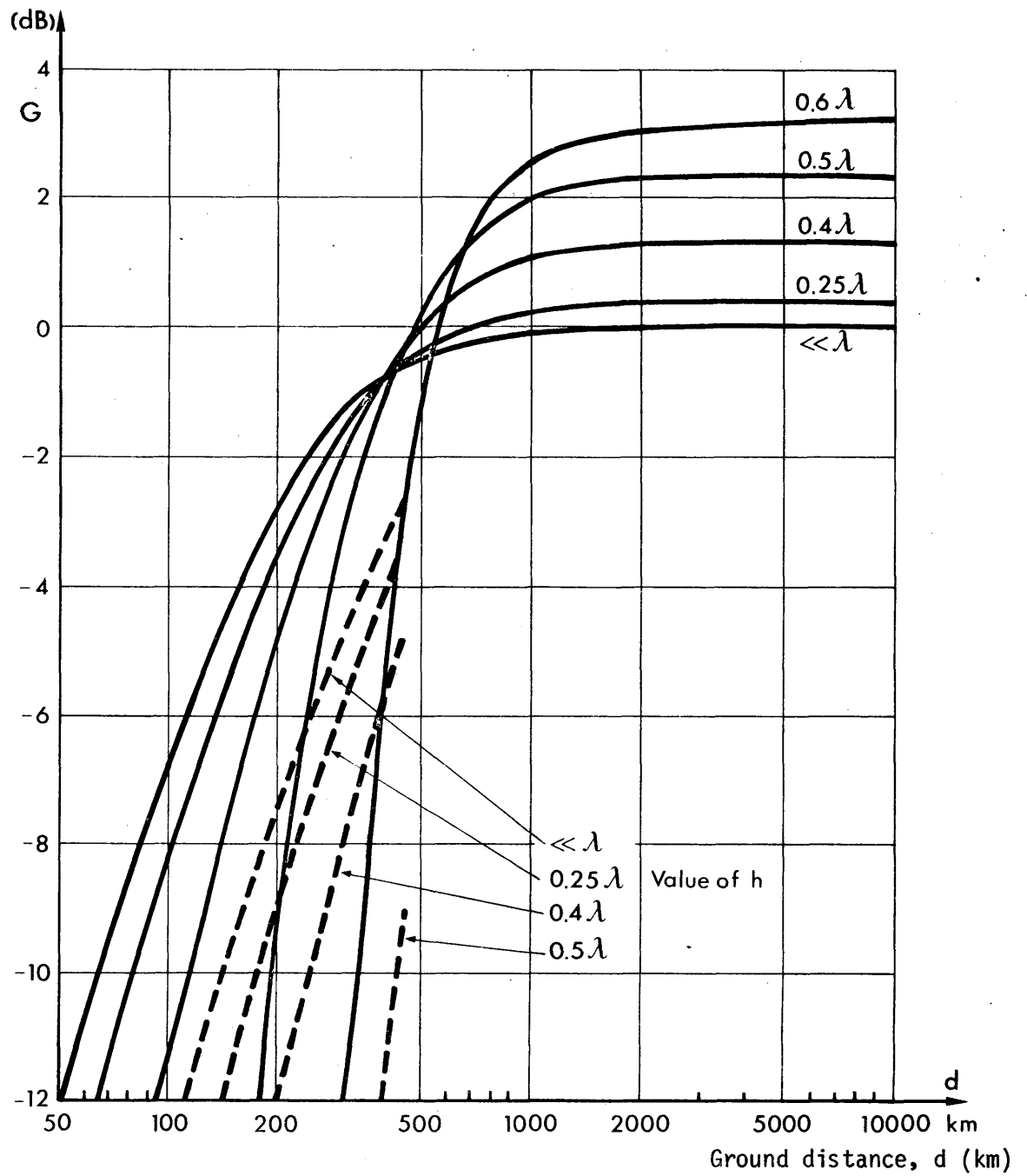




Annex

Additional curves required for calculation

reproduced from Appendix B
of Report of First Session



h = aerial height
 — $h_r = 100$ km (E layer reflection)
 - - - $h_r = 220$ km (F layer reflection)

FIGURE 1

Transmitting antenna gain for a simple vertical antenna

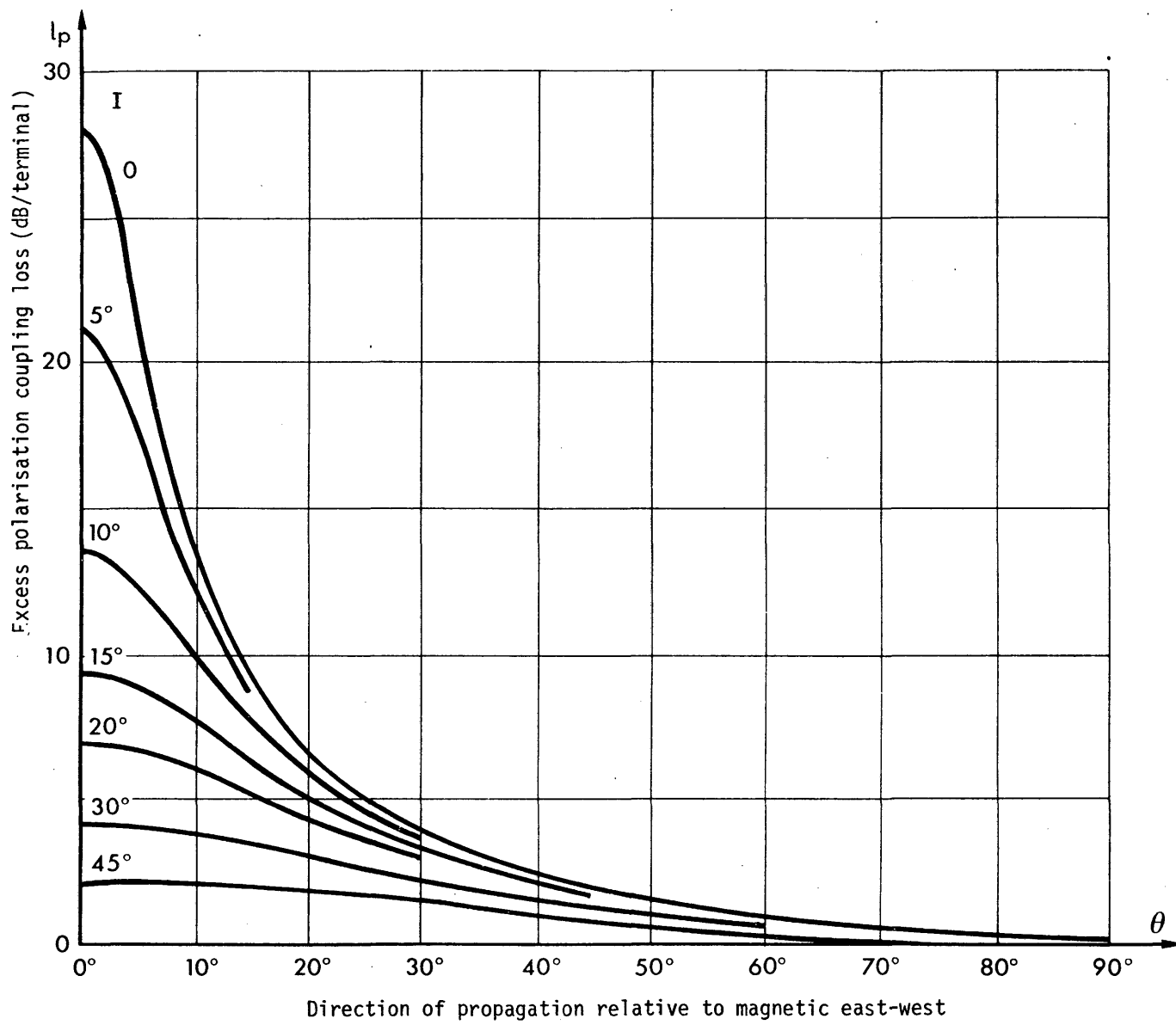


FIGURE 7

Excess polarisation coupling loss L_p (dB/terminal)

INTERNATIONAL TELECOMMUNICATION UNION
BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1975

Document No. 26-E(Rev.1)
7 October 1975
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PLENARY MEETING

STATEMENT OF THE TELECOMMUNICATION DELEGATION OF CHINA

In its frequency requirements submitted to the International Frequency Registration Board, the Indian Telecommunication Administration has listed MF broadcasting stations located at ALONG (94E50, 28N10), ANINI (95E52, 28N40), BOMDILA (92E30, 27N20), HAPOLI (93E40, 27N30), KOLORIANG (93E27, 27N52), PASIGHAT (95E20, 28N06), TAWANG (91E54, 27N36) and ZIRO (93E50, 27N34). These places have all along been Chinese territories. The setting up of stations within Chinese territories by the Indian authorities is illegal and a violation of China's sovereignty. The Telecommunication Administration of the People's Republic of China demands immediate cancellation of these stations by the Telecommunication Administration of India.



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

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6 October 1975

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PLENARY MEETING

China

FREQUENCY REQUIREMENTS

In its frequency requirements submitted to the International Frequency Registration Board, the Indian Telecommunication Administration has listed MF broadcasting stations located at ALONG (94E50, 28N10), ANINI (95E52, 28N40), BOMDILA (92E30, 27N20), HAPOLI (93E40, 27N30), KOLORIANG (93E27, 27N52), PASIGHAT (95E20, 28N06), TAWANG (91E54, 27N36) and ZIRO (93E50, 27N34). These places have all along been Chinese territories. The setting up of stations within Chinese territories by the Indian authorities is illegal and a violation of China's sovereignty. The Telecommunication Administration of the People's Republic of China demands immediate cancellation of these stations by the Telecommunication Administration of India.



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

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6 October 1975

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PLENARY MEETING

Italy

PROCEDURE FOR MODIFICATIONS OF THE PLAN

1. Introduction

When a broadcasting plan is established, a procedure for altering the characteristics of the stations shown in the plan and for putting new stations into use must be provided to enable the signatory countries to make allowance for any future changes that may be required in their networks and to protect the stations listed in the plan. The amendment procedure must be simple and easy to interpret and apply and it must ensure that there will be no appreciable impairment in the service quality of the stations shown in the plan.

After examining the procedures laid down in the European Broadcasting Convention, Copenhagen, 1948, the Regional Agreement for the European Broadcasting Area, Stockholm, 1961, and the Regional Agreement for the African Broadcasting Area, Geneva, 1966, Italy proposes that the following procedure be followed for amendments to the Plan which will be adopted at the Second Session of the Regional Administrative LF/MF Broadcasting Conference.

2. Procedure for modifications of the Plan

2.1 When a contracting Administration proposes to make a modification of the Plan, that is :

- to change the technical characteristics of a broadcasting station shown in the Plan or put into use in accordance with the Agreement, or
- to put into use an LF or MF broadcasting station not appearing in the Plan,

the following procedure shall be applied before any notification is made under Article 9 of the Radio Regulations :

2.2

2.2.1 The Administration proposing a modification of the Plan shall inform the I.F.R.B. accordingly in a notice containing all the information listed in the Plan; the notice may also mention



any stations in respect of which the Administration considers coordination to be required because they may suffer harmful interference in their service areas as a result of the change;*) it may further state whether agreements have already been concluded with the countries having jurisdiction over these stations.

2.2.2 For the purposes of the present Agreement, "harmful interference" refers to any emission which, at the edge of the service area of a transmitter, causes an increase of more than 0.5 dB in the usable field strength for at least 50% of the time at any time of the day in relation to the usable field strength based on the original recording of the station in the Plan. The "service area" is obtained by applying the definition in C.C.I.R. Recommendation 499. Consequently, when modifications of the Plan are considered, the above-mentioned value should be taken into account in assessing the acceptability of the proposed change.

2.3 The characteristics of the station, as changed, or of the new station shall be published by the I.F.R.B. in a special section of the weekly circular.

2.4 Any contracting Administration whose services (either the stations shown in the Plan or stations entitled to international protection under the Radio Regulations) might be adversely affected by the proposed change should so inform the notifying Administration and the I.F.R.B. within sixteen weeks following the date of the weekly circular referred to in 2.3 above.

2.5 Any Administration which has not notified its observations within this period shall be understood to agree to the proposed change.

2.6 If an Administration requests additional information, the time limit in 2.4 above shall be extended in respect of this Administration by eight weeks from the date of dispatch of the request.

2.7 If, in order to reach agreement with a contracting Administration, the notifying Administration makes further changes that may increase the probability of harmful interference to the services of other countries, the same procedure shall be followed as in 2.2 to 2.6 above.

2.8 If no agreement on the proposed changes is reached by the Administrations concerned, the notifying Administration or any other Administration concerned may request the assistance of the I.F.R.B. The Board shall carry out the technical examinations and studies required, bring the results to the attention of the Administrations concerned and formulate such recommendations as might assist in solving the problem.

*) This information could also be given by the I.F.R.B.

2.9 Any Administration may seek the advice of the I.F.R.B. at any stage of the procedure for modifying the Plan or before the procedure is applied.

2.10 An Administration proposing to change the technical characteristics of a station shown in the Plan or put into use in accordance with the Agreement, may proceed to do so, subject to the provisions of Article 9 of the Radio Regulations if the proposed modifications relate either :

- to a reduction in the radiated power, or
- to other changes of technical characteristics which would not increase the probability of harmful interference to services of other countries.

2.11 When the modifications of the Plan are confined to stations with a c.m.f. not exceeding 300 V (or an e.m.r.p. not exceeding 1 kW) and which use low-power channels, the procedure set out in 9.6.2.2 of the Report of the first session of the Conference shall apply.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

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8 October 1975

Original : French

PLENARY MEETING

Note by the Secretary-General

CONFERENCE CHAIRMANSHIPS

Chairman of the second session of
the Conference

: Mr. ROSE Derek C.
(New Zealand)

Vice-Chairmen of the second session
of the Conference

: Mr. HARBI Mohamed
(Algeria)

: Mr. IRFAN ULLAH
(Pakistan)

: Mr. PROBST Hansruedi
(Switzerland)

: Mr. CHAMCHIN V.
(U.S.S.R.)

Committee 1 - Steering Committee

: (composed of the Chairman and
Vice-Chairman of the Conference
and of the Chairmen and
Vice-Chairmen of the other
Committees)

Committee 2 - Credentials Committee

: Chairman : Mr. ANTAR A.H.
(Egypt)

Vice-Chairman : Mr. VARIYAN D.S.
(Malaysia)

Committee 3 - Budget Control Committee

: Chairman : Mr. BASU M.K.
(India)

Vice-Chairman : Dr. HORVÁTH L.
(Hungary)

Committee 4 - Planning

: Chairman : Mr. ŽAGAR Vlatko
(Yugoslavia)

Vice-Chairman : Mr. MORISHIMA N.
(Japan)



Committee 5 - Agreement

: Chairman : Mr. PETTI A.
(Italy)

Vice-Chairman : Mr. AITHNARD Do
(Togo)

Committee 6 - Editorial Committee

: Chairman : Miss HUET Marie
(France)

: Vice-Chairmen : Mr. ARTO MADRAZO J.M.
(Spain)

: Mr. DROMGOOLE J.
(United Kingdom)

M. MILL

Secretary-General

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 28-E

6 October 1975

Original : French

PLENARY MEETING

Note by the Secretary-General

CONFERENCE CHAIRMANSHIPS

- Chairman of the second session of the Conference : Mr. ROSE Derek C.
(New Zealand)
- Vice-Chairmen of the second session of the Conference : Mr. HARBI Mohamed
(Algeria)
- : Mr. IRFAN Ullah
(Pakistan)
- : Mr. PROBST Hansruedi
(Switzerland)
- : Mr. CHAMCHINE V.
(U.S.S.R.)
- Committee 1 - Steering Committee : (composed of the Chairman and
Vice-Chairman of the Conference
and of the Chairmen and
Vice-Chairmen of the other
Committees)
- Committee 2 - Credentials Committee : Chairman : Mr. ANTAR A.H.
(Egypt)
- Vice-Chairman : Mr. VARIYAN D.S.
(Malaysia)
- Committee 3 - Budget Control Committee : Chairman : Mr. *)
(India)
- Vice-Chairman : Dr. HORVATH L.
(Hungary)
- Committee 4 - Planning : Chairman : Mr. ŽAGAR Vlatko
(Yugoslavia)
- Vice-Chairman : Mr. MORISHIMA N.
(Japan)

*) Name to be published in a revised issue of this document.



Committee 5 - Agreement

: Chairman : Mr. PETTI A.
(Italy)

Vice-Chairman : Mr. *)
(Togo)

Committee 6 - Editorial Committee

: Chairman : Miss HUET Marie
(France)

: Vice-Chairmen : Mr. ARTO MADRAZO J.M.
(Spain)

: Mr. DROMGOOLE J.
(United Kingdom)

M. MILI

Secretary-General

*) Name to be published in a revised issue of this document.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 29-E

6 October 1975

Original : French

PLENARY MEETING

Note by the Secretary-General

CONFERENCE SECRETARIAT

(adopted at the first Plenary Meeting)

In accordance with the provisions of Chapter IX of the Convention, one of the tasks of the first Plenary Meeting is to constitute the conference secretariat.

<u>Secretary of the Conference</u>	Mr. M. Mili, Secretary-General
<u>Technical Secretary</u>	Mr. K. Čomić
<u>Executive Secretary</u>	Mr. A. Winter-Jensen
<u>Meeting Secretaries</u>	
<u>Plenary Meetings</u>	Mr. H. Pouliquen
<u>Committee 1</u> - Steering	Mr. H. Pouliquen
<u>Committee 2</u> - Credentials	Mr. A. Winter-Jensen
<u>Committee 3</u> - Budget Control	Mr. R. Prélaz
<u>Committee 4</u> - Planning	Mr. K. Čomić
<u>Committee 5</u> - Agreement	
Co-secretaries :	Mr. R. Smith (G.S.) Mr. R. Pluss (I.F.R.B.)
<u>Committee 6</u> - Editorial	Mr. R. Macheret
<u>Legal Adviser</u>	Mr. M. Ibnou-Zékri

The secretariat will also consist of officials detached from Headquarters and the requisite supernumerary personnel.

M. MILI
Secretary-General



INTERNATIONAL TELECOMMUNICATION UNION
BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1975

Document No. 30-E
7 October 1975
Original : French/English

PLENARY MEETING

Note by the Secretary-General

STRUCTURE OF THE SECOND SESSION OF THE CONFERENCE
(adopted by the first plenary meeting)

Committee 1 - Steering Committee

Terms of reference : To coordinate the work of the Committees, fix the timetable of meetings, etc.

Committee 2 - Credentials Committee

Terms of reference : To verify the credentials of delegations (No. 369 of the International Telecommunication Convention (Torremolinos, 1973)).

Committee 3 - Budget Control Committee

Terms of reference : To determine the organization and the facilities available to the delegates, examine and approve the accounts for expenditure incurred throughout the Conference (No. 442 of the International Telecommunication Convention, (Torremolinos, 1973)).

Committee 4 - Planning

Terms of reference : To establish, on the basis of agreed technical criteria, Frequency Assignment Plans (to be associated with the Regional Agreement) for broadcasting stations in Regions 1 and 3 in the LF/MF bands allocated to the Broadcasting Service; the Frequency Assignment Plans in the bands 150-285 kHz and 525-535 kHz shall take into account the other radio services to which, according to the Table of Frequency Allocations, these bands are also allocated.



Committee 5 - Agreement

Terms of reference : To establish a Regional Agreement concerning the use by the Broadcasting Service of frequencies in the LF and MF bands allocated to that Service in Regions 1 and 3, giving due consideration to the provisions of No. 47 of the Convention and the relevant provisions of the Radio Regulations; and

to determine which of the data relating to a frequency assignment is to be included in the Plans.

Committee 6 - Editorial Committee

Terms of reference : To improve the form without altering the sense of the texts drafted by the various Committees and combine them with those parts of former texts which have not been altered (No. 527 of the International Telecommunication Convention (Torremolinos, 1973)).

M. MILL

Secretary-General

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 31-E

7 October 1975

Original : English

PLENARY MEETING

Federal Republic of Nigeria

PROPOSAL FOR THE WORK OF THE CONFERENCE

1. In response to Resolution B, first session of the Regional Administrative Conference for LF/MF Broadcasting, all concerned administrations had notified to the I.F.R.B. their requirements for LF/MF broadcasting frequencies, with all associated technical parameters, such as power, bandwidth, antenna characteristics, soil conductivity etc. The I.F.R.B. in turn, as required by the same resolution, has completed the following :

- i) Supplement the information it receives by the data mentioned at paragraph 1 of Resolution B;
- ii) prepare a list of all requirements received, wherever necessary, choosing the frequency considered most suitable for the desired range (I.F.R.B. Circular-letter No. 324);
- iii) calculate provisionally the usable field strength, for each transmitter and the resulting service range, indicating at the same time three major sources of interference, in the order of magnitude of interference caused to them (I.F.R.B. Circular-letter No. 327, Appendix 2);
- iv) give the summary of the situation resulting from transmitters in service, together with transmitters appearing in the African Plan, Geneva, 1966, which are not in service (Appendix 1 to I.F.R.B. Circular-letter No. 327).

2. The Nigerian Administration has carefully studied the reports of the I.F.R.B., and expresses its appreciation of the data supplied, thereby enabling administrations to judge how far their transmissions would be satisfactory or otherwise, in respect of their useful service range. The large number of frequency requirements demanded by



administrations, in consideration of the limited number of channels available, does not make it possible to arrive at a plan that would satisfy every one of them. This necessitates adopting some compromise towards reduction of service range, caused by increased usable field strengths due to sources of interference from co-channels as well as adjacent channels. Nigerian Administration, in this spirit of compromises, proposes the following for the consideration of the Conference :

"That administrations may not press for changes in the I.F.R.B. choices as at Appendix 2 to their Circular-letter No. 327, wherever the service range of a transmitter is reduced by not more than 10 per cent of the desired value or by 7 km whichever is greater."

3. In the same spirit, Nigerian Administration reiterates its proposal submitted to the first session of the Regional LF/MF Broadcasting Conference, vide Document No. 12(Rev.), concerning maximum transmitter carrier power, as follows :

"It is proposed that the maximum transmitter carrier power should be 250 kW and that as far as possible ground-wave coverage should be used on the LF/MF bands in Regions 1 and 3, except in cases where more powerful equipment is already in use as provided in African Plan (Geneva), 1966."

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

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7 October 1975

Original : French

PLENARY MEETING

Mauritania (Islamic Republic of)

TECHNICAL CRITERIA BASED ON THE WORK OF THE FIRST SESSION - ADOPTION OF LOWER VALUES FOR NOMINAL GROUND-WAVE FIELD STRENGTH AT NIGHT

The frequency requirements submitted in connection with the future plan are excessive and the powers involved often are greater than 1000 kW. According to the I.F.R.B. calculations, the resulting situation is disastrous for most administrations which for economy reasons have confined themselves to reasonable powers.

The service areas of the Mauritanian Administration, which uses 1 kW, 10 kW, 20 kW and 50 kW transmitters, are being reduced to unacceptable limits. The Administration therefore wishes to propose that the problem be solved by the adoption of lower nominal field strength values.

The following equations are suggested for the nominal ground-wave field strength at night :

$$E_{\text{nom}} = E_m + 3 \text{ dB} \quad (\text{rural areas})$$

$$E_{\text{nom}} = E_m + 6 \text{ dB} \quad (\text{urban areas})$$



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 33-E

8 October 1975

Original: English

PLENARY MEETING

REPORT OF THE AD-HOC GROUP PLEN-A

The Group has considered Documents Nos. 11, 12, 17, 21 and 32. It reached the following conclusions:

1. Excess polarization-coupling loss L_p

France does not press for adoption of its Document No. 21, but wishes to draw the attention of countries lying near the magnetic equator that L_p in practice for E-W paths may be much less than predicted, due to imperfections of technical installations.

2. Skywave propagation curve for Region 3 South of 11°S

As a conciliatory move, an alternative to Document No. 17 was proposed by Australia for application of the Cairo N/S curve, as described in Appendix E of the Report, to the whole of Region 3. There was no support in the Group for both proposals.

Australia expresses its extreme reservations that meaningful planning on the basis of equation 13 of Appendix B is possible.

Australia withdraws Document No. 17 and its Addendum.

3. Nominal usable field strength

To solve the problem raised by Mauritania, the whole of this country should be considered as lying in noise zone A (Chapter 6 of the Report of the First Session).

H. Eden

Chairman of PLEN-A



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 34-E

8 October 1975

Original : English

COMMITTEE 4

New Zealand

PROPOSALS FOR THE WORK OF THE CONFERENCE

Computer readouts available for the Planning

Groups of the Conference

At the first meeting of Committee 4 (Planning) it was agreed that eleven planning groups should be established, one for the LF band and ten for the MF band based, in the MF band, on blocks of twelve channels.

It appears from information presently available that once these groups commence working it will not be possible to obtain quickly enough, computer readout, taking into consideration changes agreed in each group.

To save time and to provide delegates in the groups with updated information New Zealand makes the following suggestion :

If, instead of providing the sum of individual contributions of interference at the position of worst interference, the I.F.R.B. may be able to arrange a list of the six worst individual contributions to each station on each channel for a planning group, possibly taken at the site of the transmitter suffering interference.

With this limited information the planning groups would then be able to examine particular anomalies and possible solutions to a reasonable degree of accuracy without extensive recourse to the computer.

A further advantage of this simplified procedure may be that the computer analysis would take less time.



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 35-E

9 October 1975

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PLENARY MEETING

Mauritania (Islamic Republic of)

CONTENT OF THE AGREEMENT

Data relating to an assignment which should be included in the Plan

Usable service radius

Usable field strength

The Mauritanian Administration is anxious that the second session should complete the Plan and the Agreement with due observance of the planning principle laid down by the first session, i.e. :

"... The Plan will be drawn up in accordance with the principle that all countries, large and small, have equal rights. It should also be based on the needs of administrations and should bring about satisfactory reception conditions for all peoples, having regard to the different conditions of the countries in Regions 1 and 3, in particular, the needs of the developing countries." (Chapter 9.1, page 23)

If this planning principle is to be applied, we are bound to take into consideration the present context in which the plan is being prepared and to give thought to the future context for which the plan will have to be valid.

The national requirements submitted for inclusion in the Plan by the Mauritanian Administration are an exact indication of the equipment effort which our Government is able to devote to the development of broadcasting in the coming years.

It follows that our frequency requirements and the power values associated with them are modest, because they have been prepared on the basis of a small budget and the service radii and the coverage factor are both very small.

Some administrations have submitted frequency requirements in sufficient number and with adequate power values to ensure a large coverage factor with comfortable usable field strength values.

These two situations, which differ only because of the present purchasing power of Governments, show us how great is the need for prudence in the definition of the data concerning the assignments to be included in the Plan.



Since, for us, the service area and the usable field strength are reduced by force of circumstances, they cannot therefore be entered in the Plan as fixed reference values without any margin for subsequent increase which future economic development may render possible.

In order to apply the principle quoted in the beginning, provision must be made in the Agreement for clauses enabling the developing countries to improve their coverage factor in future by changing the power and (or) the directivity of antennae.

The only limiting criterion which we recommend with regard to the improvement of the service in a developing country such as ours, after the Plan has been established is that the field strength produced by the sky wave from transmitter A (of which the characteristics are to be changed) at the site of transmitter B (subject to interference) shall in no case be greater than the sky wave field strength of transmitter B at the site of transmitter A.

This principle, based on fair and reciprocal tolerance, seems to us more equitable than an arrangement under which only the interference tolerance of the service area of a wanted transmitter is considered when the technical characteristics of another transmitter in the same channel are modified.

Any decision which did not permit the future improvement of the service areas in certain countries and did not take the basic considerations of the first session (Chapter 9.2.1) into account would not be realistic and would lead to a more disastrous situation than at present.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 36-E

10 October 1975

Original : English

COMMITTEE 4

Pakistan, Malawi, Nigeria, Jordan, Libya

POWER REQUIREMENTS

Discussions in the Plenary seem to indicate the unanimous view that the magnitude of the requirements submitted by the various administrations are incompatible with the total number of channels available and the technical standards prescribed by the first session of the Conference. It is also the general view of the Conference that some of these requirements, which obviously violate the Planning Principle of Equal Rights, set forth by the first session, must be reduced for a meaningful planning by Committee 4.

Committee 4 may, therefore, kindly direct the I.F.R.B. to supply the following information to the delegates in order to enable everyone to consider whether the Principle of Equal Rights is not being violated. The information may be supplied in columns as follows :

1. Name of country
2. a) Total Power of all the requirements already in use. (ΣP_u)
b) Total Power of all requirements which are in excess of 100 kW individually, and are in use. ($\Sigma P_u > 100$)
3. a) Total Power of all the requirements additionally required for future. (ΣP_F)
b) Total Power of all the requirements which are in excess of 100 kW individually and are additionally required for future. ($\Sigma P_F > 100$)

Committee 4 may also request all the delegations to reconsider their requirements and, if possible to withdraw those, which in their own opinion are not compatible with the Principle of Equal Rights, in order to facilitate the work of the Committee.

IRFAN ULLAH
Chief of Pakistan Delegation



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 37-E
10 October 1975
Original : English

COMMITTEE 5

United Kingdom

ABROGATION OF COPENHAGEN CONVENTION

1. If the Copenhagen Convention and Plan are to be replaced by another Agreement, the Copenhagen Convention and Plan have to be formally terminated.
 2. As the Copenhagen Conference was a Plenipotentiary Conference held outside the I.T.U. - because at that time the machinery for Regional Conferences within the Union was not fully established - those who effect the denunciation must also be plenipotentiaries. A special committee of those plenipotentiaries may need to be set up for this purpose and its acts must be separate from the current Broadcasting Conference.
 3. Such a meeting does not need to take place immediately. The Conference should proceed to pursue its objectives in introducing a new plan and in reaching agreement on the date for implementation. Only then will the need be established for steps to be taken to abrogate the Copenhagen Convention.
-



UNION INTERNATIONALE DES TELECOMMUNICATIONS
CONFERENCE DE RADIODIFFUSION
(DEUXIEME SESSION) GENEVE, 1975

Corrigendum 1 au
Document N° 38-F/E/S

COMMISSION 4
COMMITTEE 4
COMISIÓN 4

ORGANISATION DES GROUPES DE PLANIFICATION

Les corrections suivantes doivent être apportées aux colonnes indiquées.

V. ŽAGAR
Président

ORGANIZATION OF THE PLANNING GROUPS

Corrections to be done on the columns indicated.

V. ŽAGAR
Chairman

ORGANIZACIÓN DE LOS GRUPOS DE PLANIFICACIÓN

Correcciones en las columnas indicadas.

V. ŽAGAR
Presidente

Groupes de planification Planning Groups Grupos de planificación	Canaux Channels Canales	Secrétaire technique Technical Secretary Secretario técnico
4/1 4/2 4/5 4/9	522 kHz 6 requirements	D. Kane M. Ahmad W. Menzel 1030



UNION INTERNATIONALE DES TELECOMMUNICATIONS
CONFERENCE DE RADIODIFFUSION
(DEUXIEME SESSION) GENEVE, 1975

Document N° 38-F/E/S
11 octobre 1975
Original : français,
anglais,
espagnol

COMMISSION 4
COMMITTEE 4
COMISIÓN 4

ORGANISATION DES GROUPES DE PLANIFICATION

Distribution des canaux par groupe de planification.

V. ŽAGAR
Président de la Commission 4

ORGANIZATION OF THE PLANNING GROUPS

Allocation of channels to the Planning Groups.

V. ŽAGAR
Chairman, Committee 4

ORGANIZACIÓN DE LOS GRUPOS DE PLANIFICACIÓN

Distribución de los canales por grupo de planificación.

El Presidente de la Comisión 4
V. ŽAGAR

Annexe
Annex
Anexo

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ANNEXE - ANNEX - ANEXO

Groupes de planification Planning Groups Grupos de planificación	Canaux Channels Canales	Salle Room Sala	Niveau* Level* Nivel*	Président Chairman Presidente	Casier N.º Box N.º Casillero N.º	Secrétaire technique Technical Secretary Secretario técnico	Casier N.º Box N.º Casillero N.º
4/1	1 - 12 552 kHz/7-8 requirements	Terrasse 1	K	M. Ben Youssef, T. (TUN)	422	M. Rodriguez	1035
4/2	13 - 24	Terrasse 2	K	M. Grimstveit, L. (NOR)	50	Rane	1026
4/3	25 - 36	Terrasse 3	K	M. Kalinine, A.I. (URS)	450	G. Korolev	1028
4/4	37 - 48	Terrasse 4	K	M. Kalita, H. (POL)	441	I. Dolezel	1023
4/5	49 - 60	XIV	J	M. Diallo, M.S. (GUI)	485	Ahmad	1016
4/6	61 - 72	VII	J	M. Fadami, A. (IRN)	178	K. Khabiri	1027
4/7	73 - 84	VIII	J	M. Quintos, L.B. (PHL)	510	S. Tsukada	1038
4/8	85 - 96	X	G	M. Loenberg, Th (DNK)	246	L.S. Huang	1025
4/9	97 - 108	IX	E	M. Kilisilira, DJ (ZMB)	92	Menzel	1035
4/10	109 - 120	D 350	D	M. Shepherd, F.M. (AUS)	359	D. Nasution	1031
4/11-LF	1 - 15	D 351	D	M. Joachim, M. (TCH)	417	M.D. Sant	1036
LPC	LPC	D 359/II	D/F	M. Olms, K. (D)	121	G. Kovacs	1029

*) Voir le plan du C.I.C.G. pour les Salles - *) See C.I.C.G. plan of the rooms - *) Véase el plan del C.I.C.G. para las salas.

INTERNATIONAL TELECOMMUNICATION UNION

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 39-E

13 October 1975

Original : Russian

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

At the request of the Head of the Delegation of the Union of Soviet Socialist Republics (U.S.S.R.), the letter addressed to the Chairman of Committee 4 is presented in the attached Annex.

V. ŽAGAR
Chairman of Committee 4

Annex : 1



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A N N E X

To the Chairman of Committee 4

Mr. V. Žagar

Dear Sir,

To expedite the work of the working groups for the coordination of requirements for frequency assignments in the various part of the MF/LF bands, it might be useful if the delegations concerned were to coordinate certain assignments amongst themselves beforehand.

The Soviet delegation is prepared to start immediately, in accordance with the principles laid down by the first session of the Conference, to coordinate requirements with the delegations of Japan, the Democratic People's Republic of Korea, the People's Republic of China, the Mongolian People's Republic, India, Pakistan, Afghanistan, Iran, Turkey, the Socialist Republic of Roumania, the Hungarian People's Republic, the Czechoslovak Socialist Republic, the People's Republic of Poland, Finland and other delegations of European, Asian and African countries.

I wish to inform you that the U.S.S.R. Administration of Communications has held preliminary discussions about its requirements with a number of the countries which are taking part in the Conference.

Through your intermediary, I hereby invite the above-listed delegations, and all other delegations concerned, to take part in this work with a view to contributing to the success of the efforts of Committee 4 and of the Conference as a whole and also to the elimination of mutual interference.

Yours faithfully,

V. CHAMCHINE
Head of the U.S.S.R. Delegation

INTERNATIONAL TELECOMMUNICATION UNION
BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1975

Document No. 40-E
13 October 1975
Original : French
English
Spanish

COMMITTEE 5

STRUCTURE OF COMMITTEE 5

ORGANIZATION OF THE WORKING GROUPS

WORKING GROUP 5A

Chairman : Mr. M. LO, Mauritania (Box No. 264)
Secretary : Mr. W. García-Rios (Box No. 1024)

Terms of reference :

- To determine the data relating to a frequency assignment to be included in the Plans,
- to determine the technical data to be used in the application of the Agreement.

WORKING GROUP 5B

Chairman : Mr. K.R. BINZ, Federal Republic of Germany (Box No. 105)
Secretary : Mr. R. Pluss (Box No. 1017)

Terms of reference :

To establish the provisions of the Agreement relating to :

- the procedure for modifications to the Plans,
- the criteria for determining whether or not a modification to the Plans requires co-ordination,
- the notification of frequency assignments



WORKING GROUP 5C

Chairman : Mr. S.Y. CHONG, Malaysia (Box No. 261)

Secretaries: Mr. R. Pluss (Box No. 1017)

Mr. R. Macheret (Box No. 1071)

Terms of reference :

To establish the provisions of the Agreement excluding those relating to

- the procedure for modification to the Plans
- the criteria for determining whether or not a modification to the Plans requires co-ordination
- the notification of frequency assignments,
- the abrogation of the previous Convention and agreement,

but including those relating to the status and the validation of the Agreement.

"Ad hoc" Group

Chairman : Mr. A.O. Carter, United Kingdom (Box No. 287)

Secretary : Mr. R. Macheret (Box No. 1071)

The Delegates of the following countries will participate in the work of the "Ad hoc" Group : Denmark, France, Libya, United Kingdom, Czechoslovakia, Togo and U.S.S.R.

Terms of reference :

Provisions of the agreement relating to the abrogation of the previous Convention and agreement.

A. PETTI
Chairman

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 41-E

13 October 1975

Original : French and
English

COMMITTEE 4

ORGANIZATION OF THE WORK OF COMMITTEE 4

At its first meeting, Committee 4 decided that the planning work would be conducted as follows :

- one planning group to deal with the band 150 - 285 kHz;
- ten planning groups to deal with the band 525 - 1 605 kHz;
- one group to coordinate the work of planning, consisting of the Chairman and Vice-Chairman of the Committee and the Chairmen of the planning groups.

The planning work can be carried on continuously in the rooms reserved for it; each group may hold formal meetings, on the understanding that not more than two groups may meet simultaneously and that no two groups dealing with adjacent parts of the band may meet at the same time.

Decisions on the holding of formal meetings by the planning groups will be made by the Coordination Group in the light of the facilities provided for the Committee. The Coordination Group may have to set aside a certain period to enable countries which so desire to arrange inter-delegation coordination meetings.

Terms of reference of the planning groups

PG/1 - To establish on the basis of agreed technical criteria, Frequency Assignment Plans for broadcasting stations in Regions 1 and 3 in the Channels 1 to 12. The frequency assignments in the band 525 - 535 kHz shall take into account the other radio services to which, according to the Table of Frequency Allocations, these bands are also allocated

The Group will have to follow the course of planning of Channel 13.



PG/2 - To establish on the basis of agreed technical criteria, Frequency
to Assignment Plans for broadcasting stations in Regions 1 and 3 in
PG/9 the Channels 13 to 108. The Group will have to follow the course
of planning of the neighbouring channels of each group.

PG/10 - To establish on the basis of agreed technical criteria, Frequency
Assignment Plans for broadcasting stations in Channels 109 to 120.

The Group will have to follow the course of planning of Channel 108.

PG/11 - To establish on the basis of agreed technical criteria Frequency
Assignment Plans for broadcasting stations in the band 150 - 285 kHz
taking into account the other radio services to which, according
to the Table of Frequency Allocations, this band is also allocated.

V. ŽAGAR
Chairman, Committee 4

INTERNATIONAL TELECOMMUNICATION UNION

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 42-E

14 October 1975

Original : English

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

At the request of the Head of the Delegation of the Republic of India, the letter addressed to the Chairman of Committee 4 is presented in the attached Annex.

V. ŽAGAR
Chairman of Committee 4

Annex : 1



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A N N E X

Geneva, 14 October 1975

The Chairman,
Committee 4,
Broadcasting Conference,
Geneva, 1975.

Dear Sir,

To facilitate the coordination of requirements of frequency assignments in various parts of the MF band, it would be useful if a group of countries interested in mutual coordination amongst them meet immediately to effect the coordination.

The Indian delegation would like to meet as early as possible, in accordance with the principles laid down by Committee 4 Working Groups, to coordinate requirements with the delegations of Afghanistan, Sri Lanka, Pakistan, Nepal, Burma, U.S.S.R., People's Republic of China, Thailand, Iran, Bangladesh.

May I invite through you Mr. Chairman, the above delegations and the other delegations concerned, to take part in this discussion for coordination? After consultation with these delegations we could prepare a timetable for such discussions for elimination of mutual interference.

I am glad to inform you that the Indian Administration had already held preliminary discussions about the requirements with a few countries with a view to removing mutual incompatibilities.

Yours faithfully,

M.K. BASU
Head of the Indian Delegation

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 43-E

14 October 1975

Original : English

COMMITTEE 4 AND

WORKING GROUP 4/11

India

INTERFERENCE TO OTHER RADIO SERVICES IN THE BAND 150-285 kHz FROM LF BROADCASTING TRANSMITTERS

The Indian Administration is deeply concerned with the probability of harmful interference likely to be caused to the existing and planned stations of its services, other than broadcasting, in the low frequency bands allocated to these services in Region 3, from the planned broadcasting transmitters in Region 1, as projected to this Conference. In particular, the Aeronautical Radio Navigation Service in India in the band 200-285 kHz would be severely affected by very high powers of LF broadcasting transmitters in Region 1.

India, therefore, desires to draw the attention of Committee 4 and its Working Group 4/11 to the above position and to Documents Nos. 30 and 41, which define the terms of reference of Committee 4 and Working Group 4/11 respectively. India requests that the Frequency Assignment Plan for broadcasting stations in the LF band should be prepared in such a manner as not to cause harmful interference to the other radio services, especially to such services which are concerned with safety of human life, in that band in Region 3.



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 44-E
15 October 1975
Original : English

COMMITTEE 4

REPORT OF WORKING GROUP 4/LPC TO COMMITTEE 4

1. Based on the Report of the First Session of the Regional Administrative LF/MF Broadcasting Conference, the Working Group 4/LPC recalled the provisions concerning LPCs:

- the definition, by which an LPC is a channel to be used by medium frequency broadcasting stations employing a maximum e.m.r.p. of 1 kW;
- the basic consideration of setting aside a certain number of low-power channels for exclusive use by stations using powers of 1 kW or less (point 9.2.1 g) and
- the simplified planning and co-ordination methods (point 9.6).

2. The Working Group took note of the total number of requirements for low power transmitters:

- for LPCs on frequencies which are not specified: 960;
- for LPCs on specified frequencies: 253.

Several countries have not entered requirements for LPCs, as they understood that LPCs would be open for general use.

3. The Working Group agreed to set aside two low-power channels for exclusive use by stations using powers of 1 kW or less in Regions 1 and 3.

There was a great majority to accept as carrier frequencies those international common frequencies defined in the Copenhagen Plan (1948) and referred to in the African Plan, Geneva, 1966, the corresponding frequencies of which are 1 485 kHz and 1 593 kHz.

Some Delegations however favoured 1602 kHz instead of 1593 kHz, others proposed to adopt 1602 kHz as a third LPC-carrier frequency.

4. Some Delegations of Region 3 claimed that two LPCs would not be enough to fulfill their requirements, and that additional LPCs should be set aside for use in Region 3 only.



It was decided to study the following proposed frequencies out of which two additional carrier frequencies could be chosen :

- 1 395 kHz
- 1 557 kHz
- 1 566 kHz
- 1 575 kHz
- 1 584 kHz
- 1 593 kHz
- 1 602 kHz

The Australian Delegation did not favour the provision of LPCs, but if it were the decision of the Conference to establish LPCs, then it would be opposed to an extension in the number of LPCs above three.

5. Delegations were of the opinion that there should be set aside a uniform number of LPCs for Regions 1 and 3.

6. It was decided to study in conjunction with the I.F.R.B. the following problems :

- to which channels could the higher power requirements be transferred, that are now listed on the frequencies 1 485 kHz and 1 593 kHz, and
- on frequencies mentioned under paragraph 4, out of which additional frequencies could be selected in Region 3.

The results of the studies will be presented to Committee 4.

7. Some Delegations (including AUS, URS, CME, LBY, BGD, IRN, DAH) seek provision of a clause of exception by which they would be able to introduce in an LPC stations with a power exceeding 1 kW e.m.r.p. provided that such use does not cause interference to services in other countries that are operating LPCs, beyond the limits set down in point 9.6.1 of the Report of the First Session of the Conference. The Delegations of G, S, J, F, IND, TUR, NIG and INS wished to reserve their position on this text for the time being.

8. The simplified method for planning the requirements, as prescribed in point 9.6.2.1 of the Report of the First Session was confirmed.

9. The simplified coordination procedure for future changes in the LPCs as described in point 9.6.2.2 was accepted. For cases mentioned under point 6, the procedure to be deliberated in Committee 5, for other channels than LPC, should be applied.

K. OLMS
Chairman
Working Group 4/LPC

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 45-E

15 October 1975

Original : English

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

At the request of the Head of the Delegation of the United Kingdom, the letter addressed to the Chairman of Committee 4 is presented in the attached Annex.

V. ŽAGAR

Chairman of Committee 4

Annex : 1



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A N N E X

United Kingdom Delegation
to the Second Session of the
Regional Administrative
Broadcasting Conference
Office : 37-39 rue de Vermont
1202 GENEVA

15 October 1975

Mr. V. Žagar
Chairman, Committee 4

Dear Mr. Žagar,

To assist in the coordination of the planning work involving frequencies used by the United Kingdom, I have nominated members of my delegation to act as liaison officers for the Working Groups of Committee 4 as follows :

	Box No.		Box No.
WG 4/1 : K.R.E. Dunk	289	WG 4/7 : P. Laven	294
WG 4/2 : R.A. Dilworth	288	WG 4/8 : A.A. Leach	295
WG 4/3 : B.V. Harris/C. Higham	292	WG 4/9 : G.A. Graham	291
WG 4/4 : C.R. Bell	286	WG 4/10 : F.H. Wise	300
WG 4/5 : D.A. Pooley	297	WG 4/11 : G.D. Monteath	296
WG 4/6 : A.L. Witham	301		

If any delegation wishing to negotiate with the United Kingdom would be so good as to contact the appropriate liaison officer for the frequency group concerned, this will ensure that the appropriate United Kingdom delegates are brought into the discussions.

May I emphasize that the United Kingdom is ready at any time to discuss mutual problems with other delegations with a view to finding appropriate solutions. I would be grateful if you would circulate this letter as a Committee 4 document.

Yours sincerely,

J. DROMGOOLE
Head of United Kingdom Delegation

cc : Mr. Butler, Deputy Secretary-General, I.T.U.
Mr. Berrada, I.F.R.B.
Mr. Kirby, C.C.I.R.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 46-E

15 October 1975

Original : French

PLENARY MEETING

MINUTES

OF THE

FIRST PLENARY MEETING

Monday, 6 October 1975, at 1500 hrs

Chairmen : Mr. Johannes KUPPER (Federal Republic of Germany)
Dean of the Conference

later : Mr. Derek C. ROSE (New Zealand)

Subjects discussed

Document No.

- | | |
|---|--------|
| 1. Opening of the Conference | - |
| 2. Election of the Chairman of the second session of the Conference | - |
| 3. Election of the Vice-Chairmen of the second session of the Conference | - |
| 4. Address by the Secretary-General | - |
| 5. Committee structure and organization of the work of the second session of the Conference | - |
| 6. Election of Chairmen and Vice-Chairmen of the Committees | - |
| 7. Constitution of the Secretariat of the second session of the Conference | - |
| 8. Assignment of documents to Committees | - |
| 9. Invitations to the second session of the Conference | 14, 16 |
| 10. Participation of international organizations in the work of the Conference | 15 |
| 11. Date by which the Credentials Committee must reach its conclusions | - |
| 12. Conference timetable | - |



1. Opening of the Conference

Mr. Johannes Kupper (Federal Republic of Germany), Dean of the Conference, declared open the meeting and gave the address reproduced in Annex 1.

2. Election of the Chairman of the second session of the Conference

The Dean of the Conference said that at the meeting of Heads of Delegations held that morning, it had been decided to propose the candidature of Mr. Derek C. Rose (New Zealand) for the chairmanship of the second session of the Conference.

The proposal was received with applause.

Mr. Rose took the Chair and gave the address reproduced in Annex 2.

3. Election of the Vice-Chairmen of the second session of the Conference

The Secretary-General said it had been proposed at the meeting of Heads of Delegations that the Vice-Chairmen of the Conference should be elected from four different regions. The following names had been put forward :

For Eastern Europe : Mr. V. CHAMCHINE (U.S.S.R.)

For Western Europe : Mr. H. PROBST (Confederation of Switzerland)

For Africa : Mr. M. HARBI (Algeria)

For Asia : Mr. IRFAN ULLAH (Pakistan)

The proposal of the Heads of Delegations was approved.

The Chairman congratulated the Vice-Chairmen on their election and said that he counted on their support for the fulfilment of the tasks before the Conference.

4. Address by the Secretary-General

The Secretary-General gave the address reproduced in Annex 3.

The Chairman thanked the Secretary-General for the practical contribution he had made to the opening of the Conference and for the background information he had given on the meetings that had led up to the present one, placing due emphasis on the work performed by the C.C.I.R. and the I.F.R.B. without which it would not have been possible to organize the Conference. He drew attention to the stress laid by the Secretary-General on the need to make every effort to ensure the successful outcome of the session.

5. Committee structure and organization of the work of the second session of the Conference

The Secretary-General said that at the meeting of Heads of Delegations held that morning, the structure of Committees 1, 2, 3 and 6 set out in Document No. DT/3 had been approved and that the Chairman of the I.F.R.B. had put forward suggestions concerning more specific terms of reference for Committees 4 and 5 (Addendum No. 1 to Document No. DT/3).

The structure of Committees 1, 2, 3 and 6 was approved without change.

During the ensuing discussion on the terms of reference of Committees 4 and 5, the delegates of Belgium, Italy, Pakistan, Japan, Iran and India expressed preference for the texts suggested by the Chairman of the I.F.R.B., and the delegate of India proposed certain minor amendments to those texts.

On the other hand, the delegate of the United Kingdom considered that the text in Document No. DT/3 should be retained, while the delegate of Finland favoured the original terms of reference set out in the relevant Resolution.

The Chairman drew attention to the proposal by the delegate of India that the terms of reference of Committee 4 should be amended by the insertion of the phrase "(to be associated with the Regional Agreement)" after the words "Assignment Plans" in the second line.

There being no objection, the amendment was approved.

With regard to the terms of reference of Committee 5, it was decided, on the proposal of the delegate of India, to replace "draw up" by "establish" in the first line of the English text.

The terms of reference for Committees 4 (as amended by the delegate of India) and 5 set out in Addendum 1 to Document No. DT/3 were approved.

6. Election of Chairmen and Vice-Chairmen of the Committees

The Secretary-General said it had been proposed at the meeting of Heads of Delegations that the chairmanship and vice-chairmanship of the Committees should be distributed as follows :

Committee 1 - Steering

Chairman : the Chairman of the Conference

Vice-Chairmen : the Vice-Chairmen of the Conference

Committee 2 - Credentials

Chairman : Mr. A.H. Antar (Arab Republic of Egypt)

Vice-Chairman : Mr. D.S. Variyan (Malaysia)

Committee 3 - Budget Control

Chairman : to be appointed (India)

Vice-Chairman : Dr. L. Horvath (Hungary)

Committee 4 - Planning

Chairman : Mr. V. Žagar (Yugoslavia)

Vice-Chairman : Mr. N. Morishima (Japan)

Committee 5 - Agreement

Chairman : Mr. A. Petti (Italy)

Vice-Chairman : to be appointed (Togo)

Committee 6 - Editorial

Chairman : Miss M. Huet (France)

Vice-Chairmen : Mr. J.M. Arto Madrazo (Spain)

Mr. J. Dromgoole (United Kingdom)

The proposal of the Heads of Delegations was adopted.

The Chairman congratulated the newly-elected officers and wished them success in the fulfilment of their tasks.

7. Constitution of the Secretariat of the second session of the Conference

The Secretary-General suggested that the following secretariat should be placed at the disposal of the second session, in accordance with the Rules of Procedure of Conferences :

Secretary of the Conference : Mr. M. Mili, Secretary-General

Technical Secretary : Mr. K. Čomić

Executive Secretary : Mr. A. Winter-Jensen

Meeting Secretaries :

Plenary Meetings : Mr. H. Pouliquen
Committee 1 - Steering : Mr. H. Pouliquen
Committee 2 - Credentials : Mr. A. Winter-Jensen
Committee 3 - Budget Control : Mr. R. Prélaz
Committee 4 - Planning : Mr. K. Čomić
Committee 5 - Agreement
Co-secretaries : Mr. R. Smith (General Secretariat)
Mr. R. Plüss (I.F.R.B.)
Committee 6 - Editorial : Mr. R. Macheret
Legal Adviser : Mr. M. Ibnou-Zékri

The Secretary-General's suggestion was approved.

8. Assignment of documents to Committees

The Secretary-General suggested that documents already received should be assigned to the plenary meeting and the various Committees as follows :

Plenary meeting : Documents Nos 1, 2 and 10 to 17
Committee 2 : Document No. 4
Committee 4 : Documents Nos. 3 and 5 to 9
Committee 5 : Document No. 18.

In reply to a comment by the delegate of Belgium, the Chairman of the I.F.R.B. said that Document No. 10 - the report of the I.F.R.B. to the second session - had been withheld until the last moment so that it could take into account the final comments received. The text had, however, just been distributed in delegates' boxes.

In the absence of further comments, the Secretary-General's suggestions were approved.

9. Invitations to the second session of the Conference (Documents Nos. 14 and 16)

Document No. 14

The Secretary-General drew the particular attention of participants to the last line of page 2 of the document, in which the following additions should be made :

a cross should be inserted in the "Yes" column against the names of the following countries :

- Byelorussian Soviet Socialist Republic : page 3
- Bulgaria (People's Republic of) : page 4
- Viet-Nam (Republic of) : page 9

The above additions were noted.

Document No. 16

The delegate of Albania said that his country had always been a regular Member of the Union and that only technical and administrative difficulties had so far prevented its accession to the International Telecommunication Convention. Such accession should not, however, be long delayed.

Document No. 16 was noted.

The delegate of the U.S.S.R. made the statement reproduced in Annex 4.

10. Participation of international organizations in the work of the Conference (Document No. 15)

The Secretary-General drew attention to article 61, Nos. 330 and 337 of the International Telecommunication Convention, dealing with the admission of observers from international organizations to administrative conferences of the Union. He asked whether the Conference agreed to the admission of the organizations listed in the annex to Document No. 15.

It was so decided.

11. Date by which the Credentials Committee must reach its conclusions

On a proposal by the Secretary-General, it was agreed to set the date and time by which the Credentials Committee must reach its conclusions at 17 November at 15 hours.

12. Conference timetable

It was decided to adopt the following timetable for the Conference :

0930 hours - 1230 hours

1500 hours - 1800 hours.

The meeting rose at 1740 hours.

The Secretary-General :

M. MILI

The Chairman :

D. ROSE

Annexes : 4

A N N E X 1

ADDRESS BY Mr. KUPPER, DEAN OF THE CONFERENCE

Mr. Secretary-General,
Ladies and Gentlemen,

Today we are faced with a Conference which will have to solve very difficult problems, problems which might possibly not be solved at all.

In the first session of this Conference laying down the technical planning parameters in the LF/MF bands we have eventually managed, following a period of both hard work and difficult discussions, to achieve a compromise.

Now that the requirements of all delegations are available, we find that the total number amounts to approximately 10,000 transmitters with a power of 5,600 MW. As compared with these figures there are 4,400 transmitters with an overall power of 1,500 MW in operation at present. It is obvious, though, that the receiving conditions cannot in the least be considered satisfactory. In some areas such as Europe interference-free reception in the LF/MF bands is virtually impossible particularly during the evening and night hours.

It would be desirable for us to succeed in finding reasonable criteria which are acceptable to all countries and according to which the limited frequencies available can be equally distributed.

Considering the limited period of time available for the Conference work it seems extremely difficult to achieve this objective.

Consequently, the Conference will have to try in detailed work to discuss the mutual cases of interference and to try to achieve compromises.

To this end cooperation is necessary between all delegations. This is what I personally wish to attain with regard to the Conference work in order that it will be possible to bring the Conference to a successful conclusion and to achieve useful results.

A N N E X 2

ADDRESS BY Mr. ROSE (NEW ZEALAND), CHAIRMAN OF THE CONFERENCE

Mr. Secretary-General,
Mr. Kupper,
Your Excellencies,
Distinguished Guests,
Ladies and Gentlemen,

Firstly may I thank you all for the confidence you have shown in me in electing me Chairman of this important Conference and the honour you have done my country.

I feel that I am but a poor substitute for Mr. Locher who so ably brought the first session of this Conference to a satisfactory conclusion.

You may be assured that I will do everything I can, with the able help of all the distinguished representatives here today, to bring this second session of the Conference to a successful conclusion.

Ladies and Gentlemen,

No one in this hall today underestimates the challenge that is ahead in the next seven weeks; for, we have within our grasp, the very real possibility of creating a plan for the operation of the LF and MF broadcasting services and for eliminating many of the interference problems which plague us.

We must, however, not underestimate our task. With about 4000 stations in operation, we, in the next seven short weeks have to deal with nearly 10,000 requirements which have poured into Union Headquarters since the middle of the year, representing over 500 megawatts of power.

And here I must pause, for I think you would wish me to pay a sincere tribute to the magnificent task carried out by the permanent organs of the Union in organising and bringing before us the mass of information necessary for us to begin our task today.

And in the same vein, I believe that those of you here today can also take credit for a job well done in supplying the Union Headquarters with the necessary data at the appropriate time.

But, ladies and gentlemen, what now? No one doubts that we have a formidable task ahead in the next seven weeks, But in this room today we have many of the world's experts in the field of LF/MF broadcasting. I am informed that the permanent organs of the Union will make computer facilities available to us during the Conference but because of the very tight time schedule and the cost of such facilities the Union needs to know very quickly the extent and type of computer facilities that we require. I leave this important matter to you. I believe, that with goodwill and a determination to succeed and the cooperation of all in seeking a common goal, we will find success at the end of our Conference.

Finally we must all remember that this is a practical conference seeking practical solutions to practical problems. Clearly compromises are necessary if we are to achieve a satisfactory result. It is the general public in both of our regions who will ultimately benefit from our work.

I wish you all well in the tasks ahead. Together, with goodwill and cooperation, I believe we will reach a positive solution at the end of our work.

Thank you.

A N N E X 3

ADDRESS BY Mr. M. MILI, SECRETARY-GENERAL OF THE I.T.U.

Mr. Chairman,

Allow me first of all to offer you my warmest congratulations on your brilliant election to the chair of this session. The great experience you have acquired through playing an active part in numerous Union conferences, your profound understanding of problems and of men and your open mind make you one of those best fitted to undertake this delicate mission. The heavy task just entrusted to you is rendered all the more difficult by the fact that, in its scope, duration and the number of delegates attending it, this second session of the LF/MF Broadcasting Conference is one of the most important gatherings organized under I.T.U. auspices in the last twenty years.

However, I am convinced that your task will be considerably lightened by the able assistance of the Vice-Chairmen of the Conference and the Committee Chairmen, to whom I also wish to offer in advance every congratulation on their election.

Naturally, you will likewise be able to count on the fullest aid and support of the entire I.T.U. staff, who, whatever their grade, will do their utmost to help further the work of this great Conference.

Before I turn to the subject of this important meeting, permit me, Ladies and Gentlemen, to pay a resounding tribute to our good friend, Mr. Locher, and to convey to him our deep regret at not having him here with us today. You all know with what mastery, tact and ability he directed, to everyone's satisfaction, the proceedings of the first session. Unfortunately, the demands of his office prevent his being among us for this second session, thereby depriving us of the benefit of his rich experience.

Mr. Chairman,
Ladies and Gentlemen,

I hardly think it is necessary to stress the importance of this Conference which concerns one of the longest-established radio services with which the I.T.U. has to deal, namely, broadcasting in the low and medium frequency bands. The host of delegates present here today and the impressive number of countries they represent clearly show how governments are more alive than ever to the fundamental role that broadcasting plays in the cultural, economic and social development of the peoples.

By a happy coincidence, this second session of our Conference marks the fiftieth anniversary of the first Conference on broadcasting held in London in 1925 on the initiative of the B.B.C. This London Conference, which gave birth to the International Broadcasting Union (U.I.R.), decided that a European conference devoted to the planning of sound broadcasting should be convened in Geneva for 26 March 1926. The plan established by that Conference came into force on 14 November of that same year. It was very quickly realized, however, that the sponsorship of an intergovernmental organization, such as the I.T.U., was needed in order to give official status to agreements concluded between governmental administrations and not only between private firms. That is why, as early as 1929, the I.T.U. took the matter in hand by calling the Prague Conference to undertake the revision of the Geneva Plan.

The International Broadcasting Union (U.I.R.) was, in effect, only a regional broadcasting union. Although it changed its French name in 1929, becoming the Union internationale de radiodiffusion, it remained a strictly European organization, a fact which was formally acknowledged only in 1950 when it took the name of European Broadcasting Union.

The International Broadcasting Union took part in the work of the Conference of 1927, held at Washington, under the chairmanship of that great man of science, Dr. Van der Pol, a conference which led to the founding of the C.C.I.R. Several other conferences were convened in later years to supplement or bring up to date the Geneva Plan.

First there was the above-mentioned European Radio Conference of Prague to study the problem of the distribution of low and medium frequencies between the various European countries. The plan it produced, the Prague Plan, came into effect on 30 June 1929.

Then there was the Lucerne Conference of 1933 which extended the plan to African and Asian countries bordering on the Mediterranean. The U.S.S.R. was not, however, included.

Entering into force on 15 January 1934, the Lucerne Plan, which concerned only 35 countries, was signed only by the 27 delegations duly represented at the Conference.

Six years later, in 1939, the need was felt to hold another European broadcasting conference to bring the Lucerne Plan up to date and supplement it. This Conference, held at Montreux, had as its basic document a frequency allotment plan drawn up by the I.B.U., the International Broadcasting Union.

Unfortunately, owing to the painful and dramatic events of the Second World War, the Montreux Plan, due to come into force in March 1940, was never applied.

It was not until after the Second World War, in 1948, that the last Conference on long and medium wave broadcasting finally met in Copenhagen, attended by the U.S.S.R. with full voting rights and by the United States of America as an observer. It was unfortunate, however, that several other countries of Europe and the Mediterranean were, for some reason or another, unable to participate.

The Copenhagen Plan, about which a great deal has been written and said in the last 26 years, was signed by only 25 delegations and was brought into force on 15 March 1950. You are all aware of the many difficulties involved in its implementation.

In view of the small number of countries which prepared and signed the Plan and the steadily increasing number of countries acceding to independence since the Second World War; considering also the range of long and medium waves and the fact that they are reflected by the ionosphere which thus acts as a kind of mirror so that the emissions of European broadcasting stations may be heard at considerable distances, it became necessary to take steps as quickly as possible to revise the Copenhagen Plan on the basis of new criteria which made provision for all of the various factors.

At the Radio Conference in 1959 many countries proposed that a conference should be convened as soon as possible in order to carry out this revision but, under the provisions of the Convention, it was necessary that a majority of the countries concerned, particularly those of Europe and the Mediterranean Basin, should agree to hold such a conference.

At the request of numerous countries in Europe and the Mediterranean Basin participating in the Administrative Radio Conference of 1959, the Secretary-General of the I.T.U. consulted the countries of the European Broadcasting Area every year between 1966 and 1973 in an attempt to obtain this majority.

Moreover, the African VHF Broadcasting Conference which met in Geneva in 1966 also adopted a resolution drawing the attention of the Administrative Council :

"to the need to consider convening at a suitable date a regional conference of the countries in the African Broadcasting Area and the European Broadcasting Area, the countries in the western part of Region 3 and the countries of the Middle East which do not belong to the European Broadcasting Area, for the purpose of preparing a common broadcasting plan covering the frequency requirements of all the countries in the above-mentioned areas."

The necessary conditions were therefore fulfilled to enable the Administrative Council at its 1973 session to extend to Regions 1 and 3 the terms of reference of the Conference which is to revise the Copenhagen Plan.

As a majority of Member countries in favour of convening the Conference was obtained by the consultation carried out in 1973, the Council arranged to convene a first session of the Conference in autumn 1974 and a second session this year.

You will remember that the preparation for the first conferences of this nature was not efficient enough and the Council decided that preparatory sessions should be held as from 1961; the status of these sessions differed somewhat from one meeting to the next, but in every case they considerably facilitated the work required of the planning conference itself. The first session in 1974 was conceived in this spirit and you are all aware of the conscientious and scrupulous manner with which the technical standards and planning procedure were worked out and this will facilitate to a great extent the heavy task that lies before you.

What was achieved was all the more remarkable in view of the many obstacles that had to be overcome to ensure unanimously adopted conclusions.

A great deal of the credit for this preparatory work is due to the C.C.I.R. whose texts, particularly those of the XIIIth Plenary Assembly, were used for the preparation of the Report which served as a basis for the first session.

Using the technical standards established by the first session, the I.F.R.B. has conducted important studies in close cooperation with the competent services of the I.T.U. General Secretariat. This task which is indispensable for your proceedings was carried out in good time and I should like to pay tribute here both to the I.F.R.B. and to the General Secretariat departments concerned for the speed and responsibility with which they did their job and for the practical presentation of the results.

I should also like to thank the regional broadcasting unions represented at this session. They made an outstanding contribution to the success of the first session and I have no doubt that they will be most effective in helping to draw up the plans envisaged.

Once again I would express my gratitude to the experts present, many of whom attended the first session. They contributed to its striking achievements and they are the best guarantors that the present Conference will be fully successful.

But before concluding, may I suggest that we reflect for one moment on the task before us and on what it means in a far wider context.

To begin with, we note that this is the first time the I.T.U. has had to prepare a plan designed to meet the immediate and vital needs of so many human beings.

The total population of Africa, Asia and Europe taken together is 3,235 million. And when we consider that broadcasting is directed at the individual listener and that long and medium waves have so wide a range, I wonder whether any international conference has ever before had the task of serving the basic needs of so many.

You are however concerned with planning not only for more than six-sevenths of the population of the globe but also for a very large area - so large in fact that when at one extremity of it it is time for people to go to bed, people at the other extremity have already started their working day.

The contrast is just as great when it comes to seasonal variations. You will have to plan for regions where seasonal variations are very slight and where the day is of almost constant length, as well as for areas where during winter the sun never really rises above the horizon while in summer the sun may not set for several months on end.

You will obviously take all these variations into account, especially as far as the propagation of radio waves is concerned. I would ask you, in planning for such a wide diversity of listeners, to remember that broadcasting is an essential part of the very diverse field of telecommunications and that your work must be part of an overall plan.

It is in this context that I should like to put to you a question which I am convinced will become more and more important and which has a bearing on the final outcome of your deliberations inasmuch as the plan which it is your heavy responsibility to draw up will bring a technically acceptable level of sound broadcasting to the millions you are seeking to serve.

Low and medium frequency broadcasting is part of your national telecommunications. For some of you, the part it plays and the priority to be given to it are vital and some countries may not yet have been confronted with the need to examine in detail the relative priority to be accorded to this type of broadcasting compared with television or FM sound broadcasting. It is less likely, although a certain number of countries have such plans, that you will have an overall plan which provides for all types of telecommunications.

My question to you therefore today, as you are about to embark on this historically important task, is whether the work of the I.T.U. should be concerned, over the next few years, with elaborating an integrated telecommunication policy at the international level ?

I am convinced that it should, for I feel certain that if we adopt this course, and it is obvious that it will take many years - perhaps ten to twenty - we shall ultimately facilitate the work of the Union by giving it time to carry out the adaptation of its activities which is absolutely necessary.

If each country is called upon to consider, at the highest level, the question of establishing a comprehensive telecommunication infrastructure, it cannot help becoming aware of the fact that its neighbours are confronted with similar problems.

This idea, which I am proclaiming today for the first time from this rostrum, is neither unreasonable nor premature. As Secretary-General of the Union, placed in a central position and frequently faced with the problems which arise, I consider that such possibilities should be envisaged without delay and that a coordinated effort would enable us to concentrate on limited and clearly defined objectives.

We thus come to a situation where the will to progress bears within it the seeds of certain differences of opinion. This is a situation we can only master if we stand back far enough to take a balanced view.

At this point in my address, it might be well to remind you that, when the Union was established more than 110 years ago, telegraphy was the only means of telecommunication, so that any decision adopted on the subject affected the entire, but restricted, field of telecommunications of the time.

Telecommunications have now expanded so enormously and have taken on such varied forms that they can no longer be said to be confined to telegraphy, telephony, telex or broadcasting. This is why we must make fresh efforts within the Union to coordinate our activities at a very high level of general government policy as was the case in the early days of the International Telegraph Union.

If we fail to do so, and if each of us confines himself to the requirements of his own particular service or a very narrow sector of his own responsibilities, we risk losing sight of the true objectives for which our Union was established.

The inevitable result would be that regional organizations or other bodies would take over. But such organizations would be completely unequipped to provide the best solutions to the problems encountered, since they have neither the resources nor the data for coordinating all the needs to be met by international telecommunications. Furthermore, they would at the very least interfere with the normal activities of our Union and might, in one way or another, impair its efficiency or even pose a threat to its very existence.

Hence an enormous task awaits us, not only to ensure the complete success of this Conference but also of our future activities.

Whether it is a matter of establishing the actual Plan which you have to prepare or of drawing up agreements for which you are required, so far as possible, to seek a general consensus, long and arduous negotiations will be required. However, my awareness of your high competence and your spirit of cooperation removes any doubt as to the complete success which will be achieved by this historic Conference.

I wish you all much courage and every success in the unremitting efforts which you are about to exert.

Thank you, Mr. Chairman.

A N N E X 4

STATEMENT BY Mr. CHAMCHINE (U.S.S.R.) Vice-Chairman

Mr. Chairman,
Mr. General Secretary,
Fellow Delegates,
Ladies and Gentlemen,

On behalf of the Telecommunications Administration of the U.S.S.R. and the Soviet delegation, allow me, Mr. Chairman, to extend my cordial congratulations to you on your election as Chairman of our Conference. In our turn we thank the Conference for the honour it has done us in electing us to the office of Vice-Chairman and we congratulate all other representatives of countries which have received expressions of the highest confidence by their election to leading Conference posts.

Fellow Delegates,

The principal task before the second session of the Conference is to draft and adopt an international Agreement and Plan of distribution of LF/MF broadcasting frequencies for Europe, Asia, Africa and Australia on the basis of the realisation of each Government's sovereign right to develop the technical means of broadcasting on their own territory proceeding from their own requirements.

Despite all the complexities of this task we consider that, in view of the successful completion of the first session of the Conference which adopted all the basic technical principles necessary for planning, there is every ground for optimism.

Illusions are dissipated sooner or later; realities remain. The needs of countries to ensure and develop their broadcasting services are such realities. These needs can be met only on the basis of cooperation and mutual understanding among all participants in the Conference. The essential work must be begun without losing time on discussions and general reflections; in other words, we must commence work on the Plan and the Agreement from the very first days of the Conference.

Gentlemen,

Consultations which we have conducted with interested Administrations of countries in various regions have convinced us that with goodwill and on the basis of the technical principles adopted at the first session of the Conference and the provisions of the existing Radio Regulations, an agreement can be reached and an effective plan of frequency distribution for LF and MF broadcasting stations of countries of Europe, Asia, Africa and Australia can be created.

Exceptional importance attaches to the fact that the second session of the Conference is beginning its work under favourable circumstances of international détente, affirmation of the principles of peaceful coexistence of States with different social systems, and an irresistible turn in the direction of constructive, mutually advantageous collaboration between countries.

A historical event in this connection was the successful conclusion of the Conference on Security and Co-operation in Europe, which had been convened at the initiative of the socialist community of countries.

The results of this Conference are already exercising a beneficial influence on all international development and will doubtless promote the successful conduct of our Conference.

In the prevailing international situation, we consider discrimination against the participation of certain sovereign States in I.T.U. activities to be even less justifiable than before.

We, therefore, consider it essential that the Democratic Republic of Vietnam and the Republic of South Vietnam, which have won glorious victories against imperialist aggressors and against internal reaction after many years of struggle, should participate in the work of the Conference with full rights. This is also essential for the practical purposes of preparing a realistic Frequency Assignment Plan which would take into account the interests of the Democratic Republic of Vietnam and the Republic of South Vietnam and of excluding the possibility of mutual interference.

Distinguished delegates,

In our times, despite the exceptionally rapid development of technical methods of television and UHF broadcasting, MF and LF broadcasting is still a highly important means of disseminating information and culture, particularly for countries where it also plays an important part in teaching and education.

Accordingly, the technical decisions of our Conference should promote the most successful possible performance of the noble function of broadcasting - that of furthering the development of education and culture and propagating the ideas of peace and friendship between peoples.

To this end, the Soviet delegation will cooperate with all the delegations present here with a view to reaching equitable decisions in the interests of all concerned.

In conclusion, may I be permitted to wish all the participants, you, Mr. Chairman, the Secretary-General of the I.T.U. and the International Frequency Registration Board a most successful and productive Conference.

Thank you for your attention.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 47-E(Rev.1)

12 November 1975

Original : French

COMMITTEE 5

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 5

(AGREEMENT)

Wednesday, 8 October 1975, at 1500 hrs

Chairman : Mr. A. PETTI (Italy)

Subjects discussed :

1. General discussion on content of the Agreement
2. Organization of the Committee's work

Document No.

30, 18, 27
DL/3

DT/9, DT/10



1. General discussion on content of the Agreement
(Documents Nos. 30, 18, 27 and DL/3)

The Chairman read out the terms of reference given to Committee 5 (Agreement) by the plenary meeting :

"To draw up a Regional Agreement concerning the use by the Broadcasting Service of frequencies in the LF and MF bands allocated to that Service in Regions 1 and 3, giving due consideration to the provisions of No. 47 of the Convention and the relevant provisions of the Radio Regulations; and

"to determine which of the data relating to a frequency assignment are to be included in the Plans".

He drew attention to the provisions of No. 47 of the Convention concerning the agenda of regional administrative conferences.

With regard to the contributions by France (Document No. 18) and Italy (Document No. 27), he pointed out that they did not fully cover the Committee's terms of reference. In Document No. DL/3, therefore, he had drawn up a (non-exhaustive) list of the questions the Committee would have to deal with, which should be given priority because of the time they would take and the implications that Committee 5's conclusions might have for the work of the other Committees.

The delegate of France briefly introduced Document No. 18 and the delegate of Italy introduced Document No. 27.

The Chairman declared the general discussion open, on the basis of the questions listed in Document DL/3, pointing out that partial answers to some of those questions had already been given in the contributions just introduced by the delegates of France and Italy.

The particulars given in the Copenhagen Plan were the channel number, the frequency, the station, the country and the power in kW, while the African Plan gave fuller details : the channel number, the assigned frequency, the name of the transmitting station, the country symbol, the geographical coordinates of the transmitting station, the carrier power in kW and the horizontal directivity of the antenna.

The I.F.R.B. had indicated that with the aid of the computer it would be able to provide certain other data which might also be included in the Plan, such as the usable field strength and the service area, which were also referred to in the French and Italian contributions.

The first question to be considered was whether the Plan should include data concerning the service area and, if so, how.

The delegate of Italy confirmed the proposal made in Document No. 27 and considered that the Plan should include the usable field strength at the edge of the service area of each transmitter.

The delegate of France agreed, while recognizing that it might be difficult to include the information necessary in order to make calculations for all azimuths. That might be done in an annex to the Plan itself. There ought to be a document giving all the required information so that the service area could if necessary be recalculated.

The delegate of the U.S.S.R. supported the view expressed by the delegate of France.

As regards the content of the new Agreement, it should include all useful and positive elements from the previous agreements of Copenhagen (1948), Stockholm (1961) and Geneva (1966). There should be a preamble stating the purpose of the Agreement, which was to ensure international cooperation in the use by broadcasting services of frequencies in the LF and MF bands in the countries of Regions 1 and 3, on the basis of mutual respect for the rights and duties of the contracting States and taking into account the needs of each one of them.

Apart from the important questions relating to the elimination of harmful interference, one of the main problems was the procedure to be adopted for subsequent modification of the Plan.

The procedure should be simple and rational enough so that the signatory Governments did not have to revise the Agreement itself in order to make limited corrections. It might thus be based on the existing provisions of the Radio Regulations; thus, changes that were limited in scope would be treated like additions to the Master International Frequency Register and dealt with simply as assignment modifications, in accordance with the Radio Regulations.

Finally, the Agreement should not be overloaded with technical details. It would be enough to include the particulars given in the African Plan, taking appropriate steps to avoid any danger of interference in adjacent bands and shared bands.

The delegate of the United Kingdom supported the proposal that the new Plan should contain the same particulars as the Plan for the African broadcasting area. However, the matter required further consideration and discussion. It would also be necessary to deal with the problem of abrogating the previous agreements and putting the new one into effect.

The delegate of Algeria, supported by the delegates of Mauritania and Sweden, considered that it would be premature to decide what elements the Plans should contain at the present stage.

The delegate of the Federal Republic of Germany was uncertain about the merits of a procedure by which the Plan assignments could be modified by consultation between the administrations concerned only through the I.F.R.B. Weekly Circular, as proposed in Documents Nos. 18 and 27. He shared the view of the U.S.S.R. delegate concerning the distinction between the basic particulars that should appear in the main part of the Agreement and less essential information that could be included in annexes or appendices and amended by a simplified procedure. At all events, delegations should be given time to consult each other on the matter.

The delegate of India shared the views of the U.S.S.R. and the United Kingdom. He also thought it would be a good idea to include a number of technical criteria that were not in the African Plan.

The Deputy Secretary-General pointed out that whatever form the Agreements and Plan took, annexes and similar provisions would all be an integral part of the Final Acts of the Conference. The procedure for amending the Agreement and the Plan ought to be precisely defined. There must obviously be a clear distinction between a substantive revision requiring the approval of all contracting parties and minor changes of concern to a limited number of administrations. Summaries of the three Agreements could be reproduced for general information.

The General Secretariat of I.T.U. had contacted the Danish Government in order to find out whether the European Broadcasting Convention of 1948 had been registered with the United Nations as an international treaty. The question of abrogation could have a certain legal importance, particularly as regards the procedures for amending or abrogating the Copenhagen Convention and Plan.

The delegate of Denmark said that according to a report he had just received from his Administration, it had no information to the effect that the Copenhagen Convention had been registered with the United Nations or that it ought to have been. The Danish Ministry of Foreign Affairs was inquiring into the matter.

The Chairman of the I.F.R.B., replying to a request by the delegate of Mauritania, said it would hardly be possible to draw up a comparative table of the provisions of the Copenhagen Convention and the Broadcasting Agreement for Africa, because some of the provisions of the two Agreements were utterly different. However, the I.F.R.B. had prepared a block diagram reproducing the stages foreseen in the African Agreement which it might be useful to re-issue.

Regarding the Agreement to be drawn up by the present Conference, it could of course only be amended by an Administrative Conference, as the delegate of the U.S.S.R. had said. It was therefore essential to specify in detail the procedure to be applied in revising both the Plan itself and its annexes. It was obviously necessary that the Agreement should be flexible enough for partial or limited changes to be made in order to allow for developments in the services and to avoid a repetition of the situation created by the Copenhagen Convention, under which two-thirds of the stations operated outside the Plan.

The Copenhagen Convention had been concluded following the Administrative Radio Conference at Atlantic City in 1947, which had allocated frequency bands for broadcasting and for the maritime mobile service in Region 1. Under the Radio Regulations, however, the sharing of bands between those two services was subject to "special agreement". That provision did not seem to be very satisfactory and there might well be confusion in its interpretation and application.

Whatever instrument the Conference finally drew up and adopted, it should take account of the fact that the Copenhagen Convention contained provisions relating to the maritime mobile service, which would probably remain in force until the 1979 Conference, whereas the provisions of the Convention relating to the broadcasting service might be abrogated.

In conclusion, he observed that for the first time in the history of I.T.U. it had been possible to arrive at an objective definition of the "service area" in broadcasting. It was hence necessary to stress the fact that the international community represented at the Conference would be called upon to recognize the right of a particular country to use a particular frequency under duly specified conditions and that accordingly the station to which a frequency was assigned would be entitled to international protection within its service area. That followed directly from the basic principles of the Radio Regulations, the application of which would be made simpler by the objective definition of "service area". While there might be practical difficulties about indicating the service area in an agreement, there was always one fundamental element which should be included - the directivity of the antennae. The I.F.R.B. recommended that any instructions concerning the information that administrations would have to supply on the directivity of their transmitter antennae should at least be clear enough to enable the usable field strength in a particular direction to be calculated.

In conclusion, he made various comments on the importance of specifying such characteristics exactly, so that the necessary calculations could be made to good effect.

The delegate of Albania drew the Committee's attention to the fact that certain administrations had put in requests for high-power or very high-power transmitters. To grant those requests might damage the interests of countries whose technical capacity was inadequate to deal with the situation that would result. Albania therefore proposed that the Agreement should lay down the principle that any amendment to the Plan should respect the equality of the contracting countries and the interests of the developing countries.

The Chairman drew the Committee's attention to point 6 in Document No. DL/3, which concerned shared bands, and pointed out that I.F.R.B. had drawn up a memorandum on the subject which was annexed to Document No. 34 of the First Session of the Conference. He also noted that Nos. 174, 176, 177 and 178 of the Radio Regulations were of importance in that connection and referred to certain relevant provisions of the Copenhagen Plan.

The delegate of the Federal Republic of Germany thought it important that the Agreement should include a clause stating that broadcasting transmitter stations should not only take account of other services' stations that were already in operation but also those that might subsequently be brought into operation.

The Chairman of I.F.R.B. observed that relations between broadcasting and other services were governed by the Copenhagen Convention and by Article 9 of the Radio Regulations. If in the Plan to be adopted by the present Conference a new frequency assignment was the same as the one in the Copenhagen Plan, it would mean that the station was already in operation and thus appeared in the Master Register with a favourable or unfavourable finding. If the assignment in the Plan was not yet in operation, the administrations concerned would at the appropriate time have to notify the I.F.R.B., which would consider the case in relation to all the entries in the Register at the time of notification. In its work the I.F.R.B. had evaluated the interference which might be caused to other stations in the fixed and mobile services included at present in the Master Register; the results of the calculations made had been filed in the Technical Department, where they could be consulted.

On the subject of shared bands, the Chairman read out the conclusions contained in Chapter 8 of the Report of the First Session, which dealt specifically with that important problem. The Conference could not lay down technical criteria for services other than broadcasting, and Article 9 of the Radio Regulations should be applied.

The delegate of Belgium considered that the provisions relating to other services could not be changed and that the members of the Committee should think about the questions raised in point 6 of Document No. DL/3 so that they could answer them at a later meeting.

The Chairman asked for the Committee's opinion on point 2.2 of the paper submitted by France (Document No. 18, page 3).

The delegate of Belgium, supported by the delegates of the U.S.S.R., Spain and India, considered that the French proposal was quite flexible and logical and that it would be a good idea to annex the technical data used in making calculations to the Agreement.

The Deputy Secretary-General, in answer to a request by the Chairman of the Conference, explained that the Final Acts would include the Agreement, the Protocols, Resolutions and various other texts, so that the Agreement itself would only be one part of the Acts.

The Chairman of the I.F.R.B. described the action taken at previous broadcasting conferences :

At Copenhagen (1948), planning criteria had been laid down, but the Convention itself did not contain technical criteria for planning;

At Stockholm (1961), technical planning criteria had been adopted and the essential elements were contained in tables in the Final Acts;

At Geneva (1966), the criteria used by the Conference for planning had been annexed to the Agreement.

He considered that in the case of low and medium frequencies, it would be awkward to summarize the technical data in, say, a table. The important thing was to settle what ought to go into the Plan, so that it could be decided where to include the technical criteria that I.F.R.B. needed in order to apply No. 505 of the Radio Regulations and determine whether or not a notice was in conformity with the Agreement.

There was an exchange of views on whether the technical criteria should be included in the Agreement itself or annexed to it.

The delegate of the U.S.S.R. said that the criteria should be reproduced in a document which would be separate from the Agreement and serve as a sort of manual.

The Deputy Secretary-General said that even if separate from the Agreement itself the detailed technical criteria would still be an integral part of the Final Acts. Such a procedure would be similar to the one adopted by the Stockholm Conference.

The delegate of India thought it would be premature to take a decision at the present stage.

The Chairman also thought that the time had not yet come to decide where the technical criteria should appear. He asked members of the Committee to give some thought to the question of the date on which the Agreement should enter into force, which could be discussed at a later meeting.

The delegate of China stressed the importance of having a clear definition of the political principles followed in drawing up the Agreement. He drew attention to the Report of the First Session, Chapter 9, paragraph 9.1, which set forth planning principles.

The delegate of Mauritania welcomed the Chinese delegate's reference to the principles adopted in 1974 and pointed out that it had been decided to take the future needs of the developing countries into consideration. In his view, those principles should be reflected in the technical criteria, since it was essential to consider not only the difficulties encountered by the third world countries because of their present shortage of financial resources, but also the fact that their situation would develop and at a future stage they too would succeed in establishing satisfactory networks. It would be sensible to define the minimum usable field strength which each country would be entitled to in its national territory.

The Chairman gave an assurance that the Committee would go into that question later.

2. Organization of the Committee's work (Documents Nos. DT/9, DT/10)

The Chairman having raised the possibility of setting up Working Groups to consider the various questions before the Committee and draw up texts, the delegate of Italy proposed that three Working Groups should be established to deal with the following questions respectively :

- 1) data relating to the frequency assignments to be included in the Plan and preparation of proposals on the subject for discussion by the Committee;

- 2) problems of procedure for modifications to the Plan;
- 3) criteria for determining when modifications to the Plan did not require application of the coordination procedure, i.e. the tolerances for the different values within which the coordination procedure need not be applied.

The Chairman suggested that a fourth Working Group might deal with technical data, a fifth with the text of the Agreement and a sixth with the question of shared bands. On the other hand, some of the matters mentioned by the delegate of Italy and himself might be undertaken by one and the same group in order to avoid having too many subordinate bodies. He therefore invited members of the Committee to give thought to the various questions raised during the meeting so that decisions could be taken at the next meeting. He would be willing to prepare a document setting out draft terms of reference for the various Working Groups proposed.

The delegate of the United Kingdom thought it would be a good idea if the Chairman were to prepare a list of the articles to be included in the Agreement, so that they could then be allocated among the Working Groups.

The Chairman said he had no objection to that procedure. He would again urge participants to give all due attention to the questions raised during the meeting and to the organization of the Committee's work, including the priority to be given to the activities of the Working Groups.

The meeting rose at 1800 hrs.

The Secretaries :

R. PLUSS
R. MACHERET

The Chairman :

A. PETTI

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 47-E

15 October 1975

Original : French

COMMITTEE 5

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 5

(AGREEMENT)

Wednesday, 8 October 1975, at 1500 hrs

Chairman : Mr. A. PETTI (Italy)

Subjects discussed :

1. General discussion on content of the Agreement
2. Organization of the Committee's work

Document No.

30, 18, 27
DL/3

DT/9, DT/10



1. General discussion on content of the Agreement
(Documents Nos. 30, 18, 27 and DL/3)

The Chairman read out the terms of reference given to Committee 5 (Agreement) by the plenary meeting :

"To draw up a Regional Agreement concerning the use by the Broadcasting Service of frequencies in the LF and MF bands allocated to that Service in Regions 1 and 3, giving due consideration to the provisions of No. 47 of the Convention and the relevant provisions of the Radio Regulations; and

"to determine which of the data relating to a frequency assignment are to be included in the Plans".

He drew attention to the provisions of No. 47 of the Convention concerning the agenda of regional administrative conferences.

With regard to the contributions by France (Document No. 18) and Italy (Document No. 27), he pointed out that they did not fully cover the Committee's terms of reference. In Document No. DL/3, therefore, he had drawn up a (non-exhaustive) list of the questions the Committee would have to deal with, which should be given priority because of the time they would take and the implications that Committee 5's conclusions might have for the work of the other Committees.

The delegate of France briefly introduced Document No. 18 and the delegate of Italy introduced Document No. 27.

The Chairman declared the general discussion open, on the basis of the questions listed in Document DL/3, pointing out that partial answers to some of those questions had already been given in the contributions just introduced by the delegates of France and Italy.

The particulars given in the Copenhagen Plan were the channel number, the frequency, the station, the country and the power in kW, while the African Plan gave fuller details : the channel number, the assigned frequency, the name of the transmitting station, the country symbol, the geographical coordinates of the transmitting station, the carrier power in kW and the horizontal directivity of the antenna.

The I.F.R.B. had indicated that with the aid of the computer it would be able to provide certain other data which might also be included in the Plan, such as the usable field strength and the service area, which were also referred to in the French and Italian contributions.

The first question to be considered was whether the Plan should include data concerning the service area and, if so, how.

The delegate of Italy confirmed the proposal made in Document No. 27 and considered that the Plan should include the usable field strength at the edge of the service area of each transmitter.

The delegate of France agreed, while recognizing that it might be difficult to include the information necessary in order to make calculations for all azimuths. That might be done in an annex to the Plan itself. There ought to be a document giving all the required information so that the service area could if necessary be recalculated.

The delegate of the U.S.S.R. supported the view expressed by the delegate of France.

As regards the content of the new Agreement, it should include all useful and positive elements from the previous agreements of Copenhagen (1948), Stockholm (1961) and Geneva (1966). There should be a preamble stating the purpose of the Agreement, which was to ensure international cooperation in the use by broadcasting services of frequencies in the LF and MF bands in the countries of Regions 1 and 3, on the basis of mutual respect for the rights and duties of the contracting States and taking into account the needs of each one of them.

Apart from the important questions relating to the elimination of harmful interference, one of the main problems was the procedure to be adopted for subsequent modification of the Plan.

The procedure should be simple and rational enough so that the signatory Governments did not have to revise the Agreement itself in order to make limited corrections. It might thus be based on the existing provisions of the Radio Regulations; thus, changes that were limited in scope would be treated like additions to the Master International Frequency Register and dealt with simply as assignment modifications, in accordance with the Radio Regulations.

Finally, the Agreement should not be overloaded with technical details. It would be enough to include the particulars given in the African Plan, taking appropriate steps to avoid any danger of interference in adjacent bands and shared bands.

The delegate of the United Kingdom supported the proposal that the new Plan should contain the same particulars as the Plan for the African broadcasting area. However, the matter required further consideration and discussion. It would also be necessary to deal with the problem of abrogating the previous agreements and putting the new one into effect.

The delegate of Algeria, supported by the delegates of Mauritania and Sweden, considered that it would be premature to decide what elements the Plans should contain at the present stage.

The delegate of the Federal Republic of Germany was uncertain about the merits of a procedure by which the Plan assignments could be modified by consultation between the administrations concerned through the I.F.R.B. Weekly Circular, as proposed in Documents Nos. 18 and 27. He shared the view of the U.S.S.R. delegate concerning the distinction between the basic particulars that should appear in the main part of the Agreement and less essential information that could be included in annexes or appendices and amended by a simplified procedure. At all events, delegations should be given time to consult each other on the matter.

The delegate of India shared the views of the U.S.S.R. and the United Kingdom. He also thought it would be a good idea to include a number of technical criteria that were not in the African Plan.

The Deputy Secretary-General pointed out that whatever form the Agreements and Plan took, annexes and similar provisions would all be an integral part of the Final Acts of the Conference. The procedure for amending the Agreement and the Plan ought to be precisely defined. There must obviously be a clear distinction between a substantive revision requiring the approval of all contracting parties and minor changes of concern to a limited number of administrations. Summaries of the three Agreements could be reproduced for general information.

The General Secretariat of I.T.U. had contacted the Danish Government in order to find out whether the European Broadcasting Convention of 1948 had been registered with the United Nations as an international treaty. The question of abrogation could have a certain legal importance, particularly as regards the procedures for amending or abrogating the Copenhagen Convention and Plan.

The delegate of Denmark said that according to a report he had just received from his Administration, it had no information to the effect that the Copenhagen Convention had been registered with the United Nations or that it ought to have been. The Danish Ministry of Foreign Affairs was inquiring into the matter.

The Chairman of the I.F.R.B., replying to a request by the delegate of Mauritania, said it would hardly be possible to draw up a comparative table of the provisions of the Copenhagen Convention and the Broadcasting Agreement for Africa, because the two agreements were utterly different. However, the I.F.R.B. had prepared a diagram relating to the African Agreement which it might be useful to re-issue.

Regarding the Agreement to be drawn up by the present Conference, it could of course only be amended by an Administrative Conference, as the delegate of the U.S.S.R. had said. It was therefore essential to specify in detail the procedure to be applied in revising both the Agreement itself and its annexes. It was obviously necessary that the Agreement should be flexible enough for partial or limited changes to be made in order to allow for developments in the services and to avoid a repetition of the situation created by the Copenhagen Convention, under which two-thirds of the stations operated outside the Plan.

The Copenhagen Convention had been concluded following the Administrative Radio Conference at Atlantic City in 1947, which had allocated frequency bands for broadcasting and for the maritime mobile service in Region 1. Under the Radio Regulations, however, the sharing of bands between those two services was subject to "special agreement". That provision did not seem to be very satisfactory and there might well be confusion in its interpretation and application.

Whatever instrument the Conference finally drew up and adopted, it should take account of the fact that the Copenhagen Convention contained provisions relating to the maritime mobile service, which would probably remain in force until the 1979 Conference, whereas the provisions of the Convention relating to the broadcasting service might be abrogated.

In conclusion, he observed that for the first time in the history of I.T.U. it had been possible to arrive at an objective definition of the "service area" in broadcasting. It was hence necessary to stress the fact that the international community represented at the Conference would be called upon to recognize the right of a particular country to use a particular frequency under duly specified conditions and that accordingly the station to which a frequency was assigned would be entitled to international protection within its service area. That followed directly from the basic principles of the Radio Regulations, the application of which would be made simpler by the objective definition of "service area". While there might be practical difficulties about indicating the service area in an agreement, there was always one fundamental element which should be included - the directivity of the antennae. The I.F.R.B. recommended that any instructions concerning the information that administrations would have to supply on the directivity of their transmitter antennae should at least be clear enough to enable the usable field strength in a particular direction to be calculated.

In conclusion, he made various comments on the importance of specifying such characteristics exactly, so that the necessary calculations could be made to good effect.

The delegate of Albania drew the Committee's attention to the fact that certain administrations had put in requests for high-power or very high-power transmitters. To grant those requests might damage the interests of countries whose technical capacity was inadequate to deal with the situation that would result. Albania therefore proposed that the Agreement should lay down the principle that any amendment to the Plan should respect the equality of the contracting countries and the interests of the developing countries.

The Chairman drew the Committee's attention to point 6 in Document No. DL/3, which concerned shared bands, and pointed out that I.F.R.B. had drawn up a memorandum on the subject which was annexed to Document No. 34 of the First Session of the Conference. He also noted that Nos. 174, 176, 177 and 178 of the Radio Regulations were of importance in that connection and referred to certain relevant provisions of the Copenhagen Plan.

The delegate of the Federal Republic of Germany thought it important that the Agreement should include a clause stating that broadcasting transmitter stations should only take account of other services' stations that were already in operation and not those that might subsequently be brought into operation.

The Chairman of I.F.R.B. observed that relations between broadcasting and other services were governed by the Copenhagen Convention and by Article 9 of the Radio Regulations. If in the Plan to be adopted by the present Conference a new frequency assignment was the same as the one in the Copenhagen Plan, it would mean that the station was already in operation and thus appeared in the Master Register with a favourable or unfavourable finding. If the assignment in the Plan was not yet in operation, the administrations concerned would at the appropriate time have to notify the I.F.R.B., which would consider the case in relation to all the entries in the Register at the time of notification. In its work the I.F.R.B. had allowed for the likelihood that the frequency requirements submitted might cause interference to other stations in the fixed and mobile services; the results of the calculations made had been filed in the Technical Department, where they could be consulted.

On the subject of shared bands, the Chairman read out the conclusions contained in Chapter 8 of the Report of the First Session, which dealt specifically with that important problem. The Conference could not lay down technical criteria for services other than broadcasting, and Article 9 of the Radio Regulations should be applied.

The delegate of Belgium considered that the provisions relating to other services could not be changed and that the members of the Committee should think about the questions raised in point 6 of Document No. DL/3 so that they could answer them at a later meeting.

The Chairman asked for the Committee's opinion on point 2.2 of the paper submitted by France (Document No. 18, page 3).

The delegate of Belgium, supported by the delegates of the U.S.S.R., Spain and India, considered that the French proposal was quite flexible and logical and that it would be a good idea to annex the technical data used in making calculations to the Agreement.

The Deputy Secretary-General, in answer to a request by the Chairman of the Conference, explained that the Final Acts would include the Agreement, the Protocols, Resolutions and various other texts, so that the Agreement itself would only be one part of the Acts.

The Chairman of the I.F.R.B. described the action taken at previous broadcasting conferences :

At Copenhagen (1948), planning criteria had been laid down, but the Convention itself did not contain technical criteria for planning;

At Stockholm (1961), technical planning criteria had been adopted and the essential elements were contained in tables in the Final Acts;

At Geneva (1966), the criteria used by the Conference for planning had been annexed to the Agreement.

He considered that in the case of low and medium frequencies, it would be awkward to summarize the technical data in, say, a table. The important thing was to settle what ought to go into the Plan, so that it could be decided where to include the technical criteria that I.F.R.B. needed in order to apply No. 505 of the Radio Regulations and determine whether or not a notice was in conformity with the Agreement.

There was an exchange of views on whether the technical criteria should be included in the Agreement itself or annexed to it.

The delegate of the U.S.S.R. said that the criteria should be reproduced in a document which would be separate from the Agreement and serve as a sort of manual.

The Deputy Secretary-General said that even if separate from the Agreement itself the detailed technical criteria would still be an integral part of the Final Acts. Such a procedure would be similar to the one adopted by the Stockholm Conference.

The delegate of India thought it would be premature to take a decision at the present stage.

The Chairman also thought that the time had not yet come to decide where the technical criteria should appear. He asked members of the Committee to give some thought to the question of the date on which the Agreement should enter into force, which could be discussed at a later meeting.

The delegate of China stressed the importance of having a clear definition of the political principles followed in drawing up the Agreement. He drew attention to the Report of the First Session, Chapter 9, paragraph 9.1, which set forth planning principles.

The delegate of Mauritania welcomed the Chinese delegate's reference to the principles adopted in 1974 and pointed out that it had been decided to take the future needs of the developing countries into consideration. In his view, those principles should be reflected in the technical criteria, since it was essential to consider not only the difficulties encountered by the third world countries because of their present shortage of financial resources, but also the fact that their situation would develop and at a future stage they too would succeed in establishing satisfactory networks. It would be sensible to define the minimum usable field strength which each country would be entitled to in its national territory.

The Chairman gave an assurance that the Committee would go into that question later.

2. Organization of the Committee's work
(Documents Nos. DT/9, DT/10)

The Chairman having raised the possibility of setting up Working Groups to consider the various questions before the Committee and draw up texts, the delegate of Italy proposed that three Working Groups should be established to deal with the following questions respectively :

- 1) data relating to the frequency assignments to be included in the Plan and preparation of proposals on the subject for discussion by the Committee;

- 2) problems of procedure for modifications to the Plan;
- 3) criteria for determining when modifications to the Plan did not require application of the coordination procedure, i.e. the tolerances for the different values within which the coordination procedure need not be applied.

The Chairman suggested that a fourth Working Group might deal with technical data, a fifth with the text of the Agreement and a sixth with the question of shared bands. On the other hand, some of the matters mentioned by the delegate of Italy and himself might be undertaken by one and the same group in order to avoid having too many subordinate bodies. He therefore invited members of the Committee to give thought to the various questions raised during the meeting so that decisions could be taken at the next meeting. He would be willing to prepare a document setting out draft terms of reference for the various Working Groups proposed.

The delegate of the United Kingdom thought it would be a good idea if the Chairman were to prepare a list of the articles to be included in the Agreement, so that they could then be allocated among the Working Groups.

The Chairman said he had no objection to that procedure. He would again urge participants to give all due attention to the questions raised during the meeting and to the organization of the Committee's work, including the priority to be given to the activities of the Working Groups.

The meeting rose at 1800 hrs.

The Secretaries :

R. PLÜSS
R. MACHERET

The Chairman :

A. PETTI

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 48-E

15 October 1975

Original : English

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

At the request of the Head of the Delegation of the German Democratic Republic, the letter addressed to the Chairman of Committee 4 is presented in the attached Annex.

V. ŽAGAR
Chairman of Committee 4

Annex : 1



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A N N E X

Geneva, 15 October 1975

To the
Chairman of Committee 4
Broadcasting Conference
Geneva 1975

Dear Sir,

In order to facilitate the coordination of requirements of frequency assignments in various channels of the MF-bands it seems to be useful if all countries concerned would enter into talks or discuss all points in question on a bilateral basis.

I should like to inform you that the G.D.R. delegation is prepared to coordinate as soon as possible its requirements of frequency assignments with interested delegations on the basis of the principles laid down by the first Session of the Conference. Furthermore, I wish to draw your attention to the fact that the delegation of the German Democratic Republic has held preliminary discussions about its requirements with a number of countries participating in the Conference.

With a view to contribute to a successful work of the Committee 4 and of the Conference as a whole, may I invite through you, Mr. Chairman, all delegations concerned to participate in such discussions.

Yours faithfully

B. CZERWINSKI
Head of the G.D.R. delegation

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 49-E
16 October 1975
Original : English

COMMITTEE 2

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 2

(CREDENTIALS)

Monday, 13 October 1975, at 1630 hrs

Chairman : Mr. A. H. ANTAR (Egypt)

Subjects discussed

Document No.

1. Terms of reference of the Committee
2. Organization of the work of the Committee

30

4



1. Terms of reference of the Committee (Document No. 30)

The terms of reference contained in Document No. 30 and adopted at the first Plenary meeting were noted.

2. Organization of the work of the Committee (Document No. 4)

The Chairman suggested that, in accordance with practice at previous conferences, the Committee set up a working group composed of representatives of the different geographical areas in Regions 1 and 3 to examine in detail the credentials received by the Secretariat and to submit a report on its findings to the Committee.

It was agreed that members of the following delegations would take part in the working group : Algeria, Kenya, Australia, Japan, Poland, Bulgaria, Norway and Switzerland. The working group would be under the chairmanship of the Chairman of the Committee.

The Chairman reminded the Committee that it was due to present a report to the Plenary not later than 17 November. So far some 64 credentials had been received.

The meeting rose at 1640 hours.

The Secretary :

A. WINTER-JENSEN

The Chairman :

A.H. ANTAR

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 50-E

16 October 1975

LIST OF DOCUMENTS

(Documents 1 to 50)

No.	Origin	Title	Destination
1	S.G.	Agenda of the Second Session of the Conference	PL
2	S.G.	Report of the First Session	PL
3 + Add.	S.G.	List of frequency requirements (Resolution B of the First Session)	C.4
4	S.G.	Credentials for Delegations	C.2
5	Israel	Proposals	C.4
6	S.G.	List of frequency requirements received by the I.F.R.B. pursuant to Resolution B of the regional administrative LF/MF Broadcasting Conference (Regions 1 and 3) (First Session), Geneva, 1974	C.4
7	S.G.	Errata and Corrigenda to the List of frequency requirements and Addendum to the List of Frequency requirements (I.F.R.B. Circular-letters No. 325 and No. 326)	C.4
8	S.G.	Report by the I.F.R.B. on the results of the studies carried out pursuant to Resolution B of the regional administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva 1974	C.4
9	S.G.	Frequency requirements addressed to the Second Session of the regional administrative LF/MF Broadcasting Conference (Regions 1 and 3), Geneva, 1975, received by the I.F.R.B. after the preparation of the Report by the I.F.R.B. dated 1 July, 1975 prescribed in paragraph 3.3 of Resolution B of the First Session of the Conference	C.4



No.	Origin	Title	Destination
10	S.G.	Report of the I.F.R.B. to the Second Session of the Conference	PL
11	New Zealand	Proposals	PL
12	New Zealand	Proposals	PL
13	New Zealand	Proposals. "SKYWAV" computer programme for MF Sky Wave field strength prediction	C.4
14	S.G.	Invitations to the Second Session of the Conference	PL
15	S.G.	Notifications to International Organizations	PL
16	S.G.	Situation of certain countries with respect to the International Telecommunication Convention (Malaga-Torremolinos, 1973)	PL
17 + Add.	Australia	Adoption of a modified Cairo N-S curve as the MF sky wave propagation prediction method applicable to Australia and New Zealand	PL
18	France	Procedure for modifications of the Plan (between broadcasting stations)	C.5
19	S.G.	Budget of the Conference	C.3
20	France	Directional antennae in LF and MF broadcasting catalogue of standard patterns for use in planning	C.4
21	France	Excess polarization coupling loss	PL
22	E.B.U.	E.B.U. computer programmes for assisting frequency planning in the LF/MF bands	C.4
23	E.B.U.	Bandwidth of emission in the LF and MF bands	C.4

No.	Origin	Title	Destination
24	Papua New Guinea	Skywave service presentation of situation	C.4
25	E.B.U.	LF/MF sky wave field strength calculations	C.4
26 (Rev.1)	People's Republic of China	Statement	PL
27	Italy	Procedure for modification of the Plan	C.4
28 (Rev.1)	S.G.	Conference chairmanships	-
29	S.G.	Conference Secretariat	-
30	S.G.	Structure of the Second Session of the Conference	-
31	Nigeria	Proposal	C.4
32	Mauritania	Technical criteria based on the work of the First Session - Adoption of lower values for nominal ground-wave field strength at night	C.4
33	Ad-Hoc Group Plen-A	Report	PL
34	New Zealand	Proposals - Computer read-outs available for the Planning Groups of the Conference	C.4
35	Mauritania	Content of the Agreement - Data relating to an assignment which should be included in the Plan - Usable service radius - Usable field strength	C.5
36	Pakistan Malawi Nigeria Jordan Libya	Power requirements	C.4

No.	Origin	Title	Destination
37	United Kingdom	Abrogation of Copenhagen Convention	C.5
38 + Corr.1	C.4	Organization of the Planning Groups	C.4
39	C.4	Note by the Chairman of Committee 4	C.4
40	C.5	Structure of Committee 5 - Organization of the Working Groups	C.5
41	C.4	Organization of the work of Committee 4	C.4
42	C.4	Note by the Chairman of Committee 4	C.4
43	India	Interference to other radio services in the band 150-285 kHz from LF broadcasting transmitters	C.4 and WG 4/11
44	WG 4/LPC	Report of Working Group 4/LPC to Committee 4	C.4
45	C.4	Note by the Chairman of Committee 4	C.4
46	PL	Minutes of the First Plenary Meeting	PL
47	C.5	Summary Record of the First Meeting of Committee 5	C.5
48	C.4	Note by the Chairman of Committee 4	C.4
49	C.2	Summary Record of the First Meeting of Committee 2	C.2
50	---	List of documents	-

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 51-E(Rev.1)

5 November 1975

Original : English

PLENARY MEETING

MINUTES

OF THE

SECOND PLENARY MEETING

Tuesday, 7 October 1975, at 0945 hrs and at 1500 hrs

Chairman : Mr. D.C. ROSE (New Zealand)

Subjects discussed

Document No.

- | | |
|--|-------------------------------------|
| 1. Report of the First Session of the Conference | 2, 5, 11, 12, 13, 17 and Add. 1, 21 |
| 2. Report of the I.F.R.B. | 10 |
| 3. Allocation of new documents to Committees | 20 - 27 |



1. Report of the First Session of the Conference (Documents Nos. 2, 5, 11, 12, 13, 17 and Add. 1, 21)

The Chairman said that the Chairman of the First Session of the Conference, who would not be able to introduce the Report in person, had requested him to convey to the meeting the following observations : first, the Report represented a considerable amount of work and was the result of a number of compromises which had permitted orderly planning to be undertaken in the interval between the First and Second Sessions; second, it had certainly been the hope of the First Session that the criteria contained in the Report would be adopted by the Second Session.

While some time should certainly be allowed for consideration of the Report, it should be borne in mind that the basic function of the Second Session was to apply the technical standards drawn up at the First Session rather than to modify them. It was necessary for the Plenary Meeting to take a decision on the adoption of the criteria in the Report as soon as possible. In that connection, he drew attention to Documents Nos. 5, 11, 12, 13, 17 and Add. 1, and 21, all of which had a direct bearing on the Report.

The delegate of New Zealand introduced Document No. 11, which contained comments by his Administration on certain specific matters arising from the First Session that were of relevance to the work of the current session. He also drew attention to Documents Nos. 12 and 13, which concerned methods and a computer programme for MF sky wave field strength prediction.

The delegate of Australia introduced Document No. 17 and Add. 1, which described the doubts of the Australian Administration concerning the accuracy of Equation 13 (particularly in regard to the sea gain component) as it applied to the mid-point of paths occurring south of eleven degrees south latitude, and set out a possible alternative proposal which would allow for more consistent planning in that part of Region 3.

The delegate of France introduced Document No. 21 which contained a proposal that the polarization coupling loss at a path terminal should be limited to 6 dB.

The delegate of Indonesia said he would be willing to accept the Australian proposal should that be the wish of the Conference. However, the Conference would have difficulty in producing a plan in the limited time available to it if last-minute changes were made in the technical parameters adopted at the First Session.

The delegate of Mauritania, referring to the nominal usable field strength recommended for the ground wave service at night, said that the requirements submitted by his Administration in connection with the future plan did not, with only one exception, involve any transmitter exceeding 20 kW, whereas other requirements involved powers that were often greater than 1 000 kW. Service areas in his country were being reduced to unacceptable limits and his Administration, for economy reasons, was not in a position to increase transmitter powers. In the equation defining nominal field strength given in the Report of the First Session (page 27), both the values given for X (11 dB for rural areas and 17 dB for urban areas) were high, and his Administration wished to suggest that they should be replaced by 3 dB and 6 dB respectively.

The delegate of Belgium said that the comments by the delegate of Mauritania were very pertinent. He drew attention to Annex 2 to Document No. 10, which contained his Administration's observations on the general trend to increase powers. The administrations which requested large increases in the first place were perhaps not always fully aware of the financial implications involved. Furthermore, other administrations were obliged to follow suit even if they did not need increased power. In the end, the only ones to benefit would be the suppliers of transmitters and the electric power producers.

The Chairman of the I.F.R.B., referring to the comments by the delegate of Mauritania, said that the nominal usable field strength was a conventional value which had been adopted by the First Session of the Conference and which was not affected by the number of requirements received. In its calculations, the I.F.R.B. took into account and published only the nominal field strength in rural areas. The I.F.R.B. value was not based on requirements received but was indicative and given only for purposes of information. There was something anomalous about the fact that in the Report of the First Session, the minimum field strength given for the lower part of the MF band was greater than the nominal field strength. He considered that the point raised by the delegate of Mauritania might well be met, at least in part, if the anomaly were removed.

The Chairman said there seemed to be fairly general agreement that the Report of the First Session could serve as a basis for the planning to be undertaken at the current Session. The specific problems raised by the delegates of Australia, France and Mauritania might be referred either to Committee 4 or to one or more ad hoc working groups of the Plenary.

Following a discussion in which the delegates of Algeria, India, the Federal Republic of Germany, Mauritania, the U.S.S.R., the United Kingdom, Indonesia and Czechoslovakia and the Director of the C.C.I.R. took part, it was agreed to set up an ad hoc working group of the Plenary (PLEN-A) to study propagation with specific reference to

Documents Nos. 11, 12, 17 and Add. 1, and 21. It was further agreed that the working group would be convened by the Federal Republic of Germany and composed of delegates from Australia, New Zealand, France, Mauritania, Indonesia, India, the U.S.S.R., the United Kingdom and Czechoslovakia, together with representatives of the I.F.R.B. and the C.C.I.R.

2. Report of the I.F.R.B. (Document No. 10)

The Chairman of the I.F.R.B. reviewed the Report which had been prepared in accordance with Resolution B of the First Session; its distribution had been withheld to permit inclusion of the latest comments received from administrations.

The Board had had some difficulty in carrying out the studies called for in Resolution B because the parameters to be calculated were not precisely defined therein. To meet the deadline for publication of those studies it had been necessary to resort to simplified calculations and approximation in order to meet two objectives, firstly, to give administrations a rough idea of the usable field strength that would be available to them and, secondly, to indicate with what other administrations they would have to negotiate. Subsequently, an effort was made to improve the computer programmes so that it would be possible (before or during the Second Session of the Conference) to proceed to more accurate calculations.

The Chairman of the I.F.R.B. referred to comments from certain administrations pointing out that sea gain had been applied to the whole of Region 3 (the Report of the First Session having stated that it should not be applied to the part above parallel 11°S). The risk in so doing would be to give a usable field strength higher than that obtained by an accurate calculation omitting the sea gain.

The I.F.R.B.'s explanations were given in Annex 4 but he would be pleased to give further information to delegations which needed it.

The delegate of Belgium remarked that in point 3 of Resolution C ("when the draft Plan is prepared, any frequency that is already being used shall first be replaced by the frequency of the nearest new channel and subsequent changes desired should be negotiated between the administrations or groups of administrations concerned"), the Conference had meant to recognize, but certainly not to aggravate still further, what was already a rather deplorable state of affairs. In his opinion, requests for increased powers should be examined in a critical spirit, not only for reasons of plain common sense but also for a technical reason not taken into account at the First Session, namely, that of sky wave cross-modulation. Care should also be exercised in dealing with requests not based on the existing services; new requests should be accepted only on condition that they caused no impairment of the service as it now existed. Various technical means, such as directional antennae, synchronized networks and daytime services, might usefully be resorted to in that connection. He urged the Conference to adopt the principles he had just outlined as the basis for its method of procedure at the present Conference.

The Chairman said that the suggestions made by the delegate of Belgium would undoubtedly be taken into consideration by all participants and especially by the Chairman of Committee 4.

The delegate of Egypt referred to paragraph II.3 of Document No. 10 concerning the objection to the requests submitted by the Administration of Israel in respect of broadcasting stations which it intended to establish in areas belonging to Egypt, such as the Sinai Peninsula. By virtue of international law and numerous resolutions of the United Nations Security Council and General Assembly, Israel was not competent to apply for frequencies to be used in Sinai which is under Egyptian sovereignty, therefore Egypt opposed Israel's application for the assignment of the frequencies concerned and affirmed its right to request assignments in the Sinai for itself. Military occupation did not bestow upon the occupying power any right of sovereignty over the occupied lands.

The delegates of the People's Republic of China, Albania, Yugoslavia, U.S.S.R., Morocco, Czechoslovakia, Tunisia, Iran, the German Democratic Republic, the Byelorussian S.S.R., Qatar, Sudan, Algeria, Afghanistan, Saudi Arabia, Bulgaria, Poland, Roumania, the People's Democratic Republic of Yemen, India, Cameroon, the Ukrainian S.S.R., Mauritania, Kuwait, the Mongolian People's Republic, Dahomey, the Republic of Guinea, Niger, Cyprus, Malaysia, Upper Volta, Togo, the People's Republic of the Congo, Greece and Ethiopia supported that statement.

The delegate of Israel said that he did not share the Egyptian delegate's view of the rights and obligations connected with the provision of broadcasting services in territories under Israel's occupation. His Government's position had already been stated to the I.F.R.B. and notified to all Administrations in Circular-letter No. 328 of 23 September 1975. He reserved the right to revert to the subject at an appropriate moment later in the Conference. All the relevant Security Council Resolutions firmly linked the question of Israel's withdrawal from the occupied territories with the establishment of a just and lasting peace and the provision of secure and recognized boundaries.

The delegate of Egypt thanked all the delegations which had supported his stand. Replying to the delegate of Israel, he rejected the whole Israeli point of view and said that nowhere in the Resolutions adopted by the Security Council, the General Assembly and other international bodies was the status of the occupied territories made contingent upon the establishment of a permanent peace.

The Chairman of the I.F.R.B., referring back to Section II of Document No. 10, said that since the publication of that document, the I.F.R.B. had received comments from the Administration of India with the request to inform all administrations of their contents, which were

accordingly published in I.F.R.B. Circular-letter No. 339. Comments not accompanied by a similar request had been received from Saudi Arabia and would appear in an Addendum to Document No. 10. Document No. 24, emanating from Papua New Guinea, raised an important point which he had omitted to mention in connection with Section V, namely, the service area notified in requests and the calculation of the field strength of the sky wave service. The I.F.R.B. had not taken account of that point because it found that practically every administration had its own criteria for defining sky wave service field strength; instead, it had calculated the usable field according to the objective criteria set forth in the Report of the First Session. Noting that the number of requests submitted was such that most transmitters could not have a usable field with a protection ratio of 26 dB as decided at the First Session, the I.F.R.B. had thought that administrations might find it useful to know the protection ratio which their signal might receive at a distance of approximately 300 km from the transmitter. The figures had been published and it was, of course, for each Administration to decide whether it wished to request protection for its signal.

Turning to Section VI, he said that a number of new requirements had been received since 6 June 1975, i.e., too late for inclusion in the calculations begun on that date. The I.F.R.B. now proposed to carry out new calculations during the weekend of 11 and 12 October with a view to producing a revised list by Monday, 13 October. He asked for the Conference to decide whether the requirements appearing in Circular-letter No. 337 should be included in those calculations. Furthermore, a small number of countries or territories had failed to submit any requirements at all. In three of those cases (Angola, Guinea-Bissau, St. Tomé and Príncipe), assignments already existed in the Africa Plan, 1966, and in two of those three cases (Angola, St. Tomé and Príncipe), also in the Master Register. No requirements had been submitted by the Khmer Republic, the Democratic Republic of Vietnam or the People's Democratic Republic of Korea; however, he understood that a requirement from the last-named administration would be submitted within the next few days. Assignments in the Master Register existed for the Khmer Republic but not for the other two countries. The various items of information could be found in the Annex to Document No. 10 and he would ask the Conference to take a decision on them in order to know whether they should be included in the calculations.

The delegate of Portugal said that Angola was still under Portuguese administration but would accede to full independence on 11 November, ten days before the close of the Conference. He was authorized to announce that his country would be submitting a notification of Angola's requirements very shortly and that those requirements were covered by the assignments already appearing in the Master Register and in the African Plan 1966.

The delegate of the U.S.S.R. remarked that the decision of the First Session to set a time limit for the submission of requirements should not be regarded as strictly binding. While an overwhelming majority of administrations had submitted their requirements before 6 June 1975, a small number had, for various reasons, proved unable to do so, a fact which undoubtedly added to the complexity of the Conference's task. The Conference was now faced with a choice between ignoring late submissions and including them in an additional calculation. For his part, he was in favour of adopting the latter course in order that the Plan might reflect the interests of all countries.

The delegates of Upper Volta and India supported that view.

The delegate of the People's Republic of the Congo said that his Administration was among those which had modified their requests in the light of the requirements of other countries and, more particularly, of its neighbours. The present requirements therefore represented a minimum, and if they were not accepted, his country reserved the right to increase its power or, in the event that the interference level was such that the requested frequencies proved insufficient, to maintain the declared frequencies.

The Chairman said that in the absence of any objection to the proposal formulated by the delegate of the U.S.S.R., the Conference would instruct the I.F.R.B. to take account of late requirements. The next step was to decide whether a deadline should be set for the submission of requirements still outstanding and, if so, whether that deadline should be fixed at 12 noon on Thursday, 9 October.

The meeting was suspended at 1230 hours and resumed at 1500 hours.

The Chairman said that, in order to have a new print-out available on Monday, 13 October, all minor alterations or corrections must be submitted to the Board by Thursday, 9 October. It should be borne in mind, however, that that time limit was set only for the updated print-out and did not represent a cut-off date for the submission of requirements.

The delegate of the United Kingdom said that he agreed with that procedure but had some reservations about the cut-off date. Countries making late submissions might take advantage of the commitments of those which had submitted their requirements by 6 June 1975. On the other hand, it would be unwise not to include late submissions, since it was essential to know the actual over-all position. The time limit must, however, be short and must apply only to the updated print-out. Moreover, it should be understood that that limit had no bearing on the changes in frequencies and powers which would be made by negotiation throughout the Conference.

The Chairman of the I.F.R.B., continuing his introduction of the Board's Report, drew attention to paragraph VI.2, concerning countries or territories for which no requirements had yet been presented. The Portuguese delegate had already commented on the situation with regard to Angola : assignments for that territory should be included in the Master Register and the African Plan, but at a carrier frequency which the Board would study with the Portuguese delegation, on the channel closest to the frequency entered in the Register of the African Plan. That left the requirements outstanding for the Khmer Republic, Guinea Bissau and San Tomé and Príncipe; he suggested that the carriers should be modified to the closest channel to the existing entries and should be included in the calculations.

The delegate of the U.S.S.R. supported that suggestion, on the understanding that any changes proposed by the administrations concerned when they were notified of the assignments would be taken into account.

The suggestion of the Chairman of the I.F.R.B. was approved.

The Chairman of the I.F.R.B., referring to Section VII of the Report, said that since 6 June 1975, the date when the computer programme had been brought into use, that programme had been revised so as not to take into account the sea gain in Region 1 and in the southern part of Region 3. At the same time, the Board had thought that the Second Session might wish to include in the Plan some factors of delimitation of the service area, and had prepared a programme to calculate the usable field strength for various azimuths around a station. Since the use of that programme required fairly long computer time, it would be advisable to use it only when the Conference had adopted the Plan, i.e. during the last week of the Conference.

With regard to the shared bands referred to in Section VIII, it was obvious that all frequency assignments made by the Conference should be in conformity with other provisions of the Radio Regulations and should be notified to the Board before being brought into service, so that the Board could examine them in relation to other requirements and to assignments entered in the Master Register. If requirements in shared bands were notified, the Board would calculate the level of interference likely to be caused to other services in the three Regions. Since the volume and form of those calculations did not lend themselves to publication, they would be available for consultation with the Technical Secretariat and the competent engineers would be prepared to help delegates with the interpretation of symbols.

The information meetings referred to in Section IX had been attended by 150 to 200 delegates. Explanations of the methods used to

implement the decisions of the First Session had been given in English, French and Russian and a back-up document had been issued on the procedures used in applying the field strength calculation methods adopted by the First Session (Document No. DT/1). The Board had also issued a paper on a simple method for the calculation of the sky wave field strength of a transmitter (Document No. DT/4); since then, New Zealand and the European Broadcasting Union had submitted papers suggesting different methods of calculation (Documents Nos. 13 and 25).

Finally, the reason why Congo-Kinshasa was referred to instead of Zaire in footnote 2) on page 25 of the Report was that that text was an extract from the African Plan, which could only be changed by an I.T.U. conference.

The Conference took note of the I.F.R.B. Report (Document No. 10).

3. Allocation of new documents to Committees (Documents Nos. 20 to 27)

3.1 Document submitted by France (Document No. 20)

The delegate of France said that his delegation to the First Session had drawn attention to the possibilities that directional antennae offered for facilitating planning and had pointed out that although those antennae were seldom used in Europe, Africa and Asia, there were over 2,000 of them in the United States alone in Region 2, so that they obviously represented a substantial technical advance. In view of the doubts expressed by some delegations to the First Session concerning the value of the antennae, France had now submitted a more detailed document giving standard patterns which might solve many problems of frequency sharing. Although the patterns were theoretical, the last part of the document was devoted to results actually obtained in practice : for example, it had been proved that 20 dB backward protection could be obtained over a wide angular sector in both the horizontal and the vertical planes even over average ground. Protection at high angles of elevation was necessary since directional antennae made it possible to use the same channel over short distances and the interference might be due to radiation in directions diverging widely from the horizontal. Contrary to the common belief, the bandwidth of directional antennae was not negligible and in most cases could vary by 20%. Finally, it would be seen from France's experience described in the annex to the document, that the cost of directional antennae was not exorbitant if compared to the cost of increasing transmitter power to combat interference.

The delegate of Australia said that his country, too, was interested in the role of directional antennae in improving planning efficiency.

It was decided to assign Document No. 20 to Committee 4.

3.2 Document submitted by Papua New Guinea (Document No. 24)

The delegate of Papua New Guinea said that in his fairly large country it was impossible to provide a ground wave service for the whole population, a large proportion of which lived in rural areas, so that a very high-power transmitter would be required before a listing could be obtained against symbol "S". Accordingly, his country asked in the last paragraph of its document that the print-out should give an indication against that symbol for all requirements showing the service area by sky wave, even with low-power transmitters.

It was decided to assign Document No. 24 to Committee 4.

3.3 Document submitted by China (Document No. 26 (Rev.1))

The delegate of China said that the listing of stations in Tibet among the frequency requirements submitted by the Indian Administration was illegal and constituted a violation of China's sovereignty, since Tibet was part of the territory of China.

The delegate of India said that his delegation had been most surprised to receive a document which represented unwarranted interference in India's internal affairs and an attempt to question its territorial integrity and sovereignty. The stations in question were in Indian territory, where the Indian Telecommunication Administration had every right to set up broadcasting stations.

The delegate of China reiterated that Tibet was an integral part of his country's territory and that no arguments could alter that factual situation.

The delegate of India declared that the stations were situated beyond 90° East, in the North-East Frontier Provinces of India, not in Tibet. The time of a technical I.T.U. conference should not be wasted on political controversies.

The delegate of China, supported by the delegate of Albania, said that he considered the subject to be germane to the deliberations of a technical conference and reserved the right to raise it again at a later stage.

The Chairman suggested that the question should be raised when the assignments concerned would be considered.

It was so agreed.

3.4 Document submitted by Italy (Document No. 27)

The delegate of Italy said that his delegation had proposed simple and clear procedures for modifications of the Plan which would at the same time ensure that no increased interference would be caused to existing stations. The proposed procedures were based on the provisions of the Copenhagen Convention and the Stockholm Agreement for the European Broadcasting Area and of the Geneva Agreement of the African Broadcasting Area.

It was decided to assign Document No. 27 to Committee 5.

3.5 Documents submitted by the European Broadcasting Union
(Documents Nos. 22, 23 and 25)

The delegate of the U.S.S.R., supported by the delegate of Czechoslovakia, said that, while he had no intention of minimizing the very useful role of the E.B.U., official proposals to a governmental conference convened to prepare an agreement and a Plan could be made only be the delegations of participating countries. Accordingly, the E.B.U. papers should not be considered at the Conference, but the I.F.R.B. might be asked to take the documents into account at its regular meetings. He had no objection to the documents being noted but it had been agreed that discussions should be limited to comments from countries relating to the technical principles adopted at the First Session.

The delegate of Belgium, while agreeing that proposals from regional organizations could not be accepted, pointed out that the documents in question were not proposals but contained technical information which might facilitate the work of the Conference. That view was supported by the delegate of Italy.

The Observer from the European Broadcasting Union confirmed that the papers had been presented solely for information purposes and were based on technical research carried out after the First Session.

The delegate of India pointed out that the Plenary meeting had already decided that only the technical criteria determined at the First Session should be used. The documents in question could, however, be noted.

The delegate of the United Kingdom said that a distinction should be made between documents containing potentially useful technical information and those which had a bearing on the decisions of the First Session. As Documents Nos. 22, 23 and 25 did not fall within the latter category, he suggested they be referred to Committee 4 which could duly take note of them.

It was so decided.

The meeting rose at 1655 hours.

The Secretary-General :

M. MILI

The Chairman :

D.C. ROSE

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 51-E

16 October 1975

Original : English

PLENARY MEETING

MINUTES

OF THE

SECOND PLENARY MEETING

Tuesday, 7 October 1975, at 0945 hrs and at 1500 hrs

Chairman : Mr. D.C. ROSE (New Zealand)

Subjects discussed

Document No.

1. Report of the First Session of the
Conference

2, 5, 11, 12,
13, 17 and
Add. 1, 21

2. Report of the I.F.R.B.

10

3. Allocation of new documents to Committees

20 - 27



1. Report of the First Session of the Conference (Documents Nos. 2, 5, 11, 12, 13, 17 and Add. 1, 21)

The Chairman said that the Chairman of the First Session of the Conference, who would not be able to introduce the Report in person, had requested him to convey to the meeting the following observations : first, the Report represented a considerable amount of work and was the result of a number of compromises which had permitted orderly planning to be undertaken in the interval between the First and Second Sessions; second, it had certainly been the hope of the First Session that the criteria contained in the Report would be adopted by the Second Session.

While some time should certainly be allowed for consideration of the Report, it should be borne in mind that the basic function of the Second Session was to apply the technical standards drawn up at the First Session rather than to modify them. It was necessary for the Plenary Meeting to take a decision on the adoption of the criteria in the Report as soon as possible. In that connection, he drew attention to Documents Nos. 5, 11, 12, 13, 17 and Add. 1, and 21, all of which had a direct bearing on the Report.

The delegate of New Zealand introduced Document No. 11, which contained comments by his Administration on certain specific matters arising from the First Session that were of relevance to the work of the current session. He also drew attention to Documents Nos. 12 and 13, which concerned methods and a computer programme for MF sky wave field strength prediction.

The delegate of Australia introduced Document No. 17 and Add. 1, which described the doubts of the Australian Administration concerning the accuracy of Equation 13 (particularly in regard to the sea gain component) as it applied to the mid-point of paths occurring south of eleven degrees south latitude, and set out a possible alternative proposal which would allow for more consistent planning in that part of Region 3.

The delegate of France introduced Document No. 21 which contained a proposal that the polarization coupling loss at a path terminal should be limited to 6 dB.

The delegate of Indonesia said he would be willing to accept the Australian proposal should that be the wish of the Conference. However, the Conference would have difficulty in producing a plan in the limited time available to it if last-minute changes were made in the technical parameters adopted at the First Session.

The delegate of Mauritania, referring to the nominal usable field strength recommended for the ground wave service at night, said that the requirements submitted by his Administration in connection with the future plan did not, with only one exception, involve any transmitter exceeding 20 kW, whereas other requirements involved powers that were often greater than 1 000 kW. Service areas in his country were being reduced to unacceptable limits and his Administration, for economy reasons, was not in a position to increase transmitter powers. In the equation defining nominal field strength given in the Report of the First Session (page 27), both the values given for X (11 dB for rural areas and 17 dB for urban areas) were high, and his Administration wished to suggest that they should be replaced by 3 dB and 6 dB respectively.

The delegate of Belgium said that the comments by the delegate of Mauritania were very pertinent. He drew attention to Annex 2 to Document No. 10, which contained his Administration's observations on the general trend to increase powers. The administrations which requested large increases in the first place were perhaps not always fully aware of the financial implications involved. Furthermore, other administrations were obliged to follow suit even if they did not need increased power. In the end, the only ones to benefit would be the suppliers of transmitters and the electric power producers.

The Chairman of the I.F.R.B., referring to the comments by the delegate of Mauritania, said that the nominal usable field strength was a conventional value which had been adopted by the First Session of the Conference and which was not affected by the number of requests received. In its calculations, the I.F.R.B. took into account and published only the nominal field strength in rural areas. The I.F.R.B. value was not based on specific requests but was indicative and given only for purposes of information. The equation mentioned by the delegate of Mauritania contained an anomaly : in the lower part of the MF band, the minimum field strength was greater than the nominal field strength. He considered that the point raised by the delegate of Mauritania might well be met, at least in part, if the definition was revised.

The Chairman said there seemed to be fairly general agreement that the Report of the First Session could serve as a basis for the planning to be undertaken at the current Session. The specific problems raised by the delegates of Australia, France and Mauritania might be referred either to Committee 4 or to one or more ad hoc working groups of the Plenary.

Following a discussion in which the delegates of Algeria, India, the Federal Republic of Germany, Mauritania, the U.S.S.R., the United Kingdom, Indonesia and Czechoslovakia and the Director of the C.C.I.R. took part, it was agreed to set up an ad hoc working group of the Plenary (PLEN-A) to study propagation with specific reference to

Documents Nos. 11, 12, 17 and Add. 1, and 21. It was further agreed that the working group would be convened by the Federal Republic of Germany and composed of delegates from Australia, New Zealand, France, Mauritania, Indonesia, India, the U.S.S.R., the United Kingdom and Czechoslovakia, together with representatives of the I.F.R.B. and the C.C.I.R.

2. Report of the I.F.R.B. (Document No. 10)

The Chairman of the I.F.R.B. reviewed the Report which had been prepared in accordance with Resolution B of the First Session; its distribution had been withheld to permit inclusion of the latest comments received from administrations.

He noted that the Board had had some difficulty in carrying out the studies called for in the Resolution owing to the vagueness of the request. To meet the deadline for publication of those studies it had been necessary to resort to simplification and approximation in order to give administrations a rough idea of the usable field strength that would be available to them. The next objective had been to improve the computer programmes so that it would be possible (before or during the Second Session of the Conference) to proceed to more accurate calculations.

The Chairman of the I.F.R.B. referred to comments from certain administrations pointing out that sea gain should be applied to the whole of Region 3 (the Report of the First Session having stated that it should not be applied to the part above parallel 11°S). The risk in so doing would be to give a usable field strength higher than that obtained by an accurate calculation omitting the sea gain.

The I.F.R.B.'s explanations were given in Annex 4 but he would be pleased to give further information to delegations which needed it.

The delegate of Belgium remarked that in point 3 of Resolution C ("when the draft Plan is prepared, any frequency that is already being used shall first be replaced by the frequency of the nearest new channel and subsequent changes desired should be negotiated between the administrations or groups of administrations concerned"), the Conference had meant to recognize, but certainly not to aggravate still further, what was already a rather deplorable state of affairs. In his opinion, requests for increased powers should be examined in a critical spirit, not only for reasons of plain common sense but also for a technical reason not taken into account at the First Session, namely, that of sky wave cross-modulation. Care should also be exercised in dealing with requests not based on the existing services; new requests should be accepted only on condition that they caused no impairment of the service as it now existed. Various technical means, such as directional antennae, synchronized networks and daytime services, might usefully be resorted to in that connection. He urged the Conference to adopt the principles he had just outlined as the basis for its method of procedure at the present Conference.

The Chairman said that the suggestions made by the delegate of Belgium would undoubtedly be taken into consideration by all participants and especially by the Chairman of Committee 4.

The delegate of Egypt referred to paragraph II.3 of Document No. 10 concerning the objection to the requests submitted by the Administration of Israel in respect of broadcasting stations which it intended to establish in areas belonging to Egypt, such as the Sinai Peninsula. By virtue of international law and numerous resolutions of the United Nations Security Council and General Assembly, Israel was not competent to apply for frequencies to be used in Sinai which is under Egyptian sovereignty, therefore Egypt opposed Israel's application for the assignment of the frequencies concerned and affirmed its right to request assignments in the Sinai for itself. Military occupation did not bestow upon the occupying power any right of sovereignty over the occupied lands.

The delegates of the People's Republic of China, Albania, Yugoslavia, U.S.S.R., Morocco, Czechoslovakia, Tunisia, Iran, the German Democratic Republic, the Byelorussian S.S.R., Qatar, Sudan, Algeria, Afghanistan, Saudi Arabia, Bulgaria, Poland, Roumania, the People's Democratic Republic of Yemen, India, Cameroon, the Ukrainian S.S.R., Mauritania, Kuwait, the Mongolian People's Republic, Dahomey, the Republic of Guinea, Niger, Cyprus, Malaysia, Upper Volta, Togo, the People's Republic of the Congo, Greece and Ethiopia supported that statement.

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The suggestion of the Chairman of the I.F.R.B. was approved.

The Chairman of the I.F.R.B., referring to Section VII of the Report, said that since 6 June 1975, the date when the computer programme had been brought into use, that programme had been improved to calculate with greater precision the sea gain in Region 1 and in the southern part of Region 3. At the same time, the Board had thought that the Second Session might wish to include in the Plan some factors of delimitation of the service area, and had prepared a programme to calculate the usable field strength for various azimuths around a station. Since the use of that programme required fairly long computer time, it would be advisable to use it only when the Conference had adopted the Plan, i.e. during the last week of the Conference.

With regard to the shared bands referred to in Section VIII, it was obvious that all frequency assignments made by the Conference should be in conformity with other provisions of the Radio Regulations and should be notified to the Board before being brought into service, so that the Board could examine them in relation to other requirements and compare them with assignments entered in the Master Register. If requirements in shared bands were notified, the Board would calculate the level of interference likely to be caused to other services in the three Regions. Since the volume and form of those calculations did not lend themselves to publication, they would be available for consultation with the Technical Secretariat and the competent engineers would be prepared to help delegates with the interpretation of symbols.

The information meetings referred to in Section IX had been attended by 150 to 200 delegates. Explanations of the methods used to

implement the decisions of the First Session had been given in English, French and Russian and a back-up document had been issued on the procedures used in applying the field strength calculation methods adopted by the First Session (Document No. DT/1). The Board had also issued a paper on a simple method for the calculation of the sky wave field strength of a transmitter (Document No. DT/4); since then, New Zealand and the European Broadcasting Union had submitted papers suggesting different methods of calculation (Documents Nos. 13 and 25).

Finally, the reason why Congo-Kinshasa was referred to instead of Zaire in footnote 2) on page 25 of the Report was that that text was an extract from the African Plan, which could only be changed by an I.T.U. conference.

The Conference took note of the I.F.R.B. Report (Document No. 10).

3. Allocation of new documents to Committees (Documents Nos. 20 to 27)

3.1 Document submitted by France (Document No. 20)

The delegate of France said that his delegation to the First Session had drawn attention to the possibilities that directional antennae offered for facilitating planning and had pointed out that although those antennae were seldom used in Europe, Africa and Asia, there were over 2,000 of them in the United States alone in Region 2, so that they obviously represented a substantial technical advance. In view of the doubts expressed by some delegations to the First Session concerning the value of the antennae, France had now submitted a more detailed document giving standard patterns which might solve many problems of frequency sharing. Although the patterns were theoretical, the last part of the document was devoted to results actually obtained in practice : for example, it had been proved that 20 dB backward protection could be obtained over a wide sector in an average terrain. Reference had been made to a wide sector of backward protection because transmitters had to be placed at short intervals when directional antennae were used and interference could therefore be caused only by radiation in the neighbourhood of the horizontal plane, the angle of elevation of protection must be appreciable. Contrary to the common belief, the bandwidth of directional antennae was not negligible and in most cases could vary by 20%. Finally, it would be seen from France's experience described in the annex to the document, that the cost of directional antennae was not exorbitant if compared to the cost of increasing transmitter power to combat interference.

The delegate of Australia said that his country, too, was interested in the role of directional antennae in improving planning efficiency.

It was decided to assign Document No. 20 to Committee 4.

3.2 Document submitted by Papua New Guinea (Document No. 24)

The delegate of Papua New Guinea said that in his fairly large country it was impossible to provide a ground wave service for the whole population, a large proportion of which lived in rural areas, so that a very high-power transmitter would be required before a listing could be obtained against symbol "S". Accordingly, his country asked in the last paragraph of its document that the print-out should give an indication against that symbol for all requirements showing the service area by sky wave, even with low-power transmitters.

It was decided to assign Document No. 24 to Committee 4.

3.3 Document submitted by China (Document No. 26 (Rev.1))

The delegate of China said that the listing of stations in Tibet among the frequency requirements submitted by the Indian Administration was illegal and constituted a violation of China's sovereignty, since Tibet was part of the territory of China.

The delegate of India said that his delegation had been most surprised to receive a document which represented unwarranted interference in India's internal affairs and an attempt to question its territorial integrity and sovereignty. The stations in question were in Indian territory, where the Indian Telecommunication Administration had every right to set up broadcasting stations.

The delegate of China reiterated that Tibet was an integral part of his country's territory and that no arguments could alter that factual situation.

The delegate of India declared that the stations were situated beyond 90° East, in the North-East Frontier Provinces of India, not in Tibet. The time of a technical I.T.U. conference should not be wasted on political controversies.

The delegate of China, supported by the delegate of Albania, said that he considered the subject to be germane to the deliberations of a technical conference and reserved the right to raise it again at a later stage.

The Chairman suggested that the question should be raised when the assignments concerned would be considered.

It was so agreed.

3.4 Document submitted by Italy (Document No. 27)

The delegate of Italy said that his delegation had proposed simple and clear procedures for modifications of the Plan which would at the same time ensure that no increased interference would be caused to existing stations. The proposed procedures were based on the provisions of the Copenhagen Convention and the Stockholm Agreement for the European Broadcasting Area and of the Geneva Agreement of the African Broadcasting Area.

It was decided to assign Document No. 27 to Committee 5.

3.5 Documents submitted by the European Broadcasting Union
(Documents Nos. 22, 23 and 25)

The delegate of the U.S.S.R., supported by the delegate of Czechoslovakia, said that, while he had no intention of minimizing the very useful role of the E.B.U., official proposals to a governmental conference convened to prepare an agreement and a Plan could be made only be the delegations of participating countries. Accordingly, the E.B.U. papers should not be considered at the Conference, but the I.F.R.B. might be asked to take the documents into account at its regular meetings. He had no objection to the documents being noted but it had been agreed that discussions should be limited to comments from countries relating to the technical principles adopted at the First Session.

The delegate of Belgium, while agreeing that proposals from regional organizations could not be accepted, pointed out that the documents in question were not proposals but contained technical information which might facilitate the work of the Conference. That view was supported by the delegate of Italy.

The Observer from the European Broadcasting Union confirmed that the papers had been presented solely for information purposes and were based on technical research carried out after the First Session.

The delegate of India pointed out that the Plenary meeting had already decided that only the technical criteria determined at the First Session should be used. The documents in question could, however, be noted.

The delegate of the United Kingdom said that a distinction should be made between documents containing potentially useful technical information and those which had a bearing on the decisions of the First Session. As Documents Nos. 22, 23 and 25 did not fall within the latter category, he suggested they be referred to Committee 4 which could duly take note of them.

It was so decided.

The meeting rose at 1655 hours.

The Secretary-General :

M. MILI

The Chairman :

D.C. ROSE

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 52-E

16 October 1975

Original : English

COMMITTEE 4

Pakistan

INTERFERENCE TO OTHER SERVICES OF REGION 3

BY THE LF BROADCASTING STATIONS OF REGION 1

The analysis of the interference cases supplied by the I.F.R.B. to the various countries in this Conference is confined only to the Broadcasting Bands of Region 3.

The demands of the Region 1 countries for very high powered transmitters in the LF bands, is likely to affect seriously the existing non-broadcasting assignments of the countries in Region 3. This is extremely serious as most of these assignments pertain to aeronautical beacons. Such indiscriminate interference is likely to endanger human life.

It is, therefore, proposed that the I.F.R.B. should analyse this matter carefully and bring to the notice of the countries of Region 3 immediately, all such cases where the use of LF Broadcasting Stations in Region 1 is likely to affect adversely the operation of the other services in Region 3 according to the standards laid down for such services.



INTERNATIONAL TELECOMMUNICATION UNION

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Corrigendum No. 1 to
Document No. 53-E
30 October 1975
Original : English

COMMITTEE 4

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 4

Please replace page 5 by the attached new text.

On page 4 of the English text, fourth line from the bottom,
replace "transmodulation" by "crossmodulation".

Annex : Page 5 revised.



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A N N E X

Document No. 53-E
Page 5 (Rev.)

The Chairman assured the delegate of Belgium that the planning groups would not begin their work until the following week which would allow time for the negotiations mentioned. He thought that a wise solution might be to report those views to the Steering Committee as it was evident that some assistance would be required from the Plenary.

Use of computation facilities

The Chairman of the I.F.R.B. said that arrangements had been made for every working group to be provided with the facilities required. A computer programme had been prepared to calculate the usable field of each transmitter in the least favourable direction and to indicate the main interfering stations. The results produced would be similar to those published in Circular-letter No. 327. As sea gain calculations in Region 3 had been introduced the contribution of each interfering station to the interference would not be indicated in order of importance, but that slight inconvenience was offset by the increased accuracy of the calculations. It might be that for some transmitters the least favourable direction selected was of no interest for the administration concerned; in such cases administrations were requested to indicate the azimuth for which they wanted information.

Consultations had been held with the General Secretariat and the Conference had at its disposal the I.T.U. computer and an outside computer; if the Conference decided to make use of the latter, a decision would have to be taken by Committee 3 on the budgetary provisions to be entered in the Conference expenditure.

The I.T.U. computer would take about an hour to calculate one channel and the General Secretariat had assured him that the computer would be made available for about eight hours per day. A consolidation could be made during the weekend on the outside computer. It was considered excessive to print the computer results as working documents but they would be made available classified by channel and by country; the results classified per channel would be posted in the working rooms, those by country would be submitted to each delegation concerned. The I.F.R.B. had taken the form for submission of requirements adopted at the First Session, altered it slightly to delete unnecessary data, and would reproduce it on green paper as a working document. Every delegation which required a change to their requests should enter the identification elements (mainly the I.F.R.B. reference number) and submit the form to the engineer responsible for the working group concerned.

The delegate of New Zealand noted that it would take 15 days of computer time to up-date each frequency group, considering the MF band only. The work of the Planning Committee might be held up if up-dated information resulting from the working groups was not available very rapidly.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 53-E

16 October 1975

Original : English

COMMITTEE 4

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 4

Wednesday, 8 October 1975, at 0930 hrs

Chairman : Mr. V. ŽAGAR (Socialist Federal Republic
of Yugoslavia)

Subject discussed :

1. Organization of the work of Committee 4



The Chairman, thanking his more experienced colleagues for their support and guidance in the past, expressed his appreciation of the honour done to his country and himself by his election. He was confident that modern computing facilities would enable the Committee to cope with its delicate and onerous task.

1. Organization of the work of Committee 4

Establishment and terms of reference of Planning Groups

The delegate of the Federal Republic of Germany proposed the setting up of one planning group for the LF band and ten for the MF band. A coordinating group should also be set up consisting of the Chairman and Vice-Chairman of each of the planning groups and the Chairman and Vice-Chairman of the Committee. The terms of reference of the groups should be to produce a plan which would lead to as little harmful interference as possible in all bands and would be an improvement on the status quo.

The delegate of Pakistan drew attention to the difficulties which would be experienced by small delegations if ten groups were to meet simultaneously and proposed that there should be one group for the LF and two for the MF band.

The Chairman of the I.F.R.B. said that, on the basis of past conference experience, the I.F.R.B. had prepared maps showing existing and proposed transmitters and their powers for each LF and MF band.

The I.F.R.B. could not assign an engineer to each delegation which had requested such help during the Conference, but it would place at the Committee's disposal the maximum possible number of engineers, each of whom would be responsible for a certain number of channels.

With regard to planning groups, an excessively large number would mean that each group had only a limited view of the whole spectrum, but if the number was so small that each group had to deal with 30-40 channels, it would inevitably split into sub-groups, with consequent problems of coordination at various levels. The optimum number would appear to be as suggested by the delegate of the Federal Republic of Germany, but it would be up to the Committee to decide how many planning groups should meet simultaneously. Moreover, the organization should be sufficiently flexible to enable a delegate to move from one group to another to effect coordination during the course of a meeting.

The terms of reference of Committee 4 should apply to each planning group for the section of the spectrum with which it was dealing.

Some delegations might feel a need for regional level meetings and provision should be made for those during working hours.

The delegate of the United Kingdom supported the proposal for the establishment of 11 planning groups, provided that not more than 3 or 4 should meet concurrently to take account of the difficulties experienced by small delegations, and that arrangements should be made for regional consultations.

The delegate of India endorsed that view, and suggested that a separate planning group should be set up to deal with LPC's.

The delegate of the U.S.S.R. also endorsed that view. With regard to LPC's, he said, that because of the substantial divergencies between countries as to the possibility of using such channels, and the number of channels which might be used, it would be premature at that stage to set up a planning group. The subject should first be studied more fully by the Committee, and a decision might be taken subsequently to refer certain points to the appropriate planning groups.

The delegate of Italy endorsed the proposal of the Federal Republic of Germany delegate as amended by the United Kingdom delegate, and the U.S.S.R. delegate's proposal regarding LPC's. He wondered how the very large number of requirements submitted since the First Session of the Conference could possibly be accommodated within the channels available, and suggested that it might be desirable initially to consider some compression of demands at regional meetings.

The delegate of Pakistan also referred to the inflated requirements submitted, which were in some cases vastly in excess of present usage. He suggested that, to help in establishing priorities, the I.F.R.B. should produce a document listing the number of projected transmitters of more than 100 kW requested by each country, for comparison with present use. There should also be a breakdown of requirements into the categories : (1) already in use; (2) in course of installation; and (3) projected.

The delegate of Iran supported that suggestion.

The delegate of Australia said that to ensure the fullest utilization of delegates' time, it would be better to divide work among the 10 MF groups to some extent on a geographical basis, since some delegates would not be interested in considering a specific channel on a world-wide basis. If that were done, steps would have to be taken to coordinate the work on a frequency basis through the group chairmen.

The delegates of Indonesia, Iran and Afghanistan supported the Pakistani delegate's proposal for the establishment of only 3 groups.

The delegates of New Zealand, Algeria, France, Zambia, Spain, Morocco, Norway and Indonesia supported the proposal that 11 planning groups should be set up but only a limited number should meet concurrently.

The delegate of Turkey and the delegate of Israel also supported the proposal, on the understanding that groups meeting simultaneously would not deal with adjacent channels.

The delegate of Japan supported the Indian delegate's proposal for a separate planning group on LPC's, in view of the importance of the low power channel to his country.

The delegate of Albania, supported by the delegate of China, said that any decisions taken by the Committee must respect the principles agreed upon at the First Session regarding assistance to developing countries and equal access by all countries to opportunities to develop their broadcasting systems.

Summing up the discussion, the Chairman said that all delegations must be enabled to take part in the planning procedure, which must be organized in a practical way on the basis of past conference experience. He proposed that the Committee should set up one planning group for the LF and 10 for the MF band, on the understanding that only 2 to 3 of the groups would meet concurrently in official form. Each group would have a convener responsible for reporting on its work from time to time. Further discussion of LPC's would be temporarily postponed and a final decision would be taken later on the need for more formal regional meetings to compress requirements.

It was so agreed.

The delegate of Belgium drew attention to the importance of the different groups working along the same lines. He referred to Resolution C of the First Session which was intended to ensure that the present situation did not deteriorate but which did not contain any provisions about the power limits. He considered it essential for negotiations to take place between administrations before guidelines could be indicated to the conveners of the planning groups. In stressing the necessity for power limitations, which would be in the interest of numerous delegations, he said that the costs of purchasing and operating stations must be borne in mind. He suggested that a representative of the C.C.I.R. be asked to give information on the consequences of C.C.I.R. Recommendation 498 concerning ionospheric transmodulation which would permit the establishment of a basis for the power to be entered in each group for the stations whose frequencies were to be transferred to the next channel. In that way it might be possible to work reasonably and perhaps arrive at satisfactory results.

The Chairman assured the delegate of Belgium that the planning groups would not begin their work until the following week which would allow time for the negotiations mentioned. He thought that a wise solution might be to report those views to the Steering Committee as it was evident that some assistance would be required from the Plenary.

Use of computation facilities

The Chairman of the I.F.R.B. said that arrangements had been made for every working group to be provided with the facilities required. A computer programme had been prepared to calculate the usable field of each transmitter in the least favourable direction and to indicate the main interfering stations. The results produced would be similar to those published in Circular-letter No. 327. As sea gain calculations in Region 1 had been introduced the interference would not be indicated in order of volume, but that slight inconvenience was offset by the increased accuracy of the calculations. It might be that for some transmitters the least favourable direction selected was of no interest for the administration concerned; in such cases administrations were requested to indicate the azimuth for which they wanted information.

Consultations had been held with the General Secretariat and the Conference had at its disposal the I.T.U. computer and an outside computer; if the Conference decided to make use of the latter, a decision would have to be taken by Committee 3 on the budgetary provisions to be entered in the Conference expenditure.

The I.T.U. computer would take one hour to calculate one channel and the General Secretariat had assured him that the computer would be made available for about eight hours per day. A consolidation could be made during the weekend on the outside computer. It was considered excessive to print the computer results as working documents but they would be made available classified by channel and by country; the results classified per channel would be posted in the working rooms, those by country would be submitted to each delegation concerned. The I.F.R.B. had taken the form for submission of requirements adopted at the First Session, altered it slightly to delete unnecessary data, and would reproduce it on green paper as a working document. Every delegation which required a change to their requests should enter the identification elements (mainly the I.F.R.B. reference number) and submit the form to the engineer responsible for the working group concerned.

The delegate of New Zealand noted that it would take 15 days of computer time to update each frequency group, considering the MF band only. The work of the Planning Committee might be held up if up-dated information resulting from the working groups was not available very rapidly.

The Chairman of the I.F.R.B. explained that a combined solution had been sought (a complete re-run available each week, provided the necessary funds were made available for the use of an outside computer, and information on each channel provided by the I.T.U.'s own computer).

The Deputy Secretary-General said that use of another computer in Geneva was not feasible because of the changes that would have to be made to the programme developed by the I.F.R.B. programmes. The Conference was restricted to the I.T.U. computer and a more powerful machine of the same category located in the north of Switzerland which could produce a complete re-run in less than 30 hours, as compared with the 120 hours required in the I.T.U. Reservations had been made for the first and sixth weekends of the Conference, the cost for each consolidation being roughly 10,000 Swiss francs, which was a very reasonable figure considering the service obtained and the needs of participants. Whether or not the Conference also needed re-runs on other week-ends would also depend on its ability to absorb the material produced. He recommended strongly that the options be taken up immediately for at least the two week-ends mentioned.

It was so decided.

The delegate of the United Kingdom considered that the real requirement was for the output of one group's work at the end of the day and the delegate of New Zealand wondered if there was any possibility of abbreviating the calculations.

The Chairman of the I.F.R.B. said that it might be possible to deal with one working group per day on the I.T.U. computer but that would mean that each group would have a result only every twelve days. He suggested that a decision be deferred to the next meeting of the Committee. Meanwhile all possibilities would be re-examined in an attempt to find a more satisfactory solution.

It was so agreed on the understanding that the arrangements proposed for the first and sixth week-ends would be confirmed.

The meeting rose at 1240 hours.

The Secretary :

K. ČOMIĆ

The Chairman :

V. ŽAGAR

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 54-E
16 October 1975
Original : English

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

At the request of the Head of the Delegation of the Federal Republic of Germany, the letter addressed to the Chairman of Committee 4 is presented in the attached Annex.

V. ŽAGAR
Chairman of Committee 4

Annex : 1



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A N N E X

Head of Delegation
of the Federal Republic of Germany
to the Second Session of the
Regional Administrative Conference
Office : 1, rue de Varembe
1202 Geneva 20

Geneva, 16 October 1975

Mr. V. Žagar
Chairman, Committee 4

Dear Mr. Žagar,

To assist in the coordination of the planning work involving frequencies used by the Federal Republic of Germany, I have nominated members of my delegation to act as liaison officers for the Working Groups of Committee 4 as follows :

	Box No.		Box No.
WG 4/1 : E. Böhnke	106	WG 4/7 : J. Kniestedt	115
WG 4/2 : G. Heinzelmann	111	WG 4/8 : J. Kniestedt	115
WG 4/3 : G. Heinzelmann	111	WG 4/9 : W. Glesner	108
WG 4/4 : Dr. H. Wicht	127	WG 4/10: F. Müller-Römer	120
WG 4/5 : O. Seidelmann	124	WG 4/11: E. Imelmann	113
WG 4/6 : H. Werle	126		

If any delegation wishing to negotiate with the Federal Republic of Germany would be so good as to contact the appropriate liaison officer for the frequency group concerned, this will ensure that the appropriate delegates of the Federal Republic of Germany are brought into the discussions.

The Federal Republic of Germany is ready at any time to discuss mutual problems with other delegations with a view to finding appropriate solutions. I would be grateful if you would circulate this letter as a Committee 4 document.

Yours sincerely,

J. KUPPER
Head of Delegation of the Federal
Republic of Germany

cc: Mr. Butler,
Deputy Secretary-General, I.T.U.
Mr. Berrada, I.F.R.B.
Mr. Kirby, C.C.I.R.

INTERNATIONAL TELECOMMUNICATION UNION
BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1975

Document No. 55-E
17 October 1975
Original : English

COMMITTEE 2

FIRST REPORT BY THE WORKING GROUP OF COMMITTEE 2

(CREDENTIALS)

1. The Working Group of Committee 2 met on 15 October 1975, under the chairmanship of Mr. D.S. Variyan (Malaysia). The meeting was attended by participants from the following delegations : Australia, Japan, Kenya, Norway and Switzerland.

2. The Working Group examined the credentials of the delegations mentioned in the Annex to this Report.

These credentials were considered to be in order and the Working Group recommends to Committee 2 that they be accepted as such.

3. The Working Group also examined the provisional credentials (Convention No. 362) of the following countries : Ghana, Greece, Republic of the Philippines and Portugal, and noted that these are to be confirmed by credentials as laid down in Nos. 361, 364, 365 and 366 of the Convention.

4. The secretary of Committee 2 was requested to approach the Heads of those delegations which had not yet submitted credentials to the secretariat.

D.S. VARIYAN
Vice-Chairman of Committee 2

Annex : 1



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A N N E X

Afghanistan (Republic of)	Luxembourg
Albania (People's Republic of)	Malaysia
Algeria (Algerian Democratic and Popular Republic)	Malawi
Germany (Federal Republic of)	Malagasy Republic
Bangladesh (People's Republic of)	Malta (Republic of)
Belgium	Morocco (Kingdom of)
Byelorussian Soviet Socialist Republic	Mauritius
Botswana (Republic of)	Mauritania (Islamic Republic of)
Bulgaria (People's Republic of)	Monaco
Cameroon (United Republic of)	Niger (Republic of the)
China (People's Republic of)	Nigeria (Federal Republic of)
Cyprus (Republic of)	Norway
Vatican City State	New Zealand
Congo (People's Republic of the)	Uganda (Republic of)
Korea (Republic of)	Pakistan
Dahomey (Republic of)	Papua New Guinea
Egypt (Arab Republic of)	Netherlands (Kingdom of the)
United Arab Emirates	Poland (People's Republic of)
Spain	Qatar (State of)
Ethiopia	German Democratic Republic
Finland	Ukrainian Soviet Socialist Republic
France	United Kingdom of Great Britain and Northern Ireland
Gambia (Republic of the)	Senegal (Republic of the)
Guinea (Republic of)	Singapore (Republic of)
Upper Volta (Republic of)	Sweden
Hungarian People's Republic	Switzerland (Confederation of)
India (Republic of)	Tanzania (United Republic of)
Iran	Czechoslovak Socialist Republic
Ireland	Thailand
Israel (State of)	Tunisia
Italy	Turkey
Japan	Union of Soviet Socialist Republics
Kenya (Republic of)	Yemen (People's Democratic Republic of)
Kuwait (State of)	Yugoslavia (Socialist Federal Republic of)
Lesotho (Kingdom of)	Zaire (Republic of)
Libyan Arab Republic	Zambia (Republic of)
Liechtenstein (Principality of)	

INTERNATIONAL TELECOMMUNICATION UNION
BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1975

Document No. 56-E
17 October 1975
Original : Russian

COMMITTEE 4

U.S.S.R.

ADDITIONAL FREQUENCY REQUIREMENTS AND MODIFICATIONS
MADE DIRECTLY AT THE CONFERENCE BY VARIOUS DELEGATIONS
TO THE BASIC TECHNICAL CHARACTERISTICS OF REQUIREMENTS
SUBMITTED PREVIOUSLY

A final time limit, 1 May 1975, was fixed by the decision of the First Session of the Broadcasting Conference of the countries of Regions 1 and 3, for the submission to the I.T.U. of LF/MF broadcasting frequency requirements.

In accordance with this decision, the overwhelming majority of countries submitted their requirements before the deadline; the I.F.R.B. then processed them and distributed them for study to all countries in Regions 1 and 3.

This enabled the delegations to prepare for the Conference and to work out proposals for the regulation and settlement of controversial questions on a business-like basis.

The Conference immediately considered the question of requirements submitted by countries after the deadline fixed, namely, 1 May 1975.

On a proposal by the Delegation of the U.S.S.R. and several other countries, it was decided to take these submissions into consideration and to allow those countries which, for certain well-founded reasons, had failed to submit their requirements before, to do so during the Conference.

The U.S.S.R. Delegation notes that, although the general effect of this decision was to make the task of delegations and the Conference as a whole more difficult, it was an absolutely correct course of action, and one which demonstrated, on the part of all delegations,



the spirit of goodwill, mutual comprehension and cooperation which are constant prerequisites for the success of the Conference. It also enabled a number of new and developing countries to make the necessary adjustments to requirements already submitted.

However, it subsequently became apparent that, owing to insufficient attention to compliance with the decisions adopted earlier, various countries, developed ones for the most part, had, during the Conference itself, arbitrarily introduced into requirements already taken into consideration by the I.F.R.B. and included in Conference documents, modifications and additions relating to new high-power broadcasting stations and power increases.

The conviction is emerging that this is not justified by genuine needs, since the data concerned were not included in the original submission.

These measures have substantially detracted from the importance of the work carried out by the I.F.R.B. and have placed other delegations in an awkward position.

The U.S.S.R. Delegation considers that if such actions do not cease, they pose a genuine threat to the success of the Conference. This cannot be allowed.

The U.S.S.R. Delegation therefore makes the following proposals :

1. The earlier decision concerning the acceptance of submissions reaching the I.F.R.B. before the beginning of the Second Session of the Conference should be confirmed.
2. The requirements of new countries, submitted during the Conference, should be taken into consideration. Provision should be made in the Final Acts for a procedure for examination of such requirements after the conclusion of the Conference in order to enable countries which have gained their independence and countries which have recently become members of the I.T.U. to organize their LF/MF broadcasting; the I.F.R.B. should help such countries to set out their requests and to solve any relevant technical problems.

3. A list of requirements of delegations of countries which do not come within the terms of paragraphs 1 and 2 above together with a list of any modifications in basic technical characteristics (increase in transmitter power, etc.) made by them during the Conference should be published in the next one or two days.

4. A decision should be adopted to the effect that requirements submitted and modifications to basic technical characteristics made by the countries referred to in paragraph 3 above which conflict with the interests of other countries will not be recognized and will not be taken into account in establishing the Plan.

The U.S.S.R. Delegation considers that, if such restrictive action is not taken, then in all justice and fairness, other delegations should also be allowed to modify and supplement requirements submitted earlier, but it hopes at the same time that it will not be necessary to have recourse to such measures.

The U.S.S.R. Delegation calls the attention of all delegations to the need for the most rapid possible solution of these problems.

It is requested that these proposals should be placed before Committee 4 at its next meeting.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 57-E

17 October 1975

Original : English

COMMITTEE 4

COMMITTEE 5

Note by the Chairman of the Conference

The Steering Committee, at its meeting on 16 October 1975, decided that

- Document No. 31 (Federal Republic of Nigeria) should be assigned to Committee 4, and that
- Document No. 35 (Islamic Republic of Mauritania) should be assigned to Committees 4 and 5.

Derek C. ROSE
Chairman of the Conference



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 58-E
17 October 1975
Original : French

COMMITTEE 4

Italy

TRANSMITTERS INTENDED TO OPERATE IN DAYTIME ONLY

PLANNING PROBLEMS

1. In the establishment of a frequency assignment plan in the LF and MF bands, the factor which generally determines the distance between transmitters in the same channel, and hence the frequency assignments, is the sky wave interference.

During the day the spectrum is thus not put to optimum use.

From the technical point of view, therefore, it would appear reasonable to study the possibility of installing transmitters to be used during the day only.

The purpose of this document is to give information useful for the planning of such transmitters.

2. To facilitate planning, it would seem preferable to adopt the following procedure :

2.1 Begin by planning only all of those transmitters which operate 24 hours per day.

2.2 Then study the possibility of inserting, in the network already planned, transmitters intended for use during the day only, in such a way that the situation as regards interference is not appreciably affected.

3. In order to use the procedure described in paragraph 2.2, it is essential to work out a precise schedule of operation; transmitters not operating within those hours would no longer be classed as "diurnal" but would be considered "nocturnal".

When drawing up this time schedule, it must be borne in mind that attenuation, during daytime operating hours, must reach a sufficiently high level in relation to the field strength at the time of reference (6 hours after sunset), at least for the greater part of the year.



For this purpose, it will be useful to determine, for different latitudes, the relation between the sky-wave attenuation, local time at the point of reflection and the season of the year, considering the curve shown in Figure 3 of Appendix B and in Figure 5 of Appendix E in the Report of the First Session and the data on sunrise and sunset time for every day of the year.

On the basis of this relation, it will be possible to study the problem in detail, after selection of the acceptable limit values for sky-wave attenuation in relation to the field strength value at the time of reference.

4. For example, once a value for the interfering field strength has been fixed, it will be possible to determine the percentage of days in the year during which the field strength exceeds this value, for different transmitter operating hours and at different latitudes.

The numerical results for an interfering field strength 20 dB below the field strength at the time of reference are shown in Table 1.

It should be pointed out that, on the days when this value is exceeded, the time during which interference exceeds the fixed value is very short in relation to the transmission time.

Table 1

Daytime hours operation

Latitude	Percentage of days of the year when attenuation is less than 20 dB			
	10%	20%	30%	40%
30°	7 - 16.30	6.30 - 16.30	6.30 - 17.00	6 - 17.00
40°	7.30 - 16.00	7.00 - 16.30	6.30 - 17.00	6 - 17.00
50°	8 - 15.30	7.30 - 16.00	7.00 - 16.30	6.30 - 17.00
60°	8.30 - 14.00	8.00 - 15.00	7.30 - 16.00	6.30 - 16.30

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 59-E

17 October 1975

Original : French

COMMITTEE 4

Italy

CONSIDERATIONS ON THE FREQUENCY REQUIREMENTS IN THE EUROPEAN

BROADCASTING AREA RESULTING FROM

I.F.R.B. CIRCULAR-LETTER No. 324 OF 23 MAY 1975

1. Introduction

The results of the studies carried out by the I.F.R.B. and notified in Circular-letter No. 327 of 1 July 1975 have shown that countries' requirements have generally been excessive as to both power and number, having regard to practical planning possibilities.

The following remarks discuss the problem in the European Broadcasting Area in the light of fundamental planning principles and may form the basis for further study.

2. Number of assignments per country

The number of assignments per channel in the planning area depends on the distance between stations. This distance is linked to the geographical position of the stations and hence to the position of the countries in which they are installed. It follows that for powers of the same order of magnitude the number of possible assignments to each country depends not only on the size of the country but also on its shape and its geographical position in relation to neighbouring countries. The number of the stations to be installed in the various countries and for the various power categories should therefore be assessed taking into account the interference they may cause and the size of the broadcasting area in each country; any seas and deserts that exist also should be considered.

The problem is particularly important in the European Broadcasting Area, where a great many countries are separated from each other by stretches of sea of different widths and where African countries contain large desert areas.



3. Examination of requirements

3.1 In application of the above principles, an assessment has been made of the requirements submitted by all countries of the European Broadcasting Area, and the number of channels needed to meet these requirements in both the LF and the MF bands has been estimated (see Annex 1).

3.2 For this purpose, stations or groups of synchronized stations have been divided into the three following classes :

Class 1 - LF - power $P \geq 1\,000$ kW
MF - power $P \geq 1\,000$ kW
or sky-wave service

Class 2 - LF - $P < 1\,000$ kW
MF - $50 \leq P < 1\,000$ kW

Class 3 - MF - $1 < P < 50$ kW

(The power given is that of the carrier.)

Where appropriate, the areas of coastal countries have been increased up to a line equidistant from the coast of the neighbouring country or up to a distance of roughly 300 km for countries facing the sea.

3.3 The following assumptions have been used :

3.3.1 that all countries requested for the same assignment density for each class;

3.3.2 that the stations are uniformly distributed over each country's territory, calculated as shown above;

3.3.3 that the average distances between stations are :¹⁾

Class 1 - LF 3,000 km
MF 4,000 km

Class 2 - LF 2,000 km
MF 2,000 km

Class 3 - MF 1,000 km

3.4 The results of the calculations relating to the requirements resulting from I.F.R.B. Circular-letter No. 324 are shown in Annex 2 for the LF band and in Annex 3 for the MF band. These results are of purely indicative and approximate value because of the simplifications introduced in the calculations.

1) It should be pointed out that these values are generally lower than those used to determine nominal field strength values in the Report of the First Session.

4. Planning problems

The exigencies of planning may make it necessary to depart from the criterion for assessing the number of stations to be installed in each country. This is possible only when the admissible variation of the distance between stations in relation to the mean distance (about 10% of the latter), in each class, is greater than the distance between neighbouring countries. In particular, the criterion may be waived in respect of stations in Class 1.

5. Conclusions

The tables below show the large number of requirements for the first two classes of station. Most of the countries exceed the actual number of available channels (15 in the LF band and 120 in the MF band).

The situation has become even more difficult because of the requirements submitted after 23 May 1975.

It may therefore be assumed that measures such as the adoption of a larger number of directional antennae, reduction of the audio-frequency bandwidth and more intensive use of synchronized groups, will not solve the problem. Requirements will therefore have to be reduced in cases where the number of channels required exceeds the number of channels available.

The problem would be easier to solve if stations were declassified, to permit smaller distances between stations using the same channel; this would limit the number of necessary channels to the number available.

After the stations were declassified, the consequent reduction of power might be limited to night-time, different powers being used in the day and at night. It should also be noted that for very small countries (Liechtenstein, Andorra, etc.) coordination with neighbouring countries is essential.

A N N E X 1

CALCULATION OF THE NUMBER OF CHANNELS NECESSARY

The calculation of the number of channels necessary in the planning area took account of the requirements of each country by arranging them in classes, as shown above. It was then assumed that the other countries in the planning area would require the same transmitter density.

In the case of a transmitter network of strict geometrical regularity (equilateral triangles) on a plane surface, the relationship :

$$C = \frac{\sqrt{3}}{2} \cdot \frac{D^2}{S} \cdot N$$

holds, where :

C : number of channels available

D : co-channel distance, in km

N : number of assignments requested by the country

S : surface area of the country, in km².

This formula provides the possibility to verify, in a first approximation, the compatibility of the frequency requests of a country having any given surface area S, with those in the surrounding countries. The co-channel distance D would only correspond to the average distance at which a channel used in that country could be expected to be used again outside the frontiers of that country (or even inside them, if the country is large enough).

The total number of channels necessary, quoted in Appendices 2 and 3 for each country, cannot exceed 15 on LF and 120 on MF. The degree by which these figures are exceeded indicates the degree of incompatibility of the country's requirements with the physical possibilities in the limited frequency bands available for planning at the Second Session.

A N N E X E 2 - A N N E X 2 - A N E X O 2

*** ONDES KILOMETRIQUES ***

NOMBRE DE CANAUX NECESSAIRE DANS LE CAS OU TOUTE LA ZONE
EUROPEENNE DE RADIODIFFUSION SERAIT PLANIFIEE AVEC LA MEME
DENSITE D'EMETTEURS DEMANDEE PAR CHAQUE PAYS CONSIDERE

*** LOW FREQUENCIES ***

NUMBER OF CHANNELS NECESSARY IF THE ENTIRE EUROPEAN
BROADCASTING AREA WERE PLANNED WITH THE TRANSMITTER DENSITY
REQUIRED BY EACH COUNTRY CONSIDERED

*** ONDAS KILOMÉTRICAS ***

NÚMERO DE CANALES NECESARIOS SI TODA LA ZONA EUROPEA DE RADIODIFUSIÓN
SE PLANIFICARA CON LA MISMA DENSIDAD DE TRANSMISORES QUE LA
SOLICITADA POR CADA PAÍS CONSIDERADO

1	2	3	4	5	6	7	8	9	10
1	ALG (2382)	1 2	2700	1500 0	1 0	0.4 0.0	1500.0 0.0	1 0	3 0
2	BEL (31)	1 2	35	1000 0	1 0	28.6 0.0	1000.0 0.0	29 0	223 0
3	BUL (111)	1 2	140	0 500	0 1	0.0 7.1	0.0 500.0	0 4	0 25
4	D (249)	1 2	300	2000 0	2 0	6.6 0.0	1000.0 0.0	6.6 0	52 0
5	DDR (108)	1 2	120	0 950	0 2	0.0 16.7	0.0 475.0	0 8	0 58
6	DNK (43)	1 2	200	500 0	1 0	5.0 0.0	500.0 0.0	3 0	39 0
7	E (505)	1 2	1037	1000 0	1 0	1.0 0.0	1000.0 0.0	1 0	8 0
8	EGY (1002)	1 2	1300	2000 0	1 0	0.8 0.0	2000.0 0.0	2 0	6 0
9	F (551)	1 2	800	4000 0	2 0	2.6 0.0	2000.0 0.0	6 0	20 0
10	FNL (337)	1 2	407	2100 0	1 0	2.5 0.0	2100.0 0.0	5 0	19 0
11	G (253)	1 2	1119	0 400	0 1	0.0 0.9	0.0 400.0	0 0	0 3
12	GRC (132)	1 2	407	0 500	0 1	0.0 2.5	0.0 500.0	0 1	0 9
13	HOL (46)	1 2	90	0 150	0 1	0.0 11.1	0.0 150.0	0 2	0 38

1	2	3	4	5	6	7	8	9	10
14	I (301)	1 2	800	0 2100	0 4	0.0 5.0	0.0 525.0	0 3	0 17
15	ISL (103)	1 2	781	0 1050	0 2	0.0 2.6	0.0 525.0	0 1	0 9
16	ISR (20)	1 2	40	2000 0	1 0	25.0 0.0	2000.0 0.0	50 0	195 0
17	LUX (3)	1 2	3	2000 0	1 0	333.3 0.0	2000.0 0.0	667 0	2598 0
18	MCO (.0)	1 2	0	1400 0	1 0	14285.7 0.0	1400.0 0.0	20000 0	111346 0
19	MRC (447)	1 2	1000	1200 800	1 1	1.0 1.0	1200.0 800.0	1 1	8 3
20	NOR (324)	1 2	1109	3200 0	2 0	1.8 0.0	1600.0 0.0	3 0	14 0
21	POL (313)	1 2	352	2000 0	1 0	2.8 0.0	2000.0 0.0	6 0	22 0
22	ROU (238)	1 2	272	1200 0	1 0	3.7 0.0	1200.0 0.0	4 0	29 0
23	S (450)	1 2	594	1200 0	2 0	3.4 0.0	600.0 0.0	2 0	26 0
24	TCH (128)	1 2	128	1500 0	1 0	7.8 0.0	1500.0 0.0	12 0	61 0
25	TUN (164)	1 2	300	1200 0	1 0	3.3 0.0	1200.0 0.0	4 0	26 0
26	TUR (781)	1 2	1200	1200 600	1 3	0.8 2.5	1200.0 200.0	1 0	7 8
27	BLR (207)	1 2	207	1500 0	2 0	9.7 0.0	750.0 0.0	7 0	75 0
28	UKR (601)	1 2	750	500 500	1 1	1.3 1.3	500.0 500.0	1 1	10 5
29	URS (1000)	1 2	1300	6800 250	3 1	2.3 0.8	2266.7 250.0	5 0	18 3

ANNEXE 3 - ANNEX 3 - ANEXO 3

*** ONDES HECTOMETRIQUES ***

NOMBRE DE CANAUX NECESSAIRE DANS LE CAS OU TOUTE LA ZONE
EUROPEENNE DE RADIODIFFUSION SERAIT PLANIFIEE AVEC LA MEME
DENSITE D'EMETTEURS DEMANDEE PAR CHAQUE PAYS CONSIDERE

*** MEDIUM FREQUENCIES ***

NUMBER OF CHANNELS NECESSARY IF THE ENTIRE EUROPEAN
BROADCASTING AREA WERE PLANNED WITH THE TRANSMITTER DENSITY
REQUIRED BY EACH COUNTRY CONSIDERED

*** ONDAS HECTOMÉTRICAS ***

NÚMERO DE CANALES NECESARIOS SI TODA LA ZONA EUROPEA DE RADIODIFUSIÓN
SE PLANIFICARA CON LA MISMA DENSIDAD DE TRANSMISORES QUE LA
SOLICITADA POR CADA PAÍS CONSIDERADO

1	2	3	4	5	6	7	8	9	10
1	ALB (29)	1 2 3	41	1000 1515 125	1 5 7	24.4 122.0 170.7	1000.0 303.0 17.9	24 37 3	338 422 148
2	ALG (2382)	1 2 3	2700	1200 2160 146	2 9 10	0.7 3.3 3.7	600.0 240.0 14.6	0 1 0	10 12 3
3	AUT (84)	1 2 3	84	2630 1270 20	2 5 1	23.8 59.5 11.9	1315.0 254.0 20.0	31 15 0	330 206 10
4	BEL (31)	1 2 3	35	600 1930 0	1 7 0	28.6 200.0 0.0	600.0 275.7 0.0	17 55 0	396 693 0
5	BUL (111)	1 2 3	140	2000 2830 60	2 9 2	14.3 64.3 14.3	1000.0 314.4 30.0	14 20 0	198 223 12
6	CVA (0)	1 2 3	0	550 0 5	2 0 1	5.0E+05 0.0 2.5E+05	275.0 0.0 5.0	137500 0 1250	6928203 0 216506
7	CYP (9)	1 2 3	70	1200 4000 8	3 12 1	42.9 171.4 14.3	400.0 333.3 7.5	17 57 0	594 594 12
8	D (249)	1 2 3	300	8000 850 225	18 6 15	60.0 20.0 50.0	444.4 141.7 14.3	27 3 1	831 69 43

1	2	3	4	5	6	7	8	9	10
9	DDR (108)	1	120	4150	4	33.3	1037.5	35	462
		2		1360	9	75.0	151.1	11	260
		3		65	2	16.7	32.5	1	14
10	DNK (43)	1	200	700	2	10.0	350.0	4	139
		2		70	1	5.0	70.0	0	17
		3		10	1	5.0	10.0	0	4
11	E (505)	1	1037	2500	4	3.9	625.0	2	53
		2		1160	11	10.6	105.5	1	37
		3		200	13	12.5	15.4	0	11
12	EGY (1002)	1	1300	10400	13	10.0	800.0	8	139
		2		100	1	0.8	100.0	0	3
		3		580	22	16.9	26.4	0	15
13	F (551)	1	800	0	0	0.0	0.0	0	0
		2		4940	17	21.3	290.6	6	74
		3		45	4	5.0	11.3	0	4
14	FNL (337)	1	407	2400	5	12.3	480.0	6	170
		2		1785	9	22.1	198.3	4	77
		3		45	1	2.5	45.0	0	2
15	G (253)	1	1119	1156	3	2.7	385.3	1	37
		2		2200	9	8.0	244.4	2	28
		3		40	2	1.8	20.0	0	2
16	GRC (132)	1	407	3600	8	19.7	450.0	9	272
		2		2200	11	27.0	200.0	5	94
		3		240	12	29.5	20.0	1	26
17	HNG (93)	1	93	4080	3	32.3	1360.0	44	447
		2		300	1	10.8	300.0	3	37
		3		100	8	86.0	12.5	1	74
18	HOL (46)	1	90	1000	1	11.1	1000.0	11	154
		2		1270	4	44.4	317.5	14	154
		3		60	3	33.3	20.0	1	29
19	I (301)	1	800	4405	3	3.8	1468.3	6	52
		2		3028	16	20.0	189.3	4	69
		3		85	4	5.0	21.3	0	4
20	IRL (70)	1	416	1000	2	4.8	500.0	2	67
		2		700	8	19.2	87.5	2	67
		3		24	3	7.2	8.0	0	6
21	IRQ (438)	1	440	5750	8	18.2	718.8	13	252
		2		50	1	2.3	50.0	0	8
		3		0	0	0.0	0.0	0	0
22	ISL (103)	1	781	0	0	0.0	0.0	0	0
		2		100	1	1.3	100.0	0	4
		3		0	0	0.0	0.0	0	0

1	2	3	4	5	6	7	8	9	10
23	ISR (20)	1	40	3400	3	75.0	1133.3	85	1039
		2		1050	5	125.0	210.0	26	433
		3		285	19	475.0	15.0	7	411
24	JOR (98)	1	98	0	0	0.0	0.0	0	0
		2		500	3	30.6	166.7	5	106
		3		40	4	40.8	10.0	0	35
25	LBN (10)	1	33	0	0	0.0	0.0	0	0
		2		800	3	90.9	266.7	24	315
		3		24	3	90.9	8.0	1	79
26	LBY (1760)	1	2300	2550	8	3.5	318.8	1	48
		2		110	2	0.9	55.0	0	3
		3		205	7	3.0	29.3	0	3
27	LIE (0)	1	0	1000	1	5000.0	1000.0	5000	69282
		2		0	0	0.0	0.0	0	0
		3		0	0	0.0	0.0	0	0
28	LUX (3)	1	3	1200	1	333.3	1200.0	400	4619
		2		0	0	0.0	0.0	0	0
		3		0	0	0.0	0.0	0	0
29	MCO (0)	1	0	1600	2	28571.4	800.0	22857	395897
		2		0	0	0.0	0.0	0	0
		3		0	0	0.0	0.0	0	0
30	MLT (0)	1	67	2400	4	59.7	600.0	36	827
		2		80	4	59.7	20.0	1	207
		3		0	0	0.0	0.0	0	0
31	MRC (447)	1	1000	0	0	0.0	0.0	0	0
		2		5540	15	15.0	369.3	6	52
		3		93	7	7.0	13.3	0	6
32	NOR (324)	1	1109	3500	3	2.7	1166.7	3	37
		2		0	0	0.0	0.0	0	0
		3		0	0	0.0	0.0	0	0
33	POL (313)	1	352	5500	4	11.4	1375.0	16	157
		2		1840	4	11.4	460.0	5	39
		3		0	0	0.0	0.0	0	0
34	POR (92)	1	342	0	0	0.0	0.0	0	0
		2		1120	7	20.5	160.0	3	71
		3		180	7	20.5	25.7	1	18
35	ROU (238)	1	272	3500	3	11.0	1166.7	13	153
		2		3415	11	40.4	310.5	13	140
		3		185	14	51.5	13.2	1	45
36	S (450)	1	594	4200	6	10.1	700.0	7	140
		2		0	0	0.0	0.0	0	0
		3		0	0	0.0	0.0	0	0

1	2	3	4	5	6	7	8	9	10
37	SUI (41)	1	41	1300	3	73.2	433.3	32	1014
		2		300	1	24.4	300.0	7	84
		3		0	0	0.0	0.0	0	0
38	SYR (188)	1	250	1100	4	16.0	275.0	4	222
		2		120	2	8.0	60.0	0	28
		3		20	2	8.0	10.0	0	7
39	TCH (128)	1	128	8462	7	54.7	1208.9	66	758
		2		254	2	15.6	127.0	2	54
		3		39	1	7.8	39.0	0	7
40	TUN (164)	1	300	1200	1	3.3	1200.0	4	46
		2		1350	4	13.3	337.5	5	46
		3		40	4	13.3	10.0	0	12
41	TUR (781)	1	1200	1800	3	2.5	600.0	1	35
		2		1960	10	8.3	196.0	2	28
		3		100	9	7.5	11.1	0	7
42	BLR (207)	1	207	2000	2	9.7	1000.0	10	134
		2		465	4	19.3	116.3	2	67
		3		50	4	19.3	12.5	0	17
43	UKR (601)	1	750	2950	7	9.3	421.4	4	129
		2		1885	12	16.0	157.1	3	55
		3		188	15	20.0	12.5	0	17
44	URS (1000)	1	1300	8250	20	15.4	412.5	6	213
		2		3077	18	13.8	170.9	2	48
		3		420	25	19.2	16.8	0	17
45	YUG (256)	1	400	8840	8	20.0	1105.0	22	277
		2		1400	15	37.5	93.3	4	130
		3		156	10	25.0	15.6	0	22
46	AND (1)	1	1	1200	1	2000.0	1200.0	2400	27713
		2		1800	2	4000.0	900.0	3600	13856
		3		0	0	0.0	0.0	0	0
47	CNR (1)	1	250	0	0	0.0	0.0	0	0
		2		300	2	8.0	150.0	1	28
		3		114	9	36.0	12.7	0	31
48	AZR (2)	1	250	0	0	0.0	0.0	0	0
		2		0	0	0.0	0.0	0	0
		3		60	6	24.0	10.0	0	21

1	2	3	4	5	6	7	8	9	10
49	MDR (1)	1	250	0	0	0.0	0.0	0	0
		2		0	0	0.0	0.0	0	0
		3		30	3	12.0	10.0	0	10
50	GIB (0)	1	0	0	0	0.0	0.0	0	0
		2		50	1	2439.0	50.0	122	8449
		3		2	1	2439.0	2.0	5	2112

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COLUMN HEADINGS IN ANNEXES 2 AND 3

1. Reference number.
2. Country (between brackets the real area of the country in 10^3 km^2).
3. Power category.
4. Area, taking the presence of the sea into account (10^3 km^2).
5. Total power of the carrier frequency for each power category.
6. Number of stations or synchronized networks for each power category.
7. Number of stations or synchronized networks per million km^2 for each power category.
8. Mean power per station or synchronized network, for each power category.
9. Density of power in W/km^2 for each power category.
10. Number of channels required for each power category.

INTERNATIONAL TELECOMMUNICATION UNION

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 60-E

17 October 1975

Original: English

COMMITTEE 4

Note by the Chairman of Committee 4

At the request of the Head of the Delegation of Australia, the letter addressed to the Chairman of Committee 4 is presented in the attached Annex.

V. ZAGAR
Chairman of Committee 4

Annex : 1



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A N N E X

To the Chairman
Committee 4

Dear Sir,

In order to facilitate an orderly and coordinated approach to the reduction of interference caused to and by its services, the Australian delegation would like to invite administrations, through you as Chairman of Committee 4, to consider adopting the following proposed procedure.

Based on the computer print-out to be made available on Monday, 20 October, in the first instance, the Australian delegation will provide a listing of primary interferences, made apparent by the print-out of the plan, to the administrations concerned. This information will be presented in the format shown on the attached form.

It would be appreciated if administrations of stations being subjected to primary interference from Australian transmitters would make available to the Australian delegation (Box 354) a similar listing using the same form as soon as possible after the print-out is made available.

Based on the information received, it is then envisaged that discussions could be arranged at mutually convenient times to analyze possible solutions to the identified problems.

The Australian delegation looks forward to fruitful discussions with neighbouring delegations with the aim of reducing mutual interference and contributing towards the development of a successful plan for the purposes of this conference.

Yours faithfully,

D.M. ROWELL
Head of the Australian Delegation

Appendix: 1

Appendix

PRIME INTERFERENCE PROBLEMS

ADMINISTRATION :

DATE : _____

REPLY TO BOX :

[illegible]

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 61-E

17 October 1975

Original : English

COMMITTEE 4

Federal Republic of Germany

When discussing Document No. 9 in the Plenary Meeting on 7 October, 1975, it was resolved that some Administrations should be allowed to submit late requirements by 12.00 hours on 9 October, 1975. It was said that this procedure should be limited because it would enable the exploitation of the bids for frequencies by countries which had complied with the I.F.R.B. programme.

The resolution was reached on the grounds that no requirements had been received from a number of Administrations and, furthermore, that non-member countries of the I.T.U. should be given the opportunity to submit requirements as well.

However, the new compatibility list subsequently handed over to each delegation on 13 October 1975 does not only contain new requirements submitted by the aforementioned countries, but also by countries whose requirements have already been published in Circular-letter No. 324 of the I.F.R.B. dated 23 May 1975. In addition, the evaluation of the compatibility list of 13 October 1975 gives grounds for the assumption that changes such as power increases have also been made in some cases.

As regards the above-mentioned procedure, it is of particular importance that

- 1) the delegations concerned have submitted the requirements in a committed situation : namely in full knowledge of the requirements;
- 2) consequently, delegations concerned can take unfair advantage of the requirements by improving their own position with regard to negotiations;
- 3) the delegations concerned have submitted requirements without making use of the possibilities for negotiations with other delegations as envisaged within the framework of the Conference.



The evaluation of the requirements submitted shows that in specific cases considerable interference occurs to transmitters of other countries. It is apparent that the planning principles of the First Session of the Conference have not been observed. The requirements are therefore not in line with the objective of the Conference, but, on the contrary, increase the number of problems.

To achieve the aim of responsible negotiation, the following possibilities concerning the procedure should be considered :

- a) Another possibility of submitting requirements for all delegations which, due to the new situation, feel compelled to make new requirements.

As a result, the number of requirements would be unreasonably increased and the Conference work impaired.

- b) Those requirements submitted on 9 October 1975 or possibly after that date by countries whose requirements have already been published in Circular-letter No. 324 of the I.F.R.B. dated 23 May 1975 should be disregarded.

If proposal b) is adopted, the initial situation of the Conference will be re-established on a uniform basis for all delegations.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 62-E

17 October 1975

Original : English

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

At the request of the Head of the Delegation of the Socialist Federal Republic of Yugoslavia, the letter addressed to the Chairman of Committee 4 is presented in the attached Annex.

V. ŽAGAR

Chairman of Committee 4

Annex : 1



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A N N E X

Head of Delegation of the
Socialist Federal Republic of
Yugoslavia to the
Second Session of the
Regional Administrative Conference

Geneva, 17 October 1975

Mr. V. ŽAGAR
Chairman of Committee 4

Dear Mr. Žagar,

To assist in the co-ordination of the planning work involving frequencies used by the Socialist Federal Republic of Yugoslavia, the following members of my delegation will act as liaison officers for the Working Groups of Committee 4:

	Box No.		Box No.
WG 4/1 - S. Rojec	341	WG 4/6 - R. Galić	332
WG 4/2 - J. Surutka	342	WG 4/7 - R. Jurišin	339
WG 4/3 - B. Ončevski	335	WG 4/8 - B. Ončevski	335
WG 4/4 - L. Gregorač	333	WG 4/9 - Dj. Bardulj	330
WG 4/5 - M. Janković	334	WG 4/10 - D. Flik	508

Any delegation wishing to discuss with the Yugoslav Delegation any mutual problem that might have arisen will have the full co-operation of the appropriate liaison officer for the frequency group concerned. Thus we hope to facilitate the most practical way of contacts and discussions.

While expressing our wish and readiness to mutual clarifications and negotiations with any other delegation, may I propose, Mr. Chairman that you kindly circulate this letter as a Committee 4 document.

Yours sincerely,

E. HUMO
Head of Delegation
of the Socialist Federal
Republic of Yugoslavia

INTERNATIONAL TELECOMMUNICATION UNION

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 63-E

17 October 1975

Original : French

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

At the request of the Head of the Delegation of France, the letter addressed to the Chairman of Committee 4 is presented in the attached Annex.

V. ŽAGAR
Chairman of Committee 4

Annex : 1



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A N N E X

Geneva, 17 October 1975

Mr. V. ŽAGAR
Chairman, Committee 4

Dear Sir,

To facilitate coordination of planning activities in cases involving a French frequency requirement, delegations wishing to meet a member of the French delegation are requested to get into touch with :

Mr. POIZAT (box No. 165) for Groups 4/1 to 4/5 inclusive

Mr. FONTEYNE (box No. 159) for Groups 4/6 to 4/10 inclusive

Mr. LACHARNAY (box No. 163) for Group 4/11.

I should be grateful if you would circulate this information as a Committee 4 document.

Yours faithfully,

J. de LA GRANDVILLE

Head of the French Delegation

UNION INTERNATIONALE DES TELECOMMUNICATIONS
CONFERENCE DE RADIODIFFUSION
(DEUXIEME SESSION) GENEVE, 1975

Corrigendum au
Document N° 64-F/E/S
20 octobre 1975
Original : français
French
francés

COMMISSION 5
GROUPE DE TRAVAIL 5C

A la liste des pays auteurs de ce document, veuillez ajouter
"ZAIRE" après Togo.

COMMITTEE 5
WORKING GROUP 5C

To the list of countries authors of this document, add
"ZAIRE" after Togo.

COMISIÓN 5
GRUPO DE TRABAJO 5C

Añádase a la lista de los países autores de este documento
"ZAIRA" después de Togo.



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 64-E

17 October 1975

Original : French

COMMITTEE 5

WORKING GROUP 5C

Algeria, Botswana, Cameroon, Congo, Ivory Coast, Dahomey, Ethiopia,
Gabon, Gambia, Ghana, Guinea, Upper Volta, Mauritius, Madagascar,
Malawi, Mali, Mauritania, Niger, Uganda, Chad, Togo

CONTENT OF THE AGREEMENT

The Members listed above, conscious of the need to emphasize in the Agreement the fundamental principle of equity and justice which the Conference decided at its First Session to adopt as a guide for the preparation of the Plan,

PROPOSE :

1. that Article 1 of the Agreement should be reserved for the declaration of this principle;
2. that the following text, derived with certain drafting changes from point 9.1 of the Report of the First Session, should be adopted for Article 1 of the Agreement.

ARTICLE 1

The contracting Members adopt for planning purposes the principle that all countries, large and small, have equal rights.

The contracting Members consider that the application of the Agreement should meet the needs of Administrations and should bring about satisfactory reception conditions for all peoples, having regard to the different conditions of the countries in Regions 1 and 3 and, in particular, the needs of the developing countries.



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 65-E

20 October 1975

Original : French

COMMITTEE 4

REPORT OF WORKING GROUP 4/11 - LF

The Group held an organizational meeting on Monday, 13 October, in the second part of the morning. It then met in conference room D.351. The situation in the 15 channels of the band was reviewed with the aid of geographical maps for the channels in question.

The Technical Secretary of the I.F.R.B. Secretariat, Mr. Sant, briefly presented the results of the calculations concerning all the stations of each channel. The delegations then began their discussions and in some cases arrived at conclusions. Several modification sheets were prepared for calculation by the computer.

The most difficult situation was found to exist in channel 4 (182 kHz) where the requirements of Belgium, the German Democratic Republic (DDR) and the French transmitter of the Federal Republic of Germany (D) are not compatible with each other. An attempt was made to solve the problem by rearranging several channels, but so far all these attempts have proved fruitless.

A serious situation in the shared bands was likewise discussed (the delegations of India and Pakistan have published documents on this subject) as also the situation of out-of-band broadcasting stations in Region 3. The Group has not been able to consider these last-named stations.

All delegations showed a desire to arrive at solutions to their mutual problems.



INTERNATIONAL TELECOMMUNICATION UNION
BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1975

Addendum No. 1 to
Document No. 66-E
24 October 1975
Original : English

COMMITTEES 4 AND 5

Pakistan

FURTHER CLARIFICATION OF THE MEANING OF THE "VALIDITY PERIOD"

It has come to the notice of this delegation that there is some misunderstanding about the meaning of the term "Validity period" used in Document No. 66. The purpose of this addendum is to clarify this meaning.

One misunderstanding is that this is the period in which the country will have to necessarily implement all the planned assignments. This is not so.

Another misunderstanding is that after this period the plan will lapse and chaos will result. This is not so either.

The correct meaning is as follows :

This is a period for which the projected requirements can be considered in this plan making effort. It is designed to cut down the projected requirements to limits which can be reasonably implemented in this period. This will help planning now.

This is also the period after which a fresh review of the plan will be made so that new requirements can be considered after this period on an equal basis afresh, rather than on the basis of the modification and addition procedure being outlined in Committee 5 for the Agreement. This will enable new and developing countries to enter into the plan later on, on an equal basis.



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 66-E

20 October 1975

Original : English

COMMITTEES 4 AND 5

Pakistan

VALIDITY PERIOD OF THE PLAN

Everyone agrees that the success of this Conference depends upon its ability to fit the requirements of the various countries into the available number of channels with the laid down technical standards. This has not been found possible so far because of the excessive projected requirements.

One reason for the excessive projected requirements is that the validity period of the plan under preparation has not so far been defined. This has resulted in unequal projections by the various countries. Some of the countries seem to have sent in projected requirements for unreasonably long periods. Apart from making the planning work impossible, this places the countries with reasonable requirements at a disadvantage compared to those countries with large projected requirements.

It is, therefore, proposed that the validity period of the plan should be defined and fixed by the Conference. Only those projected requirements should be considered which can reasonably be brought into operation during that period. The Conference may reconvene at the end of this period and review the plan afresh.

Considering the rapid pace of technical developments, it is also proposed by this delegation that this period is fixed at ten years. However, the exact period can be determined by the Conference.



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 67-E

20 October 1975

Original : Spanish

COMMITTEE 4

Spain

PROPOSALS FOR THE WORK ON PLANNING

The debates in the Plenary Meetings have shown the existence of unanimity among delegates regarding the fact that the requests submitted are incompatible with the total number of available channels, with respect to both the number of requirements and the individual and total powers asked for. As a result of this situation, and as the calculations of the I.F.R.B. show, the technical standards adopted at the First Session of the Conference and reproduced in its Report cannot be met. In particular, the usable field strength values resulting from the requirements as a whole are very different from those laid down in Chapter 9 of the Report.

The efforts at coordination undertaken so far in the Working Groups of Committee 4 show, in our view, that the situation cannot be greatly improved by bilateral negotiations or by negotiations among small groups of interested countries; what is needed is a general reconsideration of the requirements in their entirety.

In order to facilitate the work of planning and in the interests of efficiency, we propose that Committee 4 should adopt the following procedure on a trial basis :

1. Each delegation would be invited to indicate those of its requirements which provide a primary, basic coverage of its country's territory, with the minimum powers to ensure for the service areas the usable field strength values given in the Report of the First Session. This would in no way imply withdrawal of the requirements initially submitted. To obtain this primary coverage, the LF and MF bands would be considered in their entirety.
2. After some preliminary coordination, the I.F.R.B. would make a calculation of the situation resulting for this primary coverage of each country.
3. In the light of the usable field strength values obtained for the primary coverage, the delegations would indicate the additional coverage requirements of their countries.



4. The I.F.R.B. would carry out further calculations to analyze the increase in usable field strength values whenever additional coverage for the entire planning area was desired.
5. In the light of the usable field strength values obtained, Committee 4 would agree on those which should be adopted (always in accordance with the Report of the First Session) and consequently on the possible number of permissible coverage areas.

This might provide an equitable criterion for a general reconsideration of requirements, in accordance with the principles laid down in Chapter 9, point 9.1, of the Report of the First Session.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 68-E

20 October 1975

Original : English

COMMITTEE 3

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 3

(BUDGET CONTROL)

Monday, 13 October 1975, at 1700 hrs

Chairman : Mr. M.K. BASU (India)

Subjects discussed :

Document No.

- | | |
|---|------|
| 1. Terms of reference of the Budget Control Committee | DT/3 |
| 2. Budget of the Conference | 19 |
| 3. Organization of the Committee's work | - |



1. Terms of reference of the Budget Control Committee (Document No. DT/3)

The Committee noted the terms of reference contained in Document No. DT/3.

It was agreed that the Conference organization and the facilities available to the delegates were satisfactory.

2. Budget of the Conference (Document No. 19)

The Chairman drew attention to the fact that no provision was made in Document No. 19 for the use of an outside computer, since the need to rent extra computer time had not become evident until after the budget had been approved by the Administrative Council at its 30th Session.

The Vice-Chairman of Committee 4 said it was estimated that the outside computer would need to be used over a total of five week-ends during the Conference. On the basis of the information given in Document No. 19 (page 1, last paragraph), the total cost involved would be approximately 50,000 Swiss francs.

The delegate of the U.S.S.R. said that the use of an outside computer was a prerequisite for the success of the Conference. However, neither the Committee nor the Conference had the authority to decide to exceed the budget approved by the Administrative Council. The additional expenditure involved was not very great and should, if possible, be met from the budget as it now stood.

The delegate of Spain endorsed that view.

In reply to a question by the delegate of the Ukrainian S.S.R., the Secretary of the Committee said that the estimate of 10,000 Swiss francs per week-end was based on the tariff of 300 Swiss francs charged for renting one hour of computer time. During the previous week-end the outside computer had been used for 29 hours. A certain amount of travel expenditure was also involved since the nearest compatible computer was 200 km from Geneva. The Secretary-General would of course make every effort to achieve savings in the Conference budget, and it was hoped that the additional expenditure entailed by use of the outside computer would be met without exceeding the estimate approved by the Administrative Council.

The Chairman said that if he heard no objection he would take it that the Committee endorsed Committee 4's view that the outside computer would be needed for five week-ends, and recommended that every effort should be made by the General Secretariat to meet the additional expenditure involved without exceeding the budget approved by the Administrative Council.

It was so agreed.

In reply to a question by the Chairman concerning the amount to be charged to the Conference budget to cover the salaries and allowances of the permanent staff seconded to the Conference, the Secretary of the Committee said that the calculations to be made were rather complicated in the case of a conference held in Geneva. The sum of 120,000 Swiss francs mentioned in Document No. 19 (page 4, third paragraph) was an indicative estimate; a case-by-case study would subsequently be carried out to determine what percentage of his or her time each seconded staff member had spent on work connected with the Conference.

In reply to a question by the delegate of the Ukrainian S.S.R., he said that the rental charged by the C.I.C.G., which was calculated on the basis of the surface of the conference centre used by the I.T.U., amounted to 12,200 Swiss francs per day. There was no possibility of obtaining any reduction in that rate.

The delegate of Spain, referring to the provisions for production of pink and blue documents (page 6, last paragraph), said that since only two Spanish-speaking delegations were attending the Conference, it might be possible to make a modest saving by printing fewer than 300 Spanish copies.

The delegate of Australia suggested that the credit for sundry and unforeseen expenditure (page 6, section f)) might be used, at least in part, to cover the expenditure arising from use of the outside computer.

The Chairman said that the General Secretariat would take due note of those suggestions.

The Secretary of the Committee, referring to the interest to be paid on sums advanced from the ordinary budget to finance the Conference (page 7, section c)), said that the interest rate, which had been 4% when the calculations had been made, was now 3%; the amount of interest payable would therefore be considerably less than the estimate of 90,000 Swiss francs, and the saving thus made would contribute towards covering the cost of renting outside computer time.

The Chairman said that the Democratic People's Republic of Korea should be inserted between the Republic of Korea and Ivory Coast in the list contained in Annex 2. The class of contribution chosen by that country would be inserted when notified.

The Committee took note of Document No. 19.

3. Organization of the Committee's work

The Chairman said that a statement of the financial situation of the Conference would be prepared at the end of the current week, and that the Committee would therefore be able to hold its second meeting in one week's time. There did not seem to be any need to set up working groups at the present stage.

It was so agreed.

The meeting rose at 1745 hours.

The Secretary :

R. PRELAZ

The Chairman :

M.K. BASU

INTERNATIONAL TELECOMMUNICATION UNION
BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1975

Corrigendum No. 1 to
Document No. 69-E
5 November 1975
Original : English

COMMITTEE 4

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMITTEE 4

Page 2

In the intervention by the observer from the E.B.U., delete the words "from the list of documents assigned to the Committee".

Page 11

(Does not affect the English text.)

Page 12

Replace the statement by the delegate of France by the following :

"The delegate of France said that he would, at a later stage, submit information on the gain of the antennae described in the document. Those gains, which depended on the height of pylons, would be indicated for quarter-wave and half-wave pylons. If any Administration were interested, he was prepared to calculate other diagrams which might be useful for planning in specific cases. Protection of the antennae in the vertical plane depended on the height of pylons, but it was assured at least in a half-cone of the horizontal axis whose beamwidth in the vertical plane was the same as in the horizontal plane. In reply to the delegate of the U.S.S.R......"

Towards the end of the same paragraph, replace "and that 30 dB was attainable in favourable circumstances" by "and that 30 dB could be approximated in favourable circumstances".



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 69-E

20 October 1975

Original : English

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMITTEE 4

(Planning)

Friday, 10 October 1975, at 0945 hrs and at 1500 hrs

Chairman : Mr. V. ŽAGAR (Yugoslavia)

Subjects discussed :

Document No.

1. Approval of the agenda

C4-2

2. Approval of decisions on the
organization of the work of Committee 4

DL/4

3. Use of computer facilities

-

4. General discussion on LPCs

-

5. Nomination of Conveners for the Planning Groups

-

6. Review of documents assigned to Committee 4

3, 5, 6-9
20, 22, 23, 24, 31



1. Adoption of the Agenda (Document No. C4-2)

The Chairman invited delegates to approve the agenda for the meeting.

The observer from the E.B.U. asked leave to withdraw Document No. 25, submitted by his organization, from the list of documents assigned to the Committee, as it contained a number of typing errors which might give rise to misunderstandings.

The Chairman took note of that request and said that the withdrawal of Document No. 25 would be duly notified to the Plenary.

The delegate of Belgium, supported by the delegate of the Federal Republic of Germany, suggested that Document No. 31, submitted by Nigeria, should be added to the list of documents to be considered by Committee 4.

The delegate of the U.S.S.R. pointed out that it was not customary for a committee to consider documents which had not been formally referred to it by the Plenary.

The delegate of India concurred.

The Chairman said that it should be left to the Plenary at its next meeting to decide whether or not to refer the document to the Committee; meanwhile, the Committee would simply take note of it.

The agenda was adopted.

2. Approval of decisions on the organization of the work of Committee 4
(Document No. DL/4)

The Chairman said that before proceeding with the substance of its task, the Committee had to dispose of two questions, that of organization and that of the method of work to be pursued in the planning groups. The first of those two questions had been discussed at length at the Committee's first meeting and the decisions reached by consensus were set out in Document No. DL/4. He asked whether there was any objection to the system of organization outlined in that document.

The delegate of Australia said that he wished to reaffirm his delegation's concern at the organizational structure proposed in Document No. DL/4. If eleven, or possibly twelve, separate planning groups were created and only two of those groups could meet simultaneously, no group would be able to hold more than two formal meetings in any one week,

which meant that the total number of meetings of each planning group over the scheduled period of four weeks could not be more than eight. Furthermore, the problem of finding delegations prepared to supply a chairman for so many groups was bound to cause difficulties, especially as the composition of each group would be practically as large as that of the Plenary itself; and further difficulties would be caused by the number of interfaces necessarily occurring between the different groups. The work of Committee 4 could be simplified and the strain put on the resources of the smaller delegations appreciably reduced by setting up, instead of eleven or twelve planning groups, four regional groups with, possibly, a fifth to deal with interface problems. Each regional group could be further divided into three sub-groups responsible for bands of 40 channels (rather than 10), and additional sub-groups to deal with LPC and LF bands could be set up within the proposed regional structure.

The Chairman recalled that the geographical approach had been discussed at the Committee's first meeting and it had been agreed that regional groups might be organized round specific problems as they arose.

The delegates of India, France, the U.S.S.R., Iran, Czechoslovakia, Poland and Indonesia expressed themselves in favour of adopting the organization of work set out in Document No. DL/4.

The delegate of the People's Republic of China endorsed the view expressed by the delegate of Australia. Coordination of planning should be based on bilateral agreements; a regional approach would facilitate such coordination, as well as helping the smaller delegations.

The delegate of the United Kingdom remarked that nothing in the proposed method of work would prevent the discussions which the delegate of the People's Republic of China considered important. Document No. DL/4 faithfully reflected the decisions taken at the first meeting, and should be accepted.

The delegate of Australia said that, in order not to prolong the discussion, he would withdraw his suggestion.

The delegate of Liechtenstein said that, even in the absence of any formal proposal for a regional structure, he shared the Australian delegation's concern.

The method of organization set out in Document No. DL/4 was accepted.

The Chairman invited the Committee to consider the question of the method of work to be followed in the planning groups. In that connection, he drew attention to the terms of reference of Committee 4 (Document No. 30); the paragraph under "resolved" of Resolution D and paragraphs 2 and 3 under "unanimously resolves" of Resolution C (First Session); and the second and penultimate sub-paragraphs of paragraph 9.1, sub-paragraph a) of paragraph 9.2, and sub-paragraphs b) and d) of paragraph 9.2.1 of the Report of the First Session.

The delegate of Belgium remarked that if the various planning groups were to apply paragraph 3 of Resolution C, they would have to begin by replacing the frequency already being used by that of the nearest new channel; yet they had not been given precise instructions as to what power they should take into account in choosing the nearest new channel. A possible solution to the problem would be to use the powers requested subject to a certain limitation. A proposal along those lines was contained in Document No. 31, which was why he had suggested that the Committee might usefully consider that document.

The Chairman said that, in his opinion, the planning groups should proceed as follows : first, they should examine the requirements channel by channel and station by station, using the I.F.R.B. documents; then, identify incompatibilities; then, on the basis of agreed technical criteria, specify possible improvements, bearing in mind Recommendation AA and Chapter 9 of the Report of the First Session. After appropriate coordination among the various groups, a report pinpointing the outstanding problems could then be drafted for the Plenary by the end of the following week.

The delegate of Nigeria, supporting the Belgian delegate's comments, said that advantage had been taken of the obvious loophole in Resolution C, paragraph 3, to submit a large number of frequency requirements. To move from powers as low as 1 kW, or at the most 10 kW, to new channels with powers in the neighbourhood of 1 000 kW was unlikely to result in the improved plan desired. Unless a power ceiling were established, the replacement of existing frequencies by the nearest new channels would leave no room for further new services, so that developing countries, whose territories had so far received only limited coverage, would suffer. Nigeria, whose coverage was no more than 30 per cent, wished to be fully covered, as no doubt did most African and Asian countries. Power limits should therefore be established.

The delegate of Spain supported the Chairman's summing up. The plenary meeting had unanimously agreed that the working groups should begin their work urgently and that the problem to which the Nigerian delegate had just referred, and which was common to all regions, should be the subject of a rapid survey by Committee 4 with a view to the early submission of proposals to Plenary. The study should be carried out by groups of frequencies and the situation summed up for each group.

The delegate of the Netherlands said that a solution must be found which would satisfy the maximum number of requests in the plan. There were many factors interfering with good planning. Some time would have to be devoted to discussion of the need to limit maximum power. Goodwill on the part of all delegations would be required to achieve the best possible results.

The delegate of Dahomey supported the Nigerian and Belgian delegates' comments. Both regional and interregional discussions should be held on the subject. Certain emissions from countries already possessing powerful MF transmitters interfered considerably with his country's broadcasts. A reasonable power ceiling should be established so that the quantity and quality of MF broadcasts in countries suffering from such conditions could be improved. It was the Committee's duty to submit specific proposals on the subject to the Plenary.

The delegate of Belgium, referring to the Chairman's comments on the methods of work of the working groups, said that, while he shared the desire that they should begin their work as quickly as possible, it was essential to ensure that they were given the right basis on which to carry out useful work. It was necessary to apply Resolution C, paragraph 3, but he agreed with the delegates of Nigeria and Dahomey that there should be a power ceiling. His delegation could make a specific proposal on the level of such a ceiling if the Committee so desired.

The delegate of Zambia supported the Belgian delegate's comments. The application of Resolution C, paragraph 3, in conjunction with Document No. 31, would provide a working basis. Document No. 31 accorded with the resolutions in the African Plan. The requirements of the African countries, which already had an insufficient number of channels, were increasing. Existing requirements should first be fully satisfied and the additional ones should then be considered separately to see which of them could be accommodated later.

The delegate of Mauritania supported the Nigerian delegate's remarks. His delegation attached great importance to the reference in Resolution C, paragraph 3, to existing frequencies. It had been shown that the existing coverage of developing countries was extremely low. The African countries should not be expected to relinquish the minimal coverage they had already achieved and the Conference should not set aside the frequencies in the 1966 African Plan without giving the matter serious thought.

The delegate of Norway supported the general principles outlined by the Chairman as guidance for the planning groups. His delegation fully agreed that escalation of power was undesirable if used competitively. If a certain land area of reasonable size was to be given, say, one unit of coverage, the most economical method, taking into consideration the cost of running, maintenance and input power, would be to use a few fairly large

transmitters. The total interference caused by such transmitters to countries outside the coverage area would be no greater than that which would be caused by a larger number of medium-sized transmitters. The use of such a planning principle should logically lead to a reduction in the number of assignments. His delegation could not agree that a maximum power figure should be fixed at the present stage with no regard to the number of assignments. The two factors should be considered in conjunction by the planning groups. The first planning objective might be to give each country a one-unit coverage, after which further steps might be considered depending on its results.

The delegate of Yugoslavia said that, since the plenary meeting had adopted the principles contained in the Report of the First Session of the Conference and the Committee's terms of reference, it was the latter's duty to apply them and to come to grips with the basic problems in the I.F.R.B. list. The working groups should first identify and list the problems, which should then be given specific attention by the Committee.

The delegate of Spain supported the Yugoslav and Norwegian delegates' statements.

The delegate of Belgium, replying to the Mauritanian delegate's remarks, pointed out that it had already been agreed at the first session of the Conference that the frequencies in the African Plan should be retained.

Approximately 10,000 requirements had been submitted and it would be impossible for the working groups to work effectively on the basis of such a number. A start should be made by applying Resolution C, paragraph 3, with the proposed power limitation. The safeguard clause in Document No. 31 was valid for the African countries. There could be a similar clause to except cases where more powerful equipment was already in use in respect of the European area. A recommendation to limit increased power would facilitate the work of the working groups. The levels adopted might reasonably vary from region to region. A suitable level for the European region might be 600 kW; delegations of the other regions should make their own proposals.

The Chairman drew attention to the conclusion of the Plenary Meeting that the actual planning work should start at the beginning of the following week. That conclusion had not been opposed, and it had been unanimously agreed that the planning groups should base their work on the Report of the First Session, but that additional papers, such as Document No. 31, should also be taken into account. Moreover, at the first meeting of Committee 4 the Pakistani delegation had requested the

I.F.R.B. to prepare a list of all transmitters with a power in excess of 100 kW. To expedite the Conference's work, he proposed that the Committee should take note of all the views expressed during the debate and should entrust the Coordination Group which would be set up when the Conveners had been nominated with the task of preparing a document for Committee 4 on the way in which the groups should proceed in the light of the debates in Plenary and in the Committee. The current debate could thus be closed, and Committee 4 could begin to consider the next item on its agenda.

The delegates of Sweden, Pakistan, Australia and the Federal Republic of Germany pointed out that not only the problem of individual high-power transmitters, but that of the aggregate power of transmitters listed in the requirements was involved. That problem, including the possible use of directional antennae with lower power transmitters, had not been sufficiently discussed in the Committee itself. Moreover, there was a danger that the ten groups might adopt widely differing directions of work unless they had precise guidelines from the Committee.

The delegates of Algeria, the U.S.S.R., New Zealand, Czechoslovakia, Tunisia, the Byelorussian S.S.R., India, the German Democratic Republic, Poland and the United Kingdom supported the Chairman's proposal. A long discussion on hypothetical problems in the Committee might prove to be totally unnecessary, since the real problems would not emerge until they had been discussed in the groups. Where the aggregate power was concerned, it should be borne in mind that the requirements were merely proposals and were subject to reduction. Until they had been examined by the groups, it would be unrealistic for the Committee to give those bodies any instructions which might impair their necessary flexibility.

The Chairman observed that the document to be prepared by the Coordination Group should be produced fairly soon, before the groups would have had time to engage too deeply in work along lines which the Committee might regard as incorrect.

In the absence of objections, the Chairman's proposal was approved.

The meeting was suspended at 1235 hours and resumed at 1500 hours.

3. Use of computer facilities (Document No. 34)

The delegate of New Zealand said that, following discussions earlier in the week, his delegation had proposed a technique to speed up the work of the planning groups by reducing detail in the computer readouts.

The Chairman of the I.F.R.B. said that the Board had studied the question and proposed that the interfering field should be calculated at the site of the wanted transmitter taking into account the sea-gain only at the site of the interfering transmitters.

The results could be presented by indicating the reference number of the wanted transmitter, its frequency and the country symbol, followed by columns giving similar indications for six interfering transmitters and the contribution of each to the interference.

For each wanted transmitter, one line could give the value of interference by day and one line that by night. The figures for night would be calculated for a ground wave protection ratio of 30 dB; if an administration required values vis à vis the sky wave, the protection ratio must be reduced by 3 dB.

The I.F.R.B. had developed a curve which, when the values of the interfering fields from the first and second interfering transmitters were known, gave the usable field strength.

With these simplifications, computer time could be reduced to approximately 20 minutes per channel, i.e. indications could be supplied for two working groups per day. The possibility of making further reductions which might enable information to be provided for three working groups per day was under study.

He stressed that the results so obtained would give reasonable approximations which, however, did not take into account all the elements envisaged by the First Session.

In reply to the delegate of Papua New Guinea, he said that, while specific cases could be handled, calculations relating to all requirements showing service area by sky wave would increase computer time considerably.

The New Zealand proposal was supported by the delegates of the United Kingdom, India, Italy and France. The latter considered, however, that there should also be a complete calculation between the two which it had been agreed should be carried out at the beginning and towards the end of the Conference.

After a discussion in which the delegates of Algeria, Italy, the Netherlands, Belgium and the United Kingdom took part, it was agreed to submit a proposal to Committee 3 based on four weekly complete calculations in addition to the daily calculations.

4. General discussion on low power channels (LPCs)

The Chairman recalled that the first session had envisaged the setting aside of a certain number of LPCs for exclusive use by stations with a power of 1 kW or less.

It would be necessary for the Conference to decide :

- whether the LPCs were in fact to be exclusive or not,
- how many there should be,
- in which frequency bands and on what specific frequencies they should be.

The delegate of the Federal Republic of Germany, while conceding, as the United Kingdom delegate had pointed out, that every channel reserved for low power stations was lost for other purposes, said that such stations must be taken into account and that the concept of LPCs would facilitate planning by enabling administrations to add stations at a later stage as the need became apparent. In his view, the channels to be reserved for LPCs should preferably be those already carrying low power stations and consideration might be given to the use of the two international common frequencies reserved by the Copenhagen European Broadcasting Area Conference and the 1966 African Broadcasting Area Conference. However, in view of the difficulties of determining the exact number and location of channels, it would be wise to set up a working group on the subject.

The delegate of Sweden endorsed those views, saying that the possibility of using LPCs would reduce the pressure for higher powered transmitters. He advocated 2 to 4 channels in the higher part of the spectrum for the purpose.

The delegate of Australia agreed with the view expressed by the United Kingdom delegate on the setting aside of specific channels for LPCs. His Administration already used every channel and existing LP services were already allocated to channels throughout the band. He drew attention to Annex 2 to Appendix G in the Report of the First Session (page 93), which proposed the use of the coordination distance principle in the planning of stations by administrations on a negligible interference basis. That principle might be a useful alternative to the setting aside of specific channels for LPCs, which could lead to undue restriction of the channels available.

The U.S.S.R. delegate said it was clear that members of the Conference had very different approaches to the question of LPCs. On the assumption that countries might wish to use LPCs in future, he suggested that the I.F.R.B. should analyse the situation in respect of the various countries but he considered it premature, at the present stage, to set up a working group on LPCs.

The delegate of Albania said the reservation of channels for LPCs was very important to those countries which did not have the financial means to install high powered transmitters, and proposed that three channels should be reserved for them.

The delegate of the German Democratic Republic said that since no specific channels had been set aside as LPCs by the First Session, a number of low power stations were now operating on various frequencies. He believed the planning groups would succeed in allocating frequencies to those stations which did not yet have one and there was no need to set up a working group on LPCs for the moment.

The delegates of Italy, India, Belgium, Spain and Japan favoured the setting up of a working group to discuss the complex question of LPCs and report back to the Committee as soon as possible.

The Chairman proposed the establishment of a working group with limited powers to investigate requests for LPCs and study the subject on the basis of the Report of the First Session, including the possibility of using the coordination distance principle as an alternative, and to report back to the Committee by the evening of Wednesday, 15 October.

It was so agreed.

The Chairman of the I.F.R.B. drew attention to certain disparities in requests for LPCs submitted by various administrations which would complicate the work of the newly established working group and invited the delegations concerned to communicate the necessary modifications to the Technical Secretary of the Conference. Precise indications of requirements emerging from the working group would alter the work loads of the various planning groups, and it was essential for the working group to complete its task before the end of the week in order to facilitate the Conference's work.

5. Nomination of Conveners for the planning groups

The Chairman invited nominations for twelve Conveners, ten for the planning groups for the MF band, one for the planning group for the LF band and one for the working group on LPCs.

The United Kingdom delegate nominated, on behalf of the Western European region, Mr. Loenberg (Denmark), Mr. Olms (Federal Republic of Germany) and Mr. Grimstveit (Norway).

The Bulgarian delegate nominated, on behalf of the Eastern European region, Mr. Joachim (Czechoslovakia), preferably to LF group, Mr. Kalita (Poland) and Mr. Kalinine (U.S.S.R.).

The delegate of Singapore nominated, on behalf of the Asian region, Mr. Fadami (Iran), Mr. Shepherd (Australia) and Mr. Quintos (Philippines).

The delegate of Cameroon nominated, on behalf of the African region, Mr. Kalisilira (Zambia), Mr. Diallo (Guinea) and Mr. Ben Youssef (Tunisia).

Those nominations were approved.

The Technical Secretary outlined the way in which the planning groups would tackle their work, and the Chairman said Conveners would be assigned to specific groups at a meeting of the Coordination Group the following day.

6. Review of documents assigned to Committee 4 (Documents Nos. 3, 5, 6-9, 20, 22, 23, 24 and 31)

Documents Nos. 3 and 6-9 (Frequency requirements)

Noted.

Document No. 5 (Proposals for the work of the Conference - State of Israel)

The Chairman invited the delegate of Israel to introduce his document. The delegate of Israel said that that was unnecessary as the document was self-explanatory. As certain delegations were not in the possession of the document, the Chairman proposed to postpone the discussion.

It was so agreed.

Document No. 20 (Directional antennae - France)

The delegate of France said that the following week he would submit additional information on the absolute gain of the antennae described, further diagrams which might be useful for the planning work and vertical diagrams for different heights of pylon. As far as protection was concerned, there was no problem with half-wave pylons as the diagrams provided considerable protection over a large area; it could be accepted that protection in the horizontal plane was the same as in the vertical plane. In reply to the delegate of the U.S.S.R. who said that a gain of 30 dB was rarely obtained in practice, he admitted that the diagrams were theoretical but there was a paragraph on page 4 (possible designs and adjustments) which indicated results obtained in practice. Other results were shown which corresponded to attenuation of between 20 and 25 dB. The delegate of France drew attention to the final paragraph on page 5 stating that protection of 20 dB was no problem in an average terrain and that 30 dB was attainable in favourable circumstances. In practice, 20 dB meant that the radiation of a 100 kW transmitter was reduced in the sector considered to 1 kW which was a considerable factor in the reduction of interference.

Documents No. 22 and 23 (Computer programmes and emission bandwidths - European Broadcasting Union)

Noted.

Document No. 24 (Sky wave service presentation of situation - Papua New Guinea)

The delegate of Papua New Guinea was surprised that other small administrations were not more interested in the type of service described in the document as many of them must be attempting to provide a service by sky wave with low power transmitters. He thought that the question might arouse more interest in the smaller planning groups.

Document No. 31 (Proposal for the work of the Conference - Nigeria)

In view of the decisions made with regard to the document under item 1 of the agenda, at the Chairman's suggestion, it was agreed to postpone discussion.

The meeting rose at 1750 hours

The Secretary :

K. ČOMIĆ

The Chairman :

V. ŽAGAR

INTERNATIONAL TELECOMMUNICATION UNION

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 70-E

20 October 1975

Original : French

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

At the request of the Head of the Delegation of Tunisia, a statement addressed to the Chairman of Committee 4 is attached hereto.

V. ŽAGAR

Chairman of Committee 4

Annex : 1



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A N N E X

I.T.U.
Broadcasting Conference
(2nd session)
G E N E V A 1975

Tunisia

STATEMENT BY THE TUNISIAN DELEGATION
ON PLANNING PRINCIPLES

At the Conference of Non-Aligned Countries which met at Lima in August 1975, Tunisia had the honour of being entrusted with the task of ensuring coordination among these countries in matters relating to information and broadcasting.

Consequently, the Tunisian delegation, desiring to express the views of all non-aligned countries represented at this Conference, would recall to this august assembly certain principles essential for cooperation and peace among peoples and particularly indispensable for a fair sharing of frequencies among all countries :

If a plan of broadcasting frequencies satisfactory for all countries is to be prepared, it is essential :

- 1) that the principle of equality among all countries, large and small should be respected;
- 2) that in accordance with the decisions adopted at the 1st Session of the Conference, priority should be given to the needs of the developing countries;
- 3) that the I.T.U. should be asked not to register frequencies on behalf of a colonial or aggressor country in a territory colonized or illegally occupied by force;
- 4) that in view of the difficulty of meeting all the requirements of the various administrations, the problem of a transmitter installed by a country in other regions or other countries should be considered.

The Tunisian delegation requests that this statement be brought to the knowledge of the Plenary Assembly.

(signed) S. HADIJI
Deputy Chief
of the Tunisian Delegation

INTERNATIONAL TELECOMMUNICATION UNION
BROADCASTING CONFERENCE
(SECOND SESSION) GENEVA, 1975

Document No. 71-E(Rev.1)
12 November 1975
Original : French

COMMITTEE 5

SUMMARY RECORD
OF THE
SECOND MEETING OF COMMITTEE 5
(AGREEMENT)

Monday, 13 October 1975, at 0930 hrs

Chairman : Mr. A. PETTI (Italy)

Subjects discussed :

Document No.

1. Continuation of general discussion on the content of the Agreement

35 and 37
DT/7(Rev.1)

2. Organization of the Committee's work

DT/8(Rev.1)/9/10



1. Continuation of the general discussion on the content of the Agreement
(Documents Nos. 35, 37, DT/7(Rev.1))

The Chairman invited the delegates of Mauritania and the United Kingdom to introduce Documents Nos. 35 and 37 respectively.

The Chairman of the I.F.R.B. wondered whether Document No. 37, on the abrogation of the Copenhagen Convention, did not raise a problem with regard to the powers of delegations participating in the Conference. If the United Kingdom proposal were taken into consideration and adopted, it would be imperative for delegations to be given the necessary powers by their respective Governments to abrogate the Copenhagen Convention. It might be useful for the Document in question to be studied by the Credentials Committee.

The U.S.S.R. delegate considered that the scope of Document No. 37 exceeded the competence of the Credentials Committee and that, because of its importance, it should rather be studied in Plenary Meeting.

The delegate of India thought that the Document could be considered in the near future by the Credentials Committee, which should be informed of it by the Plenary Meeting. Only then should Committee 5 have to discuss it, on the basis of all the relevant factors.

The Chairman of the Conference felt that abrogation of the Copenhagen Convention was not within the competence of the Credentials Committee and he suggested that an Ad Hoc Group be set up to study the question and submit its conclusions either in Plenary Meeting or preferably, in order to save time, to Committee 5, which would then report on the subject to the Plenary.

The delegate of the United Kingdom supported the latter solution.

The Deputy Secretary-General pointed out that the Copenhagen Convention could be abrogated - by agreement between the contracting parties, even if some formalities could only be completed after the present Conference.

The Chairman of the I.F.R.B. wished to draw the Committee's attention to the fact that the date of abrogation of the Copenhagen Convention should coincide with the date of entry into force of the Agreement which would be adopted by the Conference, otherwise the I.F.R.B. could not apply the provisions of No. 505 of the Radio Regulations as there would be two agreements in force.

The Chairman noted that there was a general consensus with regard to the establishment of an Ad Hoc Group to deal with the problem of abrogation of the Copenhagen Convention. It was therefore agreed that the Group would be constituted during the meeting, at the time of discussion of agenda item 2.

Document No. DT/7(Rev.1) was the subject of an exchange of views which showed it to be acceptable. It was, however, understood that the list of constituent elements of the Final Acts of the Conference could be supplemented as necessary in the course of examination.

The delegate of Algeria asked for No. 607 of the Radio Regulations, referred to in sub-paragraph c) of Document No. DT/7(Rev.1) to be read :

"Any frequency assignment which bears a date in Column 2a of the Master Register shall have the right to international protection from harmful interference".

He recalled that the First Session had agreed to the principle of not giving priority to the frequencies appearing in the Master International Frequency Register, basing itself on the principle that the Conference was called upon to draw up a new Plan in which all assignments should have equal status. Many countries were handicapped due to the fact that they were late arrivals on the international scene and had been unable to give prior notification of their frequency requirements for recording in the Master Register. Reference to No. 607 of the Regulations would therefore amount to an infringement of the rights of most developing countries.

The Chairman of the I.F.R.B. said that sub-paragraph c) and the reference to No. 607 of the Radio Regulations were not at all intended to question the decisions of the First Session but to draw attention to the need of taking decisions on the rights and obligations to appear in the Plan. Document No. DT/7(Rev.1) did not concern assignments included at present in the Master Register but assignments which would appear in the Plan. The Conference therefore had the task of determining all the rights and obligations of every assignment which would be included in the Plan.

The delegate of Pakistan fully shared the opinion expressed by the delegate of Algeria. He considered that the question raised was of capital importance and, in his opinion, there could be no question of ratifying the existing status of assignments in the Master Frequency Register. He considered that the principle "first come, first served" should be resolutely put aside and that the fundamental principle of equal rights for all countries, which had often been reaffirmed during the First Session of the Conference, must be defended.

The delegates of China, Indonesia, Mauritania, Egypt and Turkey supported the statements of the delegates of Algeria and Pakistan.

Summarizing, the Chairman stated that the Committee and its Working Groups should take due account of the principle of equality among the assignments to appear in the Plan, and of the conclusions and decisions of the First Session of the Conference.

2. Organization of the work of the Conference (Documents Nos. DT/8, DT/9 and DT/10)

The Chairman introduced briefly the above-mentioned documents explaining that because of the large number of Working Groups set up by Committee 4, it was proposed to have only three Working Groups for Committee 5 in order to make the work of delegations and of the Conference secretariat easier.

Document No. DT/9, in which Document No. 34 of the First Session was reissued, was a text circulated to delegates for consultation and Document No. DT/10 should be used as an aide-mémoire as for a fuller idea of the summaries it contained it was necessary to refer to the text of the original Agreements namely : the European Broadcasting Convention, Copenhagen 1948, the European Broadcasting Agreement, Stockholm, 1961, and the African Broadcasting Agreement, Geneva, 1966.

Document No. DT/8

Following a proposal by the United Kingdom delegate, it was decided to add after the word "Agreement" in the first line of the terms of reference of Working Group C, the words "including the status and validation".

The Chairman pointed out that Document No. DT/8 should also mention the Ad Hoc Group which had been discussed earlier in the meeting and suggested that the terms of reference of that Group should be : "Abrogation of previous convention and agreement".

That proposal was approved as was Document No. DT/8 with the addition made by the United Kingdom delegate.

On the proposal of the Chairman and with the assent of the delegations concerned, it was agreed that the Chairmen of the various Working Groups should be as follows :

Working Group 5A : Mr. M. LO (Mauritania)

Working Group 5B : Mr. R. BINZ (Federal Republic of Germany)

Working Group 5C : Mr. S.Y. CHONG (Malaysia).

The Chairman said that in view of the terms of reference of the Ad Hoc Group it would be desirable for it to consist of delegates from countries in the European broadcasting area, for example Denmark, United Kingdom, Czechoslovakia and U.S.S.R. The I.T.U. General Secretariat would, of course, also participate in the work to provide legal advice on the questions under consideration. The Vice-Chairman of Committee 5, Mr. D. AITHNARD (Togolese Republic) should also be included.

At the request of the delegates of France and Libya, it was decided to add those two countries to the list given by the Chairman, which was approved by the Committee.

At the Chairman's invitation, the United Kingdom delegation accepted the chairmanship of the Ad Hoc Group which would be undertaken by Mr. A.O. CARTER.

In reply to a question by the United Kingdom delegate, the Chairman explained that at the conclusion of their deliberations, the various Groups just set up would submit texts for consideration by the Committee and approval by the Plenary with a view to their publication in the Final Acts of the Conference.

The Working Groups should complete their work by 31 October 1975 at the latest so that the texts they had produced could be studied by the Committee during the first week of November.

Working Group 5A must give priority to the item on the data relating to a frequency assignment to be included in the Plans, since that data was also necessary to the work of Committee 4.

Document No. DT/10

The Chairman of the I.F.R.B. drew delegates' attention to the fact that Document No. DT/10 contained only very brief summaries of legal texts and did not, for instance, make any reference to the Agreement concluded by the African VHF/UHF Broadcasting Conference, Geneva, 1963, which represented an improved version of the Stockholm Agreement (1961). Moreover Document No. DT/10 reproduced only one of the two procedures included in the Stockholm Agreement (1961).

The Chairman emphasized once more that that document contained only very concise data and that for all supplementary information reference should be made to the original Agreements of the various Conferences concerned.

The meeting rose at 1135 hours.

The Secretaries :

R. PLUSS
R. MACHERET

The Chairman :

A. PETTI

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 71-E

20 October 1975

Original : French

COMMITTEE 5

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMITTEE 5

(AGREEMENT)

Monday, 13 October 1975, at 0930 hrs

Chairman : Mr. A. PETTI (Italy)

Subjects discussed :

1. Continuation of general discussion on the
content of the Agreement

2. Organization of the Committee's work

Document No.

35 and 37
DT/7(Rev.1)

DT/8(Rev.1)/9/10



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(Documents Nos. 35, 37, DT/7(Rev.1))

The Chairman invited the delegates of Mauritania and the United Kingdom to introduce Documents Nos. 35 and 37 respectively.

The Chairman of the I.F.R.B. wondered whether Document No. 37, on the abrogation of the Copenhagen Convention, did not raise a problem with regard to the powers of delegations participating in the Conference. If the United Kingdom proposal were taken into consideration and adopted, it would be imperative for delegations to be given the necessary powers by their respective Governments to abrogate the Copenhagen Convention. It might be useful for the Document in question to be studied by the Credentials Committee.

The U.S.S.R. delegate considered that the scope of Document No. 37 exceeded the competence of the Credentials Committee and that, because of its importance, it should rather be studied in Plenary Meeting.

The delegate of India thought that the Document could be considered in the near future by the Credentials Committee, which should be informed of it by the Plenary Meeting. Only then should Committee 5 have to discuss it, on the basis of all the relevant factors.

The Chairman of the Conference felt that abrogation of the Copenhagen Convention was not within the competence of the Credentials Committee and he suggested that an Ad Hoc Group be set up to study the question and submit its conclusions either in Plenary Meeting or preferably, in order to save time, to Committee 5, which would then report on the subject to the Plenary.

The delegate of the United Kingdom supported the latter solution.

The Deputy Secretary-General pointed out that the Copenhagen Convention could be abrogated - by agreement between the contracting parties, even if some formalities could only be completed after the present Conference.

The Chairman of the I.F.R.B. wished to draw the Committee's attention to the fact that, at the date of entry into force of the Agreement which would be adopted by the Conference, there could be only one agreement in force, and not two simultaneously.

The Chairman noted that there was a general consensus with regard to the establishment of an Ad Hoc Group to deal with the problem of abrogation of the Copenhagen Convention. It was therefore agreed that the Group would be constituted during the meeting, at the time of discussion of agenda item 2.

Document No. DT/7(Rev.1) was the subject of an exchange of views which showed it to be acceptable. It was, however, understood that the list of constituent elements of the Final Acts of the Conference could be supplemented as necessary in the course of examination.

The delegate of Algeria asked for No. 607 of the Radio Regulations, referred to in sub-paragraph c) of Document No. DT/7(Rev.1) to be read :

"Any frequency assignment which bears a date in Column 2a of the Master Register shall have the right to international protection from harmful interference".

He recalled that the First Session had agreed not to take into consideration the frequencies appearing in the Master International Frequency Register, basing itself on the principle that the Conference was called upon to draw up a new Plan in which all assignments should have equal status. Many countries were handicapped due to the fact that they were late arrivals on the international scene and had been unable to give prior notification of their frequency requirements for recording in the Master Register. Reference to No. 607 of the Regulations would therefore amount to an infringement of the rights of most developing countries.

The Chairman of the I.F.R.B. said that sub-paragraph c) and the reference to No. 607 of the Regulations related to the decisions to be taken on the rights and obligations to appear in the Plan. Document No. DT/7(Rev.1) did not concern assignments included at present in the Master Register. The Conference therefore had the task of determining all the rights and obligations of every assignment which would be included in the Plan.

The delegate of Pakistan fully shared the opinion expressed by the delegate of Algeria. He considered that the question raised was of capital importance and, in his opinion, there could be no question of ratifying the existing status of assignments in the Master Frequency Register. He considered that the principle "first come, first served" should be resolutely put aside and that the fundamental principle of equal rights for all countries, which had often been reaffirmed during the First Session of the Conference, must be defended.

The delegates of China, Indonesia, Mauritania, Egypt and Turkey supported the statements of the delegates of Algeria and Pakistan.

Summarizing, the Chairman stated that the Committee and its Working Groups should take due account of the principle of equality among the assignments to appear in the Plan, and of the conclusions and decisions of the First Session of the Conference.

2. Organization of the work of the Conference (Documents Nos. DT/8, DT/9 and DT/10)

The Chairman introduced briefly the above-mentioned documents explaining that because of the large number of Working Groups set up by Committee 4, it was proposed to have only three Working Groups for Committee 5 in order to make the work of delegations and of the Conference secretariat easier.

Document No. DT/9, in which Document No. 34 of the First Session was reissued, was a text circulated to delegates for consultation and Document No. DT/10 should be used as an aide-mémoire as for a fuller idea of the summaries it contained it was necessary to refer to the text of the original Agreements namely : the European Broadcasting Convention, Copenhagen 1948, the European Broadcasting Agreement, Stockholm, 1961, and the African Broadcasting Agreement, Geneva, 1966.

Document No. DT/8

Following a proposal by the United Kingdom delegate, it was decided to add after the word "Agreement" in the first line of the terms of reference of Working Group C, the words "including the status and validation".

The Chairman pointed out that Document No. DT/8 should also mention the Ad Hoc Group which had been discussed earlier in the meeting and suggested that the terms of reference of that Group should be : "Abrogation of previous convention and agreement".

That proposal was approved as was Document No. DT/8 with the addition made by the United Kingdom delegate.

On the proposal of the Chairman and with the assent of the delegations concerned, it was agreed that the Chairmen of the various Working Groups should be as follows :

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The Chairman said that in view of the terms of reference of the Ad Hoc Group it would be desirable for it to consist of delegates from countries in the European broadcasting area, for example Denmark, United Kingdom, Czechoslovakia and U.S.S.R. The I.T.U. General Secretariat would, of course, also participate in the work to provide legal advice on the questions under consideration. The Vice-Chairman of Committee 5, Mr. D. AITHNARD (Togolese Republic) should also be included.

At the request of the delegates of France and Libya, it was decided to add those two countries to the list given by the Chairman, which was approved by the Committee.

At the Chairman's invitation, the United Kingdom delegation accepted the chairmanship of the Ad Hoc Group which would be undertaken by Mr. A.O. CARTER.

In reply to a question by the United Kingdom delegate, the Chairman explained that at the conclusion of their deliberations, the various Groups just set up would submit texts for consideration by the Committee and approval by the Plenary with a view to their publication in the Final Acts of the Conference.

The Working Groups should complete their work by 31 October 1975 at the latest so that the texts they had produced could be studied by the Committee during the first week of November.

Working Group 5A must give priority to the item on the data relating to a frequency assignment to be included in the Plans, since that data was also necessary to the work of Committee 4.

Document No. DT/10

The Chairman of the I.F.R.B. drew delegates' attention to the fact that Document No. DT/10 contained only very brief summaries and did not, for instance, make any reference to the Agreement concluded by the African VHF/UHF Broadcasting Conference, Geneva, 1963, which represented an improved version of the Stockholm Agreement (1961). Moreover Document No. DT/10 reproduced only one of the two procedures adopted at the 1961 Conference.

The Chairman emphasized once more that that document contained only very concise data and that for all supplementary information reference should be made to the original Agreements of the various Conferences concerned.

The meeting rose at 1135 hours.

The Secretaries :

R. PLUSS
R. MACHERET

The Chairman :

A. PETTI

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Corrigendum No. 1 to

Document No. 72-E

29 October 1975

Original : English

PLENARY MEETING

MINUTES OF THE THIRD PLENARY MEETING

Page 3

Delete the intervention of the delegate of China and replace

by :

"The delegate of China made the statement reproduced in the Annex."

The Annex is attached hereto.

Annex : 1



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. A N N E X

SPEECH BY THE HEAD OF THE CHINESE DELEGATION

Mr. Chairman,

We are glad to see that under your chairmanship the Plenary has completed the work of examining the report of the first session. We hold that the report of the first session was a result attained by the majority of participant countries, and particularly the developing countries in Asia and Africa, through mutual cooperation and solidarity and through common struggles. The adoption of this Report has made a good beginning for the Conference.

Mr. Chairman,

It may be recalled that at the beginning of the first session, a super power stated that the assignments recorded in the Master International Frequency Register should be made the basis for broadcasting planning, advocating the hegemonic principle of "first come, first served". On the eve of last year's session, this super power suddenly registered a great number of LF and MF frequencies in a vain attempt to force the conference to recognize the fait accompli. But contrary to its wish, its attempt could not succeed before the victory of the developing countries in their struggle against restriction and hegemonism.

Having established a flattering image, this super power now came out again to advocate that our second session had begun its work in an atmosphere in which "tense international situation tends towards détente". It also lauded the European Security Conference to the sky, saying that the so-called "achievements" of that conference will exert a favourable influence on our current session. This is to associate matters which have nothing to do with each other. How ridiculous! Rhetoric about détente cannot cover up the stark reality. What security, let alone détente, is there to speak of when Europe remains in the prolonged state of tense armed confrontation? While chanting "peace and security" in the conference hall, this super power made moves to aggravate tension outside. It not only concentrated massive military forces and carried out unbridled provocations in the seas of northern Europe and the Mediterranean, but also brazenly stretched its tentacles to the Iberian Peninsula. Such deeds of expansion coupled with words of détente are a huge mockery of European Security Conference.

Mr. Chairman,

Our conference is about to start the work of coordinating frequency planning and this is an arduous job. In a spirit of cooperation and friendly consultation and in line with the principles established in the report of the first session, i.e. that all countries large and small have equal rights, the Chinese delegation is ready to continue its efforts together with other delegates to make our conference a success.

Thank you Mr. Chairman.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 72-E
20 October 1975
Original : English

PLENARY MEETING

MINUTES

OF THE

THIRD PLENARY MEETING

Thursday, 9 October 1975, at 0930 hrs and at 1515 hrs

Chairman : Mr. D.C. ROSE (New Zealand)

Subjects discussed :

Document No.

1. Report of the Ad hoc Group PLEN-A
2. Organization of the work of the Conference (further discussion)
3. Statements by the delegates of Jordan, Morocco and Mauritania

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1. Report of the Ad hoc Group PLEN-A (Document No. 33)

The Chairman of the Group referred to the conclusions of PLEN-A on the three items mentioned in the Report.

As regards the excess polarization-coupling loss L_p , it had been agreed to maintain the rules laid down in the Report of the First Session, although France had drawn attention to the fact that in certain cases L_p might be much less than predicted.

Since the Australian proposals in Document No. 17 and its Addendum regarding the skywave propagation curve for Region 3 South of 11°S had proved unacceptable to the Group, the Australian delegation had suggested to its Administration the withdrawal of Document No. 17, but no reply had so far been received.

On the third point, the main consideration of Mauritania had been to have a lower value for the nominal usable field strength. In this respect it was agreed that it would be simpler if Mauritania were to be considered as lying wholly in noise zone A instead of partly in zones A and B.

The Chairman pointed out that final decisions on technical parameters had to be taken by noon and asked for comments on the three points in the Report. Points 1 and 3 were adopted without comment.

The delegate of Australia reaffirmed his concern regarding the question of the skywave propagation curve for Region 3 south of 11°S . Australia was looking not for a scientific breakthrough but for practical means for the Conference to plan for a 10, 20 or even 30-year period. The conciliatory move his delegation had made did offer a practical solution but there had been no support.

The Chairman drew attention to the fact that Document No. 17 and its Addendum contained a formal Australian proposal on the subject. In the absence of support for that proposal he ruled that it lapsed and that equation 13 in Appendix B to the Report of the First Session would therefore apply.

2. Organization of the work of the Conference (further discussion)

The delegate of the U.S.S.R. recalled his remarks at the first Plenary meeting regarding the necessity for the Conference to take into account the requirements of certain sovereign States. The interests of new and developing countries must be safeguarded by the Union and by the General Secretariat and he asked what steps had been taken by the Secretary-General in that respect.

The Secretary-General said that the countries in question could be divided into three categories :

- a) Laos, the Khmer Republic and the Republic of Vietnam, to which reminder telegrams had been sent in August since they had not replied to the invitation to attend the Conference;
- b) The People's Democratic Republic of Korea - the latest Member of the Union - the attention of which had been drawn to the importance of the Conference and which was expected to forward requirements in the near future;
- c) The Democratic Republic of North Vietnam, which so far was not a Member of the Union. Their representative at the United Nations had however expressed interest in the work of the Union and the Deputy Secretary-General, when in New York, had discussed with the Assistant Director of their Foreign Office ways and means of providing information to the Conference.

The delegate of China was pleased that the Plenary had completed examination of the Report of the First Session, the results of which were attained by the majority of participant countries, and in particular by the developing countries in Asia and Africa through mutual cooperation and solidarity and through common struggles.

He recalled that at the beginning of the First Session a "super power" had stated that assignments recorded in the Master International Frequency Register should be used as the basis for broadcasting planning, advocating the principle of "first come, first served". That attempt was however defeated by the developing countries in their struggle against restriction and hegemony.

The Conference was about to start the work of coordinating frequency planning which was an arduous task. In line with the principle established in the Report of the First Session that all countries, big and small, had equal rights, the Chinese delegation was ready to continue its efforts together with other delegates to make the Conference a success.

The delegate of Belgium pointed out that Committee 4 had constituted a number of working groups each dealing with a part of the spectrum, but the work of those groups would need to be harmonized. However, there were a number of points which perhaps should be settled initially in plenary.

For example, operative paragraph 3 of Resolution C adopted by the First Session referred to the replacement of a frequency already being used by the frequency of the nearest new channel and to negotiations between

Administrations concerning subsequent changes, but no reference was made to changes in power, which could have far-reaching effects. A power-race must be avoided at all costs and means found to restrict increases.

Furthermore, additions to the Plan should not prejudice the "first phase" and means for preventing that, e.g., the use of directive antennae, synchronized networks and time-sharing, should be stipulated.

The delegate of Albania appreciated the results of the First Session which were based on the equality of all countries, big and small. Priority must be given to the requirements of developing countries and steps taken to prevent exaggerated increases in power.

The delegate of Upper Volta welcomed the Belgian statement regarding the limitation of power, on which a decision must be taken rapidly.

The delegate of Mauritania fully supported the principle of equality laid down in Chapter 9 of the Report of the First Session. Also, the Conference must not only take into account present requirements - often limited by economic factors - but ensure that developing countries would have the possibility of extending their broadcasting services as and when their economic situation improved.

The delegate of the Federal Republic of Germany also fully supported the statement by Belgium. In addition, the effect of changing the position of a transmitter must not be overlooked.

The delegate of Pakistan pointed out that a proliferation of super-power transmitters would make it impossible for the requirements of smaller and developing countries to be satisfied. He had requested the I.F.R.B. to circulate a list of transmitters with a power greater than 100 kW, which would throw light on the present situation.

The delegate of Italy also supported the Belgian statement. The question of power was, however, only one element; there was also the question of excess requirements. A rapid calculation showed that some 400 channels would be required to satisfy the requirements submitted, whereas only 120 were available. One of the most important tasks would be to ensure that groups of countries could meet to agree to reductions.

The delegate of Bangladesh pointed out that his country was small and had few requirements but it was surrounded by giant neighbours. In such cases, a restriction of power was essential to enable the smaller countries to provide a satisfactory broadcasting service. He fully supported the statement by Italy.

The representative of the C.C.I.R., replying to questions asked at the Second Plenary Meeting, said that the problem of ionospheric cross-modulation had been analyzed at the First Session of the Conference but no concrete recommendation on it had been included in the Conference Report. He drew attention, however, to Recommendations 448-1 and 498 and Report 460-1 of the Second Part of the Report of the First Session (C.C.I.R. Texts) and to Report 574 of Study Group 6 (Vol. 6 of the C.C.I.R. XIIIth Plenary Assembly).

It was clear from those documents that an increase in power led to an increase in the effects of ionospheric cross-modulation, and it was therefore desirable to reduce power.

Possibilities in regard to power limitation were the use of directional antennae, as referred to in Document No. DT/5, and Document No. 20 submitted by the French delegation, and expansion of the use of synchronized networks as mentioned in Report 459-1 in the Second Part of the Report of the First Session (C.C.I.R. Texts), and Document No. 40 submitted by the E.B.U. to the First Session. The experience of various countries using the latter system had been highly satisfactory.

The Chairman proposed that, to deal with the important points raised earlier by the Belgian delegate, the Conference should set up three ad hoc working groups of the Plenary for the European, African and Asian areas to discuss, in parallel with work in Committees 4 and 5, the general consequences of requirements as they related to demands, total power and directional antennae.

The delegate of Australia said that the power to be used should be limited to that required to provide usable field strength in local service areas only, i.e. within the fading zone of the transmitter. He noted with concern the trend towards the planning of increasingly high-powered transmitters. Such use was not in the interests of effective broadcasting and would cause a spillover effect to other services using the radio spectrum, thus impairing the ability to provide mobile and safety services. His Administration based its broadcasting system plans on the extensive use of directional antennae and synchronized services and it did not wish to be placed in the position of having to provide super-powered facilities.

The Conference's task of providing a plan for the mutual working of all the services requested on the basis of the technical criteria established at the First Session was formidable, but it might be made easier by the establishment of priorities. Priority should be given to ensuring that existing services were no worse off as a result of the plan, and due account must be taken of the needs of the developing countries.

The propagation of radio waves for broadcasting was fundamentally a regional matter, the major service areas tending to be limited on a world scale to within the general locality of the radiating transmitter site. Additionally, the decision as to which frequency should apply at a given location was the major point of flexibility for negotiation within the planning groups. Quoting Resolution C, paragraph 3, of the First Session he pointed out that proposals might have to be referred from one planning group to another of Committee 4, depending on the direction in which an Administration decided to shift a particular operating channel frequency. He therefore believed that it would be a more efficient method of operation to establish planning groups based primarily on regional grouping and secondly on frequency blocs, instead of vice versa. That view was not, however, inconsistent with the Chairman's proposal, which he supported.

The Chairman said that the points just made by the Australian delegate, as well as those on synchronized networks and time sharing raised by the Belgian delegate were really matters for Committee 4, but the Plenary must take a decision on the broader issues of overall demands, total power and directional antennae.

The delegate of Pakistan endorsed the Chairman's proposal to establish three ad hoc groups, but drew attention to the difficulties involved for the smaller delegations.

The delegate of France supported the Chairman's proposal, but said it should not be allowed to delay the work of Committee 4's planning groups.

The delegate of Spain also supported the proposal, while emphasizing the impossibility of beginning planning until the number of requirements had been cut down.

The delegate of the United Kingdom while accepting that a useful contribution might be made by regional groups as proposed by the Chairman, said that the first priority was to begin work in Committee 4's planning groups. In his view, the practical way to proceed was to have the problems of requirements and availability dealt with first of all by the machinery that already existed, rather than to create new machinery for that purpose at the very outset.

The delegate of Belgium said that the 11 planning groups of Committee 4 must be allowed to get on with their work, and must be given instructions to enable them to work coherently. Those instructions should be based on the decisions of the First Session, which enabled a distinction to be drawn between automatic demands and those referred to in

Resolution C, paragraph 3 of the First Session. In other words, the groups should consider first requests for frequencies to replace frequencies already being used, and subsequently all the other very numerous demands.

The question of limitation of transmitter power must be discussed by the Plenary and he therefore supported the Chairman's proposal for the establishment of three regional groups, but in his view those groups should consider only power and not such matters as directional antennae.

Clarifying his proposal, the Chairman said that in his view the power of individual transmitters was a matter for Committee 4, but the total power within a region could be discussed by the proposed groups.

The meeting was suspended at 1245 hours and resumed at 1515 hours.

The Chairman, summing up the preceding discussion, said that views had been expressed on a number of important matters such as limitations of power, directional antennae, synchronized networks and time-sharing, as well as on his suggestion concerning the establishment of ad hoc area groups to consider various broad issues and principles. As it was important that Committee 4 and its planning groups should be able to start their work unimpeded as soon as the new computer print-out had been made available, it might be desirable to adopt the approach suggested by the United Kingdom delegate and to defer further discussion of those matters until such time as Committee 4 had started its work and was in a position to submit a first progress report to the Plenary Meeting. If necessary, the Plenary Meeting might then consider setting up area groups to deal with any problems that were still outstanding and to provide any advice that Committee 4 might need at the regional level.

The delegate of Sweden expressed preference for the Chairman's original suggestion. The ad hoc area groups, which would have the important task of studying ways and means of reducing total power, in particular through reduction of the number of requirements, should be established immediately. However, he agreed with the delegate of France that they should not be the cause of any delay in Committee 4's work.

The delegate of Indonesia said that he too favoured that course of action.

The delegate of Czechoslovakia favoured the Chairman's latest suggestion.

The delegate of Italy said it was clear from the work done by the I.F.R.B. that the first problem to be solved was how to satisfy, with 120 channels, requirements for which 400 channels were needed. A forum should be provided for regional discussions on ways and means of reducing requirements to a level that was consistent with technical standards and possibilities. Such discussions need not prevent Committee 4 and its working groups from starting to function as soon as possible.

The delegates of Spain and Austria supported that view.

The delegate of Mauritania said it was essential that Committee 4 should receive clear guidance from the Plenary Meeting on how to take into account the needs of the developing countries and ensure those countries the possibility of improving their service areas in the future.

The delegate of Algeria said that the spectrum should be considered as a limited natural resource to be shared equitably among all. In reality, that principle was not applied anywhere; the developing countries were handicapped at the outset since they generally had approximately 40% coverage as compared with 100% or more in other countries. His delegation was not opposed to limitations of power and reduction of requirements, provided that criteria were established for utilization of the spectrum based on the real needs of countries. Neither was it opposed to the establishment of regional groups, provided that they were not subsidiary bodies of, and required to report directly to, the Plenary Meeting.

The delegate of Poland considered that Committee 4 should begin its work as soon as possible, on the basis of the technical criteria adopted at the first session and confirmed at the beginning of the current session. Should it require additional guidance it would so inform the Plenary Meeting.

The delegate of Belgium said that to follow the course of action suggested by the United Kingdom delegate would be to delay consideration of the problem of power limitations, which would have to be discussed at Plenary level at some stage, and to oblige Committee 4 and its planning groups to start their work without having received any instructions from the Plenary Meeting.

The delegates of Sweden, Australia, Switzerland, Spain and the Netherlands supported that view.

The delegates of the U.S.S.R., India, Sudan, Iran, Poland, Qatar, Singapore and Zambia supported the United Kingdom suggestion.

The Chairman said there seemed to be considerable support for the view that area groups should not be set up at the present time. That would not prevent informal regional discussions from being held in parallel with the working groups of Committee 4. It was perhaps unnecessary for the present Meeting to take a formal decision on the matter, which could be taken up again once the planning groups had started their work.

3. Statements by the delegates of Jordan, Morocco and Mauritania

The delegate of Jordan said he wished to refer to a subject which had been touched upon at the Second Plenary Meeting, namely, the request by the Israeli delegation for a certain plan of frequency assignments in the occupied Arab territories. That request was completely invalid and also totally irrelevant to the work of a highly technical Conference, and his delegation therefore requested that it should be deleted from the agenda and not referred to at all in any of the Committees. The forum for discussion of political issues was the United Nations in New York; to have brought up such an issue in a technical forum was an Israeli manoeuvre designed to sabotage the deliberations of the Conference.

The delegate of Morocco said his delegation had noted that four requirements had been submitted by the Spanish Administration for the western Sahara region, and would state its position on those assignments at the appropriate time.

The delegate of Mauritania said his delegation had noted the submission by the Spanish Administration of four requirements for areas of the Sahara presently under Spanish occupation, and reserved the right to state its position at the appropriate time.

The meeting rose at 1735 hours.

The Secretary-General :

M. MILI

The Chairman :

D.C. ROSE

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 73-E

20 October 1975

Original : French

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

At the request of the Head of the Delegation of the United Republic of Cameroon, the letter addressed to the Chairman of Committee 4 is presented in the attached Annex.

V. ŽAGAR
Chairman of Committee 4

Annex : 1



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A N N E X

To the Chairman of Committee 4
Broadcasting Conference

Geneva 1975

Dear Sir,

In order to facilitate the coordination of frequency assignment requirements in the various parts of the MF band, the Cameroon Delegation, in accordance with the principles enunciated by the working groups of Committee 4, would like to meet as soon as possible the delegations of the following countries :

<u>COUNTRY</u>	<u>FREQUENCY TO BE COORDINATED</u>
ALGERIA	909 kHz
CONGO	1 071 kHz, 1 485 kHz
CYPRUS	1 223 kHz
FRANCE	1 350 kHz
GABON	1 584 kHz, 1 602 kHz
ITALY	900 kHz, 1 449 kHz
NIGERIA	666 kHz, 864 kHz, 927 kHz, 1 107 kHz, 1 134 kHz, 1 179 kHz, 1 224 kHz
MALTA	1 179 kHz
SAUDI ARABIA	999 kHz, 1 512 kHz, 1 593 kHz
SOUTH AFRICA	1 152 kHz
SUDAN	1 296 kHz
TOGO	1 278 kHz
ZAMBIA	819 kHz

KAMDEN MAURICE
Head of the Cameroon Delegation

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 74-E

20 October 1975

Original : English

COMMITTEE 4

Republic of Zambia

PROPOSAL : LIMITATION OF POWER TO UNIT OF POWER
PER AREA IN REGIONS 1 AND 3

The delegation of Zambia has observed with anxiety from submissions for frequency allocation requirements, letters and annexes circulating at the second session of LF/MF Frequency Planning Conference, the tendency for requirements to escalate with equally excessive demands for TX power increases.

At this juncture the delegation of Zambia would like to present to the Conference its mandate which is equally echoed and entrenched in the principle of equal rights for countries, large and small, as often expressed at this Conference.

It therefore wishes to reiterate its stand in accordance with Document No. 29 presented by the Republic of Zambia to the first session of the Planning Conference, when the undermentioned Recommendation was contributed and adopted for planning purposes :

Recommendation (Document No. 29 (1974), page 2)

"It is recommended that the transmitter carrier power distribution and separation as outlined in the African LF/MF broadcasting plan of 1966 should remain unchanged".

Page 50 of the African plan contains these maximum power limitations.

The agreement contained in the African plan was achieved on the basis of minimizing sky wave harmful interference with appropriate average transmitter spacing and uniform distribution of transmitter power at each site, the aim being to give a clear channel to each country for a national broadcast.



Limitation of Powers

It is only fitting that the wisdom expressed in the addresses by distinguished guest speakers at this Conference be quoted in order to steer the course of the Planning Conference back to reality : "Limitation of power to unit of power per area".

Address by the Dean of the Conference (Document No. 46, Annex 1, page 8)

"After expressing concern on the fact that the transmitter requirements submitted amounted to 10000, with a total power of 5600 MW as compared with the 4400 transmitters currently in operation with an overall power of only 1500 MW distributed among 120 channels"

the Dean of the Conference went on to say :

"It would be desirable for us to succeed in finding reasonable criteria which are acceptable to all countries and according to which the limited frequencies available (120 channels - 521-1602 kHz) can be equally distributed".

Address by Chairman of the Conference (Document No. 46, Annex 2, page 10)

"Finally we must all remember that this is a practical conference seeking practical solutions to the practical problems. Clearly compromises are necessary if we are to achieve a satisfactory result. It is the general public in our region (and countries) who will benefit ultimately from our work".

Address by the Secretary-General (Document No. 46, page 16)

"If each country is called upon to consider at the highest level the question of establishing a comprehensive telecommunications infrastructure, it cannot help but become aware of the fact that its neighbours are confronted with similar problems".

Address by the Vice-Chairman (Document No. 46, Annex 4, page 19)

"In our times, despite the exceptionally rapid development of the technical methods of television and UHF broadcasting, MF/LF broadcasting is still a highly important means of disseminating information and culture, particularly for countries where it also plays an important role in teaching and education. Zambia as well as third world countries fall under this category".

Recognizing that these are not empty words but guidelines to the Conference, how do we reconcile this with the present situation demanding 10000 transmitters distributed into the 120 channels; this is but tantamount to saying pass the camel through the eye of a needle.

Practical solution

- a) In the first instance the distribution of 10000 transmitters into 120 channels is both practically and scientifically impossible. 400 channels are needed.
- b) In the second instance, practically the camel cannot pass through the eye of the needle.

It is, however, scientifically possible. You can, by scanning of the picture, or break up into puzzle bits the picture of the camel and fit back at will.

Limitation of power to unit of power per area

This analogy explains the necessity to study separately the transmitter needs for each country of Regions 1 and 3 in accordance with the field strength calculated for zones A, B and C.

Then group these countries into each area per unit power :

- a) Eastern Europe
- b) Western Europe
- c) Africa
- d) Asia.

Procedure

1. Clear all LPC allocations as per 15 dB limitation for each country.
2. Allocate all powers up to 100 kW.
3. All powers above 100 kW should be equally allocated in accordance with the formulas of the African plan based on equal distribution of power for each area, large and small, with an attempt to allocate one clear channel to each country.

J.D. KALISILIRA

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 75-E

17 October 1975

Original : French

BUDGET CONTROL

COMMITTEE

Report by the Secretary-General

STATEMENT OF EXPENDITURE ON THE BROADCASTING CONFERENCE AS ON

15 OCTOBER 1975

Chapter 11, Section 5, of the International Telecommunication Convention, Torremolinos, 1975, specifies that the Budget Control Committee shall approve the accounts for expenditure incurred throughout the duration of the Conference. The Committee also has to present to the Plenary Meeting a report showing, as accurately as possible, the estimated total expenditure at the conclusion of the Conference.

In accordance with these provisions, a statement of the expenditure incurred by 15 October 1975 for the Broadcasting Conference is herewith submitted for consideration by the Budget Control Committee. This statement is accompanied by an estimate of expenditure up to the end of the Conference.

The statement shows an estimated expenditure of 3,422,000 Swiss francs, i.e. 5,000 Swiss francs over and above the budget approved by the Administrative Council. This is a provisional excess which is likely to be absorbed before the end of the Conference.

M. MILI

Secretary-General

Annex : 1



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A N N E X

No.	Title	Approved budget	Expenditure at 15 October 1975			Total expenditure	Difference
			actual	committed	estimated		
14.100	1. <u>Staff</u>						
14.101	Salaries and related expenditure	2,083,000	211,000	1,694,000	150,000	2,055,000	- 28,000
14.102	Reimbursement of salaries to the ordinary budget	120,000	-	-	120,000	120,000	-
14.103	Travel	138,000	14,000	29,000	71,000	114,000	- 24,000
14.104	Insurances	43,000	5,000	37,000	5,000	47,000	+ 4,000 (1)
		2,384,000	230,000	1,760,000	346,000	2,336,000	- 48,000
14.200	2. <u>Premises and equipment</u>						
14.201	Premises, furniture, machines	610,000	291,000	294,000	37,000	622,000	+ 12,000
14.202	Document production	163,000	138,000	7,000	30,000	175,000	+ 12,000
14.203	Office supplies and overheads	19,000	14,000	6,000	5,000	25,000	+ 6,000
14.204	Postage, telephone, telegraph	24,000	26,000	-	5,000	31,000	+ 7,000
14.205	Technical installations *)	1,000	17,000	-	50,000	67,000	+ 66,000
14.206	Sundry and unforeseen	10,000	1,000	1,000	3,000	5,000	- 5,000
		827,000	487,000	308,000	130,000	925,000	+ 98,000
14.300	3. <u>Other expenditure</u>						
14.301	I.F.R.B. preparatory work	13,000	4,000	2,000	-	6,000	- 7,000
14.302	Final Acts of the Conference	103,000	-	-	103,000	103,000	-
14.303	Interest credited to the ordinary budget	90,000	-	-	52,000	52,000	- 38,000
		206,000	4,000	2,000	155,000	161,000	- 45,000
	TOTAL	3,417,000	721,000	2,070,000	631,000	3,422,000	+ 5,000

*) Including cost of computer use
(1) Excess covered by transfer from one item to another

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 76-E

20 October 1975

Original : French

COMMITTEE 4

People's Republic of Poland

ADDITIONAL REQUIREMENTS

The delegation of the People's Republic of Poland is disturbed to note that during this Second Session of the Conference many countries have already submitted additional requirements, which substantially impair the planned LF/MF reception conditions in the territories of several countries, including Poland.

Considering that :

- the Polish Administration has for some time now been using a limited number of frequencies, based solely on the Copenhagen Plan,
- in view of the requirements of new and developing countries, the Polish Administration has restricted its requests to the use, in future, of these frequencies only,
- the changes in the technical characteristics of its network are motivated by the increase in the level of interference in Europe,

the Polish delegation is unable to agree to the acceptance of these additional requirements. Their acceptance would be liable to interfere considerably with the assignments of numerous countries. The reservations expressed by the Polish delegation relate only to the requirements submitted by countries other than new or developing countries, since the latter were unable, for fundamental reasons, to submit their requirements before the Conference.

In view of the fact that, as demonstrated by the activities of the Planning Groups of Committee 4, the new requirements have very seriously restricted the possibilities of finding effective technical solutions for the network plans of several countries, and that the Polish Administration, by using appropriate technical means such as synchronized networks, directional antennae, etc., has based its requirements on the minimum needs of the Polish LF/MF broadcasting service, the Polish Administration, together with several other countries, would be compelled to reconsider the need to take the necessary technical measures to safeguard its interests should this reservation not be taken into account.



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 77-E

21 October 1975

Original : English

COMMITTEES 4 AND 5

India

TIME PERIOD FOR IMPLEMENTATION OF THE PLAN

1. The present Session of the Conference is the first serious attempt to prepare an agreed plan for LF/MF broadcasting in Regions 1 and 3. The number of requirements submitted to the I.F.R.B. is undoubtedly large, for many countries have prepared long-term plans for development of their broadcasting networks. At first sight, the situation presents formidable difficulties as a large number of requirements will have to be fitted within the limited number of channels. The Conference is in the process of finding out ways and means to evolve an agreed plan by and large satisfactory to all administrations.
2. After an agreed plan is evolved, a question will arise about the time period for implementation of the plan. This is a difficult question to answer, for implementation of a broadcasting plan automatically brings in financial resources an administration can afford and the priorities it can give to its implementation. Here too, a distinction exists between developed and developing countries. While the former have large financial resources and equally large manufacturing potentialities for quickly bringing up broadcasting transmitters, the situation is different with the developing countries, many of whom have neither financial resources nor large industries to do so. It would, therefore, be unfair to impose a strict time limit for the implementation of the plan. Moreover, when an agreed plan is evolved, countries, especially developing ones, should be given adequate time to bring up their requirements. This, however, does not inhibit the developed countries from quickly putting up their transmitters as per the agreed plan, nor would it in any way interfere with the plans of other countries.
3. But one has to recognize that when the plan is evolved with 9 kHz channel spacing with individual channels being its integral multiples, a major source of interference, at present caused to transmissions by different channel spacings, will be removed. Naturally it would be the foremost endeavour of all concerned countries to quickly realign their existing transmitters to new assignments and remove the objectionable heterodyne at the earliest possible opportunity. A time limit for this should be established by the Conference.



4. The Indian delegation would propose that a time period of 2 - 3 years should be fixed by the Conference for the administrations to change over their existing operations to the new assignments.

5. However, the Indian delegation recognizes that in view of paragraph 2 it could be difficult to fix a time limit for the projected requirements.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 78-E

21 October 1975

Original : English

COMMITTEE 4

Iran

PROPOSAL FOR THE WORK OF PLANNING

To facilitate orderly and efficient planning it is suggested that :

1. Countries be grouped on regional basis, example :
 - Asia and Pacific
 - African broadcasting area
 - European broadcasting area
2. Members of each region should discuss their problems and take the help of the I.F.R.B. Secretary in order to rationalize their requirements.
3. Thereafter the present Planning Group could take up inter-regional coordination and discussion to eliminate difficulties arising out of mutual interference between each region.
4. The present Planning Group should also remain and works in parallel.

The above proposal would make the planning process simpler and to be carried out expeditiously.

In this way the work of Committee 4 may be hastened.



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 79-E

21 October 1975

Original : English

PLENARY MEETING

Afghanistan, Algeria, Egypt, Indonesia, Iran, Japan, Kenya,
Pakistan, Netherlands, Poland, Sweden, Turkey, Yugoslavia

DRAFT RESOLUTION

The Broadcasting Conference, (Geneva, 1975),

considering

- a) that this Conference has been convened for the purpose of establishing the frequency assignment plan in Regions 1 and 3 in the LF/MF broadcasting bands allocated to the broadcasting service;
- b) that some Member countries of the I.T.U. which belong to Regions 1 and 3 have not yet submitted to this Conference their frequency requirements for that service, or have not sent their delegations to this Conference;
- c) that it would be extremely desirable that the frequency assignment plan mentioned in paragraph a) should be established in such a manner as to cover all the areas in Regions 1 and 3 including those Member countries mentioned in the paragraph b) from the technical point of view;

resolves

- 1. that this Conference would invite those Member countries mentioned in the paragraph b) above to submit their frequency requirements as soon as possible;
- 2. that this Conference should invite those Member countries which are able to attend I.T.U. conferences to attend the LF/MF Broadcasting Conference by the end of the 4th week at the latest for necessary bilateral and multi-lateral negotiations.



INTERNATIONAL TELECOMMUNICATION UNION

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 80-E

22 October 1975

Original : Spanish

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

At the request of the Head of the delegation of Spain, a letter addressed to the Chairman of Committee 4 is circulated in the attached annex.

V. ŽAGAR
Chairman of Committee 4

Annex : 1



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A N N E X

Geneva, 21 October 1975

Mr. V. [✓]Zagar
Chairman of Committee 4

In order to facilitate coordination of planning work in connection with frequencies requested by Spain, delegations wishing to contact the Spanish delegation are requested to do so through :

Box No.

Mr. Chamorro	147	for Groups 4/1 and 4/2
Mr. Alonso	146	for Groups 4/3 and 4/4
Mr. Quintas	149	for Groups 4/5 and 4/6
Mr. Paula	148	for Groups 4/7 and 4/8
Mr. Jiménez	51	for Groups 4/9 and 4/10
Mr. Alonso	146	for Group 4/11

I should be grateful if you would kindly circulate this letter as a Committee 4 document.

J.M. ARTO MADRAZO
Head of the Spanish Delegation

INTERNATIONAL TELECOMMUNICATION UNION

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 81-E

22 October 1975

Original : French

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

At the request of the Head of the Delegation of Italy, a letter addressed to the Chairman of Committee 4 is attached hereto.

V. ŽAGAR
Chairman of Committee 4

Annex : 1



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A N N E X

Geneva, 21 October 1975

Mr. V. Žagar
Chairman of Committee 4

In order to facilitate coordination of planning work in connection with frequencies requested by Italy, I have appointed the following members of my delegation to act as liaison officers with the Working Groups of Committee 4 :

<u>Working Group</u>	<u>Delegate</u>	<u>Box No.</u>
4/1	G. Rossi	37
4/2	G. Rossi	37
4/3	L. Visin	40
4/4	L. Visin	40
4/5	F. Ronchi	36
4/6	F. Ronchi	36
4/7	R. Galliano	28
4/8	G. Moro	33
4/9	A. La Padula	29
4/10	A. La Padula	29
4/11-LF	G. Moro	33

Coordination of the different Groups: G. Lari, Box No. 30.

I should be grateful if you would circulate this information as a Committee 4 document.

A. PETTI
Head of the Italian Delegation

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 82-E

22 October 1975

Original : French

COMMITTEE 4

WORKING GROUP 4/11

Belgium

PROTECTION OF THE AERONAUTICAL RADIONAVIGATION SERVICE IN THE NEW LF BROADCASTING PLAN

The Second Session of the Regional Broadcasting Conference is endeavouring to prepare a new LF broadcasting plan taking account only of mutual interference between existing or planned stations. In Regions 2 and 3, the band 200-285 kHz is allocated on a primary basis solely to the aeronautical radionavigation service and, in Region 1, note RR177 states that, in the western part of the European Broadcasting Area, the band 255-285 kHz is used solely by the aeronautical radionavigation service except that in the United Kingdom frequencies are also assigned, by special agreement, to stations of the maritime mobile service. The Regional Broadcasting Conference is not competent to change that situation.

I.F.R.B. calculations made on the transmitters listed in I.F.R.B. Circular-letter No. 324 show that these transmitters interfere with the majority of the aeronautical radiobeacons in the shared bands : the Annex to this Document, which is based on the I.F.R.B. calculations, indicates, for each broadcasting transmitter, the number of installations of the aeronautical radionavigation service which are liable to be interfered with.

We draw attention to the fact that the aeronautical radionavigation service is a safety service within the meaning of No. 69 Spa 2 of the Radio Regulations.

At the First Session of the Conference, attention was already drawn to this danger of interference with aeronautical radionavigation installations in Documents No. 22 of 26 September and No. 38 of 7 October 1974, submitted by France and Belgium respectively. Moreover, Chapter 8 of the Report of the First Session states that "the conditions for putting into use any new assignments in the shared bands will have to be laid down in the form of an appropriate coordination procedure" and that "the provisions of Nos. 116 and 117 of the Radio Regulations (protection of band-edges and coordination between Regions) are applicable".



The Regional Broadcasting Conference, therefore, is liable to prepare an LF plan which will have the greatest difficulty in being brought into service if the assumptions on which it is based are not clearly specified. The most plausible assumption has already been indicated in paragraph 8.4 in Chapter 8 of the Report of the First Session :

"The First Session of the Broadcasting Conference considers that, during the next revision of the Table of Frequency Allocations (at the World Administrative Radio Conference scheduled to be held in 1979), it would be desirable to avoid allocations which provide for sharing between the broadcasting service and other services, such as the maritime mobile and aeronautical radionavigation services."

It is therefore desirable that the Regional Broadcasting Conference :

- should make a Recommendation in its Final Acts to the effect that the World Administrative Radio Conference scheduled for 1979 should modify the Table in Article 5 of the Radio Regulations so that it no longer includes frequency bands shared between the broadcasting service and other services, such as the maritime mobile and the aeronautical radionavigation services;
- should indicate, in a resolution annexed to the plan, that new transmitters can be brought into service in shared bands only after the World Administrative Radio Conference scheduled for 1979 and in the light of the changes to the Table in Article 5 of the Radio Regulations decided at that Conference, unless special agreements have been reached between all the administrations concerned and those whose services, operating in accordance with the existing Table, are liable to be affected.

A N N E X

NUMBER OF RADIOBEACONS SUBJECT TO INTERFERENCE FROM
LF TRANSMITTERS IN CHANNELS 5 TO 15
(according to I.F.R.B. calculations)

<u>FREQ.</u>	<u>COUNTRY</u>	<u>TRANSMITTER</u>							
191 kHz	E.	Madrid	Interferes with	4	radiobeacons	between	185	and	201 kHz
	I.	Capua	"	"	4	"	between	"	and " "
	I.	Gambara	"	"	4	"	between	"	and " "
	NPL.	Katmandu	"	"	5	"	between	"	and " "
200 kHz	CHN.	Darhanmuming	Interferes with	18	radiobeacons	between	201	and	210 kHz
	EGY.	Ep Qusiya	"	"	19	"	between	"	and " "
	ISR.	Tel Aviv	"	"	17	"	between	"	and " "
	TUR.	Estimesgut	"	"	19	"	between	"	and " "
	URS.	Achkhabad	"	"	12	"	between	"	and " "
	URS.	Aleksandrov	"	"	11	"	between	"	and " "
	URS.	Frunze	"	"	13	"	between	"	and " "
	URS.	Korf	"	"	13	"	between	"	and " "
209 kHz	D.	Muenchen ERC	Interferes with	42	radiobeacons	between	201	and	221 kHz
	I.	Caltanissetti	"	"	41	"	between	"	and " "
	ISL.	Eidar	"	"	41	"	between	"	and " "
	ISL.	Floinn	"	"	43	"	between	"	and " "
	MNG.	Dalandsgadag	"	"	59	"	between	"	and " "
	MNG.	Muren	"	"	58	"	between	"	and " "
	MNG.	Tchoibolsan	"	"	58	"	between	"	and " "
	MNG.	Ulgei	"	"	58	"	between	"	and " "
	MRC.	Azilal	"	"	20	"	between	"	and " "
218 kHz	CHN.	Qingan	Interferes with	35	radiobeacons	between	205	and	229 kHz
	MCO.	Monte Carlo	"	"	33	"	between	"	and " "
	NOR.	Oslo Bastoey	"	"	33	"	between	"	and " "
	TUR.	Van	"	"	32	"	between	"	and " "
	URS.	Khatanga	"	"	23	"	between	"	and " "

FREQ. COUNTRY TRANSMITTER

227 kHz	CHN. Abga Qi	Interferes with 35 radiobeacons between 218 and 236 kHz			
	MNG. Altaï	"	"	35	between " and " "
	MNG. Ulan Bator	"	"	35	between " and " "
	POL. Warszarva	"	"	18	between " and " "
235 kHz	URS. Irkuts	Interferes with 7 radiobeacons between 228 and 240 kHz			
236 kHz	LUX. Junglimter	Interferes with 11 radiobeacons between 228 and 240 kHz			
	URS. Irkutsk	"	"	8	between " and " "
	URS. Magadan	"	"	17	between " and " "
	URS. Mary	"	"	16	between " and " "
245 kHz	DNK. Kalundborg	Interferes with 18 radiobeacons between 237 and 254 kHz			
	GRC. Karditsa	"	"	9	between " and " "
	I. Capena	"	"	16	between " and " "
	I. Ciro Crotone	"	"	18	between " and " "
	TUR. Erzurum	"	"	18	between " and " "
	URS. Karaganda	"	"	21	between " and " "
	URS. Muinak	"	"	21	between " and " "
	URS. Surgut	"	"	21	between " and " "
254 kHz	ALG. Tipaza	Interferes with 33 radiobeacons between 245 and 260 kHz			
	FNL. Inari	"	"	32	between " and " "
	FNL. Oulu I	"	"	33	between " and " "
	FNL. Turku I	"	"	33	between " and " "
	IRL. Tullamore	"	"	33	between " and " "
	URS. Krest Maier	"	"	23	between " and " "
	URS. Nakkanno	"	"	26	between " and " "
	URS. Nijne Kolims	"	"	24	between " and " "
	BUL. Plovdiv	"	"	30	between " and " "

<u>FREQ.</u>	<u>COUNTRY</u>	<u>TRANSMITTER</u>								
263 kHz	DDR.	Burg	Interferes with 27 radiobeacons between 258 and 268 kHz							
	URS.	Guriev	"	"	29	"	between	"	and	"
	URS.	Karaganda	"	"	30	"	between	"	and	"
	URS.	Tiumen	"	"	30	"	between	"	and	"
	URS.	Vorkuta	"	"	27	"	between	"	and	"
272 kHz	CHN.	Xuguit QI	Interferes with 19 radiobeacons between 262 and 282 kHz							
	TCH.	Ceskoslovens	"	"	40	"	between	"	and	"
	TUN.	Tunis Djedei	"	"	40	"	between	"	and	"
	URS.	FT. Chevtchen	"	"	38	"	between	"	and	"
	URS.	Tchardjou	"	"	19	"	between	"	and	"
281 kHz	BLR.	Minsk	Interferes with 27 radiobeacons between 273 and 288 kHz							
	URS.	Achkabad	"	"	26	"	between	"	and	"
	URS.	Iujnsakhalin	"	"	9	"	between	"	and	"
	URS.	Oimiaken	"	"	9	"	between	"	and	"
	URS.	Petropavlo	"	"	6	"	between	"	and	"
	URS.	Tchita	"	"	7	"	between	"	and	"
	URS.	UST Belaia	"	"	8	"	between	"	and	"

INTERNATIONAL TELECOMMUNICATION UNION

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 83-E

23 October 1975

Original : English

COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 4

At the request of the Head of the Delegation of Pakistan, the letter addressed to the Chairman of Committee 4 is presented in the attached Annex.

V. ŽAGAR
Chairman of Committee 4

Annex : 1



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A N N E X

Mr. V. Žagar
Chairman of Committee 4

In order to facilitate coordination of planning work in connection with frequencies requested by Pakistan, I have appointed Mr. Imad Uddin, delegate of Pakistan, Box No. 490, to act as liaison officer with the Working Groups or any individual country.

I should be grateful if you would kindly circulate this information as a Committee 4 document.

IRFAN ULLAH
Head of the Pakistan Delegation

INTERNATIONAL TELECOMMUNICATION UNION

BROADCASTING CONFERENCE

(SECOND SESSION) GENEVA, 1975

Document No. 84-E
23 October 1975
Original : English

COMMITTEE 4

State of Israel

PROPOSALS FOR THE WORK OF THE CONFERENCE ON PLANNING

1. It is generally agreed that the picture represented by the totality of requirements cannot serve as a sound basis for a satisfactory plan - which could provide the minimum needs of each country.
2. It is also well known how this happened; it is the vicious circle of interference, raising of effective power and proliferation of frequencies to overcome interference, higher levels of interference, and so on.
3. With all the good-will evidently existing in every delegation - we cannot see how such a vicious circle can be broken internally by individual efforts alone.
4. It is therefore believed that we need the assistance of a body which, having an overall insight into the spectrum resources on the one hand, and the total requirements on the other hand, could carry out the following task : The preparation of a theoretical tentative plan - based on programme coverage requirements, rather than on specific powers - and having the following objectives :
 - a) to reduce, in general, the level of powers - and to eliminate frequencies which are not indispensable for securing coverage requirements;
 - b) to change frequencies - not yet in use - wherever necessary and practicable;
 - c) the coverage of all the different requirements shall not be reduced in any way (in many cases it may even be improved).



5. From a purely engineering point of view, such a plan - with greatly reduced "Usable field strengths" - seems to be feasible, even before reverting, to any appreciable extent, to the powerful means of antenna directivity (front to back ratios of the order of 20 dB), synchronized networks (8 dB protection ratio, instead of 30 dB), modulation bandwidth restriction, and modulation compression.

6. It should be noted that such a plan would result in a significant rationalization in the use of resources and in energy expenditure.

7. If the principle is accepted by the Conference, such a tentative plan would certainly serve a much better starting point for planning and negotiations of every kind.

8. It is suggested to ask the I.F.R.B. if it could undertake the task outlined in this document - in the time available.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 85-E
23 October 1975
Original : English

COMMITTEE 4

Socialist Federal Republic of Yugoslavia

DAY-TIME OPERATION

As has already been emphasized repeatedly at this Conference, a reduction of requirements is an absolute prerequisite for the preparation of the Plan. In view of the justifiable requests for a certain number of programme transmissions, which may seem jeopardized by any scheme of reduction, the proposal need not involve a reduction in the volume of programmes because a large proportion of these programmes may be transmitted during the day. This fact, in addition to an actual reduction of the programme requirements, may induce many Administrations to accept the proposal.

Work on the solution of these problems may considerably increase demands on the already overburdened staff of the I.F.R.B. Nevertheless, a reduction of existing requirements by the transfer of some of them to day-time operation in fact will lessen the task of the I.F.R.B.

In view of the time limit, an ad hoc working group should be set up immediately to cooperate with the I.F.R.B. staff in preparing technical criteria for the planning of day-time operation. Once the basic plan is completed, it should incorporate the plan of day-time transmitters, at least those with a power exceeding a given limit (e.g. 50 kW). For transmitters of a lower power, a simplified method of coordination should be worked out.

Some valuable technical data on the subject have already been submitted in the documents of Committee 4.



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 86-E

24 October 1975

Original : French
English

COMMITTEE 4

REGIONAL GROUPS

Regional Groups created by Committee 4.

At its Third Plenary Meeting, Committee 4 set up three regional groups and adopted the terms of reference for these groups :

Group A - ASIA - Chairman : Mr. A. Fadami (Iran) (Box No. 178)

Technical Secretary : Mr. K. Khabiri (Box No. 1027)

Group B - AFRICA - Chairman : Mr. M. Harbi (Algeria) (Box No. 99)

Technical Secretary : Mr. A. Reinhard (Box No. 1087)

Group C - EUROPE - Chairman : Mr. K.I. Teräsvuo (Finland) (Box No. 371)

Technical Secretary : Mr. J. Balfroid (Box No. 1086)

Terms of reference :

1. To consider and make proposals for the reduction of overall requirements in their areas and to report to Committee 4 on this by 28 October 1975.
2. Each regional group working within the framework of Committee 4 shall make recommendations intended for the planning groups, based on the following:
 - 2.1 ways of eliminating the incompatibilities of requirements within the region discovered in the course of work;
 - 2.2 the possibility of starting the planning work by taking into account the assignments already in use subject to the principle of equal rights of all countries laid down in the Report of the First Session and those in the African Plan 1966, while at the same time taking due account of the requirements of the developing countries;
 - 2.3 as the next step, to take into consideration the remaining requirements on the basis of the criteria to be determined by each regional group, taking into account the Document No. DT/25(Rev.) and other relevant documents submitted to the Conference;



2.4 to aid the work of Planning Groups to achieve agreement on frequency requirements on the basis of a Plan validity period as agreed by the Conference;

2.5 systematic use of techniques, as recommended by the First Session of the Conference (synchronized networks, directional antennae etc.).

OTHER RECOMMENDATIONS

The Ad Hoc Group recommends to Committee 4:

- 1) that the Chairman of the Regional Groups participate in the meetings of the Coordination Group of Committee 4;
 - 2) to ask the I.F.R.B., in application of the provisions of No. 479 of the Radio Regulations, to assist the countries, not represented at the Conference, in the treatment of their requirements.
-

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 87-E
24 October 1975
Original : English

COMMITTEE 4
WORKING GROUP 4C

Norway

SUPPLEMENTARY INFORMATION CONCERNING THE NORWEGIAN REQUIREMENTS

1. The frequency requirements in the LF/MF broadcasting bands submitted to the I.F.R.B. contain more than twice the number of transmitters in operation today. This has led to serious problems at this Conference, and has up to now blocked real planning work. The excessive requirements result mainly from the fact that many countries have planned to cover their whole area with several simultaneous programmes.
2. Application of the principle of equal rights to all countries would, in our opinion, suggest that each country should be given one unit of coverage with reasonable protection.
3. Norway has made a plan according to the principle of one unit of coverage. For a country of size and shape like Norway, it is most efficient and economic to use few and large transmitters. The ground conductivity of Norway is generally very poor. The land area is 324,000 km² (with fjords and territorial waters 470,000 km²) and the greatest point-to-point distance is 1,775 km, which is more than the distance from Copenhagen to Rome.
4. In our opinion increased power should normally result in a reduction of the number of frequency requirements. Norway has, according to the planning principle set out above, based her new plan on four large and one medium power transmitters.

Consequently, Norway has planned to close down the following existing stations :



Bodö	674 kHz	10 kW
Bergen	890 kHz	20 kW
Kristiansand	890 kHz	20 kW
Trøndelag	890 kHz	20 kW
Fredrikstad	1 578 kHz	10 kW

In addition, we will also close down 20 stations of 1 kW and less on the following frequencies :

520 kHz
1 115 kHz
1 466 kHz
1 484 kHz

5. When planning with so few stations, the assumption is that the assignments given to the remaining stations will be well protected against interference. This assumption has already been stated in the supplementary information given to the I.F.R.B. together with our requirements.
 6. If a plan for the European Broadcasting Area is drawn up according to the principle outlined in paragraph 3 above, with suitable adjustments for special cases, the Norwegian delegation believes that all countries could obtain a satisfactory coverage of their area.
-

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 88-E

24 October 1975

Original : English

COMMITTEE 4

Socialist Federal Republic of Yugoslavia

APPLICATION OF LIMITATION OF THE AUDIO-FREQUENCY BAND

For the purpose of making possibilities of reduction of the radio-frequency protection ratio, which will be certainly in many cases necessary even after a serious reduction of requirements concerning the number and power of the transmitters, the use of a filter which should limit the bandwidth of the audio-frequency modulating signal to 4.5 kHz and of modulation compression, even by means of an automatic device, could be justified. The use of both of them will meet the point in the European part of Region 1 which has, for a quality of emission requiring a wider band of audio-frequency modulating signal, some other means (e.g. the use of frequency modulated transmitters).

The results of reduction of the necessary radio-frequency protection ratio will certainly justify the cost of necessary devices.

In order to achieve the above-mentioned possibilities, Yugoslavia will apply the bandwidth 9A3, using the mentioned devices, and invites all other countries to do the same, considering that such a step will facilitate their own work and will permit the achievement of the basic aim of the Conference - the good Plan.



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 89-E

24 October 1975

Original : English

COMMITTEE 4

AD HOC REGIONAL

WORKING GROUPS

Ireland

TRANSLATION OF THE PRINCIPLE OF EQUAL RIGHTS INTO A PRACTICAL FORMULA FOR PLANNING PURPOSES

1. In their task of making proposals for the reduction of overall requirements in their areas, the Ad Hoc Regional Working Groups are required, under their terms of reference, to make recommendations, based, inter alia, on

"the possibility of starting the planning work by taking into account the assignments already in use, subject to the principle of equal rights of all countries laid down in the Report of the First Session, and those in the African Plan, 1966, while at the same time, taking due account of the requirements of the developing countries."

Paragraph 2.2 of Document No. 86 refers.

In accordance with the foregoing, assignments already in use must be tested against the principle of equal rights of all countries, and only those assignments which are in conformity with this principle can legitimately be considered under paragraph 2.2.

Assignments already in use which are not in conformity with the principle of equal rights of all countries fall to be considered under paragraph 2.3.

2. It is recognized that the translation of the principle of equal rights into a practical formula for planning purposes is extremely complex. Documents Nos. 36, 59, 67 and DT/25(Rev.1) contain valuable insights into this problem. No formula will achieve absolute equality, but in the interests of facilitating planning, and having regard to the pressure of time, a simple indicative formula is essential at this stage. We suggest that for the purposes of paragraphs 2.2 and 2.3 of our terms of reference, existing and new assignments



might be judged against an agreed average power density, expressed in Watts per km². Exceptional conditions, such as countries of very small size or with extensive coastlines, etc., would of course have to be taken into account.

3. In order to facilitate consideration of these recommendations, we ask that the I.F.R.B. produce a document on Monday morning, indicating the power density in Watts per km² in respect of assignments already in use by all countries in the area, and their best estimate of the power density in Watts per km² which would result in the nominal field strengths and protection ratios adopted by the First Session being achieved generally.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 90-E

24 October 1975

Original : FrenchCOMMITTEE 4REGIONAL GROUP 4CItaly and SwedenSTUDY OF THE POSSIBILITIES OF SHARING ASSIGNMENTS IN THE
EUROPEAN BROADCASTING AREA WITH A VIEW TO THE REDUCTION
OF TOTAL REQUIREMENTS

1. Whether their distribution is regular or irregular, stations operating in the same channel will be located at the corners of triangles the sides of which represent the intervening distances.

For a given number of channels C , it can be verified, as a first approximation, that the number of possible stations N in the area concerned is :

$$N = \frac{S}{S_0} \cdot C \quad (1)$$

where

S is the area of the zone concerned

S_0 is the elementary area required for each assignment.

Since the distances between stations are in the same order for the same type of service, we can simplify by taking the equilateral triangles with sides equal to the mean distance D between stations.

We thus obtain $S_0 = \frac{\sqrt{3} \cdot D^2}{2}$

Equation (1) can therefore be written :

$$N = \frac{2 \cdot S \cdot C}{\sqrt{3} \cdot D^2} \quad (2)$$



2. According to the report of the First Session of the Conference (Chapters 9.3 and 9.4) we must envisage for different types of service at night different usable field strengths, which naturally entail different distances between stations.

In view of the powers required for the different types of service, at least in the European Broadcasting Area, we may assume, by way of example, the following mean distances between stations :

- a) sky wave service (paragraph 9.3.2.1)

$$D_a = 4,000 \text{ km}$$

- b) ground wave service at night for rural areas (paragraph 9.3.2.2 and 9.4.2)

$$D_b = 2,000 \text{ km}$$

- c) ground wave service at night for urban areas (paragraph 9.3.2.2)

$$D_c = 1,500 \text{ km}$$

- d) local ground wave service at night in cases where (e.m.r.p. > 1 kW) it is not possible to use the L.P.C.

$$D_d = 750 \text{ km}$$

On the assumption that all channels are used for the same type of service, by applying equation (2) we obtain the following numbers of possible assignments (transmitters or synchronized groups) :

N_a assignments for sky wave service

or

$N_b = 4 \cdot N_a$ assignments for ground wave service in rural areas

or

$N_c = 7 \cdot N_a$ assignments for ground wave service in urban areas

or

$N_d = 28 \cdot N_a$ assignments for local ground wave service.

3. In view of the requirements submitted at this Conference, in an area so vast as the European Broadcasting Area it must be assumed that all channels may be used at the same time for the different types of service; hence the total number of channels C must be distributed as follows :

$$C = C_a + C_b + C_c + C_d \quad (3)$$

or

$$C = aN_a + bN_b + cN_c + dN_d \quad (4)$$

with

$$a = \frac{\sqrt{3}}{2S} D_a^2 \quad (5)$$

$$b = \frac{\sqrt{3}}{2S} D_b^2 \quad (6)$$

$$c = \frac{\sqrt{3}}{2S} D_c^2 \quad (7)$$

$$d = \frac{\sqrt{3}}{2S} D_d^2 \quad (8)$$

4. In the European Broadcasting Area, the total number of available LF/MF channels is 132, excluding the three L.P.C. which are at the disposal of all countries (Chapter 9.6 of the Report of the First Session).

Moreover, the area S of the European Broadcasting Area is $14.5 \cdot 10^6 \text{ km}^2$.

This area includes both the land area ($10 \cdot 10^5 \text{ km}^2$) and the area of the inland seas ($4.5 \cdot 10^6 \text{ km}^2$)*).

In these cases, equation (4) becomes :

$$132 = \frac{\sqrt{3}}{2 \cdot 14.5} (4^2 N_a + 2^2 N_b + 1.5^2 N_c + 0.75^2 N_d) \quad (9)$$

or, more simply

$$N_a + \frac{1}{4} N_b + \frac{1}{7} N_c + \frac{1}{28} N_d = 138 \quad (10)$$

*) Baltic Sea, White Sea, North Sea, Bay of Biscay, Mediterranean Sea, Black Sea, Sea of Azov and Sea of Marmara.

The figure 138 (reference figure) represents the number of assignments that can be made in the European Broadcasting Area if all channels are used for the sky wave service.

According to the data in paragraph 2, this figure corresponds to :

552 assignments (4 x 138) for the rural service

or

966 assignments (7 x 138) for the urban service

or

3 864 assignments (28 x 138) for the local service.

It should also be noted that all kinds of combinations are feasible, depending on the area concerned. By means of a simple proportional relation, all assignments may be distributed either among the various countries of the European Broadcasting Area or among various large portions of this area.

5. If the European Broadcasting Area is split up into three groups of countries, we can determine the respective reference figures which each group can use as a basis for fixing, within the group, the distribution of possibilities among the various types of services and the various countries. Sample distributions between three groups of countries and applications to two hypothetical countries are given in Annexes 1 and 2. In this connection, it should be noted that the introduction of reference figures does not imply the exclusive use of channels by one or other group of countries, but that this figure merely provides an indication of the restriction of the use of channels, each of which might also be used in the three groups provided that the necessary co-channel distances are maintained.
6. We can draw the following conclusions from the foregoing :
 - the number of possible assignments for each country depends on the type of service required;
 - if these requirements disregard the restrictions referred to above, limitations may ensue for the planning possibilities of the other groups or countries in the same area;

- when requirements have to be reduced, it is not absolutely necessary to reduce the number of transmitters, but it is sufficient to accept a different type of service for the station concerned, provided that the restriction given by equation (4) is observed. Hence a country which has submitted an excessive number of requirements in relation to the reference figure must contemplate a reduction in the number of requirements or else use the assignments for types of service requiring higher usable field strengths.

A N N E X 1

SPECIMEN CALCULATION OF REFERENCE FIGURES FOR
THE EUROPEAN BROADCASTING AREA DIVIDED
INTO THREE GROUPS OF COUNTRIES

1. Those African and Asian countries belonging to the European Broadcasting Area

$$S_1 = 3.32 \cdot 10^6 \text{ km}^2$$

(of which $2.52 \cdot 10^6$ land and $0.80 \cdot 10^6$ sea)

Reference figure :

$$138 \cdot \frac{3.32}{14.5} = 32$$

2. East European countries

$$S_2 = 3.23 \cdot 10^6 \text{ km}^2$$

(of which $2.83 \cdot 10^6 \text{ km}^2$ land and $0.40 \cdot 10^6 \text{ km}^2$ sea)

Reference figure :

$$138 \cdot \frac{3.23}{14.5} = 31$$

3. West European countries (including Turkey)

$$S_3 = 7.94 \cdot 10^6 \text{ km}^2$$

(of which $4.64 \cdot 10^6$ land and 3.30 km^2 sea)

Reference figure :

$$138 \cdot \frac{7.94}{14.5} = 75$$

A N N E X 2

SPECIMEN CALCULATION OF REFERENCE FIGURES
FOR TWO IMAGINARY COUNTRIES OF THE EUROPEAN BROADCASTING AREA

1. Country A

$$S_A = 200 \cdot 10^3 \text{ km}^2$$

Reference figure :

$$138 \cdot \frac{0.2}{14.5} = 1.90$$

This figure means that the country may have :

- a) 1 assignment for sky wave service
- 2 assignments " ground wave service in rural areas
- 2 " " ground wave services in urban areas
- 3 " " local services

Total number of assignments : 8

or, if it prefers,

- b) 1 assignment for sky wave service
- 4 assignments " ground wave service in urban areas
- 9 " " local services

Total number of assignments : 14

or

- c) 0 assignments for sky wave service
- 6 assignments for ground wave service in rural areas
- 11 assignments for local service

Total number of assignments : 17

or some other solution according to the country's needs.

2. Country B

$$S_B = 2 \cdot 10^6 \text{ km}^2$$

Reference figure :

$$138 \cdot \frac{2}{14.5} = 19$$

Assuming that the country has requested 125 assignments, distributed as follows :

35 assignments for sky wave service

36 assignments for ground wave service in rural areas

54 assignments for ground wave service in urban areas

According to its reference figure, as calculated above, it might have :

a) 4 assignments for sky wave service

40 assignments for ground wave service in rural areas

20 assignments for ground wave service in urban areas

61 assignments for local service

Total number of assignments : 125

or

b) 2 assignments for sky wave service

44 assignments for ground wave service in rural areas

29 assignments for ground wave service in urban areas

50 assignments for local service

Total number of assignments : 125

or some other solution according to the country's needs.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 91-E

25 October 1975

Original : English

COMMITTEE 4

AD HOC REGIONAL WORKING GROUPS

Pakistan

REDUCTION OF EXCESSIVE REQUIREMENTS

It has since been recognized that the frequency requirements submitted to the Conference are excessive and that they cannot be fitted into a workable plan, unless there is a substantial reduction in the number of overall requirements.

One of the important reasons for the worsening situation in the spectrum is due to the fact that by accepting a higher interference situation within their own areas, the administrations are operating a number of co-channel stations. This tends to seriously affect the interference situation in the neighbouring countries.

In the opinion of our delegation, one way of improving this situation and at the same time reducing the overall requirements is that, in the case where co-channel stations operating within one country are causing interference to each other and to the neighbouring countries at the same time beyond the limits specified in the Report of the First Session, the administrations may have the option to retain any such stations only, which may operate within the limits as set out in the Report of the First Session.



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 92-E

27 October 1975

Original : Russian

COMMITTEE 4

People's Republic of Bulgaria

ADDITIONAL REQUIREMENTS

The delegation of the People's Republic of Bulgaria is alarmed at the fact that a solution has still not been found to the question of additional requirements often discussed at plenary meetings of Committee 4.

At the beginning of the Conference a decision was taken that certain administrations which, for valid reasons, had not submitted their requirements by the date fixed by the 1st Session, (1 May 1975), might do so up to 9 October 1975.

Later it emerged that, in addition to these administrations, in the new I.F.R.B. calculations on 13 and 20 October, additional frequencies and powers appeared for administrations among the requirements submitted before 1 May 1975.

This fact places our country in an extremely difficult position in that further incompatibilities have appeared owing to failure to observe the principles and final dates for the submission of requirements laid down at the 1st Session. As a result it has proved impossible to engage in bilateral negotiations on the basis of equality of rights.

Despite the fact that there is constant talk in meetings of Committee 4 of reducing the number of requirements, consideration of Documents Nos. 56, 61 and 76, which would enable the problem to be solved, is still being unjustifiably postponed.

In view of the above, the delegation of the People's Republic of Bulgaria makes the following proposal :

In order to establish realistic and equitable bases for the settlement of cases of incompatibility, we propose that, in the further work of the Conference, no account be taken of additional requirements submitted after 1 May 1975.



Exceptions could be made solely in the case of developing countries which, for valid reasons, did not submit their requirements by the final date specified, i.e. 1 May 1975.

Otherwise, our Administration will be obliged to take appropriate steps to safeguard its interests since countries would then be in a situation of inequality of rights.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 93-E
27 October 1975
Original : English

COMMITTEE 4
REGIONAL GROUP 4C

State of Israel

CONSIDERATION OF FREQUENCY REQUIREMENTS

1. In a number of Conference documents, reference has been made to the concept of power density as a criterion for the evaluation of the relative requirements of the different countries.
2. While the importance of such a parameter is recognized, an objective evaluation of relative requirements should include certain additional criteria - in view of the principle of equal rights (paragraph 9.1 of the Report of the First Session).
3. It is suggested, therefore, to introduce the concept of "weighted power density" - which could be derived from the unweighted power density, by applying, where required, suitable coefficients to account for criteria such as the following :

- a) The number of languages (see paragraph 9.2.1.d of the Report of the First Session)
- b) The size and geometrical shape of the country

It is evident that countries of relatively small area or of an oblong or irregular shape require a higher number of frequencies or higher powers to provide satisfactory coverage.

- c) Ground conductivity and mountainous terrain

This problem is encountered in cases where a high proportion of the area has low ground conductivity, or mountainous terrain affects the possible distribution of transmitter sites.

- d) Special educational needs.



- e) High level of interfering fields - either from existing or planned stations in other countries; especially in the interface areas with other regions.

4. If the idea expressed in this Document is adopted, an attempt should be made to determine the specific values of each of the weighting coefficients.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 94-E
27 October 1975
Original : English

COMMITTEE 4

Socialist Federal Republic of Yugoslavia

SOME BASIC CONSIDERATIONS IN THE PLANNING WORK

During the work of the Conference different guidelines for the planning have up to now been proposed. In the Documents submitted, such proposals were based on scientifically treated physical facts.

While such methods may be appropriate as a starting step, they could of course not sufficiently take into consideration the criteria contained in the Report of the First Session, Chapter 9 (Methods of Planning), reaffirmed by the Plenary Meeting of this Conference. Reference is made particularly to the following :

"The Plan will be drawn up in accordance with the principle that all countries, large and small, have equal rights. It should also be based on the needs of administrations and should bring about satisfactory reception conditions for all peoples, having regard to the different conditions of the countries in Regions 1 and 3 and, in particular, the needs of the developing countries." (paragraph 9.1)

"When planning, it is necessary to observe the following basic considerations :

.....

- d) the endeavour to meet to the maximum extent possible, the requirements of all administrations for the broadcasting services taking into account administrative subdivisions and the number of languages involved;" (paragraph 9.2.1,d))

There are a number of countries for which these principles are most relevant and which therefore cannot disregard them.



Hence, in order to comply both with word and spirit of the principles of planning adopted, the constitutional set-up in a country including the various autonomous federal units and national entities having independent broadcasting organizations as well as the recognized languages should also be reflected in the planning guidelines to be adopted.

It is proposed therefore that, wherever necessary, adequate corrections are made in the results of the basic planning formula to be adopted and for which several proposals have so far been submitted.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 95-E
27 October 1975
Original : English

COMMITTEE 4

FIRST REPORT BY WORKING GROUP 4C (EUROPE) TO COMMITTEE 4 (PLANNING)

1. The Working Group agreed first to consider the question of the technical validity of the Plans and the question of which requirements should be taken into consideration in planning, before dealing with the question of the reduction of overall requirements; it being recognized that the latter question was to some extent dependent upon the other two questions.

Technical validity of the Plan

2. The Working Group unanimously agreed that the technical validity of the Frequency Assignment Plans (LF Plan and MF Plan) to be adopted by the present Conference should be about ten years from the date of the entry into force and that the date of entry into force should be in about 2 to 4 years' time.

Requirements to be taken into consideration in planning

3. The Working Group agreed to make the following recommendation to Committee 4.

" It is proposed to take into consideration in planning the requirements submitted by:

- "a) the developed countries, which participated in the First Session of the Conference, before 12 May 1975;
- "b) the developing countries, which participated in the First Session of the Conference, as listed in I.F.R.B. Circular-letters No. 324, No. 325 and No. 326 /and also to adopt the supplementary requirements submitted by developing countries which are considered justified by the Regional Group taking into account Document No. DT/25 (Rev)7;



"c) the countries not mentioned in a) and b) above, up till 24 October 1975.

" These requirements will be given priority in planning over requirements submitted up till 6 October 1975.

" These requirements therefore should be taken into consideration at the first stage of planning and all others would be considered at a later stage according to sub-paragraph 2.3 of the terms of reference of the Working Group (Document No. 86)".

4. The Working Group remained divided with respect to the text shown between squared brackets in sub-paragraph b) above. Some delegations felt that the text should be deleted while others wished to see the text retained. A few delegations would not oppose the retention of the text provided the words "which are considered justified by the Regional Group" were not included.

5. The Delegation of Bulgaria reserved the right to revert to this matter in Committee 4, if it still so desires.

6. The Delegation of Turkey was not in agreement with the terms of the above recommendation and reserved the right to revert to this question in Committee 4, if it still so desires.

7. The Working Group emphasized the need for the early publication of Document No. DT/25 (Rev) to which reference is made in the terms of reference of the Working Group (Document No. 86).

K.I. TERÄSVUO
Chairman

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Addendum No. 1 to

Document No. 96-E

4 November 1975

PLENARY MEETING

Note by the Chairman of the Conference

COUNTRIES NOT PRESENT AT THE CONFERENCE

The following answers to the telegrams mentioned in Document No. 96 have been received, as at 2 November 1975 :

Burma (Socialist Republic of the Union of) - not in a position to attend the Conference

Khmer Republic - telegram returned (traffic suspended)

Mozambique - participants arrived 30 October 1975

Nepal - delegation arrived

Sri Lanka - delegation arrived

Syria (Republic of) - delegation arrived

Tonga (Kingdom of) - requirements sent (proxy designated)

Viet-Nam (Republic of) - not in a position to attend the Conference; requirements sent

Korea (People's Democratic Republic of) - not in a position to attend the Conference; requirements sent.

I have also sent a telegram to the following countries which had stated that they would participate in the Conference but which are not yet present :

Bahrain (State of)

Iraq (Republic of)

Laos (Kingdom of)

Rwanda (Republic of)

Sierra Leone

D.C. ROSE
Chairman



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 96-E

27 October 1975

Original : English

PLENARY MEETING

Note by the Chairman of the Conference

COUNTRIES NOT PRESENT AT THE CONFERENCE

For the information of delegates I have sent telegrams to countries not present at the Conference, seeking information about either their requirements and/or participation, as appropriate.

The countries are as follows :

Angola

Burma (Socialist Republic of the Union of)

Cape Verde Islands

Guinea Bissau

Equatorial Guinea (Republic of)

Khmer Republic

Korea (Democratic People's Republic of)

Maldives (Republic of)

Mozambique

Nauru (Republic of)

Nepal

Somali Democratic Republic

Sri Lanka (Ceylon) (Republic of)

St. Thome and Principe

Swaziland (Kingdom of)

Syrian Arab Republic

Tonga (Kingdom of)

Viet-Nam (Democratic Republic of)

Viet-Nam (Republic of)



CONFERENCE DE RADIODIFFUSION

(DEUXIEME SESSION)

GENEVE, 1975

Corrigendum N° 1 au
Document N° 97-F/E/S
28 octobre 1975

COMMISSION 4
COMMITTEE 4
COMISION 4

Page 7, remplacer les notes de bas de page par les suivantes :

Page 7, replace the footnotes by the following :

Página 7, se sustitúyanse las notas al pié de la página por las siguientes :

- 1) Hiver/Invierno
- 2) Eté/Verano
- 3) 2 changements/2 cambios
- 4) Equinoxe/Equinoccios
- 5) 4 changements/4 cambios



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 97-E

27 October 1975

Original : EnglishCOMMITTEE 4Federal Republic of Germany

DEFINITION OF DAY TIME

In LF/MF sound broadcasting the need may arise to define a period of time of the day during which transmitters may be operated without any risk of producing a serious amount of sky-wave interference. From the physics of wave propagation it is obvious that this period of day time to be defined is closely linked to the period between sunrise and sunset, which varies with the season of the year, the geographic latitude and, unless the definition is given in local time, with the geographic longitude. The way in which the attenuation of the sky-wave signal is linked to sunrise and sunset is shown in a Figure, which is reproduced as Fig. 3 in Annex B and Fig. 5 in Annex E, to the Report of the First Session of this Conference.

Since the conversion from GMT to local time and vice-versa can easily be made in accordance with the subsequent formulae, it seems to be appropriate to give a definition of day time on the basis of local time. The conversion formulae are:

$$\text{Day time (local)} = \text{Day time (GMT)} + \text{int} \left(\frac{\text{LONG}}{15} \pm 0.5 \right)$$

$$\text{Day time (GMT)} = \text{Day time (local)} - \text{int} \left(\frac{\text{LONG}}{15} \pm 0.5 \right)$$

where LONG is the geographic longitude, in degrees, of the reference point. In the formulae the operator "int" means the integral part of the argument between brackets, and in the terms ± 0.5 the positive sign applies for eastern, the negative sign for western longitudes.

When day time is defined as the period of time during which the sky-wave signal is at least X dB below its maximum value, then the dependence of day time on the month of the year and on geographic latitude is shown



in Fig. 1 for $X = 20$ dB;

in Fig. 2 for $X = 10$ dB.

It is evident, e.g. from Fig. 1, that – with the exception of the curves for 60° latitude – the curves for different latitudes are fairly close to each other. The underlying physical law could be taken account of in the most cautious way by replacing the curves of Fig. 1 by one single pair of curves consisting of those parts of the curves for 50° and 30° closest to noon (see Fig. 3).

On the basis of Fig. 3 day time can be defined as the time between the two curves centred around noon. A comparison with Fig. 2 shows that even at 60° latitude the sky wave signal would be at least 10 dB below the maximum night-time level for most of the year.

Day time transmitters could consequently be operated in different ways for which 3 examples shall be given (see Fig. 3)

1. Uniform operation schedule throughout the year. In this case the operational hours would be 08.00 – 15.30.
2. Operational schedule adapted to the changing physical conditions with two different operational periods (2 changes)
Winter: 08.00 – 15.30 (16 Sept – 15 Mar);
Summer: 06.00 – 17.30 (16 Mar – 15 Sept).
3. As before, however, with four different operational periods (4 changes).
Winter: 08.00 – 15.30 (16 Oct – 15 Feb);
Equinoxes: 07.00 – 16.30 (16 Feb–15 Apr and 16 Aug–15 Oct);
Summer: 05.30 – 18.00 (16 Apr – 15 Aug).

With the 3 examples given there would arise no difficulty during the morning hours and in the evening there would be a slight departure from the limit laid down during the second half of April, only, in the case of example 3.

As regards the reference point a simplification seems to be possible in view of the strict rules applied when defining day time. Although, in principle, the reflection point in the ionosphere should be taken as a reference point (which is, depending on the length of the propagation path, up to 1000 km distant from the transmitter site in the direction of propagation), it may be acceptable to use the transmitter location as a reference point with negligible error.

Annexes : 3 figures

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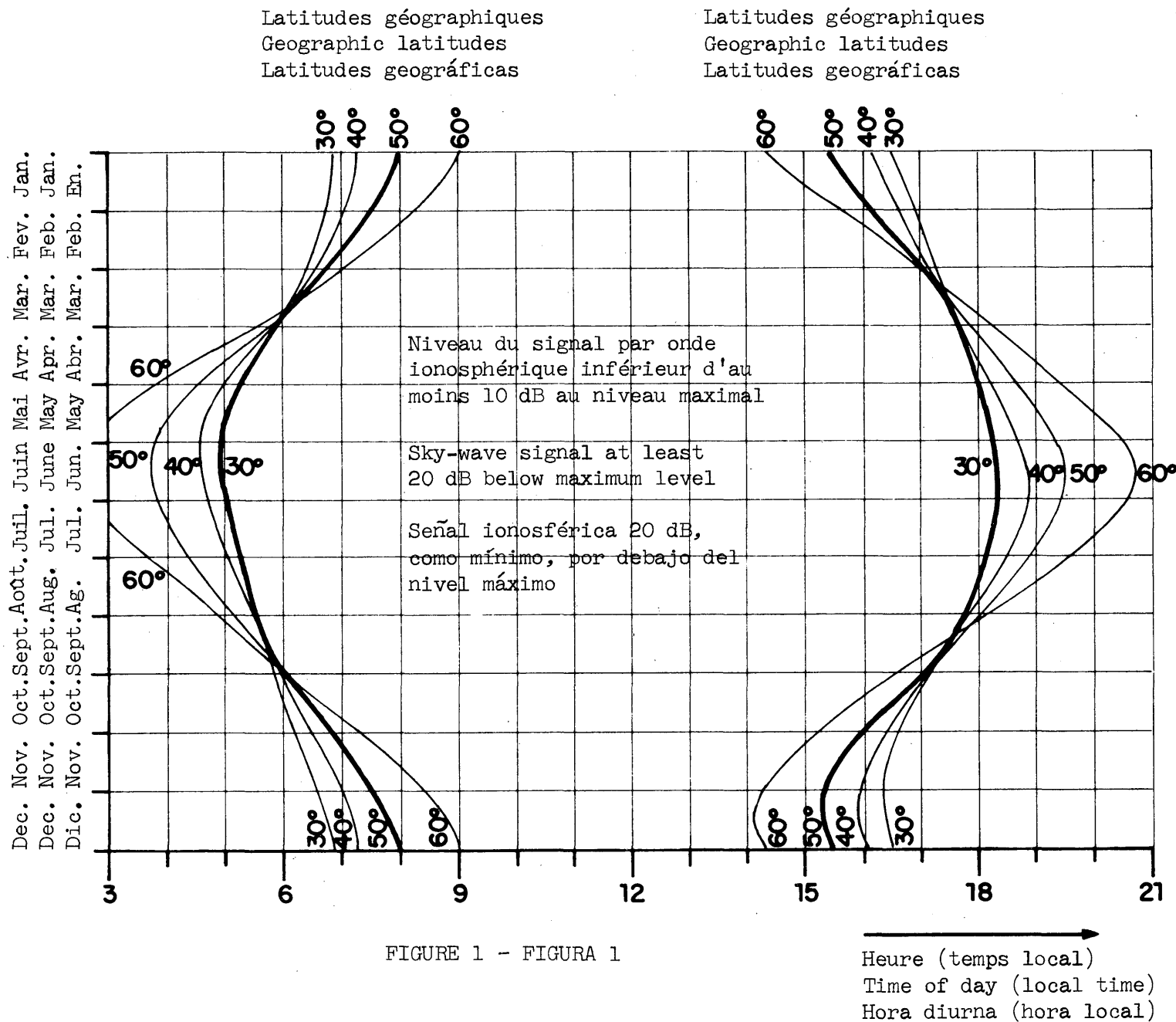
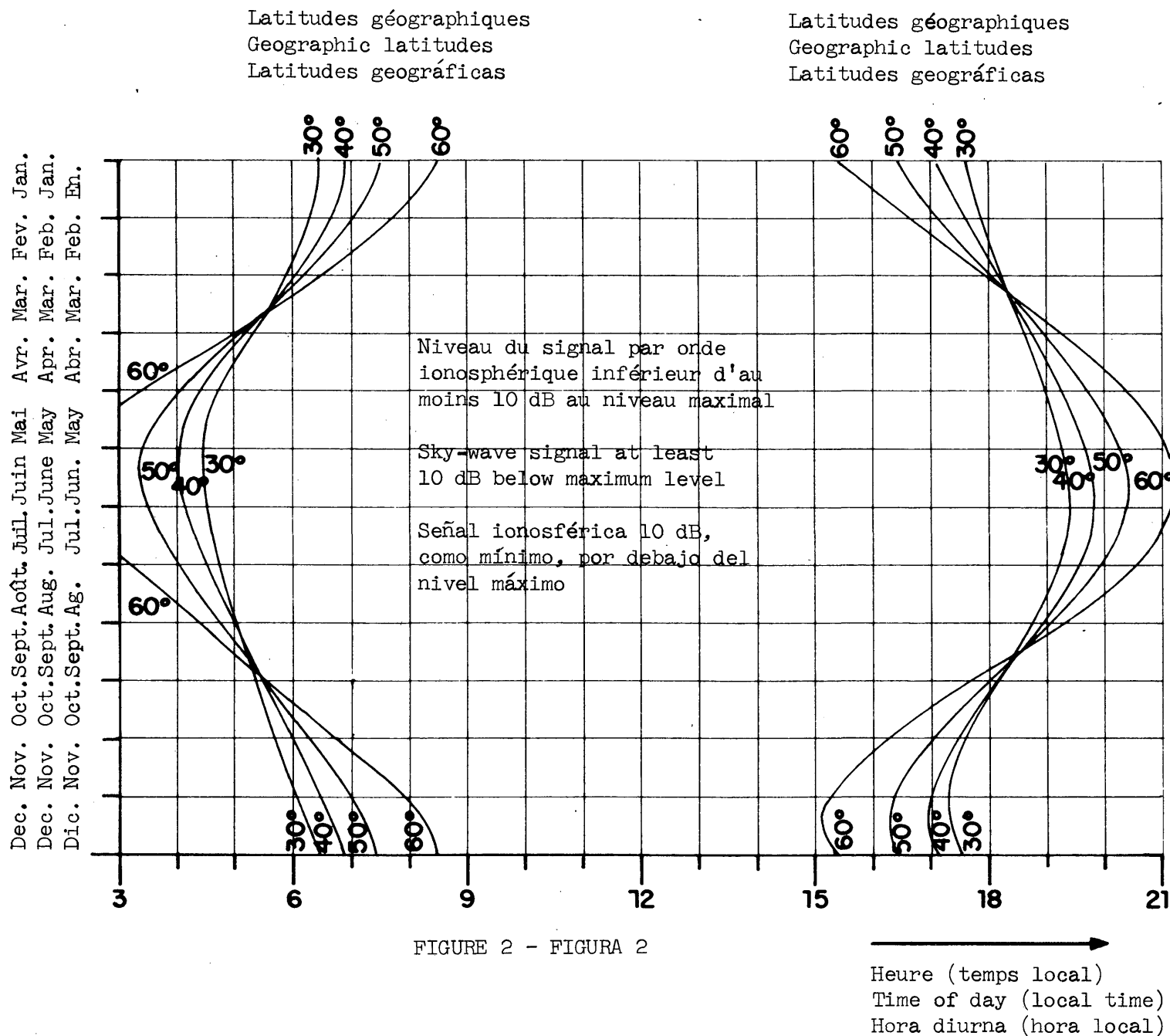


FIGURE 1 - FIGURA 1



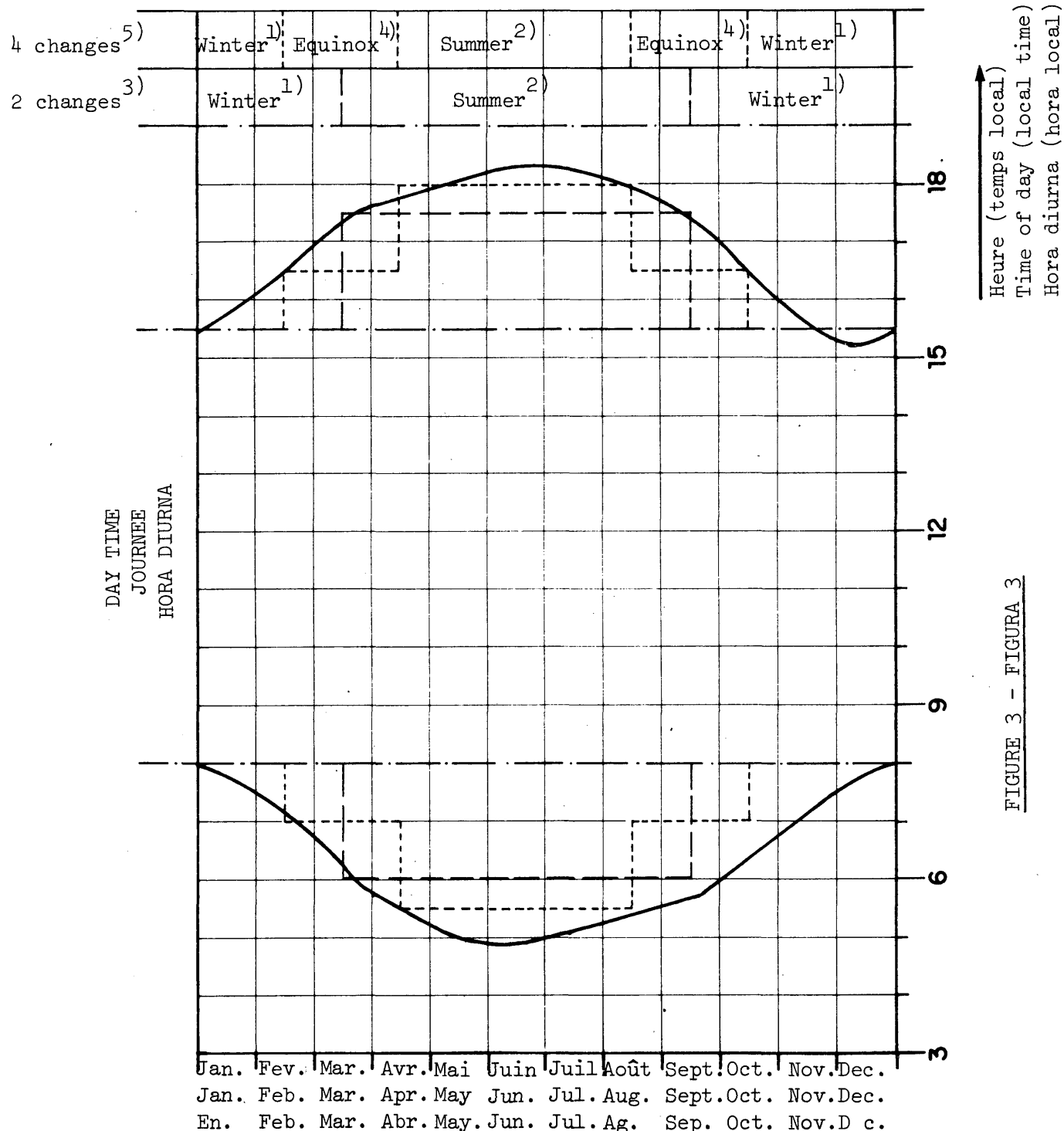


FIGURE 3 - FIGURA 3

- 1) Hiver/Invierno
- 2) Été/Verano
- 3) 2 changements/Invierno¹⁾ 2 cambios
- 4) Equinoxe/Equinoccios
- 5) 4 changements/Invierno¹⁾ 4 cambios

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Corrigendum to
Document No. 98-E
October 1975

Original : English

COMMITTEE 4

SUMMARY RECORD
OF THE
THIRD MEETING OF COMMITTEE 4

Page 9

The figures given in the Chairman's conclusion of
the discussion on LPCs should read :

"- ... LPCs should be established on 1 485, 1 584 and
1 602 kHz;"



BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 98-E
27 October 1975
Original : English

COMMITTEE 4

SUMMARY RECORD

OF THE

THIRD MEETING OF COMMITTEE 4

Wednesday, 15 October 1975, at 1515 hrs

and

Thursday, 16 October 1975, at 1040 hrs

Chairman : Mr. V. ŽAGAR (Yugoslavia)

Subjects discussed :

1. Report of Working Group 4/LPC
2. Review of documents

Document Nos.

44

36, 39, 42,
45, 48



1. Report of Working Group 4/LPC (Document No. 44)

The Chairman reminded the Committee that Working Group 4/LPC had been set up to enable the Conference to reach general agreement on the number of low-power channels required and the frequencies to be used for that purpose. Although the Group's report reflected some different views on the subject, it was to be hoped that it would allow the Committee to proceed with the planning work, so that the computations to be made during the following week-end could take into account the frequencies set aside for LP transmission.

The Chairman of Working Group 4/LPC introduced the Group's report (Document No. 44) on the three meetings it had held. With regard to point 2, it had been decided that an exchange of views on the total number of stations fulfilling the requirements of LPC operation - employing a maximum e.m.r.p. of 1 kW - could be held at a later stage of the Conference. The argument for setting aside a uniform number of LPCs for Regions 1 and 3, referred to in point 5, was that otherwise very serious coordination problems would arise at the frontiers of the two Regions. Unfortunately, he was unable to give the Committee the Working Group's unanimous opinion on some aspects of its work, as some delegations had not been prepared to go into those subjects in detail at the Group's last meeting.

The delegate of Iran proposed that three LPCs, common to both Regions, should be set aside, on frequencies 1 593, 1 485 and 1 602 kHz. The latter frequency might be changed in the light of other proposals.

The delegate of the United Kingdom pointed out that every channel set aside for LP transmission meant one less for HP use and that the countries of Region 1 had already sacrificed one channel by accepting 9 kHz spacing in the interests of uniformity, whereas Region 3 had thereby gained 12 extra channels. The situation in the two Regions was therefore completely different and, although it was desirable in principle to have the same number of LPCs in both, neither the European nor the African countries of Region 1 could profitably set aside more than two channels for LP use. Moreover, it was a technical fact that any country using a channel adjacent to an LPC would find its use of LPCs restricted by interference from its own HP stations. Finally, the exception clause desired by some delegations as described in point 7 of the Group's report would in fact nullify the whole concept of LPCs; an alternative might be to accommodate LP transmitters in normal channels in accordance with the general procedures of the Radio Regulations for avoidance of interference.

The delegate of the Federal Republic of Germany supported those views, adding that, according to point 9.6.1 of the report of the First Session, LPCs should be sufficiently separated from each other in frequency in order to allow simultaneous use in the same area; yet frequencies 1 593 and 1 602 kHz, proposed by the Iranian delegation, were adjacent.

The delegates of Pakistan, India, Japan and Indonesia said that there was hardly any point in having LPCs unless they were uniform and agreed with the United Kingdom delegate that exceptions should be taken care of by the normal procedure set out in the Radio Regulations. The countries of Region 3 were in favour of a large number of LPCs and regarded three as the minimum that they could accept as a compromise, since, unlike the developed countries, the developing countries mostly had no alternative means of mass communication and, moreover, that type of transmission made for the most efficient and economical use of the frequency spectrum. An advantage of 1 602 kHz was that it was an edge frequency and would thus present no difficulty of coordination with adjacent bands if it was used for LP transmission.

The delegates of Italy, Spain, Egypt, Yugoslavia, Afghanistan and Upper Volta, said that the situation with regard to LPCs was much the same as that which had prevailed concerning channel spacing at the First Session : uniformity was of the essence, and in view of the high LPC requirements of Region 3, three channels was a generous compromise. They therefore supported the Iranian proposal.

The delegates of Sweden, Portugal, Turkey, Malaysia, Niger and Mauritania said that they too supported the Iranian proposal and endorsed the United Kingdom delegate's views concerning an exception clause.

The delegate of the U.S.S.R. pointed out that there had already been considerable difficulty in the northern part of Region 1 in protecting LPCs from adjacent channels and that an analysis of requirements in Region 3 showed that the same difficulty was likely to arise there in future. A generally acceptable solution might be to use the same frequencies for LPCs in both regions, but to allocate two channels to Region 1 and three to Region 3.

The delegates of Austria and the Netherlands supported that suggestion.

The delegate of France said that, since LPC requirements obviously depended on the specific situation of each country, a real compromise was indispensable. Where an HP transmitter could not serve all the area intended, a solution might be simply to use a small transmitter on the frequency of a large one. France, for its part, regarded two LPCs as the

maximum; but from the purely technical point of view delegates might consider allocating 3 channels to LP transmission, two reserved for powers of 1 kW and below and one for higher powers, perhaps up to 10 kW.

The Chairman summing up the discussion said all delegates agreed that there should be no exceptions to the provisions of the First Session's report, and all agreed that a uniform system should be established throughout the whole planning area. With regard to the number of channels, while some delegates favoured three LPCs in Region 3 but only two in Region 1, the majority view appeared to be in favour of three uniform LPCs and he wondered, in view of the important statements which had been made expressing goodwill and mutual understanding, whether agreement could be reached on that number.

The United Kingdom delegate said that to do so would be a serious step; it would mean that a decision had been taken at an early stage in the Conference regarding the disposal of a very scarce resource, without the fullest study having been made of alternative possibilities. Opposition had been expressed by some Region 1 delegates to the setting aside of more than two LPC channels. He suggested that the Conference might agree, at that stage, to two LPCs for Region 1, and subsequently, when planning had proceeded further, consider the possibility of a third LPC in Region 1.

The delegate of India, supported by the delegates of Mauritania, Iran, Pakistan, Libya and Dahomey, said that the course suggested by the United Kingdom delegate would seriously hamper planning procedures. It was essential to take an immediate and final decision on the number and location of LPCs. While he sympathized with the difficulties and sacrifices that would be entailed for certain countries, the majority was in favour of three LPCs and he urged that three LPCs be adopted uniformly for Regions 1 and 3.

It was so agreed.

The delegate of the United Kingdom said that there had been a very full discussion of the issue and he realized the strength of feeling that existed particularly among the delegates of some of the less developed countries. He feared, however, that when the Conference came to consider the use of high power channels, resources would be found to be inadequate and it would become necessary to reconsider the use of a third low-power channel. He therefore expressed his delegation's reservation on the decision just taken.

The delegate of the Netherlands maintained the reservation which his delegation had made in the Working Group on LPCs.

The delegate of the U.S.S.R. also entered a reservation by his delegation, reserving the right to return to the issue of the expediency of having a third LPC in the northern part of Region 1.

The delegate of the People's Republic of China supported the view expressed by Iran and the majority of developing countries that Regions 1 and 3 should have three LPCs.

The delegate of Japan pointed out that several Asian countries favoured 1 602 kHz as the third LPC carrier frequency. However, that frequency was adjacent to 1 593 kHz and could not, for that reason, be used efficiently. He therefore proposed the following frequencies : 1 485 kHz, 1 593 kHz and 1 395 kHz.

The delegate of Egypt seconded that proposal, invoking the third sub-paragraph of paragraph 9.6.1 of the Report of the First Session according to which "LPCs should be sufficiently separated from each other in frequency to allow simultaneous use in the same area".

The delegates of Pakistan, India and the Philippines also supported the proposal made by the delegate of Japan.

The delegate of Iran said that he was also prepared to accept the proposal although the choice of 1 395 kHz would necessitate some adjustment of his Administration's frequency requirements.

The delegate of the U.S.S.R. stressed the need for further discussion, as the choice of a third LPC frequency for the European region was so difficult as to be practically impossible.

The delegate of the Netherlands said that the proposed choice of frequencies would give rise to the greatest possible difficulty for his Administration. In the absence of any solution to those difficulties, he could not accept the Japanese delegate's proposal.

The delegate of Italy said that, so far as his own Administration was concerned, the 1 395 kHz frequency was acceptable; however, he objected to the proposal because it ran contrary to a decision adopted at the First Session.

The delegate of Poland said the he could agree to the first two frequencies proposed, namely 1 485 kHz and 1 593 kHz; as for the choice of the third LPC frequency, the question was serious enough to warrant more thorough analysis.

The Chairman of the I.F.R.B. suggested that the difficulty with adopting 1 602 kHz as the third LPC frequency might be overcome if 1 593 kHz were substituted for 1 584 kHz, so that two LPCs were separated by one channel.

The delegate of Italy did not think that such a solution would ensure sufficient separation to allow simultaneous use in the same area. If 1 602 kHz was preferred to 1 593 kHz, he suggested that 1 395 kHz, 1 485 kHz and 1 602 kHz might be a better choice.

The delegate of Thailand supported that suggestion.

The delegates of Pakistan and Albania agreed with the Chairman of the I.F.R.B.

The delegate of the Netherlands did not think that the point made by the delegate of Italy was valid in view of the relative value of the radio-frequency protection ratio as a function of the carrier frequency separation (Figure 1, page 64, Report of the First Session).

The delegate of Australia remarked that if there were to be LPCs, they might at least be sufficiently separated to be used within the same area. He favoured the Japanese delegate's proposal.

The Chairman, supported by the delegate of Cameroon, suggested that the matter be given more detailed study.

The delegate of Egypt, supported by the delegates of the U.S.S.R., Italy and Pakistan, proposed that a small ad hoc group should be set up to study the question and report to the Committee on the following morning.

It was so agreed.

After a discussion in which the delegates of Pakistan, the Netherlands, Iran, Libya, Italy, the Federal Republic of Germany, the U.S.S.R., Egypt and Poland took part, it was agreed that the ad hoc group should be composed of the following delegations : Cameroon, Czechoslovakia, Egypt, Federal Republic of Germany, German Democratic Republic, India, Iran, Italy, Japan, Netherlands, Nigeria, U.S.S.R.

The delegate of the Federal Republic of Germany, seconded by the delegations of Italy, Australia and the Republic of Korea, proposed that the delegate of Japan should be the Chairman of the ad hoc group.

The delegate of Japan accepted.

The delegate of Bangladesh, supported by the delegate of the Netherlands, proposed that the I.F.R.B. should be associated with the work of the ad hoc group.

It was so agreed.

The delegate of France enquired whether the ad hoc group would be obliged to choose the LPC frequencies from among those listed in Document No. 44.

The Chairman said that the very useful work done by Working Group 4/LPC should undoubtedly be taken into consideration.

The delegate of the Federal Republic of Germany agreed.

The delegate of India said that the ad hoc group should certainly take cognizance of the work done by Working Group 4/LPC, but not necessarily make use of the proposed list of frequencies; any limitation of choice would be regrettable.

The Chairman pointed out that no frequency which did not appear in Document No. 44 had been suggested. The ad hoc group's task was to select three LPC frequencies on the basis of that document and of the discussion which had taken place in the Committee.

The meeting was suspended at 1810 hours and resumed at 1040 hours on Thursday, 16 October 1975.

The Chairman of the ad hoc Group on Specific Low-power Channel Frequencies, presenting his oral report on the work of the Group, said that there had originally been four differing opinions on the best combination for three low-power frequencies : the first was for the frequencies 1 395, 1 485 and 1 593 kHz; the second for 1 395, 1 485 and 1 602 kHz; the third, suggested by the Chairman of the I.F.R.B., for 1 485, 1 584 and 1 602 kHz, and the fourth for 1 485, 1 593 and 1 602 kHz. The last combination had been rejected on the ground that frequencies 1 593 and 1 602 kHz were too close together to conform with the provisions in the Report of the First Session of the Conference. Some delegations had emphasized the importance of retaining the international common frequencies adopted in the Copenhagen and African Plans. Others had considered that frequency 1 602 kHz should be used instead of 1 593 kHz. After hearing the suggestions of the Chairman of the I.F.R.B., many members had supported that body's ideas as a compromise solution but others had considered channels 1 584 and 1 602 kHz to be too close together, maintaining that there should be at least a four-channel separation. Still others had favoured a ten-channel separation. Some concern had been expressed that adoption of the 1 602 kHz frequency might lead

countries to increase the power of their transmitters in the future and thus cause some interference to mobile or other services. The I.F.R.B.'s suggestion had nevertheless been accepted, subject to a reservation on the part of the Federal Republic of Germany.

The Chairman emphasized the importance of reaching agreement on the LPCs before the following week's discussions began.

The delegate of Australia said that his delegation must re-state its concern at the lack of separation between the two lower channels agreed by the ad hoc Group. The decision would effectively limit the use of the low-power channels to two channels in any locality. While it might theoretically be possible, with the use of sophisticated equipment, to discriminate between the channels in question, it was impossible to do so in the case of equipment in everyday use.

The delegate of Italy said that his delegation had accepted the proposed frequencies to conform with the wish of the majority of delegations in the ad hoc Group. It nevertheless shared the views of the Australian delegation and would like them to be recorded in the Committee's report.

The delegate of Pakistan said that the figure of 58 dB discrimination cited from the Report of the First Session for 18 kHz separation appeared to give an adequate separation for two low-power stations to operate from the same locality. He presumed that the figure of 58 dB was for ordinary receivers used by listeners in general and not for sophisticated receiving equipment.

The delegate of Yugoslavia said that compromise was necessary in order to protect vital broadcasting services, particularly in the case of developing countries. His delegation therefore supported the ad hoc Group's majority decision to accept the I.F.R.B.'s suggestions.

The delegate of the U.S.S.R. supported the solution proposed during the meeting of the ad hoc Working Group of Committee 4, but suggested that for the Northern part of Region 1 the third frequency for LPCs should not be used until more was known on the progress of general planning.

The delegate of the Federal Republic of Germany had made reservations on the proposal adopted in the Working Group. His country was seriously affected by the proposal made by the Chairman of the I.F.R.B. since the frequency assigned to Germany in the Copenhagen Plan had been in use for many years. In a spirit of cooperation, however, he accepted the compromise proposal on the understanding that an acceptable alternative frequency could be found.

The delegate of India felt that special treatment should be given to transmitters which had to be shifted from the agreed LPCs to minimize dislocation of services.

The Chairman of the I.F.R.B. requested that delegations should examine as soon as possible whether they wished to use LPCs for transmitters with a power reduced to 1 kW, or whether they preferred to maintain a higher power on another frequency.

The delegate of India pointed out that clarification was needed as to whether LPCs were planned for night use only. He felt that in many cases it might be possible for them to use them during the day under the conditions stipulated in No. 115 of the Radio Regulations.

The delegate of Italy said that the delegate of India had raised a very important problem. He considered that it was essential to limit the power in LPCs to 1 kW since in certain cases harmful interference could occur even in daytime. He was supported by the delegates of Pakistan and Sweden, the latter pointing out that a firm decision had been taken the previous day that the power should not exceed 1 kW.

The delegate of the U.S.S.R. considered that the conditions for compatibility were clearly laid down in paragraph 9.6.2 of the Report of the First Session.

After some further discussion, the Chairman concluded that :

- it had been agreed that LPCs should be established on 1 495, 1 584 and 1 602 kHz; that should be taken into account for the coming week-end's calculation;
- that problems relating to LPCs should be studied further;
- delegations should cooperate in finding solutions for transmitters which had to be transferred to frequencies other than those of the LPCs.

In reply to the delegate of the Federal Republic of Germany, the Chairman of the I.F.R.B. said that the Board would study the possibility of publishing lists of changes in requirements which were submitted.

The delegate of Denmark, speaking as Convener of Planning Group 8, felt that, apart from the problem of clearing the new LPCs for transmitters other than those with a power less than 1 kW, it might be useful for delegates to examine the possibility of moving low-power transmitters from other frequencies to LPCs.

The delegate of Japan pointed out that there were very many low-power transmitters in his country and that it would be difficult to decide quickly which should be transferred to the new LPCs.

2. Review of documents (Documents Nos. 36, 39, 42, 45 and 48)

The delegate of Pakistan, introducing Document No. 36, said he wished to make it clear that his Administration was not opposed to high-power transmitters as such, since in certain cases they were the most economical solution for broadcasting. However, the total power requested by each country should be reasonable and consistent with that country's apparent needs. It was difficult to see how two administrations could, through coordination, solve their common problems if one of the two wanted very high powers on almost all the channels in the MF band. Document No. 36 requested the I.F.R.B. to provide information which would make it easier to judge whether or not the total power requested by each country was compatible with the Planning Principle of Equal Rights.

The Chairman of the I.F.R.B. said that the I.F.R.B. had already undertaken the task of compiling the information requested in Document No. 36 and was awaiting a formal decision by the Committee before publishing the results of those calculations.

The delegate of Italy said that Document No. 36 raised an extremely important problem which had already been touched upon by the Committee. He considered that the question of reduction of requirements should be placed on the agenda for the Committee's next meeting.

The delegate of Spain, supported by the delegate of the United Kingdom, proposed that the information requested in Document No. 36 should be supplemented by statistical data on the total power, area in km² and density of power per km² of each country, set out in three additional columns.

The delegate of Japan proposed that the information to be included in columns 2 b) and 3 b) should include requirements for 100 kW as well as those in excess of that figure.

The delegate of the Netherlands stressed the importance of Document No. 36, and said that the planning principle of equal rights should be used as a practical tool for planning. It was the hope of his Administration that application of that principle would lead to better planning and to the setting of a power limit. He supported the proposal by the delegate of Spain, and considered that statistics on the population and the power per inhabitant in each country should also be supplied, for purposes of comparison.

The Chairman of the I.F.R.B. said that inquiries would have to be made to determine whether there was an official United Nations list giving the area and population of each country. If there was no such list, it would be necessary for the Conference to supply the I.F.R.B. with that information, since the latter could not undertake to collect such data itself.

The delegates of Pakistan and the United Kingdom observed that such information could easily be obtained from works of reference.

The delegate of Tunisia said that his delegation would be happy to place at the disposal of the Conference a document it had compiled containing statistical data such as the area, population, total power, power per 1000 km², distribution of channels and number of stations in each country.

In reply to a question by the delegate of Austria, the Chairman said it was his understanding that the I.F.R.B. would take the requirements situation as of 13 October 1975 as the basis for its calculations.

If there was no objection he would take it that the Committee wished to note Document No. 36 together with the comments and proposals made concerning it, and to request the I.F.R.B. to supply the information in question.

It was so agreed.

At the suggestion of the Chairman, Documents Nos. 39, 42, 45 and 48 were noted.

The meeting rose at 1255 hours.

The Secretary :

K. ČOMIĆ

The Chairman :

V. ŽAGAR

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 99-E

27 October 1975

Original : French

COMMITTEE 4

REPORT OF THE CHAIRMAN OF WORKING GROUP 4B

"AFRICA" TO COMMITTEE 4

The Africa Regional Group 4B, on which 31 countries are represented, held three plenary meetings.

It adopted Document No. 86 on the terms of reference of the regional groups as the basis of its work.

During its meetings, Regional Group 4B adopted a pragmatic approach to the analysis and treatment of the various problems submitted to it. The following decisions were reached unanimously :

1. Reduction of requirements

The Group noted first of all that the requirements submitted for Africa were, in general, very modest from the standpoints both of quantity and of power (less than 1000 requirements for a total power of 70 000 kW).

However, in compliance with point 1 of Document No. 86, the Group accepted the principle of the reduction of requirements considered excessive on the assumption that the average duration of the validity of the Plan will be about 15 years.

Cancellations of assignments are now being collected by the Group and will be submitted to Committee 4 provided that the principle of the reduction of requirements has also been accepted by the other Regions.

2. Duration of validity of the Plan

The Group considers that a period of 15 years would be appropriate and recommends that that period should be regarded as the basic unit in the new analysis of requirements with a view to their possible reduction.

3. Planning work of Committee 4

Regional Group 4B adopted point 2.2 of Document No. 86 as the starting point for planning work.



Considering, however, that the Africa Plan, 1966, does not meet the requirements of African countries so far as the number of assignments is concerned, assignments in use and those in the Africa Plan will be examined on the basis of the principle of equal rights for all countries and may be revised in accordance with the new requirements.

4. Introduction of new requirements

The principle was adopted of examining new requirements on the basis of the following criteria :

- equality of rights of all countries, large or small;
- priority to developing countries;
- period of validity of the Plan;
- mean power density in Watt/km² (Document No. DT/25 (Rev.));

5. Mediation Group

A Mediation Group 4B/1 consisting of the Chairmen of Planning Groups 4/1, 4/5 and 4/9 (respectively, Tunisia, Guinea and Zambia) together with representatives of Congo, Ethiopia, Kenya, Libya, Mauritius and Nigeria, was set up under the chairmanship of Mr. Kalislira (Zambia).

The Group's terms of reference are :

- to assist the Chairman of the Africa Group;
- to serve as mediator in the event of dispute between African countries;
- to study and assert the frequency needs of African countries which have not yet acceded to independence and of those which are not represented at the Conference but which are recognized by the O.A.U.;
- to assist the African countries in negotiations concerning cases of interference between Africa and other Regions.

6. Interference to the stations of African countries from stations in other Regions

The Group considers that the assignments in use, including all assignments in the Africa Plan, 1966, do not satisfy the development requirements of the various countries in the field of broadcasting.

It would therefore remind countries in other Regions, in particular those in the European Broadcasting Area, that the Africa Plan 1966 was established on the protection to be afforded to stations recorded in the I.F.R.B. Master Register as on 2 September 1966. That fact considerably reduced the scope of the said Plan.

In view of the principle of equality enunciated in Chapter 9 of the Report of the First Session, the Africa Group hopes to encounter a cooperative attitude in the settlement of cases of interference which takes the special situation of the African countries into account.

BROADCASTING CONFERENCE

(SECOND SESSION)

GENEVA, 1975

Document No. 100-E
30 October 1975LIST OF DOCUMENTS

(Documents 51 to 100)

No.	Origin	Title	Destination
51	PL	Minutes of the Second Plenary Meeting	PL
52	Pakistan	Interference to other services of Region 3 by the LF broadcasting stations of Region 1	C.4
53	C.4	Summary Record of the First Meeting of Committee 4	C.4
54	C.4	Note by the Chairman of Committee 4 (letter from the Federal Republic of Germany)	C.4
55	C.2	First Report by the Working Group of Committee 2	C.2
56	U.S.S.R.	Additional frequency requirements and modifications made directly at the Conference by various delegations to the basic technical characteristics of requirements submitted previously	C.4
57	Chairman	Note by the Chairman of the Conference (concerning Documents 31 and 35)	C.4 and C.5
58	Italy	Transmitters intended to operate in daytime only - Planning Problems	C.4
59	Italy	Considerations on the frequency requirements in the European broadcasting area resulting from I.F.R.B. Circular-letter No. 324 of 23 May 1975	C.4
60	C.4	Note by the Chairman of Committee 4 (letter from Australia)	C.4



No.	Origin	Title	Destination
61	F.R. of Germany	(Statement concerning late requirements)	C.4
62	C.4	Note by the Chairman of Committee 4 (letter from the Socialist Federal Republic of Yugoslavia)	C.4
63	C.4	Note by the Chairman of Committee 4 (letter from France)	C.4
64 + Corr.	Algeria, Botswana, Cameroon, Congo, Ivory Coast, Dahomey, Ethiopia, Gabon, Gambia, Ghana, Guinea, Upper Volta, Mauritius, Madagascar, Malawi, Mali, Mauritania, Niger, Uganda, Chad, Togo, Zaïre	Content of the Agreement	C.5 and W.G. 5C
65	W.G. 4/11	Report of Working Group 4/11 - LF to Committee 4	C.4
66 + Add.	Pakistan	Validity period of the Plan	C.4 and C.5
67	Spain	Proposals for the work on planning	C.4
68	C.3	Summary Record of the First Meeting of Committee 3	C.3
69	C.4	Summary Record of the Second Meeting of Committee 4	C.4
70	C.4	Note by the Chairman of Committee 4 (letter from Tunisia)	C.4

No.	Origin	Title	Destination
71	C.5	Summary Record of the Second Meeting of Committee 5	C.5
72 + Corr.	PL	Minutes of the Third Plenary Meeting	PL
73	C.4	Note by the Chairman of Committee 4 (letter from the United Republic of Cameroon)	C.4
74	Zambia	Proposal : limitation of power to unit of power per area in Regions 1 and 3	C.4
75	S.G.	Statement of expenditure on the Broadcasting Conference as on 15 October 1975	C.3
76	Poland	Additional requirements	C.4
77	India	Time period for implementation of the Plan	C.4 and C.5
78	Iran	Proposal for the work on planning	C.4
79	Afghanistan, Algeria, Egypt, Indonesia, Iran, Japan, Kenya, Pakistan, Netherlands, Poland, Sweden, Turkey, Yugoslavia	Draft Resolution	PL
80	C.4	Note by the Chairman of Committee 4 (letter from Spain)	C.4

No.	Origin	Title	Destination
81	C.4	Note by the Chairman of Committee 4 (letter from Italy)	C.4
82	Belgium	Protection of the Aeronautical Radionavigation Service in the new LF Broadcasting Plan	C.4 and W.G. 4/11
83	C.4	Note by the Chairman of Committee 4 (letter from Pakistan)	C.4
84	Israel	Proposals for the work of the Conference on planning	C.4
85	Yugoslavia	Daytime operation	C.4
86	C.4	Regional Groups	C.4
87	Norway	Supplementary information concerning the Norwegian requirements	C.4 and W.G. 4C
88	Yugoslavia	Application of limitation of the audio-frequency band	C.4
89	Ireland	Translation of the principle of equal rights into a practical formula for planning purposes	C.4 and Ad Hoc Regional Working Groups
90	Italy and Sweden	Study of the possibilities of sharing assignments in the European broadcasting area with a view to the reduction of total requirements	C.4 and Regional Group 4C
91	Pakistan	Reduction of excessive requirements	C.4 and Ad Hoc Regional Working Groups
92	Bulgaria	Additional requirements	C.4
93	Israel	Consideration of frequency requirements	C.4 and Regional Group 4C

No.	Origin	Title	Destination
94	Yugoslavia	Some basic considerations in the planning work	C.4
95	W.G. 4C	First Report by Working Group 4C (Europe) to Committee 4 (Planning)	C.4
96	Chairman	Note by the Chairman of the Conference (countries not present at the Conference)	PL
97 + Corr.	F.R. of Germany	Definition of daytime	C.4
98 + Corr.	C.4	Summary Record of the Third Meeting of Committee 4	C.4
99	W.G. 4B	Report of the Chairman of Working Group 4B "Africa" to Committee 4	C.4
100	-	List of Documents	-

Note from the Secretariat : Document No. 25 has been withdrawn (see the Summary Record of the Second Meeting of Committee 4 (Document No. 69)).
