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Closure of the First Session of the High-frequency Broadcasting Conference

The First Session of the World Administrative Radio Conference for the planning of the HF bands allocated to the broadcasting service (HFBC-1), which opened on 10 January at the Centre international de conférences de Genève (CICG), completed its work on 11 February 1984.

Some 575 delegates from 115 countries took part in this Conference of the ITU, together with some 20 observers from the following international, regional and other organizations: United Nations Organization (UN), Arab Telecommunication Union (ATU), Inter-American Association of Broadcasters (IAAB), International Radio and Television Organization (OIRT), European Broadcasting Union (EBU), Asia-Pacific Broadcasting Union (ABU), Union of National Radio and Television Organizations of Africa (URTNA), Arab States Broadcasting Union (ASBU) and the International Amateur Radio Union (IARU).

I. Structure of the First Session

The Conference was chaired by Mr. K. Björnsjö (Sweden) and its Vice-Chairmen were Messrs. A. Petti (Italy), L. H. Marks (United States), P. R. Hermano Balduino (Brazil), D. Stomatov (Bulgaria), A. L. Badalov (USSR), N. Bouhired (Algeria), J. A. Mbekeani (Malawi), He Dazhong (China) and T. V. Srirangan (India).

● Committee 1—Steering Committee

Consisting of the Chairman and Vice-Chairmen of the Conference and the Chairmen and Vice-Chairmen of the other Committees.

Terms of reference:

To co-ordinate the work of the Committees, fix the timetable of meetings.

● Committee 2—Credentials Committee

Chairman:

Mr. N. Tchimina (Gabon)

Vice-Chairman:

Mr. F. Králík (Czechoslovakia)

Terms of reference:

To verify the credentials of delegations and to report on its conclusions to the

plenary meeting within the time specified by the latter.

● Committee 3—Budget Control Committee

Chairman:

Mr. E. D. Ducharme (Canada)

Vice-Chairman:

Mr. S. S. Al-Basheer (Saudi Arabia)

Terms of reference:

To determine the organization and the facilities available to the delegates, to examine and approve the accounts of expenditure incurred throughout the duration of the First Session of the Conference and to report to the plenary meeting the estimated total expenditure of the First Session, as well as the estimated costs entailed by the execution of the decisions of the First Session.

● Committee 4—Technical Criteria Committee

Chairman:

Mr. J. Rutkowski (Poland)

Vice-Chairmen:

Messrs. D. Traoré (Mali) and Y. Tado-koro (Japan)

Terms of reference:

To establish the technical parameters to be used for planning and the principles governing the use of the exclusive and shared HF bands allocated to the broadcasting service (excluding those bands the use of which is restricted to the tropical zone and which are subject to a different regulation).

● Committee 5—Planning Criteria Committee

Chairman:

Mr. I. Ullah (Pakistan)

Vice-Chairmen:

Messrs. K. Olms (Fed. Rep. of Germany) and J. Taboada (Argentina)

Terms of reference:

To establish for use by the Second Session of the Conference planning principles, methods of planning, approaches to implementation and the action necessary to eliminate harmful interference.

To identify and to lay down specific guidelines for the preparatory tasks to be carried out between the two sessions of the Conference (including consideration of the methods to be used to assist the work of the Second Session).

To specify the form in which requirements for use in planning should be submitted to the Union and the preferred time limits.

To propose a tentative agenda for, and changes in duration, if any, of the Second Session, for consideration by the ITU Administrative Council.

● Committee 6—Editorial Committee

Chairman:

Miss M. Huet (France)

Vice-Chairmen:

Messrs. A. Marshall (United Kingdom) and L. Chamorro Santa Cruz (Spain)

Terms of reference:

To perfect the form of the texts prepared in the various Committees of the First Session of the Conference, without altering the sense, for submission to the plenary meeting.

II. Aim of the First Session

The aim of the First Session of the Conference was to draw up a report containing the technical criteria to be used for planning the HF (short-wave) bands allocated to the broadcasting service as well as the planning principles and method which will enable the Second Session, scheduled to take place late in 1986, to plan these bands, so as to ensure

the equal rights of all countries to their free use. The First Session was also to propose a provisional agenda and, if necessary, modifications to the duration of the Second Session, for submission to the ITU Administrative Council.

III. Report of the First Session

The report prepared comprises 101 pages and is made up of the following four chapters, together with annexes (Resolutions, Recommendations): 1. Introduction; 2. Definitions; 3. Technical criteria; 4. Planning principles and method; 5. Annexes.

1. Introduction

The introduction, which is the first chapter of the report, gives the background to the Conference and a summary of the First Session's work.

2. Definitions

Chapter 2, "Definitions", contains some references to the definitions in the Radio Regulations which might be found useful when planning the HF broadcasting service. Other definitions specific to this planning exercise were also adopted.

3. Technical criteria

The "Technical criteria" and parameters developed and used by the Conference to establish the planning principles and method are found in chapter 3. They relate to the following:

- specifications of the double sideband (DSB) system (on which the planning process is based);
- propagation, radio noise and solar indices;
- radio-frequency protection ratio;
- values of minimum usable and reference usable field strength;
- antennas and power;
- use of synchronized transmitters;
- reception areas;
- maximum number of frequencies for broadcasting the same programme to the same area;
- specifications and progressive introduction of a single sideband (SSB) system.

With regard to the introduction of the SSB system which, compared with the DSB system currently in use, would enable the number of transmitters to be doubled although requiring specially adapted receivers, it was pointed out that a transitional period of 20 years would be required to cater for the economic and technical aspects of making suitable transmitters and receivers

available. The starting date and precise duration of this transitional period would be decided by the Second Session of the Conference;

- theoretical capacity of HF broadcasting bands.

4. Planning principles and method: four seasonal plans

The introduction to chapter 4 of the report entitled "Planning principles and method" states that "the planning of the high-frequency broadcasting service shall be based on four seasonal plans to be prepared annually or semi-annually using broadcasting requirements submitted".

4.1 Planning principles

The planning of the bands in question is to be based on the principle of equal rights of all countries, large or small, to equitable access to these bands and to utilize them in accordance with the decisions taken by the Conference. In planning, an attempt shall be made to achieve an efficient utilization of these frequency bands, account being taken of the technical and economic constraints that may exist in certain cases.

The principles laid down include:

- treatment of all broadcasting requirements* on an equitable basis, so as to guarantee the equality of rights and enable each administration to provide a satisfactory service;
- treatment of all broadcasting requirements, national** and international, on an equal basis, with due consideration of the differences between these two kinds of broadcasting requirements;
- flexible periodical planning process, to take into account new broadcasting requirements and modifications to existing ones;
- planning process based on DSB transmissions with the possibility, for administrations so wishing, to use SSB transmissions, provided that the level of interference caused to DSB transmissions appearing in the plan is not increased;
- satisfaction, on an equal basis, of minimum broadcasting require-

* Broadcasting requirement: a requirement indicated by an administration to provide a broadcasting service at specified periods of time to a specified reception area from a particular transmitting station.

** An HF broadcasting use is considered as being for purposes of national coverage when the transmitting stations and its associated required service area are both located within the territory of the same country.

ments submitted by administrations at the overall level of broadcasting reliability adopted by the Conference.

4.2 Planning method

The planning method established by the First Session comprises 11 steps and will be the subject of tests by the IFRB during the intersessional period on that basis. It will be finally adopted at the Second Session on the basis of requirements submitted by administrations. It should be noted that the seasonal plans will be drawn up using the ITU's central automated system. Steps 3 to 8 and 10 will be handled by means of an automated procedure.

- Step 1: creation of the requirements file, on the basis of data submitted by administrations over a period of three years.
- Step 2: broadcasting requirements for the season under consideration.
- Step 3: propagation analysis and selection of the appropriate frequency band.
- Step 4: rules to be applied to broadcasting requirements in a given run, in order to ensure the maximum possible utilization of all available channels taking into account, *inter alia*, administrations' preferred frequency and the constraints imposed by equipment. One of the issues which called for a particular effort on the part of delegations relates to the establishment of rules for dealing with incompatible requirements in cases where the computer system does not enable all requirements to be met.
- Step 5: selection of technical characteristics.
- Step 6: compatibility analysis and frequency selection.
- Step 7: reliability analysis.
- Step 8: criteria and requirements met?
- Step 9: seasonal plan.
- Step 10: adjustment process resulting from the application of steps 3 to 8.
- Step 11: additional procedures (to be studied by the Second Session of the Conference) for dealing with modifications to be made to the seasonal plan after its publication, the inclusion of additional requirements in the seasonal plan after its publication, and cases in which some administrations are unable to accept frequency assignments appearing in the seasonal plan.

This planning method also provides that, in the event of harmful interference to an HF broadcasting service which is

using an assignment in accordance with the current seasonal plan, the administration concerned shall have the right to request the prompt assistance of the International Frequency Registration Board (IFRB), one of the permanent organs of the ITU, in applying certain procedures in order to find another frequency to help restore that service to the level of reliability given in the plan. Any new frequency proposed by the IFRB shall not adversely affect the seasonal plan in operation.

5. Annexes: Resolutions and Recommendations

The Conference also approved a number of Resolutions and Recommendations:

- *Resolution relating to the avoidance of harmful interference in order to improve the use of the HF bands allocated to the broadcasting service*

This Resolution, which refers to the regulatory provisions on harmful interference, requests the IFRB to organize

monitoring programmes in the HF bands allocated to broadcasting with a view to identifying stations causing harmful interference and to inform the Second Session of the Conference of the results obtained. It also invites administrations to take part in the monitoring programmes set up by the IFRB and to give special attention to the procedures of the Radio Regulations applicable in the event of harmful interference.

- *Resolutions and Recommendation relating to the work and studies to be carried out in the intersessional period*

One Resolution requests the IFRB to design, develop and implement computer programmes and test procedures for the preparation of the application of the planning method and to prepare a detailed final report to be sent to all administrations six months prior to the beginning of the Second Session; administrations may provide the services of HF broadcasting planning experts and computer specialists to assist the IFRB.

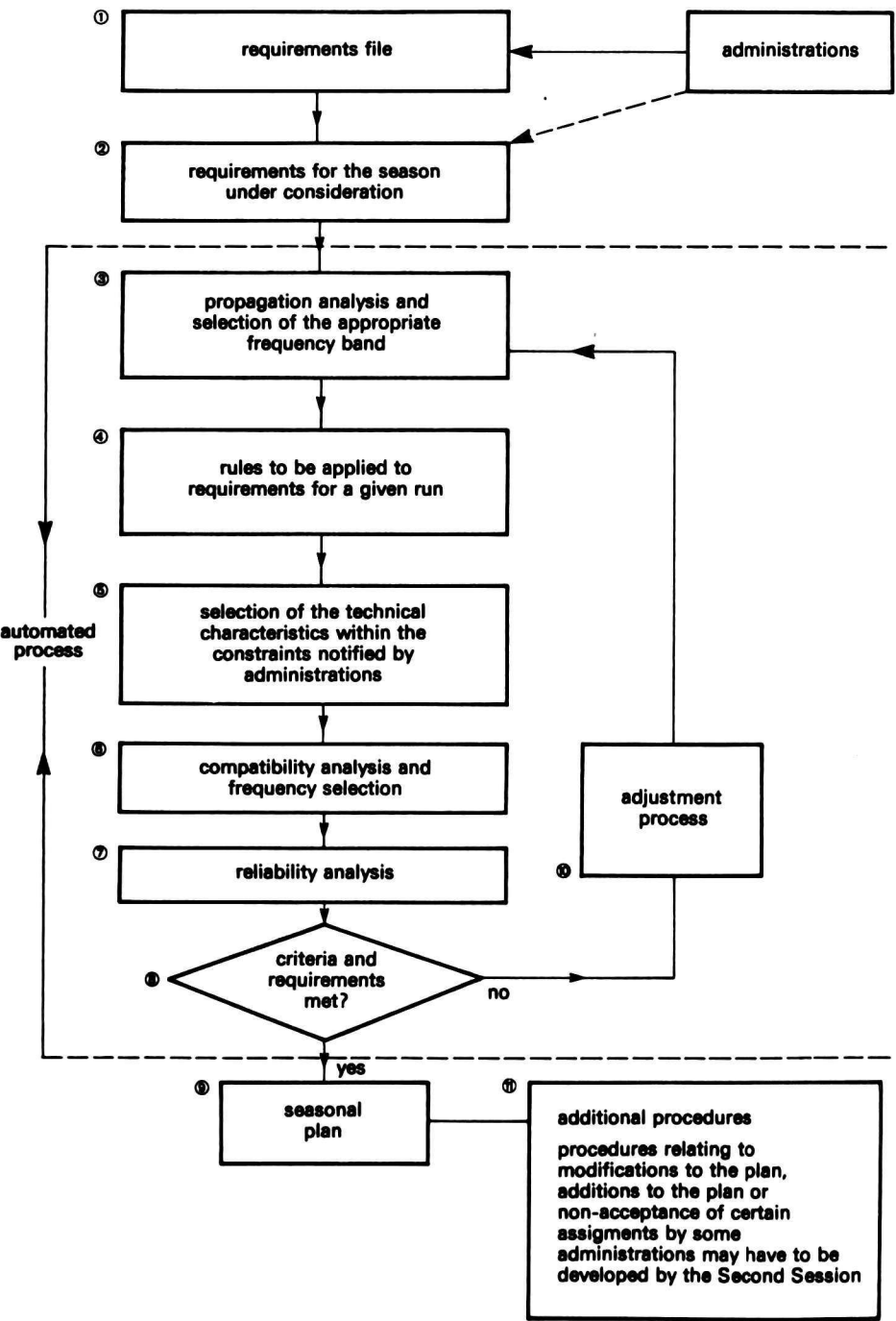
Another Resolution invites the IFRB to develop a file listing the requirements which must be taken into account in planning and to prepare instructions for filling out the form intended for the file. It contains a timetable for establishing the file and compiling the requirements submitted by administrations for use by the Second Session of the Conference.

The Recommendation requests the International Radio Consultative Committee (CCIR), one of the permanent organs of the ITU, to provide data necessary to refine a number of numerical values and to present to the Second Session of the Conference the results of studies on co-channel interference problems between DSB and SSB emissions. It also invites administrations to contribute relevant data to the CCIR studies.

- *Recommendation relating to a tentative agenda for the Second Session of the Conference*

This Recommendation, which is addressed to the Administrative Council of the ITU, proposes a tentative agenda and a 7-week duration for the Second Session of the Conference. The proposal contemplates, in particular:

- the adoption of procedures for the preparation and implementation of seasonal plans for DSB operation based on the requirements submitted by administrations;
- the adoption of technical standards for future SSB operation and a schedule for its introduction;
- the revision of the Radio Regulations in order to bring new provisions into force.



Flow chart of the automated process