FCS/86/298

SECRETARY OF STATE FOR TRADE AND INDUSTRY

World Administrative Radio Conference on High Frequency Broadcasting: Geneva, February 1987

1. Our officials have produced a general policy brief for the United Kingdom Delegation to the Short-Wave Broadcasting Conference to be held in Geneva in February 1987. I enclose // copies of that brief, of an outline of the annexes to the / brief which are under preparation, and of a paper which might constitute the UK Delegation's written contribution to the Conference.

2. You and I agreed in earlier correspondence that our officials together with those of the BBC and other interested organisations should co-ordinate very closely in the run up to this Conference, because of the serious implications for the UK national interest should the Conference approve an international Frequency Registration Board plan for regulating the Short-Wave spectrum which would put at risk BBC External Services frequency requirements.

3. I am circulating the brief now because the effectiveness of the work of political and technical preparation over the two months before the Conference will depend, in large part, on our agreement on the objectives and strategy in the Conference itself. Our officials have already undertaken a wide range of bilateral and multilateral meetings with other Western countries, and as you know I secured the agreement of the Twelve that this subject should be discussed in the context of European Community Political Co-operation. We need to build on these initiatives through a continuing

/programme

programme of meetings to co-ordinate as far as possible the Western position in the EC and elsewhere, and to co-ordinate and initiate lobbying of other ITU member states. The general political objectives and strategy set out in the enclosed brief will, if approved, form the background to the technical brief which your officials will be preparing, to cover such technical matters as signal-to-interference analysis, antennae design, propagation theory etc which are important for the work of the Conference and the promotion of our interests. I should be glad to learn if you and other colleagues are in agreement with the policy proposed in the brief.

4. I am sending copies of this minute to the Prime Minister, George Younger, Douglas Hurd, John Moore and to Sir Robert Armstrong.

(GEOFFREY HOWE)

Foreign and Commonwealth Office

9 December 1986

CONFIDENTIAL

SECOND SESSION OF THE WARC ON HF BROADCASTING (WARC-HFBC 2)

Brief for the United Kingdom Delegation

C O N T E N T S

DTI/RRD
Waterloo Bridge House

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CONFIDENTIAL

SECOND SESSION OF THE WARC ON HF BROADCASTING (WARC-HFBC2)

Part I of the Brief for the United Kingdom Delegation

Background

1. An outline of the past efforts of the ITU to plan the HF broadcasting bands is at Annex 'A'; a description of the foundations of the present WARC is at Annex 'B'; and a brief report on the work of the first session is at Annex 'C'. All this is background material which UK delegates need to read. Additional supporting information is given in further annexes mentioned in the texts that follow.

Introduction

2. All the indications from the intersessional work suggest that the planning system developed by the ITU on the basis of the decisions of the First Session of WARC-HFBC in 1984 will be disastrous for the UK if it is adopted unchanged by the Second Session. It would reduce very substantially the numbers of frequencies available for the External Services of the BBC with far too many of those remaining having inadequate quality and continuity. This would cause extensive losses of audiences built up over many years and would also cause a substantial degradation of quality for those audiences that may remain. Even if some of the worst features of the planning method were eliminated as a result of further discussion and work on the computer programs, the implementation of any planning method based on the present model would still deprive the BBC of more than half of its External Services' frequencies.

3. Any such consequences would be totally unacceptable to HMG. This brief therefore;-

a. Describes the balance of UK interests in the WARC-HFBC2 and our wider interests in the ITU;

b. Lists in order of priority the objectives of the United Kingdom to be pursued by the UK delegation to the WARC-HFBC2;

c. Presents a strategy to deal with the situation expected to develop during the WARC-HFBC 2 and provides a number of 'hip-pocket' proposals which may be used in pursuing that strategy.

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Balance of UK Interests in the WARC-HFBC 2

4. Virtually every administrative radio conference (ARC) of the ITU involves some conflict* of interests between different radio services; and if on a major matter an ARC approaches the point of adopting conclusions unacceptable to the UK there could be a conflict between action forced upon the UK delegation and the wider UK interests in sustaining the ITU and maintaining the effectiveness of the UK in the Union. A note on these wider interests is at Annex 'D'.

5. In its preparations for and participation in the long series of ARCs held since 1947 the UK has been obliged to view each such conference as a unique opportunity to secure the specific UK interests involved in the conference agenda. In no case has it been necessary to make concessions to the wider UK interests in the ITU. Obviously UK delegations have never gratuitously damaged these wider interests; it has been sufficient for the delegations to be aware of them, to understand the possibility that some extreme action on their part could inflict damage, and then to do what was necessary to secure the specific interests of the UK in the particular ARC.

6. The WARC-HFBC 2 is in one sense a special case in that the potential for a disastrous outcome looks very high. There are obviously many unknowns (for example, the view that the developing countries will take of the new planning system when they appreciate its grossly inadequate performance under test) and it may be that the majority of participating countries will - however reluctantly - agree to join in efforts to find an outcome which all can accept. Whatever may develop during the WARC-HFBC 2, the UK delegation is authorised and required to do its utmost to secure the UK interests in HFBC by working towards achievement of the objectives listed below.

Objectives of the UK Delegation

7. The objectives of the UK delegation to the WARC-HFBC 2 are, in descending order of priority:-

a. To ensure that if any changes are made to the method of regulating the use of the HFBC bands, these will not reduce the quantity or quality of the frequencies available to the UK below levels that are acceptable to the FCO and BBC;

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*Specific examples are:

1. Region 1 RARC 1984 - conflicts between FMBC and Land Mobile and Aeronautical Radionavigation (VOR/ILS) interests.

2. WARC-MOBILE 1987 - conflicts between ship owners' and unions' interests in maritime communications.

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b. To ensure that any such method is operationally, technically and administratively sound, contains no inherent bias against the interests of the UK, and will not impose unacceptable burdens upon the IFRB, broadcasting organisations or administrations generally;

c. While recognising that the DSB mode of emission is likely to remain the global standard for HFBC for a very long time to come, in the interest of spectrum management to encourage discussion of the general introduction of the SSB mode of emission over the next 20 years;

d. To make such UK contributions as may be possible, in the circumstances of the conference and consistent with the objectives above, towards the development of a genuinely improved method of regulating HFBC frequency usage that is capable of general acceptance for long-term application;

e. To identify and as far as possible act in concert with like-minded delegations in pursuit of these objectives. Should the delegation find it has no alternative but to refuse to sign any final acts that may be produced by the WARC, to ensure if at all possible that this is done in good company;

f. To give support to the efforts to stop jamming in the HFBC bands but to do so without prejudicing any of the other objectives.

8. Should the WARC work towards the adoption of conclusions that will involve significant additional demands on the budget of the ITU the UK delegation is required to enter a formal reservation on the grounds of Article 80 and Resolution No.48 of the Convention. Such a reservation should also if possible be made in good company.

Strategic Approach

9. It is expected that a large number of delegations will attend the WARC-HFBC2 still carrying a political brief, the aim of which was established by the Yaounde conference of the non-aligned movement (NAM) prior to the WARC 1979. In this context the aim, which was "to change the established order", means securing the abandonment of Article 17 and its replacement by a new HFBC planning method. The expectations underlying this aim were that the new method would dispossess the larger HF broadcasting countries of many of their frequencies and release them for use by developing countries.

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The method envisaged by India, which led the NAM at the first session of the WARC-HFBC, was a 10-year fixed frequency assignment plan. This was never operationally or technically feasible, and to avert the prospect of the WARC being saddled - by a majority vote of the NAM - with this approach, the larger HF broadcasting countries reluctantly agreed to an experiment with a computer-based seasonal planning system to be developed by the IFRB and tested on a dummy file of foreseen requirements. The resultant system has many defects. It may be possible to eradicate some of these by further work, but this will not remove the fundamental difficulty that the system cannot cope with a demand for broadcasting space which it has itself stimulated further, and which exceeds supply by more than 100%. The test runs of the system demonstrate that it cannot hope at the same time both to satisfy the interests of the larger broadcasters and to realise the expectations of the developing countries."

11. The best outcome for the UK viewpoint would be for the WARC-HFBC 2 to face up to this reality, agree to abandon what is clearly a failed experiment, decide to resort to Article 17 and seek genuine improvements therein as well as other measures to remedy HFBC frequency congestion. A viable strategy must therefore seek to damp down the short-term expectations of the NAM, and introduce "new" ideas which could be seen as worthwhile contributions to a long-term prospect of meeting some of those expectations.

12. Against this background the following strategic approach may, subject to the judgement of the leadership of the UK delegation in the circumstances prevailing at the WARC, be useful in pursuing the objectives listed in paragraph 7-:

a. To participate in an objective but necessarily critical review of the test performance of the HFBC planning system developed by the IFRB*. (The basis of the UK contribution to such an examination is at Annex 'E'.) Criticisms must not be aimed at the IFRB or its HFBC Project Team. The UK aim in this exercise will be to show that the system is not mature enough and could not do what would be expected of it in operational use. Several years of work following revised instructions to be given by the WARC-HFBC 2, would be required before it might be generally adopted.

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*To lay a foundation for such an examination DTI/RRD has proposed to the ITU that the IFRB should prepare a presentation on the system and its performance under test to a full plenary meeting of the conference, with questions and answers being minuted.

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b. To counter any suggestions that the "Tentative Requirements File" could easily and quickly be converted into a real file of operational requirements. The file construction needs to be improved (eg as regards continuity of frequency availability) and re-compiled before it could be used operationally. (See comments on this file in Annex 'F'.)

c. To support the argument that on the basis of the IFRB's figures (see Annex 'G' concerning channels needed to accommodate all requirements) no planning system - however good - could possibly satisfy all HFBC requirements while the bands available, particularly at 9 MHz and below, are so inadequate.

d. To support the idea that remedial measures are required to cope with this situation, one of which could be the holding of a WARC* expecially for the purpose of reviewing the HF band allocations in the light of developments in all the various services using these bands, the aim being to widen the lower HFBC bands. (A paper outlining some of the developments in services other than HFBC is at Annex 'H'.)

e. To support the proposition that the tropical broadcasting bands should be brought within the scope of any future ITU action on HFBC. The aim here would be to show that these unique bands (see RR2668-2673) are unchannelled, unplanned and under-utilised whereas, if used within the tropical area for what would largely be domestic broadcasting, could ease the wider HFBC problems with consequent advantages to national and international broadcasters. (A note on the tropical broadcasting bands is at Annex 'I'.)

f. To accept if necessary the concept of a further session of the WARC-HFBC for the purpose of assembling, reviewing and acting upon the results of action under 7 a. b. d. and e. above, aiming at reaching a long-term settlement of the HFBC problem. A variation on this line of action would be for the WARC-HFBC 2 to adopt a set of provisional decisions to be reviewed, adjusted as necessary and ratified by a series of smaller HFBC review conferences.

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* A WARC for this purpose would have to be scheduled by the Plenipotentiary Conference to be held in 1989 and could not be held much before 1992.

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g. If the Session looks like moving towards making pragmatic improvements to the present Article 17 procedures so as to accommodate some of the needs of the developing countries, the UK delegation could offer discreet support for this process. It will clearly wish to ensure that any individual steps, which might adversely affect the BBC's interests should be implemented only after careful testing, and preferably on a limited and experimental basis.

13. Several of these ideas have been floated in the intersessional period without attribution. Some will be highly contentious and likely to generate suspicion, even hostility. The relative timing and form of presentation of the ideas may be of help in averting negative reactions, so too may be the placing of ideas by proxy (though the IFRB, committee or working group chairmen, or other delegations - particularly those of countries which are among the smaller HF broadcasters). These are all tactical matters necessarily left to the judgement of the leadership of the UK delegation in their pursuit of the objectives set out in paragraph 7.

14. Given the objective stated in paragraph 7f above the only part the subject of jamming might play in a strategic approach to the WARC-HFBC2 is:-

a. As an element of a trade-off in which a low profile by the western group of countries (apart from the minimum essentially ritualistic actions) might be repaid by support of their strategic objectives; or

b. If no such trade-off is possible, or is considered valueless, then the UK delegation will need to keep open its options to couple the continuation of jamming with any failure of the WARC to reach acceptable conclusions on a new method of regulating use of the HFBC bands. Such coupling would be in an implied cause and effect relationship.

15. Whatever lines the UK delegation follows during the WARC the majority of delegations may seek, by voting, to impose a new planning method that would impose on the UK penalties of the severity foreseen in paragraph 2 above. There will almost certainly be advance indications of any such intention, and in these circumstances the UK delegation is empowered to give warnings of, for example, its probable refusal to sign the Final Acts. The delegation will also need to consult with other like-minded countries, and to consider what alternative or supporting actions might be taken and how effective they might be. If however these warnings and/or any other actions taken by the UK delegation prove ineffective and the majority vote to impose the new system the UK delegation is empowered to refuse to sign the Final Acts (see also paragraph 7e.).

16. Other eventualities could arise such as would stimulate serious consideration of a full or partial, temporary or permanent withdrawal of the UK delegation. The delegation will of course take no such action without first reporting the circumstances, giving an evaluation of the impact of any such proposed action, and securing the prior approval of the UK authorities concerned. For the purposes of providing a back-up to the UK delegation while in Geneva a central contact point will be designated in FCO through which reports and other information from the delegation will be distributed and any necessary authorisations will be sought.

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UNITED KINGDOM BRIEF FOR THE SECOND SESSION OF THE WORLD ADMINISTRATIVE RADIO CONFERENCE ON HIGH FREQUENCY BROADCASTING: ANNEXES

1. The Annexes to the United Kingdom brief consist of a lengthy collection of papers and diagramatic material, intended as the background information for members of the UK delegation to the Conference. The annexes are mostly of a highly technical nature and need not detain Ministers. They may, nevertheless, find it helpful to have a brief summary of the subject matter. This is attached below.

ANNEX A: PREVIOUS EFFORTS TO PLAN THE HF BROADCASTING BANDS

The ITU has a history of 40 years of work on the specialised problems of regulating use of the HFBC bands, starting with the Atlantic City conference of 1947. That conference, following its comprehensive revision of the international table of frequency allocations, gave rise to a series of a priori planning conferences of which one was devoted to HFBC. The HFBC planning conference held several sessions which culminated in a final session at Florence/Rapallo in 1950. After many months of hard work the conference, by a secret vote, decided to cease all attempts at planning HFBC because requirements exceeded the capacity of the bands available and administrations could not accept reductions in their requirements. That conclusion was reported to the Administrative Council which remitted the problem for study by the IFRB in an attempt to find a solution. The IFRB could not solve this problem, the fundamental nature of which had defeated a world conference, and so the problem fell to the Ordinary Administrative Radio Conference (OARC), Geneva 1959. The solution adopted by the OARC was to introduce a dynamic method of managing the HFBC bands involving a seasonal procedure which was established in Article 10 (later renumbered Article 17) of the Radio Regulations. The Article 17 procedure - whatever its shortcomings - has operated ever since.

ANNEX B: ORIGINS OF THE HIGH FREQUENCY BROADCASTING CONFERENCE

During the long run up to the 1979 World Administrative Radio Conference (WARC) there were three meetings of the non-aligned movement (NAM), one outcome of which was a general statement of NAM views in the following terms, "to change the established order, that is our aim". So far as HF broadcasting was concerned the specific NAM aims were threefold, and these only emerged during the course of the 1979 WARC, namely:

a. To prevent or severely limit any expansion of the frequency bands allocated to HF broadcasting;

b. To secure a strong commitment from the WARC 1979 on the holding of a future WARC on HF broadcasting;

c. To ensure that the agenda for such a conference was firmly directed towards a form of a priori planning in which each country would be assigned specific frequencies with a concept of property built in to a frequency plan.

In the event the NAM, led mainly by Yugoslavia, India and Algeria, severely limited the expansion of the HF broadcasting bands, secured a deferment of implementation of the expanded bands, and on a quid pro basis traded a limited extension of the HF broadcasting bands for a Resolution (508) that was more stringently worded than the UK and other western countries wanted. Since 1979, despite considerable pressure from the western world, NAM countries have

held to their pre-1979 aims, and in the Administrative Council's annual sessions have shown no signs of weakening. Indeed, at a NAM meeting in Algeria in 1982 the first point of agreement was that "assignment plans will be the only satisfactory approach for achieving equitable use of the HF broadcasting bands".

Against this background the ITU arranged to hold the High Frequency Broadcasting Conference over two sessions. The first session took place in 1984 and the second, originally scheduled for 1986 but put back because of the time needed to complete the intersessional work, will take place in February/March 1987.

ANNEX C: REPORT ON THE FIRST SESSION OF THE HF BROADCASTING CONFERENCE

The Non-Aligned Movement sought the adoption of a new method of planning the HF broadcasting bands which would dispossess the larger broadcasting countries of many of their long-held frequencies and redistribute them among the rest. The opposition, including the UK, proposed a more conservative approach seeking to retain but improve upon the present method of regulating the use of the HF broadcasting bands.

The new planning method envisaged by India, which led the NAM at the first session of the WARC-HFBC, was a 10 year fixed frequency assignment plan. This was never operationally or technically feasible, and to avert the prospect of the WARC being saddled - by a majority vote of the NAM - with this approach, the larger HF broadcasting countries reluctantly agreed to an experiment with a computer-based seasonal planning system to be developed by the International Frequency Registration Board and tested on a dummny file of foreseen requirements. The resultant system has many defects. It may be possible to eradicate some of these by further work, but this will not remove the fundamental difficulty that the system cannot cope with a demand for broadcasting space which it has itself stimulated further, and which exceeds supply by more than 100%.

ANNEX D: WIDER UNITED KINGDOM INTERESTS IN THE ITU

The UK is engaged in a long series of Conferences involving matters and organisations outside the field of HF broadcasting. Examples are a World Conference on aeronautical and maritime radio services in 1987, another on space radio services and planning for the use of geostationary satellite orbit in 1988. Other examples are the regular meetings of the CCIR[1] annd CITT[2], the prospect in the longer term of a world Conference on telephony and telegraphy. Other interests are the Administrative Council of the ITU and the Plenipotentiary Conference of 1989 which may or may not re-elect the UK to Council membership.

[1]International Radio Consultative Committee

[2]International Telegraph and Telephone Consultative Committee

ANNEX E: TEST PERFORMANCE OF THE HFBC PLANNING SYSTEM

This Annex relates to papers reflecting detailed analyses of the best plans produced by the new planning system. The conclusion is that a very large proportion of the frequency requirements of the BBC's external services (perhaps as high as 80%) could not be satisfied by the new system. This will be true of all major broadcasters, even of many of the smaller broadcasters.

ANNEX F: TENTATIVE REQUIREMENTS FILE

This Annex contains a detailed review of the Tentative Requirements File [of operational requirements] covering the period 1985-1988 both as to format and contents.

The format will need significant improvements before it can be used to provide a provisional file of operational requirements.

The contents will need comprehensive revision requiring the ITU to take steps to prevent or at least reduce the inclusion of false requirements.

ANNEX G

This annex consists of diagrammatic representations (histograms, pie charts etc), the purpose of which is to demonstrate that the available HF broadcasting bands are insufficient to meet the demands on them by existing and potential HF broadcasters.

ANNEX H: DEVELOPMENTS IN HF SERVICES OTHER THAN BROADCASTING

This Annex draws on statistical data available from the ITU and on other sources of recognised authority to show:-

- The progressive decline in the use of the HF bands by long distance fixed services;
- The increased use of satellite for maritime communications thus releasing HF bands for other uses;
- The progressive change over from manual to automatic telegraphy in maritime communications thus permitting more traffic in the remaining HF bands;

- Other trends in the use of HF which taken together with the above give an overall possibility of increasing the useful spectrum available for broadcasting by about 50%.

ANNEX I: TROPICAL BROADCASTING BANDS

This Annex itemises the tropical broadcasting bands, states the unique privilege afforded to any country in the tropical zone which wishes to use them for broadcasting, gives evidence of the limited use of these bands, and suggests how they might be brought into better use as one way of easing the problems in the HF broadcasting bands.

ANNEX J: DRAFT ARTICLE 17A FOR BANDS ABOVE [15]* MHz

If the new planning system is to be brought into use in any bands - say on an experimental basis - there will need to be a detailed radio regulatory procedure to permit its operation. This Annex will contain details of such a procedure which may be taken as a hip-pocket proposal to be offered if and when suitable.

ANNEX K: DRAFT MOD ARTICLE 17 FOR BANDS BELOW [15]* MHz

As a corollary to Annex J above there would need to be modifications to the present radio regulatory procedure so that it continues to be applied to the bands unaffected by the new system. This Annex contains such modifications in the form of another hip-pocket proposal to be used if and when necessary.

*Note: The square brackets indicate uncertainties over the frequency level above which the new system might possibly be applied.

CONTRIBUTION TO THE WORK OF THE CONFERENCE BY THE UNITED KINGDOM

1. The United Kingdom contribution is presented in four sections:

(i) Background - a brief summary of the 40-year history of the work of the ITU on regulatory HFBC;

(ii) The WARC-HFBC 1 planning system - its design and feasibility testing of the "Tentative Requirements File";

(iii) Further testing of the new system;

(iv) Harmful interference and its implications.

Section 1 - BACKGROUND

2. It is not possible to appreciate the size and complexity of the task facing the WARC-HFBC 2 without some understanding of previous efforts to solve the HFBC problem. The ITU has a history of 40 years of work on the specialised problems of regulating use of the HFBC bands, starting with the Atlantic City conference of

1947. That conference, following its comprehensive revision of the international table of frequency allocations, gave rise to a series of a priori planning conferences of which one was devoted to HFBC. The HFBC planning conference held several sessions which culminated in a final session at Florence/Rapallo in 1950. After many months of hard work the conference, by a secret vote, decided to cease all attempts at planning HFBC because requirements exceeded the capacity of the bands available and administrations could not accept reductions in their requirements. That conclusion was reported to the Administrative Council which remitted the problem for study by the IFRB in an attempt to find a solution. The IFRB could not solve this problem, the fundamental nature of which had defeated a world conference, and so the problem fell to the Ordinary Administrative Radio Conference (OARC), Geneva 1959. The solution adopted by the OARC was to introduce a dynamic method of managing the HFBC bands involving a seasonal procedure which was established in Article 10 (later renumbered Article 17) of the Radio Regulations. The Article 17 procedure - whatever its shortcomings - has operated since 1960.

3. Four major developments during the long period of operation of the Article 17 procedure need to be mentioned. These involved increases in:-

a) the global amount of HF broadcasting and the number of countries providing this service;

b) the powers of the HFBC transmitters employed;

c) the amount and severity of interference in the HFBC bands, much of it apparently deliberate;

d) the amount of "out-of-band" broadcasting. much of it in the additional HFBC bands which by decisions of the WARC 1979 are supposed to become operational only in 1989 and 1994.

4. Against this background the first session of the WARC on HFBC was held in 1984, the central problem of which was to find means of reconciling the views of those delegations wanting a long term a priori planning approach and others wanting a dynamic regulatory approach. As a compromise, the IFRB was invited to compile a "tentative requirements file" of all HFBC services expected to be operational during the period before 1 August 1988 on the basis of information submitted by administrations by 1 August 1985, to design, develop and implement computer programmes for the application of a new planning method, and to test it using the technical criteria established by the first session, and to prepare a detailed final report to be sent to all administrations at least six months before the beginning of the second session. In addition, the CCIR was requested to undertake certain studies and provide certain data, essentially for use in the planning system to be developed by the IFRB.

5. The United Kingdom has been impressed by the work of the IFRB, its HFBC project team, and the CCIR which have carried out their tasks effectively within the constraints of the incomplete and sometimes contradictory instructions from the First Session under which they had to operate.

Section 2 - THE WARC-HFBC NEW PLANNING SYSTEM

6. The United Kingdom is concerned about the new planning method and the basis on which it has been devised. The United Kingdom's main criticism is that it has been designed to optimise spectrum use without paying sufficient attention to broadcasting requirements. The following problems are causes of particular concern:

a) the system design fails to deal adequately with the operational requirement for continuity of frequency availability during an individual broadcasting requirement and generates many cases of repeated frequency changes which would be impossible for services to implement or audiences to follow;

b) the system algorithm does not yet show how the problem of season-to-season service and frequency continuity will be handled;

c) it is evident from the substantial excess of bids in the "tentative requirements file" over operational capacity that the proposed planning method has not avoided the problem of inflationary bids which was one of the main reasons why the First Session of WARC-HFBC abandoned the idea of a long-term assignment plan.

d) the First Session of the Conference adopted a concept of "Overall Broadcasting Reliability" as a measure of the quality of the proposed planning method. This has not proved to be satisfactory and the IFRB has used signal/interference ratios as a provisional alternative. This area needs clarification.

e) the system provides no means by which broadcasting organisations or administrations can be consulted about the results of the proposed seasonal plans; this is an important point for big and small broadcasters alike;

f) the system cannot yet produce a "best" plan for any particular season and each run appears likely to produce an entirely different frequency plan. The system cannot therefore be replicated by administrations. It is not transparent in operation and there appears to be a large measure of chance in the extent to which each administration's requirement may be satisfied or unsatisfied. This

uncertainty is impossible for broadcasting organisations to cope with: they employ staff and have large capital development programmes;

g) many of the results published by the IFRB have been calculated on the basis of requirement hours, not frequency hours. This has led to confusion and overstates by about a quarter the amount of broadcasting time which can be squeezed out of the system;

h) the system if adopted would inevitably make very heavy demands on the computer and staff resources of the ITU, and although much has been done to optimise the system design for speed of operation these logistic problems would have to be carefully considered;

i) no account has been taken of the effect that deliberate harmful interference will have on the implementation of the proposed planning method

Section 3 - FURTHER TESTING OF THE NEW SYSTEM

7. All of these aspects plus a number of more detailed technical criticisms would need to be examined, resolved and properly tested before any new system could be accepted for operational use.

8. The criticisms made in Section 2 are based upon an objective examination of the "HFBC Planning System" (Revision 1 - issued by the IFRB during the period April 1985 to July 1986) and various analyses of the first test plan for season D85 including that issued by the IFRB to all administrations in July 1986. That test plan has confirmed tht HFBC requirements exceed the capacity of the available frequency bands. Large proportions of the HFBC requirements cannot be satisfied: in some areas and at certain hours the global HFBC requirements need many more (up to 20) times the number of channels available in certain frequency bands. Indeed if the signal/interference ratio of 27 db adopted by the WARC-HFBC 1 was used as the criterion of satisfaction, then the first test plan produced by the IFRB suggest that about 80% of the world's HFBC requirements cannot be satisfied by the new planning system in the available HFBC bands. Whatever solutions may be considered to the many other technical problems, any revised Planning Method must be able to cater not only for the global HFBC requirements foreseen for the period 1985-1988 but for those foreseen at least 10 years beyond 1988. It should also take account of the contraction of the spectrum from 1991 as the sun-spot cycle decreases.

/ Section 4

Section 4 - HARMFUL INTERFERENCE AND ITS IMPLICATIONS

9. In accordance with Resolution COM 5/1, the IFRB has conducted four monitoring programmes in the HFBC bands with a view to identifying stations causing harmful intereference, to seek appropriate cooperation from administrations in those programmes, and to inform the WARC-HFBC 2 of the results. These programmes have demonstrated that only a limited number of countries are responsible for causing harmful interference in the exclusive HFBC bands. The UK objects to such actions and believes that while such interference exists, it is difficult for the IFRB to plan the HF spectrum realistically.

CONCLUSIONS

10. In the view of the United Kingdom, the development of a workable and realistic planning method depends very largely upon:

a) whether the instructions for the computer can be devised so that it will meet the broadcasting community's requirements for frequency continuity and satisfy the maximum number of requirements in the available frequency bands with an acceptable standard of quality;

b) whether means can be found that will reconcile the large disparities between global HFBC frequency requirements and the frequency allocations available to accommodate them;

c) whether action can be taken to end deliberate harmful interference in the HFBC bands.

11. The first test plan produced by the IFRB needs complete analysis and further study of the results. In the absence of those analyses the UK submits no formal proposals at this stage but will be ready to do so during the conference and to continue to work for its successful outcome. HFBC is an important instrument in the free flow of ideas and information. The United Kingdom is dedicated to this concept and therefore desires an outcome of the WARC-HFBC 2 which will improve and extend the value of this service throughout the world.


10. XII