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Documents of the World Administrative Radio Conference for the mobile services (2nd session) (WARC MOB-87 (2)) (Geneva, 1987)

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

- This PDF includes Document No. 101-200
- The complete set of conference documents includes Document No. 1-487, DL No. 1-76, DT No. 1-82

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 101-E 14 September 1987 Original : English French Spanish

Note by the Secretary-General

SECRETARIAT OF THE CONFERENCE

Secretary of the Conference Mr. R.E. BUTLER, Secretary-General Mr. X. Escofet Executive Secretary Mr. M. Harbi Technical Secretary Mr. J. Escudero Administrative Secretary Plenary Meeting and Committee 1 (Steering) Mr. D. Schuster Mr. R. Macheret Committee 2 (Credentials) Committee 3 (Budget Control) Mr. R. Prélaz Mr. T. Gavrilov Committee 4 (Frequency) Mr. A. Zoudov Committee 5 (Distress and Safety) Committee 6 (Mobile and Radiodetermination Mr. S. Challo Services - except Distress and Safety)) Mr. P.-A. Traub Committee 7 (Editorial) Mr. C. Stettler Working Group of the Plenary Meeting -Technical Working Group

These officials will be assisted as necessary by others seconded from ITU Headquarters and the complete list will be published separately.

> R.E. BUTLER Secretary-General



INTERNATIONAL TELECOMMUNICATION UNION

WOB-87 WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 102-E 14 September 1987

STRUCTURE OF THE WORLD ADMINISTRATIVE RADIO CONFERENCE FOR MOBILES SERVICES (Geneva, 1987)

(as approved at the First Plenary Meeting)

The agenda of the Conference appears in Resolution No. 933 which was adopted by the Administrative Council at its 40th Session (Geneva, 1985).

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

Committee 1 - Steering Committee

Terms of Reference:

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

Committee 2 - Credentials Committee

Terms of Reference:

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

Committee 3 - Budget Control Committee

Terms of Reference:

the organization and the facilities available to the Determine delegates, examine and approve the accounts of expenditure incurred throughout the duration of the Conference and report to the Plenary Meeting the estimated total expenditure of the Conference, as well as the estimated costs entailed by the execution of the decisions of the Conference (Nos. 476 to 479 inclusive of the International Telecommunication Convention, Nairobi, 1982 and Nairobi Resolution 48).

Committee 4 - Frequency Committee

Terms of Reference:

Review and revise, as necessary, provisions of the Radio Regulations in so far as frequency matters are concerned for the following Articles and Appendices of the Radio Regulations, as stipulated in agenda items 1, 2, 3, 4 and 6:

- Articles : 1, 8, 9, 12, 16, 19, 37, 38, 50, 60;

- Appendices: 5, 9, 16, 18, 25, 26, 31-35;

- review and take appropriate action, as necessary, in so far as frequency matters are concerned, on the following Resolutions and Recommendations of WARCs 79 and 83 (Mob) as well as RARCs MM-R1-85 and EMA-R1-85, as specified in agenda items 5 and 7:

- <u>Resolutions</u>: 8, 9, 30, 38, 200(Rev. Mob-83), 203(Mob-83), 204(Mob-83), 205(Mob-83), 206(Mob-83), 300-304, 306-309, 310(Rev. Mob-83), 318(Mob-83), 319(Mob-83), 400-402, 404-407, 600, 704(Mob-83);
- <u>Recommendations</u>: 203, 300-305, 307, 308, 314(Mob-83), 400, 406, 600, 601, 703, 707, 2(EMA), 1(MM), 2(MM), 3(MM), 4(MM), 5(MM), 6(MM).

Committee 5 - Distress and Safety Committee

Terms of Reference:

Review and revise, as necessary, provisions of the Radio Regulations in so far as distress and safety services and related matters (other than frequency matters) are concerned for the following Articles and Appendices of the Radio Regulations, as stipulated in agenda items 1, 2, 4 and 6:

- Articles : 1, 26, 35, 37-42, 59, 60;

- Appendices: 9-11, 31, 36, 37, 37A;

. .. .

- review and take appropriate action, as necessary, in so far as distress and safety services and related matters (other than frequency matters) are concerned, on the following Resolutions and Recommendations of WARCs 79 and 83 (Mob) as specified in agenda items 5 and 7:

- <u>Resolutions</u>: 200(Rev. Mob-83), 203(Mob-83), 204(Mob-83), 206(Mob-83), 317(Mob-83), 318(Mob-83), 321(Mob-83), 322(Mob-83), 600;

- <u>Recommendations</u>: 201(Rev. Mob-83), 203, 204(Rev. Mob-83), 303, 306, 307, 311, 314(Mob-83), 317(Mob-83), 600, 604(Rev. Mob-83), 713(Mob-83). - 3 мов-87/102-е

Committee 6 - Mobile and Radiodetermination Services (except Distress and Safety) Committee

Terms of Reference:

Review and revise, as necessary, provisions of the Radio Regulations in so far as the Mobile and Radiodetermination Services (excluding frequency matters, Distress and Safety), and related matters are concerned, for the following Articles and Appendices of the Radio Regulations, as stipulated in agenda items 1, 2, 3, 4 and 6:

- Articles : 1, 19, 24-26, 35, 42A, 43-68;

- Appendices: 9-14, 26, 31, 38, 39, 41-44;

- review and take appropriate action, as necessary, in so far as the Mobile and Radiodetermination Services (excluding frequency matters, Distress and Safety) and related matters are concerned, on the following Resolutions and Recommendations of WARCs 79 and 83 (Mob) as specified in agenda items 5 and 7:

- <u>Resolutions</u>: 12, 13, 202, 204(Mob-83), 304, 308, 311, 312, 314, 316, 319, 320(Mob-83), 405-407, 600;

- <u>Recommendations</u>: 7, 8, 203, 204, 301, 302, 305, 310, 312, 313(Rev. Mob-83), 315(Mob-83), 316(Mob-83), 405, 600, 601.

Committee 7 - Editorial Committee

Terms of Reference:

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

Working Group of the Plenary Meeting - Technical Working Group

Terms of Reference:

Review and revise, as necessary, technical criteria and parameters relevant to the various Articles and Appendices of the Radio Regulations as specified in the agenda, in particular:

- Articles : 35, 60;

- Appendices: 7, 17, 19, 20, 36, 37, 37A, 38-40;

- 4 мов-87/102-е

- review and take appropriate action, as necessary, on technical criteria and parameters relevant to the various Resolutions and Recommendations of WARCs 79 and 83 (Mob) and RARC EMA-R1-85 as specified in the agenda, in particular:

- <u>Resolutions</u>: 306, 307, 601, 3(EMA);

- <u>Recommendations</u>: 310-312, 313(Rev. Mob-83), 405, 603, 604(Rev. Mob-83), 605.

NOTE A number of Articles, Appendices, Resolutions and Recommendations will require consideration in more than one Committee and/or the Technical Working Group.

> Primary responsability of Appendix 31 rests with Committee 4. Primary responsabilities of matters involving more than one Committee or Working Group of the Plenary are presented in Annex.

Annex

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Annex

Articles/Artículos

				GT/PL	
ART	Com4	Com5	Com6	WG/PL	Ubservations/Kemarks/Ubservaciones
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PR = Responsabilité primaire Primary responsability Responsabilidad primaria

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Annex

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Appendices/Apéndices

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Annex

Resolutions/Resoluciones

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RP = Responsabilité primaire Primary responsability Responsabilidad primaria

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m= Mob-83

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Annex

Recommendations/Recomendaciones

GT/PL							
REC	Com4	Com5	Com6	WG/PL	Observations/Remarks/Observaciones		
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201m		+					
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PR = Responsabilité primaire Primary responsability Resposabilidad primaria

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Corrigendum à l'Addendum 1 au Document 103-F/E/S. 17 septembre 1987

COMMISSION 4

PROPOSITIONS POUR LES TRAVAUX DE LA CONFERENCE

Ajouter "Madagascar" dans la liste des pays coauteurs de ce document.

PROPOSALS FOR THE WORK OF THE CONFERENCE

Add "Madagascar" to the list of countries cosponsoring this document.

PROPOSICIONES PARA EL TRABAJO DE LA CONFERENCIA

Anádase "Madagascar" en la lista de los países coautores de este documento.

Addendum 1 to Document 103-E 16 September 1987 Original: French

COMMITTEE 4

Senegal

PROPOSALS FOR THE WORK OF THE CONFERENCE

5. Agenda item 6 - Review and revise as necessary the provisions of the Radio Regulations listed below:

SEN/103(Add.1)/20

5.1

5.2

5.3

5.4

Sharing of the band 9 320 - 9 500 MHz between weather radars and radar transponders used for search and rescue purposes

With regard to the use of the band 9 320 - 9 500 MHz by radar transponders, Senegal proposes that the matter be studied further with a view to facilitating search and rescue operations at sea without adversely affecting airborne weather radars.

SEN/103(Add.1)/21

Allocation of the bands 1 545 - 1 559 MHz and 1 646.5 - 1 660.5 MHz to the aeronautical mobile-satellite (R) <u>service</u> (AMS)

Having regard to changing requirements in these bands, Senegal proposes that the bands 1 545 - 1 559 and 1 646.6 - 1 660.5 MHz should continue to be allocated exclusively to the aeronautical mobile-satellite (R) service, pending further technical studies.

SEN/103(Add.1)/22

Reallocation of the band 108 - 118 MHz

Studies should be conducted on the possible reallocation of certain parts of the band 108 - 118 MHz to AMS (R) when this band is released as a result of conversion from instrument landing systems (ILS) to the microwave landing system (MLS). It is therefore essential to wait until the transitional period has elapsed before reallocating the band, it being understood that some countries will continue to use ILS for domestic flights.

SEN/103(Add.1)/23

Exclusive allocation of the band 5 000 - 5 250 MHz to MLS instruments

Having regard to changing requirements in this band, Senegal proposes that the band 5 000 - 5 250 MHz should continue to be allocated exclusively to aeronautical radionavigation installations using the new MLS (microwave landing system).

For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked to bring their copies to the meeting since no others can be made available.

- 2 -MOB-87/103(Add.1)-E

SEN/103(Add.1)/24

5.5

Exclusive allocation of the band 4 200 - 4 400 MHz for radio altimeters installed on board aircraft

Senegal draws attention to the fact that the band 4 200 - 4 400 MHz is reserved exclusively, on a world-wide basis, for radio altimeters installed on board aircraft, and proposed that this should continue to be the case.

It is now becoming absolutely essential to preserve this 200 MHz band, given the high density of air traffic as well as the increasing importance and more generalized use of automatic landing systems. Any band reduction would have direct and immediate repercussions on flight safety.

5.6 <u>Deletion of the frequency 425 kHz from No. 4237 of the Radio</u> <u>Regulations</u>

SEN/103(Add.1)/25 MOD 4237

Ship stations operating in the authorized bands between 405 kHz and 535 kHz shall use working frequencies chosen from the following: 425 kHz, 454 kHz, 468 kHz, 480 kHz and 512 kHz, except as permitted by No. 961.

<u>Reasons</u>: To increase the number of radiobeacons in the band 415 - 435 kHz, where the aeronautical radionavigation service operates on a primary basis.

Document 103-E 14 September 1987 Original: French

PLENARY MEETING

Senegal

PROPOSALS FOR THE WORK OF THE CONFERENCE

1. Introduction

Senegal is submitting this contribution in the light of Article 66 of the International Telecommunication Convention (Nairobi, 1982) and with a view to ensuring compliance with the provisions of Article 33 of the Convention.

The contents of this document do not in any way prejudge the positions which Senegal might adopt at the Conference.

2. <u>Agenda item 2</u> - <u>Include in the Radio Regulations any provisions required for</u> <u>the implementation of the future global maritime distress and safety system</u> (FGMDSS)

A system upon which the safety, protection and rescue of human life or property at sea are so heavily dependent should be as flawless as possible.

The disadvantages of the existing system include the following:

- limited range;
- unreliable links;
 - manual warning transmission.

SEN/103/1

In addition, the system depends entirely on the self-discipline, conscientiousness and willingness of the operator on watch. Senegal proposes the inclusion in the Radio Regulations of the provisions required to implement the future global maritime distress and safety system (FGMDSS).

The advantages of the system derive from the reliability of its basic elements, as follows:

- the introduction of satellite telecommunications;
- digital selective calling;
 - automatic transmission of narrow-band direct-printing telegraphy.

- 2 -MOB-87/103-E

SEN/103/2

The date on which the future system is brought into service could be the date of entry into force of the Final Acts of the Conference.

SEN/103/3

In any event, the future system should only become compulsory after this transitional period and exclusively at the international level.

SEN/103/4

Nevertheless, the present and future systems will have to coexist for a period of at least ten years:

- in order to allow administrations and users sufficient time to study and assess the implementation of the new system;
- in order to determine how and when further steps should be taken to convert fully to the new system;
- in order to protect, for a reasonable period, investments in equipment for the present system.
- 3. Agenda item 3 Examine the requirement for the use of public correspondence by aircraft and make appropriate provisions if necessary

Senegal recognizes the merits of the use of public correspondence by aircraft.

SEN/103/5

Before its introduction, however, Senegal proposes that further studies should be conducted by the CCIR with a view to setting out the technical and economic advantages and drawbacks of each of the two systems contemplated, so that administrations can make their decision.

Both the frequency bands and the amount of spectrum to be used will depend on the configuration of the system to be used.

SEN/103/6

Accordingly, it is essential to retain No. 3633, which prohibits public correspondence in the frequency bands allocated exclusively to the aeronautical mobile (R) service.

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4. <u>Agenda item 5</u> - <u>Abrogate any Resolutions and Recommendations of</u> previous world administrative radio conferences which no longer serve any useful purpose

SEN/103/7

Senegal proposes the abrogation of the following Resolutions and Recommendations:

- 3 -MOB-87/103-E

SEN/103/8

<u>Resolution No. 9 of the World Administrative Radio Conference</u> (Geneva, 1979) relating to the revision of entries in the Master International Frequency Register in the bands allocated to the fixed service between 3 000 kHz and 27 500 kHz.

Reasons: The revision is carried out by the IFRB.

SEN/103/9

<u>Resolution No. 12 of WARC-79</u> relating to the new rules for the formation of call signs.

<u>Reasons</u>: Having regard to the provisions of Article 25 relating to the identification of stations, this Resolution is no longer necessary.

SEN/103/10

<u>Resolution No. 30 of WARC-79</u> relating to the review of entries in the Master International Frequency Register at the request of previous conferences.

Reasons: The review has been completed.

SEN/103/11

<u>Resolution No. 202 of WARC-79</u> relating to the convening of the World Administrative Radio Conference for the Mobile Services.

Reasons: This Resolution is now irrelevant.

SEN/103/12

<u>Resolution No. 308 of WARC-79</u> relating to the channel spacing of frequencies allocated to the maritime mobile service in the band 156 - 174 MHz.

Reasons: All the equipments operate with 25 kHz spacing.

SEN/103/13

<u>Resolution No. 311 of WARC-79</u> relating to the introduction of a digital selective calling system to meet the requirements of the maritime mobile service.

Reasons: The CCIR has completed its work.

SEN/103/14

<u>Resolution No. 321 of WARC MOB-83</u> relating to the development of operational provisions for the future global maritime distress and safety system (FGMDSS) and to their introduction into the Radio Regulations.

<u>Reasons</u>: If the forthcoming Conference takes the appropriate steps, this Resolution will become unnecessary.

- 4 -MOB-87/103-E

SEN/103/15

<u>Resolution No. 400 of WARC-79</u> relating to the treatment of notices concerning frequency assignments to aeronautical stations in the bands allocated exclusively to the aeronautical mobile (R) service between 2 850 kHz and 22 000 kHz.

Reasons: The IFRB's work has been completed.

SEN/103/16

<u>Resolution No. 401 of WARC-79</u> relating to the implementation of the Frequency Allotment Plan in the bands allocated exclusively to the aeronautical mobile (R) service between 2 850 kHz and 22 000 kHz.

Reasons: The IFRB's work has been completed.

SEN/103/17

<u>Resolution No. 402 of WARC-79</u> relating to the implementation of the new arrangement applicable to bands allocated exclusively to the aeronautical mobile (R) service between 2 850 kHz and 22 000 kHz.

Reasons: All the activities have already been carried out.

SEN/103/18

<u>Resolution No. 404 of WARC-79</u> relating to the implementation of the new arrangement of bands allocated exclusively to the aeronautical mobile (R) service between 21 924 kHz and 22 000 kHz.

Reasons: The necessary plan appears in Appendix 27.

SEN/103/19

In order not to prejudge the decisions of the Conference, Senegal is making no proposals concerning the action to be taken in respect of some Resolutions and Recommendations. However, all those which would become unnecessary or irrelevant as a result of revisions carried out by the Conference should be abrogated. **NOB-87** INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 104-E 14 September 1987 Original: French

PLENARY MEETING

France

PROPOSALS FOR THE WORK OF THE CONFERENCE

F/104/1

ADD

DRAFT RECOMMENDATION

Relating to the Inclusion in the Radio Regulations of Some of the Provisions of the Regional Administrative Conference for the Planning of the MF Maritime Mobile and Aeronautical Radionavigation Services (Region 1) (Geneva, 1985)

The World Administrative Radio Conference for the Mobile Services (Geneva, 1987),

considering

a) that the Regional Administrative Conference for the Planning of the MF Maritime Mobile and Aeronautical Radionavigation Services (Region 1) adopted Recommendations Nos. 3, 4 and 5 relating to the inclusion in the Radio Regulations of the provisions governing the use of the frequency bands by the services concerned;

b) that item 6 of the agenda of WARC MOB-87 deals with the examination of the above-mentioned Recommendations, providing for the possibility of taking the appropriate decisions and, in particular, the inclusion of certain Conference decisions in the Radio Regulations relating to the Allotment Plan;

c) that, in parallel to this question, the band 1 605 - 1 705 kHz was planned by the Regional Administrative Broadcasting Conference for Region 2 (BC R2) in 1986 and that the question of the amendment of Note 480 of the Radio Regulations was included in the agenda of the Second Session of the WARC on the Use of the Geostationary-Satellite Orbit and the Planning of the Space Services Utilizing It (WARC ORB 1988);

recognizing

1. that the regional Plans and associated Agreements are not as a general rule embodied in the Radio Regulations;

2. that the inclusion of the Final Acts of the RABC R2 (Geneva, 1983) in the Radio Regulations at the First Session of WARC-ORB constitutes a particular case which is justified by the fact that the Plan for Regions 1 and 3 has already been embodied in the Radio Regulations by the WARC for Satellite Broadcasting (Geneva, 1977); 3. that, before any inclusion either of the Plans of the MF maritime mobile service for Region 1 or the Plans of the MF broadcasting service for Region 2, the absence of any problem of compatibility between regions should be established;

4. that the fact of deciding on the inclusion of regional decisions in the Radio Regulations in order to render these decisions applicable to all the members of a particular region, irrespective of the accession of these members to an agreement, raises a question of principle which affects all administrations of the Union;

recommends

that the question of the inclusion of regional conference decisions should appear in the agenda of the Plenipotentiary Conference in order to provide an overall reply to this question;

entrusts to the CCIR

the task of studying the question of interregional sharing.

Document 105-E 14 September 1987

Information paper

GENERAL SCHEDULE OF THE WORK OF THE CONFERENCE

(following consideration in the Steering Committee)

Week 1 (14 - 18 September)

Organisation and commencement of work

Week 2 (21 - 25 September)

Continuation of work in Working Groups and Committees

Week 3 (28 September - 2 October)

Wednesday 30 - End of work of the Technical Working Group of the PL

Week 4 (5 - 9 October)

- End of work of Working Groups of Committee 4 Monday 5 - End of work of Working Groups of Committee 5 Tuesday 6 Wednesday 7 - End of work of Committee 4 - End of work of Working Groups of Committee 6 - End of work of Committee 5 Thursday 8 Friday 9 - End of work of Committee 6

Week 5 (12 - 16 October)

Tuesday 13 - Report of Committee 2

Wednesday 14 - First reading by Plenary of last texts of the Final Acts

Thursday 15 - Second reading by Plenary of last texts of the Final Acts

Friday 16 - Report of Committee 3 - Signing Ceremony and Closing

Plenary meetings will be scheduled as necessary during each week of the Note 1 Conference.

This schedule may be changed in the course of the work of the Note 2 Conference.

NOB-87 INTERNATIONAL TELECOMMUNICATIONAL TELEC

INTERNATIONAL TELECOMMUNICATION UNION

Document 106-E 14 September 1987 Original: French

PLENARY MEETING

France

PROPOSALS FOR THE WORK OF THE CONFERENCE

The Administration of France proposes adding the following provisions to Article 50 (Chapter X) of the Radio Regulations entitled "Special Rules Relating to the Use of Frequencies in the Aeronautical Mobile Service".

F/106/1

ADD 3633A

ADD 3633B

Administrations may, however, permit restricted public correspondence on frequencies for which the area of use is described as "MONDIALE - WORLDWIDE - MUNDIAL" in column 2 of the Frequency Allotment Plan in Article 2 of Appendix 27Aer2, except for two frequencies of the Appendix referred to in Nos. 27/196 (carrier frequency 3 023 kHz) and 27/201 (carrier frequency 5 680 kHz).

F/106/2

Restrictions on public correspondence under No. 3633A shall be applied:

- by aircraft operators and/or by administrations responsible for land stations in the aeronautical mobile service;
- by the aircraft captain or crew so that they may use the station on board at any time to operate links relating to safety and regularity of flight in accordance with Article 51.

Such restrictions may be extended as far as a total ban on public correspondence communications.

Reasons: 1) This proposal would legalize an existing situation, since the "ordinary private communications" which have for a long time now been set up by stations of the aeronautical mobile service on HF frequencies in accordance with Article 51 of the Radio Regulations (No. 3651 - MOB-83 paragraph 10) are in fact "public correspondence" communications forwarded to land correspondents by land stations using the public correspondence network.

2) The World Administrative Radio Conference on the Aeronautical Mobile (R) Service (Geneva, 1978) (from 3 to 18 MHz), and later the World Administrative Radio Conference (Geneva, 1979) (in the 20 MHz band) increased the number of "MONDIALE - WORLDWIDE - MUNDIAL" frequencies from 3 to 74. The average duration of use of these 74 frequencies is very low, which leaves a considerable margin available for public correspondence communication, while allowing aircraft stations to operate their priority transmissions for safety and regularity of flight.

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3) Clearly, aircraft stations can transmit only a limited number of communications on HF waves, which tends to limit the benefit of opening them to public correspondence in the case of aircraft transporting large numbers of passengers (e.g. for major airlines). This type of access to the public correspondence network is on the other hand much appreciated by aircraft stations which transport limited numbers of persons (including the crew) though also using international, regional and national air routes (e.g. "small" passenger or freight transport companies, either leasing or owning one aircraft, etc.).

4) In conclusion, the Administration of France considers that this possibility of opening aircraft stations to public correspondence, though limited, should not be overlooked, since it could be implemented at no cost using existing resources already on board, without jeopardizing flight security and regularity. Moreover, for the vast majority of "small company" aircraft, the possibility of having the necessary equipment to operate satellite links is fairly remote.

Document 107-E 14 September 1987' Original: English

COMMITTEE 6

Note by the International Chamber of Shipping

PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda item 6

ARTICLES 55 AND 56

Operators' Certificates for Ship Stations and Ship Earth Stations and Personnel of Stations in the Maritime Mobile Service

Introduction

Proposals for the work of the Conference in regard to Article 55 have. been examined by the Industry with particular attention.

The International Chamber of Shipping and the International Shipping. Federation have participated in the work of the International Maritime Organization and is supportive of its proposals to introduce in 1991 improved international standards for the contribution to be made by radiocommunications. to the safety of life at sea. The Conference will recognize that most of the equipment and systems around which the GMDSS has been developed have been established for some years by standards of the International Radio Consultative Committee and the integrity of these demonstrated and proven during the nine years painstaking IMO development of the Convention structure of the global system.

The Conference may wish to note that this lengthy period of development of the GMDSS has ben used by governments to develop and prove the GMDSS and the supporting communications infrastructures sought by the 1979 Search and Rescue Convention. Throughout this period the qualifications used by member governments have been those established in the existing text of Article 55 of the Radio Regulations. These have proved fully adequate for the at-sea operation of the GMDSS modes of communication which are now to be endorsed by the Conference.

The view is therefore generally held that if amendment to Article 55 is: to be undertaken, only fine-tuning of the operating certificates should be undertaken, and the situation should then be reviewed after 1991 in the light of: operational experience yet to be gained.

The Conference will also be aware of IMO studies into methods or procedures by which on-board equipment used for distress and safety radiocommunications is kept available to perform its vital IMO functions. Although these studies have not yet been finalized, it is widely thought - and particularly by the Industry itself - that these can be developed to IMO Convention requirements only when there is sufficient depth of in-service experience of first generations of GMDSS equipment.

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Again, it is suggested that the relevant certificates set out in Article 55 are fully adequate to the needs of the ITU and those governments seeking specific qualifications for repair and maintenance on ships at sea, and that neither amendment nor addition is required at this time. NIERNATIONAL TELECOMMUNAL SERVICES WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 108-E 14 September 1987 Original: English

PLENARY MEETING

Note by the International Transport Workers Federation

THE (FUTURE) GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM

The International Transport Workers Federation (ITF), amongst its six million affiliates, represents more than 500,000 Seafarers in all ranks and departments on board ship.

On behalf of its Seafarer affiliates the ITF tabled a paper, at the 1983 WARC for Mobile Services, expressing grave concern with the proposed (Future) Slobal Maritime Distress and Safety System (FGMDSS) and the piecemeal method of its introduction.

Since 1983 nothing has happened to change Seafarers' opinions that sole reliance on a centralised system can be very dangerous, or to lessen their opposition to its piecemeal introduction.

A cornerstone of the future system - a truly Global Search and Rescue service - still has to be established in practice and, together with the other elements of the (F)GMDSS has to be subjected to overall system testing under all conditions experienced by ships at sea. It will have to be proven superior to the present well tried and developed system, which owes so much to the ITU.

The efficacy of the present Distress system has been eroded by the granting of dispensations, from the carriage of Radiotelegraph equipment and Radio Officers, to ships where some elements of (F)GMDSS equipment have been fitted.

Seafarers strongly oppose this procedure, which places short term economies above long term safety, and re-iterate their concern that the enormous cost of the (F)GMDSS will militate against the retention of the present economic and very effective system - even if the (F)GMDSS is not proven to be a superior system.

Seafarers consider it imperative that the present Distress system , introduced under the aegis of the ITU in 1906 and improved at each subsequent ITU Conference, should be maintained intact until the (F)GMDSS has been proved capable of the superior performance claimed for it.

The views of Seafarers are in accord with Radio Regulations nos. 2946 & 2947, Resolution No. 321 (MDB-83) and Recommendation No. 201 (Rev. MDB-83). However, it would appear that some Maritime Authorities are not aware of the existence of these ITU provisions, or misinterpret their intention. Perhaps the relevant Telecommunications Authorities could bring these provisions to the attention of their Maritime Authorities.

We feel strongly that the opportunity of this Conference should be taken to re-iterate and emphasise the expert advice and direction contained in these provisions of the ITU, the supreme regulatory body for Telecommunications. Particular attention should be drawn to the following:

RR 2946

all provisions of the Radio Regulations a) pertaining to the present distress, urgency and safety communications shall be maintained in force;

RR 2947

b) particular care shall be taken to ensure that harmful interference is not caused to distress, urgency and safety communications on the established international distress frequencies 500 kHz, 2182 kHz and 156.8 MHz and on the supplementary distress frequencies 4125 kHz and 6125.5 kHz;

Res. 321 (MCB-83) rec

recognising d)

that during this transition period, there is the possibility of operational use of the FGMDSS in actual incidents of distress and safety, with the understanding that the existing provisions in the Radio Regulations concerning emergency circumstances are the governing mandate;

Rec. 201 (rev. MDB-83) recommends 3

that, as a prerequisite to the introduction of the FGMDSS, it must be proved by field trials that it will provide an improved service.

MAINTENANCE (both Corrective & Preventive) ON BOARD SHIP AT SEA:

The ITU's remit includes proper use of the frequency spectrum, facilitating good communications, suppression of unwarranted interference etc. Delegates to the 1927 Washington Conference realised that these objectives could be assisted, in the Maritime Mobile Service, by ships equipment being kept in good working order and that this would require, at least, damage repair at sea; also that such repair could only be undertaken by properly trained persons.

Thus the 1927 Conference revised the syllabi of the 1st. and 2nd. class radiotelegraph operator certificates, introducing new requirements for enhanced theoretical knowledge and damage repair of ships radio equipment. These took account of the advances made in ships' equipment since the previous Conventions adopted in 1906 (Berlin) and 1912 (London). It also underlined the ITU's recognition of the need to keep ships' equipment in good working order at sea in the interests of safety of life at sea.

The 1st. and 2nd. certificate requirements were updated to some extent in the 1932 (Madrid), 1938 (Cairo), 1947 (Atlantic City) and 1959 (Geneva) Conventions; but the next major change came with the 1967 (Geneva) Convention with the introduction of the Radiocommunication Gperator's General Certificate for the Maritime Mobile Service as an alternative to the existing 1st. and 2nd. certificates.

The syllabus for the ROGC expanded and broadened the required theoretical knowledge and substituted Maintenance of equipment for damage repair - to meet the need to ensure the continuous availability of the increasingly more sophisticated equipment fitted on board ships since the previous Convention, and to provide a good foundation for the maintenance of projected new equipment.

(F)GMDSS equipment will be subjected to the well known rigours of the marine environment. It is most unlikely that either the objectives of the ITU or the safety of Seafarers' lives can be realised by the IMO alternatives to on board maintenance at sea, i.e. by **equip**ment duplication &/or shore based maintenance, however economically attractive it might mistakenly appear. Can one put a low value on Seafarers' lives in the cost equation? Syllabi for certificates to be used in the (F)GMDSS must reflect the need for on board maintenance at sea.

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In 1927 when, as now, efforts were being made to dispense with the dedicated operator on board ship, the ITU clearly recognised the safety need, as well as the objective need, for their retention on board. In the semi-automated (F)GMDSS there will still be the need for the skilled

dedicated operator and for on board maintenance at sea

Seafarers are grateful for the stand taken by many Delegations on these matters and urge other Delegations to support them.

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

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PLENARY MEETING

International Air Transport Association

INFORMATION PAPER

AERONAUTICAL SPECTRUM REQUIREMENTS

1. Introduction

International Air Transport Association is an association of international airlines comprising 160 members and associates. IATA Member Airlines operate throughout the whole world carrying passengers and freight to virtually all The international civil aviation community. countries of the world. comprising for the most part these Member Airlines, are important users of radio communications services and have a vital interest in the outcome of the Conference which might amend frequency allocations affecting such services. The 1987 Mobile WARC will consider various proposals advocating alternative uses for the frequency allocations which have been designated for exclusive use for the Aeronautical Mobile Satellite (R) Service. This paper is intended to provide information to the Conference on the civil aviation community's continuing spectrum requirements having regard particularly to their world-wide character.

2. **Existing Allocations**

The allocations for the aeronautical mobile satellite service are well known. These allocations were originally proposed at the WARC-ST, 1971, and were slightly modified at the G-WARC 1979. These are:

14 MHz downlink (space-to-earth) 1545 - 1559 MHz

14 MHz uplink (earth-to-space) 1646.5 - 1660.5 MHz

These are world-wide allocations.

Since this spectrum was set aside, several experimental efforts have been made to utilize it for international systems. No system has yet been implemented, however, several systems are presently being planned. These include: AvSat, Zenon, Volna and INMARSAT.

3. **Conference** Proposals

Conference Agenda Item 6 proposes to revise as necessary the provisions of the Radio Regulations including Article 8 on Frequency Allocations. In response to Agenda Item 6, several Administrations have submitted proposals to utilize this spectrum for purposes other than the aeronautical mobile satellite Since such proposals could seriously jeopardize or preclude planned service. implementation of aeronautical satellite systems the aviation industry would like to emphasize in this Information Paper its requirements for aeronautical satellite systems.

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4. Spectrum Requirements

The International Air Transport Association is completely in agreement with the views of the International Civil Aviation Organization as expressed in Conference Document 51. The long term requirements of international civil aviation for satellite spectrum require that the current allocations be preserved on an exclusive basis.

5. Aviation Industry Requirements for Uniformity

Aviation today is truly international in scope. There is virtually no major airline carrier that is not also an international carrier in some way. Therefore, whatever this conference decides, it is important to take into account the basic international character of the airline industry. As aeronautical satellite spectrum proposals are considered, it is absolutely necessary that the allocations remain the same in all regions of the world. Just as the VHF and HF Aeronautical Mobile (R) Allocations are world-wide allocations so too the aeronautical satellite allocations must remain world-wide allocations. (ICAO FANS). The world aviation community recognizing the need for international standards and practices, is developing aeronautical satellite standards to ensure system compatibility regardless of where an aircraft may be required to fly. To this end the conference must be wary of proposals advocating regional allocations. Flight Information Regions (FIRS) cannot correspond to ITU regions and as such cannot be Furthermore, the provision of accommodated through regional allocations. regional allocations would carry with it the connotation of development of non-uniform regional standards. This would have a disastrous effect on the world's international airlines and could not be tolerated from an operational or economic viewpoint. The world's airlines are looking towards this conference to retain the existing world-wide frequency allocations for aeronautical satellite communications to aircraft in flight in order that they may be encouraged to make the investments necessary to bring about very important improvements in operations.

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C	as dec	cided by the first Plenary Meeting)
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NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Addendum 1 to Document 111-E 24 September 1987 Original: Spanish

COMMITTEE 4

Mexico

PROPOSALS FOR THE WORK OF THE CONFERENCE

ARTICLE 8

Frequency Allocations

MHz

	420 - 470						
Allocation to Services							
Region 1	Region 2 Region 3						
430 — 440	430 - 440						
AMATEUR	RADIOLOCATION						
RADIOLOCATION	Amateur						
653 654 655 656 657 658 659 661 662 663 664 665	653 658 659 660 663 664 <u>664A</u>						

ADD 664A Additional allocation: in Mexico the band 430 - 440 MHz is also allocated on a primary basis to the mobile service, except aeronautical mobile.

MOD

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Document 111-E 14 September 1987 Original: Spanish

PLENARY MEETING

<u>Mexico</u>

PROPOSALS FOR THE WORK OF THE CONFERENCE

Article 8, modifications in the allocation of the L-band to the mobile-satellite service (MSS) and the radiodetermination-satellite service (RSS)

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MHz

		Allocation to Services				
	Region 1	Region 2	Region 3			
MEX/111/1						
MOD	1 530 - 1 535 ⁻	1 530 - 1 535				
	SPACE OPERATION (space-to-Earth)	SPACE OPERATION (space-to-Earth)				
	MARITIME MOBILE- SATELLITE- (space-to-Earth)	MARITIME MOBI (space-to-Ea	LE-SATELLITE Eth)			
	MOBILE-SATELLITE (space-to-Earth) 726A 726B	MOBILE-SATELLITE (space-to-Earth) 726A 726B				
	Earth Exploration- Satellite	Earth Exploration-Satellite				
	Fixed	Fixed				
	Mobile except aeronautical mobile	Mobile 723				
	722 MOD 726	722 MOD 726				
MEX/111/2 MOD	1 535 - 1 544					
		MARITIME - MOBILE - SATELLIT	E -(space- to -Earth)			
		MOBILE-SATELLITE (space-to-Earth)				
		722 <u>726A</u> <u>726B</u> 727				
MEX/111/3 MOD	1 544 - 1 545					
		MOBILE-SATELLITE (space-	to-Earth)			
		722 727 MOD 728				
	þ					

MEX/111/4 MOD 726

The allocation to the maritime mobile-satellite service in the band 1 530 - 1 535 MHz shall be effective from 1 January 1990. Up to that date the allocation to the fixed service shall be on a primary basis in Regions 1 and 3.

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MEX/111/5

ADD 726A

The maritime mobile-satellite service requirements for safety and distress communications shall have priority access with real-time preemptive capability in the mobile-satellite service. Systems not interoperable with ship earth stations participating in the GMDSS shall operate on a secondary basis. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services (see Nos. 347, 348, ADD N 3195AL, 3651 and 4441).

MEX/111/6

ADD

726B

728

In the bands 1 530 - 1 535 MHz, 1 535 - 1 544 MHz and 1 631.5 - 1 645.5 MHz, the maritime mobile-satellite service shall be the only primary mobile-satellite service until 1 January 1997.

<u>Reasons</u>: To provide an allocation for the mobile-satellite service and to ensure the flexibility to stimulate the developing requirements for this service while providing protection for safety and distress communications in the maritime mobile-satellite service. Also to maintain the current status of the maritime mobile-satellite service during the transitional period.

MEX/111/7

MOD

The use of the bands 1 544 - 1 545 MHz (space-to-Earth) and 1 645.5 - 1 646.5 MHz (Earth-to-space) by the mobile-satellite service is limited to distress and safety operations. <u>These bands</u> may also be used for intersatellite links for relay of distress and safety operations.

Reasons: To ensure the successful reception of satellite EPIRB signals.

	Allocation to Services							
	Region 1	Region 2	Region 3					
-/8 MOD	1 545 - 1 559		· · · · · · · · · · · · · · · · · · ·					
		AERONAUTICAL-MOBILE- SATELL (space-to-Earth)	ITE- (R)					
		MOBILE-SATELLITE (space-to	-Earth)					
	• • • • • • • •	722 727 729 730 7304						

MEX/111/9

ADD

730A

The aeronautical mobile-satellite (R) service shall have priority access with real-time preemptive capability for communications in the mobile-satellite service. Systems not interoperable with the aeronautical mobile-satellite (R) service shall operate on a secondary basis. Account shall be taken of the priority of safety-related communications in the other mobilesatellite services (see Nos. 347, 348, ADD N 3195LA, 3651 and 4441).

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<u>Reasons</u>: To provide an allocation for the mobile-satellite service while maintaining the flexibility to provide for developing requirements in the aeronautical mobile-satellite (R) service.

		11112					
	Allocation to Services						
	Region 1	Region 2	Region 3				
	1 559 - 1 610						
		AERONAUTICAL RADIONAVIGATI	ON				
NOC		RADIONAVIGATION-SATELLITE	(space-to-Earth)				
		722 727 730 731					
MEX/111/10 MOD	1 610 - 1 626.5						
		AERONAUTICAL RADIONAVIGATI	ON				
		RADIODETERMINATION-SATELLI	TE (Earth-to-space)				
		722 727 730 732 733 7	34				
	·····						

<u>Reasons</u>: To meet the demand for position information provided by the radiodetermination-satellite service.

MEX/111/11 MOD 1 626.5 - ± -645.5 <u>1 631.5</u> MARITIME MOBILE-SATELLITE (Earth-to-space) 722 727 730 MEX/111/12 MOD <u>1 631.5</u> - 1 645.5 <u>MARITIME MOBILE-SATELLITE (Earth-to-space)</u> <u>MOBILE-SATELLITE (Earth-to-space)</u> 722 <u>726A</u> 726B 727 730

> <u>Reasons</u>: To provide an allocation for the mobile-satellite service in the band 1 626.5 - 1 645.5 MHz and to ensure the flexibility to stimulate the developing requirements for this service while providing protection for safety and distress communications in the maritime mobile-satellite service. Also to maintain the current status of the maritime mobilesatellite service during the transitional period.

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MHZ
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MHz

		Allocation to Services	
	Region 1	Region 2	Region 3
MEX/111/13 MOD	1 645.5 - 1 646.5		
		MOBILE-SATELLITE (Earth-t	co-space)
		722 MOD 728	
MEX/111/14 MOD	1 646.5 - 1 660		
		AERONAUTIGAL-MOBILE-SATER (Earth-to-space)	⊥lTE -(R)
		MOBILE-SATELLITE (Earth-t	co-space)
		722 727 730 <u>730A</u> 735	
MEX/111/15 MOD	1 660 - 1 660.5		
		AERONAUTICAL MOBILE-SATEI (Earth-to-space)	. LI T E- (R)
		RADIOASTRONOMY	
		MOBILE-SATELLITE (Earth-to-space)	
		722 <u>730A</u> 736	

<u>Reasons</u>: To provide an allocation for the mobile-satellite service while maintaining the flexibility to provide for developing requirements in the aeronautical mobile-satellite (R) service.

NOC 751

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MHz

	Allocation to Services			
	Region 1	Region 2	Region 3	
MEX/111/16 MOD	2 450 - 2 500 - <u>2 483.5</u>	2 450 - 2 500 <u>2 483.5</u>		
	FIXED	FIXED		
	MOBILE	MOBILE		
	Radiolocation	RADIOLOCATION		
	752 753	752		
MEX/111/17 MOD	<u>2 483.5</u> - 2 500	<u>2 483.5</u> - 2 500		
	<u>RADIODETERMINATION-</u> <u>SATELLITE</u> (space-to-Earth)	RADIODETERMIN (space-to-Ea	ATION-SATELLITE arth)	
	FIXED	F IXED-		
	MOBILE	MOBILE		
	Radiolocation	ADIOLOCATION	F	
	752 753 <u>752A</u>	752 <u>752A</u>		

<u>Reasons</u>: To reallocate a part of the band 2 450 - 2500 MHz to provide for the radiodetermination-satellite service, with minimal impact on the fixed and mobile services.

MEX/111/18

ADD

752A In the band 2 483.5 - 2 500 MHz, existing assignments as of [...] in the fixed and mobile services may continue to operate on a primary basis.

<u>Reasons</u>: To reallocate a part of this band to provide for the radiodetermination-satellite service, with minimal impact on the fixed and mobile services.

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Document 112-E 14 September 1987 Original: Spanish

PLENARY MEETING

Mexico

PROPOSALS FOR THE WORK OF THE CONFERENCE

CHAPTER IX, DISTRESS AND SAFETY COMMUNICATIONS

CHAPTER IX

NOC

Distress and Safety Communications

ARTICLE 37

General Provisions

MEX/112/1 ADD 2929

In order to improve the safety of life at sea, it is obligatory for stations of the maritime mobile service to comply with the provisions of either Chapter N IX or Chapter IX.

MEX/112/2 *MOD 2930

The provisions procedure specified in this Chapter are is obligatory (see Resolution No. A) in the maritime mobile service for stations using the frequencies and techniques prescribed in this Chapter and for communication between these aircraft stations and aircraft stations (see also Nos. 347 and 348) of the maritime mobile service. However, stations of the maritime mobile service, when additionally fitted with any of the equipment used by stations operating in conformity with the provisions specified in Chapter N IX, shall when using that equipment, comply with the appropriate provisions of that Chapter. The provisions of this Chapter are also applicable to the aeronautical mobile service except in the case of special arrangements between the governments concerned.

<u>Reasons</u>: To prescribe the extent of the application of this Chapter and to allow ships not subject to the SOLAS Convention to choose to comply with all or parts of Chapter N IX.

NOC 2931 - 2934

MEX/112/3

SUP 2934A

 $\underline{Reasons}$: This provision relates exclusively to the new system and has been included in Article N 37.

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NOC 2935 - 2937

MEX/112/4

*MOD

2937A Distress, urgency and safety transmissions may also be made, taking into-account Nos. -2944 to 2949, using digital selective calling, and satellite techniques, and/or directprinting telegraphy in accordance with the provisions of Chapter N IX and relevant CCIR Recommendations. and/or-directprinting-telegraphy.

<u>Reasons</u>: Consequential upon other modifications and in order to specify that CCIR Recommendations have to be complied with in direct-printing telegraphy.

MEX/112/5

SUP 2934A.1

Reasons: Consequential upon SUP 2934A.

NOC 2938 - 2943.1

MEX/112/6

*SUP 2944 - 2949

Reasons: The intent of these regulations is given in Resolution No. A.

ARTICLE 38

NOC	Frequencies	for	Distress	and	Safety

NOC Section I. Availability of Frequencies

MEX/112/7

*SUP 2967 and 2968

<u>Reasons</u>: These provisions relate exclusively to the new system and have been included in Article N 38.

MEX/112/8 *(MOD) 2969

-B- A. 500 kHz

MEX/112/9

MOD 2970 § 1. (1) The frequency 500 kHz is the international distress frequency for Morse telegraphy (see also No. 472) ... For distress and safety purposes, the classes of emission to be used on 500 kHz shall be A2A, A2B, H2A or H2B (see also No. 3042 <u>and Resolution</u> No. A).

Reasons: To include a reference to Resolution No. A.

NOC 2971

MEX/112/10

*SUP 2971A - 2971D

<u>Reasons</u>: These provisions relate exclusively to the new system and have been included in Article N 38.

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MEX/112/11 *(MOD)	2972 <u>-E.</u> <u>B.</u> 2 182 kHz
MEX/112/12 MOD	2973 § 2. (1) The carrier frequency 2 182 kHz ¹ is an international distress frequency for radiotelephony Safety messages shall be transmitted, where practicable, on a working frequency after a preliminary announcement on 2 182 kHz (see No. 2944). The class of emission to be used for radiotelephony on the frequency 2 182 kHz shall be taking into account that other shipping in the vicinity may not be able to receive this traffic (see also No. 3042 and Resolution No. A).
	<u>Reasons</u> : Same as for MOD 2970. The deletion of the reference to No. 2944 is consequential upon SUP 2944.
NOC	2973.1 - 2975
NOC	2977 and 2978
MEX/112/13 *SUP	2978A and 2978B
	Reasons: See No. 2967.
MEX/112/14 (MOD)	2979 <u>G.</u> 3 023 kHz
NOC	2980
MEX/112/15 (MOD)	2981 H. D. 4 125 kHz
MEX/112/16 MOD	2982 § 4. (1) The carrier frequency 4 125 kHz is used to supplement the carrier frequency 2 182 kHz for distress and safety purposes and for call and reply (see also No. 520). This frequency is also used for distress and safety traffic by radiotelephony (see <u>also</u> No. 2944 <u>N 2982 and Resolution No. A)</u> .
	Reasons: Same as for MOD 2970 and SUP 2944.
NOC	2982A
MEX/112/17 *SUP	2982B - 2982E
	Reasons: See No. 2967.
MEX/112/18 (MOD)	2983 K. <u>E.</u> 5 680 kHz
NOC	2984
MEX/112/19 MOD	2985 <u>H</u> <u>F</u> 6-1-25-5 <u>6 215</u> kHz

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MEX/112/20 MOD 2986 The carrier frequency 6-215.5 6 215 kHz is used to § 6. supplement the carrier frequency 2 182 kHz for distress and safety purposes and for call and reply (see also No. 520). This frequency is also used for distress and safety traffic by radiotelephony (see No. 2944 N 2986). Reasons: To comply with the new arrangements for whole-number carrier frequencies. MEX/112/21 2986A - 2986H *SUP Reasons: See No. 2967. MEX/112/22 -Q_ G. 8 364 kHz (MOD) 2987 · NOC 2988 MEX/112/23 *SUP 2988A - 2988N Reasons: See No. 2967. MEX/112/24 *(MOD) 2989 -Y__ H. 121.5 MHz and 123.1 MHz NOC 2990A - 2991 MEX/112/25 *(MOD) 2992 -Z. I. 156.3 MHz NOC 2993 MEX/112/26 *SUP 2993A - 2993B Reasons: These provisions relate exclusively to the new system and have been included in Article N 38. MEX/112/27 (MOD) 2993C -AB- J. 156.650 MHz MEX/112/28 The frequency 156.650 MHz is used for ship-to-ship 2993D MOD § 9B. communications related to the safety of navigation in accordance with note n) of Appendix 18 (see-No.- 2944). . Reasons: Consequential upon SUP 2944.

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MEX/112/29 (MOD)	2993E AG_ K. 156.8 MHz
MEX/112/30 MOD	2994 § 10. (1) The frequency 156.8 MHz is the international distress, safety and calling frequency The class of emission to be used for radiotelephony on the frequency 156.8 MHz shall be G3E (see No. 2944 and <u>N 2994</u> , Appendix 19 and Resolution No. A).
	Reasons: Same as for MOD 2986.
NOC	2995 - 2995A
MEX/112/31 SUP	2995B - 2995C
	<u>Reasons</u> : Same as for SUP 2967.
MEX/112/32 (MOD)	2996 <u>AE.</u> <u>L.</u> 243 MHz
MEX/112/33 (MOD)	2997 AF. M. 406 - 406.1 MHz band
NOC	2997A
MEX/112/34 (MOD)	2998 AG- N. 1 544 - 1 545 MHz band
NOC	2998A - 2998C
MEX/112/35 (MOD)	2998D <u>AH.</u> 0. 1 645.5 - 1 646.5 MHz band
NOC	2998E
MEX/112/36 (MOD)	2999 AL P. Aircraft in Distress
NOC	3000
MEX/112/37 (MOD)	3001 AJ. Q. Survival Craft Stations
NOC	3002 - 3008
MEX/112/38 *SUP	3008A - 3008D
	Reasons: See No. 2967

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Section II. Protection of Distress and Safety Frequencies

NOC 3009

MEX/112/39

MOD 3010

NOC

Except as provided for in Nos. 2944, 2949 and 3011 these Regulations, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the international distress frequencies 490 kHz, 500 kHz, 2 174.5 kHz, 2 182 kHz, 2 187.5 kHz, 4 125 kHz, 4 177.5 kHz, 4 188 kHz, 6 215 kHz, 6 268 kHz, 6 282 kHz, 8 257 kHz, 8 357.5 kHz, 8 375 kHz, 12 392 kHz, 12 520 kHz, 12 563 kHz, 16 522 kHz, 16 695 kHz, 16 750 kHz, 156.525 MHz, or 156.8 MHz, or 156.825 MHz (see also No. N 3010) or on the distress and safety calling frequencies 490 kHz, 2 187.5 kHz, 4 125 kHz, 4 188 kHz, 6 515.5 kHz, 6282 kHz, 8 375 kHz, 12 563 kHz, 16 750 kHz, or 156.525 MHz is prohibited. Any emission causing harmful interference to distress and safety communications on any of the other frequencies identified in Section I of this Article is prohibited.

<u>Reasons</u>: To maintain the required protection of distress and safety frequencies while taking account of the change in the roles of some of them.

NOC 3011

3016

MEX/112/40

- MOD
- It is not permitted to transmit complete alarm signals for testing purposes on any frequency except for essential tests coordinated with competent authorities. As an exception, such tests are permitted for radiotelephone equipment which can operate only on the international distress <u>frequency frequencies</u> 2 182 kHz or 156.8 MHz, in which case a suitable artificial antenna shall be employed.

<u>Reasons</u>: To extend the application of this provision so that the protection afforded to 156.8 MHz is similar to that afforded to 2 182 kHz.

NOC 3016A and 3016B

NOC 3017

MEX/112/41

*MOD 3018

Apart from the transmissions authorized on 490 kHz and 500 kHz, and taking account of No. 4226, all transmissions on the frequencies included between $\frac{490}{495}$ kHz and $\frac{510}{505}$ kHz are forbidden (see No. 471 and Resolution No. 206 (MOB-83)).

<u>Reasons</u>: The proposed modifications are necessary to comply with the application of Resolution No. 206.

NOC 3019 - 3022

te alarm :

MEX/112/42

*MOD 3023

Except for transmissions authorized on the carrier frequency 2 182 kHz and on the frequencies 2 174.5 kHz, 2 177 kHz, 2 187.5 kHz and 2 189.5 kHz all transmissions on the frequencies between 2 173.5 kHz and 2 190.5 kHz are forbidden (see also N 3023).

<u>Reasons</u>: To include in this provision the two new frequencies for digital selective calling in normal (i.e., non-Distress) working and to include a reference to No. N 3023.

NOC 3031A - 3031B

*MOD 3032

MEX/112/43

E. -156-8 MHz 156.7625 - 156.8375 MHz band

<u>Reasons</u>: No. 3033 refers to a frequency band, not a specific frequency.

MEX/112/44

MOD

3033 All emissions in the band 156.7625 - 156.8375 MHz capable of causing harmful interference to the authorized transmissions of stations of the maritime mobile service on 156.8 MHz are forbidden. The frequency 156.825 MHz may, however, be used for the purposes described in No. 2995C subject to not causing interference to authorized transmissions on 156.8 MHz (see also not *) of Appendix 18).

Reasons: Consequential upon SUP 2995C.

NOC 3036

NOC

Section III. Watch on Distress Frequencies

NOC 3037

MEX/112/45 MOD 3038

In order to increase the safety of life at sea and over the sea, all stations of the maritime mobile service normally keeping watch on frequencies in the authorized bands between 415 kHz and 526.5 kHz <u>and using Morse telegraphy in these bands</u> shall, during their hours of service, take the necessary measures to ensure watch on the international distress frequency 500 kHz for three minutes twice an hour beginning at x h 15 and x h 45, Coordinated Universal Time (UTC) by an operator using headphones or loudspeaker.

<u>Reasons</u>: To specify that such watch shall only be kept by stations using Morse telegraphy.

NOC 3039

MEX/112/46

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*MOD 3040

a) transmissions shall cease in the bands <u>band</u> between 485 <u>495</u> kHz and 515 <u>505</u> kHz (see also Resolution No.206(MOB 83));

<u>Reasons</u>: Consequential upon the reduction of the guardband around 500 kHz and the deletion of Resolution No. 206.

MEX/112/47 *MOD 3041

b) outside these bands this band, transmissions of stations of the mobile service may continue; stations of the maritime mobile service may listen to these transmission on the express condition that they first ensure watch on the distress frequency as required by in accordance with No. 3038.

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<u>Reasons</u>: To provide for the continuation of the watch and the silence periods on 500 kHz for those ships not availing themselves of new system provisions, and to narrow the band in which transmissions will cease during the silence periods, in recognition of the possible implementation of the 10 kHz guardband by WARC-MOB-87 and the use of 490 kHz for the transmission of meteorological and navigational warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy.

MEX/112/48

MOD

Stations of the maritime mobile service, open to <u>Morse</u> <u>telegraphy</u> public correspondence and using frequencies in the authorized bands between 415 kHz and 526.5 kHz shall, during their hours of service, remain on watch on 500 kHz. This watch is <u>obligatory only</u> for class A2A and H2A emission.

<u>Reasons</u>: To specify that such watch shall only be kept by stations using Morse telegraphy.

NOC 3043 - 3046E

3042

NOC 3047

MEX/112/49

MOD

3048 § 21. (1) Coast stations which are open to public correspondence and which form an essential part of the coverage of the area for distress purposes shall, during their hours of service, maintain a watch on 2 182 kHz (see also Resolution No. A).

Reasons: To include a reference to Resolution No. A.

NOC 3049

MEX/112/50

MOD 3050 (3) In addition, ship stations should keep the maximum watch practicable on the carrier frequency 2 182 kHz for receiving by any appropriate means the radiotelephone alarm signal described in No. 3270, and the navigational warning signal described in Nos. 3284, 3285 and 3286, as well as distress urgency and safety signals (see also Resolution No. A).

Reasons: Same as MOD 3048.

MEX/112/51

*MOD

3051 § 22. Ship stations open to public correspondence should, as far as possible during their hours of service, keep watch on 2 182 kHz (see also Resolution No. A).

Reasons: Same as MOD 3048.

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MEX/112/52 MOD 3052 § 23. In order to increase the safety of life at sea and over the sea, all stations of the maritime mobile service normally keeping watch on frequencies in the authorized bands between 1 605 kHz and 2 850 kHz shall, during their hours of service, and as far as possible, take steps to keep watch on the international distress carrier frequency 2 182 kHz for three minutes twice each hour beginning at x h 00 and x h 30 Coordinated Universal Time (UTC) (see also Resolution No. A).

Reasons: Same as for MOD 3048.

MEX/112/53

MOD 3052A § 23A. During the periods referred to in No. 3052 all transmissions, except those provided for in this Chapter and in <u>Chapter N IX</u>, shall cease in the band 2 173.5 - 2 190.5 kHz (see also Resolution No. A).

<u>Reasons</u>: To prescribe the conditions for the watch on 2 182 kHz when the maritime distress and safety system is introduced and to include a reference to Resolution No. A.

MEX/112/54

MOD 3053 C.

C. 4 125 kHz and 6 215.5, <u>6 215</u> kHz

<u>Reasons</u>: To comply with the new arrangements for whole-number carrier frequencies.

NOC 3054 - 3056

MEX/112/55

MOD 3057 § 25. (1) A coast station providing an international maritime mobile radiotelephone service in the band 156 - 174 MHz and which forms an essential part of the coverage of the area for distress purposes should, during its working hours in that band, maintain

Recommendation 306).

Reasons: Same as MOD 3048.

MEX/112/56

MOD

3058 (2) Ship stations should, where practicable, maintain watch on 156.8 MHz when within the service area of a coast station providing international maritime mobile radiotelephone service in the band 156 - 174 MHz. Ship stations fitted only with VHF radiotelephone equipment operating in the authorized bands between 156 MHz and 174 MHz, should maintain watch on 156.8 MHz when at sea (see Resolution No. A).

an efficient aural watch on 156.8 MHz (see Resolution No. A and

Reasons: Same as for MOD 3048.

MEX/112/57

MOD 3059

(3) Ship stations, when in communication with a port station, may, on an exceptional basis and subject to the agreement of the administration concerned, continue to maintain watch, on the appropriate port operations frequency only, provided that watch on 156.8 MHz is being maintained by the port station <u>(see Resolution No. A)</u>.

Reasons: Same as for MOD 3048.

MEX/112/58

MOD 3060

(4) Ship stations, when in communication with a coast station in the ship movement service and subject to the agreement of the administrations concerned, may continue to maintain watch on the appropriate ship movement service frequency only, provided the watch on 156.8 MHz is being maintained by that coast station (see Resolution No. A).

Reasons: Same as for MOD 3048.

ARTICLE 40

Urgency and Safety Transmissions and Medical Transports

Section I. Urgency and Safety Messages

MEX/112/59 *MOD

In <u>Morse</u> radiotelegraphy,

<u>Reasons</u>: To avoid any conflict with similar provisions for narrow-band direct-printing telegraphy.

MEX/112/60 *MOD

In radiotelephony, the urgency signal consists of three repetitions of the group of words PAN PAN, each word of the group pronounced as the French work "panne". The urgency signal shall be repeated three times transmitted before the call.

<u>Reasons</u>: For the sake of consistency with the provision for the distress signal (No. 3089), to define the signal as a single use of the group of words while retaining the three repetitions of it in this Chapter. This permits the signal to be described and used in the same way in the new chapter but, for NBDP, allows for the single use of these words.

NOC 3198 - 3208

3221

3196

3197

NOC

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Section II. Medical Transports

NOC

Section III. Safety Signal and Messages

MEX/112/61 *MOD

In Morse radiotelegraphy

Reasons: See No. 3196.

MEX/112/62

*MOD 3222 In radiotelephony, the safety signal consists of the word SECURITE pronounced clearly as in French, spoken three times and transmitted before the call. The safety signal shall be repeated three times before the call.

Radiobeacon Signals

Reasons: See No. 3197.

NOC 3223 - 3226

 NOC
 ARTICLE 41

 NOC
 Alarm and Warning Signals

 NOC
 Section I. Emergency Position-Indicating

MEX/112/63

ADD 3259A

c) for ultra high frequencies, e.g. in the band 406 - 406.1 MHz, a signal whose characteristics shall be in accordance with relevant CCIR Recommendations.

<u>Reasons</u>: To add to the list of delineated EPIRBs a new satellite EPIRB, the characteristics of which have been recommended by the CCIR in its Recommendation 633.

Section II. Radiotelegraph and Radiotelephone Alarm Signals

NOC 3268 - 3271

MEX/112/64

MOD 3285

The signal should be transmitted by coast stations continuously for a period of fifteen seconds before vital navigational warnings on radiotelephony in the medium frequency <u>or</u> <u>very high frequency</u> maritime bands.

<u>Reasons</u>: To clarify that the navigational warning alarm signal, which precedes navigational warning broadcasts, pertains to the Appendix 18 VHF maritime band (e.g., VHF channel 16) as well as the MF maritime band.

ARTICLE 42

Special Services Relating to Safety

NOC

Sections I - III

MEX/112/65 *SUP

Section IV and Nos. 3339 to 3341

 $\underline{Reasons}$: Consequential upon the inclusion of NAVTEX provisions in the new chapter.

PLENARY MEETING

Mexico

PROPOSALS FOR THE WORK OF THE CONFERENCE

CHAPTER N IX - AUTOMATED COMMUNICATIONS FOR DISTRESS AND SAFETY

CHAPTER N IX

MEX/113/1

Automated Communications for Distress and Safety¹

MEX/113/2 ADD

ADD

¹These communications are initiated using techniques that are entirely or largely automated, and they include distress, urgency, safety calls and messages.

<u>Reasons</u>: To indicate the contents of this chapter.

MEX/113/3 ADD

ARTICLE N 37

MEX/113/4 ADD

General Provisions

MEX/113/5

ADD N 2928 Provisions for automated communications for distress and safety are available for use by the Global Maritime Distress and Safety System (GMDSS) which was developed to improve distress and safety communications and the safety of life at sea. The GMDSS is capable of being expanded to provide for the safety of life in other environments.

 $\underline{Reasons}$: To indicate the aim of the GMDSS and that the provisions of this chapter have been developed for use by it.

MEX/113/6

ADD N 2929 To improve the safety of life at sea, stations of the maritime mobile service shall comply with the provisions of Chapter N IX or Chapter IX.

Reasons: To prescribe the extent of application of this chapter.

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MEX/113/7

*ADD N 2930

The provisions specified in this chapter are obligatory (see Resolution No. A) in the maritime mobile service for all stations using the frequencies and techniques prescribed for the functions set out herein. (See also No. N 2939). Certain provisions of this chapter are also applicable to the aeronautical mobile service except in the case of special arrangements between governments concerned. However, stations of the maritime mobile service, when additionally fitted with equipment used by stations operating in conformity with the provisions specified in Chapter IX, shall, when using that equipment, comply with the appropriate provisions of that chapter.

Reasons: To prescribe the extent of application of this chapter.

MEX/113/8

ADD N 2931

The procedure specified in this chapter is obligatory in the maritime mobile-satellite service and for communications between stations on board aircraft and stations of the maritime mobile-satellite service, where this service or stations of this service are specifically mentioned.

<u>Reasons</u>: To make the provisions of this chapter applicable to the maritime mobile-satellite service, to the extent necessary, and to take account of the need for communications between that service and aircraft.

MEX/113/9

ADD N 2931A Stations of the land mobile service in uninhabited and remote areas may, for distress and safety purposes, avail themselves of the frequencies provided for automated communications for distress and safety.

 $\underline{Reasons:}$ To make a provision responding to the concept put forward in Resolution No. 203 (Mob-83).

MEX/113/10

ADD N 2931B

31B The procedure specified in this chapter is obligatory for stations of the land mobile service when they use frequencies provided in these Regulations for automated communications for distress and safety.

<u>Reasons</u>: To ensure that land mobile use of provisions for automated communications for distress and safety conforms to the use made by other services of these provisions.

MEX/113/11

ADD N 2932

2 No provision of these Regulations prevents the use by a mobile station or a mobile earth station in distress of any means at its disposal to attract attention, make known its position, and obtain help.

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MEX/113/12

ADD N 2933 No provision of these Regulations prevents the use by stations on board aricraft or ships engaged in search and rescue operations, in exceptional circumstances, of any means at their disposal to assist a mobile station or a mobile earth station in distress.

MEX/113/13

ADD N 2934 No provision of these Regulations prevents the use by a land station or coast earth station, in exceptional circumstances, of any means at its disposal to assist a mobile station or a mobile earth station in distress (see also No. 959).

<u>Reasons</u>: ADD N 2932 to N 2934. To indicate that other means of communication may be used in distress and in search and rescue operations.

MEX/113/14

ADD N 2934A When special circumstances make it indispensible to do so, an administration may, as an exception to the methods of working provided for by these Regulations, authorize ship earth station installations located at Rescue Coordination Centres¹ to communicate with other stations using bands allocated to the maritime mobile-satellite service, for distress and safety purposes.

MEX/113/15

*ADD N 2934A.1 The term "Rescue Coordination Centre" refers to a facility designated by a competent national authority to perform rescue coordination functions consistent with the International Convention on Maritime Search and Rescue (1979).

<u>Reasons</u>: To place these regulations, which were added to Chapter IX by WARC MOB-83 in support of the FGMDSS, in this chapter, and to clarify the provision so that communications from one RCC, using a ship earth station, to an RCC using a coast earth station, is not considered to be forbidden. The term "installation" has been included to overcome the inconsistent terminology regarding a ship earth station not installed on board a ship.

MEX/113/16 *ADD

N 2935 Transmissions by radiotelephony shall be made slowly and distinctly, each word being clearly pronounced to facilitate transcription.

<u>Reasons</u>: To provide, for automated communications for distress and safety, the usual regulatory environment on the use of communications.

MEX/113/17

*ADD N 2937A Distress, urgency and safety transmissions may also be made, using Morse telegraphy and radiotelephony techniques, in accordance with the provisions of Chapter IX and relevant CCIR Recommendations.

<u>Reasons</u>: To draw attention to the techniques and provisions used for distress and safety communications not conducted in accordance with the provisions of this chapter. MEX/113/18

ADD N 2938 The abbreviations and signals of Appendix 14 and the Phonetic Alphabet and Figure Code in Appendix 24 should be used where applicable and, where language difficulties exist, the use of the International Code of Signals also is recommended.

<u>Reasons</u>: To provide automated communications for distress and safety with the same regulation as is used for other communications.

MEX/113/19

*ADD N 2939 The Intenational Convention for the Safety of Life at Sea prescribes which ships and which of their survival craft shall be fitted with radio equipment and which ships shall carry portable radio equipment for use in survival craft. It also prescribes the requirements which shall be complied with by such installations.

Reasons: To establish the relationship with the SOLAS Convention.

MEX/113/20

ADD N 2942 Mobile stations¹ of the maritime mobile service may communicate, for safety purposes, with stations of the aeronautical mobile service. Such communications shall normally be made on the frequencies authorized, and under the conditions specified, in Section I of Article N 38 (see also No. N 2932).

MEX/113/21

*ADD N 2942.1 ¹Mobile stations communicating with the stations of the aeronautical mobile (R) service in bands allocated to the aeronautical mobile (R) service shall conform to the provisions of the Regulations which relate to that service and as appropriate any special arrangements between the governments concerned by which the aeronautical mobile (R) service is regulated.

> <u>Reasons</u>: ADD N 2942 and N 2942.1. To provide the conditions under which ships availing themselves of the provisions in this chapter can, for safety purposes, communicate with aircraft.

MEX/113/22

*ADD N 2942A Mobile stations of the aeronautical mobile service may communicate, for safety purposes, with stations of the maritime mobile service.

<u>Reasons</u>: To ensure that stations of the maritime mobile service can provide assistance to aircraft when required.

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MEX/113/23 ADD N 2943 ADD N 2943 ADD N 2943 Any aircraft required by national or international regulations to communicate for distress, urgency or safety purposes with stations of maritime mobile service that comply with the provisions of this chapter, shall be capable of transmitting class J3E or H3E and receiving class J3E emmissions when using the carrier frequency 2 182 kHz, or class J3E emissions when using the carrier frequency 4 125 kHz, or class G3E emissions when using the frequency 156.3 MHz or the frequency 156.8 MHz.

<u>Reasons</u>: To provide the conditions under which aircraft may, for safety purposes, communicate with ships complying with provisions in this chapter.

MEX/113/24 ADD

ARTICLE N 38

Frequencies for the Automated Communications for Distress and Safety

Section I. Specifically Designated Frequencies

MEX/113/25

ADD N 2967

A. 490 kHZ

MEX/113/26

ADD N 2968 The frequency 490 kHz is used exclusively for distress and safety.

<u>Reasons</u>: To transfer those regulations out of Chapter IX which relate exclusively to automated communications for distress and safety and to place them in this chapter.

MEX/113/27

*ADD N 2971A B. 518 kHz

MEX/113/28

*ADD N 2971B In the maritime mobile service, the frequency 518 kHz is used exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy (see Resolution No. 318 (Mob-83)).

Reasons: See No. N 2968.

MEX/113/29

*ADD N 2971C C. 2 174.5 kHz

MEX/113/30

*ADD N 2971D The frequency 2 174.5 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy.

Reasons: See No. N 2968.

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MEX/113/31 *ADD	N 2972 D. 2 182 kHz
MEX/113/32 ADD	N 2973 The carrier frequency 2 182 kHz is used for distress and safety traffic by radiotelephony, using class of emission J3E. (See also No. 2973).
	<u>Reasons</u> : To prescribe the use of 2 182 kHz by ships complying with the provisions in this chapter.
MEX/113/33 *ADD	N 2978A E. 2 187.5 kHz
MEX/113/34 ADD	N 2978B The frequency 2 187.5 kHz is used exclusively for distress and safety calls using digital selective calling. (See Nos. N 3172, N 3195P and N 3195Z.)
	Reasons: See No. N 2968.
MEX/113/35 *ADD	N 2979 F. 3 023 kHz
MEX/113/36 *ADD	N 2980 The aeronautical carrier (reference) frequency 3 023 kHz may be used for intercommunication between mobile stations when they are engaged in coordinated search and rescue operations, and for communication between these stations and participating land stations, in accordance with the provisions of Appendix 27 Aer2 (see Nos. 501 and 505).
	<u>Reasons</u> : To maintain the use of this frequency for coordinated SAR operations in this chapter, in common with its use in Chapter IX.
MEX/113/37 *ADD	N 2981 G. 4 125 kHz
MEX/113/38 *ADD	N 2982 The carrier frequency 4 125 kHz is used for distress and safety traffic by radiotelephony (see also No. 2982).
MEX/113/39 *ADD	N 2982A The carrier frequency 4 125 kHz may be used by aircraft to communicate with stations of the maritime mobile service for distress and safety purposes (see No. N 2943).
	<u>Reasons</u> : To prescribe the uses of this frequency by ships complying with provisions in this chapter.

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MEX/113/40 *ADD N 2982B Н. 4 177.5 kHz MEX/113/41 The frequency 4 177.5 kHz is used exclusively for *ADD N 2982C distress and safety traffic using narrow-band direct-printing telegraphy. Reasons: See No. N 2968. MEX/113/42 N 2982D I. 4 188 kHz *ADD MEX/113/43 *ADD N 2982E The frequency 4 188 kHz is used exclusively for distress and safety calls using digital selective calling. (See Nos. N 3172, N 3195P and N 3195Z.) Reasons: See No. N 2968. MEX/113/44 *ADD N 2983 5 680 kHz J. MEX/113/45 *ADD N 2984 The aeronautical carrier (reference) frequency 5 680 kHz may be used for intercommunication between mobile stations when they are engaged in coordinated search and rescue operations, and for communication between these stations and participating land stations, in accordance with the provisions of Appendix 27 Aer2 (see also Nos. 501 and 505). Reasons: See No. N 2980. MEX/113/46 K. 6 215 kHz N 2985 ADD MEX/113/47 N 2986 The carrier frequency 6 215 kHz is used for distress ADD and safety traffic by radiotelephony (see also No. 2986). MEX/113/48 *ADD N 2986A L. 6 268 kHz MEX/113/49 *ADD N 2986B The frequency 6 268 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy. Reasons: See No. N 2968. MEX/113/50 M. 6 282 kHz *ADD N 2986C · · · ·

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MEX/113/51 *ADD N 2986D The frequency 6 282 kHz is used exclusively for distress and safety calls using digital selective calling. (See Nos. N 3172, N 3195P and N 3195Z.) Reasons: See No. N 2968. MEX/113/52 N. 8 257 kHz *ADD N 2986E MEX/113/53 The carrier frequency 8 257 kHz is used exclusively for *ADD N 2986F distress and safety traffic by radiotelephony. Reasons: See No. N 2968. MEX/113/54 0. 8 357.5 kHz *ADD N 2986G MEX/113/55 The frequency 8 357.5 kHz is used exclusively for *ADD N 2986H distress and safety traffic using narrow-band direct-printing telegraphy. Reasons: See No. N 2968. MEX/113/56 *ADD N 2988A P. 8 375 kHz MEX/113/57 *ADD N 2988B The frequency 8 375 kHz is used exclusively for distress and safety calls using digital selective calling. (See Nos. N 3172, N 3195P and N 3195Z.) Reasons: See No. N 2968. MEX/113/58 *ADD N 2988C Q. 12 392 kHz MEX/113/59 *ADD N 2988D The carrier frequency 12 392 kHz is used for distress and safety traffic by radiotelephony. Reasons: See No. N 2968. MEX/113/60 *ADD N 2988E R. 12 520 kHz MEX/113/61 *ADD N 2988F The frequency 12 520 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy. Reasons: See No. N 2968.

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MEX/113/62 *ADD	N 2988G S. 12 563 kHz
MEX/113/63 ADD	N 2988H The frequency 12 563 kHz is used exclusively for distress and safety calls using digital selective calling. (See Nos. N 3172, N 3195P and N 3195Z.)
	<u>Reasons</u> : See No. N 2968.
MEX/113/64 *ADD	N 2988I T. 16 522 kHz
MEX/113/65 *ADD	N 2988J The carrier frequency 16 522 kHz is used for distress and safety traffic by radiotelephony.
	<u>Reasons</u> : See No. N 2968.
MEX/113/66 *ADD	N 2988K U. 16 695 kHz
MEX/113/67 *ADD	N 2988L The frequency 16 695 kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy.
	<u>Reasons</u> : See No. N 2968.
MEX/113/68 *ADD	N 2988M V. 16 750 kHz
MEX/113/69 ADD	N 2988N The frequency 16 750 kHz is used exclusively for distress and safety calls using digital selective calling. (See Nos. N 3172, N 3195P and N 3195Z.)
	<u>Reasons</u> : See No. N 2968.
MEX/113/70 *ADD	N 2989 W. 121.5 MHz and 123.1 MHz
MEX/113/71 *ADD	N 2990A The aeronautical emergency frequency 121.5 MHz ¹ is used for the purposes of distress and urgency for radiotelephony by stations of the aeronautical mobile service using frequencies in the band between 117.975 MHz and 136 MHz (137 MHz after 1 January 1990). This frequency may also be used for these purposes in survival craft stations and emergency position- indicating radiobeacons.
MEX/113/72 *ADD	N 2990A.1 Normally aircraft stations transmit distress and urgency messages on the working frequency in use at the time of the distress or urgency incident.

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MEX/113/73

*ADD N 2990B The aeronautical auxiliary frequency 123.1 MHz, which is auxiliary to the aeronautical emergency frequency 121.5 MHz, is for use by stations of the aeronautical mobile service and by other mobile and land stations engaged in coordinated search and rescue operations (see also No. 593).

MEX/113/74

*ADD N 2991 Mobile stations of the maritime mobile service may communicate with stations of the aeronautical mobile service on the aeronautical emergency frequency 121.5 MHz for the purposes of distress and urgency, only, and on the aeronautical auxiliary frequency 123.1 MHz for coordinated search and rescue operations, using class A3E emissions for both frequencies (see also Nos. 501 and 593). They shall then comply with any special arrangements between the governments concerned by which the aeronautical mobile service is regulated.

<u>Reasons</u>: To prescribe the conditions for the use of the aeronautical emergency frequency and auxiliary frequency by stations complying with the provisions of this Chapter.

MEX/113/75

*ADD N 2992

X. 156.3 MHz

MEX/113/76

*ADD N 2993 The frequency 156.3 MHz may be used for communication between ship stations and aircraft stations, using class of emission G3E, engaged in coordinated search and rescue operations. It may also be used by aircraft stations to communicate with ship stations for other safety purposes (see also Note g) of Appendix 18).

<u>Reasons</u>: To prescribe the uses of this frequency by stations complying with the provisions of this Chapter.

MEX/113/77

*ADD N 2993A Y. 156.525 MHz

MEX/113/78

ADD N 2993B The frequency 156.525 MHz is used in the maritime mobile service exclusively for distress and safety calls using digital selective calling (see also No. 613A).

Reasons: See No. N 2968.

MEX/113/79

*ADD N 2993C Z. 156.650 MHz

MEX/113/80

*ADD N 2993D The frequency 156.650 MHz is used for ship-to-ship communications related to the safety of navigation in accordance with Note n) of Appendix 18.

Reasons: See No. N 2968.

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MEX/113/81 *ADD	N 2993E	AA. 156.8 MHz
MEX/113/82 *ADD	N 2994	The frequency 156.8 MHz is used for distress and safety traffic by radiotelephony, using class of emission G3E (see also No. 2994).
MEX/113/83 *ADD	N 2995A	The frequency 156.8 MHz may be used by aircraft stations for safety purposes only.
	<u>Reasons</u> : ships co	To prescribe the uses of 156.8 MHz for distress and safety by mplying with the provisions of this Chapter.
MEX/113/84 *ADD	N 2997	AB. 406 - 406.1 MHz Band
MEX/113/85 *ADD	N 2997A	The frequency band 406 - 406.1 MHz is used exclusively for satellite emergency position-indicating radiobeacons in the Earth-to-space direction (see No. 649).
	<u>Reasons</u> : complyin	To prescribe the use of this frequency for ship stations g with the provisions of this Chapter.
MEX/113/86 *ADD	N 2998	AC. 1 544 - 1 545 MHz Band
MEX/113/87 *ADD	N 2998A	Use of the band 1 544 - 1 545 MHz (space-to-Earth) is limited to distress and safety operations (see No. 728) including:
MEX/113/88 *ADD	N 2998B	 a) feeder links of satellites needed to relay the emissions of satellite emergency position- indicating radiobeacons to earth stations;
MEX/113/89 *ADD	N 2998C	b) narrow-band (space-to-Earth) links from space stations to mobile stations.
	<u>Reasons</u> : safety p	To include the uses of this frequency band for distress and urposes in this Chapter.
MEX/113/90 *ADD	N 2998D	AD. 1 645.5 - 1 646.5 MHz Band
MEX/113/91 *ADD	N 2998E	Use of the band 1 645.5 - 1 646.5 MHz (Earth-to-space) is limited to distress and safety operations (see No. 728).
	<u>Reasons</u> :	See No. N 2998C.
MEX/113/92 *ADD	N 3001	AF. Survival Craft Stations

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MEX/113/93		
*ADD	N 3002	Equipment provided for radiotelephony use in survival craft stations shall, if capable of operating on any frequency in the bands between 156 MHz and 174 MHz, be able to transmit on 156.8 MHz using class G3E emissions. If a receiver is provided in these bands it shall be able to receive class G3E emissions on 156.8 MHz.
	<u>Reasons</u> ships c	: To prescribe the frequencies and modes of emissions to be used by omplying with the provisions of this Chapter.
MEX/113/94 *ADD	N 3008A	Equipment with digital selective calling facilities provided for use in survival craft shall, if capable of operating:
MEX/113/95 *ADD	N 3008B	a) in the bands between 1 605 kHz and 2 850 kHz, be able to transmit on 2 187.5 kHz;
MEX/113/96 *ADD	N 3008C	b) in the bands between 4 000 kHz and 27 500 kHz, be able to transmit on 8 375 kHz;
MEX/113/97 *ADD	N 3008D	c) in the bands between 156 MHz and 174 MHz, be able to transmit on 156.525 MHz.
	Reasons	: See No. N 2968.
MEX/113/98 *ADD	for	Section II. Protection of Frequencies Used Automated Communications for Distress and Safety
MEX/113/99 *ADD	N 3009	A. General
MEX/113/100 *ADD	N 3010	Except as provided for in these Regulations, any emission capable of causing harmful interference to distress, alarm, urgency or safety communications on the frequencies 490 kHz, 500 kHz, 518 kHz, 2 174.5 kHz, 2 182 kHz, 2 187.5 kHz, 4 125 kHz, 4 177.5 kHz, 4 188 kHz, 6 215 kHz, 6 268 kHz, 6 282 kHz, 8 257 kHz, 8 357.5 kHz, 8 375 kHz, 12 392 kHz, 12 520 kHz, 12 563 kHz, 16 522 kHz, 16 695 kHz, 16 750 kHz, 156.525 MHz or 156.8 MHz (see also No. 3010) is prohibited. Any emission causing harmful interference to distress and safety communications on any of the other frequencies identified in Section I of this Article is prohibited.

MEX/113/101

*ADD N 3011 Test transmissions shall be kept to a minimum on the frequencies identified in Section I of this Article and should, wherever practicable, be carried out on artificial antennas or with reduced power. However, testing on the distress and safety calling frequencies should be avoided.

<u>Reasons</u>: To provide for the protection of frequencies used for distress and safety purposes by ships complying with the provisions of this Chapter.

MEX/113/102

*ADD N 3022 B. 2 173.5 - 2 190.5 kHz Band

MEX/113/103

ADD

N 3023 Except for transmissions authorized on the carrier frequency 2 182 kHz and on the frequencies 2 174.5 kHz, 2 177 kHz, 2 187.5 kHz and 2 189.5 kHz, all transmissions on the frequencies between 2 173.5 kHz and 2 190.5 kHz are forbidden.

<u>Reasons</u>: To protect the use of the frequencies 2 174.5 kHz, 2 182 kHz and 2 187.5 kHz for distress and safety purposes by ships complying with the provisions of this Chapter. Also to indicate that transmissions using digital selective calling on 2 177 kHz and 2 189.5 kHz in normal operations (i.e. for purposes other than distress) are authorized.

MEX/113/104

*ADD N 3032 C. 156.7625 MHz to 156.8375 MHz Band

MEX/113/105

*ADD N 3033 All emissions in the band 156.7625 - 156.8375 MHz capable of causing harmful interference to the authorized transmissions of stations of the maritime mobile service on 156.8 MHz are forbidden.

MEX/113/106

*ADD

Section III. Watch on Frequencies Used for Automated Communications for Distress and Safety

MEX/113/107

*ADD N 3037 A. Selected Coast Stations

MEX/113/108

*ADD N 3038 Coast stations selected in accordance with the plan coordinated by the International Maritime Organization shall maintain an automatic digital selective calling watch on frequencies and for periods of time as indicated in the information published in the List of Coast Stations.

<u>Reasons</u>: To prescribe the watch to be maintained by coast stations on frequencies used for distress and safety calling, by ships complying with the provisions of this Chapter.

MEX/113/109 *ADD N 3038A

B. Coast Earth Stations

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MEX/113/110 Coast earth stations selected in accordance with the *ADD N 3038B plan coordinated by the International Maritime Organization shall maintain an automatic watch for distress alerts relayed from satellite emergency position-indicating radiobeacons by space stations. Reasons: To indicate the watch maintained for distress alerts relayed through space stations. MEX/113/111 *ADD N 3040 C. Ship Stations MEX/113/112 *ADD N 3041 Ship stations complying with the provisions of this Chapter shall, while at sea, maintain an automatic digital selective calling watch on the appropriate distress and safety calling frequencies in the frequency bands in which they are operating. MEX/113/113 *ADD N 3042 Ship stations complying with the provisions of this Chapter should, where practicable, maintain a watch on the frequency 156.650 MHz for communications related to the safety of navigation. Reasons: To prescribe the conditions for the watch to be maintained on this frequency. MEX/113/114 ARTICLE N 39 ADD MEX/113/115 Operational Procedures for Automated *ADD Communications for Distress and Safety System MEX/113/116 *ADD Section I. General MEX/113/117 *ADD N 3169 Automated communications for distress and safety situations rely on the use of terrestrial MF, HF and VHF radiocommunications and communications using satellite techniques. Reasons: To indicate the scope of resources used for automated communications for distress and safety. MEX/113/118 N 3170 ADD The distress alert (see No. N 3172) shall be sent through a satellite either with absolute priority in general communication channels or on exclusive distress and safety frequencies or, alternatively, on exclusive distress and safety frequencies in the MF, HF and VHF bands using digital selective calling.

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MEX/113/119 *ADD	All stations which receive an alert tran digital selective calling shall immediately cease a capable of interfering with distress traffic and sh watch until the call has been acknowledged.	smitted by ny transmission all continue to
MEX/113/120 *ADD	The distress alert (see No. N 3172) shal on the authority of the person responsible for the or other vehicle carrying the mobile station or the station.	l be sent only ship, aircraft ship earth
	Reasons: To indicate the general provision which applies to transmission of a distress alert.	the
MEX/113/121 *ADD	J 3171A Digital selective calling shall be in ac the relevant CCIR Recommendations.	cordance with
MEX/113/122 *ADD	Section II. Distress Alerting	
MEX/113/123 *ADD	A. General	
MEX/113/124 *ADD	The transmission of a distress alert ind ship, aircraft or other vehiche is in distress and immediate assistance. The distress alert is a digit call using a distress call format in bands used for communications or is a distress message format rela- space stations.	icates that a requires al selective terrestrial yed through
	easons: To prescribe the purpose and format of a distress a	alert.
MEX/113/125 ADD	The distress alert shall contain the ident the ship, aircraft or other vehicle in distress and its position. It may also contain information to far operations, such as the nature of the distress, the assistance required, the course and speed, and the information was recorded.	ntification of provide for cilitate rescue type of time that this
	easons: To prescribe the mandatory and optional contents o lert.	f the distress
MEX/113/126 *ADD	B. Transmission of a Distress Alert	
MEX/113/127 *ADD	Bl. Transmission of a Distress Alert by a Ship Station	

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MEX/113/128 *ADD	N 3174 Ship-to-shore distress alerts will be used to alert coast stations and rescue coordination centres that a ship is in distress. These alerts are based on the use of transmissions through satellites (from a ship earth station or a satellite EPIRB), digital selective calling (in the MF, HF and VHF bands), and EPIRBS.
MEX/113/129 *ADD	N 3175 Ship-to-ship distress alerts will be used to alert other ships in the vicinity of the ship in distress and are based on the use of digital selective calling in the VHF and MF bands.
	Reasons: To prescribe the purpose and method of distress alerting by ships.
MEX/113/130 *ADD	B2. Transmission of a Shore-to-Ship Distress Alert
MEX/113/131 *ADD	N 3176 The transmission of a shore-to-ship distress alert will be addressed, as appropriate, to all ships, to a selected group of ships or to a specific ship.
	Reasons: To provide for the transmission of a distress alert by a land station to ship stations.
MEX/113/132 *ADD	B3. Transmission of a Distress Alert by a Station not Itself in Distress
MEX/113/133 *ADD	N 3177 A mobile station or a land station which learns that a mobile station is in distress shall transmit a distress alert in any of the following cases:
MEX/113/134 *ADD	N 3178 a) when the station in distress is not itself in a position to transmit the distress alert;
MEX/113/135 *ADD	N 3179 b) when the master or person responsible for the ship, aircraft or other vehicle not in distress, or the person responsible for the land station, considers that further help is necessary.
MEX/113/136 *ADD	N 3180 A station transmitting a distress alert in accordance with Nos. N 3177 and N 3178 shall indicate that it is not itself in distress.
	Reasons: To provide for situations in which a ship in distress is unable to transmit a distress alert.

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MEX/113/137 *ADD	C.	Receipt and Acknowledgement of Distress Alerts
MEX/113/138 *ADD		Cl. Procedure for the Acknowledgement of Receipt of Distress Alerts
MEX/113/139 *ADD	N 3182	Acknowledgement through a satellite of receipt of a distress alert from a ship earth station shall be sent immediately (see No. N 3184). Consequently, the ship earth station operator shall not terminate the communications link until the acknowledgement is received.
MEX/113/140 *ADD	N 3183	The acknowledgement by radiotelephony of receipt of a distress alert from a ship earth station shall be given in the following form:
		- the distress signal MAYDAY;
		 the call sign or other identification of the station sending the distress message, spoken three times;
		 the words THIS IS (or DE spoken as DELTA ECHO in case of language difficulties);
		 the call sign or other identification of the station acknowledging receipt, spoken three times;
		 the word RECEIVED (or RRR spoken as ROMEO ROMEO ROMEO in case of language difficulties);
		- the distress signal MAYDAY.
	<u>Reasons</u> of a di	: To indicate the methods and procedures for acknowledging receipt stress alert.
MEX/113/141 *ADD	C2.	Receipt and Acknowledgement by a Coast Station
MEX/113/142 *ADD	N 3184	Selected coast stations and appropriate coast earth stations in receipt of distress alerts shall ensure that they are routed immediately to a rescue coordination centre. The receipt of a distress alert is to be immediately acknowledged by a coast station or a rescue coordination centre.
	<u>Reasons</u> receive	: To prescribe the method of acknowledgement of distress alerts d by coast and coast earth stations.
MEX/113/143 *ADD	N 3185	The acknowledgement by a coast station of a distress call by digital selective calling shall be transmitted on the distress calling frequency on which the call was received and should be addressed to all ships. The acknowledgement shall include the identification of the ship whose distress call is being acknowledged.

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	<u>Reasons</u> station	: To prescr when acknow	ibe wled	the method and procedure to be used by a coast ging receipt of a distress alert.
MEX/113/144 *ADD	C3	. Receipt a	and	Acknowledgement by a Ship Station
MEX/113/145 *ADD	N 3186	coast stat distress a so that red coordinatio	In ions lert ceip on c	areas where reliable communications with one or more are practicable, ship stations in receipt of a should defer acknowledgement for a short interval t may be acknowledged by a coast station or rescue entre.
MEX/113/146 *ADD	N 3187	with a coas alert from their vicin the approp	Shi st s a s nity riat	p stations, in areas where reliable communications tation are not practicable, which receive a distress hip station which is, beyond any possible doubt, in , shall immediately acknowledge receipt and inform e rescue coordination centre.
MEX/113/147 *ADD	N 3188	will not a acknowledg distress a	How ckno ed b lert	ever, a ship station, receiving an HF distress alert wledge it and shall, if the alert is not y a coast station within five minutes, relay the
	<u>Reasons</u> acknowl	: To specify edge the rea	y th ceip	e occasions and methods used by a shipt station to t of an alert from another ship station.
MEX/113/148 *ADD	N 3189	alert in a	A s ccor	hip station acknowledging receipt of a distress dance with No. N 3186 or No. N 3187 should:
MEX/113/149 *ADD	N 3189A		a)	in the first instance acknowledge receipt of the alert by using radiotelephony on the distress and safety traffic frequency in the band used for the alert;
MEX/113/150 *ADD	N 3189B		b)	if acknowledgement by radiotelephony of the distress alert received on the MF or VHF distress alerting frequency is unsuccessful, acknowledge receipt of the distress alert by responding with a digital selective call on that frequency.
	<u>Reasons</u> receipt	: To specify of a distre	y th ess	e procedures and situations for acknowledgement of alert by a ship station from a ship station.
MEX/113/151 *ADD	N 3189C	alert (see and render	A s No. suc	hip station in receipt of a shore-to-ship distress N 3176) should establish communication as directed h assistance as required and appropriate.
	<u>Reasons</u> ship di	: To indicat stress alert	te ti t.	he responsibility of a ship receiving a shore-to-

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MEX/113/152 *ADD	Section III. Distress Traffic					
MEX/113/153 *ADD	A. General					
MEX/113/154 *ADD	N 3190 Distress traffic consists of all messages relating to the immediate assistance required by the ship station in distress including search and rescue communications, on-scene communications and signals for locating.					
	<u>Reasons</u> : To describe the purpose and scope of distress traffic.					
MEX/113/155 *ADD	N 3190A The distress signal consists of the word MAYDAY, pronounced in radiotelephony and the French expression "m'aider".					
MEX/113/156 *ADD	N 3191 For distress traffic by radiotelephony, the call shall be prefixed by the distress signal MAYDAY.					
	<u>Reasons</u> : To prescribe the use of the distress signal in radiotelephony.					
MEX/113/157 *ADD	N 3193 The rescue coordination centre responsible for controlling a search and rescue operation shall also control the distress traffic relating to that incident.					
	$\frac{\text{Reasons}}{\text{traffic}}$. To indicate the authority responsible for control of distress traffic.					
MEX/113/158 *ADD	N 3195 Until they receive the message indicating that normal working may be resumed (see No. N 3195B), all stations which are aware of the distress traffic, and which are not taking part in it, are forbidden to transmit on the frequencies on which the distress traffic is taking place.					
MEX/113/159 *ADD	N 3195A A station of the mobile service which, while following distress traffic, is able to continue its normal service, may do so when the distress traffic is well established and on condition that it observes the provisions of No. N 3195 and that it does not interfere with distress traffic.					
MEX/113/160 *ADD	N 3195B When distress traffic has ceased on frequencies which have been used for distress traffic, the rescue coordination centre controlling a search and rescue operation shall transmit on these frequencies a message indicating that distress traffic has finished.					
MEX/113/161 *ADD	N 3195C In radiotelephony the message referred to in					

No. N 3195B consists of:

- the distress signal MAYDAY;
- the call "Hello all stations" or CQ (spoken as CHARLIE QUEBEC) spoken three times;
- the words THIS IS (or DE spoken as DELTA ECHO in the case of language difficulties);
- the call sign or other identification of the station sending the message;
- the time of handing in of the message;
- the name and call sign of the mobile station which is in distress;
- the words SEELONCE FEENEE pronounced as the French words "silence fini".

<u>Reasons</u>: Nos. N 3195 to N 3195C regulate the conduct of communications during a distress incident.

MEX/113/162 *ADD

B. Search and Rescue Coordinating Communications

MEX/113/163

*ADD N 3195D Search and rescue coordinating communications are the SAR communications, other than on-scene communications, necessary for the coordination and control of units participating in a distress incident.

Reasons: To describe the scope of SAR coordinating communications.

MEX/113/164

*ADD N 3195E The appropriate rescue coordination centre (RCC) controlling the search and rescue operation is responsible for the SAR coordinating communications.

<u>Reasons</u>: To establish responsibility for control of SAR coordinating communications.

MEX/113/165

*ADD N 3195F The SAR coordinating communications are usually conducted on frequencies from among those contained in Article N 38, Section I, using direct-printing telegraphy or radiotelephony.

 $\underline{Reasons}$: To provide a link to the regulations which refer to frequencies for SAR coordinating communications function.

MEX/113/166 *ADD

C. On-scene Communications

MEX/113/167

*ADD N 3195G On-scene communications are those between the unit in distress and the units participating in the rescue operation and those between the latter units.

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Reasons: To describe the scope of on-scene communications. MEX/113/168 The preferred frequencies for ship-to-ship on-scene *ADD N 3195I communications are: 156.8 MHz using class of emission G3E, the carrier frequency 2 182 kHz using class of emission J3E and the frequency 2 174.5 kHz using class of emission FlB or J2B. MEX/113/169 *ADD N 3195J The preferred frequencies for ship-to-aircraft on-scene communications are those in No. N 31951 and the carrier frequencies 3 023 kHz and 5 680 kHz using class of emission J3E and 123.1 MHz using class of emission A3E. MEX/113/170 *ADD N 3195K The selection or designation of on-scene frequencies is a responsibility of the on-scene commander. Normally, once established, an on-scene frequency is maintained as a continuous aural or teleprinter watch by all participating on-scene mobile units. Reasons: Nos. N 3195I to N 3195K indicate the frequencies for on-scene communications and conditions of use. MEX/113/171 *ADD D. Signals for Locating MEX/113/172 *ADD N 3195L Locating signals are transmissions intended to facilitate, by means of the propagation properties of radio waves, the finding of a ship, aircraft or vehicle in distress or the location of survivors. These signals include those transmitted from searching units and homing signals (see No. 3195LA) transmitted by the unit in distress or by survival craft to assist the searching units. Reasons: To describe the purpose of locating signals. MEX/113/173 *ADD N 3195LA Homing signals are those locating signals which are transmitted by a ship, aircraft or vehicle in distress, or by a survival craft, for the purpose of providing search units with a signal that can be used to determine the bearing to the transmitting station. Reasons: To describe the function of homing signals. MEX/113/174 *ADD N 3195M Locating signals may be transmitted in the following frequency bands:

a) 117.975 - 136 MHz;

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b) 156 - 174 MHz;
c) 406 - 406.1 MHz.

MEX/113/175

*ADD

N 3195N Transmit and receive signals for locating shall comply with the relevant Recommendations of the CCIR.

MEX/113/176 *ADD

ARTICLE N 40

Operational Procedures Used in Automated Communications for Urgency and Safety

Section I. General

MEX/113/177

*ADD N 3195NA

A Automated communications for urgency and safety situations rely on the use of terrestrial MF, HF and VHF radiocommunications and communications using satellite techniques. These include:

- a) navigational and meteorological warnings and urgent information;
- b) ship-to-ship navigation safety communications;
- c) ship reporting communications;
- d) support communications for search and rescue operations;
- e) other urgency and safety messages; and
- f) communications relating to the navigation, movements and needs of ships and weather observation messages destined for an official meteorological service.

Section II. Urgency communications

MEX/113/178

*ADD N 31950 Urgency communications are safety-related transmissions which include:

- a) for terrestrial systems, an announcement in the form of a digital selective call using an urgency call format, an urgency signal and an urgency message;
- b) an urgency signal and message relayed through space stations.

MEX/113/179

*ADD N 3195P The announcement of the urgency message is made either by using digital selective calling techniques on one or more of the distress and safety calling frequencies specified in Section I of Article N 38 or by using frequencies of the maritime mobilesatellite service.

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MEX/113/180 *ADD	N 3195Q The urgency signal consists of the words PAN PAN, in radiotelephony each word of the group pronounced as the French word "panne".
MEX/113/181 *ADD	N 3195R The urgency call format and the urgency signal indicate that the calling station has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle, or the safety of a person.
MEX/113/182 *ADD	N 3195S The urgency signal and the message shall be transmitted on one or more of the distress and safety traffic frequencies specified in Section I of Article N 38 or on frequencies of the maritime mobile-satellite service.
MEX/113/183 *ADD	N 3195T In radiotelephony, the urgency message will be preceded by the urgency signal (see N 3195Q), repeated three times, and the identification of the transmitting station.
MEX/113/184 *ADD	N 3195U In narrow-band direct-printing, the urgency message will be preceded by the urgency signal (see N 3195Q) and the identification of the transmitting station.
MEX/113/185 *ADD	N 3195X The urgency call format or urgency signal shall be sent only on the authority of the master or the person responsible for the ship, aircraft or other vehicle carrying the mobile station or mobile earth station.
MEX/113/186 *ADD	N 3195XA The urgency call format or the urgency signal may be transmitted by a land station or a coast earth station with the approval of the responsible authority.
MEX/113/187 *ADD	N 3195XB When an urgency message, which calls for action by the stations receiving the message, has been transmitted, the station responsible for its transmission shall cancel it as soon as it knows that action is no longer necessary.
	<u>Reasons</u> : To indicate the method and procedure for transmitting urgency calls and messages.
MEX/113/188 *ADD	Section III. Safety Communications
MEX/113/189 *ADD	N 3195Y Safety communications include:
	a) for terrestrial systems, an announcement in the form of a digital selective call using a safety call format, a safety signal and a safety message; and
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b) a safety signal and message relayed through space stations.

MEX/113/190 *ADD N 3195Z The announcement of the safety message is made either by using digital selective calling techniques on one or more of the distress and safety calling frequencies specified in Section I of Article N 38 or by using frequencies of the maritime mobilesatellite service.

- MEX/113/191 *ADD N 3195AA The safety signal consists of the word SECURITE, in radiotelephony pronounced as in French.
- MEX/113/192 *ADD N 3195AB The safety call format or the safety signal indicates that the calling station has an important navigational or meteorological warning to transmit.
- MEX/113/193 *ADD N 3195AC Safety communications shall normally be transmitted on one or more of the distress and safety traffic frequencies specified in Section I of Article N 38 or on frequencies of the maritime mobile-satellite service.
- MEX/113/194 *ADD N 3195AD In radiotelephony, the safety message will be preceded by the safety signal (see N 3195AA), repeated three times, and the identification of the transmitting station.
- MEX/113/195 *ADD N 3195AE In narrow-band direct-printing, the safety message will be preceded by the safety signal (see N 3195AA) and the identification of the transmitting station.
- MEX/113/196 *ADD Section IV. Narrow-Band Direct-Printing Telegraphy System for Transmission of Navigational and Meteorological Warnings and Urgent Information to Ships (NAVTEX)

MEX/113/197 ADD In addition to existing methods, navigational and meteorological warnings and urgent information shall be transmitted by means of narrow-band direct-printing telegraphy, with forward error correction, by selected coast stations and their operational details shall be indicated in the List of Radiodetermination and Special Service Stations (see Nos. 3323, 3326 and 3334). Information is also published in a separate list in accordance with Resolution No. 318 (MOB-83).

MEX/113/198 *ADD

The mode and format of transmission should be in conformity with relevant CCIR Recommendations.

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MEX/113/199 *ADD N 3195AH In the maritime mobile service the frequency 518 kHz shall be used for the automatic narrow-band direct-printing telegraphy system for transmission of navigational and meteorological warnings and urgent information to ship stations in the MF band (see No. $\overline{4}74$). Reasons: To place in this Chapter regulations which relate to automated communications for maritime distress and safety. MEX/113/200 *ADD Section V. Navigation Safety Communications MEX/113/201 *ADD N 3195AI Navigation safety communications are those VHF radiotelephone communications conducted between ships for the purpose of ensuring the safety of movement of ships relative to one another. Reasons: To describe the purpose of navigation safety communications. MEX/113/202 *ADD N 3195AJ The frequency 156.650 MHz is used for navigation safety communications (see also No. N 2993D and Note n) of Appendix 18). Reasons: To identify the frequency which has been provided for this function. MEX/113/203 *ADD Section VI. General Radiocommunications for Distress and Safety MEX/113/204 *ADD N 3195AK General radiocommunications for distress and safety are those between mobile stations and shore-based communication networks using non-distress and safety channels in support of distress incident operations. Reasons: To describe the use of general radiocommunications as part of distress and safety communications. MEX/113/205 *ADD N 3195AL General radiocommunications for distress and safety purposes may be conducted on any appropriate communications channel, including those used for public correspondence. In the maritime mobile-satellite service, channels in the bands 1 530 to 1 544 MHz and 1 626.5 to 1 645.5 MHz are used for this function and, for distress purposes, these channels are used with absolute priority. Reasons: To indicate the resources available for this function.

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MEX/113/206 *ADD

ARTICLE N 41

MEX/113/207 *ADD

Alerting Signals

MEX/113/208 *ADD

Section I. Emergency Position-Indicating Radiobeacon Signals

MEX/113/209

*ADD N 3195AM The emergency position-indicating radiobeacon signal transmitted on 156.525 MHz, and satellite EPIRB in the band 406 - 406.1 MHz or 1 645.5 - 1 656.6 MHz shall be in accordance with relevant CCIR Recommendations.

<u>Reasons</u>: To indicate, in the chapter provided for automated communications for maritime distress and safety, the EPIRB signals used.

Section III. Digital Selective Calling

MEX/113/210

*ADD N 3195A0 The characteristics of the "distress call" (see No. N 3172) in the digital selective calling system shall be in accordance with relevant CCIR Recommendations.

<u>Reasons</u>: To provide a single international standard for the technical and operational characteristics of DSC used for distress and safety purposes.

MEX/113/211 ADD

DRAFT RESOLUTION AUS-A

Relating to the Introduction of Provisions for Automated Communications for Maritime Distress and Safety and the Continuation of the Existing Distress and Safety Provisions

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

noting

that the International Maritime Organization (IMO):

a) has adopted a Resolution¹ on the subject of the maritime distress and safety system;

b) has developed the requirements of a maritime distress and safety system;

c) [has prepared] revisions to Chapter IV, Radiotelegraphy and Radiotelephony, of the International Convention for the Safety of Life at Sea, (SOLAS) 1974, which specifies the requirements for certain ships to participate in the Future Global Maritime Distress and Safety System (GMDSS);

¹ IMO Resolution A.420 (XI) dated 15 November 1979

further noting

a) that the revisions to Chapter IV of the SOLAS Convention are to enter into force on 1 August 1991;

b) that the transition to the provisions of the new Chapter IV of SOLAS is scheduled to be completed by 1 August 1997 by stations subject to the SOLAS Convention;

considering

a) that this Conference has placed the provisions for automated communications for distress and safety in Chapter N IX and that Chapter IX has been modified accordingly so that it retains the provisions that do not form part of automated communications for distress and safety;

b) that Chapters N IX and IX each concern a part of the maritime services and that the provisions in each Chapter are mandatory for the part concerned and under the conditions given in various provisions;

recognizing

a) that until the new distress and safety system is fully implemented, it may be necessary for operators of stations participating in this new system, as provided in Chapter N IX, to use the other distress, urgency and safety arrangements provided in Chapter IX;

b) that some administrations and certain vessels not subject to the SOLAS Convention may continue to rely on the radiotelephony distress and safety provisions of Chapter IX even after the transition period;

resolves

1. that administrations comply with the provisions of both Chapters N IX and IX until the end of the transition period;

2. that, after the transition period, administrations continue to comply with the provisions of Chapter N IX as well as those provisions in Chapter IX related to the international distress frequencies 2 182 kHz and 156.8 MHz;

invites

1. the Administrative Council to place the subject of Chapter IX on the agenda of the next conference;

2. the next competent conference to take appropriate steps regarding the requirement for administrations to comply with the provisions of Chapter IX related to the international distress frequencies 2 182 kHz and 156.8 MHz. **NOB-87** INTERIMETED OF THE MOBILE SERVICES GENEVA, September-October 1987

Document 114-E 14 September 1987 Original: Spanish

PLENARY MEETING

Mexico

PROPOSALS FOR THE WORK OF THE CONFERENCE

CHAPTER X

Aeronautical Mobile Service and Aeronautical Mobile-Satellite Service

ARTICLE 42A

Introduction

NOC 3362

NOC 3362.1

MEX/114/1

SUP 3363

> Reasons: No longer necessary in view of the inclusion of appropriate references to the aeronautical mobile-satellite service, wherever necessary, in the provisions in the Articles of this Chapter.

MEX/114/2

ADD

(4) The provisions of Nos. 3364, 3365 and 3366 shall also 3367 apply to aircraft earth station personnel

Reasons: To make these provisions also applicable to the aeronautical mobile-satellite service.

ARTICLE 44

Operators' Certificate for Aircraft Stations and for Aircraft Earth Stations

MEX/114/3 SUP

3392

Reasons: Consequence of MOD 3393.

MEX/114/4

MOD 3393

(2) The service of every aircraft radiotelephone station and every aircraft earth station shall be controlled by an operator holding a certificate issued or recognized by the government to which the station is subject. Provided the station is so controlled, other persons besides the holder of the certificate may use the radiotelephone equipment.

1

<u>Reasons</u>: To make the provision applicable to the aeronautical mobilesatellite service.

MEX/114/5

MOD 3393A

(2A) In order to meet special needs, special agreements between administrations may fix the conditions to be fulfilled in order to obtain a radiotelephone operator's certificate intended to be used in <u>aircraft</u> radiotelephone stations and <u>aircraft earth</u> <u>stations</u> complying with certain technical conditions and certain operating conditions. These agreements, if made, shall be on the condition that harmful interference to international services shall not result therefrom. These conditions and agreements shall be mentioned in the certificates issued to such operators.

<u>Reasons</u>: To accommodate the aeronautical mobile-satellite service

MEX/114/6

MOD 3394

The service of automatic communication devices¹ installed in an aircraft <u>or aircraft earth</u> station shall be controlled by an operator holding a certificate issued or recognized by the government to which the station is subject ... (remainder of text unchanged).

<u>Reasons</u>: To make provisions applicable to the aeronautical mobilesatellite service.

NOC 3394.1

MEX/114/7

MOD 3395

(4) Nevertheless, in the service of radiotelephone aircraft stations and aircraft earth stations operating radiotelephony solely on frequencies above 30 MHz, each government shall decide for itself whether a certificate is necessary and, if so, shall define the conditions for obtaining it.

Reasons: To make applicable to the aeronautical mobile-satellite service.

MEX/114/8

MOD 3396

6 (5) The provisions of No. 3395 shall not, however, apply to any aircraft station <u>or aircraft earth station</u> working on frequencies assigned for internation use.

Reasons: To make applicable to the aeronautical mobile-satellite service

MEX/114/9

SUP 3397-3399

Reasons: Not applicable in the aeronautical mobile service.

NOC 3400-3404

MEX/114/10

SUP 3403.1 and 3404.1

<u>Reasons</u>: Article 45, to which these provisions refer, does not relate to classes and categories of radio operators' certificates.

MEX/114/11

3405 6.1 (1) The holder of a first or-second-class radiotelegraph operator's certificate may carry out the radiotelegraph or radiotelephone service of any aircraft station <u>or aircraft earth</u> station, except as provided for in No. 3412.

<u>Reasons</u>: To recognize current practice and to include reference to the authority of administrations as given in No. 3443.

MEX/114/12

MOD 3

MOD

3406 (2) The holder of a radiotelephone operator's general certificate may carry out the radiotelephone service of any aircraft station or any aircraft earth station.

Reasons: To make applicable to the aeronautical mobile-satellite service.

MEX/114/13

SUP 3407-3409

<u>Reasons</u>: To remove regulations that originated in the maritime mobile service and which do no reflect the needs of the aeronautical mobile service.

MEX/114/14

MOD 3410

(4) The holder of a radiotelephone operator's restricted certificate may carry out the radiotelephone service of any aircraft station <u>or aircraft earth station</u> operating on frequencies allocated exclusively to the aeronautical mobile service <u>or the aeronautical mobile-satellite service</u>, providing that the operation of the transmitter requires only the use of simple external switching devices, <u>excluding-all manual adjustment</u> of frequency-determining-element, and that the stability-of the frequencies is maintained by the transmitter itself within the limits of tolerance specified by Appendix -7.

<u>Reasons</u>: To apply the regulation to the aeronautical mobile-satellite service and to remove portions than do not apply to aeronautical operations.

MEX/114/15

MOD 3411

(5) The radiotelephone service of aircraft stations <u>or</u> <u>aircraft earth stations</u> for which only a restricted radiotelephone operator's certificate is required may be carried out by an operator holding a radiotelegraph operator's special certificate.

Reasons: To make applicable to the aeronautical mobile-satellite service.

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NOC 3412-3419 MEX/114/16 SUP 3420 Reasons: Consequence of ADD 3420A. MEX/114/17 3420A knowledge of the general principles and theory of ADD a) radio; Reasons: To reflect the existing requirements for class 1 radiotelegraph operators in the aeronautical mobile service. MEX/114/18 SUP 3421 Reasons: Consequence of ADD 3421A MEX/114/19 ADD 3421A b) theoretical and practical knowledge of the operation, maintenance and adjustment of the radiotelephone apparatus; Reasons: To reflect the existing requirements for class 1 radiotelegraph operators in the aeronautical mobile service. MEX/114/20 SUP 3422 Reasons: Not applicable to the requirements of aircraft operations. NOC 3423 MEX/114/21 MOD 3424 ability to send correctly and to receive correctly <u>e)</u> by radiotelephone in one of the working languages of the Union; Reasons: To reflect the existing requirements in the aeronautical mobile service. MEX/114/22 MOD 3425 f) detailed knowledge of the Regulations applying to radiocommunications, knowledge of the documents relating to charges for radiocommunications, knowledge of the provisions of the Convention for the Safety of Life at Sea which relate to radio, and, in the case of air navigation, knowledge of the special provisions governing the aeronautical fixed, mobile, and radio-navigation services. In the latter case, the certificate states that the holder has successfully passed the tests relating to these special provisions.

<u>Reasons</u>: To reflect the existing requirements for class 1 radiotelegraph operators in the aeronautical mobile service.

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MEX/114/23 SUP 3426 and 3427 Reasons: To reflect the existing requirements for class 1 radiotelegraph operators aeronautical mobile service. NOC 3428 and 3429 MEX/114/24 SUP 3430 Reasons: Consequential to ADD 3420A. MEX/114/25 ADD 3430A elementary theoretical and practical knowledge of a) basic radiocommunications; Reasons: To reflect the existing requirements in the aeronautical mobile service and to maintain uniformity. MEX/114/26 SUP 3431 Reasons: Consequential to ADD 3431A. MEX/114/27 ADD 3431A b) elementary theoretical and practical knowledge of the operation, maintenance and adjustment of radiotelegraph and radiotelephone apparatus; Reasons: Same as for ADD 3430A. MEX/114/28 3432 SUP Reasons: To delete a provision not relevant here. NOC 3433 MEX/114/29 e) ability to send correctly and to receive correctly MOD 3434 by radiotelephone except in the case provided for in No. 3412 in one of the working languages of the Union; Reasons: To reflect existing practice. MEX/114/30 knowledge of the Regulations applying to radiocommunications, knowledge of the documents 3435 MOD f) relating to charges for radiocommunications, knowledge of the provisions of the Convention for the Safety of Life at Sea which relate to radio,

and, in the case of air navigation, knowledge of the special provisions governing the aeronautical fixed, mobile, and radionavigation services. In the latter case, the certificate states that the holder has successfully passed the tests relating to these special provisions;

:

<u>Reasons</u>: To reflect current requirements in the aeronautical mobile service.

MEX/114/31 3436 and 3437 SUP Reasons: To reflect current requirements in the aeronautical mobile service. NOC 3438 - 3440 MEX/114/32 MOD 3441 b) knowledge of the practical operation and adjustment of radiotelegraph and radiotelephone apparatus; Reasons: To reflect current practice. MEX/114/33 ADD 3441A c) ability to send and receive radiotelephone signals correctly in one of the working languages of the Union; Reasons: To reflect current practice. MEX/114/34 MOD 3442 e) d) knowledge of the Regulations applying to radiotelegraph communications and specifically of that part of those Regulations relating to safety of life at sea. MEX/114/35 (2) Each administration concerned shall may fix the other MOD 3443 conditions for obtaining this certificate. However, except as provided for in No. 3412, the conditions specified in Nos. 3450, 3452 and 3453 or 3454, as the case may be, shall be satisfied.

<u>Reasons</u>: To maintain uniformity in the Regulations applying to radio operators in the aeronautical mobile service and to clarify MOD 3405, i.e. to indicate that any radiotelegraph operator's certificate implies knowledge and the ability to conduct telephone communications.

NOC 3445 - 3447

Reasons: To retain essential provisions.

MOB-87/114-E MEX/114/36 MOD 3448 c) ability to send correctly and to receive correctly by telephone in one of the working languages of the Union; Reasons: To recognize current practice. NOC 3449 - 3451 MEX/114/37 MOD 3452 b) ability to send correctly and to receive correctly by telephone in one of the working languages of the Union; Reasons: To recognize current practice. NOC 3453 MEX/114/38 (2) For aircraft radiotelephone stations and aircraft earth MOD 3454 stations operating on frequencies allocated exclusively to the aeronautical mobile service or the aeronautical mobile satellite service, each administration may itself fix....the provisions of No. 3393A. Reasons: To make the provisions applicable to the aeronautical mobilesatellite service. NOC 3456 ARTICLE 45 MEX/114/39 Personnel of Aeronautical Stations MOD and Aeronautical Earth Stations Reasons: Same as for MOD 3454. MEX/114/40 MOD 3483 Administrations shall ensure that the staff on duty in aeronautical stations and in aeronautical earth stations shall be adequately qualified to operate the station efficiently. Reasons: Same as for MOD 3454. ARTICLE 46 Inspection of Aircraft Stations and Aircraft Earth Stations MEX/114/41 § 1. (1) The governments or appropriate administrations of MOD 3509 countries which an aircraft station or aircraft earth station visits may require the production of the licence for examination. The operator of the station, or the person responsible for the

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station, shall facilitate this examination. The licence shall be kept in such a way that it can be produced upon request. As far as possible, the licence, or a copy certified by the authority which has issued it, should be permanently exhibited in the station.

4

Reason: Same as for MOD 3454.

MEX/114/42

MOD

3510 (2) The inspectors shall have in their possession an identity card or badge, issued by the competent authority, which they shall show on request of the person responsible for the aircraft. station or the aircraft earth station.

Reasons: Same as for MOD 3454.

NOC 3511 and 3512

MEX/114/43

MOD 3513 § 2. (1) When a government or administration has found it necessary to adopt the course indicated in No. 3511, or when the operator's certificates cannot be produced, the government or administration to which the aircraft station <u>or aircraft earth</u> <u>station</u> is subject shall be so informed without delay. In addition, the procedure specified in Aritcle 21 is followed when necessary.

Reasons: Same as for MOD 3454.

NOC 3514

3515

MEX/114/44

MOD

§ 3. Members undertake not to impose upon foreign aircraft stations or aircraft earth stations which are temporarily within their territorial limits...etc.

Reasons: Same as for MOD 3454.

ARTICLE 47

MEX/114/45

MOD Working Hours of Stations in the Aeronautical Mobile Service and in the Aeronautical Mobile-Satellite Service

Reasons: Same as for MOD 3454.

MEX/114/46

MOD 3541 § 1. In order to permit the application of the following rules on the subject of hours of watch, every station of the aeronautical mobile service and the aeronautical mobile-satellite service shall have an accurate clock correctly regulated to Coordinated Universal Time (UTC).

Reasons: Same as for MOD 3454.

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MEX/114/47

MOD 3542 § 2. The service of an aeronautical station <u>or an</u> <u>aeronautical earth station</u> shall be continuous throughout the period during which it bears the responsibility for the radiocommunication service to aircraft in flight.

Reasons: Same as for MOD 3454.

MEX/114/48

MOD 3542A § 2A. Aircraft stations and aircraft earth stations in flight shall maintain service to meet the essential communications need of the aircraft with respect to safety and regularity of flight and shall maintain watch as required by the competent authority and shall not cease watch, except for reasons of safety, without informing the aeronautical station <u>or aeronautical earth station</u> concerned.

Reasons: Same as for MOD 3454.

MEX/114/49

SUP 3543

Reasons: Not relevant to civil aviation.

ARTICLE 48

MEX/114/50 MOD

Aircraft Stations <u>and Aircraft Earth Stations</u> Communicating with Stations in the Maritime Mobile Service and in the Maritime Mobile-Satellite Service

Reasons: Same as for MOD 3454.

MEX/114/51

MOD 3571 Stations on board aircraft <u>and aircraft earth stations</u> may communicate, for purposes of distress, and for public correspondence¹, with stations of the maritime mobile service or maritime mobile-satellite service. For these purposes, they shall conform to the relevant provisions of Chapter <u>IX, NIX and XI,</u> Article 59, Section III, Articles 61, 62, 63, 65 and 66 (see also Nos. 962, 963 and 3633).

 $\underline{Reasons}$: As for MOD 3454 and as a consequence of the proposals in this document.

NOC 3571.1

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ARTICLE 49

Conditions to be Observed by Mobile Stations in the Aeronautical Mobile Service and in the Aeronautical Mobile-Satellite Service

MEX/114/52

NOC

ADD

ADD Section I. Aeronautical Mobile Service

NOC 3597 - 3604

MEX/114/53

Section II. Aeronautical Mobile-Satellite Service

MEX/114/54

ADD 3605 The provisions of Nos. 3597 to 3604 are also applicable to aircraft earth stations.

<u>Reasons</u>: The addition of the titles and the accommodation of the aeronautical mobile-satellite service.

4

MEX/114/55

MOD

ARTICLE 50

Special Rules Relating to the Use of Frequencies in the Aeronautical Mobile Service and in the Aeronautical Mobile-Satellite Service

Reasons: Same as for MOD 3454.

MEX/114/56

MOD 3630 § 1. Frequencies in any band allocated to the aeronautical mobile (R) service or the aeronautical mobile-satellite (R) <u>service</u> are reserved for communications related to safety and regularity of flight between any aircraft and those aeronautical stations <u>and aeronautical earth stations</u> primarily concerned with flight along <u>national or international civil air routes</u>.

Reasons: Same as for MOD 3454.

NOC 3631

MEX/114/57

MOD 3632

§ 3. Frequencies in the bands allocated to the aeronautical mobile service between 2 850 kHz and 22 000 kHz (see Article 8) shall be assigned in conformity with the provisions of Appendices 26 27* and 27 Aer2* and other relevant provisions of these regulations.

Reasons: To update the text.

MEX/114/58

MOB 3633 § 4. Administrations shall not permit public correspondence in the frequency bands allocated exclusively to the aeronautical mobile service or to the aeronautical mobile-satellite service.

Reasons: Same as for ADD 3454.

MEX/114/59

SUP 3634

3635

Reasons: Redundant provision.

MEX/114/60

MOD

§ 6. Governments may, by agreement, decide the frequencies to be used for call and reply in the aeronautical mobile service and the aeronautical mobile-satellite service.

Reasons: Same as for ADD 3454

ARTICLE 51

Order of Priority of Communications in the Aeronautical Mobile Service and in the Aeronautical Mobile-Satellite Service

MEX/114/61 MOD 3651

The order of priority for communications¹ in the aeronautical mobile service <u>and the aeronautical mobile-satellite</u> <u>service</u> shall be as follows, except where impracticable on a fully automated system in which nevertheless Category I shall receive priority:

- 1. Distress calls, distress messages and distress traffic.
- 2. Communications -preceded by-the-urgency signal. Urgency messages.
- 3. Communications preceded by the safety signal. Communications relating to radio direction finding.
- 4. Communications-relating-to-radio-direction finding. <u>Flight</u> safety messages.
- 5. Communications relating to the navigation and safe movementof aircraft engaged in search and rescue operations. Meteorological messages.
- 6. Communications-relating-to-the-navigation, movements and needs-of aircraft and ships, and weather observation messages destined for an official meteorological service. Flight regularity messages.
- 7. Radio-telegrams-relating to the application of the United Nations -Charter.
- 8.-- Government-radio-telegrams .-. has been expressly requested.

9. <u>Service communications relating to the working of the</u> <u>telecommunications service or communications previously</u> exchanged.

10 .- - Service communications -... - proviously exchanged.

Reasons: Same as for MOD 3454 and to establish priorities.

NOC 3651.1

- MEX/114/62
 - SUP 3651.2

Reasons: Consequence of MOD 3651.

NOC 3652

ARTICLE 52

General Radiotelegraph Procedure in the Aeronautical Mobile Service

MEX/114/63

SUP 3677 to 3767

Reasons: Not used for the aeronautical mobile service.

ARTICLE 53

Radiotelephone Procedure in the Aeronautical Mobile Service - Calls

NOC 3793

MOD

MEX/114/64

3794 § 2. (1) As a general rule, it rests with the aircraft station to establish communication with the aeronautical station. For this purpose, the aircraft station may call the aeronautical station only when it comes within the service <u>designated operational</u> <u>coverage1</u> area of the latter, that is to say, that area within which, by using an appropriate frequency, the aircraft station can be heard by the aeronautical station.

Reasons: To reflect practices in the aeronautical mobile service.

MEX/114/65

ADD 3794.1 ¹Designated operational coverage is that volume of airspace needed operationally in order to provide a particular service and within which the facility is afforded frequency protection.

Reasons: To explain the term "designated operational coverage".

MEX/114/66

MOD 3795 (2) However, an aeronautical station having traffic for an aircraft station may call this station if it has reason to believe that the aircraft station is keeping watch and is within the service designated operational coverage area of the aeronautical station.

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Reasons: Consequence of MOD 3794.

MEX/114/67

MOD 3796 § 3. When an aeronautical station receives calls from several aircraft stations at practically the same time, it decides the order in which these stations may transmit their traffic. Its decision shall be based on the priority <u>in Article 51</u>. (see No.- 3651)- of the radiotelegrams or radiotelephone calls that aircraft stations have on hand and on the need for allowing each ealling station to elear the greatest possible number of communications.

<u>Reasons</u>: To reflect current practices in the aeronautical mobile service

MEX/114/68

SUP 3797

ADD

MEX/114/69

3797A Before initiating a call, the calling station shall ascertain that the station called is not in communication with another station.

<u>Reasons</u>: To conform to actual practices in the aeronautical mobile service.

MEX/114/70

SUP 3798

MEX/114/71

ADD 3798A When a call has been made to an aeronautical station, a period of at least 10 seconds should elapse before a subsequent call is made.

Reasons: To reflect actual practices in the aeronautical mobile service.

MEX/114/72

SUP 3799

Reasons: Consequential to SUP 3797.

NOC 3800 and 3801

MEX/114/73

SUP 3802-3805

Reasons: Not used in the aeronautical mobile service.

Document 115-E 14 September 1987 Original: Spanish

PLENARY MEETING

Mexico

PROPOSALS FOR THE WORK OF THE CONFERENCE

Proposals relating to Resolutions and Recommendations

MEX/115/1

SUP RESOLUTION No. 12

Relating to the New Rules for the Formation of Call Signs

Reasons: This Resolution is no longer necessary, since the new rules for the formation of call signs in Article 25 came into force on 1 January 1981.

MEX/115/2

SUP RESOLUTION No. 202

Relating to the Convening of a World Administrative Radio Conference for the Mobile Services

Reasons: WARC-MOB-83 and WARC-MOB-87 constitute an adequate response to the provisions of this Resolution. It is therefore no longer necessary.

MEX/115/3

NOC RESOLUTION No. 205 (MOB-83) Relating to the Protection of the Band 406 - 406.1 MHz Allocated to the Mobile-Satellite Service.

Reasons: The purpose of this Resolution is to provide the necessary protection to the band 406 - 406.1 MHz intended for rescue and safety purposes.

MEX/115/4

SUP RESOLUTION No. 304

Relating to the Implementation of the New Channelling Arrangement for AlA Morse Radiotelegraphy in the Bands Allocated to the Maritime Mobile Service Between 4 000 kHz and 27 500 kHz.

Reasons: Has already fulfilled its purpose.

MEX/115/5

SUP RESOLUTION No. 306

Relating to the Use of Single-Sideband Technique in the Radiotelephone Maritime Mobile Service Bands Between 1 605 kHz and 4 000 kHz.

2

Reasons: Has already fulfilled its purpose.

MEX/115/6

SUP RESOLUTION No. 307 Relating to the Conversion to Single-Sideband Technique of Stations of the Radiotelephone Maritime Mobile Service Operating in the Bands Between 1 605 kHz and 4 000 kHz.

Reasons: Has already fulfilled its purpose.

MEX/115/7

SUP RESOLUTION No. 308 Relating to the Channel Spacing of Frequencies Allocated to the Maritime Mobile Service in the Band 156 - 174 MHz.

Reasons: Has already fulfilled its purpose.

MEX/115/8

SUP RESOLUTION No. 321 (MOB-83) Relating to the Development of Operational Provisions for the Future Global Maritime Distress and Safety System (FGMDSS) and to Their Introduction Into the Radio Regulations.

<u>Reasons</u>: The provisions of the Resolution will be met during WARC-MOB-87.

MEX/115/9

SUP RESOLUTION No. 400

Relating to the Treatment of Notices Concerning Frequency Assignments to Aeronautical Stations in the Bands Allocated Exclusively to the Aeronautical Mobile (R) Service Between 2 850 kHz and 22 000 kHz.

<u>Reasons</u>: This Resolution is no longer necessary, since Appendix 27 Aer2 is applicable.

MEX/115/10

SUP RESOLUTION No. 401

Relating to the Implementation of the Frequency Allotment Plan in the Bands Allocated Exclusively to the Aeronautical Mobile (R) Service Between 2 850 kHz and 22 000 kHz.

<u>Reasons</u>: This Resolution has served its purpose, since Appendix 27 Aer2 is in force.

MEX/115/11

SUP RESOLUTION No. 402

Relating to the Implementation of the New Arrangement Applicable to Bands Allocated Exclusively to the Aeronautical Mobile (R) Service Between 2 850 kHz and 22 000 kHz.

Reasons: This Resolution has served its purpose.

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MEX/115/12 SUP RESOLUTION No. 404 Relating to the Implementation of the New Arrangement of Bands Allocated Exclusively to the Aeronautical Mobile (R) Service Between 21 924 kHz and 22 000 kHz. Reasons: All measures and action have been taken in this connection.

MEX/115/13

SUP RESOLUTION No. 601

Relating to the Recommendations and Standards for Emergency Position-Indicating Radiobeacons Operating on the Frequencies 121.5 MHz and 243 MHz.

<u>Reasons</u>: WARC-MOB-83 established provisions in this connection; this Resolution should therefore be deleted.

MEX/115/14

SUP RESOLUTION No. 704 (MOB-83) Relating to the Holding of a Regional Administrative Radio Conference to Prepare Frequency Assignment Plans for the Maritime Mobile Service in the Bands Between 435 kHz and 526.5 kHz and in Parts of the Band Between 1 606.5 kHz and 3 400 kHz in Region 1 and to Plan for the Aeronautical Radionavigation Service in the Band 415 - 435 kHz in Region 1.

<u>Reasons</u>: The Conference referred to in this Resolution took place in 1985.

MEX/115/15

<u>NOC</u> RECOMMENDATION No. 7 Relating to the Adoption of Standard Forms for Ship Station Licences and Aircraft Station Licences.

<u>Reasons</u>: To insist on the standardization of the forms for ship station and aircraft station licences.

MEX/115/16

NOC RECOMMENDATION No. 8 Relating to Automatic Identification of Stations.

<u>Reasons</u>: The procedures to be recommended have not yet been completed by the CCIR.

MEX/115/17 SUP RECOMMENDATION No. 203 Relating to the Future Use of t

UP RECOMMENDATION No. 203 Relating to the Future Use of the Band 2 170 - 2 194 kHz.

<u>Reasons</u>: During WARC-MOB-87, it is planned to respond to this Recommendation on the basis of the relevant CCIR Recommendations.

MEX/115/18

SUP

RECOMMENDATION No. 204 (Rev. MOB-83) Relating to the Application of Chapters IX, X, XI and XII of the Radio Regulations.

<u>Reasons</u>: WARC-MOB-87 includes this matter in its agenda. The Recommendation will therefore no longer be necessary, since the relevant decision is being taken. MEX/115/19 RECOMMENDATION No. 302 Relating to the Improved Use of the HF NOC Radiotelephone Channels for Coast Stations in the Bands Allocated Exclusively to the Maritime Mobile Service. Reasons: This Recommendation continues to be applicable. MEX/115/20 RECOMMENDATION No. 304 Relating to the Frequencies in Appendix 16, NOC Section B, of the Radio Regulations, Provided for Worldwide Use by Ships of All Categories and by Coast Stations. Reasons: This Recommendation continues to be applicable. MEX/115/21 SUP RECOMMENDATION No. 311 Relating to the Introduction of an Additional Tone after the Radiotelephone Alarm Signal Transmitted by Coast Stations. Reasons: Provision is made for this application in No. 3272. MEX/115/22 NOC RECOMMENDATION No. 312 Relating to studies of the Interconnection of Maritime Mobile Radiocommunication Systems with the International Telephone and Telegraph Networks. Reasons: The content of this Recommendation continues to be valid. MEX/115/23 SUP RECOMMENDATION No. 314 (MOB-83) Relating to a Radiotelephone Frequency in the 8 MHz Band for Exclusive Use for Distress and Safety Traffic in the Future Global Maritime Distress and Safety System (FGMDSS). Reasons: During WARC-MOB-87, a decision will be taken on this matter, so that this Recommendation will no longer be necessary. MEX/115/24 SUP RECOMMENDATION No. 400 Relating to the Transition from the Present to the New Frequency Allotment Plan in the Bands Allocated Exclusively to the Aeronautical Mobile (R) Service Between 2 850 kHz and 22 000 kHz. Reasons: The purpose of this Recommendation has already been fulfilled.

- 5 -MOB-87/115-E

MEX/115/25

NOC RECOMMENDATION No. 405 Relating to a Study of the Utilization of the Aeronautical Mobile-Satellite (R) Service.

Reasons: This Recommendation continues to be valid.

MEX/115/26

<u>NOC</u> RECOMMENDATION No. 601 Concerning the Matter of Providing a Suitable Frequency Allocation for a Collision Avoidance System in the Aeronautical Radionavigation Service.

<u>Reasons</u>: Although an international agreement will be reached in the near future on the use of a particular band, e.g., the band $1\ 030\ -\ 1\ 090\ MHz$, consideration should also be given to other frequency bands to achieve the same purpose.

INTERNATIONAL TELECOMMUNICATION UNION

WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 116-E 14 September 1987 Original: English

COMMITTEE 4

Note from the Chairman of Committee 4

ORGANIZATION OF THE WORK OF COMMITTEE 4

The first meeting of Committee 4, held on Monday, 14 September 1987, decided on the following structure of Comittee 4:

WG 4A (Allocation and Frequency Use) 1.

Chairman: Mr. J. Karjalainen (FNL), Box No. 102

Secretary: Mr. T. Gavrilov, Box No. 2052

Terms of reference: To consider proposals concerning frequency allocation and frequency use matters for the following Articles, Appendices, Resolutions and Recommendations:

Articles: 8, 37, 38, 60.

Appendices: 18, 25, 26.

Resolutions: 38, 200(Mob-83), 203(Mob-83), 204(Mob-83), 205(Mob-83), 206(Mob-83), 304, 306, 307, 308, 401,402, 600.

Recommendations: 203, 300, 301, 305, 307, 400, 406, 600, 601, 703 2(EMA), 1(MM), 2(MM), 6(MM).

WG 4B (Coordination and Notification):

Chairman: (to be designated)

Secretary: Mr. J. Bacaly, Box No. 2048

Terms of reference: To consider proposals concerning frequency coordination and frequency notification matters for the following Articles, Appendices, Resolutions and Recommendations:

Articles: 1, 9, 12, 16, 19, 50.

Appendices: 5, 9.

Resolutions: 8, 9, 30, 300, 301, 302, 303, 309, 310(Mob-83), 318(Mob-83), 400, 404, 405, 406, 407, 704(Mob-83).

Recommendations: 308, 707, 3(MM), 4(MM), 5(MM).

2.

- 2 -МОВ-87/116-Е

3. WG 4C (Maritime frequencies):

A

Chairman: Mr. A. R. Visser (HOL), Box No. 150

Secretary: Mr. M. Frachet, Box No. 2051

Terms of reference: to consider proposals concerning the HF maritime frequencies, namely:

Appendices: 16, 31 - 35

Resolutions: 319(Mob-83)

Recommendations: 302, 303, 304, 314(Mob-83)

The Working Groups should also deal with any changes to the Radio Regulations that are consequential to their decisions, and within the Terms of reference of Committee 4.

> O. Villany Chairman of Committee 4

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NOB-87 INTERNATIONAL TELECONVINCEMENT ON CONCERNMENT OF NOR CONCERNMENT.

Document 117-E 21 September 1987 Original: English

PLENARY MEETING

MINUTES

OF THE

SECOND PLENARY MEETING

Thursday, 17 September 1987, at 1605 hrs

Chairman: Mr. J.W. EGAN (Canada)

Subjects discussed:

- 1. Oral reports by the Chairmen of the Committees and of the Technical Working Group of the Plenary
- 2. Statement by the Secretary-General on the publication and distribution of Conference documents

1. Oral reports by the Chairmen of the Committees and of the Technical Working Group of the Plenary

1.1 The <u>Chairman of Committee 2</u> reported that at its first meeting, held earlier in the day, Committee 2 had set up a Working Group which was to meet at the beginning of the following week.

1.2 The <u>Chairman of Committee 3</u> said that Committee 3 had held its first meeting earlier in the day and had noted the information contained in Documents 99, 102, 71, 72 and 73.

1.3 The <u>Chairman of Committee 4</u> said that the Committee had set up three Working Groups to deal with the three main topics for consideration:

- Working Group 4-A, under the chairmanship of Mr. Karjalainen (Finland), was to deal with the allocation of frequency use concerning Articles 8, 37, 38 and 60;
- Working Group 4-B, under the chairmanship of Mr.Piponnier (France) was to deal with coordination and notification, involving consideration of Articles 1, 9, 12, 16, 19 and 50;
- Working Group 4-C, under the chairmanship of Mr. Visser (Netherlands) was to deal with maritime frequencies in the HF band, involving consideration of Appendices 16, 31 and 32 to 35.

At the first meetings of the Working Groups, it had been clear that deliberations in Committee 4 would depend on decisions taken in other Committees, such as that to be taken by Committee 6 on the question of public correspondence in the aeronautical mobile or aeronautical mobile-satellite services. In that connection, he thanked the Chairman of Committee 6 for the urgency with which he had dealt with the matter by placing it on the agenda of the meeting of Committee 6 held earlier that day. Committee 4 was to meet again on the following day and expected to be able to submit documents to the next Plenary Meeting.

1.4 The <u>Chairman of Committee 5</u> said that Committeee 5 had held one meeting and had agreed on the organization of its work. It had been decided in principle that there should be two Chapters IX, one addressing the Global Maritime Distress and Safety System, the other covering existing arrangements. It had also been decided that the applications of the two Chapters should be set out clearly in a Resolution which would address the introduction of the GMDSS and the continuation of existing arrangements. Two Working Groups had been established to implement those decisions:

- Working Group 5-A, under the chairmanship of Mr. Hammerschmidt (Federal Republic of Germany) was charged with the preparation of a new Chapter IX;
- Working Group 5-B, under the chairmanship of Mr. Hahkio (Finland), was charged with the review and revision, as necessary of the existing Chapter IX.

Both Working Groups had already met and progress was being made. The matter of the Resolution to link the two Chapters was to be given initial consideration in Committee 5 at its meeting on Monday, 21 September.

1.5 The <u>Chairman of Committee 6</u> reported that at its first meeting the Committee had set up two Working Groups:

- Working Group 6-A, chaired by Mr. Swanson (United States of America) was dealing with the provisions of Chapter XI and the maritime mobile and maritime mobile-satellite services;
- Working Group 6-B, chaired by Mr. Hirata (Japan), was dealing with Chapters X and XII, the aeronautical mobile and aeronautical mobile-satellite services, the land mobile and the radio determination services, details of which appeared in Document DT/5.

The Committee had held a second meeting earlier in the day for a general discussion on Article 50 and the provisions governing aeronautical public correspondence. That subject had been referred to Working Group 6-B so that an urgent reply could be given to Committee 4. At the present stage it was difficult to judge the progress of work, but there was no reason to suppose that the Committee would not complete its work according to the schedule set out in Document 105.

1.6 The <u>Chairman of the Technical Working Group of the Plenary</u> said that the Group had held two meetings. No Sub-Working Groups had been established and the Group intended to work as a whole and set up ad hoc or drafting groups as required. The Group had begun its consideration of proposals concerning Appendices 7, 17, 19, 20 and 36, and had almost completed 7 and 17. No major difficulties had been encountered but one issue had had to be deferred pending the decision of one of the operational Committees. Work would not, however, be delayed as a result.

1.7 The <u>Chairman of Committee 7</u> said that at its meeting earlier that day the Committee had prepared a list of participants and could start its work on 21 September after the meeting of the Technical Working Group of the Plenary.

2. <u>Statement by the Secretary-General on the publication and distribution</u> of Conference documents

2.1 The <u>Secretary-General</u>, replying to a question raised by the <u>delegate of</u> <u>Cuba</u> concerning the non-appearance of certain documents, in particular Document 98, pointed out that notwithstanding the special problems brought to the attention of the Administrative Council and of Member States concerning the timely submission of proposals, and efforts to reduce documentation, the Secretariat, on the opening day of the Conference, had been presented with 27 documents, some of them running to over 60 pages and in all representing nearly 240 pages of translation. There had been a deluge of documents for translation into English by a Section known to be small. In programming work with the small number of staff available, it had not been possible to produce all the documents and Document 98 would not be available until the early part of the following week.

The meeting rose at 1620 hours.

The Secretary-General:

Mr. R.E. BUTLER

The Chairman: Mr. J.W. EGAN **NOB-87** INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA. September-October 1987

Corrigendum 1 to Document 118-E 5 October 1987 Original: French

COMMITTEE 4

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 4

(FREQUENCY)

(This corrigendum does not concern the English text.)

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 118-E 18 September 1987 Original: English

COMMITTEE 4

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 4

(FREQUENCY)

Monday, 14 September 1987, at 1600 hrs

Chairman: Dr. O. VILLANYI (Hungary)

Subjects discussed:

- 1. Identification of the main topics
- 2. Organization and terms of reference of the Working Groups
- 3. Designation of the Chairmen of Working Groups
- 4. Presentation of the proposals

கூடியாடானத் தே**திய**் திரித்து பலின்2001 கூடன், தைதிறின் படாடதான. குடியா

1. Identification of the main topics

1.1 The <u>Chairman</u> said that the main topics for the Committee's consideration could be grouped into three areas. The first area would cover allocation and frequency use and would deal with Articles 8, 37, 38 and 60; he noted that Articles 37 and 38 would be discussed by Committee 5 and Article 60 by Committees 5 and 6 before being referred back to Committee 4. The first area would also cover Appendices 18 (Transmitting frequencies in the band 156 - 174 MHz for stations in the maritime mobile service), 25 (Frequency allotment plan for coast radiotelephone stations) and 26 (Frequency allotment plan for the aeronautical mobile (OR) service).

The second area would cover coordination and notification and would include consideration of Articles 1, 9, 12, 16, 19 and 50, as well as Appendices 5 and 9. The third area, covering maritime frequencies in the HF bands, would include consideration of Appendices 16 and 31 to 35.

The Committee took note of the Chairman's introduction.

2. Organization and terms of reference of the Working Groups

2.1 The <u>Chairman</u> proposed that three Working Groups be set up to deal with the three main topic areas that he had outlined, i.e. Working Group 4-A to consider proposals concerning frequency allocation and frequency usage, Working Group 4-B to consider proposals concerning frequency coordination and frequency notification, and Working Group 4-C to consider proposals concerning the HF maritime frequencies. The relevant Resolutions and Recommendations to be considered by each Working Group would be listed by the Secretariat.

2.2 The <u>delegate of Saudi Arabia</u> said that, in the interests of the smaller delegations, every effort should be made to avoid the proliferation of Working Groups. He therefore proposed that the topics assigned to Working Group 4-B be dealt with by Working Group 4-A since although they were important subjects they were unlikely to raise difficulties and should not take up much time.

2.3 The <u>delegate of the USSR</u> preferred the division of tasks proposed by the <u>Chairman</u>. He noted that discussions on terminology were usually very time-consuming.

2.4 The <u>delegate of Senegal</u> appreciated the comment made by the delegate of the USSR but stressed that it would be difficult for small delegations to participate in all Working Groups.

2.5 The <u>Chairman</u> said that he was well aware of the problems faced by small delegations and assured participants that he would request the Secretariat not to schedule simultaneous Working Group meetings.

2.6 The <u>delegate of the Netherlands</u> supported the allocation of work to the three Working Groups proposed by the <u>Chairman</u>. He sympathized with the concern expressed by the delegate of Senegal and thought it would be useful to discuss the topics in the full Committee.

2.7 The <u>delegate of Brazil</u> recognized the concern expressed by the delegates of Saudi Arabia and Senegal but felt that it would be met by the avoidance of simultaneous meetings of Working Groups. He therefore supported the Chairman's proposed organization of work.

2.8 The <u>delegate of the United Kingdom</u> also supported the Chairman's proposal which he felt was sound in view of the heavy agenda and the time constraints.

- 3 -MOB-87/118-E

Further to a point raised by the <u>delegates of Italy</u> and <u>Sweden</u>, it was <u>agreed</u> that the <u>Chairman</u> of Committee 4 would invite the <u>Chairman</u> of Committee 6 to deal with Article 50 (issues related to the aeronautical public correspondence) at an early stage so that any consequences could be taken into consideration by Committee 4.

2.9 Following comments by the <u>delegates of India</u>, <u>Greece</u> and <u>Mexico</u>, the <u>Chairman</u> assured them that the Committee would consider the documents they had submitted.

It was <u>agreed</u> that the work of the Committee should be organized along the lines suggested by the Chairman and the proposed terms of reference were adopted.

3. Designation of the Chairmen of Working Groups

It was <u>agreed</u> that Mr. J. Karjalainen (Finland) and Mr. A.R. Visser (Kingdom of the Netherlands) would chair Working Groups 4-A and 4-C respectively.

3.1 The <u>delegate of Brazil</u> having explained that his Delegation was unfortunately too small to spare anyone to accept the honour of chairing Working Group 4-B, the <u>Chairman</u> said that a decision would be taken later on the chairmanship of that Group.

4. Presentation of the proposals

4.1 Following the proposal from the <u>Chairman</u>, it was <u>agreed</u> that the presentation of the proposals, relevant to the terms of reference of Committee 4, be done at the Working Group meetings.

4.2 The <u>Director of the CCIR</u> briefly presented the CCIR's report to the Committee, as it was of interest to all three Working Groups. He recalled that it had been prepared by Study Group 8 in response to Resolution No. 202 of the World Administrative Radio Conference, 1979, and Administrative Council Resolution No. 933, and covered all areas for which the CCIR had responsibility for technical and operational studies. Work had been going on for some time. Some important new Recommendations concerned the emergency position-indicating radiobeacons, and mobile service characteristics, including digital selective calling. He noted that the report was structured according to the Conference's agenda items.

The meeting rose at 1655 hours.

The Secretary:

T. GAVRILOV

The Chairman:

O. VILLANYI

Document 119-E 15 September 1987 Original: French

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COMMITTEE 4

Burkina Faso

PROPOSALS FOR THE WORK OF THE CONFERENCE

Introduction

Burkina Faso is a landlocked country more than 900 km from the sea at the heart of West Africa.

In formulating these proposals to the World Administrative Radio Conference for the Mobile Services, it wishes to signify its attachment to the International Telecommunication Convention, and in particular Article 4 which provides for international cooperation between nations for the development of telecommunications and the promotion of technical assistance in favour of the developing countries. Burkina Faso's proposals relate to the following items of the agenda:

A. Agenda item 6

1. Article 1 of the Radio Regulations - Terms and Definitions

On the basis of Nos. 3630 and 3631 of Article 50 of the Radio Regulations, WARC MOB-87 should draw up definitions of the following radiocommunication services:

BFA/119/1 - aeronautical mobile (R) service,

BFA/119/2

- 2. Article 8 of the Radio Regulations Frequency Allocations

aeronautical mobile (OR) service.

BFA/119/3

2.1 The allocations in the bands 4 000 - 4 063 kHz should remain unchanged (NOC).

<u>Reasons</u>: The developing countries have a greater need for HF bands for fixed-service communications.

The fixed service and the maritime mobile service have been proven to be compatible when these frequency bands are only used by ships. However, use of this band by coast and ship stations would result in harmful interference to the fixed service. BFA/119/4

2.2 The allocations in the frequency bands 74.8 - 75.2 MHz, 108 - 117.975 MHz and 328.6 - 335.4 MHz to aeronautical radiocommunication services should remain unchanged (NOC).

<u>Reasons</u>: To take account of RR 953. Pending the widespread use of other aeronautical radionavigation systems in other bands (e.g. MLS system).

BFA/119/5

2.3 The allocations in the band 4 200 - 4 400 MHz should remain unchanged (NOC).

<u>Reasons</u>: Pending the results of additional CCIR studies, in the light of an ICAO report on the development of future world air traffic using this band.

3. Article 9 of the Radio Regulations - Special Rules for the Assignment and Use of Frequencies

BFA/119/6

No. 953 should remain unchanged (NOC).

Reasons: Safety of human life.

4. Article 37 of the Radio Regulations - General provisions

No. 2930 should be amended as follows:

BFA/119/7

MOD 2930 § 1. The procedure specified in this Chapter is obligatory in the maritime mobile service and for communications between aircraft stations and stations of the maritime mobile service. The provisions of this Chapter are also applicable to the aeronautical mobile service and to landlocked land stations, except in the case of special arrangements between the governments concerned.

<u>Reasons</u>: To enable landlocked countries which so desire to participate in the world distress and safety system, which should be set aside for cases of distress at sea but should also serve in other landlocked regions on land. In accordance with Resolution No. 203(MOB-83).

BFA/119/8

4.1 Definition: a landlocked land station is a fixed station in a landlocked region or at a specified location in a country and intended for distress alerting.

5. <u>Agenda item 7</u> - <u>Resolutions and Recommendations annexed to the</u> Radio Regulations

5.1 Resolution No. 8 Relating to Implementation of the Changes in Allocations in the Bands Between 4 000 kHz and 27 500 kHz.

- 3 -MOB-87/119-E

BFA/119/9

Burkina Faso proposes that Resolution No. 8 and its annexes be replaced by another Resolution to be prepared by WARC MOB-87.

The new Resolution should include the timetable in Annex A (transfer phase).

<u>Reasons</u>: The transfer procedure described in Annex A to the Resolution is being conducted according to an established timetable which must be taken into account. A number of administrations which are unable to implement the changeover immediately are likely to suffer harmful interference.

Our Country or Death, we shall overcome!

INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES

GENEVA. September-October 1987

Document 120-E 15 September 1987 Original: French

COMMITTEE 6

Burkina Faso

PROPOSALS FOR THE WORK OF THE CONFERENCE

Α. Agenda item 6

1. Appendix 42 to the Radio Regulations: Table of Allocation of International Call Sign Series

BFA/120/1

Replace XTA-XTZ : Upper Volta (Republic of) with XTA-XTZ : Burkina Faso.

Reasons: The colonial name Upper Volta has been changed with effect from 4 August 1985, date of the first anniversary of the democratic people's revolution.

The meaning of Burkina Faso is "the country of men of integrity".

Β. Agenda item 7

2. Resolutions and Recommendations annexed to the Radio Regulations

BFA/120/2

2.1 The following Resolutions should be deleted from the Regulations: Resolutions Nos. 12, 38, 202, 311, 502, 508 and 600.

Reasons: No longer valid.

BFA/120/3

The following Recommendations should be deleted from the 2.2 Regulations:

Recommendations Nos. 307, 504 and 600.

Reasons: No longer valid.

Our Country or Death, we shall overcome!

For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked to bring their copies to the meeting since no others can be made available.

INTERNATIONAL TELECOMMUNICATION UNION **NOB-87** WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 121-E 15 September 1987 Original: French

COMMITTEE 5

Burkina Faso

PROPOSALS FOR THE WORK OF THE CONFERENCE

Α. Agenda items 2 and 6

1. Name of the new distress and safety system

BFA/121/1

The Future Global Maritime Distress and Safety System (FGMDSS) should be renamed Future Global Distress and Safety System (FGDSS).

Reasons: The system should be extended to the aeronautical mobile service, the land mobile service and stations in the fixed service in certain countries.

1.1 Introduction of the Future Global Maritime Distress and Safety System

BFA/121/2

Burkina Faso is in favour of including provisions concerning the FGMDSS in the Radio Regulations.

It further believes that the old system should coexist in parallel with the new distress and safety system.

Our Country or Death, we shall overcome!

For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked to bring their copies to the meeting since no others can be made available.
INTERNATIONAL TELECOMMUNICATION UNION

WOB-87 WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 122-E 15 September 1987 Original: English

COMMITTEE 4

Ireland

PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda item 6

ARTICLE 8

Section IV. Table of Frequency Allocations

Footnote RR554 provides for an additional allocation of the frequency band 47 - 68 MHz for the land mobile service in the countries listed in the footnote. This proposal is to include Ireland in the block of countries listed in footnote RR554 in order to provide for the possibility of developing the land mobile service in Ireland in that band on a permitted basis.

IRL/122/1

MOD 554

Additional allocation: in Albania, the Federal Republic of Germany, Austria, Belgium, Bulgaria, Denmark, Finland, France, Japan, Greece, Ireland, Israel, Italy (remainder unchanged).



INTERNATIONAL TELECOMMUNICATION UNION

Document 123-E 15 September 1987 Original: English

COMMITTEE 6

NOTE FROM THE CHAIRMAN OF COMMITTEE 4 TO THE CHAIRMAN OF COMMITTEE 6

At its first meeting, held on 14 September 1987, many delegations expressed the opinion that the deliberations in Committee 4 will depend on the decision taken in Committee 6 concerning the issue of the public correspondence in the aeronautical mobile/aeronautical mobile satellite service.

The Committee 6 is therefore requested to give priority to consideration of the matters related to public correspondence by aircraft and particularly to the proposals related to RR 3633, so that Committee 4 can proceed with the deliberations on the other proposals in connection with this subject.

An early decision of Committee 6 on the aeronautical public correspondence will considerably facilitate the work of Committee 4.

> O. VILLANYI Chairman of Committee 4

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA. September-October 1987

Document 124-E 15 September 1987 Original: Spanish

Argentine Republic

INFORMATION DOCUMENT

The Third Meeting of CITEL Permanent Technical Committee III (Radiocommunications), held in Buenos Aires from 4 to 8 May 1987, requested the Argentine Administration to transmit the Resolutions and Recommendations it adopted to the International Telecommunication Union.

RESOLUTION COM. III/RES.4 (III.87)

Relating to provision for Frequency Allocations for the Radiodetermination Satellite Service

The Third Meeting of PTC.III: Radiocommunications,

RECOGNIZING:

That attainment of common goals at WARC-MOB-87 can be assisted by concerted action of Administrations of Region 2;

that the agenda for WARC-MOB-87 includes the radiodetermination satellite service and Article 8, Frequency Allocations;

that the geographic and demographic conditions in Region 2 give rise to large sparsely populated areas in remote locations, long coast lines, and long transportation routes which lend themselves to the use of radiodetermination satellite services for providing for safety of life and property and for management of transportation operations;

that a world wide primary allocation for the radiodetermination satellite service could result in a more spectrum and cost efficient system; and

that new radiodetermination satellite technology is being developed to provide accurate positioning information with ancillary two-way transmission of short radiocommunication messages to small economical user transceivers,

CONSIDERING:

That the immediate establishment of a radiodetermination satellite service to provide positioning information and short data messages between users on land, sea, and in the air, and fleet management and dispatch centers could be useful;

that the allocation of frequency bands for the radiodetermination satellite service will be considered at the WARC-MOB-87;

that the safety of life and property can be improved through national, regional or international radiodetermination satellite systems that complement existing radionavigation systems;

that Administrations are provided flexibility through the allocation of frequency bands for the radiodetermination satellite service to allow the development of national, regional, or international systems to most effectively satisfy the unique requirements of each administration;

that frequency sharing between the radiodetermination satellite service and other services is feasible under certain conditions (see CCIR Report No. 1050 and Section 6.2.9 of the Special Meeting Report of CCIR Study Group 8), and thus, more intensive use can be made of the frequency spectrum; - 3 -MOB-87/124-E

that the use of new technology should be encouraged particularly where such technology can be used to provide economical service in areas not served by existing systems;

that the use of spread spectrum techniques will allow several radiodetermination satellite service systems to serve adjacent or overlapping service areas without unacceptable interference among these systems;

that suitable frequency bands have been identified which provide maximum sharing potential;

that the CCIR has studied this technology and the bands identified for this new application; and

that a portion of the existing allocation to the fixed satellite service (earth-to-space) in the band 6425-7075 MHz can be used in conjunction with the proposed space-to-earth feeder link at 5117-5183 MHz without further modification to the table of frequency allocations,

TAKING INTO ACCOUNT:

That the microwave landing system in the 5000-5250 MHz band must be protected against any harmful interference,

RESOLVES:

1. That the bands 1610-1626.5 MHz (earth-to-space) and 2483.5-2500 MHz (space-to-earth) are the preferred frequency bands for allocation to the radiodetermination satellite service;

2. That the band 5117-5183 MHz (space-to-earth) is the preferred frequency band to support feeder links for the radiodetermination satellite service identified above with a restriction on power flux density to protect the co-channel and adjacent channel operations of Microwave Landing Systems;

3. That CITEL Administrations participating in WARC-MOB-87 be requested to study these proposals and consider expressing their support for the adoption of these allocations; and

REQUESTS:

RESOLUTION COM.III/RES.5 (III/87)

RELATING TO THE IMPLEMENTATION AND PROTECTION OF A GLOBAL SATELLITE AIDED SEARCH AND RESCUE CAPABILITY

The Third Meeting of PTC III: Radiocommunications,

RECOGNIZING:

That it is essential for the protection of human life and property that bands allocated exclusively to a service for distress and safety purposes be kept from harmful interference;

NOTING:

That the WARC for Mobile Services, Geneva, 1983, made provisions in the Radio Regulations for the introduction and development of a global distress and safety system;

That the use of satellite emergency position-indicating radiobeacons (EPIRBs) is an essential element of this system;

That No. 649 of the Radio Regulations limits the use of the band 406-406.1 MHz to low power satellite emergency position-indicating radiobeacons (EPIRBs);

That some administrations have developed and implemented an operational low-altitude, near-polar orbiting satellite system (COPAS-SARSAT) operating in the band 406-406.1 MHz to provide alerting and to aid in the location of distress incidents;

That the International Maritime Organization (IMO) has decided that the carriage of EPIRBs operating in the COSPAS-SARSAT system should be mandatory in the Global Maritime Distress and Safety System (GMDSS) when the GMDSS is implemented; and

That the CCIR is conducting a program to ensure the compatibility between satellite EPIRBs in the band 406-406.1 MHz and services using adzjac ent bands, and is also developing monitoring techniques to detect and locate unauthorized emissions in the 406 - 406.1 MHz band;

CONSIDERING:

That monitoring observations by several administrations in the band 4406-406.1 MHz show that stations other than those in conformity with No. 649 of the Radio Regulations are operating in the band and that these stations have caused harmful interference to the mobile-satellite service and particularly to the reception of satellite EPIRB signals being received by the COSPAS-SARSAT system; - 5 -MOB-87/124-E

That geostationary orbit satellite systems generally are more sensitive to interference and such systems operating in the 406-406.1 MHz band may be introduced in the future;

That the use of the bands 1544-1545 MHz (space-to-earth) and 1645.5-1646.5 MHz (earth-to-space) by the mobile-satellite service is limited to distress and safety operations,

RESOLVES:

1. that administrations are requested to participate in monitoring programs organized by the IFRB in accordance with No. 1874 of the Radio Regulations in the band 406-406.1 MHz, with a view to identifying and locating stations of services other than those operating in accordance with the Radio Regulations;

2. that administrations are requested to ensure that stations other than those operating under No. 649 not use frequencies in the 406-406.1 MHz band;

3. that administrations are requested to adhere to the provisions contained in Nos. 342 and 343 of the Radio Regulations;

4. That administrations are requested to take the appropriate measures to eliminate harmful interference caused to the distress and safety system in the band 406-406.1 MHz

5. That administration are requested to continue, on an urgent basis, studies through CCIR of compatibility between satellite EPIRBs in the band 406-406.1 MHz and services using adjacent bands;

6. That administrations recognize the need to modify the provisions of the Radio Regulations so that the bands 1544-1545 MHz and 1645.5-1646.5 MHz may also be used for inter-satellite links for relay of distress and safety information; this would enhance the reception of satellite EPIRB signals operating in the 406-406.1 MHz;

7. The IFRB to take all practicable measures, when requested by administrations, to eliminate emissions not emanating from the COSPAS-SARSAT system in the 406-406.1 MHz band; and

REQUESTS:

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RECOMMENDATION COM.III/Rec.9(III-87)

RELATING TO PROPOSALS FOR MODIFICATIONS TO THE RADIO REGULATIONS

The Third Meeting of PTC.III:Radiocommucations:

RECOMMENDS:

That members of CITEL who participate in WARC-MOB-87 support the adoption of the following proposals:

CHAPTER III

Frequencies

Article 8

Frequency Allocations

Section IV - Table of Frequency Allocations

NOC 613

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<u>Reason</u>: Continue to use this VHF band for the maritime mobile service.

- 7 -MOB-87/124-E

Appendix 18

Table of trasmitting frequencies in the 156-174 MHz

band for stations in the maritime mobile service

MOD

CHANNEL DESIG.	NOTES TRANSMITTING INTER PORT SHIP PUBLIC FREQUENCIES SHIP OPERATIONS MOVEMENT CORRES				
	CE SHIP COAST SINGLE TWO SINGLE TWO STATIONS STATIONS FREQ. FREQ. FREQ. FREQ.				
77	(g) 156.875 156.875 10				
<u>Reason</u> :	To adapt the preferential simplex channel calling fo Public Correspondence, supplementary to channel 16, i area of heavy traffic.				
ADD (q)	In Brazil, this frequency, is the radiotelephone channel for public correspondence in the maritime mobile VHF service, supplementary to channel 16 in areas of heavy traffic.				
ADD	ARTICLE N 38				
ADD	Automated communication frequencies for Distress an Safety				
ADD	Section 1. Specially designed frequencies				
ADD	N 2982F J. (4229 kHz)				
ADD	N 2982G In the maritime mobile service, the (4229 frequency is designed solely for transmitting meteorological and navigation warnings and urgen information to ships through coastal stations, using narrow band, direct printing telegraphy.				
REQUESTS:	Reason: To complement the 518 kHz for transmissions is tropical regions. Frequency 4229 KHz has be retained because of its scarce international use. This accords with the IMO decision (ite 5.3.14 of the maritime safety Commission report, 32nd session) and the decision of CCI (item 6.2.4. of the SPM report)				
•					

- 8 -MOB-87/124-E

RECOMMENDATION COM.III/REC.10 (III-87)

RELATING TO CHANNELLING OF THE MARITIME MOBILE RADIOTELEPHONE SERVICE IN THE BANDS BETWEEN 400 KHz AND 27000 KHz

The Third Meeting of PTC.III: Radiocommunications,

CONSIDERING:

That the World Administrative Radio Conference for Mobile Services, Geneva, 1987 (WARC-MOB-87) will consider the channelling of the maritime mobile radiotelephone service in the bands between 4000 kHz and 27000 kHz;

That the World Administrtive Radio Conference for the Mobile Services, Geneva, 1983, (WARC-MOB-83), based the channelling of the maritime mobile radiotelephone service in the new shared bands 4000-4063 kHz and 8100-8195 kHz on a channel spacing of 3.0 kHz;

That the channelling of the maritime mobile radiotelephone service in the bands between 4000 kHz and 27000 kHz allocated exclusively to the maritime mobile service is based on a channel spacing of 3.1;

That the Special Meeting of CCIR Study Group 8, September, 1981, in its report to WARC-MOB-83, concluded that there were no technical obstacles to the reduction of channel spacing from 3.1 kHz to 3.0 kHz;

That the Special Meeting of CCIR Study Group 8, July, 1986, in its report to WARC-MOB-87, concluded that no further action was required on the subject by the CCIR;

That WARC-MOB-83, in its Resolution No. 319, resolved that 3.0 kHz channel spacing should be used in the revision of the HF maritime mobile radiotelephone channelling plans;

RECOGNIZING:

That a channel spacing of 3.0 kHz based on carrier frequencies on integer multiples of 1.0 kHz in the maritime mobile radiotelephone service in the HF bands would result in channelling and tuning compatibilities between equipment used by that service and that used by the aeronautical mobile (R) radiotelephone service in the HF bands;

That a channel spacing of 3.0 kHz based on carrier frequencies on integer multiples of 1.0 kHz could reduce the cost of synthesizers in radio equipment solely for the maritime mobile radiotelephone service;

That the radio frequency spectrum made available by a revision of channel spacing from 3.1 kHz to 3.0 kHz can be used for other functions in the maritime mobile service:

RECOMMENDS:

That the CITEL members participating in WARC-MOB-87 support the adoption of 3.0 kHz channel spacing based on carrier frequencies on integer multiples of 1.0 kHz in the HF bands between 4000 kHz and 27000 kHz designated for use by the maritime mobile radiotelephone service.

REQUESTS:

RECOMMENDATION COM.III/REC.11 (III-87)

RELATING TO DISTRESS AND SAFETY COMMUNICATIONS

The Third Meeting of PTC.III: Radiocommunications,

CONSIDERING:

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That the International Telecommunication Union (ITU) and the International Maritime Organization (IMO) are each responsible for certain aspects of communications used for the safety of life and property;

That the IMO has approved the operational requirements and functions of a new distress and safety communications system which makes use of automated systems and advanced technology;

That the World Administrative Radio Conference for the Mobile Services, Geneva, 1983, (WARC-MOB-83), in its Resolution No. 321, resolved that necessary provisions for a new distress and safety system should be placed in the Radio Regulations by the next competent conference;

That WARC-MOB-83, in its Resolution No. 321, requested the IMO to develop operational procedures for the new system;

That the IMO developed recommendations on operational procedures for the new systems and distributed those recommendations to members of the IMO and to the ITU;

That the Special Meeting of CCIR Study Group 8, 8 July 1986, in paragraph 7.46.3 of its report to WARC-MOB-87, concluded that the CCIR had completed the studies required for the introduction of the new system;

That the World Administrative Radio Conference for Mobile Services, Geneva, 1987, will review, and revise as necessary, the provisions for distress, urgency and safety communications, particularly those contained in Chapter IX of the Radio Regulations;

RECOGNIZING:

That there are costs involved in implementing an automated system for distress and safety communications;

That there are costs involved in maintaining the current, non-automated distress and safety communications systems based on the use of 500 kHz, 2182 kHz and 156.8 MHz.

That the use of the automated system for distress and safety communications will result in a significant improvement to the level of the safety of life and property in comparison with that achievable in the current, non-automated systems;

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That it would place a severe financial burden on Administrations to maintain both distress and safety communications systems for a prolonged period of time:

RECOMMENDS:

That the CITEL members participating in WARC-MOB-87;

- Support the incorporation into the Radio Regulations of provisions required for the implementation and operation of automated communications for distress and safety;
- 2. Ensure that the date chosen for the full implementation of the Automated Communications for Distress and Safety and that for the cessation of the mandatory status of the regulations for the current non-automated system Administrations are not required to maintain both systems in parallel operation for any extended period of time.

REQUESTS:

RECOMMENDATION COM.III/REC.12 (III-87)

RELATING TO REVISION OF THE HF BANDS ALLOCATED ON AN EXCLUSIVE OR SHARED BASIS TO THE MARITIME MOBILE SERVICES

The Third Meeting of PTC III: Radiocommunications

RECOGNIZING:

that attainment of common goals at the WARC-MOB-87 can be enhanced by concerted action of Administrations of the Americas;

NOTING:

that the World Administrative Radio Conference for the Mobile Services, Geneva, 1983, adopted Resolution No. 319 for the revision of the HF bands allocated to the maritime mobile services;

that the agenda for the World Administrative Radio Conference for the Mobile Services, 1987, (WARC-MOB-87), specifically calls for that Conference to review and take appropriate action on Resolution No. 319;

CONSIDERING:

that there is an increase in the demand for and a corresponding shortage of narrow-band direct-printing telegraph channels and duplex radiotelephone channels;

that, although requirements for AIA working frequencies are diminishing, because of advancing technology and expands use of digital techniques requirements for wide-band telegraph channels for data and special transmission systems are increasing in some countries;

that the 12, 16, 17, 18, 19 and 22 and 25 MHz maritime mobile bands specified in RR532 and RR544 could be used and allocated to designated services in the revised HF maritime mobile plan;

RECOMMENDS:

1. that the CITEL Members should carry out the resolves called for in Resolution No. 319 of the Radio Regulations as described below:

- that the WARC-MOB-87 should carry out a general review and any necessary revision of all the HF bands allocated on an exclusive or shared basis to the maritime mobile service, taking into account the requirements of each administration;
- that in carrying out this review the WARC-MOB-87 should increase the number of duplex channels for radiotelephony and narrow-band direct-printing telegraphy, and also provide for additional international frequencies for the digital selective calling system;

- that 3.0 kHz channel spacing should be used to revise the HF maritime mobile radiotelephone channelling plans, with nominal carrier frequencies on integer multiples of 1 kHz;
- that when the maritime mobile sub-allocations and channelling plans are revised, every effort should be made to retain unchanged the frequencies which this Conference has made available for use in the GMDSS;

2. that the 12, 16, 17, 18, 19, 22 and 25 MHz bands specified in RR532 and RR544 should be incorporated in the revision of the HF maritime mobile bands;

3. that spectrum allocated to ship station wide-band telegraphy for data and special systems must be increased;

4. that spectrum allocated to coast station wide-band telegraphy for data and special systems must not be reduced.

REQUESTS:

RECOMMENDIATION COM.III/REC.13 (III-87)

RELATING TO PROVISION FOR THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEMS (GMDSS) IN THE ITU RADIO REGULATIONS

The Third Meeting of PTC III: Radiocommunications,

CONSIDERING:

That the World Administrative Radio Conference for the Mobile Services (WARC-MOB-87) has, as a principal item on its agenda, the inclusion in the Radio Regulations of the provisions required for the implementation of the Global Maritime Distress and Safety System (GMDSS);

The International Maritime Organization (IMO) has completed its recommendations on the GMDSS to the ITU and to Member Government preparing for WARC-MOB-87;

That the International Maritime Organization (IMO) has not yet completed its recommendations on articles 55 and 56 of the Radio Regulations;

That the Administrations of the Americas that will participate in WARC-MOB-87 can exert great influence on the decisions of the Conference, particularly with regard to matters affecting Region 2.

RECOGNIZING:

That it is important for WARC-MOB-87 to establish a regulatory framework for the maritime mobile service in order to permit an orderly and efficient implementation of the GMDSS

RECOGNIZING FURTHER:

That the International Convention on Safety of Life at Sea is primarily concerned with the proper fitting of ships,

RECOMMENDS:

1. To the CITEL Members that their proposals to the WARC-MOB-87 should maintain the provisions for the existing distress and safety systems in accordance with IMO recommendations.

2. That these new and revised maritime provisions should reflect the following principles:

- Administrations desiring to implement the GMDSS shall be permitted to do so in a reasonable and timely manner as recommended by IMO.
- Administrations shall be permitted to continue elements of the existing distress and safety systems, once the GMDSS has been fully implemented, as long as is necessary for reasons of safety and national interest.
- Administrations shall not be required to maintain dual or parallel elements of the old and new systems for an extended period, once the GMDSS has been fully implemented, particularly the continuation of mandatory provisions for 500 kHz.

URGES:

Members of CITEL, when preparing for the World Administrative Radio Conference for the Mobile Services, 1987 and in the course of the deliberations at the Conference, to take into account the principles contained in paragraphs 1 and 2 of this Resolutions as well as the recommendations of IMO contained in IMO circulars MSC/Circ. 424, MSC/Circ. 425, MSC/Circ. 441 and MSC/Circ. 458.

REQUESTS:

- 16 -MOB-87/124-E

RECOMMENDATION COM.III/REC. 14 (III-87)

RELATING TO AERONAUTICAL MOBILE SERVICE

The Third Meeting of PTC.III: Radiocommunications,

RECOGNIZING:

That attainment of common goals at the WARC-MOB-87 can be enhanced by concerted action and mutual support of Administrations of the Americas; and

That protection of existing Aeronautical Radionavigations spectrum is vital to maintaining the existing networks and expected growth.

CONSIDERING:

That Aeronautical Radionavigation systems are vital to aviation safety and growth;

That existing radionavigation systems operating in the bands 74.8-75.2, 108-117.975 and 328-335.4 MHz will continue in service well into the 21st century;

That future Aeronautical Radionavigation developments must not be foreclosed by the proposed introduction of new services into these frequency bands;

That the microwave landing system is being implemented in the 5000-5250 MHz band in accordance with Radio Regulation No. 796; and

That the entire 4200-4400 MHz band is being used for high accuracy radio altimeters whose use is increasing for automatic landing systems;

RECOMMENDS:

1. that the 74.8-75.2 MHz, 108-117.975 MHz, and 328.6-335.4 MHz frequency bands will be required for many years for ILS/VOR Navigation and that no modification to the existing allocations in these bands should be made by the WARC-MOB-87.

2, that the 4200-4400 MHz frequency band be retained exclusively for the aeronautical radionavigation service;

3. that CITEL administrations take all steps to maintain these allocation at the WARC-MOB-87, and

REQUESTS:

RECOMMENDATION COM. III/REC. 15 (III-87)

RELATING TO APPENDIX 18: SINGLE-FREQUENCY PORT OPERATIONS

The Third Meeting of PTC.III: Radiocommunications,

RECOGNIZING:

That attainment of common goals at the WARC-MOB-87 can be enhanced by concerted action of Administrations of the Americas;

CONSIDERING:

That throughout the world there is an existing shortage and congestion of VHF maritime mobile channels;

That use of Appendix 18 VHF channels is growing and with it a corresponding increase in frequency crowding;

That single-frequency port operations and ship movement channels have proven highly effective for port operations and ship movement use;

That the potential exists currently for a partial solution of the congestion problem by rearranging some two-frequency operations into single-frequency operations;

That the potential exists in the future after appropriate study for improved spectral efficiency through technological advancements; and

NOTING:

That thousands of mariners using low cost transceivers rely on this band and the safety services it provides;

That rearrangement in this manner will have minimal impact on users of the band;

RECOMMENDS:

1. To the CITEL members to support proposals for the study of improved efficiency for Appendix 18 maritime mobile communications through advanced cost-effective technology;

2. To the CITEL members to study if necessary, and support proposals for converting channels devoted exclusively to port operations channels and ship movement channels into single-frequency channels.

REQUESTS:

RECOMMENDATION COM.III/REC. 16 (III-87)

RELATING TO REQUIREMENT FOR TECHNICAL IMPROVEMENTS TO MINIMIZE THE POSSIBILITY OF ADJACENT CHANNEL HARMFUL INTERFERENCE BETWEEN ASSIGNMENTS USED FOR NARROW-BAND DIRECT-PRINTING (NBDP) TELEGRAPHY AND DATA SYSTEMS IN ACCORDANCE WITH APPENDIX 32 AND RESOLUTION 300 OF THE ITU RADIO REGULATIONS

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The Third Meeting of PTC.III: Radiocommunications,

CONSIDERING:

That the Appendix 32 of the Raidio Regulations contains the Channelling Arrangement for NBDP and Data Systems (Paired Frequencies);

That the use of these frequency pairs is subject to the provisions of Article 60 of the Radio Regulations and Resolution No.300;

That the spacing between the frequencies listed in Appendix 32 is quite narrow (i.e. 500 Hertz);

That Resolution No. 300 specifies a procedure for resolution of difficulties between countries using the same channel only (para 1.5);

That no such procedure exists for resolution of difficulties insofar as adjacent channel operations are concerned;

That Section 2 of the same Resolution specifies "that a future competent Conference be invited to examine any difficulties which may have arisen in the application of this Resolution" and take the appropriate action;

RECOGNIZING:

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That the frequencies used for NBDP and Data Systems are congested in various areas of the world;

That harmful interferences has occurred to existing operations from adjacent channel operations;

That there is a need to make adequate technical provision in order to minimize the risk of adjacent channel harmful interference; and

That the next competent Conference is WARC-MOB-87,

RECOMMENDS:

1. That CITEL members participating in the WARC-MOB-87 should consider the adequacy of the existing regulatory procedures to minimize the risk of harmful interference from adjacent channel operations;

2. That members support the development of appropriate technical and operational measures by the Conference to ensure compatibility between adjacent channels (e.g. the establishment of suitable guard-bands, power restrictions, or both.

3. That the CCIR be invited to study the matter and confirm the criteria adopted by WARC-MOB-87 or proposed revised criteria for consideration at the next competent Conference;

4. That appropriate recognition be given in the procedures to the resolutions of adjacent channel harmful interference problems.

REQUESTS:

- 20 -MOB-87/124-E

RECOMMENDATION COM.III/REC. 17 (III-87)

RELATING TO REVISION OF APPENDIX 31

The Third Meeting of PTC.III: Radiocommunications,

CONSIDERING:

That Resolution 319 recognizes the factors related to general revision of the high-frequency bands allocated on an exclusive and shared basis to the maritime mobile service;

That there has been an increased demand for and a resultant scarcity of channels intended for duplex radiotelephony and, in the case of some administrations, a scarcity of narrow-band direct-printing channels;

That in general there is interest in maintaining the bandwidths at present intended for coastal stations and for ships that operate on wide-band telegraphy, facsimile, special data transmission systems and direct teleprinting systems;

RECOGNIZING:

That the rational use of the radiofrequency spectrum is needed by most administrations, and

That to maintain unchanged the frequencies intended for distress and safety may impede the sound planning of bands,

RECOMMENDS:

That member administrations of CITEL should support, whenever necessary, the changes in distress and safety frequencies, the aim of which is the efficient planning of HF bands of the maritime mobile service.

REQUESTS:

- 21 -MOB-87/124-E

RECOMMENDATION COM. III/REC. 18 (III-87)

RELATING TO A PROPOSAL FOR THE STRUCTURE OF THE WARC-MOB-87

The Third Meeting of PTC.III: Radiocommunications,

CONSIDERING:

The wide scope of the Agenda of the WARC-MOB-87;

That many CITEL member countries will possibly attend the WARC-MOB-87 with a small number of delegates;

That the structure of the WARC-MOB-87 should as far as possible take into account the ability of small delegations to participate in the different levels of the process of decision of the Conference,

RECOMMENDS:

That CITEL member countries take the necessary measures for sending to WARC-MOB-87 delegations composed of a number of representatives sufficient to participate in the different Committees Working Groups and Sub-Working Groups that will study the topics necessary for the success of the Conference;

That CITEL member countries who have not yet submitted their views to the ITU Secretary General support the adoption of the structure for the WARC-MOB-87 shown in the Appendix;

REQUESTS:

That the Administration of Argentina as Chairman of the PTC.III to bring this Recommendation to the attention of the Secretary-General of the ITU. - 22 -MOB-87/124-E

APPENDIX

In addition to those Committees mentioned in the ITU Convention the followiwng have been identified:

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Committee X: Frequency and administrative Matters

- administrative matters

- frequency allocations and use
- coordination and notification

Committee Y: Operational Matters

- GMDSS
- other distress and safety matters
- and operational related matters

<u>Committee Z:</u> Regulatory Matters

- Aeronautical mobile service
- Maritime mobile service
- Satellite and other mobile services
 - Channelling of maritime mobile bands

Technical Working Group of the Plenary

GENEVA, September-October 1987

Document 125-E 14 September 1987 Original: Spanish

COMMITTEE 6 TECHNICAL WORKING GROUP

Argentine Republic

PROPOSALS FOR THE WORK OF THE CONFERENCE

Introduction

The proposals set out in this document chiefly refer to the provisions governing the aeronautical mobile service and the aeronautical mobile-satellite service in Articles 48 to 53 of the Radio Regulations and a number of Resolutions and Recommendations.

Most of the proposals relate to the procedures for communications and are mainly intended to include basic provisions in the Radio Regulations to cover air-land communications for most reasonably foreseeable general situations.

The Argentine Republic considers that the ICAO specialized procedures, by virtue of the very nature of aeronautical operations, are subject to relatively frequent change and hence should remain in ICAO documents, whilst the Radio Regulations should constitute the regulatory instrument laying down the rules generally applicable in the aeronautical service and/or between aeronautical service stations and stations in the other mobile services.

- 2 -MOB-87/125-E

PROPOSALS ON AERONAUTICAL ASPECTS OF ARTICLES 48 TO 53 OF THE RADIO REGULATIONS AND RESOLUTIONS Nos. 405-601

ARTICLE 48

ARG/125/1

MOD Aircraft Stations and Aircraft Earth Stations Communicating with Stations in the Maritime Mobile Service and in the Maritime Mobile-Satellite Service

<u>Reasons</u>: To accommodate mobile stations operating in the satellite service.

ARG/125/2

NOC 3571

<u>Reasons</u>: To maintain a provision which might be useful for the exchange of communications between aircraft and maritime mobile service stations.

ARG/125/3

NOC 3571.1

<u>Reasons</u>: To maintain an essential provision for the aeronautical mobile service, including via satellite.

ARTICLE 49

ARG/125/4

NOC 3597 to 3604

Reasons: To maintain provisions relating to the aeronautical service.

ARTICLE 50

ARG/125/5

Special Rules Relating to the Use of Frequencies in the Aeronautical Mobile Service and in the Aeronautical Mobile-Satellite Service

Reasons: To cover the satellite service.

ARG/125/6

MOD

3630

MOD

§ 1. Frequencies in any band allocated to the aeronautical mobile (R) service or the aeronautical mobile-satellite (R) service are reserved for communications related to safety and regularity of flight between any aircraft and those aeronautical stations and aeronautical earth stations primarily concerned with flight along national or international civil air routes.

<u>Reasons</u>: To maintain provisions which are essential for the aeronautical service and extend them to cover links via satellite.

ARG/125/7

<u>NOC</u> 3631

<u>Reasons</u>: To maintain provisions which are necessary for the aeronautical mobile service and aeronautical mobile-satellite service.

ARG/125/8

(MOD) 3632 § 3. Frequencies in the bands allocated to the aeronautical mobile service between 2 850 kHz and 22 000 kHz (see Article 8) shall be assigned in conformity with the provisions of Appendices 26; 27* and 27 Aer2* and the other relevant provisions of these Regulations.

<u>Reasons</u>: Deleting Appendix 27, which is replaced by Appendix 27 Aer2, and to include the satellite service.

ARG/125/9

NOC 3633

<u>Reasons</u>: This provision must be maintained as it is essential for controlling public correspondence in the aeronautical service.

ARG/125/10

NOC 3634

<u>Reasons</u>: Although these provisions contain commonly known information of a practical nature, they are still valid and useful, particularly in the MF and HF bands.

ARTICLE 51

ARG/125/11

MOD

Order of Priority of Communications in the Aeronautical Mobile Service and in the Aeronautical Mobile-Satellite Service

Reasons: To include references to the satellite service.

ARG/125/12

· MOD 3651

§ 1. The order of priority for communications¹ in the aeronautical mobile service and the aeronautical mobile-satellite service shall be as follows, except where impracticable in a fully automated system in which, nevertheless, category 1 shall receive priority:

- 1. Distress calls, distress messages, and distress traffic.
- 2. Communications preceded by the urgency signal.
- 3. Communications preceded by the safety signal.
- 4. Communications relating to radio directionfinding.

- 5. Flight safety messages.
- 6. Meteorological messages.
- 7. Flight regularity messages.
- Communications relating to the telecommunication services or to communications previously exchanged.

<u>Reasons</u>: To establish an order of priority suited to the basic features of aeronautical communications.

 \underline{Note} - The safety signal has been included in priority 3, even though it is not on the ICAO list, since it is an essential standard.

ARG/125/13

NOC 3651.1

 $\underline{Reasons}$: To maintain a definition which is required in order to explain No. 3651.

ARTICLE 52

General Radiotelegraph Procedure in the Aeronautical Mobile Service

ARG/125/14

SUP 3677 to 3767

<u>Reasons</u>: These procedures are not necessary for the aeronautical service, which in general uses radiotelephony.

ARTICLE 53

ARG/125/15

MOD Radiotelephone Procedure in the Aeronautical Mobile Service and in the Aeronautical Mobile-Satellite Service

Reasons: To include references to the satellite service.

ARG/125/16

<u>NOC</u> 3793

Reasons: To maintain necessary regulations.

ARG/125/17

NOC 3794

Reasons: To maintain necessary regulations.

ARG/125/18

ADD 3794A

When an operational service area has been identified for a land station, communications between aircraft stations and that land station shall preferably be established within that area.

<u>Reasons</u>: To keep links within operational service areas, which may have to be identified for a number of aeronautical stations.

ARG/125/19

<u>NOC</u> 3795

Reasons: To maintain necessary regulations.

ARG/125/20

MOD 3796 § 3. When an aeronautical station receives calls from several aircraft stations at practically the same time, it decides the order in which these stations may transmit their traffic. Its decision shall be based on the priority (see No. 3651) of the radiotelegrams or radiotelephone calls that aircraft stations have on hand and on the need for allowing each calling station to clear the greatest possible number of communications. An aeronautical station receiving calls from several aircraft stations at practically the same time may decide on the order in which they are attended to on the basis of the set order of priority.

<u>Reasons</u>: To apply practices which are common and tried and tested in the service, and to simplify the current provisions of the Radio Regulations.

ARG/125/21

SUP 3797

 $\underline{Reasons}:$ Unnecessary in view of the proposals submitted concerning Nos. 3798, 3798A and 3798B.

ARG/125/22

MOD 3798

(2) Before renewing the call, the calling station shall ascertain that the station called is not in communication with another station. Before initiating a call, the calling station shall ascertain that there is no other communication underway on the channel or channels used.

<u>Reasons</u>: To enable completion of calls which are initiated or have already been set up.

ARG/125/23

ADD 37

3798A When a call is made to a station, a watch shall be kept for the reply for a period of at least 10 seconds.

<u>Reasons</u>: To set out practices which are common in the aeronautical service and provide for an interval between calls which has been tried and tested, to ensure smooth operation of communications. ARG/125/24

ADD 3798B

Calls may be repeated a reasonable number of times and at reasonable intervals in line with current practice and conditions for communications, provided that they do not cause any interference to or restrict other stations in the same service.

<u>Reasons</u>: To establish logical conditions for communications in line with practices in the aeronautical service.

ARG/125/25

SUP 3799

<u>Reasons</u>: Unnecessary, in view of the proposals for Nos. 3798, 3798A and 3798B.

ARG/125/26

SUP 3800 to 3805

<u>Reasons</u>: Unnecessary, since set procedures and/or phraseology exist in the aeronautical service for asking and/or replying to questions concerning the transit of aircraft.

ARG/125/27

ADD 3798C

Aircraft stations shall comply with an aeronautical station's instructions regarding the order, duration and/or suspension of transmissions, frequency use and emissions.

<u>Reasons</u>: To establish the necessary guiding principles for air-land communications.

ARG/125/28

ADD 3798D

For communications between aircraft stations, the receiving station may determine the characteristics of the kind provided for in No. 3798C. However, in cases where an aeronautical station is involved, the aircraft stations shall comply with any instructions that station might issue in accordance with No. 3798C.

<u>Reasons</u>: To establish the necessary guiding principles for air-land communications.

ARG/125/29

ADD 3798E

Stations needing to emit test signals or effect trial communications:

- shall advise and/or request prior agreement from any aeronautical station(s) which might be affected;
- 2) the test or trial transmission shall be as short as possible, and shall not exceed 15 seconds, particularly when it has not been possible to secure the agreement referred to in 1) above.

- 7 -MOB-87/125-E

PROPOSALS ON AERONAUTICAL ASPECTS OF THE RESOLUTIONS

ANNEXED TO THE RADIO REGULATIONS ARG/125/30 **RESOLUTION No. 405** NOC Reasons: The ideas and Resolutions concerning the use and updating of the MF and HF bands and the necessary coordination of the use of those bands are still valid. ARG/125/31 **RESOLUTION No. 406** NOC Reasons: The Recommendation should be maintained in order to increase use of the bands higher than the HF bands for the aeronautical service. ARG/125/32 NOC **RESOLUTION No. 407** Reasons: The recommended measures should be maintained in order to continue eradicating unauthorized emissions in the aeronautical service bands. ARG/125/33 NOC **RESOLUTION No. 601** (EPIRBs on 121.5 and/or 143 MHz) Reasons: It is advisable and necessary to maintain the Resolutions on EPIRBs. ARG/125/34 NOC **RECOMMENDATION No. 401** (Aeronautical Mobile World-Wide Frequencies) Reasons: To maintain an essential regulation concerning use of the HF bands. ARG/125/35 **RECOMMENDATION No. 402** NOC (Cooperation and the Use of the MF/HF Bands in the Aeronautical Mobile Service) Reasons: To maintain the procedure of consultation with and action by ICAO

ARG/125/36 <u>NOC</u>

RECOMMENDATION No. 404

and proper coordination between the administrations.

(Use of the Band 136 - 137 MHz for the Aeronautical Mobile Service)

Reasons: The provisions governing this band should be maintained.

NTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 126-E 14 September 1987 Original: Spanish

COMMITTEE 6

Argentina

PROPOSALS FOR THE WORK OF THE CONFERENCE

Item 6 - WARC MOB-87

In this document the Argentine Administration presents new Chapters 55 and 56 (N 55 and N 56) in the belief that the present certificates will remain in force, at least for quite a long time.

In the light of technological change, however, it is felt that the new categories will be useful to cover technical and operational aspects, introducing higher standards and improving the proficiency of operators.

The following proposals have been prepared on the basis of the above considerations.

ARG/126/1 ADD

ARTICLE N 55

ARG/126/2

ADD

Certificates for the Service of Ship Stations and Ship Earth Stations in Conformity with the Provisions of Chapter N IX

ARG/126/3 ADD

Section I. General Provisions

ARG/126/4

ADD N 3860 The radiocommunication service of every ship or ship earth station in conformity with the provisions of Chapter N IX shall be performed by an operator holding a certificate issued or recognized by the government to which the stations are subject.

ADD	N 3861	Not used.
ADD	N 3862	Not used.
ADD	N 3863	Not used.
ADD	N 3864	Not used.
ADD	N 3865	Not used.

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ARG/126/5		
ADD	N 3866	In the case of complete unavailability of the operator in the course of a sea passage and solely as a temporary measure, the master or the person responsible for the station may authorize an operator holding a certificate issued by the government of another Member to perform the radiocommunication service.
ARG/126/6 ADD	N 3867	When it is necessary to employ a person without a certificate or an operator not holding an adequate certificate as a temporary operator, his performance as such must be limited solely to signals of warning, distress, urgency and safety, messages relating thereto, messages relating directly to the safety of life and urgent messages relating to the movement of the ship. Persons employed in these cases are bound by the provisions of No. N 3877 regarding the secrecy of correspondence.
ARG/126/7 ADD	N 3868	In all cases, such temporary operators must be replaced as soon as possible by operators holding the certificate prescribed in No. N 3860.
ARG/126/8 ADD	N 3869	Each administration shall take the necessary steps to prevent, to the maximum extent possible, the fraudulent use of certificates. For this purpose, such certificates shall bear the holder's signature and shall be authenticated by the issuing administration.
ARG/126/9 ADD	N 3870	The certificates issued in accordance with No. N 3860 shall bear the photograph of the holder and the holder's date of birth.
ARG/126/10 ADD	N 3871	To facilitate verification of certificates, these may carry, if necessary, in addition to the text in the national language, a translation of this text in a working language of the Union.
ARG/126/11 ADD	N 3872	All certificates not in one of the working languages of the Union shall carry at least the following information in one of these working languages:
		a) the name and date of birth of the holder;
		b) the title of the certificate and its date of issue;
		 c) if applicable, the number and period of validity of the certificate;
		d) the issuing administration.

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7RG/126/12 ADD N 3877 Each administration shall take the necessary step to place operators under the obligation to preserve the secrecy of correspondence as provided for in No. 2023. ARG/126/13 ADD Section II. Categories of certificates for ship station ship earth station operators ARG/126/14 N 3878 ADD There are four categories of operator certificates, namely: ARG/126/15 ADD N 3879 first-class radioelectronics operator; a) ARG/126/16 N 3880 second-class radioelectronics operator; ADD Ъ) ARG/126/17 N 3881 general operator's certificate; ADD c) ARG/126/18 N 3882 d) restricted operator's certificate. ADD ARG/126/19 N 3883 ADD Not used. ARG/126/20 The holder of a first-or second-class radioelectronics ADD N 3884 operator's certificate may perform the technical and operational duties pertaining to any ship station or ship earth station. ARG/126/21 N 3885 ADD The holder of a general operator's certificate may perform the operational duties pertaining to any ship station or ship earth station in ships sailing within the range of MF coast stations. ARG/126/22 ADD N 3886 The holder of a restricted operator's certificate may perform the operational duties pertaining to any ship station or ship earth station in ships sailing within the range of VHF coast stations. ARG/126/23 Section III. Conditions for the Issue of ADD **Operators'** Certificates ARG/126/24 N 3891 A. General ADD ARG/126/25 ADD N 3892 The conditions to be imposed for obtaining the various certificates are contained in the following paragraphs and represent the minimum requirements. ARG/126/26 ADD N 3893 Each administration is free to fix the number of examinations necessary to obtain each certificate.

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ARG/126/27 ADD	<u>n</u> 3894	The administration which issues a certificate may, before authorizing an operator to carry out the service on board a ship, require the fulfilment of other conditions (for example, knowledge of automatic telecommunication equipment as well as further technical and professional knowledge, relating particularly to navigation, physical fitness, etc.).
ARG/126/28 ADD	N 3895	Administrations should also take whatever steps they consider necessary to ensure the continued proficiency of operators after prolonged absences from operational duties.
ARG/126/29 ADD	N 3896	For the maritime mobile service, administrations should also take whatever steps they consider necessary to ensure the continued proficiency of operators while in service.
ARG/126/30 ADD	N 3897	B. First-Class Radioelectronics Operator's Certificate
ARG/126/31 ADD	N 3898	The first-class radioelectronics operator's certificate is issued to candidates who have given proof of the technical and operational knowledge and qualifications enumerated below:
ARG/126/32 ADD	N 3899	 a) detailed knowledge of the principles of electricity and the theory of radio and of electronics, sufficient to meet theoretical and operational requirements;
ARG/126/33 ADD	N 3900	b) detailed theoretical knowledge of modern radiocommunications equipment, such as transmitters, receivers and antenna systems used in the maritime mobile service and the maritime mobile-satellite service; data processing, transmission and recovery systems, digital selective calling, narrow-band direct-printing, automatic alarms, radio equipment for rescue craft, other rescue equipment of land and satellite position-finding systems, auxiliary equipment used with equipment in general, including power supply equipment, such as storage batteries, motors, alternators, generators, inverters and rectifiers;
ARG/126/34 ADD	3901	c) detailed practical knowledge of the operation, adjustment and maintenance of the equipment, systems and apparatuses referred to in No. N 3900, including the practical skills required to obtain direction-finding bearings and knowledge of the principles of direction-finder calibration;

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ARG/126/35 ADD	N 3902	 d) detailed practical knowledge necessary for the location and repair (using appropriate measuring apparatus and tools) of faults which may occur at sea or in port during a voyage in the equipment, systems and, apparatus referred to in No. N 3900;
ADD	N 3903	e) Not used.
ARG/126/36 ADD	N 3904	f) ability to send and receive correctly by radiotelephone and automatic radiotelegraph;
ARG/126/37 ADD	N 3905	g) detailed knowledge of the Regulations applying to radiocommunications, of the documents relating to charges for radiocommunications and of the provisions of the Convention for the Safety of Life at Sea which relate to radio;
ARG/126/38 ADD	N 3906	 h) detailed knowledge of universal geography, especially the main sea routes, automatic message retransmission systems and other major telecommunication routes;
ARG/126/39 ADD	N 3907	 i) detailed knowledge of one of the working languages of the Union. Candidates should be able to express themselves satisfactorily in that language, both orally and in writing. Each administration shall decide for itself the language or languages required;
ARG/126/40 ADD	N 3908	C. Second-class Radioelectronics Operator's Certificate
ARG/126/41 ADD	N 3909	The second-class radioelectronic operator's certificate is issued to candidates who have given proof of the technical and operational knowledge and qualifications enumerated below:
ARG/126/42 ADD	N 3910	 a) basic theoretical knowledge of modern radiocommunication equipment, such as transmitters, receivers and antenna systems used in the maritime mobile service and the maritime mobile satellite service; data processing, transmission and recovery systems, digital selective calling, narrow-band direct-printing, automatic alarms, radio equipment for rescue craft, other rescue equipment of land and satellite position-finding systems, auxiliary equipment used with equipment in general, including power supply equipment, such as storage batteries, motors, alternators, generators, inverters and rectifiers;
MOB-87/126-E ARG/126/43 N 3911 b) basic theoretical and practical knowledge of the ADD operation and maintenance of apparatus referred to in No. N 3910; ARG/126/44 ADD N 3912 practical knowledge to repair with the means c) available on board any faults which may occur in the course of a voyage in the apparatus referred to in No. N 3910; ARG/126/45 N 3913 Not used. ADD d) ARG/126/46 N 3914 ability to send and receive correctly by ADD e) radiotelephone and automatic radiotelegraph; ARG/126/47 ADD N 3915 f) basic knowledge of the Regulations applying to radiocommunications, of the documents relating to charges for radiocommunications and of the provisions of the Convention for the Safety of Life at Sea which relate to radio; ARG/126/48 g) basic knowledge of universal geography, especially ADD N 3916 the main sea routes, automatic message retransmission systems and other major telecommunication routes; ARG/126/49 ADD N 3917 h) detailed knowledge of one of the working languages of the Union. Candidates should be able to express themselves satisfactorily in that language, both orally and in writing. Each administration shall decide for itself the language or languages required; ARG/126/50 N 3918 ADD D. General Operator's Certificate ARG/126/51 N 3919 ADD The general operator's certificate is issued to candidates who have given proof of the technical and operational knowledge and qualifications enumerated below: ARG/126/52 ADD N 3920 elementary knowledge of the principles of a) radiotelephony and automatic radiotelegraphy; ARG/126/53 ADD N 3921 detailed knowledge of adjustment, not including b) frequency determination, and of the practical operation of radiotelephony and automatic radiotelegraphy equipment; ADD N 3922 c) Not used. ADD N 3923 d) Not used.

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ARG/126/54 ADD N 3924 e) ability to send and receive correctly by radiotelephone and automatic radiotelegraph; ARG/126/55 ADD N 3925 f) detailed knowledge of the Regulations applying to radiocommunication using radiotelephony and automatic radiotelegraphy, especially those related to the Safety of Life at Sea; ARG/126/56 ADD N 3926 g) elementary knowledge of the main sea routes; ARG/126/57 ADD N 3927 h) elementary knowledge, where necessary, of one of the working languages of the Union. Candidates should be able to express themselves orally in the language. Each administration shall decide for itself the language required; ARG/126/58 ADD N 3928 E. Restricted Operator's Certificate ARG/126/59 ADD N 3929 The restricted operator's certificate is issued to candidates who have given proof of the technical and operational knowledge and qualifications enumerated below: ARG/126/60 knowledge of the elementary principles of ADD N 3930 a) radiotelephony; ARG/126/61 ADD N 3931 b) detailed knowledge of adjustment and of the practical operation of radiotelephony; ARG/126/62 ADD N 3932 ability to transmit and to receive correctly in c) radiotelephony; ARG/126/63 ADD N 3932A d) detailed knowledge of the Regulations applying to telephone radiocommunications and specifically of that part of those Regulations relating to the Safety of Life at Sea. ARG/126/64 ADD ARTICLE N 56 ARG/126/65 Personnel of Coast, Ship and Ship Earth Stations ADD in Conformity with the Provisions of Chapter N IX ARG/126/66 Section I. Personnel of Coast Stations and ADD Coast Earth Stations ARG/126/67 ADD N 3979 Administrations shall ensure that the staff on duty in coast stations and coast earth station shall be adequately qualified to operate the stations efficiently.

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ARG/126/68 ADD	Sectio	on II. Class for St	and Minimum Number of Operators tations On Board Ship
ARG/126/69 ADD	N 3980 st st ef	In t hall take the hips of its ou fficient servi	the public correspondence service, each government necessary steps to ensure that stations on board on nationality have personnel adequate to perform lice.
ADD	N 3981	Not	used.
ADD	N 3982	Not	used.
ADD	N 3983	Not	used.
ADD	N 3984	Not	used.
ADD	N 3985	Not	used.
ADD	N 3986	Not	used.
ARG/126/70 ADD	N 3987 ra ag ir	The adiotelegraph greements in o nclude at leas	personnel of ship stations for which a installation is compulsory under international conformity with the provisions of Chapter N IX shall st:
ARG/126/71 ADD	N 3988	a)	the holder of a first-class or second-class radioelectronics operator's certificate, in ships which sail beyond the range of MF coast stations;
ARG/126/72 ADD	N 3989	b)	the holder of a general operator's certificate in ships which sail within the range of MF coast stations;
ARG/126/73 ADD	N 3990	c)	the holder of a restricted operator's certificate in ships which sail within the range of VHF coast stations;
ARG/126/74 ADD	N 3991	d)	in ship stations for which the type of installation prescribed in Chapter N IX is not compulsory under international agreements, the holder of a general operator's certificate or restricted operator's certificate, according to the area of navigation.
	3992 to 40	011 Not	attributed.

INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 127-E 15 September 1987 Original: English

COMMITTEE 6

Note by the International Chamber of Shipping

RADIO REGULATIONS, APPENDIX 11

It is suggested that, because of the changing needs for a flexible approach to the requirements for ship stations, their trading patterns, crew levels and training, one single general provision for the documents with which Ship Stations Shall be Provided should be considered as an amendment to the existing Radio Regulations.

An example of such a universal requirement for ship stations follows:

Documents with Which Ship Stations Shall Be Provided

Ship stations for which a radiocommunication station is required by international agreement shall be provided with the following documents:

- the ship's radio licence prescribed by Article 24; 1.
- 2. the certificate of an operator required by international agreement as prescribed by Article 55;
- 3. a log of the radio service as prescribed for the service of the ship station by its flag administration;
- manual for Use by the Maritime Mobile and Maritime Mobile-Satellite 4. Services;
- list of Coast Stations relevant to the communications requirements of 5. the ship station*.

An administration may delete or amend this requirement.

NTERNATIONAL TELECOMMENTS SERVICES WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 128-E 15 September 1987 Original: English

COMMITTEE 6

NOTE BY THE INTERNATIONAL MARITIME RADIO ASSOCIATION (CIRM)

Agenda item 6

APPENDIX 11

Documents with Which Ship and Aircraft Stations Shall Be Provided

List of Ship Stations

1. Considering that, following the introduction of the GMDSS, only automated telegraphy (NBDP) will be available and the requirement for manual telegraphy for ship-to-ship communications will be discontinued;

considering further that ships for which a radiotelephone installation 2. only is required (Section III) are not required to carry the "List of Ship Stations";

it is proposed therefore that Appendix 11, Section I, item 4 should be 3. deleted.

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 129-E 16 September 1987 Original: Spanish

COMMITTEE 4

Eastern Republic of Uruguay

PROPOSALS FOR THE WORK OF THE CONFERENCE

The Administration of Uruguay requests WARC MOB-87 to accord it special consideration when allocating additional frequencies for duplex radiotelephony, particularly in the band 8 MHz.

<u>Reasons</u>: The WARC for the Maritime Mobile Service (Geneva, 1967) allotted to Uruguay two frequencies in the band. 8 MHz (8 732.1 and 8 776.8 kHz carriers) for its coast radiotelephone stations, which by decision of the Maritime WARC (Geneva, 1974) it had to free at 2400 hours UTC on 31 December 1977 without being allotted any replacement frequencies as would have been appropriate. In spite of requests for IFRB collaboration, details of which need not be mentioned here, it has been impossible to secure replacement frequencies for those removed by the Maritime WARC of Geneva, 1974.

The loss of the two frequencies in the band 8 MHz renders radiotelephone calls from Uruguay's coast stations to ships and vice-versa impossible when traffic needs to be handled on frequencies of that order (8 MHz), thus hampering the. normal operation of its coast radiotelephone service.

In order to solve the serious problem stated, the Administration of Uruguay trusts that the present Conference will, if additional frequencies are allocated for duplex radiotelephony, allot it at least two frequencies in the band 8 MHz to replace those it had to free on 31 December 1977 (8 732.1 and 8 776.8 kHz carriers).



Document 130-E 16 September 1987 Original: English.

COMMITTEE 5

USSR

PROPOSALS FOR THE WORK OF THE CONFERENCE

ARTICLE 1

URS/130/1

ADD 34A

Aeronautical Mobile (R) Service: a mobile service between aircraft stations and aeronautical stations, or between aircraft stations; where aeronautical stations are responsible for the safety and regularity of air navigation on national and international civil air routes.

URS/130/2

ADD 34B

Aeronautical Mobile (OR) Service: a mobile service between aircraft stations and aeronautical stations, or between aircraft stations; where aeronautical stations are responsible for safety of air navigation on other than national and international. civil air routes.

Reasons: To introduce the definitions of the aeronautical mobile (R) service and aeronautical mobile (OR) service to the Radio Regulations. **NOB-87** INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 131-E 16 September 1987 Original: English

COMMITTEE 6

United States of America

PROPOSALS FOR THE WORK OF THE CONFERENCE

The United States of America proposes that the number 7 within brackets in the symbol CHN (7), wherever it appears in Appendix 26 to the Radio Regulations, be deleted. This proposal has been coordinated with the People's Republic of China and is agreeable to both Administrations.



Document 132-E 16 September 1987 Original: English

COMMITTEES 4, 5, 6

United Republic of Tanzania

PROPOSALS FOR THE WORK OF THE CONFERENCE

1. INTRODUCTION

The United Republic of Tanzania submits for the WARC MOB - 87 proposals as presented in 1.1. Tanzania avails herself of this occasion to express her continued support for the objectives of the International Telecommunications Union (ITU) and commends all efforts being made by International Maritime Organization (IMO) and International Civil Aviation Organization (ICAO) in drawing-up Operational Communications Requirements for the Civil Aviation and Maritime Navigation authorities; which seek to reduce the risks affecting the safety of life in the air and at sea.

- 2 -МОВ-87/132-Е

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	this document refers,	relate to the following	ng s	subjects:		

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2. AGENDA ITEM 2

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Include in the Radio Regulations any provisions required for the implementation of the Future Global Maritime Distress and Safety System (FGMDSS).

Since the proposed future system:

- (a) presents a number of advantages over the present distress and safety procedures - and hence represents an increase of safety of life at sea;
- (b) has reached an advanced stage of experimentation;
- (c) will firstly comply with the preliminary decisions of the International Maritime Organization (IMO) before it is fully introduced;

The United Republic of Tanzania in principal has no objection to any amendments to the present Radio Regulations serving the introduction of the future system.

However, we believe that the introduction of the new system will involve replacement of existing equipments by new ones. This might bring us some undesired technical and economic hardships. For the implementation of the proposed future system, we propose that:

The present and future systems continue to be used in parallel for a sufficiently long period of time so as to allow most developing countries to safeguard their national interests in matters relating to maritime communications.

3. ARTICLE 8

Allocation to Services

MHz

3.1	Region 1		Re	gion 2		Region	3
TZA/132/1 MOD	1545 - 1559 AERONAUTICAL MOBILE - SATELLITE (R) (Space-to-Earth)			R)			
		722	727	729	<u>729A</u>	730	

TZA/132/2 3.2

ADD

- 729A In the bands 1545 to 1559 MHz and 1646.5 to 1660 MHz administrations may allow public correspondence with aircraft on a secondary basis to communications related to safety and regularity of flight which shall have absolute priority over public correspondence with aircraft.
- **<u>REASON</u>:** To make provision for public correspondence with aircraft while maintaining essential provisions and extending them to the aeronautical mobile satellite service.

MHz

3.3 Region 1 Region 2 Region 3 TZA/132/3 MOD 1646.5 - 1660 AERONAUTICAL MOBILE - SATELLITE (R) (Earth-to-Space) 722 727 729A 730

REASON: (See proposal 3.2)

TZA/132/4 NOC

1660 - 1660.5 MHz	AERONA	AUTICAI (Eart	L MOBILE - SATELLITE (R) h-to-Space)
		RAD	IO ASTRONOMY
	722	735	736

REASON: To retain essential provision.

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TZA/132/5 3.6 MOD 3633 4. Except as provided for in 729A

Administrations shall not permit public correspondence in the frequency bands allocated exclusively to the aeronautical mobile service or to the aeronautical mobile-satellite service.

REASON:

To make provision for public correspondence with aircraft while maintaining essential provision and extending them to the aeronautical mobile satellite service.

MHz Region 1 Region 2 Region 3 TZA/132/6 4200 - 4400 **AERONAUTICAL RADIONAVIGATION 789** 788 790 791 To retain essential provision; extensively used for radio REASON: altimeters. MHz TZA/132/7 NOC 5000 - 5250 AERONAUTICAL RADIONAVIGATION 733 796 797 Essential for Aeronautical Mobile service - MLS channel. REASON: MHz TZA/132/8 5350 - 5460 AERONAUTICAL RADIONAVIGATION 799 NOC Radiolocation To retain essential provision used for airborne weather radars REASON: and airborne doppler radar. MHz RADIOLOCATION TZA/132/9 8750 - 8850 AERONAUTICAL RADIONAVIGATION 821 NOC 822

REASON:

To retain essential provisions, used for airborne weather radars and airborne doppler radars.

CHAPTER VI

Administrative Provisions for Stations

4. Article 25

NOC Identification of Stations

NOC Section I. General Provisions

TZA/132/10,4.1

ADD 2064A All transmissions by emergency position -indicating radiobeacons operating in the band 406 - 406.1 MHz shall carry identification signal.

REASON: In line with CCIR developed procedures for EPIRBs.

TZA/132/11 4.2

MOD 2068 b) emergency position - indicating radiobeacons except for those in No. 2064A.

REASON: To retain essential provision (See 4.1).

5. ARTICLE 44

(a)

TZA/132/12 5.1 MOD 3395

Nevertheless, in the service of radiotelephone <u>aircraft</u> stations and <u>aircraft</u> earth stations operating radiotelephony solely on frequencies above 30 MHz, each government shall decide for itself whether a certificate is necessary and, if so, shall define the condition for obtaining it.

REASON: To make applicable to the aeronautical mobile-satellite service.

TZA/132/13 5.2 SUP 3403.1 3404.1

REASON:

Article 45 to which these provisions refer, does not relate to classes and categories of radio operators' certificates.

TZA/132/14/5.3 SUP 3420

TZA/132/15 5.4 ADD 3420A

REASON:

To reflect the existing requirements in the aeronautical mobile service.

(a) Knowledge of the general principles and theory of radio.

TZA/132/16 5.5 ADD 3421A

(b) Theoretical and practical knowledge of the operation, maintenance and adjustment of the radio telegraph and radiotelephone apparatus;

REASON:

To reflect the existing requirements in the aeronautical mobile service.

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APPENDIX 9 6.

NOC Service Documents

(See Article 10, 12, 13, 17 and 26) NOC

NOC List I to IV

NOC List V. List of Ship Stations

Column 4. Auxiliary information NOC installations, including concerning:

NOC

(a) number of lifeboats fitted with radio apparatus, and

TZA/132/17 6.1 (b) types and number of emergency MOD position-indicating radiobeacons (optional), operating frequency being indicated by one of the following letters:

> A = 2182 KHz B = 121.5 MHzC = 243MHz *D =

A figure following the letter indicates the number of radiobeacons. The letter "X" signifies that the number of radiobeacons has not been communicated.

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* To include EPIRBs authorized to operate in the band 406 to 406.1 MHz.

7. APPENDIX 11

NOC Documents With Which Ship and Aircraft Stations Shall Be Provided

Section I. Ship Stations for Which a Radiotelegraph Installation Is Required by International Agreement.

NOC These stations shall be provided with:

TZA/132/18 7.1

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SUP 3. a) to g)

<u>REASON:</u> Items in this sub-paragraph should be considered for inclusion in Chapter X1.

Section III Ship Stations for Which a Radiotelephone Installation Is Required by International Agreement.

TZA/132/197.2

SUP 3. a) to d)

> Items in this sub-paragraph should be considered for inclusion in REASON: Chapter XI.

8. Appendices 12 thro' 14

TZA/132/20 should remain unchanged.

REASON: Their provisions continue to be used.

- 9. APPENDIX 17
- NOC Technical Characteristics of Single-Sideband Transmitters Used in the Maritime Mobile Service for Radiotelephony in the Bands Between 1606.5 KHz (1605-KHz Region 2) and 4000 KHz and between 4000 KHz and 23000 KHz.
- NOC (See Article 60. section IV).
- NOC 1. Power of the carrier:
 - (a) for class R3E emissions the power of the carrier shall be:

TZA/132/21 9.1

MOD Bands between 1606.5 KHz (1605 KHz Region 2) and 4000 KHz.

- for-coast station transmitters until lst January 1982 and for ship station transmitters in use or to be installed before 2nd January 1982: 16 ± 2 dB below the peak envelope power;

9.2 Bands between 4000 KHz and 23000 KHz

TZA/132/22 SUP

- for ship station transmitters installed before 2nd January, 1978: 16 <u>+</u> 2 dB below the peak envelope power;

TZA/132/23 9.3

SUP - for coast station transmitters after 1st January 1978 and for ship station transmitters installed after 1st January 1978: 18 ± 2 dB below the peak envelope power:

REASON: Overtaken by events.

10.	APPENDIX	18
	MOB 83	

- NOC Table of Transmitting Frequencies in the Band 156-174 MHz for stations in the Maritime Mobile Service.
- NOC (See No. 613 and Articles 59 and 60).

NOC Notes 1 to 3

NOC Channels 01 to 10 and 60 to 69.

TZA/132/24

MOD Channel 70 p) 156.525 156.525 Digital Selective calling for Distress and safety.

NOC Channels 11 to 16 and 71 to 75.

TZA/132/25

MOD Channel 76 k) 156.825 156.825 Direct - printing telegraphy for distress and safety purposes.

NOC Channel 17 to 28 and 77 to 88.

REASON: Channels 70 and 76 could also be used for other purposes.

NOC NOTES REFERRING TO THE TABLE

TZA/132/26^{10.3}

MOD k) The frequency 156.825 MHz (channel 76) is used exclusively for direct-printing telegraphy for distress, and safety and other <u>non-distress</u> purposes subject to not causing harmful interference to channel 16 (see also Nos. 3033 and 4393).

TZA/132/27

MOD p) This channel (70) is to be used exclusively for digital selective calling for distress, and safety purposes and other non-distress purposes as from 1 January 1986 (see Resolution 317 (Mob-83); until 31 December 1985 it may be used as an intership channel with order of priority 13 (see note (a)).

<u>**REASON:**</u> So as to use channels 70 and 76 for other routine purposes other than distress and safety.

11. APPENDIX 36

- <u>NOC</u> Automatic Receiving Equipment for Radiotelegraph and Radiotelephone Alarm Signals.
 - **REASON:** The provisions of this appendix are used furtheron.

APPENDIX 37 (Mob-83)

TZA/132/29

TZA/132/28

NOC Technical Characteristics of Emergency Position-Indicating Radiobeacons Operating on the Carrier Frequency 2182 KHz.

REASON: The provisions of this appendix continue to be used.

12. **RESOLUTION NO. 13**

TZA/132/30

TZA/132/32

Relating to Formation of Call Sign and the Allocation of New NOC International Series'

REASON: The provision are used further on.

RESOLUTION NO. 38

- TZA/132/31 Relating to the Reassignment of Frequencies of Stations in the NOC Mobile Services in the Bands Allocated to the Fixed and Radiolocation and Amateur Services in Region 1.
 - The provision are used further on. REASON:

RESOLUTION NO. 202

- SUP Relating to the Convening of World Administrative Radio а Conference for the Mobile Services.
 - The purpose of this resolution has been served. REASON:

RESOLUTION NO. 206 (Mob-83)

- TZA/132/33 SUP Relating to the Date of Entry Into Force of the 10KHz Guardband for the Frequency 500 KHZ in the Mobile Service (Distress and Safety)'
 - Once the Conference has decided upon the date of entry into force REASON: of the 10 KHz guardband, the resolution won't be necessary.

13. **RESOLUTION NO. 304**

TZA/132/34 Relating to the Implementation of the New Channelling Arrangement for AlA Morse Radiotelegraphy in the Bands Allocated to the Maritime Mobile Service Between 4000 KHz and 27 500 KHz'

REASON: Overtaken by events.

RESOLUTION NO. 308

TZA/132/35 SUP Relating to the Channel Spacing of Frequencies Allocated to the Maritime Mobile Service in the Band 156-174 MHz'

> Overtaken by events REASON:

> > RESOLUTION NO. 317 (Mob-83)

TZA/132/36

- Relating to the Implementation of the Frequencies 156.525 MHz NOC For Distress and Safety Digital Selective Calling in the Maritime Service
- REASON: The Provisions of this resolution continue to be used until the implementation of the FGMDSS has been completed.

- 11 -MOB-87/132-E

14.	RESOLUTION	NO.	400
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TZA/132/37 SUP

(1, 1)

Relating to the Treatment of Notices Concerning Frequency Aeronautical Stations in the Bands Assignments to Allocated Exclusively to the Aeronautical Mobile (R) Service Between 2850 KHz and 22000 KHz'

REASON: All actions have been completed by the IFRB and the procedures in this Resolution are no longer required.

RESOLUTION 401

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TZA/132/38

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Relating to the Implementation of the Frequency Allotment Plan in the Bands Allocated Exclusively to the Aeronautical Mobile (R) Service Between 2850 kHz and 22 000 kHz'

REASON: *• a.t ана на Свет на

Appendix 27 A er 2 has been implemented and various actions in the Resolution have been completed by IFRS.

RESOLUTION 402

1

Relating to the Implementation of the New Arrangement Applicable to Bands Allocated Exclusively to the Aeronautical Mobile (R) Service Between 2850 KHz and 22000 KHz'

REASON: Actions indicated in the Resolution have been taken.

RESOLUTION 404 ۰.

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TZA/132/40

SUP

Relating to the Implementation of the New Arrangement of Bands Allocated Exclusively to the Aeronautical Mobile (R) Service Between 21924 KHz and 22000 KHz

Actions have been completed by the IFRB and the Secretary General. REASON:

RESOLUTION 405

TZA/132/41

Relating to the Use of Frequencies of the Aeronautical Mobile (R) NOC Service

REASON: Activities in resolving clauses are useful and are continuing.

TZA/132/39 SUP

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TZA/132/42

NOC

RESOLUTION 406

Relating to the Use of Frequency Bands Higher than the HF Bands in the Aeronautical Mobile (R) Service and the Aeronautical Mobile-Satellite (R) Service for Communication and for Meteorological Broadcasts'

To continue to encourage administrations to consider aeronautical REASON: mobile (R) bands higher than HF, including aeronautical mobile-satellite (R) bands, in meeting their requirements for essential safety communications and for meteorological broadcasts.

RESOLUTION 407

TZA/132/43 NOC

Relating to the Unauthorized Use of Frequencies in the BAnds Allocated to the Aeronautical Mobile (R) Service'

To continue to encourage administrations to avoid causing harmful REASON: interference in the aeronautical mobile (R) service and to assist the IFRB in its work.

RESOLUTION 601

TZA/132/44 NOC

Relating to the Recommendations and Standards for Emergency Position-Indicating Radiobeacons Operating on the Frequencies 121.5 MHz and 243 MHz'

To continue to encourage administrations to ensure that emergency REASON: position-indicating radiobeacons on 121.5 MHz and/or 243 MHz comply with ICAO Standards and Recommended Practices.

- 13 -

MOB-87/132-E

15.

RECOMMENDATIONS 300

TZA/132/45 SUP

Relating to Planning the Use of Frequencies by the Maritime Mobile Service in the Band 435 - 526.5 KHz in Region 1

Activities mentioned have been completed. REASON:

RECOMMENDATION 301

TZA/132/46 SUP Relating to Planning for the Use of Frequencies in the Bands Between 1606.5 KHz and 3400 KHz Allocated to the Maritime Mobile Service in Region 1

> REASON: Activities mentioned have been completed.

RECOMMENDATION 400 16.

TZA/132/47 SUP

Relating to the Transition from the Present to the New Frequency Allotment Plan in the Bands Allocated Exclusively to the Aeronautical Mobile (R) Service Between 2850 KHz and 22 000 KHz'

ICAO/ITU actions have been completed. REASON:

RECOMMENDATION 401

TZA/132/48 NOC

Relating to the Efficient Use of Aeronautical Mobile (R) Worldwide Frequencies.

REASON: To continue to encourage prudent use of the HF aeronautical mobile (R) bands.

RECOMMENDATION 402

TZA/132/49

- Relating to Cooperation in the Efficient of Worldwide NOC Use Frequencies in the Aeronautical Mobile (R) Service'
- To ensure a continued cooperation in administering the efficient REASON: use of worldwide frequencies in the aeronautical mobile (R) service.

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RECOMMENDATION 403

TZA/132/50

- NOC Relating to the Development of Techniques Which Would Help to Reduce Congestion in the High Frequncy Bands Allocated to the Aeronautical Mobile (R) Service'
- <u>REASON</u>: To encourage administrations engaged in the development of techniques which would help to reduce congestion in the HF bands to inform the IFRB periodically of the progress achieved.

RECOMMENDATION 404

TZA/132/51 NOC Relating to the Use of the BAnd 136-137 MHz by the Aeronautical Mobile (R) Service'

REASON: Action not completed yet.

RECOMMENDATION 405

TZA/132/52 NOC

Relating to a study of the Utilization of the Aeronautical Mobile -Satellite (R) Service'

REASON: The Recommendation is still valid.

TZA/132/53

RECOMMENDATION 601

<u>NOC</u> Concerning the Matter of Providing a Suitable Frequency Allocation for a Collision Avoiddance System in the Aeronautical Radionavigation Service'

REASON: While international agreement is being considered for the use of 1030 - 1090 MHz for such a collision avoidance system, the use of other bands should not be ruled out.

NTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 133-E 16 September 1987 Original: English

European space agency

INFORMATION PAPER ON ESTIMATED REQUIREMENTS OF THE MOBILE-SATELLITE SERVICES IN REGION 1

1. Introduction

Studies and analyses performed for ESA show that there is a large requirement for land mobile-satellite services for the commercial transport industry. In addition, in a longer perspective, there is also a large market for transmission to cars.

Specific conclusions that can be drawn are:

- a) There is a need for mobile satellite services (MSS) on a European/regional basis. MSS will be needed to supplement the planned Pan-European terrestrial mobile system.
- b) There are sound technical reasons for allocating spectrum common to the maritime (MMSS), aeronautical (AMSS), and land (LMSS) mobile-satellite services since the users basically have the same requirements in all three cases.
- c) There exist ways of reusing the spectrum and exploiting it more efficiently than is done in current global coverage systems. To achieve these goals, mobile-satellite services should be provided on the one hand, by regional or domestic networks using multibeam coverage and frequency reuse techniques and designed to satisfy optimally the needs of each region, and, on the other hand, by global-beam systems serving all areas between regional networks.
- d) There is an immediate need to open up most of the "L" band (1.5/1.6 MHz) to the general mobile-satellite service without differentiating between maritime, aeronautical, and land mobiles.
- e) Beyond the immediate need, it may be worthwhile to consider the elaboration of a plan defining the coverage of different global and regional networks in Region 1 (Atlantic Ocean, Western Europe, USSR, and Africa).
- f) Beyond the immediate need, still more spectrum may need to be allocated by a future WARC.

2. Consideration of individual mobile-satellite services

2.1 Land mobile-satellite service

ESA has commissioned several studies of the market demand for LMSS in Europe. Since LMSS cannot be considered in isolation, all studies have taken into account the implementation of a regional terrestrial mobile system. In - 2 -MOB-87/133-E

fact, one conclusion of the ESA studies is that the market demand is very large and that it justifies every effort to develop a compatible Pan-European terrestrial mobile system as fast as possible.

The satellite system will complement the terrestrial system, and it will make it possible to implement early service.

However, even with a well-developed terrestrial system, there is an outstanding need for a satellite system. The studies suggest that there will be an evolution of services, some of which will start via satellite and later migrate to the terrestrial mobile network.

The ESA studies suggest a requirement for the following satellite services:

low rate data services, including broadcast and paging;

- public medium rate data and telephone services;

- business services with dedicated networks.

These services will be provided via geostationary satellites, although the use of non-geostationary satellites is also being considered.

One ESA study shows great interest on the part of the road transport industry in closed network services via satellite. The estimated number of users is over 2,800, consisting of large trucking companies and road freighters. The estimated number of channels ranges from 3,000 to 7,000.

Serving a large number of users requires new measures of spectrum economy, namely the use of spot beams to multiply the effective usage of frequencies. The satellite system options that are being studied by ESA and other organizations foresee the introduction of such a capability. An illustration of what could be done using state-of-the-art technology is given in Figure 1 which describes the coverage and frequency reuse capability of a satellite system named LAMEX (Land Mobile Experiment) that is being studied by ESA.

2.2 Aeronautical mobile satellite service

International Civil Aviation (ICAO) statistics indicate that in 1984 about 9,300 large aircraft (above 9,000 kg) are being used by commercial air transport operators, of which 2,000 are long-distance planes capable of flying on major trans-oceanic routes. The total population of aircraft above and below 9,000 kg being used either by commercial air transport operators or by other civil operators is 330,220, of which 285,000 belong to North America.

Aeronautical Radio Inc. (ARINC) has conducted a comprehensive examination of present and future world-wide requirements for aeronautical communications by satellite. In this study the traffic is expressed in terms of peak instantaneous aircraft (PIAC), which represents the maximum number of aircraft to be airborne at a given time in a given area. Forecasts for the years 1991, 2010 and 2040 are also given but they do include general aviation. Assuming the general traffic growth rate is the same for all aviation categories, this would lead to PIACs for transport and business as follows:

North America: 11,000 (year 2010), 16,000 (year 2040)

Atlantic: 570 (year 2010), 890 (year 2040)

Europe: 3,250 (year 2010), 4,840 (year 2040).

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According to aviation authorities and other experts the above figures are greatly over-estimated. For instance, the FAA in the United States have revised downwards their estimates for aviation growth (FAA Aviation forecasts, fiscal years 1987-88 and FAA Long range projections, fiscal years 1999-2010, Forecast error analysis). The projections by the General Aviation Manufacturers Association in the United States also show a significant downward trend in factory shipments (from 17,811 in 1978 to 2,438 in 1984 and sinking).

Further assumptions are made in the above-mentioned study on the number of contacts per aircraft and per hour, the number of passengers per aircraft, the fraction of passengers calling, etc.

The number of calls per passenger and per flight is assumed to be 0.66, which in ESA's opinion is unduly optimistic. The corresponding figure that has been estimated by ITA (Institut du Transport Aérien) in a market survey for the Atlantic region is 0.1.

The ARINC study conclusion based on the above assumptions is that with a frequency reuse factor of three, 17 MHz will be needed in 2010 for safety and non-safety communications in North America.

For other parts of the world, the requirements for aircraft communications are orders of magnitude lower than in North America.

As regards the Atlantic region, the PIAC quoted in the ARINC study is only 570 for the year 2010, which is still well above previous estimates (e.g., an SRI study sponsored by the FAA in 1977-80 quotes a PIAC of 230). Adopting the communications traffic characteristics as estimated by ITA (20 calls per trans-oceanic flight for a B747), this would lead, with a PIAC of 570, to a total spectrum requirement of only 3 MHz for public correspondence assuming no frequency reuse. An additional 100 kHz provision for ATC and AOC data transmissions would be more than adequate. Since the PIAC quoted in the ARINC study is over-estimated, the total spectrum requirement for the Atlantic in the year 2010 is likely to be only about 1.5 MHz without frequency reuse.

2.3 <u>Maritime satellite service</u>

According to projections that have been made by the INMARSAT organization itself, the ship population that is expected to be equipped with either standard A or standard B terminals by mid-2000 amounts to 26,000, that is to say about five times the current population.

As the current communication traffic is reasonably well-satisfied, there is extra capacity in the INMARSAT satellites. Indeed, the current INMARSAT satellites are not only used for maritime mobile communications, but also for such applications as low bit rate maritime TV and medium rate data communications with platforms, which clearly shows that INMARSAT satellites are not yet overloaded by the maritime mobile traffic, for which the service was intended.

From the above considerations it can be anticipated that a satellite channel capacity of about 200 to 250 will be needed beyond the year 2000 (at least for the Atlantic satellite). Assuming a channel frequency spacing of 25 kHz, which is pessimistic as 9.6 kbit/s vocoders providing a toll quality are already available, this would lead to a spectrum requirement for the Atlantic satellite of about 5 to 6.25 MHz without frequency re-use. The additional spectrum needed for standard C services can be neglected as only low data rate services will be provided. - 4 -MOB-87/133-E

3. Conclusion

In view of the above data on estimated markets, it is obvious that the current spectrum allocation of maritime and aeronautical mobile services largely exceed the traffic projections, in particular in the aeronautical field. Indeed, the air traffic projections for the North American continent, which is the region of the world with the heaviest air traffic, have been found by United States experts to be greatly over-estimated. Other parts of the world need even less spectrum to support their heaviest air traffic requirements.

Widening the use of the L-band to all mobile communications services would enable land mobile services to expand and hence to achieve a real economic exploitation of the spectrum.

It must be noted that the need to preserve the safety of air traffic does not justify preserving the full L-band spectrum portion currently allocated to the aeronautical mobile satellite service as safety itself requires a very modest bandwidth (a few hundred kHz in the Atlantic and a few MHz over the North American continent). Furthermore, safety will be guaranteed through the implementation of well known and proven technology.





LAMEX coverage

INTERNATIONAL TELECOMMUNICATION UNION WDB-87 WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 134-E 16 September 1987 Original: English

COMMITTEE 6

USSR

PROPOSALS FOR THE WORK OF THE CONFERENCE

URS/134/1 ADD

ARTICLE N52

General Communication Procedure in the Aeronautical Mobile Service

URS/134/2 ADD

Section I. General Provisions

URS/134/3 ADD 3653

As a general rule, it rests with the aircraft station to establish communication with the aeronautical station. For this purpose, the aircraft station may call the aeronautical station only when it comes within the designated operational coverage¹ area of the latter.

URS/134/4

3653.1 ¹ Designated operational coverage is that volume of airspace needed operationally in order to provide a particular service and within which the facility is afforded frequency protection.

URS/134/5 ADD 3654

ADD

An aeronautical station having traffic for an aircraft station may call this station if it has reason to believe that the aircraft station is keeping watch and is within the designated operational coverage area (No. 3653.1) of the aeronautical station.

URS/134/6 ADD 3655

When an aeronautical station receives calls from several aircraft stations at practically the same time it decides the order in which these stations may transmit their traffic. Its decision shall be based on the priority in Article 51.

URS/134/7 ADD 3656

In communication between aircraft stations, if an aeronautical station finds it necessary to intervene, these stations shall comply with the instructions given by the aeronautical station.

- 2 -MOB-87/134-E

URS/134/8 ADD 3657 Before initiating a call the calling station shall ascertain that the station called is not in communication with another station. URS/134/9 ADD 3658 When a radiotelephone call has been made to an aeronautical station, a period of at least ten seconds should elapse before a subsequent call is made. URS/134/10 ADD 3659 When a station called does not reply to a radiotelegraph call sent three times at intervals of two minutes, the calling may not be renewed until after an interval of three minutes. URS/134/11 Aircraft stations shall not radiate carrier waves ADD 3660 between calls. URS/134/12 Section II. Radiotelegraph Procedure ADD URS/134/13 ADD 3661 A. General URS/134/14 3662 The use of Morse code signals shall be obligatory in ADD the aeronautical mobile service. However, for radiocommunication of a special character, the use of other signals is not precluded. URS/134/15 3663 ADD In order to facilitate radiocommunications, stations shall use the service abbreviations given in Appendix 13. URS/134/16 ADD 3664 B, Method of Calling URS/134/17 ADD 3665 The call consists of: the call sign of the station called, not more than three times; the word DE; the call sign of the calling station, not more than three times; the letter K. URS/134/18 ADD 3666 The call "to all stations" CQ is used before the transmission of information of any kind intended to be read or used by anyone who can intercept it.

- 3 -MOB-87/134-E

URS/134/19 ADD	3667	C. Form of Reply to Calls
URS/134/20		
ADD	3668	The reply to calls consists of:
		 the call sign of the calling station, not more than three times;
		- the word DE;
		- the call sign of the station called, once only;
		- the letter K.
URS/134/21		
ADD	3669	D. Difficulties in Reception
URS/134/22		
ADD	3670	If the station called is unable to accept traffic immediately it shall reply to the call as indicated in No. 3667, but it shall replace the letter K by the signal ·- ··· (wait) followed by a number indicating in minutes the probable duration of the waiting time.
URS/134/23 ADD	3671	E. Signal for the End of Transmission
URS/134/24 ADD	3672	The transmission of a radiotelegram shall be terminated by the signal $\cdot - \cdot - \cdot$ (end of transmission) followed by the letter K.
URS/134/25		
ADD	3673	F. Acknowledgement of Receipt
URS/134/26 ADD	3674	The acknowledgement of receipt of a radiotelegram shall be given by the receiving station in the following manner:
		- the call sign of the transmitting station;
		- the word DE;
		- the call sign of the receiving station;
		- the abbreviation QSL.

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URS/134/27 ADD	3675	G. End of Work
URS/134/28 ADD	3676	The end of work between stations shall be indicated by each of them by means of the signal ··· -·- (end of work).
URS/134/29 SUP		ARTICLE 52
URS/134/30 SUP		ARTICLE 53

 $\underline{Reasons}$: To make the article which reflects the general communication procedures in the aeronautical mobile service.

INTERNATIONAL TELECOMMUNICATION UNION

WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 135-E 16 September 1987 Original: English

COMMITTEE 6

USSR

PROPOSALS FOR THE WORK OF THE CONFERENCE

ARTICLE 48

URS/135/1

Aircraft Stations and Aircraft Earth Stations Communicating MOD with the Stations in the Maritime Mobile Service and the Maritime Mobile-Satellite Service

Reasons: To apply to aeronautical mobile-satellite service.

URS/135/2

MOD

3571

Stations on board-Aircraft stations and aircraft earth stations may communicate for purposes of distress and for public correspondence, with stations of the maritime mobile or maritime mobile-satellite services. For these purposes They shall conform. to those provisions of these Regulations which relate to these services the relevant ... (see Article 59, Section III, Articles 61, 62, 63, 65 and also Nos. MOD 962 and MOD 3633).

ARTICLE 59

URS/135/3

Section III. Aircraft Stations and Aircraft Earth Stations MOD Communicating with Stations of the Maritime Mobile Service and the Maritime Mobile-Satellite Service

URS/135/4

MOD 4143

Stations on board Aircraft stations and aircraft earth stations may communicate with stations of the maritime mobile or maritime mobile-satellite services. They shall conform to those provisions of these Regulations which relate to these services (see Articles 48, 61, 62, 63, 65 and also Nos. MOD 962 and MOD 3633).

- 2 -MOB-87/135-E

URS/135/5

SUP 4144

URS/135/6

SUP 4145

Reasons: These provisions are mentioned in MOD 4143.

URS/135/7

MOD 4146 In the case of communication between a station of the maritime mobile service and an aircraft station, calling may be renewed <u>as is specified in Nos. 4933, 4934 and after</u> an interval of five minutes, not withstanding No. 4735.

Reasons: To reflect radiotelephone procedures.

NOB-87 INTERNATIONAL TELECOMORAL SERVICES GENEVA, September-October 1987 INTERNATIONAL TELECOMMUNICATION UNION

Document 136-E 16 September 1987 Original: English

COMMITTEE 4

Ukrainian Soviet Socialist Republic

PROPOSALS FOR THE WORK OF THE CONFERENCE

ARTICLE 9

UKR/136/1

MOD 962 In certain cases provided for in Articles 38 and 59, aircraft stations and aircraft earth stations are authorized to use frequencies in the bands allocated to the maritime mobile service and maritime mobile-satellite service for the purpose of. communicating with stations of that those services (see No. 4148).

Reasons: To distribute this provision for aeronautical mobile-satellite service and maritime mobile-satellite service.

UKR/136/2

SUP 963

Reasons: Does not apply to the aeronautical mobile-satellite service.

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 137-E 18 September 1987 Original: English

COMMITTEE 4

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMITTEE 4

(FREQUENCY)

Wednesday, 16 September 1987, at 0900 hrs

Chairman : Dr. O. VILLANYI (Hungary)

Subjects discussed:

1. Appointment of the Chairman of Working Group 4-B

Documents

116

- 2 -MOB-87/137-E

1. Appointment of the Chairman of Working Group 4-B (Document 116)

1.1 The <u>Chairman</u> reminded the Committee of the terms of reference of Working Group 4-B (Coordination and Notification), as set out in paragraph 2 of Document 116. He proposed the appointment of Mr. J. Piponnier (France) to chair Working Group 4-B.

The proposal was approved.

The meeting rose at 0905 hours.

The Secretary:

T. GAVRILOV

The Chairman:

O. VILLANYI

NIGHNATIONAL TELECOMMENTS WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987 INTERNATIONAL TELECOMMUNICATION UNION

Document 138-E 18 September 1987 Original: English

Documents

COMMITTEE 5

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 5

(DISTRESS AND SAFETY)

Tuesday, 15 September 1987, at 0900 hrs

Chairman: Mr. P.E. KENT (United Kingdom)

Subjects discussed:

1. Opening remarks by the Chairman 2. Terms of reference of the Committee 102, DT/2 3. Organization of work and establishment of Working Groups 99, 105, DT/4

For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked to bring their copies to the meeting since no others can be made available.
1. Opening remarks by the Chairman

1.1 The <u>Chairman</u> said he considered his election as Chairman of Committee 5 both a personal honour and an honour to his Administration. He looked forward to working with Mr. Zavattiero Cordoves of Uruguay, the Vice-Chairman of the Committee, and with Mr. Zoudov, the Committee Secretary.

2. Terms of reference of the Committee (Documents 102, DT/2)

2.1 The <u>Chairman</u> said that the Committee was to review and revise, as necessary, provisions of the Radio Regulations insofar as distress and safety services and related matters (other than frequency matters) were concerned; the task was formidable, because detailed provisions were to be prepared relating to the operational use of techniques new to safety arrangements. The Committee was also to review and update, as necessary, existing provisions and - perhaps the most difficult task - to decide on the most appropriate arrangements regarding the introduction of provisions and new techniques and the continuance of those relating to the existing system.

In the absence of any comment, he took it that the Committee approved the terms of reference as outlined in the documents and his remarks.

The terms of reference were approved.

3. Organization of work and establishment of Working Groups (Documents 99, 105, DT/4)

The Chairman said that the documents to be dealt with by the Committee 3.1 all reflected the same approach, namely, to prepare a new Chapter IX, to revise and update the existing Chapter IX and to draft a Resolution to cover the introduction of the new provisions and the continuation of the existing text. Although mindful of the difficulties faced by smaller delegations, he felt that two Working Groups should be established to deal with the tasks. He proposed a Working Group 5-A to prepare a new Chapter N IX using Document DT/1B and its addendum as a basis, taking into account all proposals to the Conference in respect of new Articles N 37 - N 42, inclusive, as well as the need to make the requisite provisions relating to Resolution No. 203 concerning the use of certain frequencies by the land mobile service. He also proposed the establishment of a Working Group 5-B to review the existing Chapter IX, using Document DT/1A, pages 20-30 inclusive, as a basis, taking into account all proposals made to the Conference in respect of Articles 37 - 42, with a view to revising that Chapter accordingly. In order to conform to the schedule of work and allow time for discussion, particularly in regard to the two Chapters, the work would have to be completed by 24 September.

In response to an observation by the <u>delegate of India</u>, he said it was understood that the Working Groups would take into account not only proposals already submitted to the Conference but any suggestions put forward during discussions.

As a result of informal consultations, he proposed that Mr. U. Hammerschmidt of the Federal Republic of Germany and Mr. T. Hahkio of Finland chair Working Groups 5-A and 5-B respectively.

It was so agreed.

3.2 The <u>Chairman</u> said that once the two Chapters were available for consideration by Committee 5, the latter would discuss the principles relating to introduction of the new text and continuation of the existing one. In that connection, account would be taken of Documents 15, 24, 25, 32, 40, 43 and 60, relating to proposals Nos. 304, 788, 459, 9, 437, 293 and 662 respectively; any similar proposals put forward in later documents would likewise be considered. At the same time, Committee 5 would assign certain of the proposals and Resolutions to the Working Groups. In the absence of comment, he took it that the Committee, and the Chairmen of the Working Groups, approved the organization of work as outlined.

In response to an observation by the <u>Chairman of Working Group 5 B</u>, he said he took it that, in view of the proposed procedure, the existing Chapter IX would be viewed for the time being as an entity in itself, but would be subject to editorial review later. Replying to an observation by the <u>delegate of France</u>, he said that Committee 5 was not a lead Committee as far as Appendix 31 was concerned; for the time being, the Working Groups were to concentrate on matters which would expedite the Committee's work, proceeding preferably Article by Article, as quickly as possible. Only then could the Committee determine the direction of its work.

The organization of work was approved.

The meeting rose at 0930 hours.

The Secretary:

Mr. A. ZOUDOV

The Chairman:

Mr. P.A. KENT

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 139-E 17 September 1987 Original: English

COMMITTEE 6

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMMITTEE 6

(MOBILE AND RADIODETERMINATION SERVICES

- EXCEPT DISTRESS AND SAFETY)

Tuesday, 15 September 1987, at 1040 hrs

	Chairman:	Mr.	I.R.	HUTCHINGS	(New	Zealand
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Sub	Documents	
1.	Identification of main topics	102
2.	Organization of work, formation of Working Groups	DT/5
3.	Appointment of Chairmen of Working Groups	-
4.	Schedule of work of the Conference	105

1. Identification of main topics (Document 102)

1.1 The <u>Chairman</u> drew attention to Document 102 which contained the programme of work of the Conference approved by the Plenary the previous day, and which detailed the Articles, Appendices, Resolutions and Recommendations to be considered and revised by Committee 6. The work basically entailed the revision of Chapters X, XI and XII and a number of earlier Articles in the Regulations, the major items being the maritime mobile and maritime mobile-satellite services, the aeronautical and land mobile services and their associated satellite services, and the radiodetermination and radiodetermination-satellite services excluding frequency matters, distress and safety.

The Committee noted Document 102.

2. Organization of work, formation of Working Groups (Document DT/5)

2.1 The <u>Chairman</u>, said that it had been considered that the work-load would be unbalanced if distributed between the three Working Groups originally envisaged. The Committee was therefore invited to consider the setting up of two Working Groups, Working Group 6-A and Working Group 6-B, bearing in mind comments made the previous day in Committee 4 by a number of delegations which considered that a larger number of Working Groups would create difficulties.

2.2 The <u>delegate of India</u>, Dr. Rao, noting that Article 35 had been attributed to Working Group 6-B, asked whether it was the Chairman's intention that the portions of Article 35 relating to maritime radiobeacons should be dealt with by Working Group 6-A.

2.3 The <u>Chairman</u> replied that it might be better to leave the whole of Article 35 to Working Group 6-B for the time being and to review the situation if difficulties arose later on.

It was so agreed.

The Committee <u>approved</u> the establishment of two Working Groups and their respective terms of reference as set forth in Document DT/5.

3. Appointment of Chairmen of Working Groups

It was <u>agreed</u> that Mr. Swanson (United States of America) and Dr. Hirata (Japan) should chair Working Groups 6-A and 6-B respectively.

4. Schedule of work of the Conference (Document 105)

4.1 <u>The Chairman</u> expressed the hope that all delegations would cooperate fully to ensure that the deadlines for completion of work as set forth in Document 105 were observed.

The meeting rose at 1100 hours.

The Chairman:

S. CHALLO

The Secretary:

I.R. HUTCHINGS



Document 140-E 16 September 1987 Original: English

COMMITTEE 6

Italy

PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda item 6.10

ARTICLE 35

Radiodetermination Service and Radiodetermination-Satellite Service

MOD 2854 § 14. (1) The assignment of frequencies to aeronautical radiobeacons operating in the bands between 160 kHz and 435 526.5 kHz shall be based on a protection ratio against interference of at least 15 dB for each beacon throughout its service area.

Reasons: Consequential to the reallocation of the bands between 415 kHz. and 526.5 kHz.

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 141-E 16 September 1987 Original: French

COMMITTEE 4

FIRST REPORT OF WORKING GROUP 4-B TO COMMITTEE 4

Working Group 4-B held its first meeting on 16 September 1987, at which it considered proposals concerning Article 12.

It approved the proposals numbered MOD 1332, ADD 1332A, ADD 1344A, ADD 1348A, MOD 1349 and MOD 1393 suggested in the IFRB's report (Document 4, sections 4.1 to 4.3) (see Annex 1).

It further decided to amend the wording of Nos. 1314, 1336, 1338, 1341 and 1451 (deletion of the reference to Appendix 27) (see Annex 2).

J. PIPONNIER Chairman of Working Group 4-B

Annexes: 2

- 2 -MOB-87/141-E

ANNEX 1

- MOD 1332 (4A) Any notice which has received a favourable finding with respect to No. 1328 but an unfavourable finding with respect to No. 1329 shall be returned to the notifying administration unless the administration has initiated the procedure of Article 16 in accordance with No. 1719.
- ADD 1332A (5) Any notice which makes reference to No. 1719 shall be recorded provisionally in the Master Register, if the finding with respect to No. 1328 is favourable. In this case the Board shall review the recording after the notifying administration has applied the procedure of Article 16.
- ADD 1344A aa) The notice is in conformity with the provisions of No. 1240.
- ADD 1348A (4) A notice which is not in conformity with the provisions of No. 1344A shall be examined with respect to Nos. 1267 and 1268. The date to be entered in Column 2b shall be determined in accordance with the relevant provisions of Section III of this Article.
- MOD 1349 (5) Except for cases where No. 1268 applies, all frequency assignments referred to in No. 1343 shall be recorded in the Master Register according to the findings reached by the Board. The date to be entered in Column 2a or 2b shall be that determined according to the relevant provisions of Section III of this Article.
- MOD 1393 (3) For all other cases referred to in No. 1315, the date of receipt by the Board shall be entered in Column 2b.

- 3 -MOB-87/141-E

ANNEX 2

(MOD) 1314 The provisions of Nos. 1311 to 1313 do not apply to frequency assignments which are in conformity with the Allotment Plans appearing in Appendices 25, 26, 27* and 27 Aer2* to these Regulations; such frequency assignments shall be entered in the Master Register on receipt of the notice by the Board.
<u>Note</u>: Delete the asterisk associated with Appendix 27 Aer2 and the note by the General Secretariat.
(MOD) 1336 b) the frequency corresponds to one of the frequencies specified in Column 1 of the Allotment Plan for the aeronautical mobile (R) service contained in

specified in Column 1 of the Allotment Plan for the aeronautical mobile (R) service contained in Appendix 27 Aer2* (Part II, Section II, Article 2), or the assignment is the result of a permissive change from one class of emission to another and the necessary bandwidth is within the channelling arrangement provided for in Appendix 27 Aer2*;

<u>Note</u>: Delete the asterisk associated with Appendix 27 Aer2 and the note by the General Secretariat.

(MOD) 1338

 d) the notice is in conformity with the technical principles of the Plan set forth in Appendix 27 Aer2*;

<u>Note</u>: Delete the asterisk associated with Appendix 27 Aer2 and the note by the General Secretariat.

(MOD) 1341

In the case of a notice in conformity with the provisions of Nos. 1335, 1336 and 1338, but not with those of Nos. 1337 or 1339, the Board shall examine whether the protection specified in Appendix 27 Aer2* (Part I, Section IIA, paragraph 5) is afforded to the allotments in the Plan and to assignments already recorded in the Master Register with a favourable finding with respect to this provision. In doing so, the Board shall assume that the frequency will be used in accordance with the "Sharing conditions between areas" specified in Appendix 27 Aer2* (Part I, Section IIB, paragraph 4).

<u>Note</u>: Delete the asterisk associated with Appendix 27 Aer2 and the note by the General Secretariat.

(MOD) 1451

The provisions of Sections V, VI (excepting No. 1430) and VII of this Article shall not be applied to frequency assignments in conformity with the Allotment Plans contained in Appendices 25, 26, 27* and 27 Aer2* to these Regulations.

<u>Note</u>: Delete the asterisk associated with Appendix 27 Aer2 and the note by the General Secretariat.

NOBBB INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987 Document 142-E 17 September 1987

17 September 1987 Original: English

COMMITTEE 5

NOTE FROM THE CHAIRMAN OF THE TECHNICAL WORKING GROUP OF THE PLENARY TO THE CHAIRMAN OF COMMITTEE 5

Committee 5 is invited to provide its opinion from the operational point of view concerning the proposal

USA/24/721

to enable the Technical Working Group of the Plenary to take a decision concerning Appendix 20.

> E. GEORGE Chairman of the Technical Working Group of the Plenary

INTERNATIONAL TELECOMMUNICATION UNION

NOB-87 INTERNATIONAL TELECOMMUTATION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 143-E 17 September 1987 Original: English

COMMITTEE 6

NOTE FROM THE CHAIRMAN OF THE TECHNICAL WORKING GROUP OF THE PLENARY TO THE CHAIRMAN OF COMMITTEE 6

In order to finalize consideration of Appendix 19 the 1. Technical Working Group of the Plenary needs to know the decision of Committee 6 concerning the proposal

> ADD RR 4326A. F/48/2

2. The views of Committee 6 are also needed on the operational implications in the proposals

USA/24/719 ADD

and

USA/24/720 ADD

in order to take appropriate decisions in the revision of Appendix 19.

E. GEORGE Chairman of the Technical Working Group of the Plenary NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 144-E 17 September 1987 Original: Spanish

COMMITTEE 4

Argentine Republic

PROPOSALS FOR THE WORK OF THE CONFERENCE

1. Introduction

The Argentine Republic has decided to introduce fixed and mobile services in the band 470 - 512 MHz on a PRIMARY basis. The inclusion of Argentina in No. 674 as indicated below is therefore requested.

2. ARG/144/1

MOD 674

Different category of service: in <u>Argentina</u>, Mexico and Venezuela, the allocation of the band 470 - 512 MHz to the fixed and mobile services is on a primary basis (see No. 425) subject to agreement obtained under the procedure set forth in Article 14.

Document 145-E 17 September 1987 Original: English

COMMITTEE 6

Note from the Chairman of Committee 6

ORGANIZATION OF THE WORK OF COMMITTEE 6

The first meeting of Committee 6, held on Tuesday, 15 September 1987, set up two Working Groups, 6-A and 6-B, with the following terms of reference:

1. Working Group 6-A

Chairman: Mr. R.L. Swanson (United States of America), Box No. 238

Secretary: Mr. R. Anderson, Box No. 2017

Review and revise, as necessary, the provisions of the Radio Regulations relating to the maritime mobile and maritime mobile-satellite services (excluding frequency matters, distress and safety) for the following:

<u>Articles</u>: 1, 19, 26, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66

Appendices: 9, 11, 12, 14, 31, 38, 39, 43, 44

Resolutions: 204, 304, 308, 311, 312, 314, 316, 319, 320

Recommendations: 7, 203, 301, 302, 305, 310, 312, 313, 315, 316

2. Working Group 6-B

Chairman: Mr. Y. Hirata, (Japan), Box No. 847

Secretary: Mrs. B. Arnold, Box No. 2047 Mr. T.S. Brewer, Box No. 2018

Review and revise, as necessary, the provisions of the Radio Regulations relating to aeronautical and land mobile services and their associated mobile-satellite services, radiodetermination and radiodeterminationsatellite services (excluding frequency matters and distress and safety) for the following: - 2 -MOB-87/145-E

<u>Articles</u>: 1, 19, 24, 25, 26 (list VI), 35, 42A to 53, 67, 68

<u>Appendices</u>: 10, 13, 26, 41, 42

Resolutions: 12, 13, 202, 405, 406, 407, 600

<u>Recommendations</u>: 7, 8, 204, 405, 600, 601, 604

I.R. HUTCHINGS Chairman of Committee 6 **NOB-87** INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987 Document 146-E 17 September 1987 Original: English

COMMITTEE 5

Note from the Chairman of Committee 5

ORGANIZATION OF THE WORK OF COMMITTEE 5

The first meeting of Committee 5, held on Tuesday 15 September 1987, decided on the following structure of Committee 5:

1. Working Group 5-A (GMDSS)

Chairman: Mr. U. HAMMERSCHMIDT (D), box 81

Secretary: Ms. S. Petter, box 2061

Terms of reference: To prepare new Chapter N IX using Document DT/1B and Addendum 1 as a base document, taking into account all proposals to the Conference, as well as suggestions made during discussions, which address new Articles N 37 to N 42 inclusive, and to include the necessary provisions relating to Resolution 203 concerning the use of certain frequencies in this Chapter by the land mobile service.

Chapter N IX (Articles N 37 - N 42)

- 2.
 - Working Group 5-B (Other Distress and Safety Matters)

Chairman: Mr. T. HAHKIO (FNL), box 101

Secretary: Mr. P. Cross, box 2022

Terms of reference: To prepare a revised version of Chapter IX (Articles 37 to 42) of the Radio Regulations, using Document DT/1A (pages 20 to 30) inclusive, as the base document, taking into account all relevant proposals to the Conference, as well as suggestions made during discussions.

Chapter IX (Articles 37 - 42)

P.E. KENT Chairman of Committee 5

INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA. September-October 1987

GENEVA, September-October 1987

Document 147-E 17 September 1987 Original English

COMMITTEE 4

Source: DT/10

FIRST REPORT OF WORKING GROUP 4-A TO COMMITTEE 4

1. At its first meeting, held on 15 September 1987, Working Group 4-A unanimously approved the following proposals concerning Article 8:

- 1.1 to modify RR405;
- 1.2 to modify the Table (band 200 - 285 kHz, R2);
- 1.3 to modify the Table (bands 130 - 148.5 kHz and 148.5 - 255 kHz, R1) and RR458;
- 1.4 to modify the Table (band 283.5 - 315 kHz and ADD RR466A);
- 1.5 to SUP RR473.

The approved modifications are contained in Annex 1 to this report.

Working Group 4-A is faced with the problems of allocation of documents 2. (namely Documents 41, 51, 56, 65-69 and 78-84) which are not allocated to Committee 4. Some delegations felt that these documents are also relevant for Working Group 4-A.

2.1 With respect to the documents which are allocated to the Technical Working Group of the Plenary (Documents 56, 65-69 and 78-84), Working Group 4-A was of the opinion that their eventual consideration in Working Group 4-A should be done after the Working Group of the Plenary takes a position on them. In this connection a draft note to the Chairman of the Technical Working Group of the Plenary is being envisaged and is contained in Annex 2 to this report.

2.2 With respect to Documents 41 and 51, which are not allocated to any body of the Conference, Working Group 4-A felt that they may also be considered as information papers for the work of Working Group 4-A, but since they contain technical matters too, an opinion from the Technical Working Group of the Plenary would also be appreciated.

The attention of Working Group 4-A has also been drawn to the comments 2.3 of the IFRB (Document 4) and particularly to paragraph 2.2.2. In order to take a position concerning this particular comment and, if necessary, to propose an appropriate modification of RR466, Working Group 4-A would appreciate comments from the Technical Working Group of the Plenary on this subject.

> J. KARJALAINEN Chairman of Working Group 4-A

Annexes: 2

- 2 -MOB-87/147-E

ANNEX 1

Modifications to Article 8

MOD 405

§ 5. The "European Maritime Area" is bounded on the north by a line extending along parallel 72° North from its intersection with meridian 55° East of Greenwich to its intersection with meridian 5° West, then along meridian 5° West to its intersection with parallel 67° North, thence along parallel 67° North to its intersection with meridian $\frac{30^{\circ}}{32^{\circ}}$ West; on the west by a line extending along meridian $\frac{30^{\circ}}{32^{\circ}}$ West to its intersection with parallel 30° North; (the remainder of the text is unchanged).

kHz 130 - 283.5

Allocation to Services				
Region 1	Region 2	Region 3		
130 - 148.5	130 - 160 (NOC)	130 - 160 (NOC)		
MARITIME MOBILE	FIXED	FIXED		
/FIXED/	MARITIME MOBILE	MARITIME MOBILE		
454 457 458		RADIONAVIGATION		
148 5 - 255	454	454		
BROADCASTING	160 - 190 (NOC)	160 - 190 (NOC)		
	FIXED	FIXED		
	459	Aeronautical Radionavigation		
	190 - 200 (NOC)			
458 460 461 462	AERONAUTICAL RADIONAVIGATION			
255 - 283.5	200 - 285 <u>275</u>	200 - 285 (NOC)		
	AERONAUTICAL	AERONAUTICAL		
DROADCASTING	RADIONAVIGATION	RADIONAVIGATION		
/AERONAUTICAL RADIONAVIGATION/	Aeronautical Mobile	Aeronautical Mobile		
463	<u>275</u> - 285			
	AERONAUTICAL RADIONAVIGATION			
	Aeronautical mobile			
458 462 464	<u>Maritime</u> <u>radionavigation</u> <u>(radiobeacons)</u>			

MOD 458

In Region 1, the change of the band limits from 150 kHz and 285 kHz to 148.5 kHz and 283.5 kHz respectively shall take place on 1 February 1986 for the lower limit and 1 February 1990 for the upper limit. (See Resolution No. 500.)

kHz 283.5 - 315

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Allocation to Services				
Region 1	Region 2	Region 3		
283.5 - 315	· · ·			
MARITIME RADIONAVIGATION (radiobeacons) 466	285 - 315 (NOC) MARITIME RADI	ΟΝΑΨΙGATION		
/AERONAUTICAL RADIONAVIGATION/	(radiobeacon /AERONAUTICAL	s) 466 RADIONAVIGATION/		
458 465 <u>466A</u>				

ADD 466A Additional Allocation: The frequency band 285.3 -285.7 kHz is also allocated to the maritime radionavigation service (other than radiobeacons) on a permitted basis.

kHz 415 - 1606.5

1		
505 - 526.5	4 · · ·	
MARITIME MOBILE 470		
/AERONAUTICAL RADIONAVIGATION/ -473-	به در المراجع ا مراجع المراجع ال مراجع المراجع ال	. , , , , , , , , , , , , , , , , , , ,
465 471 474 475 476	525 - 535	
526.5 - 1 606.5	BROADCASTING 477	526.5 - 535
BROADCASTING	AERONAUTICAL RADIONAVIGATION	BROADCASTING Mobile 479
478	535 - 1 605 BROADCASTING	535 - 1 606.5 BROADCASTING

SUP 473

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ANNEX 2

Draft note from the Chairman of Committee 4 to the Chairman of the Technical Working Group of the Plenary

1. Committee 4 is considering the proposals relating to the modification of the Table of Frequency Allocations. Some proposals are relating to technical matters, which are within the terms of reference of the Technical Working Group of the Plenary. In this connection, particular mention is made to Documents 56, 65-69 and 78-84, which are allocated to the Technical Working Group of the Plenary.

The Technical Working Group of the Plenary is, therefore, requested to advise Committee 4 on the matters treated in the above documents which are relevant for frequency allocation and frequency use, as soon as possible.

2. The Technical Working Group of the Plenary is also asked to give its opinion on the comments of the IFRB (Document 4) and particularly to paragraph 2.2.2.



NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 148-E 17 September 1987 Original: English

COMMITTEE 4

NOTE FROM THE CHAIRMAN OF WORKING GROUP 4-A TO THE CHAIRMAN OF COMMITTEE 4

In connection with the consideration of certain proposals for modification of Article 8 of the Radio Regulations, the question of correct interpretation of the agenda of this Conference was brought up in Working Group 4-A.

The agenda ("resolves" of Resolution No. 933 of the Administrative Council) places this Conference under the general restriction that its decisions shall have "only minimum effect on the radiocommunication services not included in this agenda".

In two particular cases, described below, judgement was felt to be needed whether or not the effect on other servies was minimal.

Taking into account that a number of other proposals were likely to cause similar questions, the Working Group found its advisable to seek the guidance of Committee 4 on this issue.

Example 1 (proposal USA/24/48) - Adding a secondary allocation for the mobile service in a band exclusively allocated to the FIXED SERVICE

This proposal was supported but objections were also raised.

The supporting view was that in the light of RR 420-422, a secondary service could not have other than a minimum effect on the primary service. The opposing view was that adding the secondary allocation could, in practice, cause difficulties to the primary service and because the latter service was not duly represented in this Conference, such a decision should not be made.

A decision on this proposal was postponed until such time as Committee 4 had the opportunity of giving its instructions.

Example 2 (proposals E/35/1, CTI/86/5, IRL/122/1) - Adding new country names to the existing RR 554

These proposals were supported and approved by the Working Group. It was stated by the Administrations having submitted these propoals, as well as those supporting them, that RR 554 clearly regulates the relations between the services concerned and that these proposals in no way changed this situation. One Administration neighbouring a country now to become included in RR 554 positively supported the proposal albeit not itself wishing to be included.

Although there was no objection to these proposals (E/35/1, CTI/86/5, IRL/122/1) the wish was expressed that this example be brought to the attention of Committee 4 in the same context as example 1.

J. KARJALAINEN Chairman of Working Group 4-A

WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987 INTERNATIONAL TELECOMMUNICATION UNION

Document 149-E 17 September 1987 Original: English

TECHINCAL WORKING GROUP

Netherlands

PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda item 6

APPENDIX 19

Technical Characteristics for Transmitters and Receivers Used in the Maritime Mobile Service in the Band 156 - 174 MHz

MOD 6. It shall be possible to reduce, readily, the mean power of a shi station transmitter to 1 W or less, except for digital selective calling equipment operating on 156.525 MHz (channel 70).

Reasons: Distress calls and other digital selective calls should be transmitted at maximum output power.

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA. September-October 1987

Document 150-E 23 September 1987

 $\frac{\text{LIST OF DOCUMENTS}}{(101 - 150)}$

No	Origin	Title	Destination
101	SG	Secretariat of the Conference	_
102	SG	Structure of the Conference	-
103 + Add. 1 (Corr.)	SEN	Proposals for the work of the Conference	C4, C5
104	F	Proposals for the work of the Conference	C6
105	SG	General schedule of the work of the Conference	-
106	F	Proposals for the work of the Conference	C6
107	ICS	Proposals for the work of the Conference	C6
108	, ITWF	The (Future) Global Maritime Distress and Safety System	-
109	IATA	Information Paper - Aeronautical Spectrum Requirements	-
110	SG	Conference Chairmanships	-
111	MEX	Proposals for the work of the Conference	C4
112	MEX	Proposals for the work of the Conference - Chapter IX	C4, C5
113	MEX	Proposals for the work of the Conference - Chapter NIX	C4, C5
114	MEX	Proposals for the work of the Conference - Chapter X	C4, C6
115	MEX	Proposals for the work of the Conference - Resolutions and Recommendations	C4, C5, C6, WG/PL
116	C4	Organization of the work of Committee 4	C4
117	PL	Minutes of the Second Plenary Meeting	PL
118	C4	Summary Record of the First Meeting of Committee 4	C4

For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked to bring their copies to the meeting since no others can be made available.

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No	Origin	Title	Destination
119	BFA	Proposals for the work of the Conference	C4
120	BFA	Proposals for the work of the Conference	C6
121	BFA	Proposals for the work of the Conference	C5
122	IRL	Proposals for the work of the Conference	C4
123	C4	Note from the Chairman of Committee 4 to the Chairman of Committee 6	C6
124	ARG	Information Document	-
125	ARG	Proposals for the work of the Conference	C6, WG/PL
126	ARG	Proposals for the work of the Conference	C6
127	ICS	Note - Appendix 11	C6
128	CIRM	Note - Appendix 11	C6
129	URG	Proposals for the work of the Conference	Ċ4
130	URS	Proposals for the work of the Conference	C5
131	USA	Proposals for the work of the Conference	C6
132	TZA	Proposals for the work of the Conference	C4, C5, C6
133	ESA	Information Paper on Estimated Requirements of the Mobile-Satellite Services in Region 1	-
134	URS	Proposals for the work of the Conference	_ C6
135	URS	Proposals for the work of the Conference	C6
136	UKR	Proposals for the work of the Conference	C4
137	C4	Summary Record of the Second Meeting of Committee 4	C4
138	С5	Summary Record of the First Meeting of Committee 5	С5
139	C6	Summary Record of the First Meeting of Committee 6	C6
140	I	Proposals for the work of the Conference	C6

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No	Origin	Title	Destination
141	WG/4B	First Report of Working Group 4B to Committee 4	C4
142	WG/PL	Note from the Chairman of the WG/PL to the Chairman of Committee 5	C5
143	WG/PL	Note from the Chairman of the WG/PL to the Chairman of Committee 6	C6
144	ARG	Proposals for the work of the Conference	C4
145	C6	Organization of the work of Committee 6	C6
146	C5	Organization of the work of Committee 5	C5
147	WG/4A	First Report of WG/4A to Committee 4	C4
148	WG/4A	Note from the Chairman of WG/4A to the Chairman of Committee 4	C4
149	HOL	Proposals for the work of the Conference	WG/PL
150	SG	List of documents (101 - 150)	-

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Document 151-E 17 September 1987 Original: English

Note by the International Transport Workers' Federation

INFORMATION PAPER

AT-SEA, ON-BOARD MAINTENANCE:

AN OBJECTIVE STUDY

OF CONTEMPORARY RADIO ELECTRONICS OFFICER TRAINING

Several Administrations have stated during the past few IMO sessions that modern, FGMDSS-type equipment is so sophisticated that it cannot be effectively repaired at the component level onboard merchant vessels while at sea. They quote some manufacturers to the effect that only duplication of equipment, combined with shore-based repair facilities, can provide equipment availability. Such views were used used as a basis for support of the "flexible" approach to maintenance. These views are not very accurate. The many clear statements provided by ICFTU-ITF in the IMO documents annexed B, C, and D have been substantiated.

The Radio Officers Union (U.S.A.), an ICFTU-ITF affiliate has commissioned an impartial research organization to probe the question of present Radio Electronics Officer training with respect to FGMDSS-type equipment. The study was limited to one type of FGMDSS sub-system, the INMARSAT SES terminal.

First, it employs sophisticated circuitry and advanced manufacturing techniques.

Second, some Administrations promoting their maritime electronics manufacturing and service industries assume that satellite communications equipment will play a central role in the FGMDSS.

Third, circuit designs of such equipment will change only slowly during the next two decades because state-of-the-art technology is employed.



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Fourth, it was necessary to prove that present-day Radio Electronics Officers are being trained to maintain and repair satellite communications equipment to the component level. It should be noted that such technical skills resulting from a few short months of training are within the economical means of all nations and should be supported by IMO.

The full report of the research organization is attached at Annex A. Please note the conclusions.

It is the intention of this organization to clarify this matter. Both the training and on-board, at-sea component level repair of FGMDSS-type equipment by Radio Electronics Officers are within our present capability. Such skills provide an economical and assured method of continuous availability of FGMDSS-type electronics equipment. In view of this study, it is necessary to reconsider the incorporation of mandatory requirements for at-sea, component level maintenance and repair capability. This should be reflected in Articles 55 and 56.

Annexes: 4

ANNEX A

REPORT OF EVALUATION OF EFFECTIVENESS OF TRAINING AT THE

MARITIME ELECTRONICS TRAINING SCHOOL (METS)

SUMMARY:

Electrospace Systems, Inc. has completed a partial evaluation of the training conducted at the Radio Officers Union Maritime Electronics Training School (METS). The purpose of this partial evaluation was to determine whether Radio Electronics Officers are effectively trained to perform component level repair of satellite communications system equipments, typical of the future Global Maritime Distress and Safety System (GMDSS), while at sea. This evaluation concludes that the METS training enables Radio Electronics Officers (REOs) to conduct component-level repair of state-of-the-art satellite communications equipment.

METHOD AND RESOURCES

The following resources were considered in the conduct of the evaluation:

- 1. The ROU Training Plan, which describes each course offered by the METS and the progression of courses. Before taking the satellite communications course a licensed radio officer must train for radio electronics certification (5 weeks plus a correspondence course prior to class), and a 4 week digital electronics course (Digital I), preceded by an 8 section correspondence course. Though not prerequisites, ROEs may have completed METS training in componentlevel repair of ships radar systems (4 weeks), and/or the ITT radio console (4 weeks). This training is comparable (component level) and the troubleshooting techniques are the same as required for satellite communications course is a requisite to ROU certification as a Master-REO.
- 2. Course materials, student materials, instructors materials, and a video tape of the most recent satellite communications course were reviewed extensively to determine the content. The most recent class was conducted in July and August 1987. Classes covered the Scientific Atlanta 3055 and Japan Radio Corp. JUE-35B theory and troubleshooting. Most REOs have experience on ships with a satellite terminal before coming to METS. The lectures provide the theory of operation of the equipment and describe signal paths and functions of the components. Lectures are accompanied by projected block diagrams and schematic diagrams. Each student is given course material which describes the function of all the boards of the equipment and notes covering the material of each class, including the visual training aids used. The student is also provided a complete set of the

manufacturers technical manuals. Thus the students are able to prepare for lectures and lab sessions in advance and follow the lectures using their notes.

- 3. Students attending the ITT Console course were consulted to determine their backgrounds and how well they were absorbing the lectures and labs. The Electrospace investigator attended several labs and lectures to observe the students, and participated with them in corrective maintenance exercises. He discussed backgrounds, previous training, and equipment aboard their ships with the students.
- 4. The METS instructor, Mr. Lester Tate, was interviewed and observed instructing over several days. The resume of Mr. Tate's qualifications as an instructor was reviewed. The Maryland State Board of Education Certification of the METS was noted.
- 5. The facilities of the METS, located at the Marine Engineers Beneficial Association School near Easton, Maryland were examined with particular attention to test equipment and laboratory facilities. There are two Scientific Atlanta 3055 and one JRC JUE-35B terminals among the extensive array of shipboard electronic equipment installed and operating in the school. The satellite terminals are operated through the Atlantic INMARSAT satellite.
- 6. The METS Unscheduled Maintenance Reports were examined using a computer data base to select those involving satellite terminals. A print out of selected shipboard unscheduled maintenance reports was obtained and studied.
- 7. Several issues of a newsletter, Technical Times, published by the school, were reviewed and the contents were noted. This newsletter provides troubleshooting and other information to readers in technical articles submitted by members and school staff. Pecularities and shortcuts found by REO's while repairing equipment aboard ship is reported for the benefit of others. Several recent articles discussed satellite communications equipment repair.
- 8. A publication of the International Maritime Organization, Global Maritime Distress and Safety System (No. 970 86.20E) was consulted for a characterization of the future GMDSS equipment. It is noted that the GMDSS, if adopted as described, will retain much of the communications equipment currently required aboard ship for safety of life at sea.

CONCLUSIONS

1. The academic and practical experience of the ROU students at the METS Satellite Communications Course is appropriate for the complexity of the equipment and the level of instruction.

- 2. The Satellite Communications instructor, Mr. Lester K. Tate, is exceptionally well qualified to teach equipment theory and maintenance. He has both a BEE and MEE, extensive military electronic technical training, including Navy basic and advanced electronic technician schools.
- 3. The METS is directed by Mr. W. R. Eney, who combines years of vocational electronic education administrative and supervisory experience with actual marine electronics repair experience resulting in the ideal mixture of abilities for a METS director.
- 4. The METS trains ROU members in theory and component level repair of state-of-the-art satellite communications equipment which will become part of the GMDSS (as proposed) and is equivalent in complexity to proposed new ship subsystems of the GMDSS.
- 5. That the METS plans for advanced MREO training and a GMDSS training course will enhance the abilities of their trainees aboard ship.

BACKGROUND OF THE INVESTIGATORS

Electrospace Systems, Inc. designs, manufactures and installs telecommunications and navigation systems and equipment for military and industrial customers worldwide. Major product areas are: satellite communications systems; aircraft modifications; electronic warfare; control systems; antenna systems; switching systems; signal processing systems; commercial telecommunications systems; and computer aided training systems.

Electrospace Systems is manufacturing, qualification testing and integrating the AN/WSC-6 SATCOM system on U.S. Navy surface ships. The AN/WSC-6 provides netted communications (teletype, secure voice, and high-speed data) via the geostationary Defense Satellite Communications System.

The principal investigator, Mr. John A. Kelly has extensive background in electronic design, engineering, maintenance, and training. His academic background includes a BSEE and MEE and various military and manufacturers technical schools. He has managed maintenance activities performing component level repair, rebuild, and calibration on military and commercial electronic equipment. He has several years experience as a maintenance engineer, and many years of experience in electronics and engineering training. Mr. Kelly possesses an FCC Second Class Radiotelegraph license and has shipboard operating experience. - 6 -MOB-87/151-E

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SUB-COMMITTEE ON RADIOCOMMUNICATIONS -28th session Agenda item 2

INTERNATIONAL MARITIME

ORGANIZATION

IMO

MARITIME DISTRESS AND SAFETY SYSTEM

IMPORTANCE OF ON-BOARD REPAIRS TO THE FEMDSS EQUIPMENT Note by the International Confederation of Free Trade Unions (ICFTU)

1 INTRODUCTION

1.1 The application of electronics to vessel operation has increased at a phenomenal rate over the past few years. In the areas of communication, navigation and automation, new applications of state-of-the-art electronics are being made daily. These new systems facilitate more efficient use of manpower on board, permitting each man to accomplish more, or more often the same work can be accomplished during a voyage, rather than wait until the next port is reached, if indeed it can be deferred at all.

1.2 The safe and efficient operation of the vessel is becoming increasingly dependent on the proper functioning of its electronic systems. When they fail, the vessel may be endangered. Also the reduced manpower made feasible by the installation of the systems may be unable to cope with the burden of performing manually the automatic functions performed by the system when operational.

1.3 Concurrent with this growth is an increasing concern for an effective support method to ensure a high availability of electronic systems, including those involved in the FGMDSS. Availability is the key factor. High reliability of the electronic components is only one part of high availability. The other part is high maintainability. When systems fail, the time required to restore them is usually important and often vital to vessel safety and efficiency.

2 RELIABILITY

2.1 Reliability is often expressed as <u>Mean Time Between Failures (MTBF</u>) expressed in hours. In spite of great strides being made in quality assurance and high component reliability, resulting in increased operating hours between failures, the failure rate of systems (for example a RADAR) is increasing. This is due to the following factors:

- .1 An increase in the number of functions that are included and the resulting increased complexity may more than offset improved component reliability.
- .2 Higher density physical packaging.
- .3 More sophisticated manufacturing processes and controls whose ultimate deficiencies are not fully known.
- .4 There is often a major difference between the calculated reliability of a system based on the aggregate of its component reliabilities, and the reliability actually realized. This is because with increasing density, additional attention (and its attendant additional cost) must be expended in the design, and this is not always done.
- .5 The haste with which laboratory-proven technologies are brought into full production before accumulating sufficient failure rate experience increases the failure rate and complicates support problems.
- .6 The increased physical sensitivity (to electrostatic damage, for example) and the difficulty in handling and storing high technology assemblies increases the failure rate.
- .7 The increase in the total variety of electronic packages.

2.2 The net result is that improved component reliability may result in less failure per operating hour, but the total number of system failures has actually increased. In spite of all efforts to improve reliability, a major problem of system failure continues to exist. Therefore, any effort to improve availability must rely upon an effective support plan of maintenance at sea which addresses the problem of faulty modules, circuit board assemblies, etc.

3 MAINTAINABILITY

3.1 Maintainability is often defined as <u>Mean Time To Repair</u> (MTTR) expressed in hours. The factors which affect maintainability are:

- .1 the design of the equipment
- .2 the presence of skilled Radio Officer and Electronic Officer personnel and on-board material resources.

3.2 The same factors, described in paragraph 2, that affect reliability also affect maintainability. The more sophisticated the manufacturing process -

the more densely packaged the assembly - the more difficult it is to repair. This can be coped with if manufacturers are constrained from employing manufacturing processes which preclude on-board and depot maintenance with reasonable personnel, tool, and test equipment resources in FCMDSS equipment. (Two-sided printed circuit boards can be readily repaired - multi-layered boards present difficulties.)

4 AVAILABILITY

4.1 Availability can be expressed in terms of MTBF and MTTR as follows:

MIBF MIBF + MITR

4.2 Several philosophies address the problem of achieving high availability. These are:

- .1 Achieving a high system MTBF
- .2 Redundant systems
- .3 Achieving low MTTR through:
- .3.1 at sea repairs
- .3.2 shore depot repairs

4.3 Achieving high availability by fitting redundant systems is based on the probability that both systems will not fail at the same time. This is largely dependent on the time a faulty system remains inoperative, which in turn is dependent on its maintainability. The effective measures to achieve a high availability continue to be:

.1 a low failure rate, and

.2 rapid restoration to service through on-board repairs.

4.4 This does not address the likelihood that equipment supposedly redundant may not in fact be redundant. For example, 2 MHz radiotelephone and INMARSAT equipments will not have the same range.

5 MAINTENANCE

5.1 Maintenance may be divided into two actions:

- .1 Diagnosis: defined as identification of the root cause of the failure and of failed component(s).
- .2 Repair: defined as elimination of the root cause of the failure and correcting (including readjusting) or replacing the failed component(s).

- 6 DIAGNOSIS
- 6.1 Diagnosis is facilitated by the presence of:
 - .1 a skilled Radio Officer or Radio Electronics Officer
 - .2 the self-diagnostics of the system
 - .3 test equipment
 - .4 technical documentation
- 7 REPAIR
- 7.1 Repair is facilitated by the presence of:
 - .1 a skilled Radio Officer or Radio Electronics Officer
 - .2 tools
 - .3 replacement parts
 - .4 technical documentation

8 It should be noted as important that for both diagnosis and repair a skilled technician is essential. The sooner that this resource is brought to bear upon faulty equipment, the shorter will be the MTTR and the greater will be the system availability, with the consequent increase of safety for the ship.

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9 If maintenance of faulty equipment is postponed until arrival in next port, the MTTR will be unacceptably long. Unless all ports maintain skilled technical personnel and all the other resources for diagnosis and repair, the vessel would be prevented from departing or the MTTR would be still further lengthened. This is not a cost effective approach. More important, the faulty equipment might well be needed immediately, should the vessel face a distress situation - on its own or another nearby ship.

10 Maintenance at sea can be almost completely depended upon. It is recognized however that the carriage of 100% replacement parts, a vast array of very sophisticated test equipment, and elaborate repair tools would be required to accomplish all repairs on board. There are, for example, modules which are manufactured by such sophisticated means that their repair cannot be undertaken at sea; but neither can these be done at repair depots, but must be returned to the manufacturer or to a repair facility specializing in microrepairs.

11 It is obvious that the approach to maintenance support of shipboard electronic systems should be based primarily on at-sea repairs, supplemented by depot resources, and that skilled technical personnel and physical resources on board are essential because only at a few selected ports will they be found, if indeed the repairs can wait; this last condition would involve a reduction of safety.

12 PROBLEM OF REPAIR

12.1 Once diagnosis has identified the failed component(s), repair is complicated by several factors:

- .1 Different manufacturers employ different designs, manufacturing techniques, and module configurations making it necessary to employ many different repair techniques in shipboard electronic systems.
- .2 Manufacturing is uni-directional that is, it employs a series of operations, each one performed by specialized personnel. Repair on the other hand is bi-directional. It involves de-manufacturing and then re-manufacturing the assembly. One technician performs all the tasks originally performed by several specialized manufacturing personnel.
- .3 The problem of where to repair the need to choose at sea repairs versus in port repairs has been discussed in paragraph 7.
- .4 The availability of replacement parts and the differing philosophies of "throw-away" versus repair of failed assemblies.
- .5 The availability of tools and test equipment. In order to undertake repairs, a facility equipped with the necessary test equipment and tools is required.

13 REPLACEMENT PARTS

13.1 The problem of providing the proper replacement part at the time and place it is needed is becoming more difficult.

13.2 If the approach is taken to supply 100% replacement modules, then the cost of these modules is a very large fraction (often more than 50%) of the system cost. This approach may more than double the cost of the system. Also, a maintenance philosophy based only on module replacement will result in a low availability because unless the root cause of the problem is contained within the faulty module, replacing the module will only result in the replacement itself becoming faulty.

13.3 Three approaches to the problem are possible:

.1 To stock replacement modules only on board. This approach results in a high spares cost - often equal to the cost of the operating system. It requires the lowest level of technical skill, tools and test equipment on board. This approach may result in rapid repair if the root cause of the problem is contained in the faulty module. It may also result in no repair if the root cause of the problem is not contained in the faulty module and the replacement module, when installed, becomes faulty also.

- .2 To stock replacement components only on board. This approach results in low spares cost. It may result in a longer Mean Time To Repair and requires a higher level of technical skill, tools and test equipment on board. This approach provides the highest probability that the root cause of failure will be corrected.
- .3 To stock a mixture of replacement modules and replacement components on board. This approach provides the best assurance of cost-effective and prompt restoration to service of faulty systems. An optimized mix of replacement modules and components promises the minimum MTTR at reasonable cost. This approach too requires the same high level of technical skills, etc. as 13.3.2 above.

14 CONCLUSION

14.1 From the above it is clear that on-board repairs to FCMDSS equipment is the approach that will maximize availability of that equipment and the consequent effectiveness of the future system for providing safety.

14.2 Manufacturers should be constrained from employing processes which preclude on-board and depot maintenance with reasonable personnel, tool, and test equipment resources.

14.3 It has been suggested that availability of FGMDSS equipment may be provided by redundancy, in-port maintenance, at-sea maintenance, or any combination of these three methods. It is clear from the above that at-sea maintenance must be part of any combination: omission of on-board maintenance capabilities would imperil safety at sea and make the FGMDSS, so configured, unsafe and unacceptable.
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ANNEX C



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SUB-COMMITTEE ON RADIOCOMMUNICATIONS-28th session Agenda item 3

INTERNATIONAL MARITIME

ORGANIZATION

IMO

MARITIME DISTRESS AND SAFETY SYSTEM NECESSITY OF AT SEA MAINTENANCE TO ASSURE AVAILABILITY

Note by the International Confederation of Free Trade Unions (ICFTU)

1 Assembly resolution A.420(XI)

1.1 Assembly resolution A.420(XI) provides <u>inter</u> <u>alia</u> the following general guidance for the development of the maritime distress and safety system:

"4.3 Before establishing a new system, extensive evaluation and practical testing must be performed to ensure that all requirements are fulfilled. The future system shall be proven more reliable than the present system.

"5.8 The training of radio officers and radio operators should be further expanded, as appropriate, to ensure continued adequate operation, maintenance and repairs at sea of the telecommunications and electronic navigation equipment involved in the safety of life at sea..."

The essence of these two paragraphs: "more reliable than the present system" and "maintenance and repairs at sea", is the thrust of this paper.

1.2 The Sub-Committee on Radiocommunications, in its development of the Future Global Maritime Distress and Safety System, and in particular the operator function for that system, must include provisions for "maintenance and repairs at sea" to ensure that the future system is "more reliable than the present system". The Sub-Committee on Radiocommunications is not empowered to change or to ignore the guidance given it by the Assembly.

2 Reliability of the present system

2.1 While the reliability of the present safety system has not been quantified, it is in fact extremely reliable. The factors which result in the high reliability of the present safety system are:

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- .l relatively simple (radiotelegraphy) circuits employed in transmitters and receivers, and its independence of other on-board electronic systems:
- .2 the mandatory carriage of on-board material resources for repairs at sea, including:
- .2.1 replacement parts
- .2.2 test equipment
- .2.3 tools
- .2.4 technical documentation

2.2 The mandatory carriage of a skilled radio officer who has the technical training to employ the material resources to restore faulty equipment to its full and efficient operation.

3 Reliability of the future system

3.1 The reliability of the future system will be affected by the same factors as in paragraph 2 above.

3.2 The reliability of the on-board equipment carried in conformity with the future system requirements will be adversely affected by two factors:

3.2.1 The complexity of the circuitry. It is likely to be high because:

- .1 The emissions of the terrestrial equipment are radiotelephony and frequency shift keying (employed for both narrow-band direct-printing and for digital selective calling). Both are much more technically complex than the radiotelegraph signals and equipment of the present system. This would reduce the reliability of terrestrial radio equipment used in the future system as compared with equipment used in the present system. That is, the terrestrial radio equipment of the future system would be inherently less reliable.
- .2 The circuitry and electro-mechanical equipment employed in the satellite equipment is even more complex. The reliability of the electro-mechanical ship earth station antenna has proven to be particularly poor during adverse weather. The reliability of the satellite equipment employed in the "future system" is definitely less reliable than the equipment of the present system.

.3 The equipment of the future system would tend to be more complex and therefore inherently less reliable because its operation is largely automatic. The inclusion of automatic features complicates the equipment, raising the number of circuits and components, which further reduces reliability.

3.2.2 The amount of the on-board equipment necessary for the proper functioning of the future system is much greater than the amount of equipment necessary for the proper functioning of the present system:

- .1 The satellite ship earth terminal requires input from the ship's compass, making proper functioning of the compass essential to proper functioning of the future system. The compass is not involved in the present system.
- .2 The automatic functioning of the future system is dependent on inputs of the ship's present position from electronic navigational aids, adding a whole new category of equipment necessary to the proper functioning of the future system which is not involved in the proper functioning of the present system.
- .3 This increase in the amount of equipment necessary to the proper functioning of the future system will increase the potential for equipment failure.

3.3 Equipment of the future system is likely to use solid state technology which can provide higher reliability.

3.3.1 The higher reliability of solid state technology can have beneficial effects equally on equipment of both the present and the future systems.

3.3.2 The equipment of the future system, being both more complex and in greater amount, is inherently less reliable than equipment of the present system, when both equipments employ solid state technology.

3.3.3 If the reliability of the future system is to be greater than the present system, such increased reliability must be accounted for by something apart from its solid state nature.

4 Material resources for maintenance

4.1 The mandated carriage of material resources to support the equipment of the future system must include all the material resources required by the present system, namely:

- .l replacement parts;
- .2 test equipment;

.3 tools;

- .4 technical documentation;
- .5 due to the highly complex nature of the equipment of the future system, the material resources carried on board will be correspondingly complex.

4.2 Spare parts may be in the form of replacement modules or replacement components. Each of these options has the following advantages and disadvantages:

- .1 If replacement modules are carried to the exclusion of replacement components, restoration of service may sometimes be effected by simple module substitution requiring only a low degree of technical skill. If however, module substitution does not effect restoration of service, and no higher technical skill is represented in the ship, then restoration may be prevented altogether.
- .2 If a low level of technically skilled personnel are carried as a consequence of carrying replacement modules then it may not be possible to recognize or diagnose correctly the root cause of the failure and in substituting the replacement module cause the replacement to become faulty also.
- .3 If replacement components are carried to the exclusion of replacement modules, then restoration of service may take longer and a high degree of skill is required.
- .4 The carriage of costly modules must be compared with the cost of relatively inexpensive components, particularly when the fault is due ultimately to failure of a component.
- .5 An optimized amount of both replacement modules and replacement components gives the highest probability that faulty equipment will be restored in minimum time.

5 Technical personnel

5.1 The mandatory carriage of skilled technical personnel to effect restoration of faulty equipment will ensure the highest reliability of the system.

.1 Since the present system's high reliability is due mainly to the mandatory carriage of technically skilled radio officer personnel, then to eliminate this factor from the future system cannot but result in reduced reliability of the future system when compared with the present system, all other factors being equal.

.2 But in fact they are not equal. The technically complex automated radiotelephony, frequency shift keying and satellite equipment of the future system, and the increased amount of equipment in the future system, when compared with the technically simple radiotelegraphy equipment of the present system makes the reliability of the total equipment of the future system less than the reliability of total equipment of the present system.

6 Equipment failure

6.1 No matter how highly reliable equipment may be initially, it will ultimately fail.

6.2 The probability of failure is effected by the following factors:

- .l design;
- .2 manufacturing controls;
- .3 quality assurance during production;

.4 environment conditions during operation.

6.3 The reliability if the equipment of the future system may be estimated in advance by multiplying the reliabilities of its individual components. Such a prediction would prove useful in planning the carriage of material resources for maintenance and repair at sea and optimizing the amount of replacement modules and components. The Technical Working Group should address this problem as a matter of urgency.

7 Availability and reliability

7.1 The Assembly resolution indicated that the future system should exhibit a high degree of "reliability". That means that the system should function during a high percentage of the time.

7.2 Another term often used to convey the same meaning is "availability", which has been correctly and precisely defined as:

MTBF

MTBF+MTTR

Where:

MTBF (Mean Time Before Failure) = Mean elapsed operating time commencing when the equipment meets specification and ending when a fault is recognized.

MTTR (Mean Time to Repair) = Mean elapsed time commencing when a fault is recognized and ending when the equipment is confirmed as meeting specification. 7.3 <u>The MTBF</u> is initially influenced by the measures used by the manufacturer. These include:

.l the design

.2 prototype testing

.3 manufacturing controls

.4 production testing

7.4 The initial reliability of equipment may be enhanced by a programme of preventive maintenance, by skilled radio officer personnel.

7.5 The MTTR is initially influenced by the following design features:

.1 fault-locating circuits and self-diagnostics

.2 accessibility and identification of components

7.6 Thereafter the MTTR is dependent upon the on-board material and personnel resources of the vessel which can be brought to bear upon the faulty equipment.

7.7 The relationship between availability and MTTR is inversely proportional the availability improves as the MTTR is reduced. The purpose of on-board resources, both material and personnel, is the rapid restoration of faulty equipment which will reduce the MTTR and provide the maximum availability.

7.8 The reliability of the system can be no better than the reliability of its weakest link.

7.9 A case in point is the INMARSAT system. INMARSAT has reported that the satellite component of the system attains an availability of 99.96%. This is understood to mean the availability of the space segment.

7.10 The availability of ship earth terminals is much less than 99.96%. So much so that the overall reliability of the satellite portion of the future system cannot be deemed to be superior to the overall reliability of the present safety system.

7.11 The reliability of the terrestrial radio equipment of the future system is less than the reliability of the equipment of the present system. The reliability of the coast stations is high; probably equal to the reported system availability of the space segment of the INMARSAT system. Therefore, the overall reliability of the terrestrial portion of the future system cannot be deemed to be superior to the overall reliability of the present safety system.

7.12 If the adverse effect of the lower equipment reliability of the future system is not offset by a continuation and improvement of the on-board resources, including a skilled radio officer to effect maintenance and repair at sea, then the reliability of the future system will not be superior to the present system.

8 Maintenance is critical

8.1 The necessity of maintenance to ensure maximum availability of the future system equipment is critical. Unless trained Radio Officer or Radio Electronics Officer personnel, plus the material resources mentioned above, are included in the requirements for the future system as well as for the transitional period, the FGMDSS will be inherently unsafe and therefore unacceptable.

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ANNEX D



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SUB-COMMITTEE ON RADIOCOMMUNICATIONS -28th session Agenda item 3

INTERNATIONAL MARITIME

ORGANIZATION

IMO

MARITIME DISTRESS AND SAFETY SYSTEM

ON-BOARD REPAIR OF PRINTED CIRCUIT ASSEMBLIES

Note by the International Confederation of Free Trade Unions (ICFTU)

1 INTRODUCTION

1.1 The equipment of the FGMDSS will be sophisticated and complex in nature. Most, if not all, of the units will employ printed circuit assemblies. When they fail or otherwise malfunction at sea, the need to restore them to operation by on-board maintenance has been addressed in COM 28/3/5, submitted by the International Confederation of Free Trade Unions. The present paper addresses the extent of on-board repairs that can be made to printed circuit assemblies, the skills needed and the on-board material resources (replacement parts, documentation, tools, etc.) that must be present on the ship for such repairs to be performed.

1.2 The Mean Time to Repair (MTTR) of a faulty system will be less only if the fault is confined to the module. When the root cause of the fault is external to the module, replacing the module will not restore the system and in fact may result in faulting the replacement module as well and, in the end, at least doubling the cost of restoring the system to operation. This underscores the need for in-depth rather than superficial diagnostic skills being possessed by the technician charged with maintaining the FGMDSS equipment. The forthcoming ITU World Administrative Radio Conference (MOB-1987) and the Sub-Committee on Standards of Training and Watchkeeping should be instructed to consider the provisions which will ensure that such high-level skills are present aboard the ship.

1.3 Compare the cost of stocking on-board replacement modules with the cost of stocking on-board replacement components when the fault in a module worth many hundreds and even thousands of dollars is really due to the fault of a component costing only a few cents. The cost of stocking the ship with replacement components is far less than the cost of stocking replacement modules.

2 REPAIR OF FAULTY EQUIPMENT

2.1 The restoration to service of faulty equipment may be divided into two operations. The first consists of diagnosing the fault and identifying the faulty component. The second consists of replacing the faulty component.

2.2 It should be noted that failures in marine electronic communication and navigation equipment are not confined to failures of components in printed circuit assemblies. Failures in antennas, chassis-mounted components (particularly in power supplies and high powered amplifiers), intermodule wiring, panel controls and indicators, and input/output devices comprise a large fraction of total equipment failures. Repairs of this type have customarily been performed by the existing Radio Officer under the present radio safety system.

3 PRINTED CIRCUIT BOARDS

3.1 Printed circuit assemblies fall into categories depending on:

- .1 the base material of the board;
- .2 whether the pads and runs are:
- .2.1 printed one side only;
- .2.2 printed both sides with plated-through holes; or
- .2.3 multi-layered;
- .3 the kinds of solder connections;
- .4 whether coated or not and the type of coating;
- .5 whether or not vulnerable to electrostatic damage.

3.2 Repairs to printed circuit assemblies fall into categories depending on whether there is:

- .1 damage to components;
- .2 damage to printed circuit and/or plated-through holes;
- .3 damage to base material.

3.3 In almost every case repair at sea is entirely feasible. The one exception is damage to printed circuits and/or plated-through holes or to the base material on multi-layered boards. All other damage, including the replacement of faulty components on multi-layered boards, can be rectified by skilled Radio Officers with on-board resources. 3.4 The individual processes by which the board was originally manufactured are linear - that is the processes occur one after the other. The machinery and personnel at each process station tend to be single purpose and to repeat the same procedure over and over in the manufacturing assembly line.

3.5 In the repair process, the steps of the original manufacture are first reversed and then reperformed. That is, the board is first demanufactured and then remanufactured. Unlike the original manufacturing process, the whole series of steps in repair are performed by a single individual.

3.6 Ordinarily, the steps in printed circuit assembly repairs are performed in sequence as follows:

- .1 The board is examined to ascertain exactly which of the following steps need to be performed and the area of work identified.
- .2 Any coating over the work area is removed.
- .3 Components are solder-extracted and removed. This may include components which are not faulty but are in the way of printed circuit and/or base material damage. In this case the components need to be removed by non-destructive means so that they may be reinstalled.
- .4 Damage to base material, if any, requires milling out the affected area and replacing it with an epoxy and board-fibre mixture or a new section of base material epoxied into place.
- .5 Damage to printed circuitry and damage to plated-through holes is repaired by reflow soldering new sections of runs and new pads where required. Replacement runs can be underbonded or overbonded to the base material.
- .6 Damaged or missing plated-through holes are replaced with eyelets which are swedged and soldered in place.
- .7 Components are reinstalled by hand soldering.
- .8 Missing or lifted connector fingers are replaced or recemented to the base material. Gold plated connectors may need to be replated.
- .9 Recoating to original specification as needed.
- .10 Inspection and test to confirm that the repaired printed circuit assembly meets specifications.

4 WORK STATION

4.1 Throughout the above process due care should be paid to printed circuit assemblies and components which are vulnerable to electromagnetic and electrostatic damage. A work station, including soldering and desoldering tools, which employ zero-power switching are required to prevent electromagnetic damage. Static-free work stations avoid the danger of electrostatic damage. A description of such a suitable work station is attached at Annex.

4.2 The cost of static-free work stations equipped with zero-power switching, soldering and desoldering tools is about equal to the cost of a single printed circuit assembly module. And these tools facilitate the repair of faulty modules over the life of the ship.

4.3 The aim of the repair procedure and the techniques described above is restoration of the assembly to original specification with as good or better reliability than the original.

5 TRAINING

5.1 These skills are now included in the training of Radio Officers and Radio Electronic Officers in the United States by the joint Industry-Union training programme, the ARA Technical Institute for Maritime Electronics, a Department of the Maritime Institute of Technology and Graduate Studies. At present a minimum of twenty hours of instruction is included in all the existing courses. A full eighty hour course is being prepared in order to provide the practice which, together with the skills, will make the student into a confident craftsman.

5.2 The requirements for skills to perform on-board repairs to the FGMDSS equipment, where not included in the Radio Regulations and in resolutions appended to the STCW Convention, should be upgraded to meet the needs that recent technological changes involve.

Annex

(to Annex D)

DESCRIPTION OF PRINTED CIRCUIT ASSEMBLY RE-WORK STATION

1 INTRODUCTION

1.1 This Annex describes a re-work station which provides Radio Officers and Radio Electronic Officers with the required materials and equipment to perform reliable repairs to a broad range of electronic modules and assemblies, including printed circuit assemblies containing electrostatic discharge sensitive components.

2 RE-WORK STATION REQUIREMENTS

2.1 The station should provide the following:

- .1 At least two variable voltage power outlets for soldering iron and solder extractor with controls to vary the output voltage.
- .2 High torque/low <u>Revolutions Per Minute (RPM)</u> mechanical output running at a nominally constant 3,600 RPM driven by a brushless AC motor. Provision should be included for connecting flexible mechanical shafting and various drilling and milling tools.
- .3 Air pump for vacuum and pressure for use with solder extractor providing nominal pressure in the range of .5 to 20 pounds per square inch under sealed conditions.
- .4 Ground terminal post for positively grounding printed circuit board and static-free work surface.
- .5 Variable high current heat pulse terminals for powering thermal parting tool, resistance tweezers, and thermal wire stripper.
- .6 All power shall employ zero power switching for spike-free operation to protect circuitry having electromagnetic discharge sensitive components. This feature assures that switching occurs at the zero crossover point of AC power, which eliminates switch noise and spikes from reaching the workpiece.
- .7 A grounded work surface with wrist strap for grounding personnel.

3 RE-WORK STATION ACCESSORIES

- 3.1 The station should be provided with the following accessories:
 - .1 Soldering iron, 30-watt with 1/8-inch and 1/16-inch diameter chisel tiplet, to be used with a variable voltage power outlet to control tip temperature.
 - .2 Solder extractor, with desoldering tips (.025-inch to .061-inch inside diameter), heater assembly, and solder collection chamber, providing controlled temperature, vacuum, pressure and air flow, when used with a variable voltage power outlet to control tip temperature, and vacuum/pressure air hose.
 - .3 Miniature machining spindle and shaft, for connection to the high torque/ low RPM mechanical output, with an assortment of drills, ball mills, abrasion tips, and brushes, for milling, drilling and abrading printed circuit boards.
 - .4 Thermal parting tool and lap reflow soldering pulse heat probe for applying pulse type conductive heating for thermal parting of all types of thick conformal coatings, unclinching of component leads, and lap reflow soldering lap solder joints.
 - .5 Resistance tweezer for localized soldering or desoldering close-spaced terminals, connector pins and feed through capacitors.
 - .6 Thermal wire stripper for stripping all types of insulations, including Teflon and Silicone rubber from an extreme range of wire sizes without damaging the conductors.

Document 152-E 18 September 1987 Original: English

International Transport Worker's Federation

INFORMATION PAPER

ANALYSIS OF COST ESTIMATES OF FGMDSS EQUIPMENT

IMO, in COM 30/11, developed cost estimates in response to Administrations' concerns. Administrations with electronic manufacturing facilities supplied the estimates. Satellite communications, believed by them to be the cornerstone of the new system, is the only sub-system of FGMDSS near completion.

Many Administrations' experience with FGMDSS equipment is at odds with manufacturers' claims, such as low cost and reliability, e.g., COM 32/INF.19, and with little public disclosure on the financing of the INMARSAT system from its Council, the issue of INMARSAT economic viability and hasty implementation has been the basis for statements of exaggerated performance and low equipment cost.

A case in point among the vast complement of FGMDSS-type equipment is the INMARSAT "Standard-C" SES. It has been portrayed by manufacturers as inexpensive and reliable. In COM 33/WP.2, Annex 3, paragraph 2.4.2, the cost was estimated to be only \$8,000 US with a possible variation of plus or minus 30%, i.e., \$5,600 to \$10,400.

The attached quotation of a U.S. distributor demands a minimum price for a typical Standard-C equipment complement as follows:

TT-3020A	Terminal	\$12,859.00
TT-3002A	Antenna	4,795.00
Opt. 810	Spare Electronics Unit	8,065.00
Opt. 820	Spare Antenna Unit	4,795.00
Opt. 910	Spare Reference Manual	234.00
Opt. 922	19" Mounting Kit	69.00
Opt. 940	Antenna Coax Cablet	316.00
	Total	\$30,817.00

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The inclusion of the "EGC" option, important in order to allow vessels to continuously receive distress, safety, and urgency communications, is quoted as additional amounts:

TT-3010A	EGC Receiver Terminal	\$ 9,713.00
TT-3001A	EGC Receiver Antenna Unit	3,215.00
Opt. 810	Spare Electronics Unit	6,498.00
Opt. 820	Spare Antenna Unit	3,146.00
Opt. 910	Spare Reference Manual	234.00
Opt. 922	19" Mounting Kit	69.00
Opt. 940	Antenna Coax Cablet	316.00
	Total	\$23.191.00

While installation costs cannot be precisely quoted, they are estimated to be about \$4,250 each by one knowledgeable U. S. service company. Thus, the real cost of an installed Standard-C SES with EGC capability costs at least <u>\$58,258.00</u>. This cost alone exceeds the IMO's average estimate for this one unit by 728%. However, it must be emphasized that such prices are not yet final. Final performance standards for Standard-C SES can result in even greater costs.

Such huge discrepancies in cost estimates must be given consideration by Administrations concerned with the escalating costs of a system which very well could ultimately prove less reliable than our present one. Clearly, Administrations must seek a method by which accurate cost estimates will be provided, since the present method of estimation obviously has very serious flaws, as demonstrated by the analysis of this item, only one of many.

Attachment: 1

ومصد وتنابي في فهم رود

RADIO-HOLLAND USA, B.V. 6033 South Loop East Houston, Texas 77033-1041

Telephone: (713) 649-1048

Telex: 795438

SUGGESTED LIST TT-3020A Standard-C Satellite Terminal: TT-3020A, Standard-C Satellite Terminal incl. Electronics Unit with 256 kbyte memory, TT-3002A Antenna Unit, Connector Kit, and Mounting Hardwareea. \$ 12,859.00 TT-3002A, Standard-C Antenna Unit (incl. in TT-3020A) ...ea. 4,795.00 Spares: Opt. 801, Component Spares (selected)ea on request Opt. 802, Assembly Spares, Electronics Unitea. \$ 7,007.00 Opt. 803, Assembly Spares, Antenna Unitea. 3,256.00 Opt. 804, Spare Connector Kitea. 96.00 Opt. \$10, Spare Electronics Unitea. 8,065.00 Opt. 820, Spare Antenna Unit (TT-3002A)ea. 4,795.00 Accessories: Opt. 910, Spare Ref. Manualea. \$ 234.00 Opt. 920. Mast Hounting Kit (AU)ea on request Opt. 921, Pedestal Mounting Kit (AD)ea on request Opt. 922, 19" Mounting Kit (EU)ea. 69.00 Opt. 940, Antenna Coax Cablet (for max. 30 meters)100 m 316.00 Opt. 941, Antenna Coax Cablet (for max. 100 meters) ...100 m 632.00 TT-1542A, Remote Message Alarmea. 344.00 TT-1553A, T-BUS to Centronics Interfaceea. 522.00 550.00 TT-1601A/TT-1602A, Video Display Terminalea. 3,009.00 TT-1608B, Hard-Copy Printer incl. mounting hardwareea. 2,143.00 * Prices FOB Houston, Texas

* PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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June 1, 1987

FAX: (713) 649-0149

STANDARD-C SATELLITE TERMINAL, T-SAT SERIES

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	RADIO-HOLLAND USA, B.V. 6033 South Loop Fast		June 1, 1987
	Houston,	Texas 77033-1041	
Telephone:	(713) 649-1048	Telex: 795438	FAX: (713) 649-0149

EGC-RECEIVER SATELLITE TERHINAL, T-SAT SERIES

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TT-3010A EGC-Receiver Satellite Terminal:	SUGGESTED
TT-3010A, EGC-Receiver Satellite Terminal incl. Electronics Unit with 256 kbyte memory, TT-3001A Antenna Unit, Connector Kit, and Mounting Hardwareea.	\$ 9,713.00
TT-3001A, EGC Receiver Antenna Unit (incl. in TT-3010A) .ea.	3,215.00
Options:	
Opt. 005, Standard-C Upgrade Kitea.	\$ 3,146.00
Spares:	
Ont 801 Component Spares (selected)	TACHACT
Ont RO2 Accembly Sparse Flactronics Unit	\$ 5 //1 00
Ont 803 Accembly Spares, Antenna Unit	2 033 00
Opt. 804. Spare Connector Kit	2,055.00 96 00
	20.00
Opt. 810. Spare Electronics Unit	6.498.00
Opt. 820, Spare Antenna Unit (TT-3001A)ea.	3,146.00
Accessories:	
Opt. 910. Spare Ref. Manualea.	\$ 234.00
Opt. 920, Mast Mounting Kit (AU)es of	n request
Opt. 921, Pedestal Mounting Kit (AU)ea c	n request
Opt. 922, 19" Mounting Kit (EU)	69.00
Opt. 940, Antenna Coax Cablet (for max. 30 meters)100 m	316.00
Opt. 941, Antenna Coax Cablet (for max. 100 meters)100 m	632.00
TT-1542A, Remote Message Alarmea.	344.00
TT-1553A, T-BUS to Centronics Interface	522.00
TT-1553B, T-BUS to RS-232C Interface (NMEA)	550.00
TT-1608B, Hard-Copy Printer incl. mounting hardwareea.	2,143.00

* Prices FOB Houston, Texas

* PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Document 153-E 18 September 1987 Original: English

International Transport Worker's Federation

INFORMATION PAPER

TRAINING REQUIREMENT SCHEDULE

A GUIDE TO THE CALCULATION OF TIME FOR EDUCATION IN MARITIME ELECTRONICS COMMUNICATIONS AND MAINTENANCE TECHNOLOGY UNDER FGMDSS:

A COMPARATIVE STUDY

The following guide has been prepared by ITF affiliates the American Radio Association (U.S.A.) and Radio Officers Union (U.S.A.) to assist administration representatives, officials, and in determining the time -- and thereby the projected others costs -- of training various crew members to perform work similar to that now performed by the present ship's Radio Officer (RO) or Radio Electronics Officer (REO) on FGMDSS-type equipment. The standard used in reference to the specialized communicator/maintainer functions of the RO and REO is that presented in the International Conference on Training and Certification of Seafarers, 1978, which closely corresponds to a description of the the Radio Electronics Officer, First Class certification as proposed in the ICFTU submission numbered COM 33, INF. 3. Calculations are in hours of instruction required. It should be noted that training time for mates and engineers/electricians is greater in the ratio of more to seven to one when compared with the RO/REO. Training to the Radio Electronics Officer, Second Class Level will require approximately 19% less time.

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TOPIC	: MATE	ENGR/ELECT	RO/REO
FUNDAMENTALS OF ELECTRICITY AND RADIO COMMUNICATIONS STCW PP. 131-132	: 480 :	360	; 0 ;
DIGITAL ELECTRONICS (SEE ADDENDUM #1)	: 180	180	: 0 :
DIRECT PRINTING & DATA METHODS STCW P. 135	80	80	: 0
SELECTIVE CALLING SYSTEMS STCW P. 133	: 60	60	: 0 :
FACSIMILE STCW P, 133	80	80	; 0
SATELLITE COMMUNICATIONS (SEE ADDENDUM #1)	: 180	180	: 4 0 :
RADAR STCW P. 134	: 180	180	: 0 :
ARPA (SEE ADDENDUM #1)	220	220	: 40 :
SATELLITE NAVIGATION (SEE ADDENDUM #1)	120	120	40 :
GYRO-COMPASS (SEE ADDENDUM #1)	60	40	: 20 :
MICRO-PROCESSORS (SEE ADDENDUM # 1)	: 180	180	: 60 :
COMPUTER REPAIR (SEE ADDENDUM #1)	80	80	40 1
RADIO NAVIGATION EQUIPMENT STCW P. 134	: 120	120	: 28 :
ECHO SOUNDING EQUIPMENT STCW P. 134	80	80	: 24
PRACTICAL APPLICATIONS STCW P. 129	470 :	450	90 90
STEERING CONTROL SYSTEMS (SEE ADDENDUM #1)	; 40 ; ;	40	24
TOTALS	2610	2450	382
	HOURS	HOURS	HOURS

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ADDENDUM # 1

TRAINING COURSE TOPICS

DIGITAL ELECTRONICS

- A. BINARY NUMBER SYSTEMS
- B. LOGIC GATES
- C. DIGITAL INTEGRATED CIRCUITS
- D. BOOLEAN ALGEBRA
- E. TIMERS
- F. COUNTERS
- G. REGISTERS
- H. ENCODING
- I. DECODING
- J. MULTIPLEXERS

MICRO-PROCESSORS

- A. MICRO-COMPUTER ARCHITECTURE
- **B. MICRO-PROCESSOR ARCHITECTURE**
- C. MACHINE LANGUAGE PROGRAMMING
- D. INPUT/OUTPUT DEVICES
- E. EXTERNAL CONTROL SYSTEMS
- F. KEYBOARD AND DISPLAY INTERFACING C. POWER SUPPLIES
- G. PREVENTATIVE MAINTENANCE D. ANTENNA/R.F. SYSTEMS
- H. SYSTEM TROUBLE-SHOOTING

SATELLITE COMMUNICATIONS

- A. COMMUNICATIONS SYSTEM
- **B. CHARACTERISTICS OF DIFFERENT** MAKES AND SYSTEMS
- C. TIME DIVISION MULTIPLEXING
- D. TIME DIVISION MULTIPLE ACCESS
- E. ANTENNA CONTROL SYSTEM
- F. DEMODULATION/MODULATION
- G. BASE-BAND PROCESSING
- H. POWER DISTRIBUTION
- I. ALARM SYSTEMS
- J. MODEMS AND INTERFACES K. PREVENTIVE MAINTENANCE
- **K. SYSTEM TROUBLE-SHOOTING**

ARPA

- A. FUNDAMENTAL PRINCIPLES
- **B. POWER SUPPLIES**
- C. DISPLAY TECHNOLOGY
- D. TRACKING CIRCUITS
- E. TIMING CIRCUITS
- F. PROCESSING CIRCUITS
- G. ADDA CONVERSIONS
- H. SWEEP CIRCUITRY
- I. INPUT/OUTPUT CIRCUITS
- J. VIDEO CIRCUITS
- K. PREVENTIVE MAINTENANCE
- L. SYSTEM TROUBLE SHOOTING

SATELLITE NAVIGATION

- A. FUNDAMENTAL PRINCIPLES
- **B. CHARACTERISTICS OF** MAKES AND SYSTEMS

- E. ERROR MESSAGE
 - DETERMINATION
- F. PREVENTIVE MAINTENANCE
- G. SYSTEM TROUBLE-SHOOTING

GYRO COMPASSES

- A. FUNDAMENTAL PRINCIPALS
- **B. CHARACTERISTICS OF**
- MAKES AND SYSTEMS
- C. POWER SUPPLIES
- D. REPEATERS
- E. SENSOR MECHANISM
- F. PREVENTIVE MAINTENANCE
- G. SYSTEM TROUBLE-SHOOTING

COMPUTER REPAIR

- A. SYSTEMS AND ARCHITECTURE
- **B. POWER SUPPLIES**
- C. INPUT/OUTPUT DEVICES H. ERROR INDICATORS
- I. LOOP ANALYSIS
- J. PERIPHERALS
- K. TROUBLE-SHOOTING

WOB-87 WARC FOR THE MOBILE SERVICES GENEVA. September-October 1987 INTERNATIONAL TELECOMMUNICATION UNION

Document 154-E 17 September 1987 Original: English

COMMITTEE 6

NOTE FROM THE CHAIRMAN OF COMMITTEE 6

At its second meeting, Committee 6 discussed Document 123 (Note from the Chairman of C4), and also had a general discussion on Article 50.

Delegations identified the following documents for consideration: DT/1A, 5 ARG, 16 CEPT, 24 USA, 25 CAN, 40 AUS, 51 ICAO, 57 B, 58 KEN, 60 J, 61 PRG, 76 TUN, 77 PHL, 86 CTI, 89 ALG, 98 CUB, 103 SEN, 106 F, and an additional USA document to be published.

The proposals and discussion can be summarized in the following categories:

- Α.
- The protection of route (R) usage to ensure the safety and regularity of flight in both the aeronautical mobile service and in the aeronautical mobile-satellite service.

There was general agreement that this was necessary and many administrations supported the addition of the aeronautical mobilesatellite (R) service in Regulation 3630.

Β. The need to respond to requirements for aeronautical public correspondence and the expectation that such requirements would be largely satisfied by satellite based systems.

> The preference of ICAO is for these requirements to be satisfied along with safety and regularity of flight requirements in a common integrated and probably automated system, and it is necessary to ensure that as traffic grows in both the public correspondence and safety and regularity of flight areas there should be priority afforded to the safety and regularity of flight requirements in the event of overall requirements exceeding traffic capability.

- The need to ensure that the regulations are unambiguous and that the С. special rules of Article 50 regarding (R) and (OR) usage make it clear how aeronautical public correspondence should be treated by administrations.
- D.

The proposal for restricted public correspondence provisions in the existing HF bands.

A number of delegations expressed concern at this proposal, notwithstanding that they were identified as allowing for existing practice to continue.

In accordance with the discussion of Committee 6 and the note from Committee 4, Working Group 6-B should now give urgency to the consideration of Article 50 and may also need to consider the provision of Article 51 regarding priority of communication at the same time.

> I.R. HUTCHINGS Chairman of Committee 6



INTERNATIONAL TELECOMMUNICATION UNION WOB-87 WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 155-E 18 September 1987 Original: English

COMMITTEES 4 AND 6

United States of America

Information Note

Spectrum Required for Aeronautical Safety-Related Communications Systems

This Note provides the United States views on the ICAO Information Paper, Document 51, Aeronautical Mobile Satellite (R) Spectrum Requirements.

The U.S.A. is vitally interested in the implementation of 1. AMSS(R) services worldwide, and has actively supported ICAO and others in their efforts to bring these systems into being. The U.S.A. provided the underlying material for the ICAO paper previously introduced into the CCIR on this subject (Special Meeting of CCIR Study Group 8, Document SP8/20). This earlier paper used U.S.A. data to estimate the largest spectrum requirement, and concluded that the entire AMSS(R) band would be required for aeronautical satellite safety communications.

The present ICAO views, as given in Document 51, have 2. limitations for use as a basis for making decisions concerning spectrum allocations. The U.S.A. formally disagreed with the ICAO FANS Committee conclusions with respect to sharing spectrum between the AMSS(R) and other mobile-satellite services at the third meeting of the FANS Committee.

The ICAO expressed in Document SP8/20 a number of 3. possibilities and not a plan for the introduction of actual systems. In particular, the manner in which satellite communications will ultimately be used has not been determined. Firm plans will come later as the costs and benefits of specific ATC and AOC services and operational factors become known. What is important for aeronautical safety-related services at this Conference is that sufficient spectrum be available for these systems when it is needed, as ICAO states in Document 51.

4. The ICAO now recognizes that a system which accommodates both safety and non-safety traffic could facilitate the implementation of satellite systems for aeronautical communications. According to ICAO, public correspondence communications would only be carried until the bands were fully required for the safety traffic. This raises the concern of how public correspondence will be provided, and the resulting revenue considerations, if public correspondence is displaced by safety communications. Further, it is essential to maintain the integrity of aeronautical safety communications and, therefore, public correspondence should not be allowed in the aeronautical mobile-satellite (R) service, even on an exceptional basis.

5. The amount of spectrum which may eventually be needed for aeronautical systems has not been determined, and cannot be predicted accurately, particularly a quarter century ahead. Until systems are actually in use, spectrum requirements will continue to be highly speculative, as implied in Section 2.3 of Document 51.

6. A number of assumptions need to be used to predict spectrum requirements. For example, one necessary assumption is an estimate of peak aircraft traffic. Recent growth trends reported in the U.S.A., and elsewhere, would support a significantly lower estimate for future peak traffic for the time period studied than those previously used. It is recognized that peak aircraft count is not the only parameter that needs to be considered. Other factors, such as future aeronautical information requirements, should also be taken into account. However, current technology will enable a significant increase in available capacity without any increase in available bandwidth. (See Section 4, Document 56.) A basic consideration is that the spectrum projections represent the peak requirements necessary only during a small part of the time, at a few geographical locations.

7. Most likely, satellite systems will supplement already well-developed terrestrial networks, rather than replace them. Thus, from a spectrum planning point of view, it is reasonable that some aeronautical communications will continue to be carried by terrestrial communications systems.

8. The facts above place spectrum managers in a difficult situation. The potential value of aeronautical satellite services is clear, but firm spectrum requirements are not known. Aeronautical safety communications satellite systems must, however, be able to access enough spectrum to fulfill their requirements. The U.S.A. administration is proposing to resolve this dilemma by providing aeronautical safety-related services in the MSS.

9. The advantages of implementing aeronautical safety-related communications services within the MSS include:

- Near-term use of valuable spectrum which would otherwise not be efficiently used for some time;
- An economic and technical base for developing high-capacity, highly spectrum-efficient satellite systems which will, in turn, lead to lower costs and better performance for aviation users.

forward by FANS. The FANS Committee has not developed any conclusions concerning the merits of "integrated aeronautical systems". The FANS Committee has not included consideration of sharing with public correspondence in its technical work, nor do the present terms of reference of ICAO include consideration of public correspondence. While aeronautical authorities must control AMSS(R) communications, public correspondence with aircraft need not be under the control of aviation authorities in order to ensure the integrity of AMSS(R) communications. Also, the relative value of public correspondence must be compared with other important MSS uses.

11. Aeronautical safety communications services spectrum requirements would be fully protected, worldwide, under the Radio Regulations proposed by the United States and other administrations. The U.S.A. proposal also includes additional spectrum for the MSS in bands now allocated to the maritime mobile-satellite service. This would allow aviation to continue efforts to implement critically needed systems, when required, with the assurance that their spectrum requirements would be fully protected --- without regard to the status of any other service. The U.S.A. is confident that the capacity of MSS will be increasing as the needs of aeronautical safety-related communications increase, so that preemption of other users will not occur.



NIDB-87 INTERINATIONAL TELECOMMENTS INTERNATIONAL TELECOMMUNICATION UNION

Document 156-E 18 September 1987 Original: English

COMMITTEE 4

United States of America

Information Paper

Mobile-Satellite Service Implementation and Institutional Considerations

Significant advances have been made in the field of satellite communications in recent years. In particular the development of low-cost digital devices now makes many new satellite services possible. The mobile-satellite service (mss), consisting of three subcategories, aeronautical, land, and maritime services, is now technically and economically ready for implementation. In this paper we discuss the need for an allocation to the mobile-satellite service, at this time, to bring the benefits of mobile communications to all parts of the world.

The U.S.A. proposals for the bands at 1.5/1.6 GHz are essential to permit and encourage the growth of mobile satellite communications. Actions in the CCIR, IMO and ICAO over the past two decades give significant impetus to the development of mobile communications via satellite. Both aeronautical and land mobile satellite communications are under advance study by INMARSAT and several Administrations. The realization of both of these service areas, however, requires the establishment of multi-user mobile satellite systems. These satellite systems would provide a variety of services tailored to meet the needs of specific service categories and local conditions.

An allocation for mss must be provided at this WARC for the proper development of any of the mobile satellite services. The U.S.A. proposal, if adopted now, will permit an orderly development of the mss and will assist in the near-term establishment of satellite systems for the aeronautical, land, and maritime mobile communities.

It is clear that shared satellite systems operating in a common frequency band offer attractive, and necessary, spectrum and economic efficiencies. There remains uncertainty, though, as to the future spectrum requirements for specific services. Satellite systems will, however, develop more and more capacity from the same spectrum as communications demands grow. Therefore, it is not appropriate to allocate frequency sub-bands for particular services. It is recognized that some services, particularly the aeronautical safety services, require assurances that they will not receive interference from other users of the bands and that all future safety needs can

For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked to bring their copies to the meeting since no others can be made available.

be fulfilled. A special priority for these types of services, within the mobile-satellite service allocation, needs to be ensured.

The U.S.A. proposal calls for expanded use of the current maritime mobile-satellite service allocations, insuring that the maritime communications will not be disrupted. Maritime safety requirements of the GMDSS will continue to be protected in the proposed allocation.

The U.S.A. has also considered a new type of communications, public correspondence with aircraft using satellites. The relative value of aeronautical public correspondence must be compared to other important mss uses. Further, it is essential to maintain the integrity of aeronautical safety communications and, therefore, public correspondence should not be allowed in the aeronautical mobile-satellite (R) service, even on an exceptional basis.

Description of the Mobile-Satellite Service

The U.S.A. envisions two types of mobile-satellite systems, both providing many of the same services but each having some distinct technical characteristics appropriate to its environment. The first type of system will handle high density domestic communications requirements; the other will predominately handle international mobile traffic and low density domestic needs. International mobile satellite networks will continue to accommodate traffic over wide areas with large satellite beams. Domestic markets can be served by international systems, regional systems or by domestic systems, depending on the circumstances. For high density domestic markets, mobile-satellite networks will have to be designed with small satellite beams to improve frequency re-use. International systems will be operated by commercial entities of many Administrations. The principal international network is expected to be INMARSAT.

The applications for which mobile-satellite service systems will be employed are mobile in nature. That is, communications will be established to mobile terminals. Thus, the mobile satellite services will not substitute for fixed satellite services. Mobile satellite services are supplementary to terrestrial mobile systems. Even though the U.S.A. has very well developed terrestrial networks for mobile communications, the mobile satellite services are expected to fill important additional needs. Some of the largest investors in U.S.A. mobile satellite systems also operate large terrestrial and cellular mobile radio systems. — 3 — MOB-87/156-Е

The Annex to this document describes in more detail the type of mobile-satellite service applications seen for aeronautical, land, and maritime applications.

The Development of Mobile-Satellite Technology

The development of mobile-satellite service systems has progressed since the early days of satellite communications systems. In 1974 the U.S.A. Applications Technology Satellite (ATS-6) demonstrated that large (9.1 meter) satellite antennas could be used to achieve the high downlink EIRP needed at 1.5/1.6 GHz to serve large numbers of mobile earth stations and that several beams could be generated with the same antenna structure. In the fixed satellite services, satellites are often constructed using multiple spot and shaped beams.

The U.S.A. MARISAT and ATS series of mobile satellite systems, as well as others, have been providing services since the 1970's. These systems have demonstrated the technical as well as economic feasibility of commercial mss systems. CCIR studies of the mobile-satellite service have been conducted over many years.

The U.S.A. has prepared several technical information papers describing various aspects of the U.S.A. and North American regional mobile-satellite systems now being developed.

Two articles in a recent ITU Telecommunication Journal (Vol. 54 - VII) describe several considerations for the maritime and aeronautical services which point to the need for more general mobile-satellite systems. One of these articles is by Olaf Lundberg, the Director General of INMARSAT, in which he states:

"The prospect of a burgeoning mss market presents both an opportunity and a challenge, particularly for those bodies charged with regulation of such services. The opportunity is to broaden the scope of mss with new services while bringing them to several new classes of users. The challenge is to serve all of these prospective users with the constraints of available frequency spectrum. Should we seize this opportunity and meet the associated challenge, by the end of the century mss will have enriched the world telecommunications landscape, particularly in the areas of aeronautical and land-mobile communication and radiodetermination satellite services (RDSS). In the year 2000, users will undoubtedly question how they ever managed without mss, just as we do now when reflecting on technologies like data processing, facsimile and even photocopying".

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A second article, written by J. Clark, a member of the INMARSAT Aeronautical Project Team, describes the difficulties faced by the aeronautical community in implementing a satellite system for aeronautical safety. This article recognizes that the approach now discussed by the aeronautical community is to share the satellite system between safety and non-safety services.

As these two ITU Journal articles point out, the technical and economic foundations for mobile-satellite systems are strong. Now that it is recognized that shared systems are not only feasible but economically required, and that they fully protect the critical safety communications, the use of satellites for aeronautical services is finally at hand.

INMARSAT Developments

The International Maritime Satellite Organization, INMARSAT already provides capacity for general mobile trial applications. The Standard C terminal will expand the scope and the number of mobile satellite service opportunities. Land mobile trials using Standard C terminals are now underway. A trial mobile satellite service is now being conducted for one-way data transmission to land vehicles (radio paging.) The ESA PROSAT land trials have also been underway now for some time using INMARSAT space segment. Other experimental projects using INMARSAT space segment for land mobile uses are now being planned by various Administrations.

INMARSAT trials and developmental work is even further advanced in the area of aeronautical services. INMARSAT is taking an active role in developing an approach to aeronautical services that allows common system elements to be used for many types of services. This will allow for economies to be gained by sharing facilities between aeronautical and maritime users while fully meeting their individual needs.

It was recognized by the International Conference on the Establishment of an International Maritime Satellite System, in 1975-1976, that joint service systems would be necessitated by economic and spectrum efficiency. (Recommendation 4, Relating to the Study on the Use by INMARSAT of Multi-Purpose Satellites.) It is clear that it is in INMARSAT's interest to pursue expansion of its markets in maritime, aeronautical and land mobile uses in order to capture economies in both the space segment and ground segments.

The U.S.A. Administration recognizes the need to ensure the continued viability of INMARSAT in its role of providing maritime and, in the future, aeronautical safety and public

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correspondence services on a worldwide basis and intends to make use of its facilities. However, some people have said that the spectrum available is not sufficient to accommodate multiple systems offering domestic as well as international systems. This view leads to a short-sighted approach to mobile-satellite development which will prevent the full realization of this service. Mobile-satellite needs worldwide cannot be met by a single system nor is it reasonable to limit land mobile services to those which can be offered by a system designed for worldwide coverage.

It is assumed that INMARSAT will continue to provide those services for which it was established and for which it is uniquely qualified to offer, that is, worldwide international maritime-mobile services and in the future, worldwide aeronautical and land mobile services. INMARSAT should be able to enhance its economic viability through offering services for uses outside the aeronautical (R) and maritime areas where these are feasible under the proposals the U.S.A. is making for mobile satellite.

U.S.A. Proposal for Spectrum for Mobile Satellite

The principal decision facing the Mobile WARC concerning mobile-satellite is to determine a suitable frequency allocation. The U.S.A. has extensively studied the needs of the three service catagories of the Mobile-Satellite Service and has concluded that the frequency bands 1530-1559 and 1631.5-1660 MHz would best be allocated to the general mobile-satellite service.

This conclusion is based on the following factors:

 The need for large scale investment in mobile-satellite services to provide adequate economic basis for slow-growing safety services;

2) The need to design satellite and terminal equipment in a way that meets the needs of many services to reduce costs and meet worldwide operational demands;

3) The need to aggregate services in order to spread development and operational costs among many kinds of users;

4) The need to develop large-scale systems in order to improve spectrum utilization; and

5) The need to protect certain mss uses such as aeronautical and maritime safety communications from future capacity shortages and interference. - 6 -MOB-87/156-E

Spectrum Requirements

Since the bands proposed for the mobile-satellite service by the U.S.A. are presently allocated to maritime and aeronautical satellite services, obviously there is concern that these services will "lose" spectrum. The U.S.A. proposal, in fact, retains these services in these bands and in the case of safety- related uses gives them priority in the allocation as well as operationally. In addition, however, the U.S.A. proposal, by encouraging greater investment in mobile satellite systems, will greatly increase the communications capacity and capability available to these services while reducing the effective cost of safety communications.

The requirements for satellite spectrum for the future aeronautical communication navigation and surveillance system have been reviewed by ICAO. It has been concluded by ICAO that the entire 28 MHz now allocated to the AMSS (R) service, and perhaps more, may be required by the year 2010 to accommodate peak demand. However, the rate of growth in aeronautical requirements is expected to be slow and technology improvements already in hand can be expected to provide increasing satellite capacity over the coming years. The ICAO FANS Committee, at its third meeting, also concluded that sharing spectrum aeronautical safety with non-safety communications was acceptable if certain conditions are met.

The U.S.A. proposal for implementing a mobile-satellite system, accommodates the growth of aeronautical requirements: a) over the longer term by providing priority access to the entire band when required; and b) operationally by requiring interoperability and real-time preemption of other uses when required; and c) by providing access to more system capacity on those occasions when the temporary demand warrants. This approach overcomes the need today to determine with certainty the actual future requirements for the aeronautical safety uses and the likely technology improvements 25 years hence.

Sharing with other services, under the conditions proposed by the U.S.A., allow for early and economical implementation of large-scale aeronautical services which is not possible if aeronautical services were provided only by dedicated facilities.

Some proposals have been made by other Administrations which would set-aside a certain amount of spectrum for only AMSS (R) functions. At this time there are no guarantees as to the amount of spectrum required for these functions in the absence of operational experience. A subband for the (R) services would have to be overly large to ensure sufficient spectrum under all circumstances but any spectrum not required for the AMSS (R) would then go unused. A better approach is provided by the U.S.A. proposal where some spectrum will be identified for AMSS (R) use, specifically the system control and access channels. These channels can be reserved for this purpose exclusively and their number can be increased as the need for them grows.

For maritime services, the situation is somewhat different in that the INMARSAT system today provides services to much of the international maritime community. It is expected that the demand for communications capacity by maritime will continue to grow modestly. It is recognized, though, that with the greater investment made possible by expanding the range of services, INMARSAT could provide sufficient capacity using less spectrum than is presently the case. The changes in present INMARSAT system technologies that this involves will, of course, take some years to accomplish. Therefore, the U.S.A. proposal changes the allocation of the maritime mobile satellite spectrum in 1997.

In the U.S.A., commercial entities are prepared to make the necessary sizeable economic investments in mobile-satellite systems space segment based on the U.S.A. allocation proposal, including the provision of aeronautical services for the U.S.A. The U.S.A. commercial entities are committed to support the sharing conditions required to protect aeronautical safety communications, and believe that these conditions are consistent with their commercial interests. They also believe that sufficient spectrum will be available in the future by implementing various technological improvements.

> Technology For Expanding the Capacity of Mobile-Satellite Systems

Several technology improvements are leading to increased capacity for mobile-satellite systems:

- Spot beam technology

Satellite spot beam technology, developed and implemented in the 1970s, is one of many available means for increasing mobile-satellite system and spectrum capacity. Given these present day technologies, it is clear that the communications capacity of the mobile-satellite service allocations could expand rapidly as the demand grows. By focussing the satellite transponder power, spot beams effectively increase the satellite transmission power. This capability is of particular importance because mobile earth stations necessarily have low gain antennas. Several spot beams are generated by the same satellite to achieve the necessary coverage. Beams that are sufficiently separated can independently re-use the same frequencies. The spectrum used by spot beams need not be divided evenly or permanently among the beams. Each beam can consequently supply the required capacity in its service area in proportion to the distribution of mobile earth stations.

- Use of narrower-bandwidth communications channels

U.S.A and other mobile-satellite systems are expected to use 5 kHz or less channel bandwidth for voice and data transmission, which is a several times improvement over currently deployed mobile and mobile-satellite systems. This is possible through the use of improved RF and digital technologies now becoming available.

- Use of digital data rather than voice for many applications

Most mobile-satellite requirements will be digital in nature allowing many more mobiles to communicate using the same number of channels than analog voice systems.

- Bandwidth management techniques

Mobile-satellite systems will be able to dynamically assign channels to different uses and areas, improving the overall efficiency of spectrum use.

These points are covered in greater detail in the U.S.A. Technical Information Papers that have been distributed.

> Economic and Operational Advantages of Mobile-Satellite Systems

The demand for new services offered under mss allocations should result in an appreciable increase in the number of systems users. Costs for the purchase, operation, and maintenance of satellites, network control and monitoring facilities, feeder link earth stations and interconnected terrestrial communications system will then be spread among more users. Cost to individual users should, then, clearly be less than for services from more limited systems.

Costs will be lower for mobile earth station equipment because of the increased production and sales of common hardware components. The cost of cellular land mobile radios, for example has fallen from US\$ 3 000 to less than US\$ 800 as the quantity sold has increased. The larger the combined market for mobile earth stations for all services should encourage technology development and accelerate the introduction of new and improved hardware at reduced cost.

New applications will become economical as a result of these cost reductions.

Having a large user base will also improve the services available in such aspects as backup and redundancy and in the development of system management features that will in themselves reduce costs and improve spectrum efficiency.

Conclusion

This paper has described the proposal being made for an allocation to mss at the 1987 WARC and has explained the reasons for an allocation to this service at this time. It has also discussed some of the important aspects of the proposal, such as the benefits that can be available immediately and economically by mobile-satellite systems, the protection of aeronautical and maritime safety communications now and in the future, adequacy of spectrum for the various services and likely technological developments and the role of international mobile-satellite systems.

While firm characteristics have not been determined for some aspects of mobile-satellite systems, the time has come for making an mss allocation. This is the usual case with most new service allocations. ITU recognition of the value of a service in the form of an allocation typically precedes the development of such systems. The ability to provide for future systems has always been a hallmark of the ITU, a fact for which we can all be justly proud. - 10 -MOB-87/156-E

ANNEX

Aeronautical Applications

In the ICAO FANS consideration of the needs for a satellitebased aeronautical safety system, the following four functional shortcomings in the present terrestrial air navigation system were highlighted:

- a) line-of-sight constraints;
- b) implementation problems;
- c) lack of air/ground data interchange systems; and
- d) lack of route flexibility and harmonized system developments.
 - (From FANS 3 Report, Agenda Item 2)

These functional shortcomings have resulted in the following unfulfilled needs for air navigation for civil aviation:

- a) inadequate long-range communication
- b) lack of surveillance information from much of the airspace over oceans and certain land areas;
- c) inadequate ATC system capabilities inhibiting optimum use of the airspace and landing areas;
- d) lack of instrument approach capability to many airports and other landing areas; and
- e) lack of low altitude communications, navigation and surveillance (CNS) in most parts of the world. (From FANS 3 Report, Agenda Item 4)

The FANS Committee concluded that the use of the future communications navigation and surveillance systems including satellite based systems will greatly facilitate air traffic management and benefit user operations. The implementation of efficient air-ground data links along with the continuous improvement of ground-based data processing systems, including systems to display air-derived data to the controller will permit the ATC system to be more responsive to the user needs. The air traffic management system will be capable of automatically generating and transmitting conflict-free clearances and of rapidly adapting to changing traffic conditions. Generally speaking, closer interaction will exist between the ground system and the airspace users before and during the flight, permitting a more flexible and efficient use of the airspace. Communications services envisioned include safety-related communications carried-out by air traffic services (ATS), aeronautical operational control communications carried out by aircraft operators, which also affect air transport safety, regularity and efficiency, and non-safety services such as aeronautical administrative communications and public correspondence.

(From FANS 3 Report, Agenda Item 5)

Institutional and Management Aspects of the Future International Air Navigation Systems

The FANS Committee has concluded that the principles below should be applied to the organization and management of international aviation satellite communications and surveillance systems. The U.S.A. has participated in ICAO's deliberations to ensure that its proposed mobile-satellite systems will fully meet the needs of the aeronautical safety service.

A) ICAO is the only appropriate body to establish technical standards for international aeronautical communications and surveillance services...

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B) States will continue to authorize communications and surveillance services in the airspace for which they are responsible. Such authorization must ensure that the system and services are safe and conform to applicable standards;

C) arrangements for satellite communications and surveillance services should provide for:

- oversight by States of the entities responsible for the day-to-day operations to ensure: the safety, availability and continuity of the provision of the required service and facilities; and reasonable pricing of services for all categories of users with safeguards available to keep operating service prices and costs within acceptable limits;
- appropriate arrangement for the establishment of liabilities;
- the capability of States to control all air operations within airspace for which they are responsible;
- 4) the responsible ATS authority for designated control area must have the opportunity of exercising control over the ATS information exchanges in that area;
- 5) arrangements to ensure adequate State and other user participation in the planning and determination of levels of service to be provided;

D) services must be accessible to all users without discrimination;

E) service providers must a least comply with ICAO minimum standards of performance for data and voice communications used to provide safety service; and

F) equitable attribution and distribution of cost of joint arrangements among participating States and users. (From FANS 3 Report Agenda Item 6)

The U.S.A. proposals for mss fully accommodate the needs of aeronautical safety services as expressed by ICAO and national authorities.
Land and General Mobile Satellite Uses

The mobile-satellite service will extend or augment existing and planned domestic terrestrial mobile systems for many services. This is accomplished by the satellites's 36 000 km height advantage over terrestrial relay towers. The "lines-of-sight" of terrestrial towers range from only a few kilometers to no more than 65 km for typical land mobile services. Any one satellite, however, can provide coverage up to one third of the earth's surface. This allows low cost, two-way communications to be provided to areas previously considered impractical or impossible to cover because of their location, terrain, weather or demography. Mobile communications for rural or underserved areas of the world can be dramatically improved with the availability of mss.

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The number of users that are expected to make use of mss means that small, simple and affordable equipment can be made available. It is anticipated that the cost of the mss service and hardware will be comparable to existing terrestrial services and hardware. The mobile terminals may be located on land vehicles and watercraft. Some of the possible mss and services are listed below.

Government Communications

-There are many local, regional and national government needs that would greatly benefit from mobile satellite communications. These include public safety, such as: fire protection, highway and water safety, recreation-area security, protection of wilderness and nature reserves, and search and rescue.

Rural Health Care

-Communications at rural health care facilities is often inadequate despite its demonstrated value. More reliable and available mobile communications for rural health care delivery could improve the distribution of supplies, deployment of personnel, patient information, follow-on care information and so on.

Disaster Assessment and Relief

-During and after natural and man-made disasters communications dependent on terrestrial facilities is often unavailable. Only mss systems can provide communications which operate despite outages, or blockages of terrestrial systems due to earthquakes, floods or saturated phone systems. The benefits of mss systems for disaster communications have been demonstrated by their use at earthquake, volcanic eruption, tornado, flood and tidal wave disaster sites.

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Emergency Medical

-Mss will reduce, significantly, response time to medical emergencies;

-Nearly 40 percent of the 25,000 daily emergency medical emergencies in the U.S. occur in rural, wilderness or isolated areas. The probability of survival of the victims is directly affected by the immediate availability of dependable, all weather, communications; and

-Five years of experiments using ATS-6 in the U.S.A. demonstrated the high value and cost effectiveness of mobile communications via satellite for emergency notification, vehicle dispatch, and two-way voice and medical telemetry between the emergency site or mobile rescue unit and hospital physicians.

Transportation and Commerce

-Mss can assist in solving the safety and security concerns of hazardous material transfer, pilferage and hijacking;

-Oil and gas production facilities, mineral exploration sites, electric power generation can be monitored and in some cases managed by using two-way communications links;

-Mss systems will help manage routing scheduling, manifesting and safety of long-distance trucking, bus and rail operations; and

-Maintenance of primary infra-structure (roads, railroads, power distribution) will be aided by two way communications to remote geographical areas

Maritime Mobile Applications

INMARSAT today provides a variety of services to the international maritime community including:

-distress and safety alerting -safety communications -navigation warnings -telex services -radio-telephone -high speed data communications

These services provide greater safety to mariners and efficiency of operations of the international maritime fleets, and provide communications for passengers that cannot be provided by other means. The U.S.A. mss system planning does not envision that U.S.A. mss systems will provide these types of services.

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA. September-October 1987

Document 157-E 21 September 1987 Original: English

COMMITTEE 2

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 2

(CREDENTIALS)

Thursday, 17 September 1987, at 1000 hrs

Chairman: Mr. V.A. RASAMIMANANA (Madagascar)

Subjects discussed:

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1. Terms of reference of the Committee

2. Organization of the Committee's work

For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked to bring their copies to the meeting since no others can be made available. -

Documents.

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1. Terms of reference of the Committee (Document 102)

The Committee noted the terms of reference set out in Document 102.

2. Organization of the Committee's work

2.1 The <u>Chairman</u>, having pointed out that the report of Committee 2 to the Plenary was to be submitted by Tuesday, 13 October 1987, suggested that the Committee should set up a small Working Group under his chairmanship to examine the credentials received by the Secretary and to submit a report on its findings to the Committee.

The Committee <u>decided</u> to establish a Working Group, which would consist of the Chairman and the Vice-Chairman and delegates of the United Kingdom, Poland and Canada and would hold its first meeting early in the following week.

The meeting rose at 1010 hours.

The Secretary:

The Chairman:

R. MACHERET

V.A. RASAMIMANANA

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 158-E 22 September 1987 Original: English

COMMITTEE 3

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 3

(BUDGET CONTROL)

Thursday, 17 September 1987, at 0900 hrs

Chairman: Dr. M.K. RAO (India)

Subjects discussed: 1. Organization of the work of Committee 3		Documents
1.	Organization of the work of Committee 3	99
2.	Terms of reference and facilities available to delegates	102
3.	Financial responsibilities of administrative conferences	73
4.	Budget of the Conference	71
5.	Contributions of recognized private operating agencies and non-exempt international organizations	72, 87

1. Organization of the work of Committee 3 (Document 99)

1.1 The <u>Chairman</u> drew attention to Document 99, which listed documents attributed to Committee 3.

The Committee noted the documents listed.

2. <u>Terms of reference and facilities available to delegates</u> (Document 102)

2.1 The <u>Chairman</u> drew attention to the terms of reference of the Committee contained in Document 102 and established in accordance with the provisions of the Convention.

The Committee noted the terms of reference.

3. Financial responsibilities of Administrative Conferences (Document 73)

3.1 The <u>Chairman</u> drew attention to the financial responsibilities of administrative conferences as set out in Document 73.

As was customary, he would write to the Chairman of the other Committees as well as to the Secretary-General requesting them to take note of Resolution No. 48 and to inform Committee 3 at regular intervals of any decisions likely to have financial implications so as to enable it to consider those implications as and when the relevant decisions were taken.

Document 73 was <u>noted</u> and the procedure proposed by the Chairman approved.

4. Budget of the Conference (Document 71)

4.1 The <u>Chairman</u> drew attention to the budget of the Conference as set out in Document 71.

The Committee took note of the contents of Document 71.

5. <u>Contributions of recognized private operating agencies and non-exempt</u> International Organizations (Documents 72 and 87)

5.1 The <u>Chairman</u>, introducing Document 72, drew attention to the fact that the contributory unit for recognized private operating agencies and non-exempt international organizations attending the present Conference would be 8,680 Swiss francs.

5.2 The <u>Secretary</u>, in reply to a question from the <u>delegate of Japan</u> who asked whether any recognized private operating agencies and non-exempt international organizations were expected to attend the Conference, said that of the international organizations as listed in Document 87, six were not exempt from contributing to the costs. Those organizations would be asked how many contributory units they were prepared to pay and a list of contributors together with the number of units chosen would appear in a draft report by Committee 3 to the Plenary. No recognized private operating agencies had yet requested admission to the Conference; should any do so, they too would be asked how many contributory units they were prepared to pay.

The Committeee took note of Document 72.

The meeting rose at 0915 hours.

The Secretary:

The Chairman:

R. PRELAZ

M.K. RAO

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA. September-October 1987

Document 159-E 21 September 1987 Original: English

COMMITTEE 7

SUMMARY RECORD

OF THE

FIRST MEETING OF COMMITTEE 7

(EDITORIAL)

Thursday, 17 September 1987, at 1100 hrs.

Chairman : Mr. Y.C. MONGELARD (France)

Subjects discussed:		Document	
1.	Terms of reference of the Committee	102	
2.	Organization of work	-	

1. Terms of reference of the Committee

1.1 The <u>Chairman</u> drew attention to the terms of reference of Committee 7 as set out in Nos. 472, 473 and 474 of the International Telecommunication Convention (Nairobi, 1982).

The Committee noted the terms of reference.

2. Organization of work

2.1 The <u>Secretary</u> requested the delegations present to hand in the names and pigeon hole numbers of the delegates who would be participating in the work of the Committee. It was expected that two Editorial Groups would need to be formed to work simultaneously in order to handle the large number of texts expected.

(For a complete list of participants in the work of the Drafting Groups and their pigeon hole numbers see the annex hereto.)

In reply to a request for clarification from the <u>delegate of the</u> <u>United Kingdom</u>, he said that texts produced by the Technical Working Group of the Plenary would be transmitted to Committee 7 before going to the Plenary.

The meeting rose at 1115 hours.

The Secretary:

The Chairman:

P. A. TRAUB

Y. C. MONGELARD

Annex: List of members

COMMISSION DE REDACTION - CAMR MOB-87

SALLE XI (Niveau J) Tf 99 51 82

Président :	M. Y.C. MONGELARD (France) Bureau J134 - Tf 99 58 98	535
N" D (1) (
Vice-Presidents	: M. M. GODDARD (Royaume-Uni)	1
	M. J.A. PRIETO IEJEIRO (Espagne)	623
Membres :	M. CRUMP Cecil (Etats-Unis)	244
	M. GERGELY Tomas (Etat-Unis)	220
	M. RAISH Leonard (Etats-Unis)	216
	M. ATTANASIO Bernard (France) (du 5 - 16/10)	508
	M. CHENEVEZ Philippe (France) (du 12 - 16/10)	514
	M. GAUDRON François (France) (jusqu'au 25/9)	521
	M. LEDROIT Guy (France)	528
	(du 12 - 16/10)	
	M. LEMAITRE Michel (France)	501
	M. MAGNIN Georges (France)	533
	(dès le 28/9)	
	M. PIPONNIER Jean (France)	537
	M. THIBLET Gérard (France)	547
	(du 5 -16/10)	
	Dr, SHARAFAT Ahmad (Iran - République islamique d')	382
	M. CORBETT Michael (Royaume-Uni)	7
	Dr. MARSHALL Alan (Royaume-Uni)	18
	(dès le 21/9)	
	M. MOORE David (Royaume-Uni)	20
Secrétaire :	M. PA. TRAUB	2069
	Bureau J132 - Tf 99 56 96	
	Bureau T1004 - Tf 99 52 21	
assisté de :	Mile J. COLLET	2070
	Mlle C. BRUNET	2071
	Bureau J133 - Tf 99 55 20	

INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Corrigendum 1 to Document 160-E 5 October 1987 Original: English

COMMITTEE 6

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMITTEE 6

(MOBILE AND RADIODETERMINATION SERVICES -EXCEPT DISTRESS AND SAFETY)

1. Paragraph 2.2

Amend the first sentence as follows:

"The delegate of the Federal Republic of Germany, introducing Document 16 on behalf of the 15 co-signing Administrations, said that .. ".

2. Paragraph 2.22

Replace by the following:

"The delegate of Brazil said that proposal B/57/185, MOD 3630, proposed the addition of the aeronautical mobile-satellite (R) service, which it was felt should be encompassed by the aeronautical mobile-satellite service. With regard to RR 3633, it had been impossible to agree on what to propose due to the confusion caused by the fact that the provision did not explicitly mention the (R) service - a point to which his Delegation wished to draw attention."

Paragraph 2.24

3.

Amend the final sentence to read:

"His Delegation could not agree with the French Delegation's proposals to add public correspondence services to the HF band."

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Document 160-E 21 September 1987 Original: English

COMMITTEE 6

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMMITTEE 6

(MOBILE AND RADIODETERMINATION SERVICES

- EXCEPT DISTRESS AND SAFETY)

Thursday, 17 September 1987, at 0900 hrs

Chairman: Mr. I.R. HUTCHINGS (New Zealand)

Subjects discussed:

Documents

Note from the Chairman of Committee 4 1.

123

General discussion on Article 50 2.

DT/1A + Add.15,16,24,25,40,51, 57,58,60,61,76, 77,86,89,98,103,106 - 2 -MOB-87/160-E

1. Note from the Chairman of Committee 4 (Document 123)

1.1 The <u>Chairman</u> drew the attention of participants to the note from the Chairman of Committee 4 requesting Committee 6 to give an early consideration to the issue of public correspondence in the aeronautical mobile/aeronautical mobile-satellite service. He requested to refer the note to the Chairman of Working Group 6-B. It was so agreed.

2. <u>General discussion on Article 50</u> (Documents DT/1A + Add.1, 5, 16, 24, 25, 40, 51, 57, 58, 60, 61, 76, 77, 86, 89, 98, 103, 106)

2.1 The <u>Chairman</u> called on participants to base their comments on the existing provisions of the Radio Regulations on Article 50, rather than trying to anticipate decisions by other Committees. He noted that the existing Article 50 referred only to the aeronautical mobile service and did not mention the aeronautical mobile-satellite service.

2.2 The <u>delegate of the Federal Republic of Germany</u>, introducing Document 16, said that it had two main objectives with respect to Article 50: to include the aeronautical mobile-satellite service, and to provide limited public correspondence in the 1 545 - 1 559 MHz and 1 646.5 - 1 660.5 MHz bands. He stressed that with due reference to the order of priority set out in Article 51 the proposed amendments would not adversely affect communications related to safety.

2.3 The <u>delegate of Kenya</u>, introducing Document 58, stated that Kenya supported the retention of existing No. 3633 which did not permit public correspondence in the exclusively allocated frequency bands. However, he agreed with the previous speaker that Article 50 should be extended to cover the aeronautical mobile-satellite service.

2.4 The <u>delegate of Senegal</u> drew attention to Document 103 which stated that it was essential to retain No. 3633 prohibiting public correspondence in frequency bands allocated exclusively to the aeronautical mobile (R) service.

2.5 The <u>delegate of Cuba</u> agreed with the proposal to include the aeronautical mobile-satellite service in Article 50, but opposed the use of exclusive frequency bands for public correspondence. Recognizing that frequencies would be discussed in Committee 4, he stressed that public correspondence should be kept outside the exclusive bands.

2.6 The <u>delegate of Paraguay</u> referred to Document 61 which stated that No. 3633 should remain as it stood. He felt that the proposal to include the aeronautical mobile-satellite service merited further consideration.

2.7 The <u>Chairman of the IFRB</u>, recalling that No. 3633 did not mention the aeronautical mobile-satellite service, drew the attention of the Committee to No. 3363 in Article 42A, in the light of which the Board had interpreted Article 50 to include the aeronautical mobile-satellite service and therefore to prohibit public correspondence in the exclusively allocated frequency bands. He noted that No. 3363 thus gave a different interpretation to the question of the use of the aeronautical mobile-satellite service for public correspondence purposes. 2.8 The <u>delegate of the United States of America</u> drew attention to Document 24 which proposed that No. 3633 remain unchanged. The aeronautical mobile-satellite service had deliberately not been included. While not wishing to discuss the IFRB's interpretation, he said that No. 3363 should be deleted.

2.9 The <u>delegate of the USSR</u> supported the inclusion of the aeronautical mobile-satellite service in No. 3633 which, in his opinion, followed from No. 3363. He opposed the use of exclusive frequency bands for public correspondence since it would interfere with communications to ensure safe and regular operation of aircraft.

2.10 The <u>delegate of Argentina</u> said that No. 3633 should remain as it stood in order to ensure safe and regular operation of aircraft. Any proposal to change that provision would have to be evaluated on the basis of statistics which were not available to the Committee.

2.11 The <u>Chairman</u> said that there appeared to be consensus that public correspondence should not be permitted in the frequency bands allocated exclusively to the aeronautical mobile service.

It was so agreed.

2.12 The <u>delegate of Japan</u> drew attention to the proposals contained in Document 60 for the modification of Nos. 3630 and 3633. While communications to ensure safe and regular operation of aircraft were of vital importance, the growing demand for public correspondence had to be recognized. The proposal of Japan sought to meet both those concerns by forbidding public correspondence in the HF and VHF bands, and by ensuring priority for communications related to safety and regularity of flight in other bands.

2.13 The <u>delegate of Australia</u> said that public correspondence should not be permitted in the frequency bands allocated exclusively to the aeronautical mobile service or the aeronautical mobile-satellite service. Noting the provisions of Nos. 3363 and 3630, he stated that both services should be qualified as (R) in No. 3633.

2.14 The <u>delegate of Sweden</u>, speaking in support of the proposals contained in Document 16, stressed that public correspondence should in no way interfere with the work of air traffic controllers. There was a demand for public correspondence which could be met while ensuring, by technical and operational means, that air traffic communications always had absolute priority. He noted that No. 3363 was provisional pending the revision of Chapter X.

2.15 The <u>delegate of Canada</u> said that reference to the aeronautical mobile-satellite service should be made consistently throughout Chapter X, where appropriate. Regarding No. 3633, he considered that public correspondence should not be permitted in exclusively allocated bands.

2.16 The <u>delegate of Burkina Faso</u> agreed that public correspondence should not be permitted in the frequency bands allocated exclusively to the aeronautical mobile service or the aeronautical mobile-satellite service. He considered that other frequency bands could be made available for public correspondence, on the understanding that distress or safety communications would have also priority in such bands. - 4 -MOB-87/160-E

2.17 The <u>delegate of France</u> pointed out that Document 16 only proposed that public correspondence be permitted in certain bands. He drew attention to Document 106 which proposed that administrations might permit restricted public correspondence on "WORLDWIDE" frequencies, with restrictions being applied by aircraft operators or administrations responsible for land stations and by the aircraft captain or crew. Those proposals were designed to regularize current practice. There was scope for allowing public correspondence without jeopardizing flight security and regularity.

2.18 The <u>delegate of the USSR</u> disagreed with the delegate of France. The proposals put forward by France were in contradiction to the decisions of the previous WARC and with the views of ICAO as set out in Document 51. It was unacceptable to place on aircraft captains or crews the responsibility of applying restrictions on public correspondence. He supported the remarks made by the delegates of Canada and Cuba. The full spectrum would soon be needed, and the Radio Regulations should not be drafted to allow for public correspondence which it would soon prove impossible to accommodate.

2.19 The delegate of the United Kingdom said that although safety remained the main concern of all, a response must be made to changing requirements, as had been done to a limited extent during MOB-83 when Article 42A had been introduced as an interim measure. The very least the Conference could do in respect of Article 50 was to review RR 3630 and 3631, inserting appropriate references to the use of satellite techniques, as reflected in Document 16; the interim provisions in Article 42A relating to RR 3363 could then be abandoned. His Administration, and doubtless others. were being constantly pressed by airline operators to provide public correspondence facilities and were obliged to respond within the limits of safety requirements. The exclusion clause in 3633 as it stood would go too far. Operators naturally wished to use a single frequency for routing and APC purposes. Therefore, without discussing the frequency bands themselves - a matter for Committee 4 - Committee 6 ought to consider some specific reference within the exemptions of RR 3633, to bands in which APC might operate. For that reason, his Administration fully supported the proposals in Document 16.

2.20 The delegate of the United States of America pointed out that Document 24, submitted by his Delegation, also contained a proposal relating to RR 3630 in its extension to the aeronautical mobile-satellite (R) service. He felt strongly that (R) services should be restricted to safety and regularity of flight; public correspondence services should not be provided within the (R) service but through other means which the current Conference would be addressing. His Delegation also shared the concern expressed by some previous speakers with regard to the French Delegation's proposals put forward in Document 106. It would also be introducing a further document which it assumed could be discussed, when available, within Working Group 6-B.

2.21 The <u>delegate of the Federal Republic of Germany</u> said that, as the delegate of the USSR had rightly noted, ICAO's FANS Committee had agreed that public correspondence could be viewed only on an interim basis in an integrated system, and the question was what would happen if the entire spectrum should be needed for APC purposes. In that connection, the sponsors of Document 16 had also proposed, in a separate document, the holding of an allocation conference in the early 1990s to consider needs of mobile and mobile-satellite services in general in the context of allocation pursuant to Article 8. Presumably, therefore, the question of rising demand could be addressed in the near future. It was also important not to overlook those - 5 -MOB-87/160-Е

delegations that had proposed allocation amendments aimed at a general mobile service allocation, so as to allow public correspondence use, instead of exclusive use by the aeronautical mobile (R) service. His Delegation did not wish to change Article 8; it therefore felt that due consideration should be given to the safety aspects of the aeronautical mobile service and APC services, and that it was indeed possible to share the 1.5 - 1.6 GHz range for public correspondence purposes.

2.22 The <u>delegate of Brazil</u> said that proposal B/57/185, MOD 3630, proposed the addition of the aeronautical mobile-satellite (R) service, which it was felt should encompass the aeronautical mobile-satellite service too. With regard to RR 3633, it had been impossible to agree on what to propose due to the confusion caused by the fact that the provision did not include the (R) service - a point to which his Delegation wished to draw attention.

2.23 The <u>Chairman</u> said that he too had wondered about the intention behind that text; nevertheless the Committee must try to clarify matters in order to assist the IFRB in determining the application of the Regulations.

2.24 The <u>delegate of China</u> said that with regard to No. 3630, his Delegation hoped that the aeronautical mobile-satellite service could be added. In the meantime, with regard to 3633, it agreed that the aeronautical mobile-satellite (R) service should be added. His Delegation could also agree with the French Delegation's proposals to add public correspondence services to the HF band.

2.25 The <u>representative of ICAO</u> said that Document 51 set forth his organization's position and it contained a number of matters which called for attention. ICAO essentially recognized that use of the bands in question would build up gradually and that the bands would not be utilized immediately by safety services. As some speakers had noted, however, aviation administrations and aircraft operators preferred a single-frequency plan for their aircraft, so as to provide all the requisite satellite services. Therefore, the most logical step seemed to be a single system for safety and public correspondence purposes whose use and priority allocation would be controlled by a single authority, the capacity for public correspondence demand being diminished as safety demand rose. Document 51 identified all the various points and the reasons why administrations, through ICAO, had voiced concern about absolute priority for safety functions.

2.26 The Chairman, summing up the discussion, said that there was a clear concern to protect safety and regularity of flight; the Brazilian Delegation had raised the question whether the (R) service as set forth in RR 3630 was the sole vehicle for safety and regularity and, if so, how public correspondence fitted into the aeronautical mobile service as set out in RR 3633, bearing in mind the key concern of safety in flight. Most administrations desired a clarification of Article 50 by the addition, where appropriate, of the aeronautical mobile-satellite service, so as to assist the IFRB in the Article's application. Some administrations sought to respond to pressure on them due to increased demand for public correspondence. It seemed generally accepted that public correspondence would in future be provided by satellite rather than terrestrial facilities; therefore, Committee 6 would have to bear such allocations in mind. The ICAO had pointed to the difficulties which a multiplicity of systems would cause to aviation administrations and aircraft operators, and thus to the aeronautical community's preference for an integrated system; the latter, according to ICAO, might be a key to dealing with the issue. Article 51, which dealt with order of priority of communications in the aeronautical

- 6 -MOB-87/160-E

mobile and aeronautical mobile-satellite services, had initially been drafted when communication systems were largely manual; in view of increasing integration and automation, communication priority could be dealt with automatically, as laid down in Article 51. Since, as shown in Document 51, demand relating to public correspondence and safety was unequal and growing, some means of accommodation could be found within the usable traffic capacity, in a dynamic system which recognized that one service had priority over another. He hoped that Working Group 6-B would continue to discuss the topics in detail and report back as soon as possible to the Committee in response to the request by the Chairman of Committee 4. He also requested the Working Group to consider the matters in conjunction with Article 51. In response to a request by the <u>Chairman of Working Group 6-B</u>, he said that he would have his summary issued as a document, as a matter of urgency, for the Working Group's attention.

The meeting rose at 1025 hours.

The Secretary:

The Chairman:

S. CHALLO

I.R. HUTCHINGS

NOB-87 WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987 INTERNATIONAL TELECOMMUNICATION UNION

Document 161(Rev.1)-E 21 September 1987 Original: English

Source: DT/1B DT/11 DL/8

COMMITTEE 5

FIRST REPORT BY WORKING GROUP 5-A TO COMMITTEE 5

Working Group 5-A has held three meetings (15, 16 and 1. 17 September 1987).

2 The Working Group approved the title of Chapter N IX and Article N 37 (provisions N 2929-N 2943 inclusive) as contained in the annex.

The question of a reference to IMO's role in the development of the GMDSS is referred to in Committee 5.

Advice is requested from Committee 5 on whether to retain a reference 4. to Nos. 347 and 348 or one to N 2932 - 2934 in N 2930, N 2931A and N 2942.

5 N 2932, N 2933 and N 2934 are kept in square brackets pending directives from Committee 5.

6. With respect to N 2934A a majority was in favour of the text in DT/1B. However, three administrations preferred placing the provision in square brackets and seeking advice, through the Chairman of Committee 5, from the other competent committees.

7. With respect to N 2939, the Editorial Committee is requested to note the new location of the provision.

8. With respect to N 2942, a compromise was reached that the text as contained in DT/1B would be retained but that in Article N 38 the use of frequencies would be specified.

A Drafting Group with the representative of Japan as convenor and 9. including representatives from the Federal Republic of Germany (for CEPT), Spain, Canada and Brazil, was established to draft a text for N 2943. The text submitted by the Group (DL/8) was approved with the exception of the latter half which is referred to Committee 5.

> U. HAMMERSCHMIDT Chairman of Working Group 5-A

Annex: 1

- 2 -MOB-87/161(Rev.)-E

ANNEX

CHAPTER N IX

- ADD Distress and Safety Communications¹ for the GMDSS 1 For the purpose of this Chapter, distress and safety communications include distress, urgency and safety calls and messages. ADD ARTICLE N 37 ADD General Provisions
- ADD N 2929 This Chapter contains the provisions for the operational use of the Global Maritime Distress and Safety System (GMDSS).
- ADD N 2930 The provisions specified in this Chapter are obligatory (see Resolution No. A) in the maritime mobile service for all stations using the frequencies and techniques prescribed for the functions set out herein. [(See also No. N 2939.)] Certain provisions of this Chapter are also applicable to the aeronautical mobile service except in the case of special arrangements between the governments concerned. However, stations of the maritime mobile service, when additionally fitted with equipment used by stations operating in conformity with the provisions specified in Chapter IX, shall, when using that equipment, comply with the appropriate provisions of that Chapter. [See Nos. 347 and 348.]
- ADD N 2931 The procedure specified in this Chapter is obligatory in the maritime mobile-satellite service and for communications between stations on board aircraft and stations of the maritime mobile-satellite service, where this service or stations of this service are specifically mentioned.
- ADD N 2939 The International Convention for the Safety of Life at Sea prescribes which ships and which of their survival craft shall be provided with radio equipment and which ships shall carry portable radio equipment for use in survival craft. It also prescribes the requirements which shall be complied with by such equipment.
- ADD N 2931A Stations of the land mobile service <u>in uninhabited and</u> remote areas may, for distress and safety purposes, avail themselves of the frequencies provided for <u>in this Chapter</u>. [(See No. 347)]

- 3 -MOB-87/161(Rev.)-E

The procedure specified in this Chapter is obligatory ADD N 2931B for stations of the land mobile service when they use frequencies provided in these Regulations for communications for distress and safety. CEPT-8/15/81 ADD N 2932 No provision of these Regulations prevents the use by a mobile station or a mobile earth station in distress of any means at its disposal to attract attention, make known its position, and obtain help. CEPT-8/15/82 ADD N 2933 No provision of these Regulations prevents the use by stations on board aircraft or ships engaged in search and rescue operations, in exceptional circumstances, of any means at their disposal to assist a mobile station or a mobile earth station in distress. CEPT-8/15/83 ADD N 2934 No provision of these Regulations prevents the use by a land station or coast earth station, in exceptional circumstances, of any means at its disposal to assist a mobile station or a mobile earth station in distress (see also No. 959). ADD N 2934A When special circumstances make it indispensable to do so, an administration may, as an exception to the methods of working provided for by these Regulations, authorize ship earth station installations located at Rescue Coordination Centres¹ to communicate with other stations using bands allocated to the maritime mobile-satellite service, for distress and safety purposes. ADD N 2934A.1 ¹ The term "Rescue Coordination Centre" as defined in the International Convention on Maritime Search and Rescue, 1979, refers to a unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region. ADD N 2935 Transmissions by radiotelephony shall be made slowly and distinctly, each word being clearly pronounced to facilitate transcription. Distress, urgency and safety transmissions may also ADD N 2937A be made, using Morse telegraphy and radiotelephony techniques, in

accordance with the provisions of Chapter IX and relevant CCIR Recommendations.

ADD N 2938 The abbreviations and signals of Appendix 14 and the Phonetic Alphabet and Figure Code in Appendix 24 should be used where applicable¹.

> 1 The use of the Standard Marine Navagational Vocabulary and, where language difficulties exist, the International Code of Signals, both published by the International Maritime Organization (IMO), is also recommended.

- ADD N 2942 Mobile stations¹ of the maritime mobile service may communicate, for safety purposes, with stations of the aeronautical mobile service. Such communications shall normally be made on the frequencies authorized, and under the conditions specified, in Section I of Article N 38 [(see also No. N 2932).] [(See also Nos. 347 and 348).]
- ADD N 2942.1 ¹ Mobile stations communicating with the stations of the aeronautical mobile (R) service in bands allocated to the aeronautical mobile (R) service shall conform to the provisions of the Regulations which relate to that service and as appropriate any special arrangements between the governments concerned by which the aeronautical mobile (R) service is regulated.
- ADD N 2942A Mobile stations of the aeronautical mobile service may communicate, for distress and safety purposes, with stations of the maritime mobile service in conformity with the provisions of this Chapter.
- ADD N 2943 Any aircraft required by national or international regulations to communicate for distress, urgency or safety purposes with stations of the maritime mobile service that comply with the provisions of this Chapter, shall be capable of transmitting and receiving class J3E emissions when using the carrier frequency 2 182 kHz, or class J3E emissions when using the carrier frequency [4 125 kHz], or class G3E emissions when using the frequency 156.8 MHz and optionally 156.3 MHz.

Note - Consideration of the following text is referred to Committee 5:

However, until the full implementation of the GMDSS [(see Resolution No. A)] these aircraft stations <u>shall</u> also be capable of transmitting and receiving class H3E emissions when using the carrier frequency 2 182 kHz.

INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 161-E 18 September 1987 Original: English

COMMITTEE 5

Source: DT/1B DT/11 DL/8

FIRST REPORT BY WORKING GROUP 5-A TO COMMITTEE 5

Working Group 5-A has held three meetings (15, 16 and 17 September 1987).

The Working Group approved the title of Chapter N IX and Article N 37 2. (provisions N 2929-N 2943 inclusive) as contained in the annex.

3. The question of a reference to IMO's role in the development of the GMDSS is referred to in Committee 5.

Advice is requested from Committee 5 on whether to retain a reference 4. to Nos. 347 and 348 or one to N 2939 in N 2930, N 2931A and N 2942.

N 2932, N 2933 and N 2934 are kept in square brackets pending 5. directives from Committee 5.

6. With respect to N 2934A a majority was in favour of the text in DT/1B. However, three administrations preferred placing the provision in square brackets and seeking advice, through the Chairman of Committee 5, from the other competent committees.

With respect to N 2939, the Editorial Committee is requested to note 7. the new location of the provision.

8. With respect to N 2942, a compromise was reached that the text as contained in DT/1B would be retained but that in Article N 38 the use of frequencies would be specified.

9. A Drafting Group with the representative of Japan as convenor and including representatives from the Federal Republic of Germany (for CEPT), Spain, Canada and Brazil, was established to draft a text for N 2943. The text submitted by the Group (DL/8) was approved with the exception of the latter half which is referred to Committee 5.

> U. HAMMERSCHMIDT Chairman of Working Group 5-A

Annex: 1

- 2 -MOB-87/161-E

ANNEX

CHAPTER N IX

Distress and Safety Communications¹ for the GMDSS ADD

> For the purpose of this Chapter, distress and 1 safety communications include distress, urgency and safety calls and messages.

- ADD ARTICLE N 37

- ADD **General Provisions**
- ADD N 2929 This Chapter contains the provisions for the operational use of the Global Maritime Distress and Safety System (GMDSS).
- ADD N 2930 The provisions specified in this Chapter are obligatory (see Resolution No. A) in the maritime mobile service for all stations using the frequencies and techniques prescribed for the functions set out herein. [(See also No. N 2939.)] Certain provisions of this Chapter are also applicable to the aeronautical mobile service except in the case of special arrangements between the governments concerned. However, stations of the maritime mobile service, when additionally fitted with equipment used by stations operating in conformity with the provisions specified in Chapter IX, shall, when using that equipment, comply with the appropriate provisions of that Chapter. [See Nos. 347 and 348.]
- ADD N 2931 The procedure specified in this Chapter is obligatory in the maritime mobile-satellite service and for communications between stations on board aircraft and stations of the maritime mobile-satellite service, where this service or stations of this service are specifically mentioned.
- ADD N 2939 The International Convention for the Safety of Life at Sea prescribes which ships and which of their survival craft shall be provided with radio equipment and which ships shall carry portable radio equipment for use in survival craft. It also prescribes the requirements which shall be complied with by such equipment.
- Stations of the land mobile service in uninhabited and ADD N 2931A remote areas may, for distress and safety purposes, avail themselves of the frequencies provided for in this Chapter. [(See Resolution No. 347.)]

- 3 -MOB-87/161-E

ADD N 2931B The procedure specified in this Chapter is obligatory for stations of the land mobile service when they use frequencies provided in these Regulations for communications for distress and safety.

CEPT-8/15/81

ADDN 2932No provision of these Regulations prevents the use by a
mobile station or a mobile earth station in distress of any means
at its disposal to attract attention, make known its position, and
obtain help.

CEPT-8/15/82 ADD N 2933

3 No provision of these Regulations prevents the use by stations on board aircraft or ships engaged in search and rescue operations, in exceptional circumstances, of any means at their disposal to assist a mobile station or a mobile earth station in distress.

CEPT-8/15/83

ADDN 2934No provision of these Regulations prevents the use by a
land station or coast earth station, in exceptional circumstances,
of any means at its disposal to assist a mobile station or a
mobile earth station in distress (see also No. 959).

- ADD N 2934A When special circumstances make it indispensable to do so, an administration may, as an exception to the methods of working provided for by these Regulations, authorize ship earth station installations located at Rescue Coordination Centres¹ to communicate with other stations using bands allocated to the maritime mobile-satellite service, for distress and safety purposes.
- ADD N 2934A.1 ¹ The term "Rescue Coordination Centre" as defined in the International Convention on Maritime Search and Rescue, 1979, refers to a unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.
- ADD N 2935 Transmissions by radiotelephony shall be made slowly and distinctly, each word being clearly pronounced to facilitate transcription.
- ADD N 2937A Distress, urgency and safety transmissions may also be made, using Morse telegraphy and radiotelephony techniques, in accordance with the provisions of Chapter IX and relevant CCIR Recommendations.

- 4 -MOB-87/161-E

ADD N 2938 The abbreviations and signals of Appendix 14 <u>and</u> the Phonetic Alphabet and Figure Code in Appendix 24 should be used where applicable¹.

> ¹ The use of the Standard Marine Navagational Vocabulary and, where language difficulties exist, the International Code of Signals, both published by IMO, is also recommended.

ADD N 2942 Mobile stations¹ of the maritime mobile service may communicate, for safety purposes, with stations of the aeronautical mobile service. Such communications shall normally be made on the frequencies authorized, and under the conditions specified, in Section I of Article N 38 [(see also No. N 2932).] [(See also Nos. 347 and 348).]

- ADD N 2942.1 ¹ Mobile stations communicating with the stations of the aeronautical mobile (R) service in bands allocated to the aeronautical mobile (R) service shall conform to the provisions of the Regulations which relate to that service and as appropriate any special arrangements between the governments concerned by which the aeronautical mobile (R) service is regulated.
- ADD N 2942A Mobile stations of the aeronautical mobile service may communicate, for distress and safety purposes, with stations of the maritime mobile service in conformity with the provisions of this Chapter.
- ADD N 2943 Any aircraft required by national or international regulations to communicate for distress, urgency or safety purposes with stations of the maritime mobile service that comply with the provisions of this Chapter, shall be capable of transmitting and receiving class J3E emissions when using the carrier frequency [4 125 kHz], or class G3E emissions when using the frequency 156.8 MHz and optionally 156.3 MHz.
 - Note Consideration of the following text is referred to Committee 5:

However, until the full implementation of the GMDSS [(see Resolution No. A)] these aircraft stations $\frac{shall}{shall}$ also be capable of transmitting and receiving class H3E emissions on the carrier frequency 2 182 kHz.

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INTERNATIONAL TELECOMMUNICATION UNION

Document 162-E 18 September 1987 Original: English

COMMITTEES 4, 5, 6, AND PLENARY WORKING GROUP

NOTE BY THE CHAIRMAN OF COMMITTEE 3 TO THE CHAIRMEN OF COMMITTEES 4, 5, 6 AND PLENARY WORKING GROUP

The Nairobi 1982 Plenipotentiary Conference made an addition to the terms of reference of conference budget control committees to the effect that the reports of such committees to the plenary meetings and Administrative Council must show the amount of expenditure that may be entailed for implementation of the decisions taken. Reference may be made in this connection to Article 80 of the Nairobi Convention and Resolution 48 of the 1982 Plenipotentiary Conference published in Document 73 of the present Conference.

To enable me to provide the plenary meetings with the necessary information, I should be grateful if you would supply me with regular, and if possible weekly, reports on the decisions of your committee which could have financial implications together with an estimate of the expenditure involved for implementing the same.

> M.K. RAO Chairman of Committee 3

MOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 163-E 18 September 1987 Original: English

COMMITTEE 5

United Kingdom

PROPOSAL FOR THE WORK OF THE CONFERENCE

Agenda Item 6

Introduction

Article 41. Section IV Navigational Warning Signal

Resolution No A.379(X) of the International Maritime 1 Organization contains a recommendation for the establishment of safety zones around offshore installations or structures Infringements by ships of safety zones around offshore installations or structures have been reported. Furthermore, on occasions ships do not respond to radiotelephone calls initiated by offshore installations or structures to warn of the risk to the safety of personnel and of serious damage to offshore installations or structures, ships and the environment in the event of a collision.

Additionally, similar situations have arisen whereby ships 2 have either run aground or have been in danger of running aground particularly on small, low-lying or remote islands. The consequences of such groundings could cause loss of life, serious damage to property and pollution of the environment.

3 It is therefore proposed that transmissions be permitted on the carrier frequency 2182 kHz of the navigational warning signal, specified in No.3284 of the Radio Regulations, by offshore installations or structures in imminent danger of being rammed or by stations on land that consider a ship is in imminent danger of running aground.

The transmission of the warning signal should be 4 immediately followed by a transmission using radiotelephony giving the identity and position of the installation or structure. In the case of a possible grounding the land station concerned should provide as much identification and position information as possible. This transmission should be followed by a vital navigational warning.

order not to propagate this warning further than 5 is In necessary, the radiated power, where practicable, should be limited to the minimum necessary for reception by ships in the immediate vicinity of the offshore installations or structures of the land concerned.

A proposal to modify Section IV of Article 41 is annexed. 6

Annex: 1

For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked to bring their copies to the meeting since no others can be made available.

- 2 -MOB-87/163-E

ANNEX

Article 41, Section IV

NOC Section IV. Navigational Warning Signal

NOC 3284-3285

G/163/1

ADD 3285A (2A) In addition, the signal specified in No.3284 may be transmitted on the carrier frequency 2182 kHz by offshore installations or structures in imminent danger of being rammed or by land stations that consider a ship is in imminent danger of running aground. The power of this transmission should, where practicable, be limited to the minimum necessary for reception by ships in the immediate vicinity of the offshore installations or structures or land concerned.

G/163/2 ADD 3285B (2B) The transmission specified in No.3285A should be immediately followed by a transmission using radiotelephony giving the identity and position of the installation or structure. Land stations should provide as much identification and position information as possible. This transmission should be followed by a vital navigational warning.

NOC 3286

Reason: To permit offshore installations and structures and land stations to transmit the navigational warning signal in situations where the safety of life may be endangered or where there is a risk of serious damge to property or of pollution of the environment.

Document 164-E 18 September 1987 Original: English

COMMITTEE 4

USSR

CONSIDERATIONS REGARDING THE COMPETENCE OF THIS CONFERENCE TO TAKE DECISIONS AFFECTING SERVICES NOT INCLUDED IN ITS AGENDA (COMMENTS ON DOCUMENT 148)

Document 148 expresses doubts with regard to the interpretation of the wording of the first item of the Conference agenda which refers to "only minimum effect on the radiocommunication services not included in this agenda".

Our understanding of this phrase is the following:

1. If a frequency band is allocated only to one or more mobile services, the Conference is competent to adopt any decisions concerning these services.

2. If a frequency band is allocated on a primary or permitted basis to several services including mobile services, the Conference cannot make any change to the conditions of operation of the services concerned.

A change in the conditions of use of a frequency band by mobile services may be made only if the decision in question is obviously possible from the technical standpoint without causing harmful interference to the affected service. To this end appropriate CCIR Recommendations should be available that confirm such a possibility.

3. If a frequency band is allocated to a mobile service on a primary basis and to other services on a secondary basis, decisions to change the conditions of use of the band cannot be adopted unless they are substantiated by corresponding texts of CCIR studies which confirm the electromagnetic compatibility of the affected services.

4. If agreement is not reached, the matter should be referred to a forthcoming competent WARC, and this Conference may request the CCIR to study the question.



Corrigendum 1 to Document 165-E 2 October 1987 Original: French

COMMITTEE 4

SUMMARY RECORD

OF THE

THIRD MEETING OF COMMITTEE 4

(FREQUENCY)

Paragraph 3.4

Replace the final sentence by the following:

"The issue was indeed very difficult to interpret and could give rise to situations which were difficult to control."

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 165-E 22 September 1987 Original: English

COMMITTEE 4

SUMMARY RECORD

OF THE

THIRD MEETING OF COMMITTEE 4

(FREQUENCY)

Friday, 18 September 1987, at 1430 hrs

Chairman: Dr. O. VILLANYI (Hungary)

Subjects discussed:

Documents 1. First report of Working Group 4-B to Committee 4 141 2. First report of Working Group 4-A to Committee 4 147 3. Second report of Working Group 4-A to Committee 4 148 4.

Oral report by the Chairman of Working Group 4-C

1. First report of Working Group 4-B to Committee 4 (Document 141)

1.1 <u>The Chairman of Working Group 4-B</u> said that at the Group's first meeting a number of proposals had been considered concerning Article 12; whilst some could be accepted and approved merely with editorial amendments, others would have to be studied more thoroughly, especially since the findings of other working groups and certain committees must be taken into account. The Working Group had also begun consideration of Document 4 relating to sections 4.1 to 4.3. He suggested that a number of provisions in Article 12 should be updated in the light of WARC MOB-83, the outcome of which had not yet been fully implemented. The Group had adopted and submitted to Committee 4 the modifications set out in Annex 1 to Document 141. Annex 2 was mainly a question of drafting in respect of Appendix 27 Aer2; all reference to Appendix 27 and the Note by the General Secretariat was to be deleted.

Document 141, including Annexes 1 and 2, was approved.

2. First report of Working Group 4-A to Committee 4 (Document 147)

2.1 <u>The Chairman of Working Group 4-A</u> said that the Working Group had so far met twice and had decided that, as far as possible, it would carry out its tasks without further subdivision, except for any ad hoc drafting groups to be set up if required. The Group had begun its consideration from Article 8 upwards, and Document 147 contained the proposals on which agreement had been reached at the first meeting. Certain proposals, however, had been deemed impossible to consider pending decisions by the Technical Working Group of the Plenary Meeting or other Committees. Likewise, the Group had encountered difficulty regarding certain documents dealing with matters within its purview but allocated to other bodies; it therefore requested the Chairman of Committee 4 to send a note accordingly to the Chairmen of the other bodies concerned. In that connection, paragraph 2.2 of Document 147 should be amended so as to delete the words after "the work of Working Group 4-A".

Document 147, as orally amended, including Annexes 1 and 2, was <u>approved</u>, Annex 2 being forwarded to the Technical Working Group of the Plenary Meeting.

3. <u>Second report of Working Group 4-A to Committee 4</u> (Document 148)

3.1 <u>The Chairman of Working Group 4-A</u> said that Committee 4's attention should be drawn to a difficulty which had arisen, during the Working Group's consideration of certain proposals for the modification of Article 8 of the Radio Regulations, concerning the question of correct interpretation. Two examples of the problem were given in Document 148.

3.2 <u>The Chairman</u> agreed that the Committee would have to consider the matter. The Administrative Council's Resolution, set forth in Document 1, required that WARC MOB-87 should act with only minimum effect on the radiocommunication services not included in its agenda. With regard to frequency allocations exclusive to the mobile, mobile-satellite, radionavigation and radiodetermination-satellite services, there was no problem. In cases of shared bands, however, the Resolution must be taken into account, which meant that the Conference had to interpret the scope of "minimum effect". The question, therefore, was to determine the Conference's competence in regard to bands shared with other services, in order that guidance could be given to the Working Groups. He drew attention to RR420, concerning the definition and status of a secondary service, and to RR435, concerning the operation subject to not causing harmful interference to other services. He would welcome the Committee's views on the matter.

3.3 The <u>delegate of the USSR</u> said it was clear from Document 148 that doubts had already arisen about the interpretation of "minimum effect". His Delegation understood the terms to mean that, firstly, the Conference was competent to adopt decisions in cases where a frequency band was allocated to one or more mobile services on an exclusive basis and, secondly, that in cases of allocation on a primary or permitted basis to several services, including mobile services, the Conference was not competent to alter the operational conditions of other services. Frequency allocations for a mobile service could be revised only if a decision on technical grounds could be arrived at and if the services concerned suffered no harmful interference. In order to confirm that such was the case, appropriate CCIR Recommendations should be available. In any case of serious doubt about the effect on an outside service, decisiontaking must be deferred until the next competent WARC.

3.4 The <u>delegate of Algeria</u> said that the concept was a new one, of the sort normally solved by application of the Radio Regulations in the manner in which inter-administration matters were dealt with. The issue was indeed very difficult to interpret and opportunities for possible abuse could be created.

3.5 The <u>delegate of the United Kingdom</u> recalled that the Administrative Council, in considering the scope of the agenda for WARC MOB-87, had encountered difficulty in finding wording which would prevent any detriment, as a result of Conference decisions, to radiocommunication services not included in its agenda. The Administrative Council had adopted the term "minimum effect"; only the Conference itself could interpret the scope of the term. A small Group had met informally and had drafted a discussion paper, as a purely objective, nonnational approach, in an attempt to assist the Conference. He urged that the text should be circulated as quickly as possible for the Committee's attention.

3.6 <u>The Secretary-General</u> thought it would be useful if the Committee could defer consideration of the matter until Administrative Council Document CA40/DT/18 had been circulated to the Conference as an annex to Document DT/15; it provided background information which might assist the Conference in considering how to interpret its agenda, including the scope of "minimum effect". The Council had given consideration to three options before deciding on the wording of this point of the Agenda.

3.7 The <u>delegate of the USSR</u> said that his delegation would be drafting some considerations. It was concerned about the need to avoid holding up the task of Working Group 4-A, which had a great deal to do.

3.8 The <u>delegate of Switzerland</u> supported the proposal made by the delegate of the United Kingdom; the text in question would surely assist the Committee, whilst not binding it to any definite conclusion.

On a suggestion by the <u>Chairman</u>, it was <u>agreed</u> to defer consideration of the matter until the following meeting of the Committee, by which time the texts concerned would be available.

4. Oral report by the Chairman of Working Group 4-C

4.1 The <u>Chairman of Working Group 4-C</u> said that the Working Group had so far met twice. At the first meeting, proposals relating to Appendix 31 had been introduced, and a list of principles had been adopted as a basis for a detailed revision of that appendix, on the basis of 3 kHz spacing for radiotelephony, with nominal carrier frequencies on integer multiples of 1 kHz. It had also been decided to include in Appendix 31 the bands referred to in RR532 and RR544, which would shortly be available to the maritime mobile service on an exclusive basis. Some delegations had recorded reservations in that connection. At its second meeting, the Working Group had concentrated on the inclusion of shared bands 4 000 - 4 063 kHz and 8 100 - 8 195 kHz in a new Appendix 31; except for a few delegations, the Working Group was opposed to the inclusion. The delegations of the USSR and the United States had reserved the right to revert to the topic. During that meeting, an ad hoc Group had been established to draft a list of principles, for the Working Group's consideration in reviewing Appendix 31.

4.2 The <u>delegate of the United States</u> said that attempts by the Working Group, at the current moment, to take decisions about the use of shared bands in the context of revisions to Appendix 16 would make the Group's task impossible, since the ramifications would be impossible to assess until all views had been voiced on the matter, which should remain under consideration until the Working Group could revise Appendix 16.

4.3 The <u>delegate of Japan</u> said that, as his Delegation understood it, the terms of reference of the Drafting Group established by Working Group 4-C would relate simply to Appendix 31, according to the decision made by the Working Group.

4.4 The <u>Chairman of Working Group 4-C</u> felt that it was too early to speak on the principles of inclusion, which would be reflected in the work of the ad hoc Group.

The meeting rose at 1520 hours.

The Secretary:

T. GAVRILOV

The Chairman:

O. VILLANYI

NOB-87 INTERNATIONAL TELECOMMUTORICATION CONTRACTOR SERVICES GENEVA, September-October 1987

Document 166-E 18 September 1987 Original: English

COMMITTEE 7

FIRST SERIES OF TEXTS FROM COMMITTEE 4 TO THE EDITORIAL COMMITTEE

The texts in Annexes 1 and 2 to Document 141, as well as texts in Annex 1 to Document 147, which were approved by Committee 4 at its third meeting, are submitted to the Editorial Committee.

The attention of Committee 7 is drawn to the fact that the examination of Articles 8 and 12 is not complete and that further modifications to these Articles are expected.

> O. VILLANYI Chairman of Committee 4

Document 167-E 21 September 1987 Original: English

COMMITTEE 4

United States of America

CONSIDERATIONS REGARDING THE COMPETENCE OF THIS CONFERENCE

Committee 4 is confronted with the difficult task of determining the meaning of "minimum effect". The Mobile World Administrative Radio Conference was directed by the Administrative Council to review and revise as necessary the Radio Regulations for the mobile services, the mobile-satellite services and the radionavigation and radiodetermination-satellite services with only "minimum effect" on services not included in this agenda.

The Secretary-General has provided Document DT/18 from the Council deliberations in 1985 which provides a helpful guide as to the meaning of the term. While a narrow approach "without encroaching" on other services was considered, the Council rejected this approach. Instead the Council adopted a broad approach permitting "minimum effect" on other services.

This permits that:

1. the Conference may add any additional spectrum allocation for services shown in <u>resolves 1</u> of Administrative Council Resolution No. 933, whether or not spectrum under review is currently allocated to other services;

2. where there is non-mobile use, and users may be accommodated in other existing spectrum allocations, the non-mobile use may be diminished in status <u>or</u> suppressed; and

3. allocations for services shown in <u>resolves 1</u> of Administrative Council Resolution No. 933 can be changed in any way the Conference deems necessary.

For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked to bring their copies to the meeting since no others can be made available.


INTERNATIONAL TELECOMMUNICATION UNION **NOB-87** INTERINATIONAL TELECOMMUNICATION NO PROVINCE SERVICES GENEVA, September-October 1987

Document 168-E 21 September 1987 Original: English

PLENARY MEETING

Note by the Secretary-General

PROLONGATION OF CONFERENCES

I have the honour to bring to the attention of the Conference a decision taken by the 42nd Session of the Administrative Council, at its Fifth Plenary Meeting on 25 June 1987, in regard to prolongation of Conferences.

While agreeing that a Conference itself was empowered to prolong its duration under the conditions set out in No. 477 of the Convention, the Council wished that it be indicated that until the Plenipotentiary Conference finally settled the matter, any Conference might be prolonged if, at the recommendation of the Steering Committee, a Plenary meeting having the required quorum so decided.

R.E. BUTLER

Secretary-General

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 169-E 22 September 1987 Original : English

COMMITTEE 4

SUMMARY RECORD

OF THE

FOURTH MEETING OF COMMITTEE 4

(FREQUENCY)

Monday, 21 September 1987, at 0900 hrs

Chairman: Dr. O. VILLANYI (Hungary)

Subjects	discussed:						Documents
1.	Consideration effect"	of tł	e issue	of	the	"minimum	DT/15 DT/14,148,

- 2 -MOB-87/169-E

1. <u>Consideration of the issue of the "minimum effect</u>" (Documents DT/15, DT/14, 148 and 164)

1.1 The <u>Chairman of Working Group 4-A</u> said that following publication of Document 148, Working Group 4-A had considered two further groups of proposals on which it would appreciate guidance from Committee 4 as to what should be considered a "minimum effect" on radiocommunication services not included in the Conference agenda.

1.2 The <u>Secretary-General</u> introduced Document DT/15, which provided the background to the decision by the Administrative Council to give the Conference the broader option of taking decisions with only "minimum effect" on radiocommunication services not included in the Conference agenda, rather than narrowly restricting such decisions to those with no effect on those services. He reminded the meeting that the Administrative Council's decision as embodied in the proposed agenda for the Conference had been circulated to all Members of the Union for approval before its formal adoption. The interpretation of that agenda, including the scope of the words "minimum effect", was now the responsibility of the present Conference.

1.3 The <u>Chairman</u> said the problem essentially arose in cases where there was disagreement as to whether the effect of a decision on services not included in the agenda of the Conference was minimal or not. As a basis for discussion by the Committee, Document DT/14 proposed two guidelines for Working Group 4-A in considering such cases.

1.4 The <u>delegate of the USSR</u> noted that in some cases, because the relevant technical information was lacking, the Conference might find it difficult to determine the threshold beyond which an effect would no longer be minimal. His Delegation considered, as it proposed in Document 164, that such cases should be the subject of preliminary study by the CCIR and that consideration of the matter should be postponed to a forthcoming competent WARC.

1.5 The <u>delegate of Switzerland</u> said he could agree to the guidelines proposed in Document DT/14, perhaps with the wording somewhat expanded to provide greater detail, and with proposal 1 of Document 164, although he had some difficulties with proposals 2, 3 and 4 of that document. In actual cases arising as a result of specific proposals the magnitude of the mutual effect of combined services in a given band might not always be determinable from the general technical bases developed by the CCIR for the Conference. Insistence on awaiting specific technical information from the CCIR could therefore delay or postpone a necessary decision in a case where the services concerned would in fact be protected by the fact that they had a different status in the band concerned.

1.6 The <u>delegate of Canada</u> endorsed those views. In connection with proposal 2 of Document DT/14, he proposed that the words "not unduly" should be inserted before "restrict" in view of the fact that the Table of Frequency Allocations (Article 8 of the Radio Regulations) contained many footnotes providing within-country allocations to services outside the agenda of the Conference, thus making it difficult to make new allocations in the bands concerned without giving some consideration to the importance of the services introduced by such footnotes.

1.7 The <u>delegate of Burkina Faso</u> said that it would be preferable to have a single set of guidelines for the guidance of Working Group 4-A consisting of the text proposed in Document DT/14 with the addition of proposals 1 and 4 of Document 164 as first and fourth guidelines.

1.8 The <u>delegate of the United Kingdom</u> said he supported that proposal, with the amendment put forward by Canada to proposal 2 of Document DT/14, and provided that in proposal 1 of Document 164 the words "mobile services" were replaced by "services included in the agenda of the Conference".

1.9 The delegate of Argentina supported that second proviso.

1.10 The <u>Chairman</u> suggested that the meeting might wish to consider the consolidated document proposed by the delegate of Burkina Faso, supported by the delegate of the United Kingdom, and amended by the delegates of Canada, the United Kingdom and Argentina.

1.11 The <u>delegates of the USSR</u>, <u>the German Democratic Republic</u>, <u>Australia</u>, <u>Sweden</u>, <u>the Netherlands</u>, <u>Cuba</u>, <u>Saudi Arabia</u>, <u>India</u>, <u>Mexico</u>, <u>Malta</u>, <u>Poland</u> and <u>the Islamic Republic of Iran</u> endorsed or had no objection to the inclusion of proposal 1 of Document 164 as the first guideline for Working Group 4-A.

1.12 The <u>delegates of the USSR</u>, <u>the German Democratic Republic</u>, <u>Australia</u>, <u>Canada</u>, <u>Denmark</u>, <u>Sweden</u>, <u>the Netherlands</u>, <u>Cuba</u>, <u>Saudi Arabia</u>, <u>Mexico</u>, <u>Malta</u>, <u>Poland</u> and <u>the Islamic Republic of Iran</u> endorsed or had no objection to the inclusion of proposal 1 of Document DT/14 as the second guideline to Working Group 4-A.

1.13 The <u>delegates of the USSR</u>, <u>the German Democratic Republic</u>, <u>Australia</u>, <u>Sweden</u>, <u>Denmark</u>, <u>Cuba</u>, <u>Saudi Arabia</u> and <u>Poland</u> endorsed or had no objection to the inclusion of proposal 2 of Document DT/14 as the third guideline to Working Group 4-A.

1.14 The <u>delegates of Australia</u>, <u>Sweden</u>, <u>the Netherlands</u>, <u>Mexico</u> and <u>Malta</u> specifically wished to see the amendment proposed by Canada made to that third guideline.

1.15 The <u>delegate of the United States</u> considered that acceptance of such a guideline might still be too restrictive and not within the spirit of the administrative wording which had anticipated that some change would be necessary. Telecommunications was a fast-developing field and the opportunity to make changes within the scope of the agenda should not be lost. His Delegation had prepared a paper, to be issued shortly, which proposed solutions that would retain flexibility and allow decisions to be made on a case by case basis.

1.16 The <u>delegate of the Islamic Republic of Iran</u> objected to inclusion of the words "not unduly", as proposed by Canada, on the grounds that it introduced the same vagueness of meaning as the words "minimum effect".

1.17 The <u>delegates of the USSR</u> and <u>the German Democratic Republic</u> were in favour of including proposal 4 of Document 164 as a fourth guideline to Working Group 4-A.

1.18 The <u>delegates of the Netherlands</u>, <u>the United States</u> and <u>Malta</u> said the proposed fourth guideline was unnecessary and should not be included.

1.19 The <u>delegates of Australia</u>, <u>Canada</u>, <u>Sweden</u> and <u>Saudi Arabia</u> said that although they would prefer not to include that proposal as the fourth guideline, they could agree to its inclusion provided the word "general" was included before "agreement" and "should" was replaced by "may". 1.20 The <u>delegates of Canada</u>, <u>Denmark</u> and <u>the United States</u> said that it was important that whatever guidelines were introduced should retain some degree of flexibility in their approach to the Frequency Allocation Table in order to take account of advances in telecommunication technology, and that possible difficulties should be dealt with on a case by case basis rather than be referred to a future WARC which - a view supported by the <u>delegate of Spain</u> would unnecessarily delay decisions.

1.21 The <u>delegate of Burkina Faso</u>, supported by the <u>delegate of Cuba</u>, suggested that that problem might be avoided if the fourth guideline be amended to the effect that if agreement was not reached the Conference might consider referring the matter to a forthcoming WARC or to the CCIR for study.

1.22 The <u>delegate of India</u>, supported by the <u>delegates of Mexico</u>, <u>the United States</u> and <u>Canada</u>, pointed out that the proposed fourth guideline, however worded, had implications beyond the terms of reference of Committee 4, as it overlapped into the areas for which other Committees were responsible. A decision to refer a matter to another WARC was more properly the affair of the Plenary meeting. The Committee was at present being asked merely to provide guidelines for Working Group 4-A on topics of concern to Committee 4 and that should be made quite clear in any text adopted.

1.23 The <u>Chairman</u> suggested that, in view of the number of drafting changes proposed, an ad hoc Drafting Group should be established, consisting of the delegates of Canada, the United Kingdom, France, the United States, the USSR, Spain, Argentina, the Islamic Republic of Iran and Burkina Faso, under the chairmanship of the United Kingdom, to draw up a text based on the Committee's discussion of guidelines for the Working Groups of Committee 4 to consider at the following meeting.

It was so <u>agreed</u>.

The meeting rose at 1045 hours.

The Secretary:

T. GAVRILOV

The Chairman:

O. VILLANYI

INTERNATIONAL TELECOMMUNICATION UNION

NOB-87 WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Corrigendum 1 to Document 170-E 5 October 1987 Original: English/ Spanish

COMMITTEE 5

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMITTEE 5

(DISTRESS AND SAFETY)

Paragraph 4.1.6 1.

Replace the last two sentences by the following:

"As soon as the Final Acts of the present Conference come into force, the texts of both Chapter IX and Chapter N IX should have equal force.".

Paragraph 4.1.8 2.

Amend as follows:

"..., including those complying with the provisions of Chapter N IX should also comply with the provisions of Section I, sub-sections B and K of Article 38. Efforts should also be made to allow the continued application ...".

Paragraph 4.1.11 3.

Amend the last line of the first sub-paragraph to read:

"and the 1979 SAR Convention".

Paragraph 4.1.17 4.

Replace the first sentence by the following:

"The delegate of Cuba said that, ideally, the transition period for the GMDSS should be as short as possible but that, bearing in mind the economic realities of most developing countries, the latter would be unable to implement the present proposal.".

NOBBB INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 170-E 22 September 1987 Original: English

COMMITTEE 5

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMITTEE 5

(DISTRESS AND SAFETY)

Monday, 21 September 1987, at 1400 hrs

Chairman: Mr. P.E. KENT (United Kingdom)

subjects discussed:		Documents
1.	Approval of the summary record of the first meeting of Committee 5	138
2.	Reports by Chairmen of Working Groups 5-A and 5-B	161
3.	Matters referred to Committee 5 for advice	
3.1	Appendix 20	24, 142
4.	Initial consideration of proposed new Resolutions	
4.1	Introduction of GMDSS and continuation of existing arrangements	5, 7, 15, 24, 25, 32, 40, 43, 57, 60, 76, 86, 92, 98, 103, 119, 121

.1.

1. <u>Approval of the summary record of the first meeting of Committee 5</u> (Document 138)

The summary record of the first meeting contained in Document 138 was approved.

2. <u>Reports by Chairmen of Working Groups 5-A and 5-B</u> (Document 161)

2.1 The <u>Chairman of Working Group 5-A</u>, introducing Document 161, noted that the name of the IMO should be given in full in paragraph 3, and that in the Annex to the document, in the last line of page 2, the reference to "Resolution No. 347" should read "Radio Regulation No. 347". He further noted that, in the Spanish text only, under N 2938, it should be made clear that the difficulties referred to were language difficulties. He said that the Working Group had held five meetings and had reached the end of N 3011. They had thus made good progress and he hoped that they would finish their work on schedule.

In view of the fact that the document had only recently been circulated, it was <u>agreed</u> that it would be discussed at a later meeting.

2.2 The <u>Chairman of Working Group 5-B</u> reported that the Working Group had held two meetings and had dealt with Article 37 and Section I of Article 38, basing its work on the assumption that the provisions of Chapter IX would remain obligatory. He noted that work had not yet begun on a Resolution to amend the status of those provisions to permissive.

3. <u>Matters referred to Committee 5 for advice</u>

3.1 Appendix 20 (Documents 24, 142)

3.1.1 The <u>delegate of the United States of America</u> noted that the reason behind the proposal USA/24/721 was to reflect requirements of the SOLAS Convention during transition from the existing distress system (not GMDSS as stated in the text) to GMDSS. He pointed out that paragraph 9 of Article 20 set out the frequency pairs for repeater stations using two-way radiotelephones. If the mother vessel were to sink, there would be no way for survival craft to communicate. It was therefore proposed that survival craft be fitted with the capability of using a common simplex frequency.

3.1.2 The delegate of Greece supported the United States proposal.

3.1.3 The <u>representative of the IMO</u>, referring to Document 41, said that consideration had been given to the use of channels 15 and 17 of Appendix 18 by on-board communication stations. It had been recognized that there was a SOLAS requirement for on-board communication equipment and that the requirement could be easily provided for by retaining the use of those channels for on-board communication. Regarding the use of two-way radio telephone apparatus, IMO performance standards had been modified to require that, in addition to channel 16, such stations were able to operate on at least one other frequency.

3.1.4 The <u>delegate of the Netherlands</u> pointed out that all six frequencies mentioned in Appendix 20 could be used for single frequency simplex communications. The <u>delegate of the United States of America</u> agreed but added that the identification of a single frequency, however, would facilitate the task of rescue craft by obviating the need to search through all available channels in order to communicate with survival craft. 3.1.5 The <u>delegate of Japan</u> considered that under the SOLAS Convention for inter-ship use a single frequency was unnecessary.

3.1.6 The <u>Chairman</u> suggested that the Committee agree that equipment be capable of simplex communication and recommend that the proposed frequency be fitted.

It was so <u>agreed</u>.

4. Initial consideration of proposed new Resolutions

4.1 Introduction of GMDSS and continuation of existing arrangements (Documents 5, 7, 15, 24, 25, 32, 40, 43, 57, 60, 76, 86, 92, 98 103, 119, 121)

4.1.1 The <u>delegate of Argentina</u>, introducing Document 5, stressed the importance of the maritime mobile service and the care that should be taken to implement the future GMDSS under conditions that ensured the maintenance of the safety communication system. Because certain vessels, such as fishing vessels, were not covered by the SOLAS Convention, the present system should continue in parallel with the future one until the economic and technical problems confronting various administrations were resolved. He felt that it would be premature to take a final decision on Chapter N IX pending implementation of the revision of Chapter IV of the SOLAS Convention. While not opposing the GMDSS, he emphasized that it should be implemented progressively, taking national conditions into account.

4.1.2 The <u>delegate of the German Democratic Republic</u>, introducing Document 7, stated that the German Democratic Republic fully supported the draft Recommendation annexed to IMO Circular MSC/424.

4.1.3 The <u>delegate of the Federal Republic of Germany</u>, presenting Document 15 on behalf of the Administrations which submitted it, said that the instrument for the change-over from the existing system to the GMDSS should be a Resolution. The dates proposed were those agreed upon within the IMO and included a transition period of about five and a half years. The Administrations concerned had originally wanted a shorter transition period (of about four years) but, in view of the problems some administrations would face, had agreed to compromise on a longer period for the changeover.

The delegate of the United States of America, introducing Document 24 4.1.4 agreed that the instrument for introducing the GMDSS should be a Resolution supporting the IMO recommendations for the introduction of the GMDSS in 1991 and completion of the transition by 1997. Chapter N IX should provide the regulatory structure to permit ships to comply with Chapter IV of the SOLAS Convention. Other stations, not subject to the SOLAS Convention, should be permitted to comply with any of Chapters N IX or IX, since some administrations might wish to rely on provisions of the existing Chapter IX for their national purposes. The transitional period should be from 1 August 1991 to 1 February 1997, during which period coast and ship station watches on 2 182 kHz and 156.8 MHz should remain unchanged. Testing should be allowed to continue to facilitate the introduction of the GMDSS and should be provided for on the frequencies assigned to that system in Section I of Article 38. The period during which administrations were required to maintain two systems should be minimized, particularly with regard to 500 kHz which should be voluntary after 1997. The next competent WARC should review and revise, as necessary, the provisions adopted by the present Conference for Chapters N IX and IX.

4.1.5 The <u>delegate of Canada</u>, introducing Document 25, said that Canada wished to have a Resolution based on the following principles: that the provisions of Chapters IX and N IX be complied with until 1 August 1997 or other appropriate date agreed upon by the Conference; that after the agreed date, the provisions of Chapter N IX as well as those provisions of the existing Chapter IX relating to 2 182 kHz and 156.8 MHz be complied with; and that the next competent conference address any further changes to the existing Chapter IX, including requirements for provisions relating to the use of the international distress frequencies 2 182 kHz and 156.8 MHz in the context of the GMDSS. He noted that such a Resolution would not affect the use of 500 kHz other than by ceasing to make it mandatory after the date selected.

4.1.6 The <u>delegate of the USSR</u>, presenting Document 32, said that a significant number of ships, including fishing vessels, river/sea-going vessels and low tonnage vessels sailing in national waters, not covered by the SOLAS Convention, would continue to use the existing system for distress and safety purposes. There would thus have to be a period during which both systems had equal force and worked in parallel. It should be left to national administrations to determine the use of the existing or new provisions. No date should be set as an end to the transitional period, since it would depend on national requirements. The texts of revised Chapter IX and Chapter N IX should come into force upon the signing of the Final Acts of the Conference. A subsequent competent conference should then review the provisions of those texts in the light of experience acquired.

4.1.7 The <u>delegate of Australia</u>, introducing proposal AUS/40/437, said that his Administration was of the view that the new system would provide a significant improvement in safety in the Australian area. It should preferably be introduced globally according to an agreed transition plan to allow the safety of shipping to be maintained throughout the transition period. His Administration had no dispute with those administrations which, in their areas, saw a need to maintain the present system, or some element of it, on a voluntary basis for some time after the proposed full introduction of the new system. The introduction of GMDSS during the period 1991 to the beginning of 1997 was reasonably realistic and would allow administrations and ships to be fitted with the necessary new equipment.

4.1.8 The <u>delegate of Spain</u>, introducing proposal E/43/293 in Document 43, said that Spain's draft Resolution basically stipulated that as long as the distress and safety communications system of Chapter IX was maintained, all maritime mobile and maritime mobile-satellite stations, including those complying with the provisions of Chapter N IX should also comply with the provisions of sub-Sections IIIB and IIID of Article 38. Efforts should also be made to allow the continued application of Article 38 to vessels not covered by the SOLAS Convention on account of their tonnage.

The Spanish Delegation endorsed the views of the United States of America with regard to testing.

4.1.9. The <u>delegate of Brazil</u>, introducing his Administration's proposals in Document 57, said that the transition to the GMDSS as envisaged by the IMO should be as smooth as possible to enable experience to be acquired before the system was fully implemented, and not to prejudice the safety of life at sea under the existing system. It should also avoid the premature obsolescence of the equipment currently in use. Attention should also be paid to the fact that changes in the Radio Regulations would effect all vessels, whereas the GMDSS was aimed at those of greater size and tonnage. 4.1.10 The <u>delegate of Japan</u> said that proposal J/60/662 in Document 62 concerned the introduction of provisions for the GMDSS and the continuation of existing provisions to ensure the safety of life at sea during the transition period. The draft Resolution provided interim measures for existing distress frequencies and recommended that a WARC be convened in the future to review the new system and the continuation of the existing system. Once the new system was fully implemented, the provisions of Chapter IX relating to the frequency 500 kHz should apply only on a discretionary basis to local distress and safety systems; the provisions relating to the frequency 2 182 kHz should apply until the date which would be decided by the next competent administrative conference.

4.1.11 The <u>delegate of Tunisia</u>, introducing proposals TUN/76/15, 16 and 17 in Document 76, said that his Administration, in considering the introduction of the GMDSS, which it supported, had to bear in mind Tunisia's accession to the INMARSAT Convention and the 1985 SAR Convention.

Two possible courses of action had been identified: either the current system should be replaced by the new one, or it should be maintained alongside the new system. The Tunisian Administration considered it vital to maintain the current distress and safety system on the frequencies 500 kHz, 2 182 kHz and 156.8 MHz, leaving it to individual administrations to decide how and when to introduce the new system, bearing in mind the difficulties facing administrations and ship owners alike with regard to the costly purchase of the necessary new equipment. Furthermore, the discontinuation of watches on the current distress and safety frequencies might seriously affect the safety of life at sea.

4.1.12 The <u>delegate of Cote d'Ivoire</u>, introducing his Administration's proposals in paragraphs II.4.1 and II.4.2 of Document 86, said that the new system would, according to the operating area, require stations to have one or several types of equipment: MF, HF, VHF or satellite. It would require the establishment of search and rescue coordination centres which did not exist in Cote d'Ivoire. Account would also have to be taken of the amortization of existing equipment. The GMDSS could be introduced in 1991, but after that date the current system should operate concurrently for at least six years. Any equipment manufactured during the transition period 1991-97 should be capable of operating both systems.

4.1.13 The <u>delegate of Greece</u>, introducing Document 92, said that his Delegation had preferred to hear the views of other delegations before preparing a draft Resolution. He recalled that the IMO Council had decided that a new system should not be introduced until and unless the financial, administrative and operational issues were resolved. That decision had recently been reaffirmed and referred to the Maritime Safety Committee. Greece was always guided by the advice of the IMO Council, and Document 92 referred to some of the issues to which particular problems were attached. For example, the cost of distress and safety communications had not been properly assessed and no solution had been found to meet the costs. Furthermore, there had been little enthusiasm for the installation of shore-based facilities and his Administration did not wish to see a system rushed in, placing a burden on ships, without the reciprocal shore-based facilities.

The Greek Delegation endorsed the views of other delegations which had referred to the need to maintain the integrity of the existing system until the new system was fully introduced, and had submitted some proposals accordingly.

On the subject of dates, those mentioned in the IMO documents were only target dates and had not been adopted by the IMO. That decision, as stated in its documents, would be taken by the IMO body with the authority to adopt a new Chapter IV to the SOLAS Convention. The dates suggested, namely the beginning of August 1991 and the end of 1997, were only intended to provide a framework for the introduction of various provisions.

The Greek Delegation associated itself with comments made particularly by the Soviet Union and Brazil.

4.1.14 The <u>delegate of Madagascar</u>, speaking also on behalf of Senegal, and introducing proposals SEN/103/1, 2, 3 and 4 contained in Document 103 said that the establishment of the GMDSS would be an improvement over the existing system, particularly in view of the additional safety it would provide. However, there would have to be some compatibility and coexistence between the two systems over a period to be defined so that administrations could use either system for the duration of that period.

4.1.15 The <u>delegate of Burkina Faso</u>, introducing his Administration's proposals in Documents 119 and 121, emphasized that they were those of a land-locked country situated over 900 kilometres from the sea. While supporting the introduction of provisions for a future GMDSS, Burkina Faso recommended that the existing system should co-exist with the new one. It also proposed that the name for the new system should be the "Global Distress and Safety System", deleting the word "Maritime", so that the system would be more generalized and be used by the land mobile and fixed services as well as the maritime mobile services, thus enabling land-locked countries to participate in the global system.

4.1.16 The <u>Chairman</u> said that he would prefer to defer the discussion on deleting the word "Maritime" from the title of the system until the Committee considered Algeria's proposals contained in Document 89.

It was so <u>agreed</u>.

4.1.17 The <u>delegate of Cuba</u> said that the transition period for the GMDSS should be as short as possible, bearing in mind that the economic realities of most developing countries would make it impossible for them to implement the present proposal. A three-stage transition period was envisaged: first, an experimental stage from the date of entry into force of the Final Acts of the present Conference to the beginning of the transition period for the optional incorporation of stations into the GMDSS; second, the voluntary incorporation of stations in the future system, including vessels not subject to the SOLAS Convention; third, the implementation stage during which vessels subject to the SOLAS Convention would use only the new system. Countries should make every effort to provide coastal stations with the necessary equipment, but the provisions of the existing Chapter IX should remain in force for some time. The new system should be introduced after 1995 following a competent ITU conference.

4.1.18 The <u>delegate of Mexico</u> said that his Administration's proposals were contained in documents not yet issued.

It had considered it appropriate to separate the existing system in Chapter IX from the GMDSS as conceived by the IMO in Chapter N IX. The introduction of the relevant provisions should be dealt with in a Resolution which would reflect the following information. Some ships, not subject to the SOLAS Convention, would continue to use the existing system even after the end of the transition period. The present Conference should not concern itself with dates for the end of that period, since more time was required and since the decision should in any event be taken by the IMO. There should also be a link between the existing and new systems, such as the frequencies currently used. The revision of the provisions of the existing Chapter IX, as amended by the present Conference, and the duration of those provisions should be considered by a separate conference.

4.1.19 The <u>delegate of the Federal Republic of Germany</u> said that some additional explanation was needed of the view of the administrations which had signed Document 15 to the effect that the new system should be implemented as soon as possible and the transition period be as short as possible.

The present distress and safety system had been operating well for many years but relied on techniques developed at the beginning of the century, and therefore had limitations and disadvantages. The signatories of Document 15 felt that the time had come to employ modern techniques which, after testing under the impartial guidance of the CCIR, had proved to be very effective and more reliable than the existing techniques could ever be. To improve the safety of life at sea, a new system had to be introduced as soon as possible taking account of the problems that might be caused to some ITU Members, as reflected in the joint proposals.

If the transition period was too long, some administrations would introduce elements of the new system while others would stick to the old, resulting in problems of incompatibility. Such a situation should be avoided at all cost because of the adverse effect it would have on the safety of life at sea. The transition period would be very expensive for all administrations. Coast stations would have to keep watch on the distress frequencies of the existing system and at the same time be provided with the new equipment.

4.1.20 The <u>delegate of Ethiopia</u> said that his Administration supported steady progress towards the future GMDSS. Careful planning of the transition period was essential to avoid compromising safety standards. Ethiopia was in the process of upgrading its existing facilities which complied with the existing system and therefore requested that the phasing out of the existing system should be of sufficiently long duration to enable it to amortize its equipment.

4.1.21 The <u>delegate of China</u> said that his Administration supported the GMDSS in principle. However, there were many practical, technical and economic problems involved and, generally speaking, it would be better to postpone the date of implementation and shorten the transition period.

4.1.22 The <u>delegate of Togo</u> observed that so far no document contained details of the sort of tests which would be universally applied to the GMDSS, to enable it to operate alongside the existing system for the benefit of the developing countries which were not in a position to acquire the necessary equipment in the immediate future. No date could be decided upon without test results, and the decision would therefore have to be postponed.

4.1.23 The <u>Chairman</u> observed that the present Conference was not being asked to decide on implementation dates, which was the function of another international organization. It was, however, being asked to ensure that there were proper provisions in the Radio Regulations at the appropriate time to enable that organization, when it had finished its work, to implement the system.

All speakers had indicated their agreement to including provisions in the Radio Regulations for the operation of the GMDSS. The time at which those provisions would be made available would be decided later. There had also been unanimous agreement that the existing arrangements and provisions regarding the GMDSS would need to run in parallel for a number of years, with administrations making certain decisions with regard to them during the implementation programme.

The main points of difference referred to what would happen at the end of that period. Six speakers wished to change the present provisions concerning the frequencies 500 kHz, 2 182 kHz and 1.568 MHz from mandatory to permissive when the implementation programme was completed. Four administrations had indicated a slightly different approach, which was to continue with the existing provisions for the frequencies 2 182 KHz and 156.8 MHz after the full implementation period, and leave them for a future conference to decide. The frequency 500 kHz would be reassessed on full implementation with a view to its becoming permissive. Five administrations considered that all matters concerning the three frequencies should be decided by a future competent conference.

Before its next meeting on Wednesday, 23 September, the Committee was invited to consider what would happen at the end of the implementation period; whether all decisions should be left to the next competent conference, particularly in respect of watch-keeping with no form of automatic alerting; whether the use of frequencies 2 182 kHz and 156.8 MHz should be continued until a future competent conference, with the present Conference making a decision concerning the frequency 500 kHz; whether the present Conference should decide on all three frequencies, the implication being that such decisions would change those frequencies from mandatory to permissive.

4.1.24 The <u>delegate of the Federal Republic of Germany</u>, referring to the Chairman's summing up, said that he wished it to be clear that he had been speaking for a number of administrations. The <u>Chairman</u> noted that the area for which the delegate of the Federal Republic of Germany had spoken had proposed that the Conference should decide on phasing arrangements for only the three above frequencies.

4.1.25 The <u>delegate of Argentina</u>, clarifying his Administration's position, said that it wished the present Conference to deal with the technical issues concerning the implementation of the new system. However, the dates for the introduction of that system should be decided by the IMO. He therefore proposed that all dates given in the Conference documents should be placed in square brackets pending the IMO's decision.

The meeting rose at 1540 hours.

The Chairman:

P.E. KENT

The Secretary: A. ZOUDOV



NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 171-E 21 September 1987 Original: English

International Association of Lighthouse Authorities (IALA)

INFORMATION PAPER

GENERAL CONSIDERATIONS

1. RES 3 ARRC EMA, Geneva 1985 : Choice Between the FSK and MSK Techniques for Data Transmissions from Maritime Radiobeacons

Studies have shown that to avoid interference to some automatic radio direction finders (ADFs), the transmission of a continuous digital signal should be offset in frequency from the radiobeacon carrier by 325 Hz or more. The use of MSK modulation for data transmission was also shown to be superior to FSK in avoiding interference to ADFs (CCIR REP 1037).

It is therefore recommended that MSK modulation be used for the transmission of digital signals from maritime radiobeacons.

For the case where the transmission of data is short, such as the transmission sequence containing radiobeacon identification and position in the European Maritime Area of Region 1, transmission of data can be on the radiobeacon carrier.

For the case where transmission of data is longer, such as the continuous transmission of differential satellite navigation information, the digital signals should be offset in frequency from the radiobeacon carrier by at least 325 Hz.

The European Maritime Area of Region 1 has adopted a maritime radiobeacon plan whereby the radiobeacon band is established in 500 Hz channels. To accommodate transmission of digital information offset in frequency from the radiobeacon carrier in this area, and still contain all emissions within the 500 Hz channel, two possible solutions are offered for consideration.

- 1. That the radiobeacon carrier be set to 50 Hz above the lower channel edge (200 Hz below channel centre) and the digital transmission be set 325 Hz above the carrier (125 Hz above channel centre).
- 2. That the carrier be set to the channel centre, and to offset the digital transmissions 325 Hz or more above the carrier, therefore requiring use of two channels.

- 2. <u>Appendix 18</u> : Table of Transmitting Frequencies in the Band 156-174 MHz for Stations in the Maritime Mobile Service
- 2.1. In many parts of the world significant congestion exists in the Appendix 18 bands, and this congestion continues to become worse. This congestion also adversely affects intership and port operations channels, thereby causing interference to the ship movement (vessel traffic) service.

It is recommended that urgent steps be taken to increase the number of channels in this band.

2.2. The congestion detailed in 3.1. above severely limits the development of new uses of the band which could significantly benefit mariners and improve safety, such as transmission of data for navigation purposes or use of the VHF radio lighthouse system. This radionavigation system which is designed for mariners in small vessels having only a VHF FM radio, has been tested and is being successfully used by some administrations (see CCIR Report 1038).

It is recommended that a note be added to Appendix 18 and Article 8 allowing use of maritime radionavigation systems on a secondary or permitted basis.

3. REC 605 and REC 713 : Relating to the Technical Characteristics and Frequencies for Shipborne Transponders ; and Relating to the Use of Radar Transponders for Facilitating Search and Rescue Operations at Sea.

IALA supports the use of radar transponders for search and rescue purposes operating in the bands used by shipborne navigation.

It is recommended that transponders be strictly limited to search and rescue or safety purposes. The response coding for these devices should be such as to avoid confusion with that of a radar beacon.



INTERNATIONAL TELECOMMUNICATION UNION

Document 172-E 21 September 1987 Original: English

COMMITTEE 5, 6

United States of America

INFORMATION PAPER

SAFETY REPORT ON OMI YUKON

1. INTRODUCTION

About 1030 on October 28, 1986, explosions and fires occurred in the enginroom and starboard fuel oil tanks of the 811-foot-long United States tankship OMI YUKON which was en route from Hawaii to South Korea for scheduled vessel repairs and biennial inspection. At the time of the explosions, the tankship was located in the Pacific Ocean about 1,000 miles west of Honolulu, Hawaii, and was not carrying any cargo. There were 24 crewmembers, 2 welders, and 11 workers employed in cleaning the cargo tanks aboard the vessel. Fourpersons were killed; the other 33 persons safely abandoned the vessel and were later rescued by a Japanese fishing vessel. The estimated damage to the CMI YUKON was 40,000,000 \$US. The vessel was towed to Japan and sold for scrap. On 24 August 1987, the United States National Transportation Safety Board released its report on the accident. Since radio equipment being considered by this Conference played a role in the rescue of these 33 persons, the following extract of that report is presented here.

2. RADIO DISTRESS ALERT

The successful rescue of all survivors of the OMI YUKON after the explosion without further injury was primarily due to the crew's retrieval of the tankship's emergency position indicating radiobeacon (EPIRB) from the port bridge wing and its activation. The explosion occurred about 1030 and EPIRB distress signals from the general area on 121.5 MHz and 243 MHz were picked up by high flying commercial airplanes and the COSPAS - SARSAT search and rescue satellite system within about 4 hours. The anternas for the OMI YUKON's main and emergency radios were destroyed in the explosion, the main and emergency power supplies were lost, and the radio room had to be immediately evacuated because of dense smoke and the threat of further explosions. The lifeboat radio was ineffective in that no distress signal from the lifeboat radio was reported although there was at least one other vessel, the DRESDEN, in the general area while the lifeboat radio was transmitting. However, the lifeboat radio's distress signal on 500 kHz had a range of only 50 nautical miles.

The International Maritime Organization will hold an international conference in 1988 to update the radio distress equipment required aboard most commercial vessels. The present lifeboat radio will probably be replaced by a VHF radiotelephone capable of transmitting a distress signal on Channel 16 (155.8 MHz) and a radar transponder. It is also anticipated that for the first time a vessel EPIRB which transmits not only a distress signal but also the vessel's identification will be required. This type of EPIRB should improve Coast Guard response time and effectiveness by eliminating delays associated with the present high false alarm rate. The Safety Board believes that the new EPIRB will be a significant improvement over the present EPIRB required by U.S. Coast Guard regulations. Present EPIRB and emergency locator transmitters (ELT) both transmit the same 121.5 MHz distress signal without any identification as to the source of the distress signal. Only the general location of the present (121.5/243 MHz) EPIRB and ELT distress signals can be determined by commercial aircraft. An extensive search by rescue units is required to precisely locate a vessel in distress. A ground station within about 2,000 miles of the signal is all that is necessary for satellite detection of 121.5/243 MHz EPIRBs. Note that with the 406 MHz EPIRB or ELT there is no limitation of distance, since the satellite records the signals. When activated, these EPIRBs will be detected anywhere on earth. When final regulations approving the use of the new 406 MHz EPIRB are issued, vessels should take advantage of this new type of EPIRB as soon as possible.

The COSPAS - SARSAT international search and rescue satellite system has proven effective in providing alert and location data in over 300 aviation and marine distress incidents resulting in the rescue of over 700 persons (as of September 1987, this total is now over 900 persons).

3. Availability of the Safety Board Report

The complete 10-page National Transportation Safety Board in English only will be made available upon request by any delegate to this Conference.



INTERNATIONAL TELECOMMUNICATION UNION

GENEVA, September-October 1987

Document 173-E 21 September 1987 Original: English

Source: Document 147

TECHNICAL WORKING GROUP OF THE PLENARY

NOTE FROM THE CHAIRMAN OF COMMITTEE 4 TO THE CHAIRMAN OF THE TECHNICAL WORKING GROUP OF THE PLENARY

Committee 4 is considering the proposals relating to the modification. 1. of the Table of Frequency Allocations. Some proposals relate to technical matters, which are within the terms of reference of the Technical Working Group, of the Plenary. In this connection, particular mention is made of Documents 56, 65 - 69 and 78 - 84, which are allocated to the Technical Working Group of the Plenary.

The Technical Working Group of the Plenary is, therefore, requested to advise Committee 4, as soon as possible, on the matters treated in the above documents which are relevant to frequency allocation and frequency use.

2. The Technical Working Group of the Plenary is also asked to give its opinion on the comments of the IFRB (Document 4) and particularly on paragraph 2.2.2.

> O. VILLANYI Chairman of Committee 4

Document 174-E 21 September 1987 Original: English

COMMITTEE 4

Arab Republic of Egypt

PROPOSAL FOR THE WORK OF THE CONFERENCE

ARTICLE 8

Frequency Allocations

MHz

	Allocation to Services				
	Region 1	Region 2	Region 3		
EGY/174/1		614 - 806	610 - 890		
	790 - 862 FIXED BROADCASTING	BROADCASTING Fixed Mobile	FIXED MOBILE BROADCASTING		
MOD	694 695 696 MOD 697 698 699 702	675 692 693 806 - 890			
	862 - 890 FIXED MOBILE except aeronautical mobile	FIXED MOBILE BROADCASTING			
	BROADCASTING				
	<u>703</u> 699 704				
		700	677 688 689 690 691 693 701		

EGY/174/2

MOD 697

Additional allocation: in the Federal Republic of Germany, Denmark, Egypt, Finland, ... (remainder of the text unchanged).

For reasons of economy, this document is printed in a limited number of copies. Participants are therefore kindly asked to bring their copies to the meeting since no others can be made available.

INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 175-E 22 September 1987 Original: English

COMMITTEE 4

REPORT FROM CHAIRMAN OF DRAFTING GROUP 4-1

Drafting Group 4-1, according to its terms of reference, held a meeting on 21 September 1987 and agreed on the following text:

DRAFT GUIDANCE FROM COMMITTEE 4 TO ITS WORKING GROUPS

In an attempt to establish the meaning of the term "minimum effect" used in the agenda of the Conference, the following guidelines are given to assist the Working Groups of Committee 4.1

If a frequency band is allocated only to one or more services included 1. in the agenda for the Conference, the Conference is competent to adopt any decisions concerning these services.

The Conference may not remove or reduce the status of any existing 2. allocation to a service not included in the agenda for the Conference.

The Conference may not introduce a new allocation which would unduly 3 restrict the future use of a band already allocated to a service which is not included in the agenda for the Conference.

4. If it is impossible to reach an agreement on a particular issue, the Committee may recommend to the Plenary of this Conference that the matter should be referred to a future competent WARC or to the CCIR to study the question.

> M. GODDARD Chairman of Drafting Group 4-1

¹ [These are guidelines only. In <u>exceptional</u> cases, on a case-by-case basis, the Committee may decide differently.]

INTERNATIONAL TELECOMMUNICATION UNION
WARC FOR THE MOBILE SERVICES

GENEVA, September-October 1987

DB-87

Document 176-E 21 September 1987 Original: English

COMMITTEES 5 AND 6

NOTE TO THE CHAIRMEN OF COMMITTEES 5 AND 6 FROM THE CHAIRMAN OF THE TECHNICAL WORKING GROUP OF THE PLENARY

The Technical Working Group of the Plenary decided at its fourth meeting, that no appendix on technical characteristics for digital selective calling equipment would be prepared, but references should be made to the relevant CCIR Recommendations in the appropriate Articles of the Radio Regulations.

> E. GEORGE Chairman of the Technical Working Group of the Plenary



INTERNATIONAL TELECOMMUNICATION UNION

Document 177-E 21 September 1987 Original: English

COMMITTEE 5

NOTE TO THE CHAIRMAN OF COMMITEE 5 FROM THE CHAIRMAN OF THE TECHNICAL WORKING GROUP OF THE PLENARY

The Technical Working Group of the Plenary decided at its fourth meeting, that no appendices on technical characteristics for satellite EPIRBs working on 406 MHz and on 1.6 GHz would be prepared, but references should be made to the relevant CCIR Recommendations in the appropriate Articles of the Radio Regulations.

> E. GEORGE Chairman of the Technical Working Group of the Plenary

Document 178-E 22 September 1987 Original : French

PLENARY MEETING

Note by the Secretary-General

TRANSFER OF POWERS

Vatican City State - Italy

Under the terms of No. 391 of the Convention, the Government of the Vatican City State, which is unable to send its own delegation to the Conference, has given the powers to represent it to the delegation of Italy.

The instrument of transfer of powers has been deposited with the Conference Secretariat.

R.E. BUTLER

Secretary-General

NOB-87 INTERINATIONAL TELECOMMENTER MOBILE SERVICES GENEVA, September-October 1987 INTERNATIONAL TELECOMMUNICATION UNION

Document 179-E 21 September 1987 Original: English

COMMITTEE 4

FIRST REPORT OF WORKING GROUP 4-C TO COMMITTEE 4

Working Group 4-C has held three meetings (16, 17 and 1. 21 September 1987).

Sub-Working Group 4-C/1 was set up to establish a list of basic 2. principles for revising Appendix 31. It held two meetings (17 and 18 September 1987). A list of basic principles was drawn up and submitted to Working Group 4-C at its third meeting on 21 September 1987.

The Working Group considered DT/16 and agreed that the list contained 3. all the principles on which agreement is to be reached before undertaking the detailed revision of Appendix 31.

The principles mentioned in Annex 1 to this document were agreed by 4. the Working Group.

5. The Working Group also decided that the Technical Working Group of the Plenary should be requested to advise on the technical feasibility of draft basic principle No. 19 (see draft note to the Chairman of the Technical Working Group of the Plenary in Annex 2 to this document).

> A.R. VISSER Chairman of Working Group 4-C

> > ي.

Annexes: 2

ANNEX 1

Basic Principles for Revising Appendix 31

1. To revise Appendix 31 on the basis of 3 kHz spacing for radiotelephony, the carrier frequencies being integer multiples of 1 kHz.

2. To include in Appendix 31 the bands referred to in RR 532 and RR 544.

Note: some delegations expressed reservations.

3. To increase the number of paired frequencies for duplex operations:

- a) for SSB radiotelephony,
- b) for NBDP.

r.

4. To provide a maximum possible spacing between transmitting frequencies of ship and coast stations for duplex operations (telephony and NBDP).

5. To increase the number of channels for simplex radiotelephony.

10. To maintain unchanged to the maximum extent practicable the distress frequencies allocated in the GMDSS for DSC, NBDP and SSB radiotelephony.

- 3 -MOB-87/179-E

ANNEX 2

Draft Note from the Chairman of Committee 4 to the Chairman of the Technical Working Group of the Plenary

At its fifth meeting Committee 4 decided to request the Technical Working Group of the Plenary to advise urgently on the technical feasibility of using the ship stations frequencies of the new NBDP (paired) channels to be used for ship stations AlA Morse telegraphy working.



INTERNATIONAL TELECOMMUNICATION UNION **NOB-87** INTERNATIONAL TELECOMMENTS WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 180-E 21 September 1987 Original: English

TECHNICAL WORKING GROUP OF THE PLENARY

NOTE BY THE CHAIRMAN OF COMMITTEE 5 TO THE CHAIRMAN OF THE TECHNICAL WORKING GROUP OF THE PLENARY

In response to the invitation to Committee 5 to express its opinion on the operational matters of the proposal USA/24/721, Committee 5 agreed that:

> Equipment used for on-board communications in the 450 - 470 MHz bands. shall, if also used in survival craft, be capable of simpler operation on all frequencies provided in the equipment.

The Committee also recommended that such equipment should be provided with the frequency 457 - 525 MHz.

> P.E. KENT Chairman of Committee 5

INTERNATIONAL TELECOMMUNICATION UNION

WARC FOR THE MOBILE SERVICES

GENEVA, September-October 1987

Document 181-E 21 September 1987 Original: English

TECHNICAL WORKING GROUP OF THE PLENARY

COMMITTEE 4

United States of America

CONSIDERATIONS REGARDING THE RADIODETERMINATION-SATELLITE SERVICE

Studies of the conditions required for sharing the bands 1 610 - 1 626.5 MHz, 2 483.5 - 2 500 MHz and 5 117 -5 183 MHz between the radiodetermination-satellite service and the various services to which these bands are currently allocated have been performed by the CCIR and presented in CCIR Report 1050 and Sections 6.2.9, 6.2.10, and 6.10 of the Report of the Special Meeting of CCIR Study Group 8 (Document 3). Additional studies are contained in Documents 65, 66, and 67 submitted by the United States to this Conference.

In discussions to date, some administrations have stated that these studies do not provide a sufficient basis to adopt the proposed frequency allocations for the radiodetermination-satellite service. While these administrations urge further studies before allocations are made to the radiodetermination-satellite service, they have provided no technical showing that the bands cannot be shared with minimum effect on existing users.

On the other hand, a number of administrations have submitted documents to the conference which support the allocation of frequency bands to the radiodetermination-satellite service. These proposals include specific technical sharing criteria. These proposals therefore, form a solid basis for establishing the conditions necessary to allocate the proposed bands to the radiodetermination-satellite service on a primary basis. As with many other new (and even established) services in the past, the CCIR can be tasked with the responsibility of continuing its technical studies using the experience gained with actual operating systems in the bands allocated by this Conference.

The technical basis has therefore been established to allocate the proposed frequency bands to the radiodetermination-satellite service on a primary basis.

UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS **MOB-87** UNION INTERINATIONALE DECLEMENTERS MOBILES GENÈVE, septembre-octobre 1987

Document 182-F/E/S 22 septembre 1987 Original: Anglais English Inglés

> COMMISSION 6 COMMITTEE 6 COMISION 6

PREMIER RAPPORT DU PRESIDENT DU GROUPE DE TRAVAIL 6-B A LA COMMISSION 6

Le Groupe de travail 6-B recommande que la présente Conférence adopte une disposition pour satisfaire les besoins de fréquences pour la correspondance publique avec des aéronefs sur une base mondiale. Cette disposition doit être établie par la Commission 4 pour la ou les bande(s) de fréquences approprié(es). La Commission 4 doit également décider si elle doit figurer dans l'Article 8 ou dans l'Article 50 du Règlement des radiocommunications. Une fois cette décision prise, le Groupe de travail 6-B pourra, si nécessaire, revenir à la révision de l'Article 50 du Règlement des radiocommunications.

FIRST REPORT OF THE CHAIRMAN OF WORKING GROUP 6-B TO COMMITTEE 6

Working Group 6-B recommends that this Conference make provision to satisfy frequency requirements for public correspondence to aircraft on a global basis. This provision needs to be made by Committee 4 in appropriate frequency band(s). Committee 4 also needs to decide whether the provision is to be expressed in Article 8 or Article 50 of the Radio Regulations. Once these decisions are made, Working Group 6-B can, if necessary, then return to the revision of Article 50 of the Radio Regulations.

PRIMER INFORME DEL PRESIDENTE DEL GRUPO DE TRABAJO 6-B A LA COMISION 6

El Grupo de Trabajo 6-B recomienda que la presente Conferencia tome disposiciones con objeto de satisfacer las necesidades de frecuencias para correspondencia pública con las aeronaves sobre una base mundial. A la Comisión 4 corresponde tomar estas disposiciones en la banda o las bandas de frecuencias adecuadas. La Comisión 4 habrá de decidir también si las disposiciones habrán de figurar en el Artículo 8 o en el Artículo 50 del Reglamento de Radiocomunicaciones. Una vez tomada la decisión, el Grupo de Trabajo 6-B podrá, en caso necesario, reanudar la revisión del Artículo 50 del Reglamento de Radiocomunicaciones.

> Y. HIRATA Président - Chairman - Presidente GT/WG 6-B

Pour des raisons d'économie, ce document n'a été tiré qu'en un nombre restreint d'exemplaires. Les participants sont donc priés de bien vouloir apporter à la réunion leurs documents avec eux, car il n'y aura pas d'exemplaires supplémentaires disponibles.

UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS **NOB-87** CAMR POUR LES SERVICES MOBILES GENÈVE, septembre-octobre 1987

Corrigendum 1 au Document 183-F/E/S 24 septembre 1987 4

Association du transport aérien international

Page 1, point 2, remplacer la dernière phrase par la suivante :

"Les conditions de certification imposées par les autorités aéronautiques sont beaucoup plus rigoureuses et leur application plus coûteuse : cet aspect de la situation exclut lui aussi tout projet de conception d'équipements mobiles communs au service mobile aéronautique et au service mobile terrestre."

Page 2, point 4, remplacer la 2ème et la 3ème phrase par ce qui suit :

"La situation pourrait évoluer au point de provoquer, en raison de besoins sécuritaires du service aéronautique, des retards intolérables dans le service terrestre. Si tel devait être le cas, il est assez peu problable que les investissements déjà consentis dans le domaine du service mobile terrestre seraient passés par profits et pertes."

Point 5, remplacer la dernière phrase par la suivante :

"Ces deux études indiquent que toute la bande sera nécessaire pour le trafic de sécurité vers 2010."

Point 7, 4ème ligne, remplacer "sont appelés" par "se préparent"

Asociación del Transporte Aéreo Internacional

Página 1, punto 3, sustitúyase la primera frase por la siguiente:

"3. La compartición de espectro entre los servicios móvil terrestre y movil aeronáutico en tiempo real y régimen preferencial es completamente impracticable."

(This corrigendum does not concern the English text.)

Pour des raisons d'économie, ce document n'a été tiré qu'en un nombre restreint d'exemplaires. Les participants sont donc priés de bien vouloir apporter à la réunion leurs documents avec eux, car il n'y aura pas d'exemplaires supplémentaires disponibles.

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA. September-October 1987

Document 183-E 22 September 1987 Original: English

COMMITTEE 4

International Air Transport Association

INFORMATION NOTE

FUNDAMENTAL CONSIDERATIONS FOR L-BAND ALLOCATIONS

There are a number of fundamental considerations which indicate that the frequency bands 1545-1559 MHz and 1645.5-1660.5 MHz should remain allocated by this conference to the Aeronautical Mobile Satellite(R) Service.

- There are important differences between the 1. Land Mobile and Aeronautical Mobile services which prevent those services from sharing spectrum and equipment types.
- Equipment types must inevitably be vastly Ξ. different because different technical and operational standards will prevail between aeronautical and land mobile satellite services. Common equipment will therefore not be possible. Air carrier aircraft will use high gain antennas. The estimated cost of aircraft equipment to current specifications is between \$100,000 and \$150,000. A truck owner would not be willing to make such an investment in mobile communication equipment. The requirements of reliability and integrity are very much higher in the aeronautical mobile service. Aeronautical authority certification requirements are much more stringent and costly which will also preclude development of common mobile equipment for aeronautical and land mobile services.
- з. Sharing of spectrum between land mobile and aeronautical mobile services on a real time pre-emptive basis is completely impractical. It implies one world-wide common system which would be anti-competitive. It implies degree of technical and operational a co-ordination between different services and responsible authorities on a world wide basis that could never be achieved in practice. In pointed out in conference reality, as Document 84 para 3.2.1., separate spectrum is

required for the two services because safety requirements cannot be guaranteed unless such provisions are made. Thus proponents of a so-called "shared" spectrum environment are really suggesting that "exclusive" spectrum must be made available to ensure the integrity of aeronautical services.

- 4. Proponents of the real time pre-emptive access philosophy accept that aeronautical safety service requirements could force a reduction in spectrum available to Land Mobile. This could be carried to the extent that intolerable delays were experienced by land mobile service because of aerothe nautical safety requirements. If this were to occur it is inconceivable that prior investments made by the land mobile service would be readily given up.
- 5. The Aeronautical Mobile Service requires a large amount of spectrum for safety traffic since all air traffic control and much aircraft operational control traffic is safety related. This is not the case with land mobile services where safety related traffic is minimal. Spectrum requirements have been estimated for the aeronautical satellite services in two independent studies; one by ICAO and one by ARINC. Both show the total band will be required for safety traffic about the year 2010.
- 6. If there is an urgent requirement for Land Mobile satellite services in Regions 2 and 3 use could be made of Regulations 700 and 701 wherein spectrum in the 800 MHz band has been made available.
- 7. For the above reasons any decision concerning changes to the allocations in the frequency bands 1545-1559 MHz and 1645.5-1660.5 MHz would be prejudicial to the aeronautical services which are poised to exploit satellite communications. A future allocation conference as proposed by the CEPT Administrations will be able to better judge the reliability of the spectrum estimates. In the meantime the aeronautical community, including the airlines. wi11 be given confidence that the investments they are about to make will be protected.

INTERNATIONAL TELECOMMUNICATION UNION WOB-87 WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 184-E 22 September 1987 Original: English

COMMITTEE 4

Note from the Chairman of Committee 4

GUIDANCE FROM COMMITTEE 4 TO ITS WORKING GROUPS

In an attempt to establish the meaning of the term "minimum effect" used in the agenda of the Conference, the following guidelines are given to assist the Working Groups of Committee 4.

If a frequency band is allocated only to one or more services included 1. in the agenda for the Conference, the Conference is competent to adopt any decisions concerning these services.

2. The Conference may not remove or reduce the status of any existing allocation to a service not included in the agenda for the Conference.

The Conference may not introduce a new allocation which would unduly 3. restrict the future use of a band already allocated to a service which is not included in the agenda for the Conference.

4. If it is impossible to reach an agreement on a particular issue, the Committee may recommend to the Plenary of this Conference that the matter should be referred to a future competent WARC or to the CCIR to study the question.

> O. VILLANYI Chairman of Committee 4

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INTERNATIONAL TELECOMMUNICATION UNION

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 185-E 22 September 1987 Original: English

COMMITTEE 4

SUMMARY RECORD

OF THE

FIFTH MEETING OF COMMITTEE 4

(FREQUENCY)

Tuesday, 22 September 1987, at 0900 hrs

Chairman: Dr. O. VILLANYI (Hungary)

Subjects discussed:		Documents
1.	Summary records of the first and second meetings of Committee 4	118, 137
2.	First report from the Chairman of Working Group 4-C	179
3.	Report of the Drafting Group 4 ad hoc 1 ("minimum effect")	175

1. <u>Summary records of the first and second meetings of Committee 4</u> (Documents 118 and 137)

The summary record of the first meeting was <u>approved</u> as amended (see Corrigendum 1 to Document 118).

The summary record of the second meeting (Document 137) was approved.

2. First report from the Chairman of Working Group 4-C (Document 179)

2.1 The <u>Chairman of Working Group 4-C</u> introduced Document 179. Drawing the Committee's attention to the fact that some delegations had expressed reservations with regard to item 2 of Annex 1, he suggested that discussion of the item should continue in the Working Group in an attempt to reach consensus.

2.2 The <u>delegate of Argentina</u> pointed out that item 5 of Annex 1 was redundant as it would be included in the revision of Appendix 31.

2.3 The <u>delegate of Algeria</u> having repeated his Delegation's reservation with respect to item 2, the <u>Chairman</u> suggested that further discussion on those points should be referred to Working Group 4-C.

It was so agreed.

2.4 The <u>delegate of Brazil</u>, noting that the wording of the English version only of item 10 of Annex 1 differed from that in paragraph <u>resolves</u> 2 of Resolution No. 319, proposed that it be realigned on the latter text.

It was so agreed.

3.

With that amendment Annex 1 and Annex 2 were approved.

Report of the Drafting Group 4 ad hoc 1 ("minimum effect") (Document 175)

3.1 The <u>Chairman of Drafting Group 4-1</u>, introducing Document 175, said the text submitted by the Group reflected the discussion on the subject at the previous meeting of Committee 4. The wording of guidelines 1 and 2 had been agreed at that meeting. Guideline 3 included the word "unduly"; that reflected the majority view expressed in the Committee despite a number of objections. Guideline 4 had been redrafted to make clear the Committee's view that Committee 4 and its Working Groups should endeavour to resolve as many problems as possible without having recourse to the Plenary and that it was not within the Committee's terms of reference to refer matters to a future WARC or to the CCIR. In view of the point made in the Committee that the text should make quite clear that it was merely laying down guidelines for its Working Groups and not excluding the possible acceptance of exceptions in individual cases, the Drafting Group had added the footnote at present in square brackets.

3.2 The <u>delegates of the USSR</u>, <u>India</u>, <u>Burkina Faso</u>, <u>Paraguay</u>, <u>Sweden</u>, <u>Canada</u>, <u>Spain</u>, <u>Switzerland</u>, <u>France</u>, the <u>United States</u>, <u>Romania</u>, <u>Mexico</u>, <u>China</u> and the <u>Netherlands</u> supported acceptance of the main body of the text as it stood.

3.3 In reply to a request for clarification from the <u>delegate of Paraguay</u>, the <u>delegate of Romania</u>, supported by the <u>delegate of Mexico</u>, said that in guideline 1 it might be preferable to replace the word "only" by "exclusively" in order to make it quite clear that no band including services outside the agenda of the Conference was involved.
3.4 The <u>delegates of Spain</u>, <u>Mexico</u> and <u>Argentina</u> drew the Committee's attention to the fact that in the Spanish version only of guideline 3 the word "asignación" was incorrect and should be replaced by "atribución".

3.5 The <u>delegates of Pakistan</u> and <u>Saudi Arabia</u> said they continued to have doubts about the wisdom of including the word "unduly" in guideline 3.

3.6 The <u>Chairman</u> reminded the Committee that a considerable amount of discussion had already taken place in the Committee itself and in the Drafting Group on the proposed guidelines. The main body of the text represented a compromise and in any case would not preclude the Conference taking any decisions it considered necessary.

On that understanding, the main body of the text, with the amendment to the Spanish version, was <u>approved</u>.

3.7 A discussion then ensued on the question of the footnote in square brackets, in which the <u>delegates of the USSR</u>, <u>India</u>, <u>Burkina Faso</u>, <u>Paraguay</u>, <u>Pakistan</u>, <u>Switzerland</u>, <u>France</u>, <u>Romania</u> and <u>China</u> expressed opposition to its inclusion in the text. The fact that guidance only was being provided to the Working Groups of Committee 4 was already adequately covered in the main body of the text.

3.8 The <u>delegate of India</u>, supported by the <u>delegate of Switzerland</u>, considered further that the footnote might give too much flexibility to the guidelines, especially to guideline 2, which was an absolute instruction.

3.9 The <u>delegates of the United States</u>, <u>Ethiopia</u> and the <u>Netherlands</u> were in favour of adding the footnote to the text.

3.10 The <u>Chairman</u> again reminded the Committee that the guidelines adopted represented a compromise and would provide no more than guidance for the Working Groups.

3.11 The <u>delegate of the United States</u> said that, on the understanding that the guidelines as adopted would not preclude the Committee or the Conference from studying various proposals on their own merits in individual circumstances, his Delegation would not insist in inclusion of the footnote.

On that understanding, it was <u>decided</u> not to include the proposed footnote in the guidelines.

The meeting rose at 1005 hours.

The Secretary:

The Chairman:

T. GAVRILOV

O. VILLANYI

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 186-E 29 September 1987 Original: English

COMMITTEE 6

SUMMARY RECORD

OF THE

THIRD MEETING OF COMMMITTEE 6

(MOBILE AND RADIODETERMINATION SERVICES

- EXCEPT DISTRESS AND SAFETY)

Tuesday, 22 September 1987, at 1405 hrs

Chairman: Mr. I.R. HUTCHINGS (New Zealand)

Subjects discussed:

Documents

- Summary records of the first and second meetings 139, 160 of Committee 6
- 2. First report of Working Group 6-B to Committee 6 182
- Oral reports by the Chairmen of Working Groups 6-A and 6-B

1. <u>Summary records of the first and second meetings of Committee 6</u> (Documents 139, 160)

The summary record of the first meeting (Document 139) was approved.

The summary record of the second meeting (Document 160) was <u>approved</u> subject to corrections to paragraphs 2.2 and 2.24 (see Corrigendum 1 to Document 160-E)

2. First report of Working Group 6-B to Committee 6 (Document 182)

2.1 The <u>Chairman of Working Group 6-B</u> said that, after discussing the treatment of public correspondence in connection with Article 50, the Working Group had reached a consensus on the text appearing in Document 182.

2.2 The <u>Chairman</u> said it should be made quite clear that Document 182 contained a statement of principle rather than any specific amendment to Article 50. Amendments to Article 50, if any, would of course depend on the decisions taken by Committee 4 with respect to frequencies and allocation to services.

The Committee approved the recommendation in Document 182.

2.3 The <u>delegate of the United States</u> said that, although his Delegation supported Document 182, it had proposed in the Working Group to add a final sentence reading "The Committee was in agreement that the aeronautical mobile (R) frequency bands must not be used for public correspondence" and that this reference to the bands currently allocated to terrestrial stations in the aeronautical mobile (R) service reflected the discussion in Working Group 6-B but had not been entered in Document 182.

2.4 The <u>delegate of Cuba</u> expressed doubts concerning the establishment of a global aeronautical public correspondence service that would entail big investments and since the need for such a service had not been established, although many administrations had proposed its introduction. He considered that the addition of any mention of a frequency band or bands would only complicate the work of Committee 4.

2.5 The <u>delegate of Spain</u> considered that the proposed new sentence was unnecessary, since the text in Document 182 covered the concerns of all administrations with respect to public correspondence. The <u>delegate of France</u> agreed, adding that the introduction of the sentence might have the effect of restricting the options of Committee 4 in deciding on the issue. The <u>delegates</u> <u>of Netherlands</u>, <u>Senegal</u>, <u>Sweden</u>, <u>the United Kingdom</u>, <u>Algeria</u> and <u>Greece</u> considered that Document 182 should remain unchanged and should be forwarded to Committee 4 as soon as possible.

2.6 The <u>delegates of Burkina Faso</u>, <u>Brazil</u>, <u>Canada</u>, <u>Chile</u> and <u>Mexico</u> supported the United States' proposal, in the belief that an indication to Committee 4 of the need to preserve the existing status of the terrestrial services in question would be useful. The <u>observer for ICAO</u> said that his Organization was in favour of the proposed sentence on the understanding that this addition would not be extended to aeronautical mobile satellite bands. The observer from ICAO drew attention to paragraph 2.11 of the summary record (Document 160) approved earlier in the meeting. 2.7 The <u>Chairman</u> suggested as a compromise solution that the words "As a guideline" should be inserted at the beginning of the proposed additional sentence. The <u>delegate of the United States</u> accepted that amendment.

2.8 The <u>delegates of Switzerland</u>, <u>Paraguay</u>, <u>Spain</u>, and <u>Sweden</u> said that they could not support the suggestion and preferred Document 182 to remain unchanged. Sweden further noted that the terms of reference of Committee 6 did not provide for frequency considerations.

2.9 The <u>delegates of Italy</u>, <u>Mexico</u>, <u>Canada</u>, <u>Burkina Faso</u>, <u>Côte d'Ivoire</u>, <u>Indonesia</u> and <u>Saudi Arabia</u> supported the United States proposal as amended by the Chairman.

2.10 The <u>delegate of the United Kingdom</u> said it would be a mis-statement of fact to indicate to Committee 4 that Committee 6 had agreed on any guideline. The sentence might conceivably be reworded to read "As a guideline, some administrations considered that the aeronautical mobile (R) frequency bands should not be used for public correspondence". The <u>delegate of the United States</u> admitted that such a qualification might be required but thought that the word "some" should be replaced by "many".

2.11 After further discussion, the <u>delegate of the United States</u> said he could agree that Document 182 should be forwarded to Committee 4 as it stood, provided that the text was accompanied by a note drawing attention to the passage from the approved summary record of the second meeting cited by the observer for ICAO (see 2.6 above).

It was so decided.

3. Oral reports by the Chairmen of Working Groups 6-A and 6-B

3.1 The <u>Chairman of Working Group 6-A</u> said that the Working Group had held six meetings and the work programme could be divided into three sub-categories first, items for which no changes or some non-controversial changes were proposed and items for which all proposals were the same; second, high-priority items for which other Committees would require comments from Committee 6, and finally, controversial items for which a significant amount of time was expected to be needed.

The Working Group had approved no changes for Articles 19, 54 and 57 and Appendix 12, as well as the suppression of Resolution No. 308 and Recommendation No. 313 and a minor modification to Appendix 14 proposed by China had been supported in the Working Group; additions to that Appendix concerning use of the abbreviation RCC might have to be brought to the attention of Committee 5 for the development of proposals for Article 1.

The Working Group had given preliminary consideration to Article 66 and Resolution No. 315, as well as to Article 26 and Appendices 9 and 11. That work was expected to be completed at the Group's next meeting. Consideration of Article 59 had been begun, and the Drafting Group on that Article should be able to complete its work in one or two more meetings. Finally, the Working Group had entered into the difficult general discussion of Articles 55 and 56, during which two extreme views had emerged on the question whether or not technical certificates associated with repair and maintenance functions were appropriate for the Radio Regulations. No consensus or agreement had yet been reached, but it was hoped that some compromise proposals would be submitted soon.

- 4 -MOB-87/186-E

3.2 The <u>Chairman of Working Group 6-B</u> reminded the Committee that his Group had divided its work into four categories - aeronautical services, radiodetermination services, land mobile services and miscellaneous. The Group had held four meetings and had considered Article 42A, for which it recommended no change, and Article 43, in connection with which difficulties concerning the wording of RR 3364 had been successfully resolved. The Working Group's report on Article 50 had just been discussed by Committee 6. Consideration of Article 44 had been begun and would continue at the Group's forthcoming meeting.

Working Group 6-B intended to complete consideration of all matters relating to the aeronautical services - with the exception of Article 50 - by the end of the current week and then to take up the remainder of the provisions assigned to it.

3.3 The <u>Chairman</u> observed that Working Groups 6-A and 6-B were scheduled to complete their work by Wednesday, 7 October 1987.

The meeting rose at 1515 hours.

The Secretary:

The Chairman:

S. CHALLO

I.R. HUTCHINGS



Document 187-E 22 September 1987 Original : French

COMMITTEE 2

First Report by Working Group 2-A to Committee 2

The Working Group of Committee 2 (Credentials) met on 21 September 1987. It examined the credentials of the following delegations :

(In French alphabetical order)

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Albania (Socialist People's Republic of)
Germany (Federal Republic of)
Argentine Republic
Belgium
Byelorussian Soviet Socialist Republic
Canada
China (People's Republic of)
Cyprus (Republic of)
Colombia (Republic of) *
Korea (Republic of)
Costa Rica
Côte d'Ivoire (Republic of)
Cuba
Denmark
Spain
Finland
France
Greece
Guinea (Republic of)
Iraq (Republic of)
Ireland
Japan
Jordan (Hashemite Kingdom of)
Kenya (Republic of)
Kuwait (State of)
Lebanon
Liberia (Republic of)
Libya (Socialist People's Libyan Arab Jamahiriya)
Madagascar (Democratic Republic of)
Malaysia
Mexico *
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* Provisional credentials

Monaco Norway New Zealand Oman (Sultanate of) Panama (Republic of) Paraguay (Republic of) Netherlands (Kingdom of the) Poland (People's Republic of) Portugal German Democratic Republic Ukrainian Soviet Socialist Republic Romania (Socialist Republic of) United Kingdom of Great Britain and Northern Ireland San Marino (Republic of) Senegal (Republic of) Singapore (Republic of) Sweden Switzerland (Confederation of) Suriname (Republic of) Tanzania (United Republic of) Thailand Togolese Republic Trinidad and Tobago Turkey Union of Soviet Socialist Republics Uruguay (Eastern Republic of) Viet Nam (Socialist Republic of) Yugoslavia (Socialist Federal Republic of) Zambia (Republic of)

These credentials are all in order.

V.A. RASAMIMANANA

Chairman of Working Group 2-A

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 188-E 22 September 1987 Original: English

COMMITTEES 5, 6

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

At its fifth meeting, held on 22 September 1987, Committee 4 approved the "Guidance from Committee 4 to its Working Groups" concerning the term "minimum effect" used in the agenda of the Conference. These guidelines, given to assist the Working Groups of Committee 4, are to be found in Document 184.

> O. VILLANYI Chairman of Committee 4



Document 189(Rev.1)-E 25 September 1987 Original: English

WORKING GROUP 4-B

REPORT OF THE CHAIRMAN OF DRAFTING GROUP 4-B-1

Please find attached the draft of the NAVTEX coordination procedure established by Drafting Group 4-B-1 with a view to including it in the Radio Regulations as a new Article 14A.

C. van DIEPENBEEK Chairman of Drafting Group 4-B-1

ARTICLE 14A

Procedure to be Applied by Administrations and the Board for the Coordination of the Planned Use of the Frequency 518 kHz for the Transmission by Coast Stations of Navigational and Meteorological Warnings and Urgent Information to Ships by Means of Automatic Narrow-Band Direct-Printing Telegraphy ([International NAVTEX system])

1631 Before an administration notifies to the Board a frequency assignment to a coast station for the transmission of navigational and meteorological warnings and urgent information to ships by means of automatic narrow-band direct-printing telegraphy, it shall effect coordination of the assignment with any other administration whose assignment in the same frequency band might be affected.

1632 To this effect, the administrations shall communicate to the Board not earlier than one year before the proposed date of putting the assignment into use the information listed in Section A of Appendix 1 together with the following additional characteristics:

(1) the Bl character (transmitter coverage area identifier) to be used by the coast station;

(2) regular transmission schedule allocated to the station;

(3) the duration of transmissions;

(4) the ground-wave coverage area of transmission.

The administrations shall also indicate the results of any coordination* already effected in relation with the projected use.

1633 In order to enable the procedure to be completed in due time before notification under RR 1214, administrations should communicate the above information not later than six months before the proposed date of putting the assignment into use.

1634 In cases where the Board finds that a basic characteristic or any of the additional characteristics is missing it shall return the request by airmail, with the reason therefore unless the information not provided is immediately forthcoming in response to an enquiry of the Board.

^{* &}lt;u>Note</u> - Administrations are strongly recommended to effect coordination of the above characteristics in accordance with the procedures of the International Maritime Organization (IMO).

The Board shall examine the proposed use with respect to assignments to stations of other services to which the band 517.5 - 518.5 kHz is allocated, notified under RR 1214 at an earlier date and shall identify the administrations whose assignments are likely to be affected.

- 1636 The Board shall, within 45 days of the receipt of the complete information, publish it in a special section of its weekly circular indicating any coordination already effected and the names of administrations identified in application of RR 1635. The Board shall communicate a copy of this publication to the International Maritime Organization, the International Hydrographic Organization, and the World Meteorological Organization, requesting them to communicate to the administrations concerned, with a copy to the Board, any information which may assist in reaching agreement on coordination.
- 1637 At the expiry of a period of four months from the date of publication of the information in the special section, the administration responsible for the assignment should notify the Board in accordance with RR 1214 indicating the names of administrations with which agreement was reached and those which have expressly communicated their disagreement.
- 1638 Upon receipt of the notice, the Board shall request those administrations appearing in the special section which have not communicated their agreement or disagreement to the proposed use to indicate within a period of 30 days their decision on the matter.
 - An administration which does not reply to the Board request made in application of RR 1638 or fails to give a decision on the matter shall be deemed to have undertaken:
 - a) that no complaint will be made in respect of any harmful interference which may be caused to its stations;
 - b) that its stations will not cause harmful interference to the proposed use.
- 1640 When examining the proposed use in accordance with Article 12, the Board shall apply the provisions RR 1245 except with respect to those assignments for which the responsible administration communicated its disagreement to the proposed use.
- 1641 The Board shall examine the notified assignments in accordance with RR 1241 using its technical standards and shall record them in accordance with the pertinent provisions of Article 12. Such recording shall contain symbols reflecting the result of the application of this procedure.
- 1642 The Board shall update and publish at appropriate intervals the data referred to in RR 1637 in a special list in an appropriate format.

1635

1639

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA. September-October 1987

Document 189-E 22 September 1987 Original: English

WORKING GROUP 4-B

REPORT OF THE CHAIRMAN OF DRAFTING GROUP 4-B-1

Please find attached the draft of the NAVTEX coordination procedure established by Drafting Group 4 B-1 with a view to including it in the Radio Regulations as a new Article 14A.

> C. van DIEPENBEEK Chairman of Drafting Group 4-B-1

ARTICLE 14A

Procedure to be Applied by Administrations and the Board for the Coordination of the Planned Use of the Frequency 518 kHz for the Transmission by Coast Stations of Navigational and Meteorological Warnings and Urgent Infomation to Ships by Means of Automatic Narrow-Band Direct-Printing Telegraphy (NAVTEX)

> 1631 Before an administration notifies to the Board a frequency assignment to a coast station for the transmission of navigational and meteorological warnings and urgent information to ships by means of automatic narrow-band direct-printing telegraphy, it shall effect coordination of the assignment with any other administration whose assignment in the same frequency band might be affected.

1632 To this effect, the administrations shall communicate to the Board not earlier than one year before the proposed date of putting the assignment into use the information listed in Section A of Appendix 1 together with the following additional characteristics*:

(1) the Bl character (transmitter coverage area identifier) to be used by the coast station(CCIR Recommendation 540);

(2) regular transmission schedule allocated to the station;

- (3) the duration of transmissions;
- (4) the ground-wave coverage area of transmission.
- 1633 In order to enable the procedure to be completed in due time before notification under RR 1214, administrations should communicate the above information not later than six months before the proposed date of putting the assignment into use.

1634 In cases where the Board finds that a basic characteristic or any of the additional characteristics is missing it shall return the request by airmail, with the reason therefore unless the information not provided is immediately forthcoming in response to an enquiry of the Board.

^{* &}lt;u>Note</u> - To obtain these characteristics, Administrations are recommended to effect coordination with the International Maritime Organization (IMO) in accordance with the NAVTEX manual as published by IMO.

1635 The Board shall examine the proposed use with respect to assignments to stations of other services to which the band 517.5 - 518.5 kHZ is allocated, notified under RR 1214 at an earlier date and shall identify the administrations whose assignments are likely to be effected.

1636 The Board shall, within 45 days of the receipt of the complete information, publish it in a special section of its weekly circular together with the names of administrations identified in application of RR 1635 and shall communicate a copy of this publication to the International Maritime Organization, the International Hydrographic Organization, and the World Meteorological Organization, requesting them to communicate to the administrations concerned, with a copy to the Board, any information which may assist in reaching agreement on coordination.

- 1637 At the expiry of a period of four months from the date of publication of the information in the special section, the administration responsible for the assignment should notify the Board in accordance with RR 1214 indicating the names of administrations with which agreement was reached and those which have expressly communicated their disagreement.
- 1638 Upon receipt of the notice, the Board shall request those administrations appearing in the special section which have not communicated their agreement or disagreement to the proposed use to indicate within a period of 30 days their decision on the matter.
- 1639 An administration which does not reply to the Board request made in application of RR 1638 or fails to give a decision on the matter shall be deemed to have undertaken:
 - a) that no complaint will be made in respect of any harmful interference which may be caused to its stations;
 - b) that its stations will not cause harmful interference to the proposed use.
- 1640 When examining the proposed use in accordance with Article 12, the Board shall apply the provisions RR 1245 except with respect to those assignments for which the responsible admninistration communicated its disagreement to the proposed use.
- 1641 The Board shall record the notified assignments in the Master Register with the appropriate dates and symbols reflecting the result of the application of this procedure.

1642 The Board shall update and publish at appropriate intervals the data referred to in RR 1586 in a special list in an appropriate format. **NOB-87** UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS CAMR POUR LES SERVICES MOBILES GENÈVE, septembre-octobre 1987

Corrigendum 1 to Document 190-E/F/S 23 September 1987 Original : English

Brazil (Federative Republic of)

In proposal B/190/1, replace ADD 408A by ADD 480A

Brasil (República Federativa del)

En la propuesta B/190/1, sustitúyase ADD 408A por ADD 480A

(Ce corrigendum ne concerne pas le texte français)



Document 190-E 22 September 1987 Original: English

COMMITTEE: 4

Brazil (Federative Republic of)

PROPOSAL FOR THE WORK OF THE CONFERENCE

Regional conferences establishing plans for radio services that do not have world-wide allocations are not competent to adopt interregional sharing criteria. This. is the case of the maritime mobile service in Region 1 in the bands 1 605.5 - 1 625 kHz and 1 635 - 1 800 kHz and the broadcasting service in Region 2 in the band 1 605 - 1 705 kHz.

Taking into account that the Plan for the MMS in Region 1 was based on groundwave service areas, the following provision should be entered into the Radio Regulations:

B/190/1

ADD 408A

In cases where a broadcasting station of Region 2 is concerned, the service area of the maritime mobile stations in Region 1 being considered shall be limited to that provided by ground-wave propagation.

INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 191-E 22 September 1987 Original: French

COMMITTEES 4, 5, 6

Republic of Zaire

PROPOSALS FOR THE WORK OF THE CONFERENCE

Ι. Maritime mobile service

Zaire will ensure that the international distress frequencies 500 kHz, 2 182 kHz, 156.8 MHz and the additional distress frequencies 4 125 kHz and 6 215.5 kHz will be properly used.

For distress and safety, the classes of emission used on frequency ZAI/191/1 500 kHz should be as follows: A2A - A2B - H2A and H2B.

- ZAI/191/2 For radiotelephony the class of emission should be H3E on frequency 2 182 kHz. It may be J3E for exchanges of distress traffic on the same frequency after acknowledgement of a distress call by means of digital selective calling techniques. Within the framework of digital selective calling, the frequency 456 kHz should be the national frequency for digital selective calling; the paired frequency at 459 kHz for ships. The frequency 1 624 kHz should also be the national channel for digital selective calling, the paired frequency at 2 159 kHz.
- ZAI/191/3 In connection with the use of the NAVTEX system for navigation and meteorological warnings, the Administration of Zaire is setting up an infrastructure for the broadcast transmission of meteorological and safety messages on the international frequency 518 kHz.
- ZAI/191/4 In connection with agenda item 2 of MOB-87, the Republic of Zaire supports all proposals for regulations to introduce the Future Global Maritime Distress and Safety System drawn up by the International Maritime Organization (IMO) and addressed to Member Administrations through the ITU General Secretariat.

However the implementation of the system will necessitate consideration of various economic and technical factors specific to the developing countries. In other words, whereas the technologically advanced countries wish to minimize as far as possible the period required for the entry into force of the system, we support the proposals of the developing countries aimed at extending this period with a view successively to enabling:



- 1) the system to be tried out and adapted to conditions of actual use;
- 2) the future distress and safety system to be used jointly and in parallel with the old safety system;
- 3) the exclusive use of the future global maritime distress and safety system.

II. <u>Aeronautical mobile service</u>

ZAI/191/5 Zaire will continue to apply the Recommendations, Resolutions and provisions of the International Civil Aviation Organization (ICAO) and the International Telecommunication Union (ITU) relating to the mobile services in general and to the aeronautical mobile service in particular as contained in ICAO Annex 10 and the ITU Radio Regulations.

A. Reduction of the frequency band 4 200 - 4 400 MHz

The Administration of Zaire will continue its studies in connection with the reduction of the frequency band 4 200 - 4 400 MHz reserved exclusively on a world-wide basis for radio altimeters installed on board aircraft, taking into account the relevant recommendations of the International Civil Aviation Organization.

B. <u>Requirements relating to the use of public correspondence by</u> aircraft

ZAI/191/6

In connection with public correspondence in aircraft, the Republic of Zaire reaffirms its position that No. 3633 (Article 50) which does not permit such operation should be retained.

This system must be fully compatible from the radio point of view with communications and radionavigation equipment used on aircraft, and equipment should be adapted to the technical and operational characteristics current in the developing countries.

ZAI/191/7

SUP C.

RESOLUTION No. 400

Relating to the Treatment of Notices Concerning Frequency Assignments to Aeronautical Stations in the Bands Allocated Exclusively to the Aeronautical Mobile (R) Service Between 2 850 kHz and 22 000 kHz

<u>Reasons</u>: The Republic of Zaire considers that this Resolution can be deleted in view of the fact that the IFRB has completed the necessary work.

ZAI/191/8

SUP D.

RESOLUTION No. 401

Relating to the Implementation of the Frequency Allotment Plan in the Bands Allocated Exclusively to the Aeronautical Mobile (R) Service Between 2 850 kHz and 22 000 kHz

<u>Reasons</u>: The Republic of Zaire considers that this Resolution should be deleted for the same reason as above.

ZAI/191/9

SUP E.

RESOLUTION No. 402

Relating to the Implementation of the New Arrangements Applicable to Bands Allocated Exclusively to the Aeronautical Mobile (R) Service Between 2 850 kHz and 22 000 kHz

Reasons: Should be deleted since the dates mentioned have now passed.

ZAI/191/10

SUP F.

RESOLUTION No. 404

Relating to the Implementation of the New Arrangement of Bands Allocated Exclusively to the Aeronautical Mobile (R) Service Between 21 924 kHz and 22 000 kHz

Reasons: Should be deleted since the dates mentioned have now passed.

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 192-E 22 September 1987 Original: English

COMMITTEE 7

FIRST SERIES OF TEXTS BY THE TECHNICAL WORKING GROUP OF THE PLENARY TO THE EDITORIAL GROUP

The texts contained in Document DT/9(Rev.2) as approved by the Technical Working Group of the Plenary without change.

The texts contained in Document DT/13 with modifications as approved at. the fifth meeting.

> E. GEORGE Chairman of the Technical Working Group of the Plenary

NOB-87 INTERNATIONAL TELECOMMUNICIPAL SERVICES GENEVA. September-October 1987 INTERNATIONAL TELECOMMUNICATION UNION

Corrigendum 1 to Document 193-E 30 September 1987 Original : English

COMMITTEE 4

age 2, Page 2, replace proposal **/193/3 by the following :

**/193/2 (Coi

<u>2 483.5</u> - 2 500	<u>2 483.5</u> - 2 500
RADIODETERMINATION- SATELLITE (space-to- Earth	RADIODETERMINATION-SATELLITE (space-to-Earth)
FIXED	FIXED
MOBILE	MOBILE
Radiolocation	RADIOLOCATION
752 753	752



INTERNATIONAL TELECOMMUNICATION UNION WOB-87 WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 193-E 22 September 1987 Original: English

COMMITTEE 4

Angola, Burkina Faso, Burundi, Cameroon, Côte d'Ivoire, Ethiopia, Republic of Guinea, Kenya, Liberia, Madagascar, Mali, Mauritania, Nigeria, Senegal, Sudan, Tanzania, Togo, Zambia and Zaire

PROPOSAL FOR THE WORK OF THE CONFERENCE

RADIODETERMINATION-SATELLITE SERVICE

Introduction

The unique demographic and geographic conditions present in the above-mentioned countries dictate communication and navigation requirements which can only be met by conventional telecommunication systems at prohibitive costs.

Radiodetermination-satellite service technology provides an effective solution to the various problems created by geographic conditions and by the less developed telecommunications infrastructures of these countries.

Therefore, the communication and navigation services offered by the radiodetermination-satellite service provide a solution to these difficult and particularly unique requirements found in these countries.

Accordingly, the above noted Administrations jointly propose that the following frequencies be allocated on a primary basis for the radiodetermination-satellite service.

- 2 -MOB-87/193-E

MHz

	Allocation to Services			
	Region 1	Region 2 Region 3		
**/193/1 MOD	1 610 - 1 626.5	AERONAUTICAL RADIONAVIGATION		
		RADIODETERMINATION-SATELLITE (Earth-to-space)		
		722 727 730 732 733 734		

<u>Reasons</u>: To provide position information related to transport management, aviation and marine navigation by radiodetermination-satellite service.

**/193/2 MOD	2 450 - 2 - 500 <u>2 483.5</u>		2 450 - 2 5 0 0 <u>2 483.5</u>
	FIXED		FIXED
	MOBILE	:	MOBILE
	Radiolocation	- - -	RADIOLOCATION
	752 753		752
**/193/3 MOD	<u>2 483.5</u> - 2 500		<u>2 483.5</u> - 2 500
	RADIODETERMINATION- SATELLITE (space-to- Earth]	RADIODETERMINATION (space-to-Earth)
	FIXED	:	FIXED
	MOBILE	1	MOBILE
	Radiolocation	1	RADIOLOCATION
	752 753		752

<u>Reasons</u>: To reallocate the band 2 483.5 - 2 500 MHz to accommodate the radiodetermination satellite-service on a co-primary shared basis. (See CCIR Report 1050 and section 6.2.9 of the Special Meeting Report of CCIR Study Groups.)

^{**} AGL, BFA, BDI, CME, CTI, ETH, GUI, KEN, LBR, MDG, MLI, MTN, NIG, SEN, SDN, TZA, TGO, ZMB, ZAI.

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 194-E 22 September 1987 Original: English

COMMITTEE 6

SECOND REPORT OF THE CHAIRMAN OF WORKING GROUP 6-B

1. Working Group 6-B had four meetings.

2. At its first meeting the terms of reference assigned to Working Group 6-B was reviewed (Document DT/5), and topics were classified into four categories (Document DT/8). Then, the relevant proposals were generally and briefly reviewed.

3. At its second meeting, proposals concerning Articles 42A and 43 were considered and Working Group 6-B approved the proposed modification on Article 42A as is in Annex 1 to this document. As for the Article 43 it was generally agreed to include "Aeronautical Mobile-Satellite Service". Working Group 6-B requested the Secretariat to prepare the draft element of Article 43 referring the definition in Article 1. Also, the necessity of the phrase of "or other vehicle carrying the mobile station" in provision 3364 was pending, and was agreed to decide it after the draft element is available. At the fourth meeting, Working Group 6-B approved the modification of Article 43 as is in Annex 2.

4. Proposals concerning Article 50 were considered and conclusions of Working Group 6-B on this Article were submitted to Committe 6 as in Document 182.

5. Proposals concerning Article 44 was considered at the fourth meeting and consideration is to be continued at the next meeting of Working Group 6-B.

> Y. HIRATA Chairman of Working Group 6-B

Annexes: 2

- 2 -MOB-87/194-E

ANNEX 1

Proposed modification to Article 42A

CHAPTER X

Mob-83 Aeronautical Mobile Service and Aeronautical Mobile-Satellite Service

Mob-83

ARTICLE 42A

Mob-83

Introduction

3362 § 1. With the exception of Articles 43, 44, 46, 49, 50 and
Mob-83 No. 3652, the other provisions of this Chapter may be governed by special arrangements concluded pursuant to Article 31 of the International Telecommunication Convention, Malaga-Torremolinos, 1973,* <u>Nairobi, 1982</u>, or by intergovernmental agreements ¹ provided their implementation does not cause harmful interference to the radio services of other countries.

3362.1 Mob-83

¹ For example, the International Civil Aviation Organization (ICAO) has agreed upon standards and recommended practices adapted to the needs of aircraft operation which have been proven in practice and are well established in current use.

ANNEX 2

Proposed modification to Article 43

ARTICLE 43

Mob-83 Authority of the Person Responsible for the Mobile Stations in the Aeronautical Mobile Service and in the Aeronautical Mobile-Satellite Service

- 3364 § 1. The service of a mobile station is placed under the supreme authority of the person responsible for the aircraft or other vehicle carrying the mobile station.
- **3365** § 2. The person holding this authority shall require that each operator comply with these Regulations and that the mobile station for which the operator is responsible is used, at all times, in accordance with these Regulations.
- **3366** § 3. The person responsible, as well as all the persons who may have knowledge of the text or even of the existence of a radiotelegram, or of any information whatever obtained by means of the radiocommunication service, are placed under the obligation of observing and ensuring the secrecy of correspondence.
- 3367 §4 The provisions of Nos. 3364, 3365 and 3366 shall also apply to personnel of aircraft earth stations.
- 3368 Not allocated

tο

3391 Not allocated

INTERNATIONAL TELECOMMUNICATION UNION WOB-87 WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 195-E 22 September 1987 Original: English

TECHNICAL WORKING GROUP OF THE PLENARY

COMMITTEE 4

United States of America

SHARING CRITERIA FOR THE RADIODETERMINATION SATELLITE SERVICE

1 610 - 1 626.5 MHz (Earth-to-space)

The United States proposes that the following new footnote be applied to the 1 A band 1 610 - 1 626.5 MHz in the Table of Frequency Allocations, Article 8:

USA/195/1

1.

ADD 733A

The equivalent isotropically radiated power (e.i.r.p.) transmitted in any direction by an earth station in the radiodetermination-satellite service in this band shall not exceed the limits specified in No. 2541.

With respect to the radioastronomy service, to which the band 1.B 1 610.6 - 1 613.8 MHz is allocated to the radioastronomy service on a secondary basis, proposal USA/24/818, ADD Recommendation No. B2, applies.

2 483.5 - 2 500 MHz (space-to-Earth) 2.

The United States proposes that the following new footnote be applied to the band 2 483.5 - 2 500 MHz in Table of Frequency Allocations, Article 8:

USA/195/2

ADD 752B

The power flux-density at the Earth's surface produced by emissions from a space station in the radiodeterminationsatellite service in this band shall not exceed the limits specified in No. 2562.

3. 5 117 - 5 183 MHz (space-to-Earth)

USA/24/86; ADD 797A, includes a proposal to limit the power flux-density of space-to-Earth emissions in this band to -159 dBW/m^2 per 4 kHz for all angles of arrival.

WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

INTERNATIONAL TELECOMMUNICATION UNION

Document 196(Rev.1)-E 29 September 1987

B.1(Rev.)

PLENARY MEETING

FIRST SERIES OF TEXTS SUBMITTED BY THE EDITORIAL COMMITTEE TO THE PLENARY MEETING

The following texts are submitted to the Plenary Meeting for first reading:

Source	Documents	<u>Title</u>
Tech WG PL Tech WG PL	DT/9(Rev.2) (192) DT/13 (192)	*Appendix 7 Mob-87 Appendix 17 Mob-87
		Appendix 36 Mob-87

*Note by the Editorial Committee

Pro memoria, the Technical Working Group of the Plenary draws your attention to the fact that:

- the dates to be entered in Notes 1 to 4 are closely related to the date of implementation of the global maritime distres and safety system. They can only be determined when this latter date is known.
- column 2 as well as Notes 11, 17, 18, 30, 34 and 35 may be removed if the date of entry into force of the Final Acts of this Conference is after 1 January 1990.
- column 3 may have to be modified accordingly.

Y.C. MONGELARD Chairman of Committee 7

Annex: 10 pages

1

APPENDIX 7

Mob-87

(MOD) NOC

Table of Transmitter Frequency Tolerances

(See Article 5)

NOC 1.

NOC 2.

NOC 3.

(MOD)	Frequency Bands (lower limit exclusive, upper limit inclusive) and Categories of Stations	Tolerances applicable until l January 1990 to transmitters installed before 2 January 1985	Tolerances applicable to transmitters installed after 1 January 1985 and to all transmitters after 1 January 1990
	1	2	3
	Band: 9 kHz to 535 kHz		
	1. Fixed Stations:		
	— 9 kHz to 50 kHz — 50 kHz to 535 kHz	1 000 200	100 50
	2. Land Stations:		
(MOD) (MOD) (MOD)	a) Coast Stations: — power 200 W or less — power above 200 W	500 1) 200 1)	100 1) 2)
	b) Aeronautical Stations	100	100

	1	2	3
	3. Mobile Stations:		
(MOD)	a) Ship Stations	1 000 3)	200 3) 4)
	b) Ship's Emergency Transmitters	5 000	500 5)
	c) Survival Craft Stations	5 000	500
	d) Aircraft Stations	500	100
	4. Radiodetermination Stations	100	100
	5. Broadcasting Stations	10 Hz	10 Hz
NOC	Band: 535 kHz to 1 606.5 kHz (1 605 kHz in Region 2)		
	Band: 1 606.5 kHz (1 605 kHz in Region 2) to 4 000 kHz		
	1. Fixed Stations:		
	power 200 W or lesspower above 200 W	100 50	100 7) 8) 50 7) 8)
	2. Land Stations:		· ·
(MOD) (MOD)	 power 200 W or less power above 200 W 	100 1) 9) 10) 50 1) 9) 10)	$\begin{array}{c} 100 & 1)2)7)9)10) \\ 50 & 1)2)7)9)10) \end{array}$
	3. Mobile Stations:		
(MOD)	a) Ship Stations	200 3) 11)	40 Hz 3) 4) 12)
	b) Survival Craft Stations	300	100
	c) Emergency Position- Indicating Radiobeacons	300	100
	d) Aircraft Stations	100 10)	100 10)
	e) Land Mobile Stations	200	50 13)
	4. Radiodetermination Stations:		
	- power 200 W or less	100	20 14)
	- power above 200 W	50	10 14)
	5. Broadcasting Stations	20	10 Hz 15)

	1	2	3
1	Band: 4 MHz to 29.7 MHz		
	1. Fixed Stations:	,	
	- power 500 W or less	50	
	— power above 500 W	15	
	a) Single-sideband and independent- sideband emissions:		
	- power 500 W or less		50 Hz
	— power above 500 W		20 Hz
	b) Class F1B emissions		10 Hz
	c) Other classes of emission:		
	- power 500 W or less		20
	- power above 500 W		10
	2. Land Stations:		
	a) Coast Stations:		. 20 Hz 1) 2) 16)
0	- power 500 W or less	50 1) 9)	
3	- power above 500 W and	30 1) 9)	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	- power above 5 kW	15 1) 9)	
	b) Aeronautical Stations		
	b) Actomatical Stations.	100 70)	100 701
	- power above 500 W	50 10)	50 10)
	c) Base Stations		20 7)
	- power 500 W or less	100	20 //
	— power above 500 W	50	
	3. Mobile Stations:		
	a) Ship Stations:		
	1) Class A1A emissions	50, <i>17) 18)</i>	10
	2) Emissions other than Class A1A	50 3) 11)	50 Hz 3) 4) 19

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	1	2	3 .
	b) Survival Craft Stations	200	50
	c) Aircraft Stations	100 <i>10)</i>	100 <i>10)</i>
	d) Land Mobile Stations	200	40 20)
	4. Broadcasting Stations	15	10 Hz 15) 21)
	5. Space Stations		20
	6. Earth Stations		20
NOC	Band: 29.7 MHz to 100 MHz		
	Band: 100 MHz to 470 MHz		
	1. Fixed Stations:		
	— power 50 W or less	50	20 26)
	- power above 50 W	20	10
(1107)	2. Land Stations:		
(MOD)	a) Coast Stations	10	10
	b) Aeronautical Stations	50	20 28)
	c) Base Stations:		
	- power 5 W or less	50	•
	- power above 5 W	20	
	- in the band 100 - 235 MHz		15 29)
	- in the band 235 - 401 MHz		5 29)
	- In the band 401 - 470 MHZ		5 <i>29</i>)
	3. Mobile Stations:		
	a) Ship Stations and Survival Craft Stations:		
(MOD)	— in the band 156 - 174 MHz	10	· ~10
	— outside the band 156 - 174 MHz	50 <i>30) 31)</i>	50 31)
	b) Aircraft Stations	50	30 <i>28)</i>
	c) Land Mobile Stations:		
	- power 5 W or less	50	
	- power above 5 W	20	
		l	

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	1	2	3
	— in the band 100 - 235 MHz		15 <i>29)</i>
	— in the band 235 - 401 MHz		7 29) 32)
	— in the band 401 - 470 MHz		5 29) 32)
	4. Radiodetermination Stations	50 <i>30) 33)</i>	50 <i>33)</i>
	5. Broadcasting Stations (other than television)	20	2 000 Hz 23)
	6. Broadcasting Stations (television sound and vision):		500 Hz 24) 25)
	power 100 W or lesspower above 100 W	100 1 000 Hz	
	7. Space Stations		20
	8. Earth Stations		20
юс	Band: 470 MHz to 2 450 MHz		
oc	Band: 2 450 MHz to 10 500 MHz		
OC	Band: 10.5 GHz to 40 GHz		

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B.1/6(Rev.1)

	Notes in the Table of Transmitter Frequency Tolerances	
MOD	1) For coast station transmitters used for direct-printing telegraphy or for data transmission, the tolerance is:	
	- 5 Hz for narrow-band phase-shift keying;	
	 10 Hz for frequency-shift keying for transmitters installed after []; 	
	- 15 Hz for frequency-shift keying for transmitters in use or installed before [].	
MOD	2) For coast station transmitters used for digital selective calling, the tolerance is 10 Hz. This tolerance applies to transmitters installed after [] and to all transmitters after [].	
MOD	3) For ship station transmitters used for direct-printing telegraphy or for data transmission, the tolerance is:	
	- 5 Hz for narrow-band phase-shift keying;	
	 10 Hz for frequency-shift keying for transmitters installed after []; 	
	- 40 Hz for frequency-shift keying for transmitters in use or installed before [].	
MOD	4) For ship station transmitters used for digital selective calling, the tolerance is 10 Hz. This tolerance applies to transmitters installed after [] and to all transmitters after [].	
NOC	5) and 6)	
MOD	7) For single-sideband radiotelephone transmitters except at coast stations, the tolerance is:	
	- 50 Hz in the bands 1 606.5 (1 605 Region 2) - 4 000 kHz and 4 - 29.7 MHz for peak envelope powers of 200 W or less and 500 W or less, respectively;	
	- 20 Hz in the bands 1 606.5 (1 605 Region 2) - 4 000 kHz and 4 - 29.7 MHz for peak envelope powers above 200 W and 500 W, respectively.	

B.1/7(Rev.1)

NOC 8) to 10) 11) For ship station single-sideband radiotelephone MOD transmitters, the tolerance is: ant mir in the band 1 606.5 (1 605 in Region 2) a) 4 000 kHz: - 100 Hz for transmitters installed before 2 January 1982; - 50 Hz for transmitters installed after THAN IS OF ENDING MA 1 January 1982; CONTRACTOR STORES b) in the band 4 000 - 27 500 kHz: s were a could be a - 100 Hz for transmitters installed before (·· : . 2 January 1978; - 50 Hz for transmitters installed after 1 January 1978. NOC 12, 12, to 26) SUP 27) NOC 28) to 36).

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B.1/8(Rev.1)

(MOD)

APPENDIX 17

Mob-87

MOD Technical Characteristics of Single-Sideband Transmitters Used in the Maritime Mobile Service for Radiotelephony in the Bands Between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz and Between 4 000 kHz and 27 500 kHz

(See Article 60, Section IV)

1. Carrier power:

MOD

D a) the carrier power for class R3E emissions in the bands between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz shall be 18 ± 2 dB below the peak envelope power.

 \underline{Note} - Class R3E emissions are not permitted in the bands between 4~000 kHz and [23 000] [27 500] kHz (see RR 4371).

NOC b)

NOC 2. and 3.

MOD 4. The carrier frequencies shall be maintained within the tolerances specified in Appendix 7.

1.12

NOC 5.

MOD 6. When class H3E, R3E or J3E emissions are used, the power of any unwanted emission supplied to the antenna transmission line on any discrete frequency shall, when the transmitter is driven to full peak envelope power, be in accordance with the following table for transmitters installed after 1 January 1982.

Separation Δ in kHz between the frequency of the unwanted emission ¹ and the assigned frequency ⁴	Minimum attenuation below peak envelope power
$1.5 < \Delta \leqslant 4.5$ $4.5 < \Delta \leqslant 7.5$ $7.5 < \Delta$	31 dB 38 dB 43 dB without the unwanted emission power exceeding 50 mW
B.1/9(Rev.1)

Transmitters using reduced carrier or suppressed carrier emission may, as far as concerns out-of-band emissions 2 and those spurious (MOD) emissions³ which are a result of the modulation process but do not fall in the spectrum of out-of-band emissions², be tested for compliance with this regulation by means of a two-tone-audio input signal with a frequency separation between the tones such that all intermodulation products occur at frequencies at least 1.5 kHz removed from the assigned $frequency^4$.

(MOD)	1	Unwanted emission: see Article 1, No. 140.
(MOD)	2	<u>Out-of-band emission</u> : see Article 1, No. 138.
(MOD)	3	Spurious emission: see Article 1, No. 139.
ADD	4	The assigned frequency is 1 400 Hz higher than th

ADD

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The assigned frequency is 1 400 Hz higher than the carrier frequency (see Article 60, No. 4325).

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APPENDIX 36

(MOD)	Mob-87

NOC Automatic Receiving Equipment for Radiotelegraph and Radiotelephone Alarm Signals

(see Section II of Article 41)

- NOC 1. a) to d)
- MOD e) The equipment should, as far as practicable, give warning of any faults that would prevent the apparatus from functioning normally during watch hours.

NOC 2.

BLUE PAGES



INTERNATIONAL TELECOMMUNICATION UNION

Document 196-E 22 September 1987

B.1

PLENARY MEETING

FIRST SERIES OF TEXTS SUBMITTED BY THE EDITORIAL COMMITTEE TO THE PLENARY MEETING

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- column 3 may have to be modified accordingly.

Y.C. MONGELARD Chairman of Committee 7

Annex: 10 pages

ANNEX

APPENDIX 7

Table of Transmitter Frequency Tolerances

(See Article 5)

NOC 1.

NOC 2.

NOC 3.

· .		
Frequency Bands (lower limit exclusive, upper limit inclusive) and Categories of Stations	Tolerances applicable until 1 January 1990 to transmitters installed before 2 January 1985	Tolerances applicable to transmitters installed after 1 January 1985 and to all transmitters after 1 January 1990
1	2	3
Band: 9 kHz to 535 kHz		
1. Fixed Stations:		
— 9 kHz to 50 kHz — 50 kHz to 535 kHz	1 000 200	100 50
2. Land Stations:		
a) Coast Stations: — power 200 W or less — power above 200 W	500 1) 200 1)	100 1) 2)
b) Aeronautical Stations	100	100
	Frequency Bands (lower limit exclusive, upper limit inclusive) and Categories of Stations 1 Band: 9 kHz to 535 kHz 1. Fixed Stations: - 9 kHz to 50 kHz - 50 kHz to 535 kHz 2. Land Stations: - power 200 W or less - power above 200 W b) Aeronautical Stations	Frequency Bands (lower limit exclusive, upper limit inclusive) and Categories of StationsTolerances applicable until 1 January 1990 to transmitters installed before 2 January 19851212Band: 9 kHz to 535 kHz11. Fixed Stations: - 9 kHz to 535 kHz12. Land Stations: - power 200 W or less - power above 200 W500 1) 200 1)b) Aeronautical Stations100

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	1	2	3
	3. Mobile Stations:		
(MOD)	a) Ship Stations	1 000 3)	200 3) 4)
	b) Ship's Emergency Transmitters	5 000	500 5)
	c) Survival Craft Stations	5 000	500
	d) Aircraft Stations	500	100
	4. Radiodetermination Stations	100	100
	5. Broadcasting Stations	10 Hz	10 Hz
NOC	Band: 535 kHz to 1 606.5 kHz (1 605 kHz in Region 2)		
	Band: 1 606.5 kHz (1 605 kHz in Region 2) to 4 000 kHz		
	1. Fixed Stations:		
	 power 200 W or less power above 200 W 	100 50	100 7) 8) 50 7) 8)
Ŧ	2. Land Stations:		
(MOD) (MOD)	 power 200 W or less power above 200 W 	100 1) 9) 10) 50 1) 9) 10)	100 1)2)7)9)10) 50 1)2)7)9)10)
	3. Mobile Stations:		
(MOD)	a) Ship Stations	200 3) 11)	40 Hz 3) 4)12)
	b) Survival Craft Stations	300	100
	c) Emergency Position- Indicating Radiobeacons	300	100
	d) Aircraft Stations	100 <i>10)</i>	100 <i>10)</i>
	e) Land Mobile Stations	200	50 <i>13)</i>
	4. Radiodetermination Stations:		
	- power 200 W or less	100	20 14)
	- power above 200 W	50	10 14)
	5. Broadcasting Stations	20	10 Hz 15)

B.1/3

·	1	2	3
B	and: 4 MHz to 29.7 MHz		
	A BAR AND	and the second	м
1	. Fixed Stations:		
	- power 500 W or less	50	
	— power above 500 W	15	
	a) Single-sideband and independent- sideband emissions:		
	- power 500 W or less		50 Hz
	- power above 500 W		20 Hz
	b) Class F1B emissions		10 Hz
5	c) Other classes of emission:		
	- power 500 W or less		20
	- power above 500 W		10
2	2. Land Stations:		
10D)	a) Coast Stations:		20 Hz 1) 2) 16)
10D)	- power 500 W or less	50 1) 9)	-
MOD)	- power above 500 W and		
	less than or equal to 5 kW	30 1) 9)	
MOD)	— power above 5 kW	15 1) 9)	
	b) Aeronautical Stations:	· .	
	— power 500 W or less	100 <i>10)</i>	100 <i>10</i>)
	- power above 500 W	50 <i>10)</i>	50 <i>10)</i>
	c) Base Stations:		20 7)
	- power 500 W or less	100	
	- power above 500 W	50	
:	3. Mobile Stations:		
	a) Ship Stations:		
	1) Class A1A emissions	50 17) 18)	10
MOD)	2) Emissions other than Class A1A	50 3) 11)	50 Hz 3) 4) 19)

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f.,

b) Survival Craft Stations 200 50 c) Aircraft Stations 100 10) 100 10) d) Land Mobile Stations 200 40 200 40 200 4. Broadcasting Stations 15 10 Hz 15) 20 5. Space Stations 20 20 20 20 6. Earth Stations 20 20 20 20 NOC Band: 29.7 MHz to 100 MHz 20 20 20 20 NOC Band: 100 MHz to 470 MHz 20 10 20 10 (MOD) 2. Land Stations: 50 20 20 10 (MOD) Acronautical Stations 10 10 20 20 20 (MOD) Acronautical Stations 50 20 28) 20 10 10 power 5 W or less 50 20 29) 29) 29) 20 15		1	2	3
c) Aircraft Stations 100 10) 100 10) d) Land Mobile Stations 200 40 20) 4. Broadcasting Stations 15 10 Hz 15) 21) 5. Space Stations 20 20 6. Earth Stations 20 20 8. Broadcasting Stations 20 20 6. Earth Stations 20 20 8. Band: 29.7 MHz to 100 MHz 20 20 8. Band: 100 MHz to 470 MHz 20 20 1. Fixed Stations: - - — power 50 W or less 50 20 26) — power 50 W or less 50 20 28) (MOD) 2. Land Stations: 10 10 a) Coast Stations 10 10 20 b) Aeronautical Stations 50 20 28) 20 — power above 5 W 20 15 29) 15 29) — in the band 100 - 235 MHz 7 29) 15 29) 15 29) — in the band 102 - 375 MHz 50 30/31/ 50 31/ (MOD) Ship Stations and 10 10 — outside the band 156 - 174 MHz 10 10		b) Survival Craft Stations	200	.50
d) Land Mobile Stations 200 40 20) 4. Broadcasting Stations 15 10 Hz 15) 21) 5. Space Stations 20 6. Earth Stations 20 NOC Band: 29.7 MHz to 100 MHz 20 1. Fixed Stations: 20 — power 50 W or less 50 20 26) — power 50 W or less 50 20 26) (MOD) 2. Land Stations: 10 a) Coast Stations 10 10 b) Aeronautical Stations 50 20 28) c) Base Stations: 50 20 28) a) Coast Stations 10 10 b) Aeronautical Stations 50 20 28) c) Base Stations: 50 20 28) a) in the band 100 - 235 MHz 15 29) 15 29) a) in the band 235 - 401 MHz 7 29) 5 29) 3. Mobile Stations: 30 30) 31) 50 31) b) Aircraft Stations: 10 10 a) custide the band 156 - 174 MHz 10 10 b) Aircraft Stations: 50 30 28) c) Land Mobile Stations: 50 <td< td=""><td></td><td>c) Aircraft Stations</td><td>100 <i>10)</i></td><td>100 <i>10)</i></td></td<>		c) Aircraft Stations	100 <i>10)</i>	100 <i>10)</i>
4. Broadcasting Stations 15 10 Hz 15) 21) 5. Space Stations 20 6. Earth Stations 20 NOC Band: 29.7 MHz to 100 MHz 20 1. Fixed Stations 20 - power 50 W or less 50 - power 50 W or less 50 - power s0 W or less 50 20 10 2. Land Stations: 10 a) Coast Stations 10 b) Aeronautical Stations 50 c) Base Stations: 50 - power 5 W or less 50 - power 3 W or less 50 - power 3 W or less 50 - power 3 W or less 50 - power above 5 W 20 - in the band 100 - 235 MHz 15 29) - in the band 100 - 235 MHz 50 - in the band 101 - 470 MHz 5 29) 3. Mobile Stations: 10 - outside the band 156 - 174 MHz 10 - outside the band 156 - 174 MHz 50 30) 31) 50 31) b) Aircraft Stations: - - - power 5 W or less 50 30 28)		d) Land Mobile Stations	200	40 20)
5. Space Stations 20 6. Earth Stations 20 NOC Band: 29.7 MHz to 100 MHz Band: 100 MHz to 470 MHz 20 1. Fixed Stations: - power 50 W or less - power 50 W or less 50 20 10 21. Land Stations: 10 a) Coast Stations 10 b) Aeronautical Stations 50 c) Base Stations: 20 - power 5 W or less 50 c) Base Stations: 20 - power solve 5 W 20 c) Base Stations: 50 - power above 5 W 20 - in the band 100 - 235 MHz 15 29) - in the band 100 - 235 MHz 15 29) - in the band 100 - 235 MHz 15 29) - in the band 100 - 235 MHz 15 29) - in the band 101 - 470 MHz 5 29) 3. Mobile Stations: 10 - in the band 156 - 174 MHz 10 - outside the band 156 - 174 MHz 10 - outside the band 156 - 174 MHz 50 30) 31) b) Aircraft Stations: 10 - power 5 W or less 50 </td <td></td> <td>4. Broadcasting Stations</td> <td>15</td> <td>10 Hz 15) 21)</td>		4. Broadcasting Stations	15	10 Hz 15) 21)
6. Earth Stations 20 NOC Band: 29.7 MHz to 100 MHz Band: 100 MHz to 470 MHz		5. Space Stations		20
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- power 50 W or less 50 20 26) - power above 50 W 20 10 2. Land Stations: 10 10 a) Coast Stations 10 10 b) Aeronautical Stations 50 20 28) c) Base Stations: - power 5 W or less - power b W or less 50 20 - power b W or less 50 20 - power b W or less 50 20 - in the band 100 - 235 MHz 15 29) 15 29) - in the band 235 - 401 MHz 7 29) 5 29) 3. Mobile Stations: 10 10 - in the band 401 - 470 MHz 5 29) 5 29) 3. Mobile Stations: 10 10 - outside the band 156 - 174 MHz 10 10 - outside the band 156 - 174 MHz 50 30) 31) 50 31) b) Aircraft Stations 50 30 28) c/ Land Mobile Stations: - - - power 5 W or less 50 - - power bove 5 W 20 20		1. Fixed Stations:		
(MOD) 20 10 2. Land Stations: 10 10 a) Coast Stations 10 10 b) Aeronautical Stations 50 20 28) c) Base Stations: - -		— power 50 W or less	50	20 <i>26)</i>
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(MOD) a) Coast Stations 10 10 b) Aeronautical Stations 50 20 28) c) Base Stations: - power 5 W or less 50 - power above 5 W 20 - - - in the band 100 - 235 MHz 15 29) - - - in the band 235 - 401 MHz 7 29) - - - in the band 401 - 470 MHz 5 29) - - 3. Mobile Stations: - - - - a) Ship Stations and Survival Craft Stations: - - - - (MOD) - - in the band 156 - 174 MHz 10 - - (MOD) - - in the band 156 - 174 MHz 50 30) 31) 50 31) - b) Aircraft Stations 50 30 28) -		2. Land Stations:		
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c) Base Stations:		b) Aeronautical Stations	50	20 <i>28)</i>
		c) Base Stations:	50	
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- in the band 235 - 401 MHz7 29)- in the band 401 - 470 MHz5 29)3. Mobile Stations:5 29)a) Ship Stations and Survival Craft Stations:10- in the band 156 - 174 MHz10- outside the band 156 - 174 MHz50 30) 31)b) Aircraft Stations50c) Land Mobile Stations:50- power 5 W or less50- power above 5 W20		— in the band 100 - 235 MHz		15 29)
- in the band 401 - 470 MHz5 29)3. Mobile Stations: a) Ship Stations and Survival Craft Stations: - in the band 156 - 174 MHz1010- outside the band 156 - 174 MHz10- outside the band 156 - 174 MHz50 30) 31)50 31)b) Aircraft Stations5030 28)c) Land Mobile Stations: - power 5 W or less - power above 5 W50		— in the band 235 - 401 MHz		7 29)
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b) Aircraft Stations 50 30 28) c) Land Mobile Stations: — power 5 W or less 50 — power above 5 W 20		— outside the band 156 - 174 MHz	50 30) 31)	50 31)
c) Land Mobile Stations: — power 5 W or less 50 — power above 5 W 20		b) Aircraft Stations	50	30 <i>28)</i>
— power 5 W or less50— power above 5 W20		c) Land Mobile Stations:		
— power above 5 W 20		- power 5 W or less	50	
		— power above 5 W	20	

B.	1/5
υ.	115

1	2	3
— in the band 100 - 235 MHz		15 29)
— in the band 235 - 401 MHz		7 29) 32)
— in the band 401 - 470 MHz		5 29) 32)
4. Radiodetermination Stations	50 <i>30) 33)</i>	50 <i>33)</i>
5. Broadcasting Stations (other than television)	20	2 000 Hz 23)
6. Broadcasting Stations (television sound and vision):		500 Hz 24) 25)
power 100 W or lesspower above 100 W	100 1 000 Hz	
7. Space Stations		20
8. Earth Stations		20
Band: 470 MHz to 2 450 MHz		
Band: 2 450 MHz to 10 500 MHz		
Band: 10.5 GHz to 40 GHz		

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B.1/6

	Notes in the Table of Transmitter Frequency Tolerances
MOD	 For coast station transmitters used for direct-printing telegraphy or for data transmission, the tolerance is:
	- 5 Hz for narrow-band phase-shift keying;
	 10 Hz for frequency-shift keying for transmitters installed after [];
	- 15 Hz for frequency-shift keying for transmitters in use or installed before [].
MOD	2) For coast station transmitters used for digital selective calling, the tolerance is 10 Hz. This tolerance applies to transmitters installed after [] and to all transmitters after [].
MOD	3) For ship station transmitters used for direct-printing telegraphy or for data transmission, the tolerance is:
	- 5 Hz for narrow-band phase-shift keying;
	 10 Hz for frequency-shift keying for transmitters installed after [];
	- 40 Hz for frequency-shift keying for transmitters in use or installed before [].
MOD	4) For ship station transmitters used for digital selective calling, the tolerance is 10 Hz. This tolerance applies to transmitters installed after [] and to all transmitters after [].
NOC	5) and 6)
MOD	7) For single-sideband radiotelephone transmitters except at coast stations, the tolerance is:
	- 50 Hz in the bands 1 606.5 (1 605 Region 2) - 4 000 kHz and 4 - 29.7 MHz for peak envelope powers of 200 W or less and 500 W or less, respectively;
	- 20 Hz in the bands 1 606.5 (1 605 Region 2) - 4 000 kHz and 4 - 29.7 MHz for peak envelope powers above 200 W and 500 W, respectively.

NOC	8) to 10)
MOD	11) For ship station single-sideband radiotelephone transmitters, the tolerance is:
	a) in the band 1 606.5 (1 605 in Region 2) - 4 000 kHz:
	 100 Hz for transmitters installed before 2 January 1982;
	- 50 Hz for transmitters installed after 1 January 1982;
	b) in the band 4 000 - 27 500 kHz:
	- 100 Hz for transmitters installed before 2 January 1978;
	- 50 Hz for transmitters installed after 1 January 1978.
NOC	12) to 26)
SUP	27)
NOC	28) to 36).

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B.1/8

1. 1.

APPENDIX 17

Technical Characteristics of Single-Sideband Transmitters Used in the Maritime Mobile Service for Radiotelephony in the Bands Between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz and Between 4 000 kHz and 27 500 kHz

(See Article 60, Section IV)

1. Carrier power:

MOD

a) the carrier power for class R3E emissions in the bands between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz shall be 18 ± 2 dB below the peak envelope power.

 \underline{Note} - Class R3E emissions are not permitted in the bands between 4 000 kHz and [23 000] [27 500] kHz (see RR 4371).

NOC b)

NOC 2 and 3

MOD 4. The carrier frequencies shall be maintained within the tolerances specified in Appendix 7.

NOC 5

MOD 6. When class H3E, R3E or J3E emissions are used, the power of any unwanted emission supplied to the antenna transmission line on any discrete frequency shall, when the transmitter is driven to full peak envelope power, be in accordance with the following table for transmitters installed after 1 January 1982.

Separation \triangle in kHz between the frequency of the unwanted emission ¹ and the assigned frequency ⁴	Minimum attenuation below peak envelope power		
$1.5 < \Delta \leqslant 4.5$ $4,5 < \Delta \leqslant 7.5$ $7.5 < \Delta$	31 dB 38 dB 43 dB without the unwanted emission power exceeding 50 mW		

(MOD)

Transmitters using reduced carrier or suppressed carrier emission may, as far as concerns out-of-band emissions² and those spurious emissions³ which are a result of the modulation process but do not fall in the spectrum of out-of-band emissions², be tested for compliance with this regulation by means of a two-tone-audio input signal with a frequency separation between the tones such that all intermodulation products occur at frequencies at least 1.5 kHz removed from the assigned frequency⁴.

a .	1						
T	Unwanted	emission:	see	Article	1,	No.	140.

- ² Out-of-band emission: see Article 1, No. 138.
- ³ Spurious emission: see Article 1, No. 139.

ADD

(MÓD)

⁴ The assigned frequency is 1 400 Hz higher than the carrier frequency (see Article 60, No. 4325).

APPENDIX 36

Automatic Receiving Equipment for Radiotelegraph and Radiotelephone Alarm Signals

- NOC 1. a) to d)
- The equipment should, as far as practicable, give warning of any faults that would prevent the apparatus from functioning MOD e) normally during watch hours.

NOC 2.

NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA, September-October 1987

Document 197-E 22 September 1987 Original: English

TECHNICAL WORKING GROUP OF THE PLENARY

NOTE FROM THE CHAIRMAN OF COMMITTEE 4 TO THE CHAIRMAN OF THE TECHNICAL WORKING GROUP OF THE PLENARY

At its fifth meeting Committee 4 decided to request the Technical Working Group of the Plenary to advise urgently on the technical feasibility of using the ship stations frequencies of the new NBDP (paired) channels as AlA Morse telegraphy working frequencies by the ship stations.

> **O. VILLANYI** Chairman of Committee 4

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INTERNATIONAL TELECOMMUNICATION UNION

Document 198-E 22 September 1987 Original: English

TECHNICAL WORKING GROUP OF THE PLENARY

REPORT BY THE AD HOC GROUP 1 TO THE TECHNICAL WORKING GROUP OF THE PLENARY

The ad hoc Group 1 met on 22 September 1987 and agreed to the text given in Annex I for modifications of Appendix 37A.

Annex II contains proposed additions to Recommendation 604 (Rev.Mob-83) as agreed at the same meeting.

> R. WITZEN Convener of ad hoc Group 1 of the Working Group of the Plenary

Annexes: 2

- 2 -MOB-87/198-E

ANNEX 1

APPENDIX 37A

Technical Characteristics of Emergency Position-Indicating Radiobeacons Operating on the Carrier Frequencies 121.5 MHz and 243 MHz

ADD

cbis) the emission should include a clearly defined carrier frequency distinct from the modulation sideband components; in particular, on 121.5 MHz at least 30 percent of the power shall be contained within \pm 30 Hz of the carrier frequency at all times, and on 243 MHz at least 30 percent of the power shall be contained within \pm 60 Hz of the carrier frequency at all times²;

MOD

d)

of modulation which satisfies the requirements laid down in b), and c) <u>and cbis</u> above may be used, provided it does not impair the precise location of the radiobeacon by the homing equipment.

the class of emission shall be AX3; however, any type

²Early implementation of these characteristics is strongly recommended pending further studies by CCIR and ICAO.

ANNEX 2

RECOMMENDATION NO. 604 (Rev.Mob-87)

Relating to the Future Use and Characteristics of Emergency Position-Indicating Radiobeacons

The World Administrative Radio Conference for the Mobile Services, Geneva, 1987,

NOC considering a) - e)

NOC recognizing a) - c)

- ADD d) that there is a need to improve the detection and location function of 121.5/243 MHz EPIRBs by satellite systems,
- NOC recommends 1 and 2.
- ADD 3. that the CCIR and ICAO study, as a matter of urgency the technical and operational questions related to the addition of new paragraph cbis to Appendix 37A.



INTERNATIONAL TELECOMMUNICATION UNION

GENEVA, September-October 1987

Document 199-E 22 September 1987 Original: English

COMMITTEE 4

NOTE FROM THE CHAIRMAN OF COMMITTEE 6 TO THE CHAIRMAN OF COMMITTEE 4

Committee 6 recommends that this Conference make provision to satisfy frequency requirements for public correspondence to aircraft on a global basis. This provision needs to be made by Committee 4 in appropriate frequency band(s). Committee 4 also needs to decide whether the provision is to be expressed in Article 8 or Article 50 of the Radio Regulations. Once these decisions are made, Committee 6 can, if necessary, then return to the revision of Article 50 of the Radio Regulations.

Note - The attention of the Chairman of Committee 4 is drawn to item 2.11 of the summary record of the second meeting of Committee 6, Document 160, which was approved by Commitee 6 in their third meeting.

> I.R. HUTCHINGS Chairman of Committee 6

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NOB-87 INTERNATIONAL TELECOMMUNICATION UNION WARC FOR THE MOBILE SERVICES GENEVA. September-October 1987

Document 200-E 24 September 1987

$\frac{\text{LIST OF DOCUMENTS}}{(151 - 200)}$

No.	Origin	Title	Destination
151	ITF	Information Paper - At sea, On-board Mainte- nance : An Objective Study of Contemporary Radio Electronics Officer Training	-
152	ITF	Information Paper - Analysis of Cost Estimates of FGMDSS Equipment	-
153	ITF	Information Paper - Training Requirement Schedule	-
154	C6	Note from the Chairman of Committee 6	C6
155	USA	Information Note - Spectrum Required for Aeronautical Safety-Related Communications Systems	C4, C6
156	USA	Information Paper - Mobile-Satellite Service Implementation and Institutional Considerations	C4
157	C2	Summary Record of the First Meeting of Committee 2	C2
158	С3	Summary Record of the First Meeting of Committee 3	C3
159	С7	Summary Record of the First Meeting of Committee 7	С7
160	C6	Summary Record of the Second Meeting of Committee 6	C6
161 (Rev.1)	WG/5-A	First Report by Working Group 5-A to Committee 5	C5
162	C3	Note by the Chairman of Committee 3 to the Chairmen of Committees 4, 5, 6 and Plenary Working Group	C4, C5, C6, WG/PL
163	G	Proposal for the work of the Conference - Article 41	C5
164	URS	Comments on Document 148	C4

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No.	Origin	Title	Destination
165	C4	Summary Record of the Third Meeting of Committee 4	C4
166	C4	First Series of Texts from Committee 4 to the Editorial Committee	С7
167	USA	Considerations regarding the Competence of this Conference	C4
168	SG	Prolongation of Conferences	PL
169	C4	Summary Record of the Fourth Meeting of Committee 4	C4
170	C5	Summary Record of the Second Meeting of Committee 5	C5
171	IALA	Information Paper - General Considerations	-
172	USA	Information Paper - Safety Report on OMI YUKON	C5, C6
173	C4	Note from the Chairman of Committee 4 to the Chairman of the TG/PL	TG/PL
174	EGY	Proposal for the work of the Conference - Article 8	C4
175	DG/4-1	Report from Chairman of Drafting Group 4-1	C4
176	TG/PL	Note to the Chairmen of Committees 5 and 6 from the Chairman of the TG/PL	C5, C6
177	TG/PL	Note to the Chairman of Committee 5 from the Chairman of TG/PL	_C5
178	SG	Transfer of Powers : Vatican City State-Italy	PL
179	WG/4-C	First Report of WG/4-C to Committee 4	C4
180	C5	Note by the Chairman of Committee 5 to the Chairman of the TG/PL	TG/PL
181	USA	Considerations regarding the radiodetermi- nation-satellite service	TG/PL, C4
182	WG/6-B	First Report of the Chairman of WG/6-B to Committee 6	C6
183 +Corr. 1	IATA	Information Note - Fundamental Considerations for L-Band Allocations	C4
184	C4	Guidance from Committee 4 to its Working Groups	C4

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No.	Origin	Title	Destination
185	C4	Summary Record of the Fifth Meeting of Committee 4	C4.
186	C6	Summary Record of the Third Meeting of Committee 6	C6
187	WG/2-A	First Report by Working Group 2-A to Committee 2	C2
188	C4	Note from the Chairman of Committee 4 to the Chairmen of Committees 5 and 6	C5, C6
189	DG/4B-1	Report of the Chairman of Drafting Group 4-B-1	WG/4-B
190 + Corr.1	В	Proposal for the work of the Conference	C4
191	ZAI	Proposals for the work of the Conference	C4, C5, C6
192	TG/PL	First Series of Texts by the TG/PL to the Editorial Group	С7
193	AGL, BFA, BDI, CME, CTI, ETH, GUI, KEN, LBR, MDG, MLI, MTN, NIG, SEN, SDN, TZA, TGO, ZAI, ZMB	Proposal for the work of the Conference - Radiodetermination-Satellite Service	C4
194	WG/6-B	Second Report of the Chairman of WG/6-B	C6
195	USA	Sharing Criteria for the Radiodetermination- Satellite Service	C4, TG/PL
196	C6	B.1	PL
197	C4	Note from the Chairman of Committee 4 to the Chairman of TG/PL	TG/PL
198	G/AdHoc 1	Report by the Ad Hoc Group 1 to the TG/PL	TG/PL
199	C6	Note from the Chairman of Committee 6 to the Chairman of Committee 4	C4
200	SG	List of documents (151 to 200)	-