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

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

Corrigendum 1 to
Document 201-E
5 October 1987
Original: English

COMMITTEE 5

SUMMARY RECORD

OF THE

THIRD MEETING OF COMMITTEE 5

(DISTRESS AND SAFETY)

1. Cover page

Amend the third item to read:

"Introduction of the Global Maritime Distress and Safety System (GMDSS) ...".

2. Paragraph 1.9

Replace by the following:

"The representative of IMO expressed the view that a restriction in the use of the 4 MHz frequency to tropical zones only would not provide for maritime safety in all ocean areas.".

3. Paragraph 3.2

Amend the fourth sentence of the second sub-paragraph to read:

"... except for those relating to the watch on 500 kHz which would become permissive and subject to the discretion of the administrations concerned.".

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

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COMMITTEE 5

SUMMARY RECORD

OF THE

THIRD MEETING OF COMMITTEE 5

(DISTRESS AND SAFETY)

Wednesday, 23 September 1987, at 0900 hrs

Chairman: Mr. P.E. KENT (United Kingdom)

Subjects discussed:	Documents
1. Reports by the Chairmen of Working Groups 5-A and 5-B	161(Rev.1)
2. Study and implementation of a Global Land Distress and Safety System (GLDSS)	89
3. Introduction of a Global Maritime Distress and Safety System (GMDSS) and continuation of existing arrangements: consideration of proposed new Resolutions	DT/24

1. Reports by the Chairmen of Working Groups 5-A and 5-B
(Document 161(Rev.1))

1.1 The Chairman of Working Group 5-A said that the Group had made good progress and was in a position to begin work on section 2. He drew attention to corrections to be made in the French and Spanish text of Document 161(Rev.1). [In the French text, the paragraphs on page 3 relating to ADD N 2932, ADD N 2933 and ADD N 2934 should remain in square brackets, as should the paragraph in the Note on page 4 relating to the text referred to Committee. On page 2 of the Spanish text, in the paragraph relating to ADD N 2931A, the words between "en este capítulo." and "[(Véase el numero 347)]." should be deleted.]

1.2 The Chairman invited the Committee to consider the report contained in Document 161(Rev.1). With reference to paragraph 3, he said that, following consultation with the Secretariat and IMO, it was felt inappropriate to include in the Radio Regulations a reference to IMO's role, but that the latter could be indicated in a relevant Resolution.

It was so agreed.

1.3 The delegate of the United States of America, referring to paragraph 4, said that although his Delegation had no strong objection to retaining N 2932 - 2934, it supported the IMO's recommendation that they should be omitted and appropriate references made to Nos. 347 and 348. The delegates of Australia and Japan agreed that the references should be omitted.

1.4 The delegate of the USSR was in favour of retaining N 2932 - 2934 in a Chapter N IX. The delegate of Poland agreed that a new Chapter IX ought to contain the information given in N 2932 - 2934, since it was not the practice of mariners and airline pilots to use Chapter 8.

1.5 The delegate of the Federal Republic of Germany, speaking on behalf of the CEPT Administrations which had sponsored Document 15, was in favour of retaining N 2932 - 2934 in the new Chapter.

1.6 The Chairman invited the Committee, having noted the views expressed and the fact that the United States Delegation had no strong objection, to retain N 2932 - N 2934 and to delete all references to Nos. 347 and 348, the appropriate editorial amendments being made elsewhere in the document, including the Annex. With regard to the latter, he took it that the texts in square brackets relating to ADD N 2932, ADD N 2933 and ADD N 2934 were to be incorporated. He also said, in response to observations by the delegate of New Zealand and the representative of the IMO relating to ADD N 2939, that an editorial amendment would be made to show that the Convention referred to was in fact the SOLAS 1974 Convention. With reference to paragraph 9 of the Report, he suggested that the text in square brackets in the draft submitted by the Drafting Group should be deleted and left to be dealt with in the existing Chapter IX.

It was so agreed.

Document 161(Rev.1) and the Annex thereto, as amended, were approved.

1.7 The Chairman of Working Group 5-A said that a further decision taken by the Working Group, to be included in its next report, should perhaps be reported immediately, since Committee 4 would have to deal with the matter and send to other Committees as quickly as possible. The Brazilian Delegation's proposals B/57/120 and B/57/121 relating to N 2982EA and N 2982EB respectively, contained in Document 57, had been approved, the frequency being left in square brackets

pending Committee 4's decision; the proposals related to a frequency being made available exclusively for NAVTEX transmission. The delegate of the USSR, however, had reserved the right to speak again on the matter in Committee 5.

1.8 The delegate of the USSR said that his Administration would like to use the 4 MHz frequency for other purposes besides NAVTEX transmissions; therefore, it had proposed that, if such a frequency was allocated, there should be an indication that it was to be utilized for NAVTEX transmissions in tropical zones but could also be utilized for other purposes in other zones.

1.9 The representative of IMO said that a restriction of use to tropical zones only could jeopardize the purpose of maritime safety in all areas.

1.10 The delegate of Australia said that the restriction on exclusive use to tropical zones would create difficulty for his Administration, which would wish to extend the use to the temperate zone also and would not wish to adopt a separate frequency for the latter. He wondered whether the delegate of the USSR could clarify his Administration's requirements. The delegate of Argentina said that, whilst his Administration supported allocation of a frequency in the 4 MHz band for NAVTEX transmissions, it did not agree to a division of use by geographical zones. The delegate of New Zealand said that, in the past, division of utilization by zones had proved not to be a good procedure.

1.11 The delegate of the United States of America said that, as he understood it, the decision, in Working Group 5-A, to adopt B/57/121 was based on general world-wide use of the frequency and did not relate solely to the tropical zone. That decision having been taken, all that Committee 4 had to do was to allocate a frequency.

1.12 The Chairman proposed that Committee 5 agree and that there is a need for Committee 4 to be asked to allocate a frequency for the exclusive use for the transmission by coast stations of meteorological and navigational warnings and other urgent information to ships by means of narrow-band direct-printing, with no geographical limitations, and that the USSR Delegation's reservation be noted.

It was so agreed.

1.13 The Chairman of Working Group 5-B said that the Working Group had met four times and had almost completed consideration of Article 38. Discussions on some proposals had indicated a need to seek the views of the Technical Working Group of the Plenary Meeting and Committee 4. It was expected that very shortly a number of documents would be presented to Committee 5. He also expected to be able to report to the Committee at its next meeting that the Working Group had completed its work.

2. Study and implementation of a Global Land Distress and Safety System (GLDSS) (Document 89)

2.1 The delegate of Algeria, said that the proposals contained in Document 89 aimed at enhancing the safety of persons and property in isolated areas hitherto insufficiently covered, and at steps towards establishing a Global Land Distress and Safety System (GLDSS). The adoption of appropriate statutory provisions was sought in order to establish the conditions and utilization of land mobile stations within such a system.

2.2 The delegates of Mali and France supported in principle the drafting of a Resolution relating to the study and implementation of such a system.

2.3 The Chairman said that the location and techniques were currently tailored basically to the maritime mobile service but, by implication, the system could be expanded to cover the service referred to in Document 89. Therefore, studies would be needed in that respect, including frequency matters, economical factors and other relevant considerations. Matters which required modification to the Radio Regulations could possibly be left for action by a subsequent competent WARC. He suggested, therefore, that the Committee could agree to draft a Resolution accordingly, on the basis of Document 89.

2.4 The delegate of Algeria, supported by the delegates of Mali and Saudi Arabia, said that the Chairman's suggestion was acceptable.

It was agreed that the Committee should draft a Resolution, based on Document 89, to request studies with a view to broadening the scope of GMDSS, taking into account the need for an expanded land mobile service, and inviting the Administrative Council to put the matter on the agenda of the next competent WARC.

3. Introduction of a Global Maritime Distress and Safety System (GMDSS) and continuation of existing arrangements: consideration of proposed new Resolutions (Document DT/24).

3.1 The Chairman, introducing Document DT/24, said the intention was that Committee 5 should set up an ad hoc Group to prepare the details to be considered for the purpose of drafting a Resolution on the introduction of GMDSS and continuation of existing distress and safety provisions, and to give initial consideration to any other relevant Recommendations and Resolutions referred to Committee 5, as well as to any new ones arising from the Committee's deliberations. He would prepare a draft text relating to the land mobile service, for detailed consideration by the ad hoc Group. He proposed that Mr. McIntyre of the United States Delegation act as Chairman of the Group, whose terms of reference would be to consider DT/24 in detail and all Resolutions and Recommendations pertinent to the work of Committee 5. In response to observations by the delegates of Greece and Mexico, he invited all delegations having relevant proposals to bring them to the attention of the ad hoc Group, which would have no restriction on participation and would be provided with full interpretation services.

The Chairman's suggestions were approved.

3.2 The Chairman stressed that DT/24 was a working document that attempted to take into account the various proposals and comments made. He recalled the views expressed by the delegates of Argentina, Australia, Burkina Faso, Canada, China, Côte d'Ivoire, Cuba, German Democratic Republic, Kenya, Madagascar, Senegal, Mexico, Philippines, Tunisia, USSR, United States of America, and the Administrations which supported Document 15 (Federal Republic of Germany, Austria, Denmark, Finland, France, Ireland, Norway, Netherlands, United Kingdom, Sweden, Switzerland). In discussion, it had been generally felt that all existing provisions should remain unchanged during the transition period and many speakers had wanted ships to continue to be able to operate on the 2 182 kHz band 156.8 MHz frequencies.

The draft Resolution contained in Document DT/24 recognized the IMO as father of the system. It identified basic principles, considered some important issues, described the dates on which the system would start to be implemented and when the implementation would be considered to be complete, stated that the provisions of Chapter N IX should enter into force before IMO wished to implement the system, and set a possible date for the entry into force of Chapter N IX (which could also be the date when the Final Acts entered into force, if that were sooner). He noted that the draft Resolution provided for a

transitional period during which the provisions of Chapters N IX and IX would have equal force and each administration could exercise its own discretion in their use. Concerning the period after the system had been fully implemented, the draft Resolution provided that all the provisions of Chapter IX would continue to have equal force until a subsequent competent conference, except for those relating to the watch on 500 kHz which would be become permissive and subject to the discretion of the administrations concerned. He pointed out that the word "station" in resolves 3.b) should read "stations". The draft Resolution set out three options for determining when the implementation might be considered complete. Option A was based upon information available to the Conference as being a possible date on which IMO might complete the implementation. Option B delegated the decision to the IMO. Option C left the date to be decided within the ITU but provided some guidance on its choice. A further option would be to invite the Administrative Council to add that matter to the agenda of the first conference, of whatever nature, taking place after IMO had made its decision, and leave it to that conference to take a decision on a date. He invited general comments.

3.3 The delegate of Tunisia, referring to noting further a), said that until such time as the GMDSS had been implemented fully, ships subject to the SOLAS Convention would continue to use the existing distress and safety provisions, not merely some of them as stated in the draft Resolution. Referring to noting further b), he said that some administrations and some ships not governed by the SOLAS Convention might continue to use the existing radiotelephone and radiotelegraph distress and safety provisions. Under resolves, he said that it should simply be stated that the use of the new system should be left to the discretion of administrations. Lastly, he said that the frequency 500 kHz should be included in paragraph 2 of invites.

3.4 The delegate of Cuba said that he found the text of the draft Resolution in general acceptable. He had, however, several points to make that were similar to those raised by the delegate of Tunisia: under noting further a), he felt that it was sufficient to say that ships subject to the SOLAS Convention would continue to use existing provisions; under noting further b), he suggested that the phrase "existing distress and safety provisions" be used. Finally, he suggested that a further option (Option D) be included under resolves 4, as follows: "[a date to be decided by a competent ITU conference to be held later]".

3.5 The delegate of Poland drew attention to a problem arising from the wording of invites 2. When the GMDSS was fully implemented, ships subject to the SOLAS Convention would have to fulfil the requirements of SOLAS new Chapter IV. The next competent conference might, however, take different decisions requiring additional equipment of ships, for example concerning a watch on 2 182 kHz. He hoped that SOLAS new Chapter IV would represent the maximum requirement.

3.6 The delegate of Greece considered that the draft Resolution would form a sound working basis. He felt, however, that it put too much emphasis on dates, in view of the fact that the decision of the forthcoming IMO conference remained conjecture. He considered that phrases such as "the date of introduction which will be decided by IMO" or "the date of implementation which will be decided by IMO" were sufficient. He noted that many administrations had said that the transition period should be as short as possible in order to save the additional expense of maintaining both systems. On the other hand, many other administrations had expressed a preference for a longer period for the full implementation of the system in order to spread the financial burden. The question was how to reconcile those opposing views. If the draft Resolution did not provide guidance on how to resolve that problem, it might not be found acceptable.

3.7 The delegate of the Federal Republic of Germany, said that the comments of the Administrations presenting Document 15 would be made in the ad hoc Group.

3.8 The delegate of Australia said that resolves 1 might be unnecessary since presumably Chapter N IX would enter into force on a date to be set by the Conference. He considered that that would meet the proposal by Argentina for a pre-introductory phase. He fully supported the comments made by the delegate of Poland concerning 2 182 kHz and suggested that, in resolves 3 a) and b), provision No. 3046E be replaced by No. 3052A. He considered that there was no need to maintain the mandatory nature of the provision any longer.

3.9 In response to a question by the Chairman of the ad hoc Group on whether the draft Resolution should contain the provisions of the Radio Regulations in order to make it an implementing instrument, the Chairman said that such matters, which were largely editorial, could be dealt with when specific proposals had been considered and questions of principle decided.

3.10 The delegate of Finland drew attention to Resolution MAR 2-12 of WARC-MOB-74 as a possible model for guidance.

3.11 The delegate of Morocco asked for clarification concerning the legal aspects of two competent international organizations dealing with the same subject. The Deputy Secretary-General noting that a legal point had been formally raised which needed a formal reply from the Secretariat, invited the Committee to formulate a precise question to be addressed for legal advice for appropriate action and to have the matter further discussed in the Committee.

3.12 The representative of IMO said that IMO would participate in the ad hoc Group.

The meeting rose at 1030 hours.

The Secretary: The Chairman:

A. ZOUDOV P.E. KENT

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

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23 September 1987
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COMMITTEE 4

Note by the Secretary-General

INFORMATION NOTE - INTERNATIONAL ASTRONOMICAL UNION

I have received the enclosed communication from the Secretary-General of the International Astronomical Union.

R.E. BUTLER

Secretary-General

Annex: 1

ANNEX

Please inform delegates of the Mobile Conference about the following Resolution (B4) of the International Astronomical Union voted at the 19th General Assembly in New Delhi, November 1985:

"RADIO FREQUENCY TRANSMISSION FROM SPACE

THE INTERNATIONAL ASTRONOMICAL UNION

considering

a) that certain frequency bands in the range 1 300 - 1 800 MHz are very important to the science of radioastronomy in particular the allocated bands 1 330 - 1 427 MHz, 1 610.6 - 1 613.8 MHz, 1 660 - 1 670 MHz and 1 718.8 - 1 722.2 MHz;

b) that radioastronomy observations are particularly vulnerable to interference from transmitters located on aircraft and spacecraft;

c) that the frequency range 1 300 - 1 800 MHz is also the object of considerable attention for satellite systems in a number of countries for navigation, position location, and communications;

d) that certain modulation methods are coming into more common usage in space radio services, such as spread spectrum techniques which may cause interference to radioastronomy, not only in frequency bands adjacent to transmission bands, but also at frequencies far removed from bands allocated to space services;

e) that the International Telecommunication Union (ITU) World Administrative Radio Conference (WARC) for the Mobile Services, which is scheduled for 1987, may allocate frequencies in the band 1 300 - 1 800 MHz in order to accommodate satellite services; and

f) that the Mobile Service WARC in 1987 and the WARC on the Use of the Geostationary-Satellite Orbit and the Planning of the Space Services Utilizing It, which is scheduled for 1988, may establish technical standards governing unwanted emissions from the transmitters in the space services;

urges

a) that administrations avoid, whenever practicable, planning space systems with transmitters on spacecraft or aircraft which operate in the frequency band listed in consideration a) above;

b) that administrations take into account the current allocations to the radioastronomy service and its vulnerability to air and space transmissions when preparing proposals for the 1987 WARC for the Mobile Services and the 1988 Space WARC;

c) that administrations devise and adopt technical standards governing unwanted transmissions from transmitters in the space services both nationally and through the Radio Regulations of the ITU; and

d) that administrations coordinate those satellite systems which may impact radioastronomy through the Inter-Union Commission on the Allocation of Frequencies for Radioastronomy and Space Science (IUCAF) with sufficient lead time in the planning phase for an effective exchange of concerns to take place."

On behalf of the 6,000 members of the International Astronomical Union we definitely insist that the above-mentioned frequency bands, especially the ones located 1 660.5 - 1 668.4 MHz, where partial overlap may be envisaged, remain completely open for radioastronomical observations.

Thank you for your cooperation.

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

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COMMITTEE 5

Greece

GRC/203/1
ADD

RESOLUTION No. ...

Relating to the Introduction of Provisions for the GMDSS and the Continuation of the Existing Distress and Safety Provisions

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

noting

a) that the International Maritime Organization

- has adopted a Resolution[1] on the subject of the maritime distress and safety system;
- is currently developing the requirements for a global maritime distress and safety system (GMDSS);
- is preparing a revision of Chapter IV of the International Safety of Life at Sea Convention, 1974, with a view to providing the legal basis for the conditions under which ships to which the above Convention applies should participate in the GMDSS.

b) that, in accordance with the procedure laid down in SOLAS, the IMO body responsible for the adoption of Chapter IV-SOLAS will decide the dates of initial and full implementation of GMDSS or any intermediate dates of application for various classes of ships;

further noting

a) that this Conference has formulated in Chapter N IX of the Radio Regulations the provisions required to enable the GMDSS to come into effect;

b) that this Conference has amended Chapter IX of the Radio Regulations to enable the present distress and safety system, to continue to operate until the date of the full implementation of the GMDSS;

c) that Chapter N IX as contained in the Final Acts of this Conference will enter into force on .....

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[1] IMO Resolution A.420 (XI)/15 November 1979

recognizing

a) that, until the date of the full implementation of the GMDSS, the integrity of the present safety system should be maintained in order to ensure the safety of life at sea;

b) that some administrations and certain ships not subject to the SOLAS Convention may continue to rely on the distress and safety provisions of Chapter IX of the Radio Regulations even after the date of the full implementation of the GMDSS.

resolves

1. that, after the date of the introduction of the GMDSS, stations in the maritime mobile and the maritime mobile-satellite services are obliged to follow either the appropriate provisions established in Chapter IX or in Chapter N IX or in both;

2. that, until the date of the full implementation of the GMDSS, stations in the maritime mobile and the maritime mobile-satellite services, including those following the provisions of Chapter N IX shall additionally follow the provisions of the Annex to this Resolution;

3. that the frequencies identified in section I of Article N 38 exclusively for distress and safety calls by digital selective calling may additionally be used for test transmissions to the extent necessary to facilitate the testing and progressive introduction of the GMDSS;

4. that, in the interest of economy and efficient use of the radio frequency spectrum, the need for administrations to maintain two parallel distress and safety systems should not continue longer than necessary;

urges administrations

to encourage the use of the GMDSS by all stations of the maritime mobile and the maritime mobile-satellite services in accordance with the procedure set forth in "resolves" 1 and 2, to the extent practicable;

invites the Administrative Council

to include in the agenda of a future competent administrative radio conference the review and revision as necessary of the provisions for distress and safety communications contained in Chapter N IX and IX and the procedure laid down in this Resolution.

ANNEX TO RESOLUTION No. ....

1. 500 kHz

The provisions in Chapter IX relating to 500 kHz shall apply until the date of full implementation of the new maritime distress and safety system. After that date, these provisions should applied, on a discretionary basis only.

2. 2 182 kHz

(1) The provisions in Chapter IX relating to 2 182 kHz shall apply until the date which shall be decided by a future competent world administrative radio conference.

(2) Until the date of the full implementation of the GMDSS, all ship stations participating entirely or partially in GMDSS [and equipped with the frequency 2 182 kHz (H3E)] shall additionally maintain watch on that frequency in accordance with relevant provisions of Chapter IX.

(3) Safety traffic by radiotelephony transmitted on 2 182 kHz, following a digital selective call in accordance with the provisions of Chapter N IX, should not be conducted, as far as possible, within the time periods specified in No. 3052 until the date mentioned above in (1).

3. 156.8 MHz

(1) The provisions in Chapter IX relating to 156.8 MHz shall apply until the date which shall be decided by a future competent world administrative radio conference.

(2) Until the date of the full implementation of the GMDSS, all ship stations participating entirely or partially in GMDSS and equipped with the frequency 156.8 MHz (G3E) shall additionally maintain watch on that frequency in accordance with relevant provisions of Chapter IX.

Reasons: To take appropriate measures relating to the implementation of the new system and the continuation of the present and to provide for the use of the frequencies 500 kHz, 2 182 kHz and 156.8 MHz during the parallel use of the two systems in order to avoid degradation of safety.

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

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23 September 1987
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COMMITTEE 4

NOTE BY THE CHAIRMAN OF COMMITTEE 5
TO THE CHAIRMAN OF COMMITTEE 4

Committee 5 has decided that in the maritime mobile service a frequency in the 4 MHz band should be allocated exclusively for the transmission by coast stations of meteorological and navigational warnings and other urgent information to ships by means of narrow-band direct-printing telegraphy.

Committee 4 is requested to take account of this decision when amendments to Appendix 31 are considered.

P.E. KENT
Chairman of Committee 5

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

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COMMITTEE 4

USSR

PROPOSALS FOR THE WORK OF THE CONFERENCE

ARTICLE 8

URS/205/1
ADD 729A

Before the acceptance within the international community of the principles for the implementation of the global automatic satellite system for public correspondence with aircraft administrations concerned may, on a provisional basis, carry out experimental transmissions of public correspondence with aircraft in the bands 1 545 to 1 559 MHz and 1 646.5 to 1 660 MHz under the control of aviation administrations subject to absolute priority of the safety service until the aeronautical mobile-satellite (R) service requireS full utilization of the spectrum.

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WARC FOR THE MOBILE SERVICES
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COMMITTEE 4

THIRD REPORT OF WORKING GROUP 4-A TO COMMITTEE 4

1. In addition to the items listed in the first report (Document 147), Working Group 4-A approved the following proposals concerning Article 8:

1.1 to modify RR 451;

1.2 to modify RR 489;

1.3 to modify RR 517;

1.4 to modify RR 554 (by adding CTI, IRL and E to the list of countries already appearing in that footnote);

1.5 to modify RR 587 (by adding TUR) and to modify RR 589 (by deleting TUR);

1.6 to ADD RR 627A (national footnote for CAN, LAND MOBILE in the band 216 - 220 MHz);

1.7 to modify RR 621 (by adding E);

1.8 to modify RR 680 and to ADD RR 695A;

1.9 To SUP RR 681.

The approved modifications are contained in Annex 1 to this report.

2. The Working Group decided neither to change the Table of Frequency Allocation for the bands:

74.8 - 75.2 MHz
108 - 117.975 MHz
328.6 - 335.4 MHz

nor to proceed to a draft Recommendation concerning the future allocation of these bands.

In this connection several delegations reserved their right to revert to this matter at Committee 4 level.

3. It is to be noted that the Working Group postponed the consideration of the items linked to the GMDSS. In this connection the Working Group members felt that an appropriate Editorial Group of Working Group 4-A should be established to deal with the consequential changes to be made in Article 8, on the basis of the decision to be taken by Committee 5.

J. KARJALAINEN
Chairman of Working Group 4-A

Annex: 1

ANNEX

MOD 451 In the bands 70 - 90 kHz (70 - 86 kHz in Region 1) and 110 - 130 kHz (112 - 130 kHz in Region 1), pulsed radionavigation systems may be used on condition that they do not cause harmful interference to other services to which these bands are allocated.

kHz
1 800 - 2 000

Allocation to Services		
Region 1	Region 2	Region 3
1 800 - 1 810 (NOC) RADIOLOCATION 487 485 486	1 800 - 1 850 AMATEUR	1 800 - 2 000 (NOC) AMATEUR FIXED MOBILE except aeronautical mobile RADIONAVIGATION Radiolocation
1 810 - 1 850 (NOC) AMATEUR 490 491 492 493	~~489~~	
MOD 1 850 - 2 000 (NOC) FIXED MOBILE except aeronautical mobile 484 488 495	1 859 - 2 000 AMATEUR FIXED MOBILE except aeronautical mobile RADIOLOCATION RADIONAVIGATION ~~489~~ 494	489

MOD 489 ~~In Region 2, Loran stations operating in the band 1 000 — 2 000 kHz shall cease operation by 31 December 1982~~. In Region 3, the Loran system operates either on 1 850 kHz or 1 950 kHz, the bands occupied being 1 825 - 1 875 kHz and 1 925 - 1 975 kHz respectively. Other services to which the band 1 800 - 2 000 kHz is allocated may use any frequency therein on condition that no harmful interference is caused to the Loran system operating on 1 850 kHz or 1 950 kHz.

MOD 517 The use of the band 4 000 - 4 063 kHz by the Maritime Mobile Service is limited to ship stations using radiotelephony (see No. 4374 and [Appendix 16]).

MOD 554 (By adding CTI, E and IRL.)

MOD 587 (By adding TUR.)

MOD 589 (By deleting TUR.)

MOD 621 (By adding E.)

ADD 627A <u>Additional allocation</u>: In Canada, the band 216 - 220 MHz is also allocated to the Land Mobile Service on a primary base.

MOD 680 <u>Additional allocation</u>: In the United Kingdom, the band 598 - 606 MHz is also allocated to the Aeronautical Radionavigation Service on a primary basis until 31 December 1994. (The remainder unchanged.)

SUP 681

ADD 695A <u>Additional allocation</u>: In Italy and in the United Kingdom, the band 790 - 862 MHz is also allocated to the Land Mobile Service on a secondary basis.

MOB-87 INTERNATIONAL TELECOMMUNICATION UNION
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INMARSAT

INFORMATION NOTE

FACTS RELATING TO INMARSAT AND ITS SYSTEM CHARACTERISTICS

1. INTRODUCTION

This paper provides information to assist defining future spectrum requirements. The information provided relates to the historical maritime traffic experienced since INMARSAT's inception in 1982 as well as planned satellite deployments in the 1990's. Additionally, information on current and planned mobile earth station development is provided.

A summary of pertinent mobile earth station and space segment characteristics is given in tables 1 and 2 respectively.

2. GENERAL

INMARSAT is an international organisation which has provided high quality communications to the major shipping and offshore areas of the world since 1982.

Some 48 countries are party to the INMARSAT Convention and Operating Agreement; many have ratified the draft amendments to the Convention which could expand the competence of the Organisation to include the provision of aeronautical mobile communications.

3. SHIP EARTH STATION DEVELOPMENT

The INMARSAT standard A ship earth station was designed to operate with global beam satellites. The Standard A system design was determined by the need to minimize the power requirements at both the ship earth station and the satellite, and resulted in the selection of narrow band FM modulation with channel spacings of 50kHz. The tuning range of the standard A ship earth stations was constrained by pre-1979 Radio Regulations and in practice there is only around 7.5MHz of bandwidth available for Standard A services. This amounts to around 120 Standard A circuits being available per satellite network, after allowing for overheads.

Future bandwidth saturation of the Standard A system and the desire to introduce more bandwidth and power efficient new ship earth stations has led to the specification of a Standard B which has digital modulation. A voice coding rate of 16kbit/s has been selected to enable a voice quality similar to that of analogue FM to be offered. In the future this may be reduced to 9.6kbit/s. As link margins for digital moduation need greater protection than for analogue, coding has been implemented resulting in 20kHz channel spacings with OQPSK modulation.

In 1988 the Standard C system will be introduced. This will offer low bit rate data communications at 300/600 bit/s in both forward and return directions to low gain ship earth stations of -21dBK.

4.AERONAUTICAL EARTH STATIONS

INMARSAT intends to introduce both voice and data communications for aircraft from around 1989. For voice communications a bit rate of 9.6kbit/s has been selected in the first instance. These will be offered to high gain earth stations of -12dBK G/T. Data at 600 bit/s will be offered to low gain earth stations of -21dBK.

5.SPACE SEGMENT EVOLUTION

In 1982 the MARECS A satellite was introduced in the AOR to replace the MARISAT satellites. The MARECS satellites have a capacity of around 60 maritime voice channels; the MARISAT satellites have a capacity of around 10 maritime voice channels. Additionally, in late 1982, INMARSAT introduced the INTELSAT-MCS satellites into the system which have a capacity of around 32 channels. These capacities can be increased somewhat by voice activation. By 1988, the available bandwidth (4.5 MHz) and L-band EIRP (35 dBW) of MARECS satellite will saturate in the Atlantic Ocean Region and INMARSAT-2 satellites with 39 dBW L-band EIRP will be introduced.

INMARSAT-2 satellites are able to operate across the 14MHz bi-directional maritime mobile-satellite band with the exclusion of some small guard bands between transponders; they also cover the uni-directional 5MHz ship to shore allocation. With respect to aeronautical, the satellites support 3MHz of the bi-directional aeronautical mobile-satellite (R) band. The 1MHz distress and safety band is included.

6.TRAFFIC AND VESSEL FACTORS

The number of ship earth stations in the INMARSAT system has been growing since the inception in 1982. By 1985 there were 4000 vessels worlwide equipped with terminal. These generated a peak demand of 40 voice circuits in the Atlantic Ocean Region. Today there are over 6000 vessels equipped.

There are today around 70,000 vessels worldwide over 300 GRT that could potentially fit a ship earth station of the size of INMARSAT Standard A or Standard B. New generation smaller ship earth stations will expand the market to smaller vessels.

TABLE 1

SUMMARY OF INMARSAT MOBILE EARTH STATION CHARACTERISTICS

Type	Modulation	Channel spacing	G/T
Standard A	Voice NBFM	50kHz	-4dBK
Standard B	Coded 16kbps OQPSK	20kHz	-4dBK
Standard C	Coded 600/300bps BPSK	2.5kHz	-21dBK
Aero Voice	Coded 9.6kbps OQPSK	17.5kHz	-12dBK
Aero Data	Coded 600bps DECPSK	2.5kHz	-21dBK
High speed data	Coded 56kbps QPSK	100kHz	-4dBK
Very high speed data	Coded 760kbps QPSK	1.1MHz	+2dBK
Compressed TV	Coded 760kbps QPSK	1.1MHz	+2dBK

TABLE 2

SUMMARY OF SPACE SEGMENT CHARACTERISTICS

SATELLITE	L-BAND EIRP DBW	TOTAL BANDWIDTH	BANDS
First Generation			
MARISAT	28DBW	4MHZ	MARITIME
MARECS	35DBW	4.5MHZ	MARITIME
INTELSAT MCS	33DBW	7.5MHZ	MARITIME
Second generation			
INMARSAT-2	39DBW	14/19MHZ 1/1MHZ 3/3MHZ	MARITIME D+SAFETY AERO

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WARC FOR THE MOBILE SERVICES
GENEVA, September-October 1987

Document 208-E
23 September 1987
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TECHNICAL WORKING GROUP
OF THE PLENARY

Italy

PROPOSALS FOR THE WORK OF THE CONFERENCE

Introduction

The proposals set out in this document refer to the decision to be taken on the type of modulation to be selected (MSK or FSK) for the optional F1B data transmission portion of the radiobeacon signal, according to the EMA Resolution No. 3.

Situation

As far as we know, no national proposal regarding which method is considered to be more convenient has yet been submitted.

The only document available is No. 171-E by IALA dated 21 September 1987, in which IALA recommends the adoption of MSK as a consequence of CCIR Report 1037.

The feeling arising from this situation is that apparently no national administration is now supporting the adoption of data transmission from maritime radiobeacons. Italy's position is along the same lines, as we do not consider cost effective the adoption of a new generation of radiobeacons at a time when much more effective radionavigation systems are entering service. However, should it be decided to adopt data transmission from radiobeacons and consequently to select the most convenient type of modulation for the F1B portion of the message, we would like to point out that during the EMA Conference on maritime radiobeacons, held in Geneva in 1985, a compromise solution was suggested by IALA and favourably considered by all administrations, with the sole exception of Sweden.

The compromise solution consisted in an FSK (100-baud) transmission of reduced duration of approximately two seconds, followed by an A1A transmission of approximately two seconds, in order to make it possible to take a bearing at some time during the data transmission (see extract of Document DT/1010-E), while still taking advantage of the low cost and low technology related to FSK.

This compromise solution was not considered in CCIR Report 1037 and has since been abandoned even by IALA, which was its originator, although no reasons have been given.

I/208/1

Conclusion

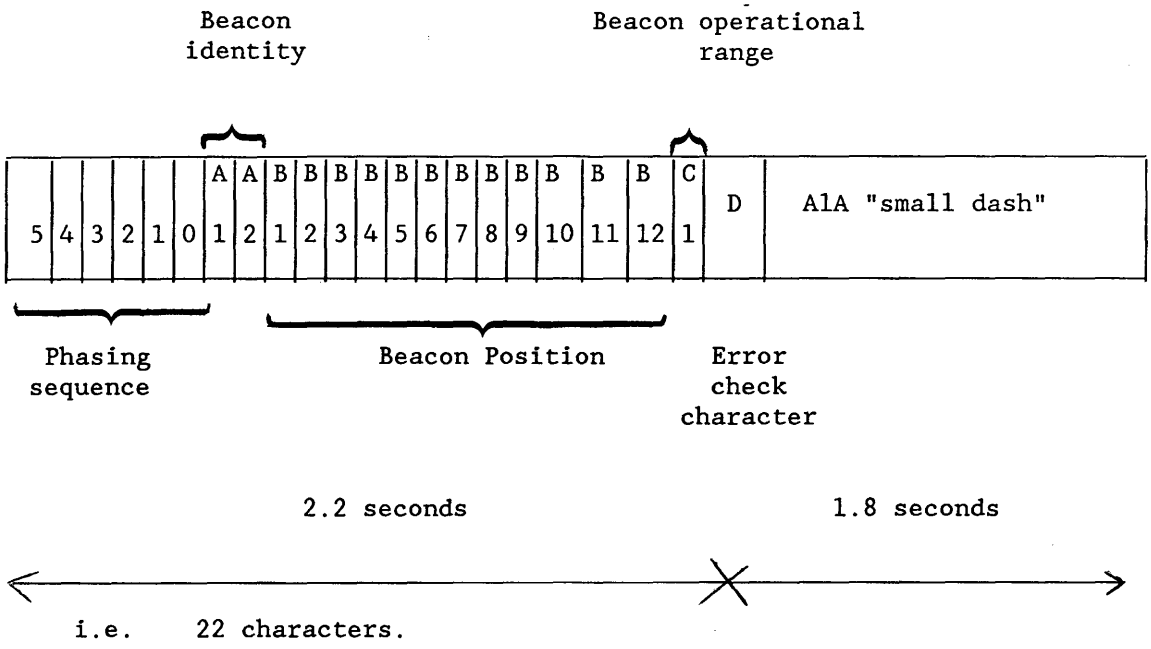
In conclusion Italy is prepared to give up the data transmission option for maritime radiobeacons or to postpone a decision on the matter further. Should it be decided to make a choice between MSK and FSK at this Conference, however, then we would ask that the compromise solution proposed by IALA at the EMA/1985 Conference be taken into consideration.

Annex: 1

ANNEX 1

IALA compromise FSK (100 baud)/A1A data message format

The proposed method of modulation is FSK ± 85 Hz using the ten-unit error detecting code given in Table 1 of Document 1003. The message format to be as shown below.



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COMMITTEE 4

United Republic of Tanzania

PROPOSAL FOR THE WORK OF THE CONFERENCE

Introduction

Tanzania rejects the reallocation of part of the 108 - 118 MHz band to other services other than the present allocation to aeronautical radionavigation when the ILS/MLS transition is completed.

We "consider such a proposal premature" since the ILS is expected to continue domestically in several States even after the completion of the transition period. This is so, for the ICAO transition programme covers international airports and does not include domestic airports.

Subsequently, we see no definite date when the ILS will be out of use, and hope it will continue being in use for many more years to come, and therefore, support NO CHANGE to the bands 74.8 - 75.2 MHz; 108 - 117.975 MHz; and 328.6 - 335.4 MHz which are currently allocated to aeronautical radionavigation.

MHz

TZA/209/1
NOC

Allocation to Services		
Region 1	Region 2	Region 3
74.8 - 75.2	AERONAUTICAL RADIONAVIGATION 572	

Reasons: Essential: required and used for ILS VHF markers.

MHz

TZA/209/2
NOC

108 - 117.975	AERONAUTICAL RADIONAVIGATION	

Reasons: Essential: required and used for ILS localizer and VOR systems.

MHz

TZA/209/3
NOC

Allocation to Services		
Region 1	Region 2	Region 3
117.975 - 136	AERONAUTICAL MOBILE (R) 501 591 592 593 594	

Reasons: Essential: required and used for aeronautical safety services.

MHz

TZA/209/4
NOC

328.6 - 335.4	AERONAUTICAL RADIONAVIGATION 645	

Reasons: Essential: required and used for ILS glide path system.

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COMMITTEE 7

FIRST SERIES OF TEXTS FROM COMMITTEE 5 TO THE EDITORIAL COMMITTEE

The texts in the annex to Document 161(Rev.1), which were slightly modified by Committee 5 at its third meeting are submitted to the Editorial Committee.

The Editorial Committee is requested to note the new location of N 2939.

P.E. KENT
Chairman of Committee 5

MOB-87 INTERNATIONAL TELECOMMUNICATION UNION
WARC FOR THE MOBILE SERVICES
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WORKING GROUP 4-A

REPORT OF DRAFTING GROUP 4-A-3 TO WORKING GROUP 4-A

The Working Group has considered the band 136 - 137 MHz together with its existing and proposed footnotes and reached the following conclusions:

1) With respect to the request made by the IFRB in relation to the words "internationally agreed plans" appearing in RR 595 the Group reached the conclusion that if this provision is retained with its present wording it will lead to complex problems for its implementation by the IFRB. The Group is of the view that the use of the band 136 - 137 MHz by the aeronautical mobile (R) service should be coordinated within ICAO and there is no need for the details of the coordinated uses to be communicated to the IFRB by ICAO. Consequently, it is proposed to delete from RR 595 the words "and shall be affected in accordance with internationally agreed plans for that service".

2) During the discussion, concerns were expressed about the need to protect aeronautical mobile (R) uses from interference that may be caused by the secondary services. This matter is closely related to Recommendation No. 404 and the related proposals from administrations which are not in the mandate of the Group. The Group is of the view that a consolidated solution should be found and to this effect it would be appropriate to request the Chairman of Committee 4 to include this Recommendation and its related proposals in the mandate of Working Group 4-A. Following this decision and if the Working Group 4-A so wishes 4-A-3 will consider the question.

3) With respect to the proposed addition of footnote 594A the Group is of the view that this footnote would create no problem if the provision 595 is modified as proposed in the paragraph 1) above.

L. BERGMAN
Chairman of Drafting Group 4-A-3

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WARC FOR THE MOBILE SERVICES
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COMMITTEE 6

FIRST REPORT BY CHAIRMAN OF WORKING GROUP 6-A TO THE CHAIRMAN OF COMMITTEE 6

Working Group 6-A has considered a proposal from France (F/48/1-3) and submits the following to the Committe for its approval and for the work progressing in the Technical Working Group of the Plenary:

ADD 4326A However, coast stations in an automatic service in the VHF or UHF band may emit marking signals. The emission power of the signals shall however be limited to the minimum value necessary for effective operation of the signalling. Such emissions shall not cause harmful interference to maritime mobile service operations in other countries.

MOD 4910 (Add the following sentence after the existing text)

However, coast stations in an automatic service in the VHF or UHF band may emit marking signals under the conditions provided for in No. 4326A.

The Working Group also recommends that the Committee draw attention to the fact that we have not fully considered the use of marking signals as they relate to other sections of Article 60 of the Radio Regulations (RR 4326 and possible additional proposals for their use in general).

R. SWANSON
Chairman of Working Group 6-A

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WARC FOR THE MOBILE SERVICES
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COMMITTEE 6

SECOND REPORT BY THE CHAIRMAN OF WORKING GROUP 6-A TO THE CHAIRMAN OF COMMITTEE 6

The Working Group has completed its review of Article 58 of the Radio Regulations and submits the attached revised Article 58 of the Radio Regulations for your consideration.

R. SWANSON
Chairman of Working Group 6-A

Attachment: 1

ATTACHMENT

ARTICLE 58

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

Section I. General

MOD 4044 § 1. In order to permit the application of the following rules on the subject of hours of watch, every station of the maritime mobile service and the maritime mobile-satellite service shall have an accurate clock correctly regulated to Coordinated Universal Time (UTC).

NOC 4045

MOD **Section II. Coast Stations and Coast Earth Stations**

MOD 4046 § 3. (1) The services of coast stations and coast earth stations are ~~is~~, as far as possible, continuous (day and night). Certain coast stations, however, may have a service of limited duration. Each administration or recognized private operating agency duly authorized to that effect fixes the hours of service for coast stations under its jurisdiction.

NOC 4047-4051

NOC **Section III. Ship Stations**

NOC 4052-4070

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COMMITTEE 6

THIRD REPORT BY THE CHAIRMAN OF WORKING GROUP 6-A TO THE CHAIRMAN OF COMMITTEE 6

Working Group 6-A has completed its review of Article 66 and submits the revised text at annex for your consideration. The Working Group had difficulty only with the proposed delay of four months as against the original six months. Several administrations opposed the change to four months giving various reasons as follows:

1) Article 66 has a relatively short life.

2) Accounting authorities require the extra two months to adjust to change.

3) WATTC-88 may not adopt the proposed change which is recommended by the CCITT.

The Chairman then proposed that the delay period be four months consistent with expected action by the WATTC-88. It should be pointed out that the purpose of our review of the Article was to bring it in line with the Recommendations of the CCITT and this period is a crucial element of fundamental significance. If this Conference does not keep its modification of the Article consistent with the Recommendations of the CCITT then an explanation will be required. Advice and assistance from the Director of the CCITT and the Secretary-General of the ITU may be necessary when you consider this text.

R. SWANSON
Chairman of Working Group 6-A

Attachment: 1

ATTACHMENT

ARTICLE 66

MOD **~~Public correspondence in the~~ Charging and Accounting for Maritime Radiocommunications in the Maritime Mobile Service and the Maritime Mobile-Satellite Service, 1, 2, except for Distress and Safety Communications**

NOC A.66 1

ADD 2 See Resolution [...].

Section II. Accounting Authority

MOD 5086 § 2. Charges for ~~radiocommunications~~ maritime radio~~tele~~communications from ship-to-shore shall, in principle, and subject to national law and practice, be collected from the maritime mobile station licensee:

NOC 5087 to 5091

SUP 5092

SUP 5093

NOC 5094

MOD 5095 However, any accounting authority shall have the right to question the contents of an account for a period of six months after dispatch of the account, even if the account has been paid.

NOC 5096

MOD 5096 § 9. All ~~radiomaritime~~ maritime radio~~tele~~communications accounts shall be paid by the accounting authority without delay and in any case within ~~six~~ four months after dispatch of the account.

MOD 5097 § 10. If international ~~radiomaritime~~ maritime radio~~tele~~communications accounts remain unpaid after ~~six~~ four months, the administration that has licensed the mobile station shall, on request, take all possible steps, within the limits of applicable national law, to ensure settlement of the accounts of the licensee.

MOD 5098 § 11. In the case referred to in No. 5095, if the ~~account is seriously delayed in~~ transit period between the date of dispatch and receipt exceeds 21 days, the receiving accounting authority should at once notify the originating administration (or recognized private operating agency) that queries and payment may be delayed. The delay shall, however, not exceed three calendar months in respect of payment, or five calendar months in respect of queries, both periods commencing from the date of receipt of the account.

MOD 5099 § 12. The debtor accounting authority may refuse the settlement and adjustment of accounts presented more than eighteen months after the date of ~~handing in of the radiotelegrams, or the date of establishment of the radiotelephone calls or radiotelex calls~~ the traffic to which the accounts relate.

SUP **Section IV. Payment of Balances**

SUP 5100

SUP **Section V. Archives**

SUP 5101 to 5102

ADD DRAFT RESOLUTION No. ...

Relating to the Inclusion in the Regulations to be adopted by the WATTC-88, of Provisions Concerning Charging and Accounting for Maritime Radiocommunications ~~Public Correspondence~~ in the Maritime Mobile Service and the Maritime Mobile-Satellite Service except for Distress and Safety Communications and Consequential Modifications to Article 66 of the Radio Regulations

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

recognizing

that it is expected that provisions concerning charging and accounting for ~~public correspondence~~ maritime radiocommunications in the maritime mobile service and the maritime mobile-satellite service may be included in the Regulations to be adopted by the WATTC-88;

considering

that if such provisions are included in these Regulations it will not be necessary to retain similar provisions in the Radio Regulations;

noting

that the Regulations, if adopted, will enter into force after the revision of the Radio Regulations by this Conference;

resolves

1. that if ~~the~~ provisions concerning charging and accounting for radiocommunications in the maritime mobile service and the maritime mobile-satellite service ~~of Article 66 of the Radio Regulations~~ are contained in the Regulations to be adopted by the WATTC-88 when the latter enter into force, the provisions of Article 66 of the Radio Regulations should be replaced by the following;

"ARTICLE 66

Charging and Accounting for ~~Public Correspondence~~ Maritime Radiocommunications in the Maritime Mobile Service and the Maritime Mobile-Satellite Service except for Distress and Safety Communications

The provisions of the Regulations adopted by the WATTC-88, taking into account the relevant CCITT Recommendations, shall apply."

2. that in any interim period between the entry into force of the Final Acts of this Conference and the entry into force of the new Regulations containing modified provisions concerning charging and accounting for ~~public correspondence~~ maritime radiocommunications in the maritime mobile and maritime mobile-satellite services, administrations and recognized private operating agencies shall continue to apply the provisions of Article 66 of the Radio Regulations as modified by this Conference;

3. that if ~~the~~ special provisions concerning charging and accounting in the maritime mobile and maritime mobile-satellite services are not ~~to be~~ included in the new Regulations adopted by the WATTC-88, the provisions of Article 66 of the Radio Regulations, as modified by this Conference, shall continue to apply;

4. that a future competent conference be invited to review this Resolution;

invites the Administrative Council

to place this Resolution on the agenda of the next competent conference.

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WARC FOR THE MOBILE SERVICES
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Corrigendum 1(Rev.1) to
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26 September 1987
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COMMITTEE 5

Add the following text to the end of MOD 2943 :

[However, until the full implementation of the GMDSS] [(see Resolution No. A)] these aircraft stations shall also be capable of transmitting and receiving class H3E emissions when using the carrier frequency 2 182 kHz.

T. HAHKIO
Chairman of Working Group 5-B

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

Corrigendum 1 to
Document 215-E
24 September 1987
Original: English

COMMITTEE 5

Replace the text of No. 2943 with the following:

ADD 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 shall also be capable of transmitting and receiving class H3E emissions when using the carrier frequency 2 182 kHz.

T. HAHKIO
Chairman of Working Group 5-B

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

Document 215-E
24 September 1987
Original: English

Source: Documents DT/18 + Corr.1
161(Rev.1) pages 3 and 4

COMMITTEE 5

FIRST REPORT OF WORKING GROUP 5-B TO COMMITTEE 5

1. At the first meeting of Working Group 5-B, it was noted that matters belonging to the Resolution on the timing and status of texts in Chapters IX and N IX were excluded from the terms of reference. It was therefore decided to consider first the scenario where Chapter IX is still mandatory. It was also understood that the texts provided might have to be revised and adjusted after decision on the Resolution has been taken in Committee 5.

2. The Working Group agreed on the provisions under Articles 37 and 38 up to provision 2997A, as given in the annex, bearing in mind:

The reference to Nos. 2944 to 2949 in provision 2937A, the beginning of provision 2943A, the reference to Resolution No. A, the retention of No. 2944 as a reference in provision No. 2973, the retention of provisions 2945 to 2947 and the new provision 2943B are in square brackets and are only as a reminder that there are proposals on them but that these matters remain open until the decision on the Resolution has been taken in the Committee.

T. HAHKIO
Chairman of Working Group 5-B

ANNEX

NOC

CHAPTER IX

NOC

Distress and Safety Communications[1]

NOC

ARTICLE 37

NOC

General Provisions

MOD 2930 § 1. 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 communications between these ~~aircraft~~ stations and aircraft stations ~~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.

NOC 2931 § 2.

2932 § 3. (1)

2933 (2)

2934 (3)

MOD 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 Centres[2] to communicate with other stations using bands allocated to the maritime mobile-satellite service, for distress and safety purposes.

NOC 2935 § 4.

NOC 2936-2937

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[1] For the purposes of this Chapter, distress and safety communications include distress, urgency and safety calls and messages.

MOD 2934A.1 [2] 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.

MOD 2937A § 4A. 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 direct-printing telegraphy, in accordance with relevant CCIR Recommendations.

MOD 2938 § 5. The abbreviations and signals of Appendix 14 and the Phonetic Alphabet and Figure Code in Appendix 24 should be used where applicable.[1] ~~and, where language difficulties exist, the use of the International Code of Signals also is recommended.~~

NOC 2939 § 6. (1)

NOC 2940 (2)

NOC 2941 § 7.

MOD 2942 § 8. Mobile stations[1] 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 38 (see also No. 2932).

MOD 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.

MOD 2943 § 9. Any aircraft required by national or international regulations to communicate for distress, urgency or safety purposes with stations of the maritime mobile service. ~~shall be capable of transmitting preferably class A2A or H2A and receiving preferably class A2A and H2A emissions on the carrier frequency 500 kHz or, on the carrier frequency 2 182 kHz, transmitting class J3E or H3E and receiving class A3E, J3E and H3E emissions[2], or on the carrier frequency 4 125 kHz, transmitting class J3E and receiving class J3E emissions, or on the frequency 156.8 MHz transmitting and receiving class G3E emissions.~~

ADD 2943A [Until the full implementation of the GMDSS] shall be capable of transmitting preferably class A2A or H2A and receiving preferably class A2A and H2A emissions on the carrier frequency 500 kHz or, on the carrier frequency 2 182 kHz, transmitting class J3E or H3E and receiving class A3E, J3E and H3E emissions[2], or on the carrier frequency 4 125 kHz, transmitting class J3E and receiving J3E emissions, or on the frequency 156.8 MHz transmitting and receiving class G3E emissions.

ADD 2938A.1 [1] The use of the Standard Marine Navigational Vocabulary and, where language difficulties exist, the International Code of Signals, both published by the International Maritime Organization, is also recommended.

NOC 2942.1

(MOD) 2943A.1 [2] As an exception, the requirement to receive class A3E emissions on the carrier frequency 2 182 kHz may be made optional when permitted by national regulations.

ADD 2943B After the full implementation of the GMDSS shall be capable of transmitting and receiving class J3E emissions when using the carrier frequency 2 182 kHz or the carrier frequency 4 125 kHz or class G3E emissions when using the frequency 156.8 MHz.

SUP 2944 § 10.

MOD 2945 § 11. Until the full implementation ~~a future world administrative radio conference has made full provision for the normal operational use~~ of the global maritime distress and safety system (GMDSS):

2946 a) all provisions of the Radio Regulations pertaining to the present distress, urgency and safety communications shall be maintained in force;

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, 2 182 kHz and 156.8 MHz and on the supplementary distress frequencies 4 125 kHz and 6 215.5 kHz;

SUP 2948

SUP 2949

2950 to 2966 NOT allocated.

NOC ARTICLE 38

NOC **Frequencies for Distress and Safety**

NOC **Section I. Availability of Frequencies**

SUP 2967

SUP 2968 § 0.

(MOD) 2969 ~~B~~. A. 500 kHz

2970 The frequency 500 kHz is the international distress frequency for Morse telegraphy (see also No. 472); it shall be used for this purpose by ship, aircraft and survival craft stations which employ~~ing~~ Morse telegraphy on frequencies in the bands between 415 kHz and 535 kHz when requesting assistance from the maritime services. It shall be used for the distress call and distress traffic, for the urgency signal and urgency messages, for the safety signal and, outside regions of heavy traffic, for short safety messages. When practicable, safety messages shall be transmitted on the working frequency after a preliminary annoucement on 500 kHz (see also No. 4236). 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 [and Resolution No. A)].

NOC 2971 (2)

(MOD) 2971A ~~C.~~ B. 518 kHz

MOD 2971B § 1A. 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 international NAVTEX system (see ~~No.~~ 2944 ~~and~~ [Resolution No. 318 (Mob-83)]).

SUP 2971C

SUP 2971D

(MOD) 2972 E. C. 2 182 kHz

MOD 2973 § 2. (1) The carrier frequency 2 182 kHz[1] is an international distress frequency for radiotelephony (see also Nos. 500 and 501); it shall be used for this purpose by ship, aircraft and survival craft stations and by emergency position-indicating radiobeacons using frequencies in the authorized bands between 1 605 kHz and 4 000 kHz when requesting assistance from the maritime services. It is used for the distress call and distress traffic, for signals of emergency position-indicating radiobeacons, for the urgency signal and urgency messages and for the safety signal. Safety messages shall be transmitted, where practicable, on 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 H3E. Class A3E emission may continue to be used by apparatus provided solely for distress, urgency and safety pruposes (see No. 4127). The class of emission to be used by emergency position-indicating radiobeacons shall be as specified in Appendix 37 (see also No. 3265). The class of emission J3E may be used for the exchange of distress traffic on 2 182 kHz following the acknowledged reception of a distress call using digital selective calling techniques on 2 187.5 kHz taking into account that other shipping in the vicinity may not be able to receive this traffic. (See also N 2973 [and Resolution No. A].)

MOD 2974 (2) If a distress message on the carrier frequency 2 182 kHz has not been acknowledged, the radiotelephone alarm signal, whenever possible followed by the distress call and message, may be transmitted again on a carrier frequency of 4 125 kHz or [6 215.5 kHz] as appropriate (see Nos. 2982, 2986 and 3054).

MOD 2975 (3) However, ship and aircraft stations which cannot transmit on the carrier frequency 2 182 kHz or, in accordance with No. 2974, on the carrier frequencies 4 125 kHz or [6 215.5 kHz], should use any other available frequency on which attention might be attracted.

NOC 2973.1

SUP 2976

NOC 2977 (5)

NOC 2978 (6)

SUP 2978A

SUP 2978B § 2A.

(MOD) 2979 ~~C~~. D. 3 023 kHz

NOC 2980 § 3.

(MOD) 2981 ~~H~~. E. 4 125 kHz

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 also No. N 2982). N2986 [and Resolution No. A]).

MOD 2982A (2) The carrier frequency [4 125 kHz] may be used by aircraft stations to communicate with stations of the maritime mobile service for distress and safety purposes, and search and rescue (see No. 2943).

SUP 2982B

SUP 2982C § 4A.

SUP 2982D

SUP 2982E § 4B.

(MOD) 2983 Mob-83 ~~K~~. F. 5680 kHz

NOC 2984 § 5.

MOD 2985 Mob-83 ~~L~~. G. [6 215.5 kHz]

MOD 2986 § 6. The carrier frequency [6 215.5 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 ~~No.-2944)~~ also No. N 2986 [and Resolution No. A]).

SUP 2986A

SUP 2986B § 6A.

SUP 2986C

SUP 2986D § 6B.

SUP 2986E

SUP 2986F § 6C.

SUP 2986G

SUP 2986H § 6D.

(MOD) 2987 ~~Q.~~ H. 8 364 kHz

MOD 2988 § 7. The frequency 8 364 kHz is designated for use by survival craft stations if they are equipped to transmit on frequencies in the bands between 4 000 kHz and 27 500 kHz and if they desire to establish communications relating to search and rescue operations with stations of the maritime and aeronautical mobile services (see also No. 501). [and Resolution No. A]).

SUP 2988A

SUP 2988B § 7A.

SUP 2988C

SUP 2988D § 7B.

SUP 2988E

SUP 2988F § 7C.

SUP 2988G

SUP 2988H § 7D.

SUP 2988I

SUP 2988J § 7E.

SUP 2988K

SUP 2988L § 7F.

SUP 2988M

SUP 2988N § 7G.

(MOD) 2989 ~~Y.~~ H. 121.5 MHz and 123.1 MHz

SUP 2990

NOC 2990A § 8.

NOC 2990A.1

NOC 2990B (1B)

NOC 2991 (2)

(MOD) 2992 ~~Z~~. I. 156.3 MHz

NOC 2993 § 9.

SUP 2993A

SUP 2993B § 9A.

(MOD) 2993C ~~AB~~. J. 156.650 MHz

MOD 2993D § 9B. 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 ~~(see No. 2944)~~.

(MOD) 2993E ~~AC~~. K. 156.8 MHz

MOD 2994 § 10. (1) The frequency 156.8 MHz is the international distress, safety and calling frequency for radiotelephony for stations of the maritime mobile service when they use frequencies in the authorized bands between 156 MHz and 174 MHz (see also Nos. 501 and 613). It is used for the distress signal, the distress call and distress traffic, as well as for the urgency signal, urgency traffic and the safety signal (see also No. 2995A). Safety messages shall be transmitted where practicable on a working frequency after a preliminary announcement on 156.8 MHz. [The class of emission to be used for radiotelephony on the frequency 156.8 MHz shall be G3E] (see No. ~~2944~~ N 2994, ~~and~~ Appendix 19). [and Resolution No. A]).

NOC 2995 (2)

NOC 2995A (3)

SUP 2995B

SUP 2995C § 10A.

(MOD) 2996 ~~AE~~. L. 243 MHz

(See Nos. 501 and 642)

(MOD) 2997 ~~AF~~. M. 406 - 406.1 MHz Band

NOC 2997A § 10B.

MOB-87 UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS
CAMR POUR LES SERVICES MOBILES
GENÈVE, septembre-octobre 1987

Corrigendum 1 au
Document 216-F/E/S
28 septembre 1987

Remplacer ADD 69A par

ADD 67A 4.10A Station terrienne terrestre : station terrienne du service fixe par satellite ou dans certains cas du service mobile par satellite, située en un point déterminé du sol et destinée à assurer la liaison de connexion du service mobile par satellite.

Replace ADD 69A by

ADD 67A 4.10A Land earth station: An earth station in the fixed-satellite service or, in some cases, in the mobile-satellite service, located at a specified fixed point on land to provide a feeder link for the mobile-satellite service.

Sustitúyase ADD 69A por

ADD 67A 4.10A Estación terrena terrestre: estación terrena del servicio fijo por satélite o, en ciertos casos, del servicio móvil por satélite, situada en un punto determinado del suelo y destinada a asegurar el enlace de conexión del servicio móvil por satélite.

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

Document 216-E
24 September 1987
Original: French

COMMITTEE 4

SECOND REPORT OF WORKING GROUP 4-B TO COMMITTEE 4

At its meeting of 22 September 1987, Working Group 4-B took the following decisions:

SUP Resolution No. 400

SUP Resolution No. 404

NOC Resolution No. 405

SUP Recommendation No. 308.

At its meeting of 24 September 1987, it adopted a proposal concerning the addition of the following definitions:

ADD 69A 4.12A Land mobile earth station: A mobile earth station in the land mobile-satellite service capable of surface movement within the geographical limits of a country or continent.

J. PIPONNIER
Chairman of Working Group 4-B

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

Corrigendum 1 to
Document 217-E
28 September 1987

This Corrigendum concerns the Spanish text only.

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

Document 217-E
24 September 1987
Original: English

Source: Document DT/28

COMMITTEE 5

SECOND REPORT OF WORKING GROUP 5-A TO COMMITTEE 5

1. At its third, fourth, fifth and sixth meetings, Working Group 5-A considered Article N 38. The approved text is in the Annex.

2. The delegate of Greece reserved the right to come back to the future use of the frequency 490 kHz in Committee 5.

3. A consolidated text for N 2968 was proposed in Document DL/9 and was adopted with some modification. The last sentence was left in square brackets for referral to Committee 4.

4. In N 2971B, the words "(international NAVTEX system)" were added and a reference to Resolution No. 318 was placed in square brackets pending a decision by Committee 6.

5. In N 2973, the word "exclusively" was placed in square brackets pending a decision by Committee 6.

6. In provisions N 2978B, N 2982E, N 2986D, N 2988B, N 2988H and N 2988N a reference to N 3171A was included and the three final references now read N 3172, N 3195R and N 3195AB. It was agreed that the references in Document DT/1B would be used throughout.

7. A proposal by the delegate of Japan requested the inclusion of a description of distress call. It was agreed that this would be covered in Article N 39.

8. N 2982EA and N 2982EB as submitted in Documents B/57/120 and B/57/121 were approved with the frequency itself in square brackets pending a decision of Committee 4. However, the delegate of the USSR reserved the right to come back to this in Committee 5.

9. In N 2993B, the word "exclusively" was placed in square brackets and the "See No. 347" in square brackets was added, pending decisions in Committee 4.

10. Certain frequencies in the 4, 6, 8, 12 and 16 MHz bands were placed in square brackets pending discussions of Appendix 31 in Committee 4.

11. It was agreed that the reference to "class of emission G3E" would be deleted in N 2993 and N 2994.

12. In relation to ADD N 3002 the following statement was made by the representative of IMO: "The IMO Sub-Committee on Life-Saving, Search and Rescue at its 18th session (June 1987), agreed that a frequency in addition to channel 16 was necessary for the two-way radiotelephone apparatus. The additional frequency is needed so that the equipment can be used during drills and for other safety purposes on board ships. The purpose of the additional frequency is also to ensure that the equipment is in working order and so that it can be used without the restrictions that would apply if only channel 16 was available. (Decision subject to approval by MSC-55 in April 1988.)"

13. The representative of IATA while acknowledging the commendable work done by its sister organizations IMO and ICAO expressed the plea that once the details were worked out that all parties concerned with safety in all mobile services be consulted with a view to maximal cooperation.

14. With respect to N 3010, the delegate of Australia wished to take up the addition of other frequencies as in AUS/40/218 at the Committee 5 discussion on principles.

15. Small ad hoc Drafting Groups were called to submit texts on N 3002, N 3016A and N 3041.

16. The Editorial Committee is requested to consider the titles of the Articles and sections in Chapter N IX with a view to avoiding redundancy.

U. HAMMERSCHMIDT
Chairman of Working Group 5-A

Annex: 1

ANNEX

ADD ARTICLE N 38

Frequencies for Distress and Safety Communications for the GMDSS

Section I. Availability of Frequencies

ADD N 2967 A. 490 kHz

N 2968 In the maritime mobile service the frequency 490 kHz is reserved exclusively for the transmission by coast stations of meteorological and navigational warnings and other urgent information to ships by means of narrow-band direct-printing telegraphy.

Note - Consideration of the following text is referred to Committee 5 for transmission to Committee 4.

[The frequency may be used by administrations for transmissions of such information in their national ~~language~~ services].

ADD N 2971A B. 518 kHz

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 (international NAVTEX system) [(see Resolution No. 318(Mob-83))].

ADD N 2971C C. 2 174.5 kHz

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

ADD N 2972 D. 2 182 kHz

ADD N 2973 The carrier frequency 2 182 kHz is used [exclusively] for distress and safety traffic by radiotelephony, using class of emission J3E. (See also No. 2973.)

ADD N 2978A E. 2 187.5 kHz

ADD N 2978B The frequency 2 187.5 kHz is used exclusively for distress and safety calls using digital selective calling in accordance with No. N 3171A. (See Nos. N 3172, N 3195R and N 3195AB.)

ADD N 2979 F. 3 023 kHz

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).

ADD N 2981 G. 4 125 kHz

ADD N 2982 The carrier frequency 4 125 kHz is used for distress and safety traffic by radiotelephony (see also No. 2982).

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).

ADD N 2982B H. [4 177.5] kHz

ADD N 2982C The frequency [4 177.5] kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy.

ADD N 2982D I. [4 188] kHz

ADD N 2982E The frequency [4 188] kHz is used exclusively for distress and safety calls using digital selective calling in accordance with No. N 3171A. (See Nos. N 3172, N 3195R and N 3195AB.)

ADD N 2982EA IA. [4 229] kHz

ADD N 2982EB In the maritime mobile service, the frequency [4 229] 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.

ADD N 2983 J. 5 680 kHz

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).

ADD N 2985 K. [6 215.5] kHz

ADD N 2986 The carrier frequency [6 215.5] kHz is used for distress and safety traffic by radiotelephony (see also No. 2986).

ADD N 2986A L. [6 268] kHz

ADD N 2986B The frequency [6 268] kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy.

ADD N 2986C M. [6 282] kHz

ADD N 2986D The frequency [6 282] kHz is used exclusively for distress and safety calls using digital selective calling in accordance with No. N 3171A. (See Nos. N 3172, N 3195R and N 3195AB.)

ADD N 2986E N. 8 257 kHz

ADD N 2986F The carrier frequency 8 257 kHz is used exclusively for distress and safety traffic by radiotelephony.

ADD N 2986G O. [8 357.5] kHz

ADD N 2986H The frequency [8 357.5] kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy.

ADD N 2988A P. [8 375] kHz

ADD N 2988B The frequency [8 375] kHz is used exclusively for distress and safety calls using digital selective calling in accordance with No. N 3171A. (See Nos. N 3172, N 3195R and N 3195AB.)

ADD N 2988C Q. [12 392] kHz

ADD N 2988D The carrier frequency [12 392] kHz is used for distress and safety traffic by radiotelephony.

ADD N 2988E R. [12 520] kHz

ADD N 2988F The frequency [12 520] kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy.

ADD N 2988G S. [12 563] kHz

ADD N 2988H The frequency [12 563] kHz is used exclusively for distress and safety calls using digital selective calling in accordance with No. N 3171A. (See Nos. N 3172, N 3195R and N 3195AB.)

ADD N 2988I T. 16 522 kHz

ADD N 2988J The carrier frequency 16 522 kHz is used for distress and safety traffic by radiotelephony.

ADD N 2988K U. [16 695] kHz

ADD N 2988L The frequency [16 695] kHz is used exclusively for distress and safety traffic using narrow-band direct-printing telegraphy.

ADD N 2988M V. [16 750] kHz

ADD N 2988N The frequency [16 750] kHz is used exclusively for distress and safety calls using digital selective calling in accordance with No. N 3171A. (See Nos. N 3172, N 3195R and N 3195AB.)

ADD N 2989 W. 121.5 MHz and 123.1 MHz

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.

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.

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).

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.

ADD N 2992 X. 156.3 MHz

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).

ADD N2993A Y. 156.525 MHz

ADD N2993B The frequency 156.525 MHz is used [exclusively] in the maritime mobile service for distress and safety calls using digital selective calling (see also Nos. 613A, N 2932, N 2933, N 2934 and Resolution No. 317(Mob-83)).

ADD N 2993C Z. 156.650 MHz

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.

ADD N 2993E AA. 156.8 MHz

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).

ADD N 2995A The frequency 156.8 MHz may be used by aircraft stations for safety purposes only.

ADD N 2997 AB. 406 - 406.1 MHz band

ADD N 2997A The frequency band 406 - 406.1 MHz is used exclusively ~~for~~ by satellite emergency position-indicating radiobeacons in the Earth-to-space direction (see No. 649).

ADD N 2997B AC. 1 530 - 1 544 MHz band

ADD N 2997C In addition to its availability for routine non-safety purposes, the band 1 530 - 1 544 MHz is used for distress and safety purposes in the space-to-Earth direction in the maritime mobile-satellite service.

ADD N 2998 AC. 1 544 - 1 545 MHz band

[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:]

[ADD N 2998B a) feeder links of satellites needed to relay the emissions of satellite emergency position-indicating radiobeacons to earth stations;]

[ADD N 2998C b) narrow-band (space-to-Earth) links from space stations to mobile stations.]

ADD N 2998CA AE. 1 626.6 - 1 645.5 MHz band

ADD N 2998CB In addition to its availability for routine non-safety purposes, the band 1 626.5 - 1 645.5 MHz is used for distress and safety purposes in the Earth-to-space direction in the maritime mobile-satellite service.

[ADD N 2998D AD. 1 645.5 - 1 646.5 MHz band]

[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).]

ADD N 2998F AE. ~~9 300~~ 9 200 - 9 500 MHz

ADD N 2998G The band ~~9 300~~ 9 200 - 9 500 MHz is used ~~for~~ by radar transponders to facilitate search and rescue.

ADD N 3001 AF. Survival Craft Stations

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 and receive on 156.8 MHz and at least one other frequency in these bands.

ADD N 3002A Equipment provided for transmitting locating signals from survival craft stations shall be capable of operating in the 9 200 - 9 500 MHz band. ~~using class of emission PON~~.

ADD N 3008A Equipment with digital selective calling facilities provided for use in survival craft shall, if capable of operating:

ADD N 3008B a) in the bands between 1 605 kHz and 2 850 kHz, be able to transmit on 2 187.5 kHz;

ADD N 3008C b) in the bands between 4 000 kHz and 27 500 kHz, be able to transmit on [8 375] kHz;

ADD N 3008D c) in the bands between 156 MHz and 174 MHz, be able to transmit on 156.525 MHz.

ADD **Section II. Protection of Frequencies ~~Used for Automated Communications~~ for Distress and Safety Communications for the GMDSS**

ADD N 3009 A. General

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 and in Section I of Article 38 is prohibited.

ADD N 3011 Test transmissions shall be kept to a minimum on the frequencies identified in Section I of this Article and should be coordinated with a competent authority, as necessary, and, wherever practicable, be carried out on artificial antennas or with reduced power. However, testing on the distress and safety calling frequencies should be avoided, but where this is unavoidable, it should be indicated that these are test transmissions.

ADD N 3016A Before transmitting for other than distress purposes on any of the frequencies identified in Section I for distress and safety, a station shall, where practicable, listen on the frequency concerned to make sure that no distress transmission is being sent.

~~2 173 - 2 190 kHz Band~~

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

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.

ADD N 3032 C. 156.7625 to 156.8375 MHz Band

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.

ADD **Section III. Watch on Frequencies ~~Used for Automated Communications~~ for Distress and Safety Communications for the GMDSS**

ADD N 3037 A. Selected Coast Stations

ADD N 3038 Coast stations selected in accordance with the plan coordinated by ~~International Maritime Organization~~ IMO 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.

ADD N 3038A B. Coast Earth Stations

ADD N 3038B Coast earth stations selected in accordance with the plan coordinated by ~~International Maritime Organization~~ IMO shall maintain ~~an~~ a continuous automatic watch for appropriate distress alerts relayed by space stations. ~~from satellite emergency position indicating radiobeacons by space stations~~.

ADD N 3040 C. Ship Stations

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. Ship stations, where so equipped, should also maintain watch on the appropriate frequencies for the automatic reception of transmissions of navigational and meteorological warnings and other urgent information to ships.

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.

ADD N 3041A D. Ship Earth Stations

ADD N 3041B Ship earth stations in use for the reception of shore-to-ship distress alert relays should maintain watch except when communicating on a working channel.

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

Document 218-E
24 September 1987
Original: English

TECHNICAL WORKING GROUP
OF THE PLENARY

REPORT BY AD HOC GROUP 2 TO THE TECHNICAL WORKING GROUP OF THE PLENARY

Ad hoc Group 2 has prepared the following draft note to the Chairman of Committee 4.

M.S. HESS
Convener of ad hoc Group 2
of the Working Group
of the Plenary

DRAFT NOTE FROM THE CHAIRMAN OF THE TECHNICAL
WORKING GROUP OF THE PLENARY TO THE
CHAIRMAN OF COMMITTEE 4

In response to the request to the Technical Working Group of the Plenary (Document 173) the Working Group offers the following opinions on the technical issues concerning frequency allocations in the 1.5/1.6 GHz band.

Introduction

In accordance with the agenda of the Conference, various information papers related to the mobile-satellite service were introduced by the Administrations of Canada and the United States and by the European Space Agency (ESA). Introduced as conference Documents 56, 68, 69, 78, 80, 81, 83, 84 and 133, they address a wide range of issues supporting the viability of a mobile-satellite service. Some of the papers considered technical studies and developments accomplished over the past several years on the subjects of spot beam frequency reuse, orbit reuse, aeronautical system, interoperability among multiple MSS systems, intersystem sharing and intrasystem sharing. Three of the United States Administration papers and the ESA paper provided information on the needs, economic justification for, and spectrum requirements of, the proposed service. The issues of sharing with the fixed service operating in accordance with footnote 730 and coordination of the satellite systems in accordance with Article 11 were also reviewed.

These papers stated that:

- frequency reuse via satellite spot beams in the 1.5/1.6 GHz band is feasible and desirable;
- orbit reuse in the 1.5/1.6 GHz band is feasible when certain satellite and mobile earth terminal characteristics are selected;
- MSS systems can support aviation requirements for interoperability among satellite systems;
- intrasystem sharing between safety and non-safety services can be accomplished while protecting safety and regularity of flight communications;
- there is a need for the service;
- the spectrum being considered for use is adequate for the sharing proposed;
- the existing Radio Regulations can be used to coordinate the new service.

In the discussions of the Technical Working Group, administrations raised the following points on the technical and operational aspects in favour of, and against a mobile-satellite service (MSS) allocation in the 1.5/1.6 GHz band.

TECHNICAL CONSIDERATIONS IN SUPPORT OF A GENERIC MSS

MSS national systems

A system operator may only need one satellite and control system for all services in a specific coverage area; fewer orbital positions required; more efficient use of the spectrum due to aggregation of services common satellite transponders could be used for diverse services; only one family of terminals for all services.

Interoperability considerations between systems (national-international)

National systems serve within national boundaries only. Hence land and maritime mobile-satellite services are not subject to interoperability considerations. Aeronautical mobile-satellite service interoperability between adjacent systems requires hand off procedures.

Priority Considerations for AMSS (R)

Priority access is guaranteed through channel block assignment and pre-emption in real time. The aviation authorities and other responsible organizations determine the block of channels required for the average forecast demand. Additional blocks are added by the system, on a demand basis, to accommodate peaks. Inconvenience to other services minimal due to frequency and duration of peaks.

Reuse potential for systems

Spectrum used by an international system with global beams is not available to national systems. By using spot beams the remaining available spectrum can be reused many times on a world-wide basis taking into account existing satellite antenna technology and acceptable theoretical and subjective interference levels. The reuse pattern developed guarantees sufficient spectrum for all services categories and offers the assurance of spectrum availabilities for all nations or regions of the world to use.

RESERVATIONS TO A GENERIC MSS

However some administrations felt that,

- A combined MS system does not mean only a single satellite will be sufficient to achieve the coverage of large areas such as the ocean and land areas of Regions 1 and 2.
- As an example to (cover the N. American and European areas) multiple satellites would be necessary.
- A combined MSS needs complex centralized control centres with many links to different ground centres which will require special design and particular interfaces.
- The different nature of the three services could neccessitate different kinds of satellite equipment and antennas because the power budgets and characteristics of the various mobile services are not the same due to their diverse purpose and use.

- In order to ensure compatibility and protection for the flight safety services, all mobile units must be designed and operated to common standards. This will require time for standardization of technical characteristics and operating procedures and a high degree of international coordination should be realized.

- A satellite based land mobile system could not handle as much traffic as a terrestrial land mobile cellular system and the spectrum economy of a combined MSS needs more studies.

- The study into satellite technology undertaken in some countries could lead to frequency reuse by means of spot beams. This technology is not unique to the concept of a generic MSS and can be applied to services which have separate frequency band allocations.

- In its report to the WARC the CCIR, whilst recognizing a generic MSS might be technically feasible, also concluded that further study would be necessary and furthermore that it was likely that to meet the requirements of the three services in the future, more spectrum than that currently allocated would eventually be needed. Doubts were expressed that the information made available to the WARC would negate the need for this study before a firm allocation was made to a combined mobile satellite service.

ECONOMIC, OPERATIONAL AND MANAGEMENT ISSUES IN SUPPORT OF A GENERIC MSS

Many beneficial economic, operational and management issues arise from the mobile satellite technology addressed in the group of information papers. Satellite spot-beam antennas which is applicable to dedicated as well as combined systems, result in conservation of scarce spectrum. They also lead to greater satellite capacity, at lower unit cost. Lower power and cheaper earth station equipment is also brought about by the higher satellite antenna gain.

As a result, many diverse land, aviation, and maritime communications needs can be met cost-effectively, providing operational advantages to users in rural and remote areas, in national waters and in air space all over the world. A large number of users justifies the use of satellites of higher capacity, and this leads to greater efficiencies in channel utilization (trunking efficiency). The larger number of channels available in a shared system also means that as the needs of aeronautical safety increase, either momentarily or permanently, they can expand into capacity use for non-safety applications, obviating the need to launch new satellites.

Several papers address network management, specifically describing procedures for assigning spectrum between aeronautical safety and all other mobile services.

It is important to note that these procedures address all of the requirements for satellite systems established so far by the FANS Committee of the ICAO. Combining them with other mobile-satellite services will make aviation safety services affordable.

ECONOMIC, OPERATIONAL AND MANAGEMENT ISSUES
RESERVATIONS TO A GENERIC MSS

Convincing data are not available to confirm that spectrum economy can be achieved due to development and use of a single mobile-satellite service instead of separate services.

There is no advantage from the operational point of view for combining maritime, aeronautical and land mobile-satellite services. Each of the services may have its own service areas, its peculiarities as far as the station operation and use of channels are concerned.

Maritime and especially aeronautical mobile-satellite services include safety services which require an absolute priority over other services and provision of immediate communications. This may be difficult to achieve in a combined system.

Maritime and aeronautical safety related services require a high degree of communication availability whereas the introduction of an additional system for real-time control of channel assignment and the addition of public correspondence would significantly complicate the system equipment which, in turn, would reduce the system operation reliability. The enhancement of system's component reliability would make the system more expensive.

The control of the combined system operation from special terrestrial centres, or even from a single centre, providing the traffic monitoring in each service area contributes also to the reduction of the overall system reliability. A legal question of responsibility for system spectrum management with regard to each service and for the priority determination is not cleared and requires investigation. A more expensive and complicated system may lead to the increase of operational costs and, as a consequence, to higher tariff rates.

- In a combined system there may be a situation, whereby the safety related services would need to use the entire frequency spectrum allocation to the mobile-satellite service in which case the non safety services will be totally disrupted.

- Doubts were raised that the existing ITU regulatory provisions are not appropriate to govern the implementation of the mobile satellite system and this would have a bearing on the efficient use of the Geostationary Orbit/spectrum resources.

It was mentioned that a separate generic allocation for a domestic/regional mobile-satellite service, which does not include safety services, would most likely overcome some of the difficulties mentioned above.

DRAFT CONCLUSION

A number of administrations have developed technical arguments that sharing in the L-band is feasible.

A number of other administrations believe that more studies are necessary by CCIR and that it is advisable to maintain the status quo. Another group of administrations support some but not total integration of services at L-band as a first step at this time.

All administrations agreed that the integrity of communications for safety and regularity of flights must be maintained.

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

Corrigendum 1 to
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PLENARY MEETING

MINUTES

OF THE

THIRD PLENARY MEETING

Paragraph 2.5

In the penultimate sentence, replace "a number of outstanding Articles to be discussed" by "a number of outstanding matters to be discussed".

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

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PLENARY MEETING

MINUTES

OF THE

THIRD PLENARY MEETING

Thursday, 24 September 1987, at 1600 hrs

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

Subjects discussed:		Documents
1.	Approval of the Minutes of the First and Second Plenary Meetings	96, 117
2.	Oral reports by the Chairmen of Committees and Technical Working Group of the Plenary	
3.	Prolongation of Conferences	168
4.	Statement by the Minister of Posts and Telecommunications of Japan	

1. Approval of the Minutes of the First and Second Plenary Meetings (Documents 96, 117)

The minutes of the First Plenary meeting were approved as amended (see Corrigendum 1 to Document 96).

The minutes of the Second Plenary meeting (Document 117) were approved.

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

2.1 The Chairman of Committee 2 said that Working Group 2-A had examined 62 credentials, 58 of which had been found in order, two had been approved provisionally and two required further study. It had been decided that the Working Group would meet once a week at times indicated by the Steering Committee.

2.2 The Chairman of Committee 4 said that Committee 4 had established three Working Groups: Working Group 4-A had held six meetings to work on Article 8. Working Group 4-B had held four meetings and had discussed coordination and modification procedures. Working Group 4-C had held five meetings and had considered the different aspects and basic principles for revising Appendix 31. The Committee had approved two documents containing mainly footnotes to Article 8 of the Radio Regulations and had sent approved texts to Committee 7. During consideration of some proposals for modifying Article 8, the question of the interpretation of the words "minimum effect" on the Conference agenda had been raised and had involved considerable discussion, aided by a background Information Paper from the Secretary-General. The Committee had eventually established a Working Group to prepare guidelines for the different Working Groups of Committee 4. A drafting group chaired by Mr. Goddard of the United Kingdom had provided a short text which had been discussed by Committee 4 and approved with some slight amendment, thus enabling the Working Groups to continue their work. Taking account of the progress of work, the Working Groups and the Committee should be able to finish their work on time.

2.3 The Chairman of Committee 5 said that the Committee had met twice since the Second Plenary meeting. Initial consideration had been given to two new Resolutions, one on the interrelationship of Chapters IX and N IX, the other on studies associated with developing further, at the next competent Conference, the provisions being made in Chapter N IX so that the needs of the land mobile service and distress and safety communications in uninhabited and remote areas might adequately be met.

The Committee had established an ad hoc Group under the chairmanship of Mr. McIntyre of the United States to consider the new Resolutions in detail as well as all other Resolutions and Recommendations pertinent to the work of Committee 5. The ad hoc Group had held one meeting. Working Groups 5-A and 5-B were making good progress and the first series of texts had been submitted to the Editorial Committee.

2.4 The Chairman of Committee 6 said that the Committee had held two further meetings since the last Plenary meeting, both concerned with the question of public correspondence with aircraft. Working Group 6-A was making good progress and expected to have texts available for Committee 6 early the following week. Some of the work of Working Group 6-A had been delayed pending substantive decisions in other committees and the Working Group was expected to meet less often over the next few days. No difficulties were foreseen in completing the work on time. Document 199 on public correspondence for the purposes of Committee 4, had already been issued. Working Group 6-B had also completed work on Articles 42A and 43 of Chapter X. Good progress in Working Group 6-A enabled greater time to be allocated to Working Group 6-B. That, in turn, had resulted in the formation of two Sub-Working Groups: Sub-Working Group 6-B-1 under Mr. Willmets of the United Kingdom, was to consider the Articles of Chapter X and Sub-Working Group 6-B-2, under Mr. Carew of Canada was to consider Chapter XII and the provisions concerning the radiodetermination satellite service and the radiodetermination service. Both Sub-Working Groups had held their first meetings. At the present stage there appeared to be no difficulties with completing work according to schedule.

2.5 The Chairman of the Technical Working Group of the Plenary said that the Group had held seven meetings to date and had established three ad hoc Groups, one of which had already completed its work. The Group had concentrated on and almost completed its work on the technical Appendices 7, 17 and 36 which were contained in Document 196 (B.1). The remaining Appendices required minor action and no great difficulties were foreseen. The Group had also had before it proposals for new appendices concerning the technical characteristics of digital selective calling and of EPIRBs on 406 MHz and at around 1.6 GHz but had felt that those appendices were unnecessary in the view of comprehensive CCIR Recommendations on the subject, and that reference in the appropriate Articles of the Radio Regulations might suffice. Two important issues referred from Committee 4 had been discussed, namely technical matters concerning possible allocations to the mobile satellite service, replacing in full or in part the present allocations for the MMSS and the AMSS (R). Opinions had been equally divided during the discussion, and an ad hoc Group had been formed to write a summary for the Technical Working Group which would then submit its findings to Committee 4. The second important issue referred by Committee 4 concerned possible allocations for the radiodetermination satellite service. A comprehensive discussion had been held and an ad hoc Group had been formed to have a more detailed look at the sharing possibilities. The first ad hoc Group working on the land mobile-satellite service, was expected to finish its work by the end of the day so that its report would be available for consideration by the Technical Working Group of the Plenary at its meeting the following day. As the third ad hoc Group, working on the radiodetermination satellite service, was not due to start its work until the following day, Committee 4 would not have a reply before the start of its next meeting. There were a number of

outstanding Articles to be discussed concerning Resolutions, Recommendations and proposals for new Resolutions and Recommendations, and other matters relating to questions referred from Committee 4, such as the possible use of A1A Morse telegraphy on F1B channels. Although the Working Group had quite a lot of work before it, it was optimistic about meeting the target date of Wednesday, 30 September.

2.6 The Chairman of Committee 7 said that the Committee had begun its work by examining a number of documents mainly from the Technical Working Group of the Plenary, Committee 5 and Committee 4. The first document from the Technical Working Group of the Plenary had already been issued as a blue document, No. 196, and was ready for consideration by the Plenary.

3. Prolongation of Conferences (Document 168)

3.1 The Secretary-General, introducing the document, said that the Administrative Council had given some consideration to the problem of conferences which did not complete their work on time and, in some cases, the added problem of a number of delegates leaving the conference before its closure. Pending the next Plenipotentiary Conference, the Secretary-General had submitted a document to the Council explaining the various options involved, and the Council had agreed that the matter should be put to each conference. The intention was to consider how a possible deficiency in the Convention might be overcome by allowing the Steering Committee and the full Plenary Meeting to decide whether a Conference was likely to complete its work within the duration set for it by the Administrative Council when drawing up the agenda.

The matter was therefore being put to the Conference at a time when, in reviewing Document 105 setting the time-frames for completion of the work of the Working Groups and Committees, rising concern was felt that notwithstanding the substantive work already completed, the Conference was running behind time. The situation was most unfortunate, given that it was a text conference and that a huge volume of texts had to be produced after discussion and negotiation, then put into proper and formal shape in the three working languages of the Union and then passed through the Conference hierarchy. There was already some danger of a substantial work requirement in the fourth and fifth weeks of the Conference which the Secretariat might be unable to handle effectively, bearing in mind the reproduction of texts involved. Members were therefore urged to concentrate not only on resolving details of texts quickly but also on the importance of resolving the four or five major issues which had not as yet been addressed in a substantive way. Cooperation between the various interests concerned was strongly urged so that the Conference could finish in accordance with the schedule set out in Document 105 and permit the appropriate signing and closure ceremonies to take place on Friday, 16 October.

3.2 The delegate of Mexico thanked the Secretary-General for bringing forward at the Plenary a matter of great concern to many delegates. In the course of their discussions delegates must constantly bear in mind the date of 16 October set by the Administrative Council and indicated in the Conference agenda. Most delegates, in one way or another, had experienced the difficulties associated with conferences which had to be extended even by a single day and it was consequently to be hoped that discussions would be speeded up and the final date strictly observed.

Document 168 was noted.

4 Statement by the Minister of Posts and Telecommunications of Japan.

4.1 The Minister of Posts and Telecommunications of Japan made the statement contained in Annex 1.

4.2 The Chairman expressed appreciation of the time which the Minister had devoted to addressing the Conference and the particular interest he had shown in it.

The meeting rose at 1650 hours.

The Secretary-General: The Chairman

R.E. BUTLER J.W. EGAN

Annex: 1

ANNEX 1

Address by H.E. Mr. Shunijimo KARASAWA,
Minister of Posts and Telecommunications
of Japan

Thank you.

Honorable Chairman, Excellencies, Distinguished Delegates, Secretary-General, Ladies and Gentlemen.

First of all, I would like to express my gratitude to you for giving me the opportunity to address this Conference. It is indeed an honour to appear before the Members of this body, which is one of the oldest of all the international organizations, and one which has constantly dealt with the most advanced technologies in order to promote communications among peoples around the globe.

Since I am responsible for telecommunications in Japan, I would like to begin today by sharing my thoughts on the underlying significance of communications per se.

Firstly, I believe that communications are a basic human need. It is fair to say that man is the only animal that communicates or needs to. To my mind, telecommunications are ultimately aimed at providing a capability for communicating at any place, at anytime and with any party. The story of telecommunications development thus far can therefore be regarded as one of expanding communications among both individuals and countries.

Secondly, it must not be overlooked that telecommunications have become deeply intertwined with personal safety and security.

At the same time, the diffusion of telecommunications has made an invaluable contribution to defusing international tension, preventing misunderstanding and promoting world peace and human advancement. This is because, in the final analysis, a true mutual understanding among the countries of the world must be forged at "grass-roots". I think that telecommunications must therefore be considered as the most accessible means to this end.

Japan's Prime Minister Nakasone put it this way in his New Year's address:

> "In the long run, I believe respect for human rights
> and the free exchange of information within and among countries
> is the most effective deterrent to war.
>
> Had we had today's live satellite broadcasts and other instant
> television communications, World War II would probably not have
> taken place."

Before turning to the main points of current Japanese communications policy rooted in this basic concept, I would like to make a few remarks about the reform now taking place in Japan's telecommunications.

The regulatory framework of Japanese telecommunications was greatly altered in April 1985. The changes signalled a shift from the previous atmosphere of government monopoly to one of free competition based on private enterprise.

In other words Japan is playing a leading role in the deregulation of telecommunications. The movement also extends to trade in telecommunications equipment, where her current policy orientation can be summarized as simplicity, transparency and nondiscrimination between all parties, both domestic and foreign.

I am well aware of the complaints from some foreign concerns about the barriers to the Japanese market. If I may, I would like to make just one observation on this point: given the intense competition prevailing in the Japanese market, high quality is not in itself enough to ensure sales; it must be accompanied by the capability for quick response, carefully matched technical specifications, and strong sales promotion. A high-quality product supported by these three elements can result in a successful Japanese business, as many foreign companies are now demonstrating.

Public communications are not the only field affected by the shift in policy: an increasing degree of freedom is also being granted to business in communications of a "closed" nature, that is, services used for a specific objective.

An example that is literally closer to home for me is provided by my hometown of Matsumoto. Nestling at the foot of the Japanese Alps, Matsumoto offers the beauty of Geneva, the pure water of Cologne, and the clean air of Interlaken. Unfortunately, its picturesque mountains frequently become the scene of accidents. To cope better in such emergencies, a wireless relay station was recently set up and assigned its own frequency.

At this point, I would like to outline the three main elements of current telecommunications policy in Japan.

The first is the construction of a new network as part of plans for balanced national land development.

One of the problems shared by many countries, with the rise of information intensification, is a widening gap betwen urban centres and rural regions as far as various facilities and services are concerned. This problem confronts Japan as well. A theoretical solution, putting a stop to central development until the other regions "catch up", is both unrealistic and counter to needs at both the individual and community levels.

Conceptually, teleports represent the third stage in the evolution of ports, the previous two being seaports and airports. The teleport must not be a technological desert, but rather a city within a city, equipped with its own housing, parks, hotels, and other amenities that make up a vibrant responsive and responsible community. I myself look forward to the day when I'll be sipping a glass of port at a teleport hotel.

Attempts to keep other regions abreast of such changes are exemplified by the Telestopia Plan, directed particularly to key regional cities. As the name suggests, a combination of "telecommunications" and "utopia", the objective is the creation of model communities incorporating data communications systems, videotex, cable TV and other technologies, all tailored to the actual needs of the region in question.

The second element of telecommunications policy in Japan is assistance to developing countries.

Telecommunication is a force uniting the whole world. As the slogan "One World, One Network" implies, communications only take place through interconnections.

To improve the "missing link" situation, the Japanese Government has pledged that its official development aid will be double its 1985 level by 1990. In the field of telecommunications as well, we intend to work for the advancement of the international community by a variety of means.

With regard to mulilateral cooperation, we have decided to contribute to the ITU's Centre for Telecommunications Development. We will be supporting this Centre through the establishment of a national institute in November of this year.

We are also ready to embark on programmes of bilateral cooperation. It must be remembered, however, that telecommunications is often low on the list of priorities in developing countries, making it difficult for the Japanese Government to stress telecommunications in its aid. Nonetheless, we are confident that countries seeking aid will begin to attach greater importance to telecommunications in the coming years.

The third element of current telecommunications policy is technological development.

Lately, Japan has been making more extensive efforts in the area of basic research. We wish to promote joint international research projects in the telecom frontier technologies.

The main topic of interest in the area of broadcasting is high-definition television. Let me do a little advertising here, and urge as many delegates as possible to look at the demonstration model that will be on display at TELECOM '87 to be held here in Geneva next month.

Turning now to other communications potentials, a major subject of research is the successor to the ISDN. The target is a comprehensive network with intelligent communications and processing functions. Research has already been inaugurated on automatic interpreting telephony at a newly established telecommunications laboratory.

Man's attempts to overcome the language barrier in communications are, of course, nothing new. The campaign to popularize Esperanto is but one example. This new telephony could also usher in a full-scale "grass-roots" internationalization, since people all over the world would be able to communicate freely with each other regardless of the language difference.

I regard the mobile services dealt with at this Conference as another part of the effort to facilitate communication at any time and place with any party.

Whether maritime or aeronautical, mobile services have a direct bearing on preservation of human life. In this sense, they constitute the area of telecommunications in which the human element is paramount.

In Japan, we have a saying that the hunter who chases two rabbits at once risks losing both. Nevertheless, I must say that the attempted pursuit of both the human element and standardization is no less imposing than scaling both Mont Blanc and the Matterhorn on the same climb. In short, it is a monumental undertaking which can only command the greatest respect. I believe this effort to be equivalent to drawing up the Magna Carta.

On behalf of the Japanese Government and people, I am glad to express my admiration to all here engaged in such an immense task.

In closing, let me say that I am fully aware of this Conference's record as the first to deliberate on concrete proposals for mobile communications through satellites. This tradition of landmark achievements is what makes me at once so envious of its members, and so proud to be here today.

The Secretary-General told me that the Conference had got off to a very fine start. I was glad to hear that, for I know that, in so many things, a good beginning makes for a good end.

As was so ably said,

"How many things by season'd are
To their right praise and true perfection!"

And right now it is our season.

Thank you all very much.

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WARC FOR THE MOBILE SERVICES
GENEVA, September-October 1987

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TECHNICAL WORKING GROUP
OF THE PLENARY

United States of America

INFORMATION PAPER

POWER DISTRIBUTION REQUIREMENTS FOR EPIRBs OPERATING ON THE FREQUENCIES 121.5 AND 243 MHz

1. Introduction.

Over 900 lives have been saved either directly or indirectly as a result of the COSPAS - SARSAT satellite system detecting and locating emergency position indicating radiobeacons (EPIRBs) and aeronautical emergency locating transmitters (ELTs) operating on the frequencies 121.5 and/or 243 MHz. Although these EPIRBs and ELTs were originally only intended to alert pilots in overflying aircraft to a distress on the ground, these devices have proved to work very successfully with the COSPAS - SARSAT system.

During the development of a detection and locating system using satellites, we became aware that the spectrum emitted by different manufacturer's EPIRBs and ELTs had significant variations in emission spectra which affected the processing of the data. When we performed an operational evaluation of actual ELTs in the field, we found that up to 25% of the ELTs verified to be operating properly by other sources, such as overflying aircraft, were not detected by the COSPAS - SARSAT satellite system. We found one definite cause for this problem in devices whose spectra did not show a clearly defined carrier and sidebands. Sensitivity of the COSPAS - SARSAT satellite system to such devices can be degraded by a factor of 10 - 20 dB.

Present standards for EPIRBs and ELTs, including those defined in Appendix 37A of the Radio Regulations, contain no power distribution requirements for 121.5 and 243 MHz EPIRBs which would prevent this problem from occurring.

2. Problem Solution.

The USA has proposed a solution to this problem in our proposal to this Conference in Document 24. We have proposed that Appendix 37A be modified to include a requirement that "the (EPIRB) emission shall 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 shal be contained within +/- 30 Hz of the carrier frequency at all times, and on 243 MHz at least 30 percent of the power shall be contained within +/- 60 Hz of the carrier frequency at all times.

Cost to implement this new standard in newly manufactured EPIRBs and ELTs were discussed with manufacturers in the USA. We found that the cost would approximate $1.50 US per ELT or EPIRB unit during manufacturer to correct previously designed devices having this power distribution problem, and no additional cost for devices designed from the beginning to meet this specification.

This specification was very carefully prepared and reviewed in the USA, and we believe it to be no more than application of good engineering design and practice. The International Maritime Organization Radiocomunications Subcommittee reviewed this USA proposal to Appendix 37A at its 33rd Session in July 1987, and in its report to the Maritime Safety Committee concurred with the proposal, and invited members to take it into account in their preparations for this Conference.

3. Conclusion

Persons in distress activating a 121.5 MHz and/or 243 MHz EPIRB or ELT need to be assured that the device will be detected by the international COSPAS - SARSAT system. Deferring this proposal to amend Appendix 37A for further study will do little more than deny these persons such assurance of safety for many years, until a new competent WARC can be convened. Because this is an urgent safety issue, we request that these standards not be deferred, but that they be adopted at this Conference.

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COMMITTEE 6

THIRD REPORT OF THE CHAIRMAN OF WORKING GROUP 6-B

1. Working Group 6-B established two Sub-Working Groups (Sub-Working Groups 6-B-1 and 6-B-2), and approved the terms of reference as in Annex 1.

2. Working Group 6-B considered proposals concerning Articles 45, 46 and 47 and adopted the modification contained in Annex 2.

Y. HIRATA
Chairman of Working Group 6-B

Annexes: 2

ANNEX 1

TERMS OF REFERENCE FOR SUB-WORKING GROUPS

SUB-WORKING GROUP 6-B-1

Aeronautical services

Articles:	1, 44, 45, 46, 47, 48, 49, 51, 52, 53 (Chapter X)
Appendix:	26
Resolutions Nos.:	13, 405, 406, 407
Recommendations Nos.:	7, 405, 604*

SUB-WORKING GROUP 6-B-2

Radiodetermination services

Articles:	26, 35
Appendix:	41
Resolution No.:	600
Recommendations Nos.:	600*, 601

Land mobile services

Articles:	67, 68

Miscellaneous

Articles:	1, 19, 24, 25
Appendices:	10, 13, 42
Resolutions Nos.:	12, 202
Recommendations Nos.:	8, 204*

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* Secondary responsibility.

ANNEX 2

ARTICLE 45

MOD

Personnel of Aeronautical Stations and Aeronautical Earth Stations

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 stations efficiently.

ARTICLE 46

MOD 3509 § 1. (1) The inspectors of governments or appropriate administrations of countries ~~which~~ who visit 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 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~~.

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].

NOC 3511

NOC 3512

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

NOC 3514

MOD 3515 § 3. Members undertake not to impose upon foreign aircraft stations or aircraft earth stations which are temporarily within their territorial limits ... by these Regulations.

ARTICLE 47

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

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).

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

MOD 3542A § 2A. Aircraft stations and aircraft earth stations in flight shall maintain service to meet the essential communications needs 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 or aeronautical earth station concerned.

SUP 3543

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COMMITTEE 6

FOURTH REPORT OF THE CHAIRMAN OF WORKING GROUP 6-A TO THE CHAIRMAN OF COMMITTEE 6

The Working Group has completed its review of Article 61 and recommends no change. Resolution No. 316 has been modified by the Working Group to bring the Resolution up to date and reflect the present developments. The Working Group submits the modifications to the Resolution below, for consideration by the Committee.

The Working Group also has approved a new Resolution No. F and submits it for further consideration by the Committee and for possible approval in conjunction with consideration by Committee 4.

R.L. SWANSON
Chairman of Working Group 6-A

Annexes: 2

ANNEX 1

RESOLUTION No. 316

Relating to Technical Cooperation with the Developing Countries in Maritime Telecommunications

MOD The World Administrative Radio Conference, Geneva, ~~1979~~, 1987,

MOD noting

that, in the field of maritime telecommunications, the assistance provided by the Union to developing countries, in collaboration with other organizations, in particular the International ~~Inter-Governmental~~ Maritime ~~Consultative~~ Organization ~~(IMCO)~~ (IMO)

conscious of

ADD d) the significant changes in operating techniques and methods that have been introduced in the maritime mobile service for the improvement of general, distress and safety communications;

considering

ADD c) that it is necessary to adapt the levels of knowledge of techniques among developing countries to meet the technological and operational changes in maritime telecommunications;

resolves

to request the Secretary-General

MOD 1. to offer the assistance of the Union to developing countries endeavouring to improve their maritime telecommunications, particularly by providing technical advice in the establishment, operation and maintenance of equipment and by assisting in training staff fundamentally in matters relating to the new technologies and operating methods examined at the present Conference.

ANNEX 2

ADD RESOLUTION No. [COM6/2]

Relating to the Use of Non-Paired Ship Station Frequencies for Narrow-Band Direct-Printing Telegraph and Data Transmission Systems[1]

(see Article 60 and Table G of Appendix 31A)

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

considering

a) that certain sections of the HF bands allocated to the maritime mobile service are reserved for narrow-band direct-printing telegraph and data transmission systems operating on a non-paired frequency basis;

b) that neither the World Maritime Administrative Rardio Conference, Geneva, 1974 nor the World Administrative Radio Conference, Geneva, 1979 were in a position to decide the extent to which it was necessary to regulate the orderly use of frequencies for the transmission by ship stations of non-paired direct-printing telegraph signals or on what basis this might be done;

c) that administrations operating or bringing into operation non-paired narrow-band direct-printing telegraph or data transmission systems for ships have notified the IFRB, for recording in the Master Register, the frequencies on which ship stations transmit;

d) that these notices have not been subject to technical examination by the Board, and that the assignments notified have been recorded in the Master Register for information only, with no date in Column 2;

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[1]Replaces Resolution No. 301 of the World Administrative Radio Conference, Geneva, 1979.

Reason: To provide a revised procedure for the use of non-paired ship station frequencies for narrow-band direct-printing telegraphy.

e) that this Conference has provided administrations with guidance on how the frequencies reserved for non-paired narrow-band direct-printing telegraph and data transmission systems should be used by ship stations (see No. 4304);

resolves

1) that administrations operating or bringing into operation non-paired narrow-band direct-printing telegraph or data transmission systems for ships shall not be required to notify to the Board the frequencies on which ship stations transmit;

2) to instruct the IFRB to delete in the Master Register all assignments recorded therein as a result of the application of Resolution No. 301.

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COMMITTEE 5

Federal Republic of Germany, Austria, Belgium, Cyprus, Denmark, Spain, Finland, France, Greece, United Kingdom, Netherlands, Norway, Portugal, Sweden, Switzerland, Togo, Tunisia

PROPOSALS FOR THE WORK OF THE CONFERENCE

Item 6 of the agenda

Introduction

Following a recommendation established at a meeting of the International Lifeboat Conference (ILC) in 1984 and complying with a Resolution of the XXV International Conference of the Red Cross in Geneva in 1986, the above-mentioned Administrations submit the following proposals to this relevant ITU WARC in order to provide the shore-based rescue craft with a distinct identification.

ARTICLE 40

Section II. Medical Transports

*/223/1

ADD 3220A § 12A. Within the present provisions shore based rescue craft may use the prefixes "RESCUE CRAFT" in radiotelephony and "ZZZ" in radiotelegraphy as well as for the radar transponder if so equipped.

CHAPTER N IX

ARTICLE N 40

Section III. Medical Transports

*/223/2

ADD N 3220A § N 12A. Within the present provisions shore based rescue craft may use the prefixes "RESCUE CRAFT" in radiotelephony and "ZZZ" for the radar transponder if so equipped.

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* AUT, BEL, CYP, D, DNK, E, F, FNL, G, GRC, HOL, NOR, POR, S, SUI, TGO, TUN

Reasons: In order to avoid being mistaken for another type of craft, the International Lifeboat Conference (ILC) has asked for the possibility to use the radio prefixes "RESCUE CRAFT" and "ZZZ".

The International Committee of the Red Cross supports the ILC's request and, in doing so, wishes to facilitate the implementation of regulations related to shore based rescue craft, as well as those related to hospital ships specified in Articles 22, 27, 30, 31 and 43 of the Second Convention which, until now, has been ratified by 165 states.

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COMMITTEE 5

Denmark, Spain, Finland, United Kingdom,
Netherlands, Norway, Sweden, Switzerland

PROPOSALS FOR THE WORK OF THE CONFERENCE

Item 6 of the agenda

Introduction

Following a recommendation established at a meeting of the International Lifeboat Conference (ILC) in 1984 and complying with a Resolution of the XXV International Conference of the Red Cross in Geneva in 1986, the above-mentioned Administrations submit the following proposals to this relevant ITU WARC in order to provide the shore-based rescue craft with an improved and up-to-date identification.

ARTICLE 40

Section II. Medical Transports

*/223/1

ADD 3220A § 12A. The present dispositions regarding hospital ships apply also by analogy to rescue craft, defined in Article 27 of the Second Geneva Convention, which may use the prefixes "RESCUE CRAFT" in radiotelephony and "ZZZ" in radiotelegraphy as well as for the radar transponder if so equipped.

CHAPTER N IX

ARTICLE N 40

Section II. Medical Transports

*/223/2

ADD N 3220A § N 12A. The present dispositions regarding hospital ships apply also by analogy to rescue craft, defined in Article 27 of the Second Geneva Convention, which may use the prefixed "RESCUE CRAFT" in radiotelephony and "ZZZ" for the radar transponder if so equipped.

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* DNK, E, FNL, G, HOL, NOR, S, SUI

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The International Committee of the Red Cross supports the ILC's request and, in doing so, wishes to facilitate the implementation of regulations related to rescue craft, as well as those related to hospital ships specified in Articles 22, 27, 30, 31 and 43 of the Second Convention which, until now, has been ratified by 165 states (e.g. the United States, 2 August 1955).

MOB-87 INTERNATIONAL TELECOMMUNICATION UNION
WARC FOR THE MOBILE SERVICES
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WORKING GROUP 4-A

REPORT OF THE DRAFTING GROUP 4-A-4 TO WORKING GROUP 4-A

The Drafting Group considered the proposals concerning the bands 2 700 - 3 300 MHz, 5 470 - 5 650 MHz and 9 200 - 9 800 MHz and agreed to propose the modifications as contained in the annex.

W. MORAN
Chairman of Drafting Group 4-A-4

Annex: 1

ANNEX

MHz
2 700 - 3 100

	Allocation to Services		
	Region 1	Region 2	Region 3
(NOC)	2 700 - 2 900	AERONAUTICAL RADIONAVIGATION 717 Radiolocation 770 771	
	2 900 - 3 100	RADIONAVIGATION 773 ~~774~~ ~~775~~ Radiolocation 772 775A	

SUP 774-775

MOD 772 In the band~~s~~ 2 900 - 3 100 MHz, ~~5 470 - 5 650 MHz and 9 200 - 9 300 MHz,~~ the use of the shipborne transponder systems (SIT) shall be confined to the sub-band~~s~~ 2 930 - 2 950 MHz, ~~5 470 - 5 480 MHz and 9 280 - 9 300 MHz~~. The technical characteristics of SIT shipborne transponder systems shall correspond to the CCIR Recommendation.

ADD 775A In the bands 2 900 - 3 100 MHz and 9 300 - 9 500 MHz, the response from radio transponders shall not be capable of being confused with the response from radar beacons (racons) and, except in the case of transponders used for search and rescue purposes, shall not cause interference to ship or aeronautical radars in the radionavigation service.

3 100 - 3 300

3 100 - 3 300	RADIOLOCATION 713 ~~776~~ 777 778	

SUP 776

MHz
5 470 - 5 650

Allocation to Services		
Region 1	Region 2	Region 3
5 470 - 5 650	MARITIME RADIONVIGATION ~~772~~ Radiolocation 800 801 802	

8 850 - 9 300

9 200 - 9 300	RADIOLOCATION MARITIME RADIONAVIGATION ~~772~~ 823 824 <u>824A</u>	

ADD 824A In the band 9 200 - 9 500 MHz transponders may be used for search and rescue purposes. Search and rescue transponders operating in this band shall conform to the appropriate CCIR Recommendation.

9 300 - 10 000

	9 300 - 9 500	RADIONAVIGATION ~~774~~ ~~775~~ Radiolocation <u>824A</u> 825 <u>825A</u>
(NOC)	9 500 - 9 800	RADIOLOCATION RADIONAVIGATION 713

ADD 825A In the band 9 300 - 9 500 MHz in the radionavigation service, the use of shipborne radars, other than those existing on 1 January 1976, is not permitted until 1 January 2001.

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WORKING GROUP 4-A

SECOND REPORT OF DRAFTING GROUP 4-A-3 TO WORKING GROUP 4-A

1. The Drafting Group agreed on the wording of RR 595, which is to be found in Annex 1 to this Report.

2. The Drafting Group has also considered the Recommendation No. 404, and proposes to modify it as contained in Annex 2.

3. The Group has also drafted a Draft New Resolution concerning the secondary services in the band 136 - 137 MHz, which is to be found in Annex 3.

L. BERGMAN
Chairman of Drafting Group 4-A-3

Annexes: 3

ANNEX 1

MOD 595 Until January 1990, the band 136 - 137 MHz is also allocated to the space operation service (space-to-Earth), meteorological-satellite service (space-to-Earth) and the space research service (space-to-Earth) on a primary basis. The introduction of stations of the aeronautical mobile (R) service shall only occur after that date ~~and shall~~ be ~~effected in accordance with internationally agreed plans for that service.~~ After 1 January 1990, the band 136 - 137 MHz will also be allocated to the above-mentioned space radiocommunication services on a secondary basis (see Recommendation No. [404(Rev.MOB 87)]).

ANNEX 2

RECOMMENDATION No. 404(REV.MOB-87)

Relating to the Use of the Band 136 - 137 MHz by the Aeronautical Mobile (R) Service[1]

The World Administrative Radio Conference for the Mobile Services, Geneva, ~~1979~~, 1987

considering

a) that the Table of Frequency Allocations as modified by this Conference includes allocations to the aeronautical mobile (R) service on a primary basis, and to the fixed and mobile, except aeronautical mobile (R), services on a secondary basis, in the band 136 - 137 MHz;

b) that provision is also made for allocations to the space operation service (space-to-Earth), the meteorological-satellite service (space-to-Earth) and the space research service (space-to-Earth) on a primary basis up to 1 January 1990, and thereafter on a secondary basis, and that the aeronautical mobile (R) service can be introduced on a primary basis only after 1 January 1990, ~~in conformity with internationally approved plans for that service;~~

c) that on that date the aeronautical mobile (R) service may well be subject to interference harmful to the safety of air navigation and that it is of the utmost importance to protect this service against interference from stations in the fixed service, the mobile except aeronautical mobile (R) service, the space research service (space-to-Earth), the space operation service (space-to-Earth) and the meteorological-satellite service (space-to-Earth);

recommends

1. that administrations of all Regions operating, or intending to operate, stations in the fixed service, the mobile except aeronautical mobile (R) service, the space operation service (space-to-Earth), the meteorological-satellite service (space-to-Earth) and the space research service (space-to-Earth) in the band 136 - 137 MHz after 1 January 1990 take all possible steps to give the required protection to the aeronautical mobile (R) service and to cease operation of stations of the other services to which the band is allocated on a secondary basis as and when the stations of the aeronautical mobile (R) service come into operation;

~~1 Replaces Recommendation No. Spa 7 of the Extraordinary Administrative Radio Conference, Geneva, 1963.~~

2. that administration notify the International Frequency Registration Board (IFRB) of their plans to bring into operation the aeronautical stations of the aeronautical mobile (R) service;

3. that administrations notify the IFRB, preferably in advance of the date when stations authorized to operate on a secondary basis will cease operations referring specifically to this Recommendations;

and requests the IFRB

to publish this information every six months as from 1 January 1985.

ANNEX 3

DRAFT

RESOLUTION No. [COM4/1]

Relating to the Use of the Band 136 - 137 MHz by the Aeronuatical Mobile (R) Service

The World Administration Radio Conference for Mobile Services, Geneva, 1987

noting

a) the provisions of No. 595 and Recommendation No. 404 concerning the future use of the band 136 -137 MHz by the aeronautical mobile (R) service commencing on 1 January 1990;

b) that the aeronautical mobile (R) service is primarily a safety service and therefore requires special measures to ensure freedom from harmful interference;

considering

a) that the Table of Frequency Allocations includes allocations to the aeronautical mobile (R) service on a primary basis, and to the fixed and mobile, except aeronautical mobile (R) services on a secondary basis, in the band 136 - 137 MHz;

b) that under No. 595 provision is also made for allocation to the space operation service (space-to-Earth), the meteorological-satellite service (space-to-Earth) and the space research service (space-to-Earth) on a primary basis up to 1 January 1990, and thereafter on a secondary basis, and that the aeronautical mobile (R) service can be introduced on a primary basis only after 1 January 1990.

c) that on that date the aeronautical mobile (R) service may be subject to interference harmful to the safety of air navigation and that it is therefore necessary to protect this service from harmful interference that might be caused by stations in the fixed service, the mobile except aeronautical mobile (R) service, the space research service (space-to-Earth), the space operation service (space-to-Earth) and the meteorological-satellite service (space-to-Earth);

resolves

1. that Administrations operating or intending to operate, stations in the fixed service, the mobile except aeronautical mobile (R) service, the space research service (space-to-Earth), the space operation service (space-to-Earth) and the meteorological-satellite service (space-to-Earth) in the band 136 - 137 MHz from 1 January 1990 take all necessary steps to protect the aeronautical mobile (R) service;

2. that from 1 January 1990 administrations refrain from authorizing new assignments to the services to which the band 136 - 137 MHz is allocated on a secondary basis (except the service mentioned in No. 591);

3. that the question of deleting all secondary allocations (except that mentioned in No. 591) from the band 136 - 137 MHz be referred to the next competent World Administrative Radio Conference;

invites the Administrative Council

to place this matter on the agenda of the next competent World Administrative Radio Conference to determine whether all secondary allocations (except that mentioned in RR 591) should be deleted from this band.

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COMMITTEE 4

Argentine Republic - Eastern Republic of Uruguay

PROPOSAL FOR THE WORK OF THE CONFERENCE

Introduction

The Argentine Republic and the Eastern Republic of Uruguay have decided to introduce the mobile service in the band 470 - 512 MHz on a PRIMARY basis, and therefore request that No. 674 be amended as follows:

ARG/URG/226/1(Rev.)

MOD 674

Different category of service: in Mexico and Venezuela, the allocation of the band 470 - 512 MHz to the fixed and mobile services, and in Argentina and Uruguay to the mobile service, is on a primary basis (see No. 425), subject to agreement obtained under the procedure set forth in Article 14.

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COMMITTEE 4

Argentine Republic - Eastern Republic of Uruguay

PROPOSAL FOR THE WORK OF THE CONFERENCE

Introduction

The Argentine Republic and the Eastern Republic of Uruguay have decided to introduce the mobile service in the band 470 - 512 MHz on a PRIMARY basis, and therefore request that a new No. 674A be included, as follows:

ARG/226/1
URG

ADD 674A Additional allocation: In Argentina and Uruguay, allocation of the band 470 - 512 MHz is on a PRIMARY basis (see No. 425) subject to agreement being obtained in accordance with the procedure established in Article 14.

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COMMITTEE 4

SECOND REPORT OF WORKING GROUP 4-C TO COMMITTEE 4

1. Working Group 4-C has completed the examination of principles for revising Appendix 31 (DT/16 refers).

2. The principles as agreed by the Working Group are shown in Annex 1 to this document (the reservations on item 2 have been withdrawn).

3. Sub-Working Group 4-C-2 has been set up to prepare draft revisions of Appendix 31 on the basis of the principles contained in the above-mentioned Annex 1 and taking into account, where appropriate, the relevant national proposals (see DT/17(Rev.1).

4. The Working Group also decided that Committee 5 should be requested to decide on the two questions shown in Annex 2 to this document.

A.R. VISSER
Chairman of Working Group 4-C

Annexes: 2

ANNEX 1

Basic principles for revising Appendix 31

1. To revise Appendix 31 on the basis of 3 kHz channel 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.

3. To increase the number of paired frequencies for duplex operations:

   a) for SSB radiotelephony,

   b) for NBDP.

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.

6. To reduce the number of exclusive ship stations working frequencies for A1A and A1B Morse telegraphy under the condition that the possibilities for an administration for using A1A and A1B Morse telegraphy working frequencies are not reduced (see points 9 and 19).

7. The reduction of the exclusive sub-bands for ship stations for A1A and A1B Morse working frequencies should not be implemented in steps.

8. The number of Morse calling frequencies should be proportional to the number of working frequencies in the exclusive sub-bands for A1A, A1B Morse telegraphy.

9. The basic format of Appendix 34 and Resolution No. 312 shall be maintained.

10. To increase the number of frequencies for NBDP (non-paired) and to permit these channels to be used by ship stations for A1A and A1B Morse telegraphy.

11. To make every effort to retain unchanged the frequencies for use in the GMDSS for DSC, NBDP and SSB radiotelephony.

12. To maintain the present number of channels for ship stations for wideband telegraphy, facsimile and special transmissions systems and, if possible, increase the number of these channels.

13. To maintain the amount of spectrum available in the present Appendix 31 for coast stations for wideband and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems.

14. To reduce, where possible, the sub-bands for oceanographic data transmissions.

15. Not to provide guard bands around the GMDSS frequencies.

16. To make every effort to maintain the harmonic relationship between calling frequencies especially with regard to the common channels for A1A and A1B Morse telegraphy.

17. To maintain or increase the number of international channels for DSC.

18. Only to allow radiotelephony, automated telegraphy and DSC in the bands 18 780 - 18 900 kHz and 19 680 - 19 800 kHz in the sub-band for coast stations wideband telegraphy, non automated types of telegraphy permitted.

*[19. To permit the ship stations frequencies of the new NBDP (paired) channels to be used for ship stations A1A Morse telegraphy working provided it is technically feasible.]

20. To provide for contiguous sub-bands if practicable for each type of transmission.

21. The revision of Appendix 31 should not have an adverse impact on the operations carried out in the sub-bands which may be decreased.

22. Not to include the shared bands 4 000 - 4 063 kHz and 8 100 - 8 195 kHz in the new Appendix 31.

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* Consideration on this item is postponed pending the reply from the Technical Working Group of the Plenary (Document 197 refers).

ANNEX 2

Draft note from the Chairman of Committee 4
to the Chairman of Committee 5

At its sixth meeting Committee 4 decided to request Committee 5 to take a decision about a need for an exclusive frequency in the 8 MHz band for distress and safety traffic by radiotelephony.

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COMMITTEE 5

THIRD REPORT BY WORKING GROUP 5-B TO COMMITTEE 5

1. The text reproduced in the annex was approved at the fourth meeting of Working Group 5-B.

2. Provisions 2998B, 2998C and 2998E are reproduced in square brackets pending the proposed consideration of matters contained in the proposals made by the Federal Republic of Germany and Australia by the Technical Working Group.

3. With respect to provision 3018, the Delegations of Greece, Cuba and the Islamic Republic of Iran reserved their position concerning the reduction of the guard band.

4. With respect to provision 3038, there was also a reservation by the Delegation of Greece.

T. HAHKIO
Chairman of Working Group 5-B

Annex: 1

ANNEX

(MOD) 2998 ~~AC~~ 1 544 - 1 545 MHz Band

2998A § 10C. Use of the band 1 544 - 1 545 MHz (space-to-Earth) is limited to distress and safety operations (see No. 728) including:

[2998B a) feeder links of satellites needed to relay the emissions of satellite emergency position-indicating radiobeacons to earth stations;]

[2998C b) narrow-band (space-to-Earth) links from space stations to mobile stations.]

(MOD) 2998D ~~AH~~ 1 645.5 - 1 646.5 MHz Band

[2998E § 10D. Use of the band 1 645.5 - 1 646.5 MHz (Earth-to-space) is limited to distress and safety operations (see No. 728).]

(MOD) 2999 ~~AI~~ Aircraft in Distress

NOC 3000

(MOD) 3001 ~~AJ~~ Survival Craft Stations

NOC 3002-3008

SUP 3008A

SUP 3008B

SUP 3008C

SUP 3008D

NOC **Section II. Protection of Distress and Safety Frequencies**

NOC 3009

MOD 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 and in Section I of Article 38 is prohibited.

NOC 3011

3012 to 3015 SUP

MOD 3016 (2) 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 ~~frequency~~ frequencies 2 182 kHz, and 156.8 MHz, in which case a suitable artificial antenna shall be employed.

NOC 3016A

NOC 3016B

NOC 3017 B. 500 kHz

MOD 3018 § 15. (1) Apart from the transmissions authorized on ~~490 kHz and~~ 500 kHz, and taking account of No. 4226, all transmissions on the frequencies included between ~~490 kHz~~ 495 kHz and ~~510 kHz~~ 505 kHz are forbidden (see No 471 [and Resolution ~~206 (Mob-83)~~A.]

NOC 3019

NOC 3020 and 3021 SUP

NOC 3022 C. 2 182 kHz

MOD 3023 § 16. (1) Except for transmissions authorized on the carrier frequency 2 182 kHz and on the frequencies 2 174.5 kHz, [2 177 kHz], ~~and~~ 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 No. N 3023.)

3024 and 3025 SUP

NOC 3026-3028

3029 to 3031 SUP

(MOD) 3031A ~~DA.~~ D. 121.5 MHz, 123.1 MHz and 243 MHz

NOC 3031B

MOD 3032 E. ~~156.8~~ 156.7625 - 156.8375 MHz Band

MOD 3033 § 18. (1) 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 harmful interference to authorized transmissions on 156.8 MHz (see also note k) of Appendix 18).~~

3034 and 3035 SUP

NOC 3036

NOC **Section III. Watch on Distress Frequencies**

NOC 3037

MOD 3038 § 19. (1) 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>which employ Morse telegraphy</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>[See also Resolution A].</u>

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COMMITTEE 5

FOURTH REPORT BY WORKING GROUP 5-B TO COMMITTEE 5

1. The Working Group approved the texts as shown in the annex.

2. With respect to ADD 3038A, there were reservations by the Delegations of Greece, France and the Islamic Republic of Iran.

3. With respect to No. 3040, the Delegation of Greece reserved its position with respect to the reduction of the guard band.

T. HAHKIO
Chairman of Working Group 5-B

Section III. Watch on Distress Frequencies

ADD 3038A (2) No. 3038 does not apply to a coast station open to public correspondence when its operational area for distress purposes is covered by one or more coast stations keeping watch on 500 kHz in accordance with an agreement between the administrations concerned. These administrations shall inform the Secretary-General of the details of such agreements for publication in the List of Coast Stations (see Article 26 and Appendix 9).

NOC 3039

MOD 3040 a) transmissions shall cease in the band between ~~485~~ 495 kHz and ~~515~~ 505 kHz (see also Resolution 206 (Mob-83));

MOD 3041 b) outside these bands, transmissions of stations of the mobile service may continue; stations of the maritime mobile service may listen to these transmissions on the express condition that they first ensure watch on the distress frequency as required by No. 3038. [See also Resolution A.]

MOD 3042 § 20. (1) Stations of the maritime mobile service open to 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 except in the situation referred to in No. 3038A. This watch is obligatory only for class A2A and H2A emissions. [See also Resolution A.]

MOD 3043 (2) These stations, while observing the ~~requirements~~ provisions of No. 3038, are authorized to relinquish this watch only when they are engaged in communications on other frequencies.

NOC 3044

NOC 3045

NOC 3046

MOD 3046A (4) Ship stations, while observing the ~~requirements~~ provisions of No. 3038, are also authorized to relinquish this watch[1] when it is impractical to listen by split headphones or by loudspeaker, and by order of the master in order to repair or carry out maintenance required to prevent imminent malfunction of:

NOC 3046B

NOC 3046C

NOC 3046D

NOC 3046E

NOC 3047 B. 2 182 kHz

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 on 2 182 kHz shall, during their hours of service, maintain a watch on 2 182 kHz. [See also Resolution A].

NOC 3049

NOC 3050

NOC 3051

MOD 3046A.1 [1]For additional information see the relevant provisions of the International Convention for the Safety of Life at Sea. [See also Resolution A.]

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COMMITTEE 5

FIFTH REPORT BY WORKING GROUP 5-B TO COMMITTEE 5

Following discussion of the proposal in Document 40 concerning RR 2998E, the Chairman proposes the following text for submission to Committee 5 as the contents of a draft note to be sent to the Technical Working Group of the Plenary.

"Radio Regulation 2998E provides the 1 645.5 - 1 646.5 MHz band for distress and safety operations in the Earth-to-space direction.

This 1 MHz of spectrum is not currently used but it is considered likely that it may be used by Satellite Emergency Position-Indicating Radiobeacons (satellite EPIRBs) operating through the second generation of INMARSAT geostationary satellites.

Additionally, to reduce the delays in forwarding 406 MHz satellite EPIRB signals received by the COSPAS/SARSAT system, it is proposed to relay these signals, from the COSPAS/SARSAT satellites in low polar earth orbits in the band 1 645.5 - 1 646.5 MHz to geostationary satellites for transmission to coast earth stations. The report of the SPM of Study Group 8 at Section 6.13.4 addresses spectrum sharing considerations.

The Technical Working Group of the Plenary is requested to consider:

1. whether it is technically desirable to relay satellite EPIRB signals received by COSPAS and SARSAT satellite in the 1 645.5 - 1 646.5 MHz band;

2. if so, to advise Committee 4 of the required bandwidth, with a request that Committee 5 be advised so that No. 2998E may be modified;

3. if not, to advise Committees 4 and 5 of the most appropriate frequencies and bandwidth to be used to relay the satellite EPIRB signals received by polar orbiting satellites via geostationary satellites."

T. HAHKIO
Chairman of Working Group 5-B

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COMMITTEE5

SIXTH AND FINAL REPORT OF WORKING GROUP 5-B TO COMMITTEE 5

1. Working Group 5-B has completed consideration of all matters in Chapter IX, as shown in the Annex.

2. On the basis of the supported proposal by Canada the words [or a person] were added to No. 3090; if adopted, No. 3279 can be deleted as a consequence. This proposal was also opposed. Because of the fundamental nature of this proposal, it was requested to give more time to consider the implications.

3. If there are any outstanding proposals on Chapter IX, these will be submitted to Committee 5.

T. HAHKIO
Chairman of Working Group 5-B

Annex: 1

ANNEX

MOD 3052

MOD 3052A § 23A. During the periods referred to in No. 3052 all transmissions, except those provided for in this Chapter and in Chapter N IX [and on 2 177 kHz and 2 189.5 kHz], shall cease in the band 2 173.5 - 2 190.5 kHz.

(MOD) 3053 C. [4 125 kHz and 6 215.5 kHz]

MOD 3054 § 24. (1) ~~In the zone of Region 1 south of latitude 15°N, in Region 2 (except Greenland) and in the zone of Region 3 south of latitude 25°N,~~ All coast stations which are open to public correspondence and which form an essential part of the coverage of the area for distress purposes may, during their hours of service, maintain a watch on the carrier frequencies [4 125 kHz and/or 6 215.5 kHz], as appropriate (see Nos. 2982 and 2986). Such watch should be indicated in the List of Coast Stations.

NOC 3055

NOC 3056

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 an efficient aural watch on 156.8 MHz. (See also [Resolution No. A] and Recommendation No. 306.)

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 also Resolution No. A]

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. [See also Resolution No. A]

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 the coast station. [See also Resolution No. A]

ARTICLE 39

Distress Communications

Section I. General

NOC 3086

NOC 3087

Section II. Distress Signal

MOD 3088 § 3. (1) The Morse radiotelegraph distress signal consists of the group ·····, symbolized herein by SOS, transmitted as a single signal in which the dashes are emphasized so as to be distinguished clearly from the dots.

NOC 3089

MOD 3090 (3) These distress signals indicate that a ship, aircraft or other vehicle [or a person] is threatened by grave and imminent danger and requests immediate assistance.

Section III. Distress Call

MOD 3091 § 4. (1) The distress call sent by Morse radiotelegraphy consists of:

- the distress signal $\overline{\text{SOS}}$, sent three times;
- the word DE;
- the call sign of the mobile station in distress, sent three times.

NOC 3092

Section IV. Distress Messages

MOD 3093 § 5. (1) The Morse radiotelegraph distress message consists of:

- the distress signal SOS;
- the name, or other identification, of the mobile station in distress;
- particulars of its position;
- the nature of the distress and the kind of assistance desired;
- any other information which might facilitate the rescue.

NOC 3094

MOD 3095 § 6. (1) As a general rule, a ship shall signal its position in latitude and longitude (Greenwich), using figures for the degrees and minutes, together with one of the words NORTH or SOUTH and one of the words EAST or WEST. In Morse radiotelegraphy, the signal ····- shall be used to separate the degrees from the minutes; however, this shall not necessarily apply to the maritime mobile-satellite service. When practicable, the true bearing and distance in nautical miles from a known geographical position may be given.

NOC 3096

MOD 3097 (3) As a general rule, an aircraft in flight shall signal its position either in radiotelephony or Morse radiotelegraphy;

- by latitude and longitude (Greenwich) using figures for the degrees and minutes, together with one of the words NORTH or SOUTH and one of the words EAST or WEST; or

- by the name of the nearest place, and its approximate distance in relation thereto, together with one of the words NORTH, SOUTH, EAST or WEST, as the case may be, or when practicable, by words indicating intermediate directions.

MOD 3098 (4) However, in Morse radiotelegraphy, the words NORTH or SOUTH and EAST or WEST, indicated in Nos. 3095 and 3097, may be replaced by the letters N or S and E or W.

Section V. Procedures

MOD 3099 A. Morse Radiotelegraphy

MOD 3100 § 7. (1) The Morse radiotelegraph distress procedure shall consist of:

NOC 3101-3107

MOD 3108 § 8. (1) The distress message, preceded by the distress call, shall be repeated at intervals, especially during the periods of silence prescribed in No. 3038 for Morse radiotelegraphy, until an answer is received.

NOC 3109-3129

MOD 3130 a) Morse Radiotelegraphy:

- the distress signal $\overline{\text{SOS}}$;
- the call sign of the station sending the distress message, sent three times;
- the word DE;
- the call sign of the station acknowledging receipt, sent three times;
- the group RRR;
- the distress signal $\overline{\text{SOS}}$.

NOC 3131-3137

MOD 3138 a) in Morse radiotelegraphy, the abbreviation QRT, followed by the distress signal SOS;

NOC 3139

NOC 3140

MOD 3141 a) in Morse radiotelegraphy, the abbreviation QRT, followed by the word DISTRESS and its own call sign;

NOC 3142

MOD 3143 § 25.(1) In Morse radiotelegraphy, the use of the signal QRT SOS shall be reserved for the mobile station in distress and for the station controlling distress traffic.

NOC 3144-3151

MOD 3152 (3) a) In Morse radiotelegraphy, the message referred to in No. 3150 consists of:

- the distress signal $\overline{\text{SOS}}$;
- the call "to all stations" (CQ) sent three times;
- the word DE;
- the call sign of the station sending the message;
- the name and call sign of the mobile station which was in distress;
- the service abbreviation QUM.

MOD 3153 b) In Morse radiotelegraphy, the message referred to in No. 3151 consists of:

- the distress signal $\overline{\text{SOS}}$;
- the call "to all stations" (CQ) sent three times;
- the word DE;
- the call sign 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 service abbreviation QUZ.

NOC 3154-3163

Section VII. Transmission of a Distress Message by a Station Not Itself in Distress

MOD 3164 a) Morse Radiotelegraphy:

- the signal $\overline{\text{DDD}}$ $\overline{\text{SOS}}$ $\overline{\text{SOS}}$ $\overline{\text{SOS}}$ $\overline{\text{DDD}}$;

- the word DE;

- the call sign of the transmitting station, sent three times.

NOC 3165

MOD 3166 § 34. When the Morse radiotelegraph alarm signal is used, an interval of two minutes shall be allowed, whenever this is considered necessary, before the transmission of the call mentioned in No. 3164.

NOC 3167-3168

ARTICLE 40

Urgency and Safety Transmissions, and Medical Transports

Section I. Urgency Signal and Messages

MOD 3196 § 1. (1) In Morse radiotelegraphy, the urgency signal consists of three repetitions of the group XXX, sent with the letters of each group and the successive groups clearly separated from each other. It shall be transmitted before the call.

MOD 3197 (2) 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 word "panne". The urgency signal shall be ~~transmitted~~ repeated three times before the call.

NOC 3198-3200

MOD 3201 (2) The urgency signal and message following it shall be sent on one or more of the international distress frequencies 500 kHz, 2 182 kHz, 156.8 MHz the supplementary distress frequencies [4 125 kHz and 6 215.5 kHz,] the aeronautical emergency frequency 121.5 MHz the frequency 243 MHz, or on any other frequency which may be used in case of distress. [See also No. N 3195Q].

NOC 3202-3208

Section II. Medical Transports

NOC 3209

MOD 3210 § 8. For the purpose of announcing and identifying medical transports which are protected under the above-mentioned Conventions, a complete transmission of the urgency signals described in Nos. 3196 and 3197 shall be followed by the addition of the single group YYY in Morse radiotelegraphy and by the addition of the single word MAY-DEE-CAL, pronounced as in French "médical", in radiotelephony.

NOC 3211-3220

Section III. Safety Signal and Messages

MOD 3221 § 13. (1) In Morse radiotelegraphy, the safety signal consists of three repetitions of the group TTT, the individual letters of each group and the successive groups being clearly separated from each other. It shall be sent before the call.

MOD 3222 (2) In radiotelephony, the safety signal consists of the word SÉCURITÉ pronounced clearly as in French, ~~spoken three times and transmitted before the call~~. The safety signal shall be repeated three times before the call.

NOC 3223

MOD 3224 (2) The safety signal and call shall be sent on one or more of the international distress frequencies (500 kHz, 2 182 kHz, 156.8 MHz) or on any other frequency which may be used in case of distress. [See also No. N 3231.]

NOC 3225-3229

ARTICLE 41

Alarm and Warning Signals

MOD **Section I. Emergency Position-Indicating Radiobeacon and Satellite EPIRB Signals**

NOC 3255-3259

ADD 3259A c) for ultra-high frequencies, e.g. in the bands 406 - 406.1 MHz and 1 645.5 - 1 646.5 MHz signals, characteristics of which shall be in accordance with relevant CCIR Recommendations.

NOC 3260-3267

Section II. Morse Radiotelegraph and Radiotelephone Alarm Signals

MOD 3268 § 5. (1) The Morse radiotelegraph alarm signal consists of a series of twelve dashes sent in one minute, the duration of each dash being four seconds and the duration of the interval between consecutive dashes one second. It may be transmitted by hand but its transmission by means of an automatic instrument is recommended.

MOD 3269 (2) Any ship station working in the bands between 415 kHz and 526.5 kHz which is not provided with an automatic apparatus for the transmission of the Morse radiotelegraph alarm signal shall be permanently equipped with a clock, clearly marking the seconds preferably by means of a concentric seconds hand. This clock shall be placed at a point sufficiently visible from the operator's table so that the operator may, by keeping it in view, easily and correctly time the different elements of the alarm signal.

NOC 3270-3273

MOD 3274 a) in Morse radiotelegraphy, the actuation of automatic devices giving the alarm to attract the attention of the operator when there is no listening watch on the distress frequency;

NOC 3275-3278

[SUP] 3279 c) the loss of a person or persons overboard. In this case they may only be used when the assistance of other ships is required and cannot be satisfactorily obtained by the use of the urgency signal alone, but the alarm signal shall not be repeated by other stations. The message shall be preceded by the urgency signal (see Nos. 3196 and 3197).

MOD 3280 (2) In the cases referred to in Nos. 3278 and 3279, an interval of two minutes should, if possible, separate the end of the Morse radiotelegraph alarm signal and the beginning of the warning or the message.

MOD 3281 § 9. Automatic devices intended for the reception of the Morse radiotelegraph and radiotelephone alarm signals shall meet the requirements specified in Appendix 36.

NOC 3282-3283

Section IV. Navigational Warning Signal

NOC 3284

NOC 3285

ADD 3285A (2A) In addition, the signal specified in No. 3284 may be transmitted on the carrier frequency 2 182 kHz by off-shore 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 off-shore installations or structures or land concerned.

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. Stations should provide as much identification and position information as possible. This transmission should be followed by a vital navigational warning.

NOC 3286

ARTICLE 42

Special Services Relating to Safety

Section I. Meteorological Messages

NOC 3312-3325

MOD 3326 § 4. (1) Meteorological messages specially intended for all ship stations shall in principle be sent in accordance with a definite timetable, and, as far as possible, at times when they can be received by ship stations with only one operator. In Morse radiotelegraphy the transmission speed shall not exceed sixteen words a minute.

NOC 3327-3338

NOC **Section IV.**

NOC 3339-3341

MOB-87 UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS
CAMR POUR LES SERVICES MOBILES
GENÈVE, septembre-octobre 1987

Corrigendum 4 au
Document 232-F/E/S
7 octobre 1987

COMMITTEE 6

PROPOSITIONS POUR LES TRAVAUX DE LA CONFERENCE

Ajouter "Ethiopie, Maroc, Nigéria et République populaire démocratique de Corée" dans la liste des pays coauteurs de ce document.

PROPOSALS FOR THE WORK OF THE CONFERENCE

Add "Ethiopia, Morocco, Nigeria and Democratic People's Republic of Korea" to the list of countries cosponsoring this document.

PROPOSICIONES PARA EL TRABAJO DE LA CONFERENCIA

Añádanse "Etiopía, Marruecos, Nigeria y República Popular Democrática de Corea" en la lista de los países coautores de este documento.

MOB-87 UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS
CAMR POUR LES SERVICES MOBILES
GENÈVE, septembre-octobre 1987

Corrigendum 3 au
Document 232-F/E/S
30 septembre 1987

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MOB-87 UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS
CAMR POUR LES SERVICES MOBILES
GENÈVE, septembre-octobre 1987

Corrigendum 2 au
Document 232-F/E/S
30 septembre 1987

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MOB-87 UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS
CAMR POUR LES SERVICES MOBILES
GENÈVE, septembre-octobre 1987

Corrigendum 1 au
Document 232-F/E/S
29 septembre 1987

PROPOSITIONS POUR LES TRAVAUX DE LA CONFERENCE

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PROPOSALS FOR THE WORK OF THE CONFERENCE

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PROPOSICIONES PARA EL TRABAJO DE LA CONFERENCIA

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

Document 232-E
26 September 1987
Original: English

COMMITTEE 6

Algeria, Argentina, Brazil, Bulgaria, China, Cyprus, Spain, Greece, Islamic Republic of Iran, Pakistan, Romania, Suriname, Turkey, Yugoslavia

PROPOSALS FOR MODIFICATION OF ARTICLES 55 and 56

1. Introduction

The purpose of this document is to propose changes and additions to Articles 55 and 56 of the Radio Regulations in order to meet operator requirements of the GMDSS which is now being incorporated into the Chapter NIX of the Radio Regulations.

Four additional certificates for operators are proposed for ship stations and ship earth stations participating in the GMDSS. Two of the certificates include both operational and technical qualifications (First- and Second-Class Radioelectronic Operator's Certificates for the GMDSS) and are intended to be required at stations onboard oceangoing vessels sailing beyond the range of MF coast stations while the remaining two certificates (General and Restricted Operator's Certificates for the GMDSS) are including only operational qualifications and are intended to be required mainly at stations onboard ships sailing within the range of MF or VHF coast stations.

In preparing these proposals the following was taken into consideration:

a) that the practices of the present Articles 55 and 56 require both operational and technical qualifications to be held by the operators of stations on board larger ships;

b) that not only in the present Radio Regulations but also in the International Telecommunication Convention (Article 23, paragraph 2) there is reference to the need for proper maintenance of telecommunications installations which includes ship stations onboard ships;

c) that proper operation and maintenance of radio equipment is indispensable in fulfilling the obligation to avoid causing harmful interference. This obligation is addressed in the International Telecommunications Convention (Article 35, paragraph 1) and therefore, inclusion of relevant provisions included in the Radio Regulations are fully in line with the Convention. On the

contrary, the prevention of harmful interference to maritime radiocommunications is completely outside the scope of the IMO and the SOLAS Convention;

d) that professionally skilled operators holding the appropriate operational and technical qualifications will assure the presence onboard ships of skilled professionals to oversee the introduction of new GMDSS sub-systems and will provide cost-effective preventive and corrective maintenance of radiocommunications equipment at all times, thus assuring continuous availability of all GMDSS equipment and other electronic equipment onboard ships;

e) that IMO Assembly Resolution A.420 (XI) paragraph 5.8 provides that:

> "The training of radio officers and radio operators should be further expanded, as appropriate, to ensure continued and adequate operation, maintenance and repairs at sea of the telecommunications and electronic navigation equipment involved in the safety of life at sea";

f) that the less technologically developed countries can develop their own facilities and use their own technicians when repairing GMDSS equipment, rather than becoming dependent on the technologically developed countries.

2. Proposed amendments to the Radio Regulations

CHAPTER XI

Maritime Mobile Service and

Maritime Mobile-Satellite Service

*/232/1
NOC ARTICLE 55

NOC Operators' Certificates for Ship Stations and Ship Earth Stations

*/232/2
NOC 3860-3863

*/232/3
ADD 3863A (4a) The service of every ship station and ship earth station using the frequencies and techniques in accordance with Chapter NIX shall be controlled by a person 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 equipment.

*/232/4
NOC 3864-3877

*/232/5
MOD **Section II. Categories of Certificates for Ship Station and Ship Earth Station Operators**

Reason: To conform to the title of the Chapter XI and to provide for the inclusion of the use of ship earth stations.

*/232/6
NOC 3878-3890

*/232/7
ADD Section IIA. Categories of Certificates of Operators for Ship Stations and Ship Earth Stations using the frequencies and techniques prescribed in Chapter NIX.

*/232/8
ADD 3890A 7A.

(1) Provisions of this section are obligatory for ship stations and ship earth stations in the maritime mobile service and maritime mobile-satellite service when such stations are required to participate in the GMDSS, using the frequencies and techniques in accordance with Chapter NIX.

*/232/9
ADD 3890B (2) There are four categories of certificates for operators of ship stations and ship earth stations which use the frequencies and techniques prescribed in Chapter NIX.

*/232/10
ADD 3890C a) the first-class radioelectronic operator's certificate for the GMDSS.

*/232/11
ADD 3890D b) the second-class radioelectronic operator's certificate for the GMDSS.

*/232/12
ADD 3890E c) the general operator's certificate for the GMDSS.

*/232/13
ADD 3890F d) the restricted operator's certificate for the GMDSS.

*/232/14
ADD 3890G (3) The holder of the certificate specified in Nos. 3890C, 3890D and 3890E may carry out the service of ship stations or ship earth stations using the frequencies and techniques prescribed in Chapter NIX.
(See Nos. ADD 3986B, ADD 3986C, ADD 3986D and ADD 3986E)

*/232/15
ADD 3890H (4) The holder of a certificate specified in No. 3890F may carry out the service:

*/232/16
ADD 3890I (a) Of ships for which a radio installation is made compulsory by international agreements and which are using the frequencies and techniques prescribed in Chapter NIX, sailing only within the range of VHF coast stations. (See ADD 3986F)

*/232/17
ADD 3890J (b) Of ships for which a radio installation is not made compulsory by international agreements and which are using the frequencies and techniques prescribed in Chapter NIX, and sailing within the range of MF coast stations. (See Nos ADD 3986H and ADD 3986I)

Reason: To establish the scope of responsibility of holders of these certificates.

*/232/18
NOC Section III. Conditions for the Issue of Operators' Certificates

*/232/19
NOC 3891-3893

*/232/20
MOD 3893A (3) Each Administration may determine the conditions under which operators referred to in Nos. 3879, 3880, 3881, 3882 and 3883 may be recertified as GMDSS operators referred to in Nos. ADD 3890C, ADD 3890D, ADD 3890E and ADD 3890F.

*/232/21
NOC 3894-3949

*/232/22
ADD 3949A G. First-Class Radioelectronic Operator's Certificate for the GMDSS.

*/232/23
ADD 3949B 18A The first-class radioelectronic operator's certificate for the GMDSS is issued to candidates who have given proof of the technical and professional knowledge and qualifications enumerated below:

*/232/24
ADD 3949C a) knowledge of the principles of electricity and the theory of radio and electronics sufficient to meet the requirements in Nos. 3949D, 3949E and 3949F;

*/232/25
ADD 3949D b) theoretical knowledge of GMDSS radiocommunication equipment, including direct-printing telegraph and radiotelephone transmitters and receivers, digital selective calling equipment, ship earth stations, emergency position-indicating radiobeacons, marine antenna

systems, radio equipment for lifeboats and other survival craft together with all auxiliary items including power supplies as well as general knowledge of the principles of other apparatus generally used for radionavigation, with particular reference to maintaining the equipment in service:

*/232/26

ADD 3949E c) practical knowledge of the operation, adjustment, preventive and corrective maintenance of the apparatus mentioned in No. 3949D.

*/232/27

ADD 3949F d) practical knowledge necessary for the location and repairing (using appropriate testing equipment and tools) of faults in the apparatus mentioned in No. 3949D above which may occur during a voyage;

*/232/28

ADD 3949G e) ability to send correctly and to receive correctly by radiotelephone and to send correctly by direct-printing telegraph at the rate of 30 words per minute using touch typing;

*/232/29

ADD 3949H f) knowledge of the regulations applying to radiocommunications, knowledge of documents relating to charges for radiocommunications and knowledge of the provisions of the Convention for Safety of Life at Sea which relate to radio;

*/232/30

ADD 3949I g) sufficient knowledge of world geography, especially the principal shipping and air routes and the most important telecommunications routes;

*/232/31

ADD 3949J h) 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.

*/232/32
ADD 3949BA H. Second-class radioelectronic operator's certificate for the GMDSS.

*/232/33
ADD 3949BB 18B The second-class radioelectronic operator's certificate for the GMDSS is issued to candidates who have given proof of the technical and professional knowledge and qualifications enumerated below:

*/232/34
ADD 3949BC a) knowledge of the principles of electricity and the theory of radio and electronics sufficient to meet the requirements in Nos. 3949BD, 3949BE and 3949BF;

*/232/35
ADD 3949BD b) general theoretical knowledge of modern radiocommunication equipment, including direct-printing telegraph and radiotelephone transmitters and receivers, digital selective calling equipment, ship earth stations, emergency position-inditing radiobeacons, marine antenna systems, radio equipment for lifeboats and other survival craft together with all auxiliary items including power supplies as well as a general knowledge of the principles of other apparatus generally used for radionavigation;

*/232/36
ADD 3949BE c) sufficient practical knowledge of the operation, adjustment, and preventive and corrective maintenance of the apparatus mentioned in No. 3949BD;

*/232/37
ADD 3949BF d) practical knowledge sufficient for effecting repairs in the case of damage of the apparatus mentioned in No. 3949BD, using the means available on board and if necessary, replacing modular components;

*/232/38
ADD 3949BG

e) ability to send correctly and to receive correctly by radiotelephone and to send correctly by direct-printing telegraph at a rate of 25 words per minute, using touch typing;

*/232/39
ADD 3949BH

f) knowledge of the regulations applying to radiocommunications and knowledge of the provisions of the Convention for Safety of Life at Sea which relate to radio;

*/232/40
ADD 3949BI

g) sufficient knowledge of world geography, especially the principal shipping and air routes and the most important telecommunication routes;

*/232/41
ADD 3949BJ

h) sufficient 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;

Reason: To identify the requirements for this certificate.

*/232/42
ADD 3949CA

I. General Operator's Certificate for the GMDSS.

*/323/43
ADD 3949CB

18C The general operator's certificate for the GMDSS is issued to candidates who have given proof of the knowledge and qualifications enumerated below:

*/232/44
ADD 3949CC

a) detailed practical knowledge of the operation of all GMDSS sub-systems and equipment;

*/232/45
ADD 3949CD

b) ability to send and receive correctly by radiotelephone and to send correctly by direct-printing telegraphy at the rate of 20 words per minute, using touch typing;;

*/232/46
ADD 3949CE

c) detailed knowledge of the regulations applying to radiocommunications, knowledge of the documents relating to charges for radiocommunications and knowledge of those provisions of the Convention for the Safety of Life at Sea which relate to radio;

*/232/47
ADD 3949CF

d) sufficient 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.

Reason: To identify the requirements for this certificate.

*/232/48
ADD 3949DA

J. Restricted Operator's Certificate for the GMDSS.

*/232/49
ADD 3949DB

18D The restricted operator's certificate for the GMDSS is issued to candidates who have given proof of the knowledge and qualifications enumerated below:

*/232/50
ADD 3949DC

a) practical knowledge of the operation of the GMDSS sub-systems and equipment which is required while the ship is sailing within the range of VHF coast stations;

*/232/51
ADD 3949DD

b) ability to send and receive correctly by radiotelephone;

*/232/52
ADD 3949DE c) knowledge of the regulations applying to GMDSS radiotelephony communications and specifically of that part of those regulations relating to the safety of life;

*/232/53
ADD 3949DF d) an elementary 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.

Reason: To identify the requirements for this Certificate.

*/232/54
NOC Section IV. Qualifying Service

*/232/55
NOC 3950-3953

*/232/56
ADD 3953A (5) Before becoming a chief operator of a ship station onboard passenger ships which sail beyond the range of VHF coast stations (See ADD 3986B) the holder of a first-class radioelectronic operator's certificate for the GMDSS shall have had as operator on board ships at least one year of experience.

3954
TO NOT Allocated
3978

NOC

ARTICLE 56

*/232/57

MOD **Personnel of Stations in the Maritime Mobile and the Maritime Mobile Satellite Service.**

*/232/58

MOD Section I. Personnel of Coast Stations and Coast Earth Stations.

*/232/59

MOD 3979 Administrations shall ensure that the staff on duty in coast stations and in coast earth stations shall be adequately qualified to operate the stations efficiently.

*/232/60

NOC Section II. Class and Minimum Number of Operators for Stations on board ships.

*/232/61

NOC 3980-3986

*/232/62

ADD Section III. Class and Minimum Number of Operators for Ship Stations and Ship Earth Stations on board Ships using the Frequencies and Techniques prescribed in Chapter NIX.

*/232/63

ADD 3986A 4. The personnel of ship stations for which a radio installation is made compulsory by international agreements and which are using the frequencies and techniques prescribed in Chapter NIX shall, with respect to the provisions of Article 55, include at least:

*/232/64

ADD 3986B a) ship stations on board passenger ships which sail beyond the range of MF coast stations:
one operator holding a first-class radioelectronic operator's certificate for the GMDSS;

*/232/65

ADD 3986C b) ship stations on board ships other than passenger ships which sail beyond the range of MF coast stations:
one operator holding a first- or a second-class radioelectronic operator's certificate for the GMDSS;

*/232/66
ADD 3986D

c) ship stations on board passenger ships which sail within the range of MF coast stations:
one operator holding a first- or a second-class radioelectronic operator's certificate;

*/232/67
ADD 3986E

d) ship stations on board ships other than passenger ships which sail within the range of MF coast stations:
one operator holding a first-or a second-class radioelectronic operator's certificate or a general operator's certificate for the GMDSS;

*/232/68
ADD 3986F

e) ship stations on board ships which sail within the range of VHF coast stations:
one operator holding a first- or second-class radioelectronic operator's certificate or a general operator's certificate or a restricted operator's certificate for the GMDSS

*/232/69
ADD 3986G

5. The personnel of ship stations for which a radio installation is not made compulsory by International agreements and which are using the frequencies and techniques prescribed in Chapter NIX, shall, with regard to the provisions of Article 55, include at least:

*/232/70
ADD 3986H

a) ship stations onboard ships which sail beyond the range of MF coast stations:
one operator holding a first or a second-class radioelectronic operator's certificate or a general operator's certificate for the GMDSS.

*/232/71

ADD 3986I

b) ship stations onboard ships which sail within the range of MF coast stations :
one operator holding a first or second-class radioelectronic operator's certificate or a general operator's certificate or a restricted operator's certificate for the GMDSS.

3987
TO NOT Allocated
4011

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

Document 233-E
26 September 1987
Original: Spanish

COMMITTEE 6

Spain

ARTICLES N 55 AND N 56

Operators' Certificates and Personnel of Coast and Ship Stations

In Document 37, the Spanish Administration gave the reasons underlying its proposal concerning the new Articles N 55 and N 56 of the Radio Regulations, with reference to categories of certificates and personnel of coast and ship stations.

Document 232, which contains a joint proposal by several countries concerning those same Articles, was also endorsed by the Spanish Administration, with a view to arriving at similar positions on the basic points dealt with in Document 37, and on the understanding that in certain aspects the former puts forward more flexible solutions than those contained in the latter document.

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

Document 234-E
26 September 1987
Original: English

Source: Document 218

COMMITTEE 4

NOTE FROM THE CHAIRMAN OF THE TECHNICAL WORKING GROUP OF THE PLENARY TO THE CHAIRMAN OF COMMITTEE 4

In response to the request to the Technical Working Group of the Plenary (Document 173) the Working Group offers the following opinions on the technical issues concerning frequency allocations in the 1.5/1.6 GHz band.

E. GEORGE
Chairman of the
Technical Working Group
of the Plenary

1. Introduction

In accordance with the agenda of the Conference, various information papers related to the mobile-satellite service were introduced by the Administrations of Canada and the United States and by the European Space Agency (ESA). Introduced as conference Documents 56, 68, 69, 78, 80, 81, 83, 84 and 133, they address a wide range of issues supporting the viability of a mobile-satellite service. Some of the documents considered technical studies and developments accomplished over the past several years on the subjects of spot beam frequency reuse, orbit reuse, aeronautical communications system interoperability among multiple MSS systems, intersystem sharing and intrasystem sharing. Three of the United States Administration papers and the ESA paper provided information on the needs, economic justification for, and spectrum requirements of, the proposed service. The issues of sharing with the fixed service operating in accordance with footnote 730 and coordination of the satellite systems in accordance with Article 11 were also reviewed.

These documents stated that:

- frequency reuse via satellite spot beams in the 1.5/1.6 GHz band is feasible and desirable;
- orbit reuse in the 1.5/1.6 GHz band is feasible when certain satellite and mobile earth terminal characteristics are selected;
- MSS systems can support aviation requirements for interoperability among satellite systems;
- intrasystem sharing between safety and non-safety services can be accomplished while protecting safety and regularity of flight communications;
- there is a need for the service;
- the spectrum being considered for use is adequate for the sharing proposed;
- the existing Radio Regulations can be used to coordinate the new allocations.

In the discussions of the Technical Working Group, administrations raised the following points on the technical and operational aspects in favour of, and against a mobile-satellite service (MSS) allocation in the 1.5/1.6 GHz band.

2. Technical considerations in support of a generic MSS

2.1 MSS national systems

A system operator may only need one satellite and control system for all services in a specific coverage area; fewer orbital positions would be required; more efficient use of the spectrum due to aggregation of services would result; common satellite transponders could be used for diverse services; only one family of terminals would be needed for all services.

2.2 Interoperability considerations between systems (national-international)

National systems serve within national boundaries only. Hence land and maritime mobile-satellite services are not subject to interoperability considerations. Aeronautical mobile-satellite service interoperability between adjacent systems requires hand off procedures, which can be achieved by all systems.

2.3 Priority Considerations for AMSS (R)

Priority access is guaranteed through channel block assignment and pre-emption in real time. The aviation authorities and other responsible organizations will determine the block of channels required for the average forecast demand. Additional blocks are added by the system, on a demand basis, to accommodate peaks. Inconvenience to other services would be minimal due to the short duration of peaks which would occur infrequently.

2.4 Reuse potential for systems

Spectrum used by an international system with global beams would not normally be available for use by national systems. By using spot beams the remaining available spectrum can be reused many times on a world-wide basis taking into account existing satellite antenna technology and acceptable theoretical and subjective interference levels. The reuse pattern developed, used in conjunction with the present maritime spectrum over land areas at an appropriate future date guarantees sufficient spectrum for all service categories and offers the assurance of spectrum availabilities for all nations or regions of the world to use.

3. Reservations on a technical basis to a generic MSS

However some administrations felt that,

- A combined MS system does not mean only a single satellite will be sufficient to achieve the coverage of large areas such as the ocean and land areas of Regions 1 and 2.

- As an example to cover the North American and European areas multiple satellites would be necessary.

- A combined MSS needs complex centralized control centres with many links to different ground centres which will require special design and particular interfaces.

- The different nature of the three services could neccessitate different kinds of satellite equipment and antennas because the power budgets and characteristics of the various mobile services are not the same due to their diverse purpose and use.
- In order to ensure compatibility and protection for the flight safety services, all mobile units must be designed and operated to common standards. This will require time for standardization of technical characteristics and operating procedures and a high degree of international coordination should be realized.

- A satellite based land mobile system could not handle as much traffic as a terrestrial land mobile cellular system and the spectrum economy of a combined MSS needs more studies.

- The study into satellite technology undertaken in some countries could lead to frequency reuse by means of spot beams. This technology is not unique to the concept of a generic MSS and can be applied to services which have separate frequency band allocations.

- In its report to the WARC the CCIR, whilst recognizing a generic MSS might be technically feasible, also concluded that further studies would be necessary and furthermore that it was likely that to meet the requirements of the three services in the future, more spectrum than that currently allocated would eventually be needed. Doubts were expressed that the information made available to the WARC would negate the need for this study before a firm allocation was made to a combined mobile satellite service.

4. Economic, operational and management issues in support of a generic MSS

Many beneficial economic, operational and management issues arise from the mobile satellite technology addressed in the group of information papers. Satellite spot-beam antennas which are applicable to dedicated as well as combined systems, result in conservation of scarce spectrum. They also lead to greater satellite capacity and increased user capabilities at lower unit cost. Lower power and cheaper earth station equipment is also brought about by the higher satellite antenna gain.

As a result, many diverse land, aviation, and maritime communications needs can be met cost-effectively, providing operational advantages to users in rural and remote areas, in national waters and in air space all over the world. A large number of users justifies the use of satellites of higher capacity, and this leads to greater efficiencies in channel utilization (trunking efficiency). The larger number of channels available in a shared system also means that as the needs of aeronautical safety increase, either momentarily or permanently, they can expand into capacity use for non-safety applications, obviating the need to launch new satellites.

Several papers address network management, specifically describing procedures for assigning spectrum between aeronautical safety and all other mobile services.

It is important to note that these procedures address all of the requirements for satellite systems established so far by the FANS Committee of the ICAO. Combining them with other mobile-satellite services will make aviation safety services affordable in the view of administrations proposing a generic system.

5. Reservations to a generic MSS on Economic, operational and management issues

Convincing data are not available to confirm that spectrum economy can be achieved due to development and use of a single mobile-satellite service instead of separate services.

There is no advantage from the operational point of view for combining maritime, aeronautical and land mobile-satellite services. Each of the services may have its own service areas, its peculiarities as far as the station operation and use of channels are concerned.

Maritime and especially aeronautical mobile-satellite services include safety services which require an absolute priority over other services and provision of immediate communications. This may be difficult to achieve in a combined system.

Maritime and aeronautical safety related services require a high degree of communication availability whereas the introduction of an additional system for real-time control of channel assignment would significantly complicate the system equipment, introduce higher unit cost and would reduce the system operation reliability. The enhancement of system's component reliability would make the system more expensive.

The control of the combined system which should be operated by an international organization from special terrestrial centres, or even from a single centre, providing the traffic monitoring in each service area contributes also to the reduction of the overall system reliability. A legal question of responsibility for system spectrum management with regard to each service and for the priority determination is not cleared and requires investigation. A more expensive and complicated system may lead to the increase of operational costs and, as a consequence, to higher tariff rates.

In a combined system there may be a situation, whereby the safety related services would need to use the entire frequency spectrum allocation to the mobile-satellite service in which case the non safety services will be totally disrupted.

Concern was expressed that the existing ITU regulatory provisions are not appropriate to govern the implementation of the mobile satellite system and this would have a bearing on the efficient use of the Geostationary Orbit/spectrum resources.

6. Separate generic allocation

It was mentioned that a separate generic allocation for a domestic/regional mobile-satellite service to satisfy domestic or regional requirments, which does not include safety services, would most likely overcome some of the technical and operational problems raised in previous sections.

7. Conclusion

A number of administrations have carried out extensive technical studies and experimentation and believe that sharing in the 1.5/1.6 GHz band is technically and operationally feasible now.

A number of other administrations believe that more studies are necessary by CCIR in collaboration with ICAO and IMO on the technical and operational bases for an integrated system in the mobile-satellite service and that it is therefore advisable to maintain the status quo.

Another group of administrations support in the meantime some but not total integration of services in the 1.5/1.6 GHz band as a first step at this time.

All administrations agreed that the integrity of communications for safety and regularity of flight as well as of maritime distress and safety communications must be maintained.

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WARC FOR THE MOBILE SERVICES
GENEVA, September-October 1987

Document 235-E
26 September 1987
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Source: Documents DT/34 + Add.1

COMMITTEE 4

FOURTH REPORT OF WORKING GROUP 4-A TO COMMITTEE 4

1. In addition to the items listed in the first report (Document 147), and in the third report (Document 206), Working Group 4-A approved the modifications to Article 8 as contained in the annex to this report.

2. With respect to RR 613 and RR 613A, the Working Group wishes to indicate that these provisions are still under study and should, therefore, be kept in square brackets at this time.

3. The Working Group decided not to ADD 517A (which was proposed by VTN, see VTN/49/8 and 9). In this connection, the Delegation of Viet Nam asked that its statement concerning this issue be presented to Committee 4. The statement can be found in Annex 2 of this report.

J. KARJALAINEN
Chairman of Working Group 4-A

Annexes: 2

ANNEX 1

Allocation to Services		
Region 1	Region 2	Region 3
90 - 110		
	RADIONAVIGATION 453	
	Fixed	
MOD	~~Maritime Mobile 448~~	
	454 448A	

MOD 448 The use of the bands 14 - 19.95 kHz, 20.05 - 70 kHz and 70 - 90 kHz (72 - 84 kHz and 86 - 90 kHz in Region 1) ~~and 90 - 110 kHz~~ by the maritime mobile service is limited to coast radiotelegraph stations (A1A and F1B only). Exceptionally, the use of class J2B or J7B emissions is authorized subject to the necessary bandwidth not exceeding that normally used for class A1A or F1B emissions in the band concerned.

ADD 448A Additional allocation: in the United Kingdom the band 90 - 110 kHz is also allocated to the maritime mobile service on a secondary basis for coast radiotelegraph stations.

kHz
1 605 - 1 800

Allocation to Services		
Region 1	Region 2	Region 3
	1605 - 1 625	
1 606.5 - 1 625 MARITIME MOBILE 480A / FIXED / / LAND MOBILE / 483 484	BROADCASTING 480 481 480A	1 606.5 - 1 800 FIXED MOBILE RADIOLOCATION RADIONAVIGATION
1625 - 1 635 RADIOLOCATION 487 485 486	1 625 - 1 705 BROADCASTING 480 / FIXED / / MOBILE / Radiolocation 481 480A	
1 635 - 1 800 MARITIME MOBILE 480A / FIXED / / LAND MOBILE / 483 484 488	1 705 - 1800 FIXED MOBILE RADIOLOCATION AERONAUTICAL RADIONAVIGATION	482

ADD 480A In cases where a broadcasting station of Region 2 is concerned, the service area of the maritime mobile stations in Region 1 shall be limited to that provided by ground-wave propagation.

MHz
87 - 108

<table>
<tr><th colspan="3">Allocation to Services</th></tr>
<tr><th>Region 1</th><th>Region 2</th><th>Region 3</th></tr>
<tr><td></td><td></td><td>87 - 100

FIXED</td></tr>
<tr><td>87.5 - 100

BROADCASTING

581 582</td><td>88 - 100

BROADCASTING</td><td>MOBILE

BROADCASTING

580</td></tr>
<tr><td>100 - 108</td><td colspan="2">BROADCASTING

582 ~~583~~ 584 585
586 587 588 589 ~~590~~</td></tr>
</table>

SUP 583

SUP 590

MHz
150.05 - 174

<table>
<tr><th colspan="3">Allocation to Services</th></tr>
<tr><th>Region 1</th><th>Region 2</th><th>Region 3</th></tr>
<tr><td>150.05 - 153

FIXED

MOBILE except aeronautical mobile

RADIO ASTRONOMY

610 612</td><td colspan="2" rowspan="3">150.05 - 156.7625

FIXED

MOBILE</td></tr>
<tr><td>153 - 154

FIXED

MOBILE except aeronautical mobile (R)

Meteorological Aids</td></tr>
<tr><td>154 - 156.7625

FIXED

MOBILE except aeronautical mobile (R)

[613] [613A]</td></tr>
<tr><td colspan="3">156.7625 - 156.8375 MARITIME MOBILE (distress and calling)

501 [613] [613A]</td></tr>
<tr><td>156.8375 - 174

FIXED

MOBILE except aeronautical mobile

[613] 614 615 <u>613B</u></td><td colspan="2">156.8375 - 174

FIXED

MOBILE

[613] 616 617 618</td></tr>
</table>

ADD 613B <u>Additional allocation</u>: In Ireland and in the United Kingdom, the band 161.3875 - 161.4125 MHz is also allocated to the Maritime Radionavigation Service on a primary basis, subject to agreement obtained under the procedure set forth in Article 14.

MHz
470 - 890

Allocation to Services		
Region 1	Region 2	Region 3
470 - 790 BROADCASTING 676 <u>677A</u> 680 ~~681~~ 682 683 <u>684</u> 685 686 687 689 693 694	[under consideration]	
790 862 FIXED BROADCASTING 694 695 696 <u>695A</u>* 697 698 699 <u>702</u>		
862 - 890 FIXED MOBILE except aeronautical mobile BROADCASTING 703 699 704		

SUP 681 (See Document 206)

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* See Document 206

MOD 697 Additional allocation: in the Federal Republic of Germany, Denmark, Egypt, Finland, Israel, Liechtenstein, Norway, the Netherlands, Sweden, Switzerland and Yugoslavia, the band 790 - 830 MHz, and in these same countries and in Spain and France, the band 830 - 862 MHz are also allocated to the mobile, except aeronautical mobile, service on a primary basis. However, stations of the mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, stations of services operating in accordance with the Table in countries other than those mentioned in connection with the band.

ADD 677A Additional allocation: in the Federal Republic of Germany, Austria, Cyprus, Denmark, Spain, Finland, France, Ireland, Italy, Libya, Malta, Monaco, Morocco, Norway, the Netherlands, Portugal, the United Kingdom, Switzerland, Sweden and Turkey, the band 470 - 790 MHz is also allocated on a secondary basis to the land mobile service, intended for applications ancillary to broadcasting. Stations of the land mobile service in the countries mentioned in this footnote, shall not cause harmful interference to existing or planned stations operating in accordance with the Table of Frequency Allocations in countries other than those listed in this footnote.

ANNEX 2

Statement by the delegate of Viet-Nam at the meeting of Working Group 4-A on 23 September 1987 concerning proposals VTN/49/8 and VTN/49/9

Mr. Chairman,

During the discussions at the last meeting of Working Group 4-A and after consultations held since then, the Delegation of the Vietnamese Administration has agreed that its proposal should not be mentioned in a footnote as had been proposed. The Vietnamese Delegation requests you to state in Working Group 4-A's report to Committee 4 that Viet-Nam intends to allocate the frequency band 4 000 - 4 063 kHz on its territory to the fixed service on a primary basis and to the maritime mobile service on a secondary basis; at a time still to be determined.

Thank you, Mr. Chairman.

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WARC FOR THE MOBILE SERVICES
GENEVA, September-October 1987

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24 September 1987
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BUDGET CONTROL
COMMITTEE

Note by the Secretary-General

SITUATION OF THE CONFERENCE ACCOUNTS

AS AT 23 SEPTEMBER 1987

I herewith submit for consideration by the Budget Control Committee, an estimate of Conference expenditure as at 23 September 1987.

The figures show a margin of 156,000 Swiss francs in relation to the budget as approved by the Administrative Council, adjusted to take account of changes in the common system of salaries and allowances.

R.E. BUTLER

Secretary-General

Annex : 1

ANNEX 1

Situation of accounts for WARC MOB (1987) as at 23 September 1987

Heading		Budget approved by AC	Budget adjusted on 01.09.87	Expenditure at 23.9.1987 actual	committed estimated	total
col.		1	2	3	4	5
		thousands of Swiss francs				
Sub. II	Staff expenditure					
11.621	Salaries & relat.exp.	1394	1352	9	1184	1193
11.622	Travel (recruitment)	81	81	1	60	61
11.623	Insurance	36	36	0	34	34
		1511	1469	10	1278	1288
Sub.III	Premises & equip.					
11.631	Prem.,furniture,mach.	47	47	0	47	47
11.632	Document production	110	110	30	109	139
11.633	Office supp.& overh.	45	45	20	27	47
11.634	PTT	80	80	21	52	73
11.635	Techn. installat.	5	5	5	0	5
11.636	Sundry & unforeseen	10	10	8	3	11
		297	297	84	238	322
Sub.IV	Other expenditure					
11.643	Finals Acts	108	108	0	108	108
TOTAL, SECTION 11.6		1916	1874	94	1624	1718
		xxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxx
UNUSED CREDITS						156
						xxxxxxxxx

Col. 2 Budget including additional credits to take account of changes in the common system of the United Nations and its specialized agencies.

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

Document 237-E
28 September 1987
Original: English

COMMITTEE 6

United States of America

IMO DECISIONS ON RADIO OPERATORS AND EQUIPMENT MAINTENANCE IN THE GMDSS

1. Further to the May 1987, decision taken by the International Maritime Organization's Maritime Safety Committee (MSC-54/WP.10, section 5.1.26) that the flexible approach on the methods used by administrations should be adopted to ensure the operational availability of GMDSS equipment on ships of their flag, the MSC instructed its sub-committee on radiocommunications (COM) to prepare a text for inclusion in the Convention of the Safety of Life at Sea. At its following meeting in London, in July 1987, COM drafted that text and prepared a matrix of the options appropriate for administrations to use in meeting requirements of the GMDSS. A total of six (operator and maintenance) certificates, as well as three equipment options were prepared.

2. Attached is a copy of the annex to IMO Document COM-33/WP.4 which contains the draft (IMO) Assembly Resolution on Radio Personnel and Maintenance Requirements in the GMDSS.

Attachment: Annex 2, COM-33/WP.4 (pp. 4)

ANNEX 2

DRAFT ASSEMBLY RESOLUTION ON RADIO PERSONNEL AND MAINTENANCE REQUIREMENTS IN THE GMDSS

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

NOTING that Regulation IV/17 of the International Convention for the Safety of Life at Sea, 1974 as amended requires all ships to carry personnel qualified for distress and safety purposes in accordance with the Radio Regulations and the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978 as amended,

RECOGNIZING the need to offer Administrations flexibility in the choice of method of ensuring availability of communications functions in the GMDSS which includes the use of the certificates specified in the Standards of Training, Certification and Watchkeeping for Seafarers, Convention,

ADOPTS the Recommendation on the use of Certificates in the GMDSS set out in the annex to the present resolution,

RECOMMENDS Member Governments to ensure that their ships carry personnel aboard with qualifications not inferior to those specified in the annex to the present resolution.

FURTHER RECOMMENDS Member Governments to ensure that provisions for shore-based maintenance and duplication of equipment as appropriate are not inferior to those specified in the annex to the present resolution.

ANNEX

The options to Governments to ensure the operation and availability of GMDSS functions on ships are explained in the table below.

The following six certificates are recommended namely:

1 1st class Radioelectronic Operator Certificate (COM 32/WP.6 Annex 2, appendix 1)

2 2nd class Radioelectronic Operator Certificate (COM 32/WP.6 Annex 2, appendix 2)

3 1st class Technical Certificate
(COM 30/3/25 annex 1)

4 2nd class Technical Certificate
(COM 30/3/25 annex 2)

5 General Operating Certificate
(COM 32/3/19 annex 2)

6 Restricted Operating Certificate
(COM 32/3/19 annex 1)

GMDSS AREAS	CERTIFICATION REQUIREMENTS 5/		ADDITIONAL REQUIREMENTS	
	Operating	Technical	In certain areas 1/	Outside certain areas
A1	Restricted Operating Certificate	-	Duplication 2/ OR Shore-based maintenance 1/	Duplication 2/
A2, A3,	General Operating Certificate 4/ OR 1st class Radioelectronic Operator Certificate*	1st class Technical Certificate 4/	On-board repair facilities 3/	On-board repair facilities 3/
A4	General Operating Certificate 4/ OR 2nd class Radioelectronic Operator Certificate*	2nd class Technical Certificate 4/	Duplication 2/ OR Shore-based maintenance 1/	Duplication 2/

Notes:

1/ Administrations may accept shore-based maintenance in lieu of equipment duplication, when ships are engaged on voyages [in A1&A2 areas or on short international voyages (as defined in chapter III, regulation 3) and have][with] a regular trading pattern between ports where adequate repair facilities are available.

2/ The additional equipment required to comply with the duplication stated in the table above is, in accordance with the ship's area of operation, as follows:

Sea Area A1 - one VHF equipment;

A2 - one VHF equipment, together with either one MF or INMARSAT SES or HF equipment;

A3 - one VHF equipment, together with either one HF or INMARSAT SES equipment;

Notes (continued):

A4 - one VHF equipment, together with one HF equipment. For ships sailing in A4 areas only periodically, the additional HF equipment may be substituted by an INMARSAT SES.

The additional equipment above for terrestrial radiocommunications should have connections to DSC facilities.

3/ Ships carrying a 1st class Technical Certificate holder or a holder of 1st class Radioelectronic Operator Certificate [as the primary means of ensuring equipment availability] should be provided with adequate repair facilities.

4/ The Administration may accept that the Technical Certificate may be held by a member of the crew other than the crew member holding a general operating certificate who is designated to have primary responsibility for radiocommunications.

5/ All ships should carry at least one radio operator qualified for distress and safety purposes in accordance with the radio regulations and the international convention on standards of training, certification and watchkeeping for seafarers, then in force, who should be responsible for communications during a distress incident. If more than one person on board is similarly qualified, one of these persons should be designated to have primary responsibility for radio communications during distress incidents; also one of these persons should be designated to have primary responsibility for radiocommunications.

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

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28 September 1987
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COMMITTEE 7

SECOND SERIES OF TEXT BY THE TECHNICAL WORKING GROUP OF THE PLENARY TO THE EDITORIAL COMMITTEE

The texts are contained in Documents DT/19 and DT/40 with modifications as approved at the ninth meeting.

E. GEORGE
Chairman of the
Technical Working Group
of the Plenary

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

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28 September 1987
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Source: Document DT/27

COMMITTEE 5

SECOND REPORT BY WORKING GROUP 5-B TO COMMITTEE 5

Following discussion of the proposal in Document 31 concerning RR 2998B and RR 2998C, Working Group 5-B submits the following text, to Committee 5 for consideration and possible submission to the Technical Working Group of the Plenary:

"Radio Regulations Nos. 2998B and 2998C provide for two operational requirements in the band 1 544 - 1 545 MHz. The Report of the Special Meeting of CCIR Study Group 8 concludes in section 6.13.3.3 that sharing of this band can be accommodated and that additional information would be required.

The Technical Working Group of the Plenary is requested to consider:

1) whether it is technically desirable to sub-divide this band for the two applications provided for in Nos. 2998B and 2998C, noting its present utilization by existing systems;

2) if it is, to advise Committee 4 of the required bandwidths for each with a request that Committee 5 be advised of the specific frequencies agreed so that Nos. 2998B and 2998C may be modified;

3) if it is not, to advise Committee 5."

T. HAHKIO
Chairman of Working Group 5-B

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WARC FOR THE MOBILE SERVICES
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28 September 1987
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COMMITTEE 5

NOTE FROM THE CHAIRMAN OF COMMITTEE 4
TO THE CHAIRMAN OF COMMITTEE 5

At its sixth meeting Committee 4 decided to request Committee 5 to take a decision on the following items to be considered for revising Appendix 31:

a) the need to provide for frequencies for the promulgation of maritime safety information in the HF bands, using NBDP techniques;

b) the need to provide for an exclusive frequency in the 8 MHz band for distress and safety traffic by radiotelephony.

O. VILLANYI
Chairman of Committee 4

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WARC FOR THE MOBILE SERVICES
GENEVA, September-October 1987

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28 September 1987
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COMMITTEE 6

Canada

PROPOSALS FOR THE WORK OF THE CONFERENCE

CHAPTER XI

Maritime Mobile Service and Maritime Mobile-Satellite Service

ARTICLE 60

Special Rules Relating to the Use of Frequencies in the Maritime Mobile Service

Section III. Use of Frequencies for Narrow-Band Direct-Printing Telegraphy

4312 A. General

CAN/241/1

ADD 4313A Coast stations in the HF bands may emit marking signals. The emission power of the signals shall, however, be limited to the minimum value necessary for effective operation of the signalling. Such emissions shall not cause harmful interference to maritime mobile operations in other countries.

Reasons: To enable countries to make the best possible use of the limited number of channels available for narrow-band direct-printing and to avoid harmful interference to operations in other countries.

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

Document 242-E
28 September 1987
Original: Spanish

COMMITTEE 6

Argentine Republic

ARTICLES N 55 AND N 56

Operators' Certificates and Personnel of Coast and Ship Stations

In Document 126, the Argentine Administration gave the reasons underlying its proposal concerning the new Articles N 55 and N 56 of the Radio Regulations, with reference to categories of certificates and personnel of coast and ship stations.

Document 232, which contains a joint proposal by several countries concerning those same Articles, was also endorsed by the Argentine Administration, with a view to arriving at similar positions on the basic points dealt with in Document 126, and on the understanding that in certain aspects the former puts forward more flexible solutions than those contained in the latter document.

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WARC FOR THE MOBILE SERVICES
GENEVA, September-October 1987

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28 September 1987
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Source: DL/28, DL/35

WORKING GROUP 6-B

FIRST REPORT BY THE CHAIRMAN OF SUB-WORKING GROUP 6-B-2 TO THE CHAIRMAN OF WORKING GROUP 6-B

Sub-Working Group 6-B-2 approved the texts as shown in the annex.

A.V. CAREW
Chairman of Sub-Working Group 6-B-2

Annex: 1

ANNEX

ARTICLE 1

Terms and Definitions

Section IV. Radio Stations and Systems

ADD 67A 4.10A Land earth station: An earth station in the fixed-satellite service or, in some cases, in the mobile-satellite service, located at a specified fixed point on land to provide a feeder link for the mobile-satellite service.

ADD 68A 4.11A Base earth station: An earth station in the fixed-satellite service or, in some cases, in the land mobile-satellite service, located at a specified fixed point on land to provide a feeder link for the land mobile-satellite service.

ADD 69A 4.12A Land mobile earth station: A mobile earth station in the land mobile-satellite service capable of surface movement within the geographical limits of a country or continent.

ARTICLE 24

NOC **Licences**

MOD 2024 § 3. To facilitate the verification of licences issued to mobile stations and/or mobile earth stations, there shall be added, when necessary, to the text written in the national language, a translation of the text in one of the working languages of the Union.

MOD 2025 § 4. (1) The government which issues a licence to a mobile station and/or a mobile earth station shall mention therein in clear form the particulars of the station, including its name, call sign and, where appropriate, the public correspondence category, as well as the general characteristics of the installation.

MOD 2027 § 5. (1) In the case of a new registration of a ship or aircraft in circumstances where delay is likely to occur in the issue of a licence by the country in which it will be registered, the administration of the country from which the mobile station and/or mobile earth station wishes to make its voyage or flight may, at the request of the operating company, issue a certificate to the effect that the station complies with these Regulations. This certificate, drawn up in a form determined by the issuing administration, shall give the particulars mentioned in No. 2025 and shall be valid only for the voyage or flight to the country in which the registration of the ship or aircraft will be effected, or for a period of three months, whichever is the lesser.

ARTICLE 25

NOC **Identification of Stations**

NOC **Section I. General Provisions**

NOC 2055-2064

ADD 2064A (4A) All transmissions by emergency position-indicating radiobeacons operating in the band 406 - 406.1 MHz or the band 1 645.5 - 1 646.5 MHz, or by those using digital selective calling techniques, shall carry identification signals.

ARTICLE 35

NOC **Radiodetermination Service and Radiodetermination-Satellite Service**

Section I. General Provisions

NOC 2832

Section III. Radio Direction-Finding Stations

ADD 2842A (2A) Where a radio direction-finding service is provided in the authorized bands between 156.0 MHz and 174.0 MHz, the radio direction-finding stations should be able to take bearings on the VHF distress and calling frequency 156.8 MHz.

NOC RECOMMENDATION No. 601

ARTICLE 67

CHAPTER XII

Land Mobile Service

MOD **Land Mobile Service and Land Mobile-Satellite Service**

MOD **Section I. Conditions to be Observed by Mobile Stations in the Land Mobile Service**

NOC 5128, 5129

SUP 5132, 5133

ADD **Section II. Conditions to be Observed by Mobile Earth Stations in the Land Mobile-Satellite Service**

ADD 5134 Mobile earth stations in the land mobile-satellite service shall be so established as to conform to the provisions of Chapter III as regards frequencies, and classes of emissions.

ADD 5135 The frequencies of emissions of these earth stations shall be checked as often as practicable by the inspection service to which these stations are subject.

ADD 5136 The energy radiated by the receiving apparatus shall be reduced to the lowest practicable value and shall not cause harmful interference to other stations.

ADD 5137 Administrations shall take all practicable steps necessary to ensure that the operation of any electrical apparatus installed in these earth stations does not cause harmful interference to the essential radio services of stations which are operating in accordance with the provisions of these Regulations.

ADD 5138 Mobile earth stations in the land mobile-satellite service may communicate with stations in the maritime mobile-satellite and aeronautical mobile-satellite services. In such cases, they shall comply with the provisions of these Regulations relating to those services, and their use shall be subject to the provisions of Article 67.

ARTICLE 68

NOC **General Radiotelephone Procedure in the Land Mobile Service - Calls**

ADD CHAPTER XIIA

ADD **Mobile-Satellite Service**

ADD **Conditions to be Observed by Mobile Stations in the Mobile-Satellite Service**

ADD Mobile earth stations shall be so established as to conform to the provisions of Chapter III as regards frequencies.

ADD The frequencies of emissions of mobile earth stations shall be checked as often as practicable by the inspection service to which these stations are subject.

ADD The energy radiated by the receiving apparatus shall be reduced to the lowest practicable value and shall not cause harmful interference to other stations.

ADD Administrations shall take all practicable steps necessary to ensure that the operation of any electrical or electronic apparatus installed in mobile earth stations does not cause harmful interference to the essential radio services of stations which are operating in accordance with the provisions of these Regulations.

APPENDIX 13
Mob-83

NOC **Miscellaneous Abbreviations and Signals to be Used in Radiotelegraphy Communications Except in the Maritime Mobile Service**

SUP RESOLUTION No. 12

Relating to the New Rules for the Formation of Call Signs

SUP RESOLUTION No. 202

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

NOC

RECOMMENDATION No. 8

Relating to Automatic Identification of Stations

SUP

RECOMMENDATION No. 204 (Rev.Mob-83)

Relating to the Application of Chapters IX, X, XI and XII of the Radio Regulations

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WORKING GROUP 6-B

REPORT BY THE CHAIRMAN OF SUB-WORKING GROUP 6-B-2 TO THE CHAIRMAN OF WORKING GROUP 6-B

The Group held three meetings and completed consideration of proposals in accordance with its terms of reference as outlined in Annex 1 of Document 221. The detailed decisions of the Group are contained in Document 243.

New definitions are proposed for certain classes of earth stations in the MSS and LMSS subject to harmonization in higher Committees if warranted. Annex 1 shows the correlation between the relevant space and terrestrial services definitions. The Group was of the opinion that there is no regulatory requirement to add a definition for Microwave Landing System (MLS).

Proposals submitted by the United Kingdom to amend Sections II and VI of Article 25 were adopted subject to the suppression of Resolution No. 320. It was decided that a new section should be added to Article 67 to introduce provisions for the LMSS and similar provisions were adopted for the MSS in a new Chapter XIIA. The view was expressed that the IFRB might comment on the need for provisions for the latter service.

In keeping with a proposal from Australia to include service document symbols in Appendix 10 that are used by the IFRB in the MIFR, it was decided that the Australian delegate and the IFRB will consult with a view to providing a coordinated proposal for consideration at a later stage in the work of Committee 6.

The Group was of the opinion that Resolution No. 600 and Recommendation No. 600 (secondary responsibility) could be suppressed if appropriate accommodation is made in the Regulations on the basis of proposals before the Conference. A final decision will be required at the appropriate time.

The Group proposes that two notes be sent to Committee 4. One concerns proposals to change the upper limit of the frequency band given in RR 2854 for aeronautical radiobeacons from 435 kHz to 535 kHz. The view was expressed, however, that this is only a consequential change with no impact on the Table of Frequency Allocations. The other is to bring the proposal of Australia (AUS/40/593) concerning future public mobile telecommunication systems to the attention of Committee 4. Action will also be taken to clarify the status of the definition adopted in Document 216 in response to an observation made by the Delegation of France.

No proposals were made to amend the texts of Articles 19 and 26, and Appendices 41 and 42 which were included in the terms of reference of the Group.

Consideration of proposals to amend Articles 1, 35 (Section II) and Appendices 9 and 10 with respect to the radiodetermination-satellite service, including proposals to add new definitions for component services, was deferred until the matter of frequency allocation is dealt with in Committee 4. The proposals in question are contained in Annex 2 to this document. During the discussions the safety aspect of the service was stressed and reference was made to the provisions of RR 953. Other delegations were of the view that flexibility is needed in the service to accommodate new technological developments.

A.V. CAREW
Chairman of Sub-Working Group 6-B-2

Annexes: 2

ANNEX 1

Mobile service stations	Maritime mobile service stations	Aeronautical mobile service stations	Land mobile service stations
Land station No. 67	Coast station No. 70	Aeronautical station No. 76	Base station No. 68
Mobile station No. 65	Ship station No. 72	Aircraft station No. 78	Land mobile station No. 69

Mobile-satellite service stations	Maritime mobile-satellite service stations	Aeronautical mobile-satellite service stations	Land mobile-satellite service stations
Land earth station F/44/1	Coast earth station No. 71	Aeronautical earth station No. 77	Base earth station F/44/2
Mobile earth station No. 66	Ship earth station No. 73	Aircraft earth station No. 79	Land mobile earth station F/44/3

ANNEX 2

ARTICLE 1

Terms and Definitions

Section III. Radio Services

ARG/5/1
ADD 39A 3.20A Maritime radiodetermination-satellite service: a radiodetermination-satellite service in which the earth stations are located on ships.

PRG/61/5
ADD 39A 3.20A Maritime Radiodetermination-Satellite Service: a satellite radiocommunication service for the purpose of radiodetermination, in which earth stations are located on board ships.

Reasons: Need for a definition for the maritime radiodetermination-satellite service for when frequencies will be allocated to this service.

TUR/59/1
USA/24/1
ADD 39A 3.20A Maritime Radiodetermination-Satellite Service: A radiodetermination-satellite service in which earth stations are located on board ships.

ARG/5/2
ADD 39B 3.20B Aeronautical radiodetermination-satellite service: a radiodetermination-satellite service in which the earth stations are located on board aircraft.

PRG/61/6
ADD 39B 3.20B Aeronautical Radiodetermination-Satellite Service: a satellite radiocommunication service for the purpose of radiodetermination, in which earth stations are located on board aircraft.

Reasons: Need for a definition of the aeronautical radiodetermination-satellite service for when frequencies are allocated to this service.

TUR/59/2
USA/24/2
ADD 39B 3.20B Aeronautical Radiodetermination-Satellite Service: A radiodetermination-satellite service in which earth stations are located on board aircraft.

ARG/5/3
ADD 39C 3.20C Land radiodetermination-satellite service: a radiodetermination-satellite service in which the mobile earth stations are situated on the ground.

Reason: To provide for the introduction of the radiodetermination-satellite service.

TUR/59/3
ADD 39C 3.20C Land Radiodetermination-Satellite Service: A radiodetermination-Satellite service in which earth stations are located on land.

Reason : To provide wider definition in order to cover the implementation of all types of radiodetermination-satellite services.

USA/24/3
ADD 39C 3.20C Land Radiodetermination-Satellite Service: A radiodetermination-satellite service in which earth stations are located on land.

Reason: To accomodate the implementation of the radiodetermination-satellite service.

Section IV. Radio Stations and Systems

ARG/5/4
ADD 81A 4.24A Radiodetermination-satellite earth station: an earth station intended for the radiodetermination-satellite service which is installed at a fixed point on the ground.

Reason: To provide a definition of a radiodetermination-satellite earth station.

TUR/59/4
ADD 81A 4.24A Fixed Radiodetermination-Satellite Earth Station: An earth station in the radiodetermination-satellite service, located at a specified fixed point on land to provide a feeder link for the radiodetermination-satellite service.

Reason : To provide separate definition for the fixed radiodetermination-satellite earth station.

USA/24/4
ADD 81A 4.24A Radiodetermination-Satellite Earth Station: An earth station in the fixed-satellite service, or in some cases in the radiodetermination-satellite service, located at a specified fixed point on land to provide a feeder link for the radiodetermination-satellite service.

Reason: To provide a definition of a radiodetermination-satellite earth station.

ARG/5/5
ADD 81B 4.24B Mobile radiodetermination-satellite earth station: a mobile earth station in the radiodetermination-satellite service.

Reason: To provide a definition for a mobile radiodetermination-satellite earth station.

TUR/59/5
ADD 81B 4.24B Mobile Radiodetermination-satellite Earth Station: A mobile earth station in the radiodetermination-satellite service located on board ships or aircraft or land.

Reason : To provide separate definition for the mobile radiodetermination-satellite earth station.

USA/24/5
ADD 81B 4.24B Radiodetermination-Satellite Mobile Earth Station: A mobile earth station in the radiodetermination-satellite service.

Reason: To define a radiodetermination-satellite mobile earth station.

ARTICLE 35

Radiodetermination Service and Radiodetermination-Satellite Service

Section II. Provisions for the Radiodetermination-Satellite Service

ARG/5/20
ADD 2838A The radiodetermination-satellite service provides information on position and determination and can also supply additional information on movements and safety.

Reason: The radiodetermination-satellite service has recently undergone rapid development and has many applications which can be used by the mobile services.

PHL/77/15
ADD 2838A The radiodetermination-satellite service shall provide information on position determination and reporting, and auxiliary information related to movement and safety.

Reasons: The advent of advance technology in the radiodetermination-satellite service has provided multiple applications to mobile services.

AUS/40/57
ADD 2838A 1. A radiodetermination-satellite service may also provide services for reporting and the communication of ancillary information related to movement and safety.

Reason: To delineate the ancillary services that may be included in the radiodetermination-satellite service.

USA/24/126

ADD 2838A The radiodetermination-satellite service provides position determination and reporting, and may also provide ancillary information related to movement and safety.

Reason: The Radio Regulations should be updated to recognize new needs. In recent years, the radiodetermination-satellite service has emerged with the potential for multiple applications to mobile services. This addition to the Regulations is to accommodate administrations wishing to implement such applications and, in general terms, outlines the services to be provided.

ARG/5/21

ADD 2838B The provisions of Nos. 2831 to 2838 shall apply to the radiodetermination-satellite service but not Nos. 2839 and 2840.

Reason: To ensure that the provisions of section I of Article 35 also apply to the radiodetermination-satellite service. Also to recognize the exceptions relating to the maritime radionavigation-satellite and the aeronautical radionavigation-satellite service.

PHL/77/16

ADD 2838B Except as provided in Nos. 2839 and 2840, the provisions of Nos. 2831 to 2838 shall apply to the radiodetermination-satellite service.

Reasons: To ensure that the provisions of Section I of Article 35 is also applicable to the radiodetermination-satellite service and to recognize the exceptions provided to the maritime and aeronautical radionavigation-satellite services.

TUR/59/9

USA/24/127

ADD 2838B Except as provided in Nos. 2839 and 2840, the provisions of Nos. 2831 to 2838 shall be applied to the radiodetermination-satellite service.

Reason: To make the provisions of Section I of Article 35 also applicable to the radiodetermination-satellite service. Additionally, to recognize the exceptions provided to the maritime and aeronautical radionavigation-satellite services.

AUS/40/58

MOD 2839 ~~(1)~~ (2) The provisions of Nos. 2831 to 2838 ~~excluding No. 2832~~ shall be applied to the ~~maritime radionavigation-satellite~~ radiodetermination-satellite service.

Reason: To apply uniform regulations to both the radiodetermination service and radiodetermination-satellite service.

AUS/40/59

MOD 2840 ~~(2)~~ (3) The provisions of Nos. 2831 to 2838 ~~excluding Nos. 2832 and~~ No. 2833 shall be applied to the aeronautical radionavigation-satellite service.

Reason: Consequential to ADD No. 2838A.

APPENDIX 9

Service Documents[1]

(See Articles 10, 12, 13, 17 and 26)

List VI. List of Radiodetermination and Special Service Stations

USA/24/657
MOD

12. Fixed earth stations in the maritime ~~radionavigation~~ radiodetermination-satellite service

Columns 3a, 3b, 3c	Transmission of ~~radionavigation~~ radiodetermination information
Columns 4a, 4b	Reception of ~~radionavigation~~ radiodetermination information
Column 7	Remarks
	Special methods of modulation, charges, etc. All listed stations provide maritime radiodetermination-satellite service except where otherwise indicated, in which case a station provides only radiolocation or radionavigation-satellite service.

USA/24/658
MOD

13. Space stations in the maritime ~~radionavigation~~ radiodetermination-satellite service

Columns 2a, 2b, 2c	Transmission of ~~radionavigation~~ radiodetermination information to ships
Columns 3a, 3b	Reception of ~~radionavigation~~ radiodetermination information from ships
Column 7	Remarks
	Orbital information, special channeling arrangements, special modulation methods, charges, etc. All listed stations provide maritime radiodetermination-satellite service except where otherwise indicated, in which case a station provides only radiolocation-satellite service or radionavigation-satellite service.

Reason: Incorporate in List VI the more general term "radiodetermination", which includes both "radiolocation" and "radionavigation", in that the radiodetermination-satellite service is an emerging technology applicable to maritime service.

APPENDIX 10

Service Document Symbols

(See Article 26 and Appendix 9)

TUR/59/75
USA/24/659
ADD EF Radiodetermination-Satellite Space Station

Reason: To provide a Service Document Symbol for the radiodetermination-satellite space stations. Definitions are already contained in the Regulations (Appendix 10) for the accommodation of "Fixed earth station in the radiodetermination-satellite service" (TF) and for "Mobile earth station in the radiodetermination-satellite service" (TL). This proposal is to complete the series of service document symbols for the radiodetermination-satellite service.

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

Document 245-E
29 September 1987
Original: French

COMMITTEE 2

Second Report by Working Group 2-A to Committee 2

1. The Working Group of Committee 2 (Credentials) held a second meeting on 28 September 1987. It examined the credentials of the following delegations :

(In French alphabetical order)

Afghanistan (Democratic Republic of)
Algeria (People's Democratic Republic of)
Angola (People's Republic of)
Antigua and Barbuda
Saudi Arabia (Kingdom of)
Australia
Brazil (Federative Republic of)
Bulgaria (People's Republic of)
Burkina Faso
Burundi (Republic of)
Cameroon (Republic of)
Chile
Egypt (Arab Republic of)
Ethiopia
Hungarian People's Republic
Iran (Islamic Republic of)
Israel (State of)
Italy
Mexico
Nigeria (Federal Republic of)
Papua New Guinea
Qatar (State of)
Democratic People's Republic of Korea
Sri Lanka (Democratic Socialist Republic of)
Tunisia

These credentials are all in order.

2. In addition, the Working Group declared the instrument of transfer of powers from the Vatican City State to the Delegation of Italy (see Document 178) to be in order.

3. The working Group noted that some delegations present at the Conference have not yet deposited their credentials. These delegations will be contacted by the Secretariat.

V.A. RASAMIMANANA
Chairman of Working Group C2-A

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

Document 246(Rev.1)-E
29 September 1987

B.2(Rev.)

PLENARY MEETING

SECOND 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	Title
Tech WG PL	DT/42 (249)	Appendix 20 Mob-87
Tech WG PL	DT/40 (238)	Appendix 37A Mob-87
Tech WG PL	DT/19 (23)	Appendix 38 Mob-87
		Appendix 40 Mob-87
Tech WG PL	DT/40 (238)	Recommendation No. 604(Rev.Mob-87)

Y.C. MONGELARD
Chairman of Committee 7

Annex: 6 pages

(MOD) APPENDIX 20

(MOD) Mob-87

Characteristics of Equipment Used for On-Board Communication in the Bands Between 450 and 470 MHz

(See Nos. **669** and **670**)

NOC 1. to 8.

(MOD) Renumber existing 9. to 11.

ADD 9. The frequencies specified in No. 669 for on-board communications may be used for single-frequency and two-frequency simplex operation.

ADD 10. For ships using these on-board frequencies in survival craft two-way radiotelephones, the survival craft radiotelephones shall be capable of transmitting and receiving the frequency 457.525 MHz.

(MOD) APPENDIX 37A

Mob-87

NOC **Technical Characteristics of Emergency Position-Indicating Radiobeacons Operating on the Carrier Frequencies 121.5 MHz and 243 MHz**

(See Section I of Article 41)

NOC Emergency position-indicating radiobeacons operating on the carrier frequencies 121.5 MHz and 243 MHz shall fulfil the following conditions:[1]

(MOD) a) emission in normal antenna conditions and positions shall be vertically polarized and shall be essentially omnidirectional in the horizontal plane;

(MOD) b) carrier frequencies shall be amplitude-modulated (minimum duty cycle of 33%), with a minimum depth of modulation of 0.85;

NOC c) the emission shall consist of a characteristic audio-frequency signal obtained by amplitude modulation of the carrier frequencies with a downward audio-frequency sweep within a range of not less than 700 Hz between 1 600 Hz and 300 Hz and with a sweep repetition rate of 2 to 4 times per second;

ADD d) the emission shall include a clearly defined carrier frequency distinct from the modulation sideband components; in particular, on 121.5 MHz at least 30 per cent 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 times;[2]

MOD e) the class of emission shall be A3X; however, any type of modulation which satifies the requirements laid down in b), c) and d) above may be used, provided it does not impair precise locating of the radiobeacon.

NOC [1]Additional characteristics for emergency position-indicating radiobeacons aboard aircraft are specified in the relevant annexes to the Convention on International Civil Aviation.

ADD [2]Early implementation of these characteristics for new equipment is strongly recommended (see also Recommendation No. 604(Rev.Mob-87)).

MOD
Ap.38

APPENDIX 38

Mob-87

Narrow-Band Direct-Printing Telegraph Equipment in the Maritime Mobile Service Using Error Detection and Correction Methods

(See Articles 59, 60, 63 and 64)

The equipment for narrow-band direct-printing telegraph systems in the maritime mobile service using error detection and correction methods shall fulfil the following conditions:

a) the equipment shall accept signals conforming to International Telegraph Alphabet No. 2 at a modulation rate of at least 50 bauds and shall provide similar signals at its output suitable for extension to the public telegraph network;

b) the modulation rate over the radio path shall be 100 bauds for frequency shift keying, and 100 or 200 bauds for phase-shift keying;

c) the emissions to be used are (see Note 1):

- class F1B or J2B with a frequency shift of 170 Hz,

- or class G1B, J2B, G7B or J7B (narrow-band phase-shift keying telegraphy);

d) the frequency of the transmitted signal shall be maintained within the tolerances specified in Appendix 7 (Note 2);

Note 1 - When frequency shift or phase-shift keying is effected by applying audio signals to the input of a single-sideband transmitter, particular care should be taken to adequately suppress the residual carrier of the single-sideband modulation process. In addition a suitable choice of the centre audio frequency will minimize the possibility of the residual carrier causing interference to nearby channels. For this reason the CCIR recommends 1 700 Hz as the centre frequency.

Note 2 - For operational purposes the associated receiving equipment should conform to the frequency stability of the transmitters.

e) for frequency shift keying, the higher of the emitted frequencies shall correspond to "space" and the lower of the emitted frequencies shall correspond to "mark" in accordance with the relevant CCIR Recommendation;

f) a 7-unit ARQ system or a 7-unit forward acting, error-correcting and indicating time-diversity system, using the same code, shall be employed. The remaining technical characteristics of the error-detecting and correcting equipment should be in accordance with the relevant CCIR Recommendations;

g) a station equipped with a direct-printing system in accordance with the provisions of the present Appendix, using a two block call signal, shall be assigned a number in accordance with Nos. 2088, 2134 and 2143 to 2146;

h) a station equipped with a direct-printing system in accordance with the provisions of the present Appendix capable of using a three block call signal, shall employ a maritime mobile service identity number in accordance with Appendix 43 when communicating with stations also capable of using a three block call signal;

i) conversion from the numerical identification to the two or three block call signal pattern shall be performed according to the relevant CCIR Recommendations.

SUP

APPENDIX 40

(MOD) RECOMMENDATION No. 604(Rev.Mob-87)

NOC **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) that according to Article 41 of the Radio Regulations, the essential purpose of the emergency position-indicating radiobeacon (EPIRB) signals is to facilitate determining the position of survivors in search and rescue operations;

b) that requirements for carriage of EPIRBs are under consideration with a view to amendments being proposed to the International Convention for the Safety of Life at Sea, 1974;

c) that requirements for carriage of EPIRBs are included in the International Convention for the Safety of Fishing Vessels, Torremolinos, 1977;

d) that the International Maritime Organization (IMO) is considering various types of EPIRBs for the use in the future global maritime distress and safety system (FGMDSS), and that these EPIRBs will be an integral part of the future system;

e) that the IMO has stressed in its Resolution A.279 (VIII) the urgent need for unification of the characteristics of EPIRBs;

recognizing

MOD a) that there are provisions in the Radio Regulations for EPIRBs on the frequencies 2 182 kHz, 121.5 MHz, 243 MHz, and in the bands 406 - 406.1 MHz and 1 645.5 to 1 646.5 MHz;

SUP b)

(MOD) c): renumber b)

ADD c) that there is a need to improve in 121.5/243 MHz EPIRBs, the detection and location function by satellite systems;

recommends

NOC 1. that, in view of their mutual interest in this matter, IMO and the International Civil Aviation Organization (ICAO) be invited, as a matter of urgency, to review and align their concepts for EPIRBs in regard to search and rescue operations and the safety of life at sea;

2. that the CCIR continue to study technical and operating questions for EPIRBs, in consideration of concepts stated by the IMO and ICAO;

ADD 3. that the CCIR and ICAO study, as a matter of urgency, the technical and operational questions resulting from the addition of paragraph d) to Appendix 37A.

NOC requests the Secretary General

to communicate this Recommendation to the IMO and ICAO.

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

Document 246-E
28 September 1987

B.2

PLENARY MEETING

SECOND 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	Title
Tech WG PL	DT/42 (249)	*Appendix 20
Tech WG PL	DT/40 (238)	Appendix 37A
Tech WG PL	DT/19 (238)	Appendix 38
		Appendix 40
Tech WG PL	DT/40 (238)	Recommendation No. 604(Rev.Mob-87)

Y.C. MONGELARD
Chairman of Committee 7

Annex: 5 pages

MOD

APPENDIX 20

Characteristics of Equipment Used for On-Board Communication in the Bands Between 450 and 470 MHz

(See Nos. 669 and 670)

NOC 1 to 8.

(MOD) Renumber existing 9 to 11.

ADD 9. The frequencies specified in No. 669 for on-board communications may be used for single-frequency and two-frequency simplex operation.

ADD 10. For ships using these on-board frequencies in survival craft two-way radiotelephones, the survival craft radiotelephones shall be capable of transmitting and receiving the frequency 457.525 MHz.

(MOD) APPENDIX 37A

Mob-87

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(See Section I of Article 41)

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NOC c) the emission shall consist of a characteristic audio-frequency signal obtained by amplitude modulation of the carrier frequencies with a downward audio-frequency sweep within a range of not less than 700 Hz between 1 600 Hz and 300 Hz and with a sweep repetition rate of 2 to 4 times per second;

ADD d) the emission shall include a clearly defined carrier frequency distinct from the modulation sideband components; in particular, on 121.5 MHz at least 30 per cent 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 times;[2]

MOD e) the class of emission shall be A3X; however, any type of modulation which satifies the requirements laid down in b), c) and d) above may be used, provided it does not impair precise locating of the radiobeacon.

---

[1]Additional characteristics for emergency position-indicating radiobeacons aboard aircraft are specified in the relevant annexes to the Convention on International Civil Aviation.

ADD [2]Early implementation of these characteristics for new equipment is strongly recommended (see also Recommendation No. 604(Rev.Mob-87)).

MOD

APPENDIX 38

Narrow-Band Direct-Printing Telegraph Equipment in the Maritime Mobile Service Using Error Detection and Correction Methods

(See Articles 59, 60, 63 and 64)

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a) the equipment shall accept signals conforming to International Telegraph Alphabet No. 2 at a modulation rate of at least 50 bauds and shall provide similar signals at its output suitable for extension to the public telegraph network;

b) the modulation rate over the radio path shall be 100 bauds for frequency shift keying, and 100 or 200 bauds for phase-shift keying;

c) the emissions to be used are (see Note 1):

- class F1B or J2B with a frequency shift of 170 Hz,

- or class G1B, J2B, G7B or J7B (narrow-band phase-shift keying telegraphy);

d) the frequency of the transmitted signal shall be maintained within the tolerances specified in Appendix 7 (Note 2);

e) for frequency shift keying, the higher of the emitted frequencies shall correspond to "space" and the lower of the emitted frequencies shall correspond to "mark" in accordance with the relevant CCIR Recommendation;

Note 1 - When frequency shift or phase-shift keying is effected by applying audio signals to the input of a single-sideband transmitter, particular care should be taken to adequately suppress the residual carrier of the single-sideband modulation process. In addition a suitable choice of the centre audio frequency will minimize the possibility of the residual carrier causing interference to nearby channels. For this reason the CCIR recommends 1 700 Hz as the centre frequency.

Note 2 - For operational purposes the associated receiving equipment should conform to the frequency stability of the transmitters.

f) a 7-unit ARQ system or a 7-unit forward acting, error-correcting and indicating time-diversity system, using the same code, shall be employed. The remaining technical characteristics of the error-detecting and correcting equipment should be in accordance with the relevant CCIR Recommendations;

g) a station equipped with a direct-printing system in accordance with the provisions of the present Appendix, using a two block call signal, shall be assigned a number in accordance with Nos. 2088, 2134 and 2143 to 2146;

h) a station equipped with a direct-printing system in accordance with the provisions of the present Appendix capable of using a three block call signal, shall employ a maritime mobile service identity number in accordance with Appendix 43 when communicating with stations also capable of using a three block call signal;

i) conversion from the numerical identification to the two or three block call signal pattern shall be performed according to the relevant CCIR Recommendations.

SUP

APPENDIX 40

MOD

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) to e)

recognizing

MOD a) that there are provisions in the Radio Regulations for EPIRBs on the frequencies 2 182 kHz, 121.5 MHz, 243 MHz, and in the bands 406 - 406.1 MHz and 1 645.5 to 1 646.5 MHz;

SUP b)

(MOD) c): renumber b)

ADD c) that there is a need to improve in 121.5/243 MHz EPIRBs, the detection and location function by satellite systems,

recommends

NOC 1 and 2.

ADD 3. that the CCIR and ICAO study, as a matter of urgency, the technical and operational questions resulting from the addition of paragraph d) to Appendix 37A.

NOC requests .....

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

Document 247-E
5 October 1987
Original: English

COMMITTEE 6

SUMMARY RECORD

OF THE

FOURTH MEETING OF COMMITTEE 6

(MOBILE AND RADIODETERMINATION SERVICES
EXCEPT DISTRESS AND SAFETY)

Monday, 28 September 1987, at 1400 hrs

Chairman: Mr. I.R. HUTCHINGS (New Zealand)

Subjects discussed:		Documents
1.	First, second, third and fourth reports of Working Group 6-A to Committee 6	212, 213, 214, 222
2.	Second and third reports of Working Group 6-B to Committee 6	194, 221
3.	Note to the Chairman of Committee 4	DT/35
4.	Organization of work	-

1. First, second, third and fourth reports of Working Group 6-A to Committee 6 (Documents 212, 213, 214, 222)

1.1 First report of Working Group 6-A (Document 212)

1.1.1 The Chairman of Working Group 6-A, submitting the report contained in Document 212, said that the proposed ADD 4326A and MOD 4910 were submitted with a view to forwarding them to the Technical Working Group of the Plenary. He drew attention to the final paragraph of the report to the effect that the Working Group had not yet finalized consideration of Article 60 of the Radio Regulations.

1.1.2 The Chairman, in response to an observation by the delegate of the United Kingdom, proposed that the two texts set forth in Document 212 should be approved and forwarded to the Technical Working Group of the Plenary, without prejudice to Working Group 6-A's further consideration of the use of marking signals as they related to other sections of Article 60.

It was so agreed.

1.2 Second report of Working Group 6-A (Document 213)

1.2.1 The Chairman of Working Group 6-A introduced Document 213 and briefly summarized the attachment thereto relating to Article 58.

Document 213, including the attachment thereto, was approved.

1.3 Third report of Working Group 6-A (Document 214)

1.3.1 The Chairman of Working Group 6-A, introducing Document 214 and the attachment thereto, said that the Working Group's sole difficulty in reviewing Article 66 related to the proposed figure of four months, as against the original six months, for the payment period. He pointed out that, in order to be consistent with CCITT Recommendations and the expected action by the WATTC-88, a period of four months should be adopted. Referring to a question by the Chairman of the IFRB, he said that, although the point had not been raised in the Working Group, there was no question of applying the provisions in question to aircraft participating in the maritime mobile service.

It was agreed to refrain from adding any provision to include aircraft.

1.3.2 The delegate of Greece, referring to NOC 5096, MOD 5096 and MOD 5097 in the attachment to Document 214, said that his Delegation was opposed to shortening the payment period from six to four months.

1.3.3 The delegate of the United States said that a period of four months would be consistent with the Recommendations adopted with wide support by the CCITT and the provisions likely to be included in the Regulations adopted by the WATTC-88.

1.3.4 The delegate of Argentina considered that the period of six months should be maintained, as did the delegate of the USSR who said that the criterion was not accounting convenience but the duration of many sea voyages. The delegate of Cuba pointed out that in some regions mail delivery was subject to delays. His Delegation felt that the six month period should be retained. The delegate of Bulgaria also agreed that the six month period should not be altered.

1.3.5 The delegate of Japan strongly supported a reduction to four months. There had been unanimous support for that period at the VIIIth CCITT Plenary Assembly, including a corresponding provision for a MOD 5097 for consideration by WATTC-88; he understood that a draft was to have been submitted to the current Conference.

1.3.6 The delegate of the United Kingdom said that, following WARC-79, the accounting regulations had been broadly reorganized, responsibility having been basically transferred from WARCs to CCIS. It would be inappropriate, therefore, for a WARC to adopt decisions at variance with a CCITT approach.

1.3.7 The delegate of the Netherlands said that, as the delegate of Japan had noted, Article 66 was a CCITT matter on which administrations had already taken one decision in a CCITT forum and further action would be taken at WATTC-88. Some administrative difficulties might arise from a reduction to four months, but the latter was ultimately inevitable; the speedier its acceptance, the smoother the transition.

1.3.8 The representative of the General Secretariat said that the International Telecommunication Convention provided, in No. 442, that the Plenary Assemblies of the International Consultative Committees were authorized to submit to administrative conferences proposals arising directly from their Recommendations or from findings on Questions under their study. He was not aware, with regard to the observation made by the delegate of Japan, that any such proposal had been submitted to the current Conference, but if so, it should be taken into consideration.

1.3.9 The Chairman, having noted the opposing views expressed, said that since the action to be taken by WATTC-88 with regard to Article 66 implied that the matter was not, in any case, within the purview of the current Conference, perhaps the latter should defer any decision and, if there was no strong objection, agree to NOC 5096 for the time being.

1.3.10 The delegates of Mexico and Greece supported that proposal.

1.3.11 The delegate of the United Kingdom said that the proposal might be acceptable provided that any implication that the current Conference was competent to rule on the matter was clearly disclaimed.

1.3.12 The delegate of the United States said that MOD 5095 surely responded to the concern expressed by the USSR Delegation; likewise, MOD 5098 covered the matter of possible postal delays referred to by the delegate of Cuba. As the delegate of Japan had noted, the 1984 Plenary Assembly of the CCITT had been unanimous about adoption of a four-month period. WATTC-88 would presumably act accordingly; whether it did or not, the Conference had the task of aligning the Radio Regulations, for current use, in accordance with an International Consultative Committee decision already taken.

1.3.13 The delegate of Kenya said he saw no strong objection to leaving the matter to WATTC-88, on the understanding that a decision taken earlier in a competent CCI forum would be applicable.

It was agreed, following a proposal by the delegate of the United States, supported by the delegate of the Netherlands, that the words "six" and "four" in MOD 5096 and MOD 5097 should be placed within square brackets pending consideration of the matter in a Plenary Meeting. Consequentially, NOC 5096 would be deleted from the document.

1.3.14 The delegate of Argentina, referring to MOD 5098, noted that the term "calendar" did not appear in the Spanish text in relation to the number of months stipulated.

It was agreed, following observations by the delegates of France, Spain and the United States, the representative of the ICS and the Chairman of Working Group 6-A, to amend the French and Spanish texts editorially to the effect that the periods stipulated were calendar months.

Subject to those amendments, Document 214 was approved.

1.4 Fourth report of Working Group 6-A (Document 222)

1.4.1 The Chairman of Working Group 6-A said that the Working Group was submitting three items for consideration. The first was a no-change proposal for Article 61. The second was Resolution No. 316, which had been modified to bring it into line with recent developments. In that connection, he suggested that the General Secretariat might give some indication as to whether the change in the last three lines would create any financial implications for the Union. The Group submitted that modification on a conditional basis. Finally, the Group had approved a new Resolution No. F dealing with the use of non-paired ship station frequencies for narrow-band direct-printing telegraph and data transmission systems, and submitted it to the Committee for approval.

1.4.2 The Chairman asked whether the General Secretariat could give any clarification regarding the implications of the proposed change to resolves 1 of Resolution No.316.

1.4.3 The representative of the General Secretariat said that assistance to developing countries was normally provided through the Union's Technical Cooperation Department. It involved low-cost, short-term missions or seminars, as well as national and regional projects of which the latter were largely dependent on support received from UNDP and other programmes. The General Secretariat would only be able to implement the Resolution as amended to the extent that financial implications of the assistance required remained within the provisions of the Union's regular budget, and additional financial resources could be secured from UNDP or from other sources.

1.4.4 The Chairman of Working Group 6-A said it had been the Group's understanding that the whole Resolution was contingent upon the Secretary-General finding adequate funds within the ITU budget to provide such assistance. The concern had been merely as to whether the additional text as set out in the last three lines would have any additional cost implications. The Group's view had been that the change was a minor one which merely updated the Resolution without altering its substance.

1.4.5 The Chairman suggested that the Committee approve the Resolution on that basis.

1.4.6 The delegate of Greece, referring to the Resolution contained in Annex 2 to the document, suggested that in considering e) the reference to RR 4304 be left within square brackets until agreement was reached on a revised text for RR 4304.

It was so agreed.

The proposals contained in Document 222 were approved.

2. Second and third reports of Working Group 6-B to Committee 6 (Documents 194, 221)

2.1 Second report of Working Group 6-B (Document 194)

2.1.1 The Chairman of Working Group 6-B said his Group had held six meetings: Document 194 contained the results of its consideration of proposals made during the first four meetings. He pointed out that in Article 43 (Annex 2 to the document) the text of 3367 should be underlined.

2.1.2 The delegate of the USSR, referring to 3366, pointed out that radiotelegrams were no longer used in the aeronautical mobile service. He therefore proposed that the phrase "of the text or even of the existence of a radiotelegram" should be deleted.

2.1.3 The delegate of the United Kingdom said he agreed with the substance of that proposal, but thought it went rather too far. The text implied that there was an obligation of secrecy regarding any information obtained from those services: however, there was also an obligation to relay or report any distress messages. He suggested that the addition of the following sentence might cover that point:

> "This obligation of observing and ensuring the secrecy of correspondence is a general one, except as regards the provisions of these Radio Regulations relating to distress and safety communications."

2.1.4 The delegate of Brazil drew attention to the need to insert the word "terrena" to bring the Spanish text of 3367 into line with the English text.

2.1.5 The Chairman, in view of the point of substance raised by the delegate of the USSR, suggested that the Committee return to consideration of Regulation 3366 at a later stage.

On that understanding, the proposals contained in Document 194 were approved.

2.2 Third report of Working Group 6-B (Document 221)

2.2.1 The Chairman of Working Group 6-B said that Document 221 summarized the progress made up to the Group's sixth meeting. In order to speed up the work, two Sub-Working Groups had been established, the terms of reference for which were set out in Annex 1 to the document. Sub-Working Group 6-B-1 had reached agreement on proposed modifications to Articles 45, 46 and 47: those modifications were set out in Annex 2 to the document.

He drew attention to MOD 3510, in which the final phrase was still within square brackets, because the Working Group had not yet had an opportunity to consider it. His own view was that in order to retain consistency with other provisions, that phrase should be deleted.

2.2.2 The delegate of the USSR supported that proposal.

It was so agreed.

2.2.3 The delegate of Cuba pointed out that in the Spanish text of MOD 3513, the definite article "la" should be inserted before "estacion terrena", and in MOD 3515, a corresponding amendment should be made.

With those amendments, the texts set forth in Document 221 were approved.

3. Note to the Chairman of Committee 4 (Document DT/35)

3.1 The Chairman proposed that DT/35 be reproduced as a Note to the Chairman of Committee 4.

It was so agreed.

4. Organization of work

4.1 The delegate of Cuba suggested that the Chairman formulate a list of the Recommendations and Resolutions which Committee 6 would need to consider in the near future. He suggested that the new draft Resolution by Cuba be passed to Working Group 6-B for consideration.

4.2 The delegate of Australia said that his Delegation's Recommendation on future public land mobile telecommunications systems fell both within the competence of Committee 6 and that of Committee 4. The Recommendation had been briefly introduced in one of Committee 6's Working Groups, and he understood that that Group had recommended that the matter be referred to Committee 4.

4.3 The Chairman said that these points would be given consideration.

The meeting rose at 1535 hours.

The Secretary: The Chairman:

S. CHALLO I.R. HUTCHINGS

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

Document 248-E
28 September 1987
Original: English

WORKING GROUP 4-A

REPORT OF DRAFTING GROUP 4-A-5 TO WORKING GROUP 4-A

Drafting Group 4-A-5 dealing with feeder links for mobile-satellite services had two meetings and in accordance with instructions received from Working Group 4-A has produced a draft text for consideration by Working Group 4-A as either a Resolution or Recommendation. This is attached as an annex to this report.

D.I. COURT
Chairman of Drafting Group 4-A-5

Annex: 1

ANNEX

[DRAFT RECOMMENDATION/RESOLUTION] [COM 4/...]

Relating to the Provision of Frequency Bands for Feeder Links for the Aeronautical, [Land], Maritime or Mobile-Satellite Service Utilizing the Bands 1 530 - 1 559 MHz and 1 626.5 - 1 660.5 MHz

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

considering

a) that feeder links are required for the aeronautical mobile-satellite service, the [land mobile-satellite service], the maritime mobile-satellite service and the mobile-satellite service operating in the bands 1 530 - 1 559 MHz and 1 626.5 - 1 660.5 MHz;

b) that although No. 27 of the Radio Regulations indicates that such feeder links may be part of the mobile-satellite service, No. 22 of the Radio Regulations indicates that the fixed-satellite service may also include feeder links for the mobile-satellite services;

c) that the majority of such feeder links have been located in the bands 3 400 - 4 200 MHz and 5 925 - 7 075 MHz;

d) that the bands mentioned in considering c) above are becoming increasingly congested thus causing some difficulties during the coordination process;

e) that the inhomogenity of technical characteristics of feeder links for the mobile-satellite services and links of the fixed-satellite service results in coordination difficulties;

f) that distress and safety traffic is carried on feeder links for mobile-satellite services;

noting

that there were proposals by administrations to WARC MOB-87 for sub-bands in the frequency bands 3 400 - 4 200 MHz and 5 925 - 7 075 MHz where the feeder links for aeronautical, [land] maritime and mobile-satellites would have priority over other assignments to the fixed-satellite service, whilst other administrations were of the opinion that frequency spectrum for feeder links for mobile-satellite services can more readily be provided in fixed-satellite service bands by the normal coordination process;

[resolves/recommends]

that the next competent world administrative radio conference dealing with the fixed-satellite service should be empowered to take appropriate decisions concerning the need to identify fixed-satellite service spectrum for feeder links for the aeronautical mobile-satellite service, [the land mobile-satellite service], the maritime mobile-satellite service and the [mobile-satellite service] operating in the bands 1 530 - 1 559 MHz and 1 626.5 - 1 660.5 MHz;

invites the Administrative Council

to take note of this [Resolution/Recommendation] and confirm that the agenda for WARC ORB-88 would enable this [Resolution/Recommendation] to be considered and notify administrations accordingly or include this subject in the agenda of WARC ORB-88 or a future competent WARC.

MOB-87 INTERNATIONAL TELECOMMUNICATION UNION
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Corrigendum 1 to
Document 249-E
29 September 1987

This Corrigendum concerns the French text only.

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

Document 249-E
28 September 1987
Original: English

Source: DT/42

COMMITTEE 7

THIRD SERIES OF TEXTS TRANSMITTED BY THE TECHNICAL WORKING GROUP OF THE PLENARY TO THE EDITORIAL COMMITTEE

1. The texts which are contained in Document DT/42 without modifications.

2. The texts which are contained in Annexes 1 to 4 to this document.

E. GEORGE
Chairman of the Technical Working Group
of the Plenary

Annexes: 4

ANNEX 1

MOD

RESOLUTION No. 601 (Rev. Mob-87)

Relating to the Recommendations and Standards for Emergency Position-Indicating Radiobeacons Operating on the Frequencies 121.5 MHz and 243 MHz[1]

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

considering

NOC a) to c);

ADD d) Appendix 37A;

NOC resolves.

ANNEX 2

MOD RECOMMENDATION No. 312 (Rev. Mob-87)

Relating to Studies of the Interconnection of Maritime Mobile Radiocommunication Systems with the International Telephone and Telegraph Networks

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

SUP noting a) to f);

considering

a) that it is desirable that there be interconnection of radiocommunication systems in the maritime mobile service with the international public telephone and telegraph networks to permit automatic routing of ship-shore traffic to and from national networks;

b) that such interconnection would greatly improve maritime radiocommunications;

urges the CCIR and the CCITT

to continue all required studies relating to compatibility between the maritime mobile radiocommunication systems and the international telephone and telegraph systems, including various quality-of-service criteria, to permit the full interconnection of the maritime mobile services with the international telephone and telegraph networks;

and invites administrations

to give priority to these studies in their participation in the work of the CCIR and the CCITT.

ANNEX 3

MOD RECOMMENDATION No. 603 (Rev. Mob-87)

Relating to Technical Provisions for Maritime Radiobeacons in the African Area

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

considering

the need to facilitate the planning for new maritime radiobeacons in the band 283.5 - 315 kHz particularly in the neighbouring localities of the European and African Areas;

recommends

that the administrations of the countries of the African Area adopt provisions similar to those contained in the Regional Arrangement concerning the planning of the maritime radionavigation service (radiobeacons) in the European Maritime Area, Geneva, 1985.

ANNEX 4

MOD RECOMMENDATION No. 605 (Rev. Mob-87)

Relating to Technical Characteristics and Frequencies for Shipborne Transponders[1]

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

NOC considering a) to g)

MOD requests the CCIR

to recommend, after consultation with appropriate internationnal organizations, the most suitable order of frequencies and bandwidth required for this purpose, and the technical parameters to be met by such devices taking into account electromagnetic compatibility with other services having allocations in the same frequency band, and the need to ensure that the response of a transponder of the system studied should not be capable of being interpreted as being from a radar beacon of any type;

(MOD) invites administrations and the International Maritime Organization (IMO)

to continue to evaluate the operational benefits which could result from the widespread use of transponders on ships and to consider whether there would be advantage in adopting an internationally approved system for future implementation;

NOC recommends.

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GENEVA, September-October 1987

Document 250-E
30 September 1987

LIST OF DOCUMENTS
(201 to 250)

No.	Origin	Title	Destination
201	C5	Summary Record of the Third Meeting of Committee 5	C5
202	SG	Information Note - International Astronomical Union	C4
203	GRC	Resolution Relating to the Introduction of Provisions for the GMDSS and the Continuation of the Existing Distress and Safety Provisions	C5
204	C5	Note by the Chairman of Committee 5 to the Chairman of Committee 4	C4
205	URS	Proposals for the work of the Conference - Article 8	C4
206	WG/4-A	Third Report of WG 4-A to Committee 4	C4
207	INMARSAT	Information Note - Facts Relating to INMARSAT and its System Characteristics	-
208	I	Proposals for the work of the Conference	WG/PL
209	TZN	Proposals for the work of the Conference	C4
210	C5	First Series of Texts from Committee 5 to the Editorial Committee	C7
211	SWG/4-A-3	Report of Drafting Group 4-A-3 to WG 4-A	WG/4-A
212	WG/6-A	First Report by the Chairman of WG 6-A to the Chairman of Committee 6	C6
213	WG/6-A	Second Report by the Chairman of WG 6-A to the Chairman of Committee 6	C6
214	WG/6-A	Third Report by the Chairman of WG 6-A to the Chairman of Committee 6	C6
215 + Corr.1 (Rev.1)	WG/5-B	First Report of the Chairman of WG 5-B to the Chairman of Committee 5	C5
216 + Corr.1	WG/4-B	Second Report of WG 4-B to Committee 4	C4

No.	Origin	Title	Destination
217 +Corr. 1	WG/5-A	Second Report of WG 5-A to Committee 5	C5
218	G/AdHoc 2	Report by Ad Hoc 2 Group to WG/PL	WG/PL
219	PL	Minutes of the third Plenary Meeting	PL
220	USA	Information Paper - Power Distribution Requirements for EPIRBs Operating on the Frequencies 121.5 and 243 MHz	WG/PL
221	WG/6-B	Third Report of the Chairman of the WG 6-B	C6
222	WG/6-A	Fourth Report of the Chairman of WG 6-A to the Chairman of Committee 6	C6
223	DNK, E, FNL, G, HOL, NOR, S, SUI	Proposals for the work of the Conference - Article 40 - Article N40	C5
224	SWG/4-A-4	Report of the Drafting Group 4-A-4 to WG 4-A	WG/4-A
225	SWG/4-A-3	Second Report of Drafting Group 4-A-3 to WG 4-A	WG/4-A
226 (Rev.1)	ARG, URG	Proposal for the work of the Conference	C4
227	WG/4-C	Second Report of WG 4-C to Committee 4	C4
228	WG/5-B	Third Report by WG 5B to Committee 5	C5
229	WG/5-B	Fourth Report by WG 5-B to Committee 5	C5
230	WG/5-B	Fifth Report by WG 5-B to Committee 5	C5
231	WG/5-B	Sixth and Final Report by WG 5-B to Committee 5	C5
232 + Corr.1 + Corr.2	ALG, ARG, B, BUL, CHN, CYP, E, GRC, GUI, IRN, LYB, MEX, PAK, PNR, PRG, ROU, CLN, SUR, TUR, URG, YUG	Proposals for modification of Articles 55 and 56	C6

No.	Origin	Title	Destination
233	E	Articles N55 and N56 - Operators' Certificates and Personnel of Coast and Ship Stations	C6
234	WG/PL	Note from the Chairman of WG/PL to the Chairman of Committee 4	C4
235	WG/4-A	Fourth Report of WG 4-A to Committee 4	C4
236	SG	State of the Conference Accounts as at 23.09.87	C3
237	USA	IMO Decisions on Radio Operators and Equipment Maintenance in GMDSS	
238	WG/PL	Second series of Text by the WG/PL to Editorial Committee	C7
239	WG/5-B	Second Report by WG 5-B to Committee 5	C5
240	C4	Note from the Chairman of Committee 4 to the Chairman of Committee 5	C5
241	CAN	Proposals for the work of the Conference - Article 60	C6
242	ARG	Articles N55 and N56 - Operators' Certificates and Personnel of Coast and Ship Stations	C6
243	SWG/6-B-2	First Report by the Chairman of SWG 6-B-2 to the Chairman of WG 6-B	WG/6-B
244	SWG/6-B-2	Report by the Chairman of SWG 6-B-2 to the Chairman of WG 6-B	WG/6-B
245	WG/2-2	Second Report of WG 2-2 to Committee 2	C2
246 (Rev.1)	C7	B.2 (Rev.1)	PL
247	C6	Summary Record of the Fourth Meeting of Committee 6	C6
248	SWG/4-A-5	Report of Drafting Group 4-A-5 to WG 4-A	WG/4-A
249 + Corr.1	WG/PL	Third series of texts transmitted by the WG/PL to the Editorial Committee	C7
250	SG	List of documents (201 to 250)	-

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

Document 251-E
28 September 1987
Original: English

COMMITTEE 4

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

Following a request from the Chairman of the Technical Working Group of the Plenary, Working Group 6-A has reviewed proposals USA/24/719 and USA/24/720.

In order to have an opinion on this matter, the Working Group requests your decision on the status of channel 13. Proposal USA/24/716 relates to channel 13 and is the responsibility of Committee 4.

I.R. HUTCHINGS
Chairman of Committee 6

MOB-87 INTERNATIONAL TELECOMMUNICATION UNION
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GENEVA, September-October 1987

Document 252-E
28 September 1987
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TECHNICAL WORKING GROUP
OF THE PLENARY

REPORT BY AD HOC GROUP 4 TO THE TECHNICAL WORKING GROUP OF THE PLENARY

Ad hoc Group 4 has prepared the annexed draft Resolution.

Attention is drawn to the last paragraph (in square brackets) which might require advice from Committee 6.

K. MAIER
Chairman of ad hoc Group 4
to the Technical Working Group of the Plenary

Annex: 1

ANNEX

[DRAFT] RESOLUTION No. .... [GT-TEC PLEN/1]

Data Transmission from Maritime Radiobeacons for Differential Satellite Navigation Systems

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

considering

a) that the International Maritime Organization (IMO) has identified a need for data exchange between shore and ship in the case of radionavigation systems (e.g. Omega, GPS, Loran-C) operating in the differential mode;

b) that Resolution No. 3 (EMA) invited this Conference to consider the aspects of using maritime radiobeacons to transmit data to ships using either minimum shift keying (MSK) or frequency shift keying (FSK) techniques, and to choose between the two techniques;

c) that studies have shown that it is necessary to use a second carrier offset from the main carrier by 300 - 500 Hz to prevent interference to certain types of automatic radio direction finders, regardless of whether MSK or FSK modulation is chosen;

d) that these same studies have shown that MSK modulation has advantages over FSK modulation because of improved spectral efficiency;

e) that the Regional Administrative Conference for the planning of the maritime radionavigation service (radiobeacons) in the European Maritime Area (Geneva, 1985) decided that radiobeacons in that area should be channelled in multiples of 500 Hz;

f) that if FSK or MSK modulation with a 300 - 500 Hz offset is encoded onto a radiobeacon signal in the European Maritime Area, then the digital modulation signal will be partially contained in the channel adjacent to the radiobeacon channel;

g) that many administrations prefer the use of MSK modulation;

resolves

1. that the frequency for the transmission of data to ships using FSK or MSK modulation on maritime radiobeacons should be offset from the radiobeacon main carrier frequency an amount sufficient to ensure that no harmful interference is caused to automatic radio direction finders;

2. that the CCIR continues studying the technical factors, including a standard coding format and modulation method, and make Recommendations;

3. that channelling plans for maritime radiobeacon systems accommodate the transmission of data to ships on maritime radiobeacons using frequency offset;

invites the IFRB

to consider this Resolution in the registration of maritime radiobeacon stations which transmit data;

[the Administrative Council

to include in the agenda of the next competent radio conference, possible revisions and amendments of the Regional Agreement concerning the planning of the maritime radionavigation service in the European Maritime Area for the purpose of accommodating transmission of differential radionavigation data using frequency offset].

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

Document 253-E
28 September 1987
Original: English

Source: DT/43

COMMITTEE 5

FIRST REPORT OF WORKING GROUP 5 AD HOC 1 TO COMMITTEE 5

1. The Working Group has held two meetings. The second meeting adopted the text of draft Resolution No. [COM5/2], with paragraph 2 of "invites administration" modified, as attached in the annex.

2. It was agreed that the following Resolutions allocated to Committee 5 be suppressed:

2.1 SUP Resolution No. 203

2.2 SUP Resolution No. 317

a) The delegate of the Federal Republic of Germany pointed out the interrelationship between the proposal D/30/100 and the decision to suppress Resolution 317.

b) The delegate of Sweden noted that Document 21 referred to the matter. It was recalled that IMO and the CCIR SPM had recommended that channel 70 could be used for routine calling. The attention of Committee 5 is drawn to the matter for possible referral to Committee 4.

2.3 SUP Resolution No. 321

3. It was agreed to place the suppression of Resolution No. 318 in square brackets:

[SUP] Resolution No. 318

pending confirmation that the annex to the Resolution has been moved to the body of the Radio Regulations by Committee 4. Interim procedures may be necessary to cover the period between the signing of the Final Acts and their entry into force. Committee 5 is requested to bring this matter to the attention of Committee 4.

R.C. McINTYRE
Chairman of Working Group 5 ad hoc 1

ANNEX

DRAFT

RESOLUTION No. [COM5/2]

Relating to the Study and Implementation of a Global Land and Maritime Distress and Safety System

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

considering

a) that the basic requirements for the Global Maritime Distress and Safety System (GMDSS) have been developed by IMO to meet the specific needs of the maritime mobile and maritime mobile-satellite services;

b) that stations of the land mobile and land mobile-satellite services may use the frequencies and procedures of the GMDSS in uninhabited and remote areas for distress and safety purposes;

c) that further development of the communication facilities incorporated in the GMDSS would enable the system also to meet the specific needs of the land mobile and land mobile-satellite services for distress and safety;

noting

that the CCIR contributed substantially to the development of the GMDSS by carrying out appropriate technical and operational studies;

noting further

that the WARC MOB-83 had already decided that the stations of the land mobile service in uninhabited and remote areas may be authorized to use the frequencies of the then FGMDSS on condition that no harmful interference was caused to other distress and safety communications;

recognizing

a) that this Conference has adopted provisions to facilitate the implementation of the GMDSS;

b) that administrative, technical and operational studies appropriate to the land mobile and land mobile-satellite services need to be conducted before detailed provisions relating to the distress and safety requirements of these services can be incorporated into the Radio Regulations;

resolves

that a future competent conference be invited to include, as necessary, provisions in Chapter N IX to ensure adequate distress and safety communications in uninhabited and remote areas of the world;

requests the CCIR

to study the requirements for distress and safety communications in uninhabited and remote areas of the world by the land mobile and land mobile-satellite services, including the technical and operational characteristics of equipment, which is simple to operate and of low cost, for use in the global land and maritime distress and safety system;

invites administrations

1. actively to contribute to and participate in the work of the CCIR;

2. to establish all legislative or other appropriate measures for the implementation of such a system;

3. to permit the use of the appropriate equipment within areas under their national jurisdiction;

invites the Administrative Council

to take the necessary steps to place this matter on the agenda of the next competent WARC;

requests the Secretary-General

to communicate this Resolution to IMO and ICAO.

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

Document 254-E
29 September 1987
Original: English

COMMITTEE 7

SECOND SERIES OF TEXTS FROM COMMITTEE 4 TO THE EDITORIAL COMMITTEE

The text in the Annex to Document 206, as well as texts in Annex 1 to Document 235, which were approved by the Committee 4 at its sixth meeting, with slight modifications, are submitted to the Editorial Committee.

At the same meeting, Committee 4 took a decision to suppress Resolution No. 400, Resolution No. 404 and Recommendation No.308 of the Radio Regulations, and to maintain Resolution No. 405 with no changes.

The attention of Committee 7 is drawn to the fact that the examination of Article 8 is not completed and that further modifications to this Article are expected.

O. VILLANYI
Chairman of Committee 4

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

Document 255-E
29 September 1987
Original: English

Source: Document DT/45

COMMITTEE 4

NOTE FROM THE CHAIRMAN OF THE TECHNICAL WORKING GROUP OF THE PLENARY TO THE CHAIRMAN OF COMMITTEE 4

USE OF A1A MORSE TELEGRAPHY ON NBDP CHANNELS

The Technical Working Group of the Plenary having studied the question raised in Document 197 concludes that it is technically feasible to use the ship station frequencies of the new NBDP (paired) channels as A1A Morse telegraphy working frequencies by ship stations.

This conclusion takes account of the following:

1. Co-channel and non-co-channel protection ratio values (combinations of wanted and unwanted emissions: A1A/A1A, A1A/F1B, F1B/A1A, F1B/F1B), adopted at the Regional Administrative Conference for the Planning of the Maritime and Aeronautical Radionavigation Services (Region 1), Geneva, 1985 for the bands between 415 and 526.5 kHz, support this conclusion. It is worth noting that that conference decided that A1A emissions may be used on F1B assignments and vice-versa in the above-indicated bands.

2. Interference to wanted Morse telegraphy (A1A) signals from unwanted A1A and narrow-band direct-printing (essentially F1B) signals has been considered.

3. Interference to wanted narrow-band direct-printing (essentially F1B) signals from unwanted A1A and F1B signals has been considered.

4. Narrow-band direct-printing was considered to be essentially frequency shift-keying telegraphy (F1B) since narrow-band phase shift keying telegraphy (G1B) would only be used in exceptional cases. Furthermore, NBPSK has a smaller transmission bandwidth than FSK when using the same modulation rate and thus a reduced interference potential. The worst case regarding interference to an A1A signal will therefore be FSK (F1B). NBPSK at 200 bauds can be disregarded because it is even more exceptional than NBPSK at 100 bauds.

5. Co-channel and non-co-channel interference has been considered.

6. With regard to co-channel interference some administrations expressed the view that for a wanted Morse telegraphy signal an interfering NBDP signal of high level was more disturbing to the operator than an interfering Morse telegraphy signal of about the same level. The majority view, however, was that this did not apply to the case where the required co-channel protection ratio of 8 dB (i.e. the value adopted at the Conference mentioned in paragraph 1 for all possible combinations of wanted and unwanted A1A and F1B signals) was attained.

E. GEORGE
Chairman of the Technical
Working Group
of the Plenary

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

Document 256-E
29 September 1987
Original: English

Source: Documents 230, 239

TECHNICAL WORKING GROUP OF THE PLENARY

NOTE BY THE CHAIRMAN OF COMMITTEE 5 TO THE CHAIRMAN OF THE TECHNICAL WORKING GROUP OF THE PLENARY

At its fourth meeting Committee 5 decided to request the Technical Working Group of the Plenary to advise on the technical implications of proposals concerning the bands 1 544 - 1 545 MHz and 1 645.5 - 1 646.5 MHz.

1. 1 544 - 1 545 MHz band

Radio Regulations Nos. 2998B and 2998C provide for two operational requirements in the band 1 544 - 1 545 MHz. The Report of the Special Meeting of CCIR Study Group 8 concludes in section 6.13.3.3 that sharing of this band can be accommodated and that additional information would be required.

The Technical Working Group of the Plenary is requested to consider:

a) whether it is technically desirable to sub-divide this band for the two applications provided for in Nos. 2998B and 2998C, noting its present utilization by existing systems;

b) if it is, to advise Committee 4 of the required bandwidths for each with a request that Committee 5 be advised of the specific frequencies agreed so that Nos. 2998B and 2998C may be modified;

c) if it is not, to advise Committee 5 accordingly.

2. 1 645.5 - 1 646.5 MHz band

Radio Regulation 2998E provides the 1 645.5 - 1 646.5 MHz band for distress and safety operations in the Earth-to-space direction.

This 1 MHz of spectrum is not currently used but it is considered likely that it may be used by Satellite Emergency Position-Indicating Radiobeacons (satellite EPIRBs) operating through the second generation of INMARSAT geostationary satellites.

Additionally, to reduce the delays in forwarding 406 MHz satellite EPIRB signals received by the COSPAS/SARSAT system, it is proposed to relay these signals, from the COSPAS/SARSAT satellites in low polar earth orbits in the band 1 645.5 - 1 646.5 MHz to geostationary satellites for transmission to coast earth stations. The report of the SPM of Study Group 8 at section 6.13.4 addresses spectrum sharing considerations.

The Technical Working Group of the Plenary is requested to consider:

a) whether it is technically desirable to relay in the 1 645.5 - 1 646.5 MHz band, satellite EPIRB signals received by COSPAS/SARSAT satellites;

b) if so, to advise Committee 4 of its findings, with a request that Committee 5 be advised so that No. 2998E may be modified;

c) if not, to advise Committees 4 and 5 of the most appropriate frequencies and bandwidth to be used to relay, via geostationary satellites, the satellite EPIRB signals received by polar orbiting satellites.

P.E. KENT
Chairman of Committee 5

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

Document 257-E
29 September 1987
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COMMITTEE 4

NOTE FROM THE CHAIRMAN OF COMMITTEE 5
TO THE CHAIRMAN OF COMMITTEE 4

At its fourth meeting Committee 5 considered Document 240 and decided that:

a) there is an operational need for one exclusive frequency in each of the 4, 6, 8, 12, 16, 18, 22 and 25 MHz maritime mobile bands for the transmission by coast stations, using narrow-band direct-printing telegraphy of marine safety information to ships;

b) there is an operational need for an exclusive frequency in the 8 MHz band for distress and safety traffic by radiotelephony.

Committee 4 is requested to take these decisions into consideration when revising Appendix 31.

P.E. KENT
Chairman of Committee 5

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

Document 258-E
5 October 1987
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COMMITTEE 4

SUMMARY RECORD

OF THE

SIXTH MEETING OF COMMITTEE 4

(FREQUENCY)

Monday, 28 September 1987, at 0900 hrs

Chairman: Dr. O. VILLANYI (Hungary)

Subjects discussed:	Documents
1. Summary records of the third, fourth and fifth meetings of Committee 4	165, 169, 185
2. Third and fourth reports of Working Group 4-A to Committee 4	206,235
3. Second report of Working Group 4-B to Committee 4	216
4. Second report of Working Group 4-C to Committee 4	227
5. Attribution of notes to the Working Groups of Committee 4	199, 204, 234
6. Attribution of Resolutions and Recommendations	DT/41

1. Summary records of the third, fourth and fifth meetings of Committee 4 (Documents 165, 169, 185)

The summary record of the third meeting (Document 165) was approved subject to a correction to paragraph 3.4 by the delegate of Algeria (see Corrigendum 1 to Document 165).

The summary records of the fourth and fifth meetings (Documents 169 and 185) were approved.

2. Third and fourth reports of Working Group 4-A to Committee 4 (Documents 206 and 235).

2.1 Third report of Working Group 4-A (Document 206)

2.1.1 The Chairman of Working Group 4-A, introducing the report, said that the decisions recorded in it had been unanimous, with the exception of that relating to the aeronautical radionavigation bands listed in paragraph 2, with respect to which a number of delegations had reserved the right to express their views in Committee 4. The substance of MOD 517 had been agreed upon unanimously, but the reference to Appendix 16 had been left in square brackets as a purely editorial matter, because there was a possibility that the matter might be referred either to that Appendix or to Appendix 31.

2.1.2 The Chairman invited the Committee to consider Annex 1 to the document.

2.1.3 The delegate of the United Kingdom, referring to MOD 680, observed that the words "(The remainder unchanged)" were not quite correct, since "these bands" in the second sentence should now be replaced by "this band".

Annex 1 was approved with that change and in the light of the explanation with regard to MOD 517.

2.1.4 The Chairman invited the Committee to consider paragraph 2 of Document 206.

2.1.5 The delegate of the United Kingdom said that he wished to make a statement on behalf of a number of European countries which had submitted proposals to the Conference with respect to the three bands in question in order to provide a long term possibility for the mobile service. In submitting those proposals, it had been recognized that the bands were used extensively world-wide for the aeronautical radionavigation (ILS) and that that system would continue in operation for many years to come, despite the fact that a start had already been made with the introduction of the microwave landing system. Accordingly, the proposals submitted by the countries concerned contained no suggestion that the bands should be shared between the mobile service and the aeronautical radionavigation service, but rather advocated an indication by the current Conference that they should be used by the mobile service when they were no longer required by the aeronautical radionavigation service. The European countries in question considered it to be wholly appropriate and within the competence of the Conference to make such a change, and wished to place on record their concern at the fact that the Conference was unable to make changes to Article 8 in that regard or to recommend that the matter be examined at a later competent conference.

A number of the countries concerned had expressed the desire to add a suitable national footnote which would make long-term provision for the mobile service when the three bands were no longer needed by the aeronautical radionavigation service; it would be helpful if at least an exchange of views on the principle of such a footnote could be held in Committee 4. It was recognized that the issue was a very sensitive one, and he suggested that, if the Committee agreed on the principle, the detailed drafting of the footnote might be dealt with in Working Group 4-A.

2.1.6 The Chairman observed that, in the long discussion on the subject in Working Group 4-A, the majority had declared itself against including the mobile service in the allocation of the bands concerned even after the ILS had been phased out. He therefore doubted whether it would be necessary to have a footnote on the matter with a date in the distant future, particularly since the majority had also been against making any Recommendation to a future conference.

2.1.7 The delegates of the USSR and Pakistan endorsed that statement.

2.1.8 The delegate of the Federal Republic of Germany supported the United Kingdom suggestion that a national footnote should be discussed in Working Group 4-A, since that possibility had not been raised in the Group's long deliberations.

2.1.9 The Chairman of Working Group 4-A confirmed that the possibility had not been discussed or even proposed in the Group, but doubted whether such a footnote would receive the necessary general support, since many countries were clearly opposed to a change for the bands in the Frequency Allocation Table or even to a Recommendation for such a change to a future competent conference.

2.1.10 The delegate of Norway said that he could see no reason for objecting to the discussion in Working Group 4-A of a national footnote which would relate only to requirements within the borders of the countries concerned and would have no consequences for any other countries.

2.1.11 The Chairman suggested that the whole issue should be discussed in Working Group 4-A on the basis of a written proposal for a national footnote and that the results of the deliberations should then be submitted to Committee 4.

It was so agreed.

The Committee took note of paragraph 3 and approved Document 206 as a whole in the light of the discusssion.

2.2 Fourth report of Working Group 4-A (Document 235)

2.2.1 The Chairman of Working Group 4-A said that, since the report had been approved by the Working Group, a delegation had indicated the wish to have its country's name inserted in ADD 613B on page 3 and had been told that the request should be made at Committee 4 level. Moreover, the name of Belgium should be inserted after Austria in ADD 677A on page 7.

On page 5, footnotes 613 and 613A appeared in square brackets because, together with Appendix 18, they were still under consideration by a Drafting Group of Working Group 4-A. The wording of some of the footnotes for Regions 2 and 3 on page 6 had not yet been decided upon, but the reference to Document 206 against footnote 695A on that page could be deleted now that the document concerned had been approved.

2.2.2 The Chairman invited the Committee to consider Annex 1.

2.2.3 The delegate of the United Kingdom suggested that the words "for coast radiotelegraph stations" at the end of ADD 448A on page 2 should be replaced by "and is limited to coast radiotelegraph stations in existence on 14 September 1987".

2.2.4 The representative of the IFRB pointed out that with that wording the footnote could no longer be regarded as an additional allocation. He was prepared to indicate to the United Kingdom delegate analagous provisions of the Radio Regulations in which such substantive references had been obviated. The delegate of the United Kingdom accepted that offer of assistance.

2.2.5 The delegate of Algeria said he wished to enter a reservation with regard to the addition of footnote 677A to the table concerning the frequency band 470 - 790 MHz.

Although the text of the footnote, which formed an integral part of the Table of Frequency Allocations, was carefully worded and very clear as to the secondary status of the land mobile service authorized in the countries concerned, it did not entirely allay his Delegation's fears.

The Committee approved Annex 1 as amended, took note of Annex 2 and approved Document 235 as a whole in the light of the discussion.

3. Second report of Working Group 4-B to Committee 4 (Document 216)

3.1 The Chairman of Working Group 4-B, introducing Document 216, said that the wrong text had inadvertently been printed for ADD 69A. A corrigendum would be issued and the relevant proposal would be resubmitted to the Committee in the next report of the Working Group.

The four decisions in the first paragraph of Document 216 were approved.

4. Second report of Working Group 4-C to Committee 4 (Document 227)

The Committee took note of the second report of Working Group 4-C and approved its Annex 1.

4.1 The Chairman drew the Committee's attention to the fact that the English text of Annex 2 was incorrect and should be realigned on the French text.

The wording of the French text of Annex 2 was approved on the understanding that the other language versions would be aligned on it.

5. Attribution of notes to the Working Groups of Committee 4 (Documents 199, 204 and 234)

5.1 The Chairman drew the Committee's attention to Documents 199, 204 and 234, which were notes to Committee 4 from the Chairmen of Committees 6, 5 and the Technical Working Group of the Plenary respectively. He suggested that these notes should be attributed for consideration to Committee 4 Working Groups as follows:

Document 199: Working Group 4-A
Document 204: Working Group 4-C
Document 234: Working Group 4-A

It was so agreed.

6. Attribution of Resolutions and Recommendations (Document DT/41)

6.1 The Chairman drew attention to the lists of proposed new Resolutions and Recommendations, together with the Working Groups to which they had been attributed, contained in Annexes 1 and 2 to Document DT/41.

Annex 1

6.2 The Chairman of Working Group 4-A suggested it would be more appropriate to attribute proposal G/33/370 to Working Group 4-B since it dealt with existing Resolutions Nos. 309 and 407, which were allocated to that Group.

6.3 The delegate of the United Kingdom suggested that proposal G/33/1, which dealt with the principles of aeronautical public correspondence and elements of Article 8, would be more appropriately attributed to Working Group 4-A.

6.4 The delegate of Paraguay requested that proposal PRG/61/149 be added to Annex 1, the delegates of the United States, the United Kingdom and Switzerland suggesting that it be considered in Working Group 4-B, which was to consider other proposals on the same subject.

6.5 The delegate of Argentina requested that proposal ARG/5/101 relating to the entry into force of a 10 kHz guard band for the 500 kHz distress and calling frequency, be entered in Annex 1 and attributed to Working Group 4-A.

6.6 The delegate of France drew attention to an error in Annex 1, where proposal CEPT-14/21/1 [H] should read instead CEPT-15/22/1 [H].

Those proposals were approved, with the exception of proposal ARG/5/101 which was found to be within the terms of reference of Committee 5 (see Document DL/37).

Annex 2

6.7 The Chairman of Working Group 4-A, in reply to a request from the delegate of Australia, said that proposal AUS/40/593, although originally assigned to Committee 6, contained elements relevant to two other proposals for consideration in Working Group 4-A and suggested that it should be considered with them.

It was agreed to add proposal AUS/40/593 to Annex 2 and attribute it to Working Group 4-A.

6.8 The Chairman of Working Group 4-A drew attention to the fact that proposal I/97/1 in Annex 2 should read I/97/7.

The meeting rose at 1015 hours.

The Secretary: The Chairman:

T. GAVRILOV O. VILLANYI

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

Corrigendum 1 to
Document 259-E
30 September 1987
Original : English

COMMITTEE 4

Page 1, add "Panama" to the list of countries cosponsoring this document.

Page 2, replace the proposal for the band 2 483,5 - 2 500 MHz by the following :

MOD	2 483.5 - 2 500	2 483.5 - 2 500
	RADIODETERMINATION-SATELLITE (space-to-Earth	RADIODETERMINATION-SATELLITE (space-to-Earth)
	FIXED	FIXED
	MOBILE	MOBILE
	Radiolocation	RADIOLOCATION
	752 753	752

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

Document 259-E
29 September 1987
Original: English

COMMITTEE 4

Antigua and Barbuda, Brazil, Costa Rica, Mexico,
Paraguay, Suriname, Trinidad and Tobago, Uruguay,
the United States

PROPOSAL FOR THE WORK OF THE CONFERENCE

RADIODETERMINATION-SATELLITE SERVICE

Radiodetermination-satellite service technology provides accurate position information with ancillary two-way short radiodetermination messages to small economical user transceivers. A world-wide primary allocation for the radiodetermination-satellite service would result in a more spectrum and cost efficient system. Administrations will be provided flexibility through the allocation of frequency bands for radiodetermination-satellite service to develop national, regional or international systems to most effectively satisfy the unique requirements of each administration.

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. The use of spread spectrum techniques will allow several radiodetermination-satellite service systems to serve adjacent or overlapping service areas without harmful interference among these systems. The agenda for WARC MOB-87 calls for the provision of the radiodetermination-satellite service and associated frequency allocations. Accordingly, the above noted Administrations jointly propose that the following frequencies, which provide maximum sharing potential, be allocated on a primary basis for the radiodetermination-satellite service.

MHz

	Allocation to Services		
	Region 1	Region 2	Region 3
MOD	1 610 - 1 626.5	AERONAUTICAL RADIONAVIGATION RADIODETERMINATION-SATELLITE (Earth-to-space) 722 727 730 732 733 734	

Reasons: To provide position information related to transport management, aviation and marine navigation by radiodetermination-satellite service.

MOD	2 450 - ~~2 500~~ 2 483.5 FIXED MOBILE Radiolocation 752 753	2 450 - ~~2 500~~ 2 483.5 FIXED MOBILE RADIOLOCATION 752
MOD	2 483.5 - 2 500 RADIODETERMINATION-SATELLITE (space-to-Earth FIXED MOBILE Radiolocation 752 753	2 483.5 - 2 500 RADIODETERMINATION (space-to-Earth) FIXED MOBILE RADIOLOCATION 752

Reasons: 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.)

MHz

	Allocation to Services		
	Region 1	Region 2	Region 3
MOD	5 000 - 5 250	AERONAUTICAL RADIONAVIGATION 733 796 797 <u>797A</u>	

ADD 797A The sub-band 5 117 - 5 183 MHz is also allocated to the fixed-satellite service on a primary basis for the space-to-Earth transmissions for use in conjunction with the radiodetermination-satellite service operating in the bands 1 610 - 1 626.5 MHz and 2 483.5 - 2 500 MHz. The total power flux-density at the Earth's surface shall in no case exceed -159 dBW/m^2 per 4 kHz for all angles of arrival.

<u>Reasons</u>: To provide for fixed-satellite links used in conjunction with the radiodetermination-satellite service operating in the bands indicated, and to specify the applicable power flux-density.

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

Document 260-E
29 September 1987
Original: English

TECHNICAL WORKING GROUP
OF THE PLENARY

NOTE FROM THE CHAIRMAN OF COMMITTEE 6 TO THE
CHAIRMAN OF THE TECHNICAL WORKING GROUP OF THE PLENARY

1. Note in Document 143 refers. Committee 6 adopted a modified proposal for ADD 4326A as follows:

ADD 4326A However, coast stations in an automatic service in the VHF or UHF band may emit marking signals. The emission power of the signals shall however be limited to the minimum value necessary for effective operation of the signalling. Such emissions shall not cause harmful interference to maritime mobile service operations in other countries.

with a consequential change in RR 4910 as follows:

MOD 4910 (Add the following sentence after the existing text)

" However, coast stations in an automatic service in the VHF or UHF band may emit marking signals under the conditions provided for in No. 4326A.

2. Committee 6 is unable to give consideration to operational implications of proposals USA/24/719 and USA/24/720 until the Committee is advised on the stations of channel 13 by Committee 4. A request to this effect has been transmitted to Committee 4 in Document 251.

I.R. HUTCHINGS
Chairman of Committee 6

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

Document 261-E
29 September 1987
Original: English

COMMITTEE 6

FIFTH REPORT FROM THE CHAIRMAN OF WORKING GROUP 6-A TO THE CHAIRMAN OF COMMITTEE 6

In order to assist the work of Committee 4, the following two decision points should be brought to the attention of Committee 4:

In review of Article 60:

5. Reflect the proposed suppression of Appendix 31 and replacement by a new appendix with appropriate editorial substantive cross references.

6. Eliminate references to sub-bands (in favour of point 5. above).

R. SWANSON
Chairman of Working Group 6-A

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

Document 262-E
29 September 1987
Original: English

COMMITTEE 6

SIXTH REPORT OF THE CHAIRMAN OF WORKING GROUP 6-A TO THE CHAIRMAN OF COMMITTEE 6

The Working Group thus far has completed its review and recommends NOC for the following items:

Articles 19, 54, 57 and Appendices 12 and 14.

Resolution No. 308 and Recommendation No. 313 were then reviewed and the Working Group recommends that they both be suppressed.

Minor modifications to Appendix 14 (see Document 63, pages 3-4) were proposed by China and supported by the Working Group. The additions to this appendix for using the abbreviation RCC may need to be brought to the attention of Committee 5 for their use in developing proposals for Article 1.

R. SWANSON
Chairman of Working Group 6-A

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

Document 263-E
2 October 1987
Original: English

COMMITTEE 5

SUMMARY RECORD

OF THE

FOURTH MEETING OF COMMITTEE 5

(DISTRESS AND SAFETY)

Tuesday, 29 September 1987, at 0900 hrs

Chairman: Mr. P.E. KENT (United Kingdom)

Subjects discussed:		Documents
1.	Approval of the summary records of the second and third meetings of Committee 5	170, 201
2.	Note from the Chairman of Committee 4	24, 40, 240
3.	Report by the Chairman of Working Group 5-B	31, 215 + Corr.1(Rev.1), 230, 239

1. Approval of the summary records of the second and third meetings of Committee 5 (Documents 170, 201)

The summary record of the second meeting, contained in Document 170, was approved subject to amendments proposed by the delegates of the USSR, Spain and Cuba (see Corrigendum 1 to Document 170). The IMO observer drew the attention to the fact that the SAR Convention was dated 1979 and brought into force in 1985.

The summary record of the third meeting, contained in Document 201, was approved with minor editorial amendments suggested by the observer of IMO and proposed by the Chairman.

2. Note from the Chairman of Committee 4 (Documents 24, 40, 240)

2.1 The Chairman drew the attention of the Committee to point a) of Document 240 which requested advice on the operational need to provide for frequencies for the promulgation of maritime safety information in the HF bands, using NBDP techniques. He noted that Australia had made proposals for that in Document 40 (in AUS/40/331 - AUS/40/334).

2.2 The delegate of Australia, referring to Document 40, noted that meteorological information was currently being broadcast by Morse to ships on the high seas using channels in the HF bands. Most of the information transmitted was routine in nature, but it also included meteorological warnings. There would be a continuing requirement to transmit marine safety information to ships at sea during the transition to the new system; however, as Morse techniques were phased out, it would be necessary to broadcast such information using narrow-band direct-printing techniques. At present, nations used national channels to transmit information on the HF channels. For better utilization of the spectrum and to allow for the implementation of an automatic system, it was proposed that eight exclusive channels in bands between 4 MHz and 26 MHz be allocated for global use to be coordinated by the IMO and, perhaps, the ITU. Those eight channels had sufficient capacity to carry the required traffic to ships on the high seas.

2.3 The delegate of the United States supported the Australian proposal and drew the attention of the Committee to proposal USA/24/724 which identified frequencies in the same bands as those recommended by Australia. The allocation of such frequencies on an exclusive basis would be of benefit to mariners.

2.4 The delegates of Argentina and Canada also supported the Australian proposal.

2.5 In response to a query by the delegate of the Federal Republic of Germany, the delegates of Australia and the United States confirmed that a single frequency in each of the bands mentioned would be sufficient to cope with marine safety information.

It was agreed that there was an operational need for such a set of frequencies and it was further agreed that Committee 4 should be asked to make the necessary allocations in its consideration of Appendix 31.

2.6 The Chairman drew the attention of the Committee to point b) of Document 240 and noted that it had been the view of the equivalent Committee of MOB-1983 that there was a need to provide an exclusive radiotelephony frequency in the 8 MHz band for distress and safety traffic. He recalled that that had been the only frequency needed for distress and safety purposes which had not been allocated exclusively by that Conference, but that the Conference had recommended (Recommendation No. 314) that the present Conference should take the necessary action to make it exclusive.

It was agreed that there was a need to provide for an exclusive frequency in the 8 MHz band for distress and safety traffic by radiotelephony and it was further agreed that Committee 4 should be asked to make the neccesary allocation in its consideration of Appendix 31.

3. Report by the Chairman of Working Group 5-B
(Documents 31, 215 + Corr.1(Rev.1), 230, 239)

3.1 The Chairman of Working Group 5-B noted that the Working Group had worked extremely rapidly in order to complete its task, and certain drafting errors had been made as a result. The Working Group's deliberations had been based on existing Chapter IX, on the understanding that certain provisions would be reviewed when the Committee had completed work on the Resolution dealing with the transition from the existing to the new system.

Introducing Document 239, he pointed out that it contained a text based on a proposal by the Federal Republic of Germany (contained in Document 31), to be considered by the Committee for possible submission to the Technical Working Group of the Plenary.

3.2 The observer of ITF asked whether, if the band were sub-divided as indicated, there would be adequate frequency spectrum left for EPIRB or similar applications. He also queried whether the use of the band by COSPAS/SARSAT had been accepted by the aeronautical community, since the band had been allocated to both the marine and aeronautical mobile services.

3.3 The Chairman noted that the COSPAS/SARSAT system was intended to cover all mobile services. He further noted that it was the very question of the sub-division of the band that the Working Group suggested be referred to the Technical Working Group of the Plenary.

3.4 The delegate of the Federal Republic of Germany recalled that since 1979 the 1 544 - 1 545 MHz band had been allocated to the mobile-satellite service, which covered the maritime, the aeronautical and the land mobile services. He noted that the transmitting direction was from space-to-Earth and that the use of the band for feeder links was also permitted. In the worst case, COSPAS/SARSAT used a bandwidth of 800 kHz. The present proposal was to make a distinction between that part of the band required by COSPAS/SARSAT and the two separate sub-bands of 100 kHz on either side of it for use for maritime and aeronautical distress and safety transmissions.

It was agreed that the text contained in Document 239 be submitted to the Technical Working Group of the Plenary.

3.5 The Chairman of Working Group 5-B, introducing Document 230, pointed out that the first paragraph should read: "Following discussion of the proposal in Document 40 concerning RR 2998E, Working Group 5-B submits the following text to Committee 5 ...". In addition, section 2 of the text should read: "if so, to advise Committee 4 of its findings, with a request ...".

3.6 The Chairman suggested that section 1 of the text be amended to read: "whether it is technically desirable to relay in the 1 645.5 - 1 646.5 MHz band satellite EPIRB signals received by COSPAS and SARSAT satellites".

It was so agreed.

It was agreed that the text contained in Document 230, as amended, be sent to the Technical Working Group of the Plenary.

3.7 The Chairman of Working Group 5-B, introducing Document 215 and Corrigendum 1(Rev.1) indicated several editorial corrections.

3.8 The Chairman suggested some further amendments and in response to the delegate of the Islamic Republic of Iran concerning No. 2943B, explained that the present concern of the Committee related to the type of equipment carried by aircraft, and that aircraft equipment was normally capable of operating only with J3E class of emission.

3.9 The Chairman having invited the delegate of Greece to state why his Delegation had wished to incorporate MOD 2945, MOD 2946 and MOD 2947 in Chapter IX, the latter said that the purpose was to afford protection to those ships continuing to use the existing system until the full implementation of GMDSS. He pointed out that his Delegation had agreed to modify MOD 2945 to read "until the full implementation of GMDSS (see Resolution COM5/1)".

3.10 The delegate of the Federal Republic of Germany said that although he was not opposed in principle, he failed to see the usefulness of MOD 2946 in the light of Resolution No. A. Nor did he think it necesary to keep MOD 2947, since all the frequencies of the new system and those of the old system would be included in both chapters, thus ensuring full protection.

3.11 There followed a lengthy discussion, during which support for the Greek position was expressed by the delegates of the USSR, Libya, Spain, Madagascar, Cuba, Mexico, Romania, China, the Islamic Republic of Iran, Argentina and the observer of ITF, while the delegates of Japan, Norway, Denmark, the United States and Finland supported the delegate of the Federal Republic of Germany.

3.12 The Chairman pointed out that, as stated in the summary record of the second meeting of the Committee, there had been "unanimous agreement that the existing arrangements and the provisions regarding GMDSS would need to run in parallel for a number of years ..." and that there had been discussions within the ad hoc Group 1 on that principle. Indeed it would form part of the Resolution and he could see no harm in incorporating it in the Radio Regulations.

3.13 The delegate of the United Kingdom suggested that MOD 2945, MOD 2946 and MOD 2947 should be left in square brackets for the time being.

3.14 After a discussion on whether to retain or delete MOD 2947 in which the delegates of Greece, Norway, Togo, the USSR and Argentina took part, the Chairman said that the action he intended to take at the current stage was to retain MOD 2945 and 2946 editorially consolidated into a single provision, while MOD 2947 would be deleted and the summary record of the meeting would note that further revision might be made to that particular Regulation, if necessary, after consideration of Resolution COM5/1.

The meeting rose at 1035 hours.

The Secretary: The Chairman:

A. ZOUDOV P.E. KENT

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

Document 264-E
29 September 1987
Original: English

COMMITTEE 4

Federal Republic of Germany, Cyprus, Denmark, France, Norway, United Kingdom, Sweden

PROPOSALS FOR THE WORK OF THE CONFERENCE

Introduction

This document addresses the question of long term provision for the mobile service in the bands 74.8-75.2 MHz, 108-112 MHz and 328.6-335.4 MHz, when these are no longer required for the aeronautical radionavigation service. The reasoning behind this was outlined in Document 10.

In developing this revised proposal, it was recognised that the bands in question will continue to be used for the ILS for many years. However the administrations submitting this proposal consider it is important to make an early indication at this conference, that that these bands will be used by the mobile service in due time.

MHz

74.8-75.2

CEPT/264/1
MOD

Allocation to Services		
Region 1	Region 2	Region 3
74.8-75.2 AERONAUTICAL RADIONAVIGATION 572 <u>572A</u>		

MHz

108-117.975

CEPT/264/2
MOD

Allocation to Services		
Region 1	Region 2	Region 3
108-117.975 AERONAUTICAL RADIONAVIGATION <u>572A</u>		

MHz

328.6-335.4

Allocation to Services		
Region 1	Region 2	Region 3
328.6-335.4 AERONAUTICAL RADIONAVIGATION 645 5.72A		

CEPT/264/3
MOD

CEPT/264/4
ADD 5.72A

Additional allocation: in Federal Republic of Germany, Cyprus, Denmark, France, Norway, United Kingdom and Sweden, the bands 74.8-75.2 MHz, 108-112 MHz and 328.6-335.4 MHz are also allocated to the mobile service on a secondary basis.

In order to ensure that harmful interference is not caused, stations of the mobile service shall not be introduced into parts of the bands until they are no longer required for the aeronautical radionavigation service.

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

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29 September 1987
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COMMITTEE 4

NOTE FROM THE CHAIRMAN OF THE TECHNICAL WORKING GROUP OF THE PLENARY TO THE CHAIRMAN OF COMMITTEE 4

The Technical Working Group of the Plenary has considered the matter raised in item 2 of your note (Document 173) concerning technical advice with regard to certain terms used in RR 466 and concludes that for the time being studies so far carried out are insufficient to give a definite answer. This matter has therefore been included in studies to be carried out by the CCIR concerning data transmission from maritime radiobeacons for differential navigation systems under the terms of draft Resolution No. ... [GT-TEC PLEN/1].

E. GEORGE
Chairman of the Technical Working Group of the Plenary

MOB-87 INTERNATIONAL TELECOMMUNICATION UNION
WARC FOR THE MOBILE SERVICES
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COMMITTEE 7

FIRST SERIES OF TEXTS FROM COMMITTEE 6 TO THE EDITORIAL COMMITTEE

The following texts which were approved by Committee 6 at its fourth meeting, are submitted to the Editorial Committee:

a) texts approved without modification

Article 45 - Annex 2 to Document 221

Article 58 - Attachment to Document 213

Article 61 - NOC Document 222

Resolution No. 316 - Annex 1 to Document 222

Resolution No. COM6/1 - Attachment to Document 214

b) texts approved with slight modifications

Article 46 - Annex 2 to Document 221

Article 47 - Annex 2 to Document 221

Article 66 - Attachment to Document 214

Resolution No. COM6/2 - Annex 2 to Document 222

I.R. HUTCHINGS
Chairman of Committee 6

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WORKING GROUP 6-A

REPORT OF DRAFTING GROUP 6-A-3 ON ARTICLE 59 AND RECOMMENDATION No. 316

Agreed text is attached for revision of Article 59 taking account of proposals in Documents 8, 11, 24, 25, 32, 33, 40(Add.1), 42, 60, 98 and 135.

Agreed text is also attached for revision of Recommendation No. 316 taking account of proposals in Documents 25(Add.1), 33 and 54.

M.A. JOHNSON
Chairman of Drafting Group 6-A-3

ARTICLE 59

NOC **Conditions to be Observed in the Maritime Mobile Service and in the Maritime Mobile-Satellite Service**

NOC **Section I. Maritime Mobile Service**

NOC 4096-4103

MOD 4104 § 7. Ship stations and ship earth stations other than survival craft station shall be provided with the documents enumerated in the appropriate section of Appendix 11.

NOC 4105

MOD 4106 B. Ship Stations Using Morse Radiotelegraphy

NOC 4107-4109

MOD 4110 § 11. All ship stations equipped with Morse radiotelegraph apparatus to work in the authorized bands between 415 kHz and 535 kHz shall be able to:

NOC 4111

NOC 4112-4115

MOD 4116 § 13. In Region 2, any Morse radiotelegraph station installed on board a ship which uses frequencies in the band 2 089.5 - 2 092.5 kHz for call and reply shall be provided with at least one other frequency in the authorized bands between 1 605 kHz and 2 850 kHz.

NOC 4117

MOD 4118 § 14. In ship stations, all apparatus using class A1A emissions for Morse telegraphy on frequencies in the authorized bands between 4 000 kHz and 27 500 kHz shall satisfy the following conditions:

NOC 4119-4121

MOD 4122 C. Ship Stations Using ~~Narrow-Band Direct-Printing Telegraphy and~~ Digital Selective Calling

(MOD) 4123A § 15. ~~(2)~~ The characteristics of the digital selective calling equipment ~~should~~ shall be in accordance with the Recommendations of the CCIR.

ADD 4123B C1. Bands Between 415 kHz and 535 kHz

ADD 4123C § 15A. All ship stations equipped with apparatus for digital selective calling to work in the authorized bands between 415 kHz and 535 kHz shall be able to transmit and receive class F1B or J2B emissions on at least two digital selective calling channels necessary for their service.

ADD 4123D C2. Bands Between 1 605 kHz and 4 000 kHz

ADD 4123E § 15B. All ship stations equipped with digital selective calling apparatus to work in the authorized bands between 1 605 kHz and 4 000 kHz shall be able to:

ADD 4123F a) transmit and receive class F1B or J2B emissions on the frequency 2 187.5 kHz;

ADD 4123G b) in addition, send and receive class F1B or J2B emissions on other digital selective calling frequencies in this band as necessary to carry out their service.

ADD 4123H C3. Bands Between 4 000 kHz and 27 500 kHz

ADD 4123I § 15C. All ship stations equipped with digital selective calling apparatus to work in the authorized bands between 4 000 kHz and 27 500 kHz shall be able to:

ADD 4123J a) transmit and receive class F1B or J2B emissions on the frequencies [4 188 kHz, 6 282 kHz, 8 375 kHz, 12 563 kHz and 16 750 kHz];

ADD 4123K b) transmit and receive class F1B or J2B on an international calling channel (see Nos. 4683 and 4684) in each of the HF maritime mobile bands necessary for their service;

ADD 4123L c) transmit and receive class F1B or J2B on other digital selective calling channels in each of the HF maritime mobile bands necessary for their service.

ADD 4123M C4. Bands Between 156 MHz and 174 MHz

ADD 4123N § 15D. All ship stations equipped with apparatus for digital selective calling to work in the authorized bands between 156 MHz and 174 MHz shall be able to transmit and receive class G2B emissions on the frequency 156.525 MHz.

ADD 4123O D. Ship Stations Using Narrow-Band Direct-Printing Telegraphy

ADD 4123P § 15E.(1) All ship stations using narrow-band direct-printing telegraphy equipment shall be able to send and receive on the frequency designated for distress traffic by narrow-band direct-printing telegraphy in the frequency bands in which they are operating.

(MOD) 4123 ~~§ 15A.(1)~~(2)The characteristic of the narrow-band direct-printing equipment shall be in accordance with Appendix 38.

ADD 4123Q D1. Bands Between 415 kHz and 535 kHz

ADD 4123R § 15F. All ship stations equipped with narrow-band direct-printing telegraphy apparatus to work in the authorized bands between 415 kHz and 535 kHz shall be able to:

ADD 4123S a) send and receive class F1B or J2B emissions on the working frequencies necessary to carry out their service;

ADD 4123T b) if complying with the provisions of Chapter N IX, receive class F1B emissions on 518 kHz.

ADD 4123U D2. Bands Between 1 605 kHz and 4 000 kHz

ADD 4123V § 15G. All ship stations equipped with narrow-band direct-printing telegraphy apparatus to work in the authorized bands between 1 605 kHz and 4 000 kHz shall be able to send and receive class F1B or J2B emissions on working frequencies as necessary to carry out their service.

ADD 4123W D3. Bands Between 4 000 kHz and 27 500 kHz

ADD 4123X § 15H. All ship stations equipped with narrow-band direct-printing telegraphy apparatus to work in the authorized bands between 4 000 and 27 500 kHz shall be able to send and receive class F1B or J2B emissions on working frequencies in each of the HF maritime mobile bands as necessary to carry out their serivce.

NOC 4124 E. Ship Stations Using Radiotelephony

(MOD) 4125 E1 ~~D1~~. Bands Between 1 605 kHz and 4 000 kHz

NOC 4126

MOD 4127 a) send class J3E or H3E emissions on a carrier frequency of 2 182 kHz and receive class J3E or H3E emissions on a carrier frequency of 2 182 kHz except for such apparatus as is referred to in No. 4130 (see also MOD 2945 and MOD 2973).

NOC 4128-4130

MOD 4131 E2 ~~D2~~. Bands Between 4 000 kHz and 27 500 ~~23 000~~ kHz

MOD 4132 § 18. ~~In the zone of Region 1 south of latitude 15° N, in Region 2 (except Greenland) and in the zone of Region 3 south of latitude 25° N, all~~ All ship stations equipped with radiotelephony to work in the authorized bands between 4 000 kHz and 23 000 kHz and which do not comply with the provisions of Chapter N IX should be able to send and receive on the carrier frequencies 4 125 kHz and 6 215 ~~.5~~ kHz (see Nos. 2982 and 2986). However, all ship stations which comply with the provisions of Chapter N IX shall be able to send and receive on the carrier frequencies designated in Article N 38 for distress and safety traffic by radiotelephony for the frequency bands in which they are operating.

(MOD) 4133 E3 ~~D3~~. Bands Between 156 MHz and 174 MHz

MOD 4134 § 19. All ship stations equipped with radiotelephony to work in the authorized bands between 156 MHz and 174 MHz (see No. 613 and Appendix 18) shall be able to send and receive class G3E emissions ~~(see Resolution No. 308)~~ on:

NOC 4135-4136

ADD 4136A c) The intership navigation safety frequency 156.560 MHz

(MOD) 4137 ~~e)~~ d) all the frequencies necessary for their service.

MOD Section II. ~~Conditions to be Observed by Ship Earth Stations~~ Maritime Mobile Service

NOC 4138

SUP 4139

NOC 4140-4141

NOC

Section III. Aircraft Communicating with Stations of the Maritime Mobile Service and the Maritime Mobile-Satellite Service

NOC 4142-4145

MOD 4146 § 25. In the case of communication beween a station of the maritime mobile service and an aircraft station, radiotelephone calling may be renewed as is specified in Nos. 4933, 4934 and for radiotelegraph calling after an interval of five minutes, not withstanding No. 4735.

NOC 4147-4153

MOD 4154 (2) The ~~frequencies~~ frequency 156.3 MHz ~~and 156.8 MHz~~ may be used by aircraft stations for safety purposes ~~only~~. It may also be used for communication between ship stations and aircraft stations engaged in coordinated search and rescue operations (see Nos. 2993 and N 2993).

ADD 4155 (2A) The frequency 156.8 MHz may be used by aircraft stations for safety purposes only (see Nos. 2995A and N 2995A).

(MOD) RECOMMENDATION No. 316 (MOB-87)

NOC

Relating to the Use of Ship Earth Stations Within Harbours and Other Waters Under National Jurisdiction

(MOD) The World Administrative Radio Conference for the Mobile Services, Geneva, ~~1983~~ 1987,

NOC recognizing

NOC recalling

SUP a)

MOD ~~b)~~ a)

ADD noting

that the International Maritime Satellite Organization has prepared an International Agreement on the Use of INMARSAT Ship Earth Stations Within the Territorial Sea and Ports and that this Agreement is open for signature;

NOC considering a)

MOD b) that the maritime mobile-satellite service will place an important role in the ~~future~~ global maritime distress and safety system (FGMDSS) (GMDSS);

NOC c)

NOC is of the opinion

NOC that all ..... 1 645.5 MHz;

NOC recommends

SUP that all administrations examine this matter further;

ADD 1. that all administrations should consider permitting ship earth stations to operate within harbours and other waters under national jurisdiction;

ADD 2. that administrations should consider the adoption, where required, of international agreements on this matter.

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COMMITTEE 5

SECOND REPORT OF WORKING GROUP 5 AD HOC 1 TO COMMITTEE 5

1. At its third meeting, the Working Group agreed to adopt Resolution No. [COM5/3] as a consequence of the suppression of Resolution No. 206 (see Annex 1). It should be noted that certain provisions adopted in Working Group 5-B may have to be reviewed in the light of this decision.

2. The Working Group also adopted a revised version of Resolution No. 322 as contained in Annex 2.

R.C. McINTYRE
Chairman of Working Group 5 ad hoc 1

Annexes: 2

ANNEX 1

RESOLUTION No. [COM5/3]

Relating to the Date of Entry into Force of the 10 kHz Guardband for the Frequency 500 kHz in the Mobile Service (Distress and Calling)

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

considering

a) that the frequency spectrum should be used in the most efficient way possible;

b) that the World Administrative Radio Conference, Geneva, 1979, adopted a 495 kHz to 505 kHz guardband for the frequency 500 kHz, which is the international distress and calling frequency for radiotelegraphy in the mobile service;

c) that the use of frequencies in the band 490 - 510 kHz must be such as to provide full protection for distress and safety communications on 500 kHz;

d) that an adequate amortization period has been allowed for the radio equipment currently in service;

recognizing

that WARC-83 asked this Conference to decide on the date of entry into force of the definitive 495 kHz to 505 kHz guardband;

resolves

that the date of entry into force of the 10 kHz guardband for the frequency 500 kHz shall be the date for the full implementation of the GMDSS.

SUP Resolution No. 206

ANNEX 2

MOD

RESOLUTION No. 322(Rev.)

Relating to the Selection of Coast Stations and Coast Earth Stations to Assume Watch-Keeping Responsibilities on Certain Frequencies in Connection with the Implementation of Distress and Safety Communications for the GMDSS

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

considering

a) that the International Maritime Organization (IMO) is implementing a global maritime distress and safety system (GMDSS);

b) that this Conference has placed provisions in the Radio Regulations for distress and safety communications for the GMDSS to facilitate the progressive implementation of the new system while maintaining provision for continuation of the existing system during a transitional period;

c) that the new system necessitates the use or the exclusive use of number of additional frequencies for maritime distress and safety purposes;

d) that the extra watch-keeping responsibilities associated with these additional frequencies may be too onerous to be assumed, for MF, HF and VHF frequencies, by all coast stations open to public correspondence and, for space systems, by all coast earth stations;

e) that the additional frequencies are to be used as part of a world wide coordinated distress system which will require selected coast stations and selected coast earth stations to keep watch;

recognizing

a) that for the successful implementation of the new system there must be adequate geographical distribution of coast earth stations and coast stations keeping watch on the appropriate frequencies as well as those now in use;

b) that IMO is the organization best qualified to coordinate, with the agreement of administrations, a plan of coast earth stations and coas stations to accept watch-keeping responsibilities on the frequencies use in the system;

resolves to invite IMO

in cooperation with the ITU, to coordinate a plan for selected coast stations to assume watch-keeping responsibilities on the HF DSC frequencies and for selected coast earth stations to assume watch-keeping responsibilities on appropriate space system frequencies provided for use in the GMDSS and to forward this plan to the Secretary-General of the ITU who shall bring it to the attention of all administrations and shall also include the appropriate information in the [List of selected coast and coast earth stations participating in the GMDSS. (See Article 26 and Appendix 9.)];

requests the Secretary-General

to communicate this Resolution to the IMO.

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

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TECHNICAL WORKING GROUP
OF THE PLENARY

REPORT OF THE WORKING GROUP OF THE PLENARY AD HOC 3 TO THE TECHNICAL WORKING GROUP OF THE PLENARY

1. The Working Group of the Plenary ad hoc 3 considered the sharing possibilities of RDSS with existing authorized services in the proposed bands.

2. The following administrations participated in the Working Group of the Plenary.

Ad hoc 3:

Australia
Brazil
Federal Republic of Germany
France
Japan
India
Italy
Nigeria
Sweden
USSR
United Kingdom
United States of America

IATA were also represented.

3. The attached draft note from the Chairman of the Technical Working Group of the Plenary to the Chairman of Committee 4 was agreed.

M.A. JOHNSON
Chairman of the
Working Group of the
Plenary ad hoc 3

DRAFT

NOTE FROM THE CHAIRMAN OF THE TECHNICAL WORKING GROUP
OF THE PLENARY TO THE CHAIRMAN OF COMMITTEE 4

1. The Technical Working Group of the Plenary has considered in response to Document 173 the sharing possibilities of RDSS with existing authorized services in the proposed bands:

Intended use	Frequency band	Proposed allocation
user-to-satellite	1 610.0 - 1 626.5 MHz	Earth-to-space
satellite-to-user	2 483.5 - 2 500 MHz or 2 500.0 - 2 516.5 MHz	space-to-Earth
in-bound feeder link	5 117.0 - 5 183 MHz	space-to-Earth

with the purpose of determining suitable provisions (pfds or power limits etc.) if appropriate.

2. The following information is provided to assist Committee 4 in its deliberations on the proposed modification of the Table of Frequency Allocations to accommodate RDSS.

3. 1 610.0 - 1 626.5 MHz

Allocations in this band include aeronautical radionavigation (primary), fixed (primary RR 730 in 17 Region 1 countries), fixed (secondary RR 727 in several Region 3 countries) and radioastronomy (secondary RR 734). (See also RR 722, RR 732 and RR 733.)

3.1 Interference to radioastronomy

The following documents were considered in relation to sharing with radioastronomy in this band:

CCIR Report 1050, Annex I, section 2.1.2

CCIR Report 224, Table I

Document 3, section 6.2.10

USA/24/818

Document USA/65

Document 202

3.1.1 The proposed use of this band could cause difficulties for radioastronomy as observations of the hydroxyl line are conducted at 1 610.6 - 1 613.8 MHz. The United States proposes time sharing whenever the mobile transmitter is within the vicinity of observatories: e.g. 25 km radius for land-based mobiles; and 150 km for airborne mobiles (see USA/24/818). The RDSS mobile transmission would be restricted to the first 200 ms in each one-second marks of UTC. It is noted, however, that the radius within which the proposed time sharing arrangement would apply (Radioastronomy Region) can be determined by individual administrations as might the division of time within

each second of UTC. In some cases (in particular in Europe) this will presumably require bilateral or multi-lateral agreement. In addition the arrangement is only required during periods in which an observatory wishes to conduct measurements (see Document USA/65).

3.1.2 Although continuous measurements are not necessary for most radio-astronomical measurements, it would preclude certain types of measurements, for example observation of pulsars in this band.

3.1.3 There is some concern that control of the proposed time sharing arrangement may not be reliable which could have significant impact in those countries where radioastronomical observatories are near major conurbations. In the United Kingdom for example the time sharing arrangement would need to apply to virtually all airborne mobiles over the whole country which would presumably impact system capacity.

3.1.4 Since radioastronomical measurements are made under computer control and data reduction is a long process it may take many weeks or months before any interference is noted.

3.2 Sharing with fixed service

The second concern relating to sharing in this band is the possible mutual interference between an RDSS mobile transmitter and the fixed service, particularly in Europe where the band 1 550 - 1 645.5 MHz is allocated (under RR 730) for use by the fixed service in 17 countries on an equal primary basis.

The following documents were considered in relation to sharing with the fixed service:

CCIR Report 1050, Annex I, section 2.1

Document 3, Section 6.2.9

Document USA/67, section 2

USA/195/1

3.2.1 Interference to fixed service

3.2.1.1 The interference from a single RDSS mobile transmitter would consist of short bursts of noise approximately 20 ms long at intervals ranging from once per minute for certain aircraft to several times a day for some land-based users. The area within which a fixed service receiver could receive interference from an RDSS user will vary depending on the location, receiver noise and antenna gain of the receiving system but in general could extend to the horizon (CCIR Report 1050). For RDSS mobile transmitters located along the azimuth corresponding to the main beam of the radio-relay system, this potential interference range would extend to distances slightly over the horizon (Document USA/67). For other azimuths well outside the main beam this potential interference range would be significantly smaller. It should be noted that a continuous transmission by the RDSS mobile transmitter would need to be rendered impossible even in the case of failure of the mobile terminal.

3.2.1.2 It was noted that a proposal to limit mobile transmitter e.i.r.p. to the limits specified in RR 2541 (e.g. +40+3 θ dBW in any 4 kHz band for $0^o < \theta \leq 5^o$) is given in USA/195. This limit is considerably above the e.i.r.p. used in the sharing calculations (-22.8 dBW/4 kHz).

3.2.2 Interference to RDSS

Interference to the RDSS satellite would occur if the fixed service transmitter antenna is pointing in the direction at which the geostationary satellite orbit appears to intersect the local horizon. The antenna discrimination of both the RDSS satellite and the fixed service antenna should usually be sufficient to prevent unacceptable interference to the RDSS satellite.

3.3 Sharing with aeronautical radionavigation service

The band 1 610 - 1 626.5 is allocated to the aeronautical radionavigation service on a primary basis. With respect to this service, RR 732 provides that this band is reserved on a world-wide basis for the use and development of airborne aids to air navigation and any directly associated ground-based or satellite-borne facilities.

The same documents listed in section 3.2 above were considered in relation to sharing with the aeronautical radionavigation service.

3.3.1 Aeronautical radionavigation users of this band in accordance with RR 732 are typically airborne. Any interference from a single RDSS mobile transmitter would be of short duration and would merely increase the noise level. However, the interference range may extend beyond 400 km from the airborne receiver.

3.3.2 Ground-based aeronautical radionavigation facilities are likely to be fixed or mobile radar facilities. Any interference from a single RDSS mobile transmitter would be of short duration and is likely to be limited to line-of-sight conditions.

3.3.3 Interference into the RDSS space station receiver may originate from aeronautical radionavigation transmitters of moderate e.i.r.p.s and ground-based aeronautical radionavigation transmitters with high e.i.r.p.s. The interfering signal is of a very short duration compared with the length of the RDSS mobile transmissions.

An increase in RDSS retransmission rate and a decrease in RDSS capacity would therefore result in those cases where signal processing in the RDSS facilities did not compensate for the short interference bursts.

4. 2 483.5 - 2 500 MHz

The band 2 483.5 - 2 500 MHz is part of the 2 400 - 2 500 MHz band designated to industrial, scientific and medical (ISM) applications by RR 752. Radio services operating in this band must accept harmful interference which may be caused by these applications. The band is also allocated to radiolocation, fixed and mobile service users.

The following documents were considered in relation to sharing in this band:

CCIR Report 1050, Annex I, section 2.2

Document 3, sections 6.2.9 and 6.10

Document 67, section 3

AUS/40(Add.1)471

I/97/19

USA/195/2

4.1 Sharing with ISM

ISM devices could cause interference to RDSS mobile receivers when in close proximity (within a few metres) and could result in a modest increase in a user's retransmission rate.

4.2 Sharing with radiolocation

CCIR Report 1050 observes that because of the great diversity of terrestrial radiolocation stations it is difficult to make a definitive statement as to the feasibility of sharing between the radiodetermination satellite service and radiolocation service. However, because of the limited area of operation of current radiolocation systems, antenna discriminations and signal processing techniques should limit mutual interference probabilities to acceptable levels.

4.3 Sharing with the fixed and mobile services

The potential mutual interference between RDSS and the fixed and mobile services in this band is possibly of most concern to many administrations.

4.3.1 Interference to fixed and mobile services

4.3.1.1 Interference to fixed service receivers from the RDSS satellite is likely when the receiver antenna is pointing in the direction of the satellite. This is likely to occur with transhorizon radio links when the satellite elevation is low, and with other links such as television outside broadcast when the satellite has a high elevation. The CCIR has determined limits of power flux density at the Earth's surface to protect fixed service systems in this band. It has been proposed that these limits (RR 2557) applicable to the band 1 525 - 2 500 MHz should be applied to RDSS (I/97/19). However, these limits were based upon analyses described in Report 387, to determine the aggregate level of interference in a 2,500 km, 50 hops radio-relay system produced by satellites spaced every 3 degrees on the geostationary orbit. The limits given in RR 2562 applicable to this band have been proposed for this band (USA/195). In addition AUS/40/471 proposed -139 dB(W/m^2) in any 4 kHz.

Additional investigations are necessary to confirm the possibility of sharing with the fixed, mobile and radiolocation services with pfd limits less restrictive than those listed in RR 2557 in the band 2 483.5 - 2 500 MHz.

For convenience these limits are reproduced below:

RR. No.	2557	2562
Angle of arrival above horizontal plane (degrees σ)	dB(W/m^2) in any 4 kHz	
0 - 5	-154	-152
5 - 25	-154 + 0.5 (-5)	-152 + 0.75 (-5)
25 - 90	-144	-137

4.3.1.2 At low elevation angles the RDSS satellite is expected to have approximately 20 dB discrimination towards the radio-relay receiver resulting in a received signal strength of -165.4 dBW/4 kHz in the 2 degree case. Typical thermal noise power (KTB) characteristic for a transhorizon receiver input in a 2.7 MHz bandwidth and for a noise temperature of 650°k in around -165 dBW/4 kHz. The level of interference is therefore equivalent to the receiver thermal noise resulting in a 3 dB reduction in C/N. Considering this would occur only when the receiver antenna is pointing in the direction of the satellite the level of this interference might be acceptable. It is noted, that the levels quoted in RR 2557 and RR 2562 are clearly inadequate, however, the limits for a fixed service using tropospheric scatter are given in RR 2560 and RR 2564.

4.3.1.3 Considering the case of television outside broadcast radio-relay links as another example of worst case condition, these receivers are likely to have considerable gain in the direction of a high altitude satellite as they often operate to aircraft. Typical thermal noise power (KTB) at receiver input in a nominal 20 MHz bandwidth and for a noise temperature of 200°k nominal would be approximately -133 dBW.

Assuming 12 dB receiver antenna gain in the direction of the satellite would require a limit of -157 dB(W/m^2) in any 4 kHz to limit the interference to 6 dB below the level of receiver thermal noise.

4.3.2 Interference to RDSS

It is recognized that the potential for interference to RDSS mobile receivers is high within line of sight conditions. However, since the number of current fixed and mobile assignments in the 2 484 - 2 500 MHz band is apparently few the interference would be localized and could result in an increase in user retransmission rates.

5. 2 500 - 2 516.5 MHz

5.1 It is proposed in IND/93/23 that the band 2 500 - 2 516.5 should be allocated as the satellite-to-user link. The frequency band 2 500 - 2 516.5 MHz forms part of the band 2 500 - 2 655 MHz, which has already been allocated for fixed, mobile and broadcasting satellite services for all the three Regions. In addition, in Region 2, the band 2 500 - 2 655 MHz has been allocated for fixed satellite service. In Region 3, the band 2 500 - 2 535 MHz has been allocated for fixed satellite service and mobile satellite service. As far as sharing of fixed satellite and broadcasting satellite services with fixed and mobile services is concerned, the power flux-density limits given in RR 2562 and RR 2564 are applicable. The regulatory provisions RR 762 and RR 764 include provisions for achieving compatibility between space services and tropospheric scatter radio-relay links. No additional constraints would be imposed on fixed services in this band by the introduction of RDSS.

5.2 Sharing with terrestrial services

The criteria for sharing between space and terrestrial services including tropospheric radio-relay links exist in the band 2 500 - 2 516.5 MHz band and consideration could be given to adopting the same or similar criteria as that given in RR 762, 764 and 2561-2564 for frequency sharing between RDSS and terrestrial services.

5.3 Sharing with other space services

Appendix 29 to the Radio Regulations provides the method of calculation for determining if coordination is required between geostationary-satellite networks sharing the same frequency band. This method is based on the concept that the noise temperature of a system subject to interference increases as the level of the interfering emission increases. It is therefore generally applied irrespective of modulation characteristics of satellite networks. This procedure could be used for frequency sharing between RDSS and other space services.

Moreover, sharing of the band by more than one space service is not uncommon. The band 2 500 - 2 535 MHz has already been allocated for broadcasting and fixed satellite services and mobile-satellite service in Region 3.

6. 5 117 - 5 183 MHz

The band 5 117 - 5 183 MHz is allocated under RR 797 to the fixed-satellite service and the inter-satellite service for use as feeder links serving the aeronautical radionavigation and/or aeronautical mobile (R) service, subject to agreement obtained under the procedure set for in Article 14. This band is also allocated on a word-wide basis to the aeronautical radionavigation service with use by the international microwave landing system (MLS), (RR 796) taking precedence.

The following documents were considered with regard to sharing in this band:

CCIR Report 1050, Annex I, section 2.3

Document 3, section 6.2.9

Document 67, section 4

USA/24/86

AUS/40/35

SDN/90/3

I/97/21.

6.1 Interference to MLS receivers

CCIR Report 1050 states: "The portion of the MLS that could operate in this band is a mobile receive-only station used on board aircraft for final approach and landing at major airports. Indications are that the system would have a noise temperature near 2,600°k and a receive antenna gain of about 3 dBi.

Using these hypothetical characteristics and a maximum RDSS satellite power flux-density of -159 dB(W/m^2) in any 4 kHz band, a noise-to-interference ratio in excess of 30 dB is obtained. This value would be sufficient to protect MLS receivers and thus there should be no sharing difficulties encountered in this band."

6.2 Interference to RDSS central earth station

Any potential interference to the central earth station from MLS transmitters would be controlled via proper earth-station site selection and coordination so as to avoid interference from airport facilities utilizing the MLS systems.

7. Conclusion

7.1 1 610 - 1 626.5 MHz

7.1.1 The time and geographical sharing arrangement described in Document 3, section 6.2.10 and Document 65 (see 3.1.1) is a feasible means of providing protection to radioastronomy observations in the band 1 610.6 - 1 613.8 MHz from RDSS mobile transmissions.

This proposed sharing arrangement with radioastronomy would, however, preclude certain types of measurements, for example observation of pulsars in this band. There is some concern that control of the proposed time sharing arrangement may not be reliable or applicable in those countries where radioastromomical observations are near major conurbations. It is noted, however, that the radius within which the proposed time sharing arrangement would apply can be determined by individual administrations as might the division of time within each second of UTC.

7.1.2 The area within which a fixed service receiver could receive interference from an RDSS user will vary depending on the location, receiver noise and antenna gain of the receiving system but in general could extend to the horizon (CCIR Report 1050). For RDSS mobile transmitters located along the azimuth corresponding to the main beam of the radio-relay system, this potential interference range would extend to distances slightly over the horizon (Document USA/67). For other azimuths well outside the main beam this potential interference range would be significantly smaller.

7.1.3 Sharing between RDSS and the aeronautical radionavigation and fixed services may be feasible with a sharing criteria in the form of a limit on the e.i.r.p. per 4 kHz transmitted by an RDSS mobile terminal. This limit should be lower than the value specified in RR 2541 for other types of earth stations especially when considering the large interference range for airborne radionavigation receivers mentioned in 3.3.1 above and the potentially large number of RDSS mobile transmitters within this area. Concern has been expressed that the decrease in RDSS capacity due to interference from ground based radionavigation transmitters, as mentioned in 3.3.3 above, may not be acceptable.

7.2 2 483.5 - 2 500 MHz

7.2.1 Sharing with ISM and radiolocation appears feasible.

7.2.2 In order to protect the fixed service RR 2557 and 2560 should be applied.

7.3 2 500 - 2 516.5 MHz

Sharing with the existing services in this band appears feasible. RR 2562 and 2564 should be applied.

Additional investigations are necessary to confirm the possibility of sharing with the fixed, mobile and radiolocation services with pfd limits less restrictive than those listed in RR 2557 in the band 2 483.5 - 2 500 MHz.

7.4 5 117 - 5 183 MHz

Sharing is feasible in this band provided a pfd of -159 dB(W/m^2) in any 4 kHz band is applied. This is based on assumed MLS receiver characteristics of 2600°k noise temperature and 3 dBi antenna gain.

7.5 No additional sharing criteria are necessary to protect RDSS from the existing services in the bands 1 610 - 1 626.5 MHz, 2 483.5 - 2 516.5 MHz and 5 117 - 5 183 MHz.

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

Document 270-E
30 September 1987
Original: English

Source: Documents DL/35, 243, 244

COMMITTEE 6

FOURTH REPORT BY THE CHAIRMAN OF WORKING GROUP 6-B TO THE CHAIRMAN OF COMMITTEE 6

1. Working Group 6-B considered proposals submitted by Sub-Working Group 6-B-2 concerning the following texts, and approved the proposals contained in the Annex.

Articles 1, 24, 25, 35, 67

Appendix 13

Resolution No. 202

Recommendations Nos. 8, 204 (Rev.Mob-83)

2. Working Group 6-B proposes to send the following note to Committee 4.

"Committee 6 has considered AUS/40/593 concerning a draft Recommendation relating to future public mobile telecommunication systems and is of the opinion that this proposal is more appropriate to the work of Committee 4".

3. It was brought to the attention of the Working Group that the French text of provision 5137 is not precise. The Editorial Committee should consider aligning the text with the approved English version.

Y. HIRATA
Chairman of Working Group 6-B

Annex: 1

ANNEX

ARTICLE 1

Terms and Definitions

Section IV. Radio Stations and Systems

ADD 67A 4.10A Land earth station: An earth station in the fixed-satellite service or, in some cases, in the mobile-satellite service, located at specified fixed points or within specified areas on land to provide a feeder link for the mobile-satellite service.

ADD 68A 4.11A Base earth station: An earth station in the fixed-satellite service or, in some cases, in the land mobile-satellite service, located at specified fixed points or within specified areas on land to provide a feeder link for the land mobile-satellite service.

ADD 69A 4.12A Land mobile earth station: A mobile earth station in the land mobile-satellite service capable of surface movement within the geographical limits of a country or continent.

ARTICLE 24

NOC **Licences**

MOD 2024 § 3. To facilitate the verification of licences issued to mobile stations and mobile earth stations, there shall be added, when necessary, to the text written in the national language, a translation of the text in one of the working languages of the Union.

MOD 2025 § 4. (1) The government which issues a licence to a mobile station or a mobile earth station shall mention therein in clear form the particulars of the station, including its name, call sign and, where appropriate, the public correspondence category, as well as the general characteristics of the installation.

MOD 2027 § 5. (1) In the case of a new registration of a ship or aircraft in circumstances where delay is likely to occur in the issue of a licence by the country in which it will be registered, the administration of the country from which the mobile station or mobile earth station wishes to make its voyage or flight may, at the request of the operating company, issue a certificate to the effect that the station complies with these Regulations. This certificate, drawn up in a form determined by the issuing administration, shall give the particulars mentioned in No. 2025 and shall be valid only for the voyage or flight to the country in which the registration of the ship or aircraft will be effected, or for a period of three months, whichever is the lesser.

ARTICLE 25

NOC **Identification of Stations**

NOC **Section I. General Provisions**

NOC 2055-2064

ADD 2064A (4A) All transmissions by emergency position-indicating radiobeacons operating in the band 406 - 406.1 MHz or the band 1 645.5 - 1 646.5 MHz, or by those using digital selective calling techniques, shall carry identification signals.

MOD 2068 (b) emergency position-indicating radiobeacons <u>(except for those in No. 2064A)</u>.

[

MOD 2069 § 3. In transmissions ..... Appendix 43[1] or by ..... internationally.

SUP 2069.1

]

(Note - The above MOD/SUP are proposed if Resolution No. 320 is suppressed.)

ARTICLE 35

NOC **Radiodetermination Service and Radiodetermination-Satellite Service**

Section I. General Provisions

NOC 2832

Section III. Radio Direction-Finding Stations

ADD 2842A (2A) Where a radio direction-finding service is provided in the authorized bands between 156.0 MHz and 174.0 MHz, the radio direction-finding stations should be able to take bearings on the VHF distress and calling frequency 156.8 MHz and on the VHF digital selective calling frequency 156.525 MHz.

NOC RECOMMENDATION No. 601

ARTICLE 67

CHAPTER XII

MOD **Land Mobile Service and Land Mobile-Satellite Service**

MOD **Section I. Conditions to be Observed by Mobile Stations in the Land Mobile Service**

NOC 5128, 5131

SUP 5132, 5133

ADD **Section II. Conditions to be Observed by Mobile Earth Stations in the Land Mobile-Satellite Service**

ADD 5134 Mobile earth stations in the land mobile-satellite service shall be so established as to conform to the provisions of Chapter III as regards frequencies, and classes of emissions.

ADD 5135 The frequencies of emissions of these earth stations shall be checked as often as practicable by the inspection service to which these stations are subject.

ADD 5136 The energy radiated by the receiving apparatus shall be reduced to the lowest practicable value and shall not cause harmful interference to other stations.

ADD 5137 Administrations shall take all practicable steps necessary to ensure that the operation of any electrical apparatus installed in these earth stations does not cause harmful interference to the essential radio services of stations which are operating in accordance with the provisions of these Regulations.

[ADD 5138 Mobile earth stations in the land mobile-satellite service may communicate with stations in the maritime mobile-satellite and aeronautical mobile-satellite services. In such cases, they shall comply with the provisions of these Regulations relating to those services.]

(Note - The proposed addition of provision 5138 is now under consideration in Working Group 6-B.)

ARTICLE 68

NOC

General Radiotelephone Procedure in the Land Mobile Service - Calls

APPENDIX 13
Mob-83

NOC

Miscellaneous Abbreviations and Signals to be Used in Radiotelegraphy Communications Except in the Maritime Mobile Service

SUP

RESOLUTION No. 12

Relating to the New Rules for the Formation of Call Signs

SUP

RESOLUTION No. 202

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

NOC

RECOMMENDATION No. 8

Relating to Automatic Identification of Stations

SUP

RECOMMENDATION No. 204 (Rev.Mob-83)

Relating to the Application of Chapters IX, X, XI and XII of the Radio Regulations

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

Document 271-E
29 September 1987
Original: English

WORKING GROUP 4-A

THIRD REPORT FROM DRAFTING GROUP 4-A-3 TO WORKING GROUP 4-A

1. The Drafting Group has reconsidered Recommendation No. 404 and Resolution No. [COM4/1].

The Drafting Group proposes to include the essential part of Recommendation No. 404 into Resolution No. [COM4/1]. As a consequence the Drafting Group proposes the deletion of Recommendation No. 404.

The revised draft new Resolution concerning the secondary services in the band 136 - 137 MHz is to be found in the annex.

As a further consequence No. MOD 595 has to be changed so that reference is made to Resolution No. [COM4/1].

L. BERGMAN
Chairman of Drafting Group 4-A-3

Annex: 1

ANNEX

Draft

RESOLUTION No. [COM4/1]

Relating to the Use of the Band 136 - 137 MHz by the Aeronautical Mobile (R) Service

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

noting

a) the provisions of No. 595 concerning the future use of the band 136 - 137 MHz by the aeronautical mobile (R) service commencing on 1 January 1990;

b) that frequencies allocated to the aeronautical mobile (R) service are reserved for communications related to safety and regularity of flight and therefore require special measures to ensure freedom from harmful interference;

considering

a) that the Table of Frequency Allocations includes allocations to the aeronautical mobile (R) service on a primary basis, to the aeronautical mobile (OR) service in some countries (No. 594A) on a permitted basis and to the fixed and mobile, except aeronautical mobile (R) services on a secondary basis, in the band 136 - 137 MHz;

b) that under No. 595 provision is also made for allocation to the space operation service (space-to-Earth), the meteorological-satellite service (space-to-Earth) and the space research service (space-to-Earth) on a primary basis up to 1 January 1990, and thereafter on a secondary basis, and that the aeronautical mobile (R) service can be introduced on a primary basis only after 1 January 1990;

c) that on that date the aeronautical mobile (R) service may be subject to interference harmful to the safety of air navigation and that it is therefore necessary to protect this service from harmful interference that might be caused by stations in the fixed service, the mobile except aeronautical mobile (R) service, the space research service (space-to-Earth), the space operation service (space-to-Earth) and the meteorological-satellite service (space-to-Earth);

resolves

1. that administrations operating or intending to operate, stations in the fixed service, the mobile except aeronautical mobile (R) service, the space research service (space-to-Earth), the space operation service (space-to-Earth) and the meteorological-satellite service (space-to-Earth) in the band 136 - 137 MHz from 1 January 1990, take all necessary steps to protect the aeronautical mobile (R) service;

2. that from 1 January 1990, administrations should refrain from authorizing new assignments to the services to which the band

136 - 137 MHz is allocated on a secondary basis;

recommends

1. that administrations cease operation of stations of the other services to which the band is allocated on a secondary basis as and when the stations of the aeronautical mobile (R) service come into operation;

2. that a future competent world administrative radio conference consider the deletion of all secondary allocations from the band 136 - 137 MHz;

invites the Administrative Council

to place this matter on the agenda of the next competent world administrative radio conference.

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GENEVA, September-October 1987

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WORKING GROUP 6-B

FIRST REPORT BY THE CHAIRMAN OF SUB-WORKING GROUP 6-B-1 TO THE CHAIRMAN OF WORKING GROUP 6-B

1. Sub-Working Group 6-B-1 has held five meetings.

2. Proposals concerning Article 48 have been considered and the conclusions of the Sub-Working Group are contained in Annex 1. With regard to RR 3571, the general consensus of the Sub-Working Group is reflected in the proposed modification but the delegate of the USSR expressed a strong preference for commonality of text between Article 48 and Article 59 (specifically RR 3571 and RR 4143).

3. Proposals concerning Article 49 have been considered and the Sub-Working Group made the following decisions:

SUP 3601

SUP 3602

In considering proposed modifications to RR 3600, the Sub-Working Group concluded that no change was required but noted that the English text of RR 3600 did not appear to be aligned with the French text of RR 3600 and recommends that the attention of Committee 7 be drawn to this matter. Final conclusions on other proposals have been deferred pending the opportunity to look at the proposed new Article 12A, which is now before Working Group 6-B (Document 243).

4. Proposals concerning Article 51 are being considered and a Drafting Group 6-B-1/1 (under the chairmanship of Mr. G.V. Jefferey, United Kingdom) was established to consider some proposed text. Further consideration will be given to Article 51 at a future meeting of the Sub-Working Group.

5. Proposals concerning Articles 52 and 53 have been considered. The Sub-Working Group agreed the text of Article N 52, which is contained in Annex 2, and the consequential suppression of Articles 52 and 53. The Sub-Working Group discussed the desirability of extending Article N 52 to the aeronautical mobile-satellite service but agreed that this would not be appropriate.

6. The Sub-Working Group has considered those proposals relating to Appendix 26 which were clearly within the competence of the Conference and its decisions are given in Annex 3. The proposal by Algeria was made during the meeting. The delegate of Morocco indicated that his Delegation might wish to return to the proposed amendments to Article 26. The proposals of one administration did not appear to come within the competence of the Conference and were not discussed in the Sub-Working Group. The Sub-Working Group also had a brief discussion on the possibility of a more substantive revision of the country and geographical area symbols in Part IV of Appendix 26 but the general view was that this would not be possible in the time available during the Conference.

7. The Sub-Working Group considered the Resolutions and Recommendations within its mandate and its decisions relating to Resolutions Nos. 13, 405 and 406 and Recommendations Nos. 7 and 405 are given in Annex 4. With regard to Resolution No. 407, the Sub-Working Group agreed that there was merit in combining Resolutions Nos. 309 and 407 in a new Resolution. The United Kingdom and the Republic of Paraguay agreed to produce a joint text for further consideration. The Sub-Working Group noted, however, that Resolution No. 309 was not assigned to Committee 6, only to Committee 4 and that Committee 4 also had primary responsibility for Resolution No. 407. Further consideration of this matter would, therefore, appropriately fall to Committee 4. With regard to Recommendation No. 604, the Sub-Working Group noted that this had been considered by the Technical Working Group of the Plenary and that its proposals were now contained in a document of the Plenary (Document 246).

D.P. WILLMETS
Chairman of Sub-Working Group 6-B-1

Annexes: 4

ANNEX 1

ARTICLE 48

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

MOD 3571 ~~Stations on board~~ Aircraft stations and aircraft earth stations may communicate, for purposes of distress, and for public correspondence[1], with stations of the maritime mobile or maritime mobile-satellite service. For these purposes, they shall conform to the relevant provisions of Chapters IX or N IX, Chapter XI, Article 59, Section III, Articles 61, 62, 63, 65 and 66 (see also Nos. 962, 963 and 3633).

MOD 3571.1 [1] An aircraft station and aircraft earth station may communicate for public correspodence purposes as long as it continues watch on the frequencies provided for safety and regularity of flight.

---

* The modification to the title was agreed by Working Group 6-B and is included in this document for completeness only.

ANNEX 2

ADD ARTICLE N 52

General Communication Procedure in the Aeronautical Mobile Service

ADD **Section I. General Provisions**

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 coverage[1] area of the latter.

ADD 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.

ADD 3654 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.

ADD 3655 When an aeronautical station receives calls in close succession from several aircraft stations it decides the order in which these stations may transmit their traffic. Its decision shall be based on the priority in Article 51.

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.

ADD 3657 Before transmitting, a station shall take precautions to ensure that its emissions will not interfere with transmissions already in progress and that the station called is not in communication with another station.

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.

ADD 3659 When a station called does not reply to a Morse radiotelegraph call sent three times at intervals of two minutes, the calling may not be renewed until after an interval of three minutes.

ADD 3660 Aircraft stations shall not radiate carrier waves between calls.

ADD **Section II. Morse Radiotelegraph Procedure**

ADD 3661 A. General

ADD 3662 The use of Morse code signals shall be obligatory in the aeronautical mobile service. However, for radiocommunication of a special character, the use of other signals is not precluded.

ADD 3663 In order to facilitate radiocommunications, stations shall use the service abbreviations given in Appendix 13.

ADD 3663A When it is necessary for a station in the aeronautical mobile service to send test signals, either for the adjustment of a transmitter before making a call or for the adjustment of a receiver, such signals shall not be continued for more than ten seconds and shall be composed of a series of VVV followed by the call sign of the station emitting the test signals.

ADD 3664 B. Method of Calling

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.

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.

ADD 3667 C. Form of Reply to Calls

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.

ADD 3669 D. Difficulties in Reception

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.

ADD 3671 E. Signal for the End of Transmission

ADD 3672 The transmission of a radiotelegram shall be terminated by the signal -·- ·-· (end of transmission) followed by the letter K.

ADD 3673 F. Acknowledgement of Receipt

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.

ADD 3675 G. End of Work

ADD 3676 The end of work between stations shall be indicated by each of them by means of the signal ···-·-- (end of work).

SUP ARTICLE 52

SUP ARTICLE 53

ANNEX 3

APPENDIX 26

PART IV

Plan for the Allotment of Frequencies for the Aeronautical Mobile (OR) Service in the Bands between 2 505 and 23 350 kc/s

1. (a) Alphabetical list of country designations

ADD	ALG	Algeria (People's Democratic Republic of)
MOD	F	France (replacing France and Algeria)
MOD	D	Germany (Federal Republic of)
ADD	DDR	German Democratic Republic

(b) Other abbreviations

SUP	(81)	Means "East Germany"

2. (OR) Frequency Plan

MOD	ALG	Replacing F (Algeria) and F (Oran)
MOD	F	Replacing F (except Algeria)
ADD	ALG	On channels allotted to F, except for:

5 710.5 kHz
11 218.5 kHz
13 235.5 kHz

MOD For the following frequencies, replace "D(81)" with "DDR":

3 102 kHz
3 109 kHz
3 116 kHz
4 745.5 kHz
6 685 kHz
3 932 kHz
3 939 kHz

MOD CHN [(Region 9)] replacing CHN (7)

ANNEX 4

RESOLUTION No. 13

NOC **Relating to the Formation of Call Signs and the Allocation of New International Series**

RESOLUTION No. 405

NOC **Relating to the Use of Frequencies of the Aeronautical Mobile (R) Service**

RESOLUTION No. 406

NOC **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 Communications and for Meteorological Broadcasts**

RESOLUTION No. 7

NOC **Relating to the Adoption of Standard Forms for Ship Station Licenses and Aircraft Station Licenses**

RESOLUTION No. 405

NOC **Relating to a Study of the Utilization of the Aeronautical Mobile-Satellite (R) Service**

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WARC FOR THE MOBILE SERVICES
GENEVA, September-October 1987

Document 273(Rev.1)-E
1 October 1987
Original: English

WORKING GROUP 6-B

REPORT BY THE CHAIRMAN OF DRAFTING GROUP 6-B-3 TO THE CHAIRMAN OF WORKING GROUP 6-B

ARTICLE 67

ADD 5138 In exceptional cases, mobile earth stations in the land mobile-satellite service may communicate with stations in the maritime mobile-satellite service and the aeronautical mobile-satellite service. Such operations shall comply with the relevant provisions of the Radio Regulations related to these services and shall be subject to agreement among administrations concerned with due account taken of No. 953.

S. KASHIRSKY
Chairman of Drafting Group 6-B-3

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WARC FOR THE MOBILE SERVICES
GENEVA, September-October 1987

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30 September 1987
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WORKING GROUP 6-B

REPORT BY THE CHAIRMAN OF DRAFTING GROUP 6-B-3 TO THE CHAIRMAN OF WORKING GROUP 6-B

ARTICLE 67

ADD 5138 In exceptional cases, mobile earth stations in the land mobile-satellite service may communicate with stations in the maritime mobile-satellite service and the aeronautical mobile-satellite service. Such operations are in addition to and shall comply with the relevant provisions of the Radio Regulations related to these services, and shall be coordinated among the administrations concerned, with due account taken of No. 953.

S. KASHIRSKY
Chairman of Drafting Group 6-B-3

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

Document 274-E
30 September 1987
Original: Spanish

COMMITTEE 4

Mexico

RADIODETERMINATION-SATELLITE SERVICE

Document 111 contains proposals by the Mexican Administration relating, inter alia, to the amendment of Article 8 of the Radio Regulations with regard to the radiodetermination-satellite service.

Document 259 containing a joint proposal by a number of countries for changes to Article 8 with regard to the radiodetermination-satellite service has been sponsored by Mexico with a view to harmonizing similar positions regarding the main points covered in Document 111, and also because some of the solutions proposed therein are more flexible than those put forward in Document 111.

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

Document 275-E
30 September 1987
Original: French

COMMITTEE 4

THIRD REPORT BY WORKING GROUP 4-B TO COMMITTEE 4

1. At its fifth and sixth meetings, Working Group 4-B took the following decisions:

- SUP Resolution No. 30
- NOC Resolution No. 406
- NOC Recommendation No. 707

2. It also adopted the draft text on the NAVTEX coordination procedure drawn up by Drafting Group 4-B-1 for inclusion in the Radio Regulations as a new Article 14A. The adopted text is set out in annex hereto.

J. PIPONNIER
Chairman of Working Group 4-B

Annex: 1

ANNEX

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 B1 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.

---

* Note - Administrations are strongly recommended to effect coordination of the above characteristics in accordance with the procedures of the International Maritime Organization (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 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.

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 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.

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WARC FOR THE MOBILE SERVICES
GENEVA, September-October 1987

Corrigendum 1 to
Document 276-E
10 October 1987
Original: English

COMMITTEE 5

SUMMARY RECORD

OF THE

FIFTH MEETING OF COMMITTEE 5

(DISTRESS AND SAFETY)

1. Paragraph 2.2.1

In the fourth line, replace Working Group 5-A by "Working Group 5 ad hoc 1".

2. Paragraph 2.3.5

Replace by the following:

"The delegate of the Islamic Republic of Iran said that his Delegation believed that any addition of new provisions which degraded or might degrade the present distress and safety system (Chapter IX) should not be allowed".

3. Paragraph 2.4.8

Amend to read:

"... the 1979 SAR Convention and a future amendment to the 1974 SOLAS Convention."

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

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2 October 1987
Original: English

COMMITTEE 5

SUMMARY RECORD

OF THE

FIFTH MEETING OF COMMITTEE 5

(DISTRESS AND SAFETY)

Wednesday, 30 September 1987, at 0900 hrs

Chairman: Mr. P.E. KENT (United Kingdom)

Subjects discussed:	Documents
1. Proposals for the work of the Conference: item 6 of the Conference agenda	223
2. Reports by Working Group 5-B	215, 228, 229, 231
3. Note to the Chairman of Committee 5 from the Chairman of the Technical Working Group of the Plenary	177

1. Proposals for the work of the Conference (Document 223): item 6 of the Conference agenda

1.1 The delegate of the USSR, supported by the delegates of Poland and the United States, said that at its meeting the previous day, Working Group 5-A had noted that in the view of some administrations the proposals contained in Document 223 had serious legal implications and that the opinion of the Union's Legal Adviser was needed, particularly in respect of sections of Article 27 of the Second Geneva Convention. The way in which the issue was presented and the use of such expressions as "by analogy" and "rescue craft" were not clear to the Soviet Delegation which therefore proposed that Document 223 be removed from the agenda of Committee 5 pending the opinion of the Legal Adviser.

1.2 The delegate of Switzerland said that his Delegation had hoped that Document 223 could be taken in Committee 5 at this meeting because the substance of the document had already been delayed considerably at other discussions. While fully understanding some of the queries being raised, it believed that the issues were not as complicated as had been suggested, and that Article 40 contained nothing new in the matter of medical transports which required basic investigation. The addition was simply a technical matter for which the ITU was responsible and on which action should be taken without delay. If Document 223 were to be deferred, the Swiss Delegation would wish to be absolutely sure that it would be presented in time for proper consideration by the Committee.

1.3 The Chairman of Working Group 5-A said that the Working Group had considered that there should be some discussion on Document 223 in Committee 5, before other steps, such as seeking the opinion of the Legal Adviser, were taken.

1.4 The Chairman suggested that in view of the support for the proposal by the USSR, the matter be deferred until legal advice had been obtained, on the understanding that adequate time would be given for discussion of Document 223. If that suggestion were approved, the delegates of the USSR and the United States should together submit specific questions for the Legal Adviser, with a view to discussing the paper at one of the following meetings of the Committee.

It was so agreed.

2. Reports by Working Group 5-B (Documents 215, 228, 229 and 231)

2.1 First Report of Working Group 5-B (continued) (Document 215)

MOD 2982A

Approved, with the words "and search and rescue" being amended to read "including search and rescue".

MOD 2994

Approved, with the deletion of the sentence in square brackets.

The First Report of Working Group 5-B to Committee 5 (Document 215) was approved as amended.

2.2 Third Report of Working Group 5-B to Committee 5 (Document 228)

2.2.1 The Chairman of Working Group 5-B drew attention to the reservations by Greece, Cuba and the Islamic Republic of Iran in respect of No. 3108, and the reservation by Greece in respect of No. 3038. In addition, since Working Group 5-A had drafted a Resolution concerning the date of entry into force of the reduction of the guard band for 500 kHz, 3018 should be modified only in respect of the reference to Resolution COM5/3. Among the editorial amendments, the reference to Article 38 in MOD 3010 should be to Article N 38, and in MOD 3016, the phrase "frequencies 2 182 kHz and 156.8 MHz" should read "international distress frequency 2 182 kHz or on 156.8 MHz".

2.2.2 The Chairman said that No. 2998 should be left in abeyance for the time being and that the Editorial Committee should be advised that (MOD) 2998 B, C and E might require revision in the light of the outcome of discussions in the Technical Working Group of the Plenary.

MOD 3018

Approved, with the reinstatement of 490 kHz and 510 kHz and the reference to Resolution No. 206 being amended to Resolution COM5/3.

MOD 3038

Approved. The reservation by Greece was noted.

The Third Report of Working Group 5-B was approved as amended.

2.3 Fourth Report of Working Group 5-B (Document 229)

2.3.1 The Chairman of Working Group 5-B pointed out that the heading to Section III at page 2 of Document 229 had been included for information only. In the light of decisions taken in ad hoc Working Group 5-1, the frequency band between 490 kHz and 510 kHz in MOD 3040 should be modified only in respect of the reference.

ADD 3038A

2.3.2 The Delegations of France, Greece and the Islamic Republic of Iran had entered reservations in respect of ADD 3038A.

2.3.3 The Delegation of France withdrew their reservation and requested the following statement be included in the summary record of the meeting:

France

Document 229

"France entered a reservation concerning proposed paragraph (2) in ADD 3038A, because the insertion of this new text in Chapter IX of the Radio Regulations introduces a new conception of the way watch is kept on distress frequencies, particularly the frequency 500 kHz.

While agreements between administrations relieve coast stations providing a public correspondence service of some of their tasks, they also permit all possible combinations between such coast stations and, for example, MRCCs for maintaining watch on distress frequencies.

However, provided such agreements remain international in nature and are confined to agreements concluded between States, as spelt out in the last sentence of ADD 3038A, the text proposed is perfectly acceptable to the French Delegation."

2.3.4 The delegate of Greece said that his Delegation maintained its reservation because it believed that the text referred to conditions which prevailed in only a very few areas of the world and consequently removed cover from ships in all other areas.

2.3.5 The delegate of the Islamic Republic of Iran said that his Delegation believed that no additions to Chapter IX should be allowed.

ADD 3038A was approved and the reservations were noted.

MOD 3040

2.3.6 The Chairman suggested, as a compromise solution, that the band in question should be between 490 kHz and 510 kHz in order to protect the frequency of 500 kHz.

2.3.7 The delegate of the Federal Republic of Germany said that his Delegation had proposed a guard band of ±5 kHz, but had agreed to ±10 kHz in view of the concerns of a number of delegations. The Chairman's suggestion was therefore an acceptable compromise.

2.3.8 The delegate of Greece said that he, too, could agree to the Chairman's proposal and would withdraw his reservation.

The proposal was approved

MOD 3040, as amended, and with the replacement of the reference to Resolution 206 by Resolution COM5/3, was approved.

MOD 3042

2.3.9 The delegate of Australia, supported by the delegate of the Federal Republic of Germany suggested that for the sake of clarity, a reference to Morse telegraphy should be inserted, so that the beginning of the paragraph would read: "stations of the maritime mobile service open to Morse telegraphy public correspondence ..."

It was so agreed.

The Fourth Report of Working Group 5-B (Document 229), as amended, was approved.

2.4 Sixth and final report of Working Group 5-B (Document 231)

2.4.1 The Chairman of Working Group 5-B drew particular attention to paragraph 2 on the cover page. The Working Group had not had time to consider the Canadian proposal for an addition to No. 3090 in sufficient detail, and hoped that an in-depth discussion could be held in Committee 5. With regard to Article 41, Section II, the Group had decided to insert the word "Morse" in a number of revisions in order to make the distinction between Morse radiotelegraphy and narrow-band direct printing; that addition would make the text different from other international instruments on the subject, but was considered necessary in the interests of clarity.

MOD 3052

2.4.2 The delegate of the United States observed that the text to be inserted against MOD 3052 was that of proposal CEPT-8/15/60 in Document 15. The Chairman of Working Group 5-B added that the only alteration to 3052 was the addition of the reference to Resolution COM5/1 at the end of the text.

MOD 3090

2.4.3 The delegate of Canada said that the proposal to insert the words "or a person" after "vehicle" in No. 3090 was consistent with a recommendation of the IMO Maritime Safety Committee, which bore the primary responsibility in matters relating to search and rescue, and also with an IMO proposal to the Conference. Moreover, Working Group 5-A had agreed to include references to persons in the new Chapter IX, and it would be anomalous to exclude similar provisions from the existing Chapter IX. The delegates of Argentine, Sweden, the Federal Republic of Germany and Portugal supported the Canadian proposal.

2.4.4 The delegate of the United States said that his country's search and rescue experts saw serious implications in the introduction of a reference to persons into the definition of distress. His Delegation would prefer to retain No. 3279 which made all the provisions necessary in the case of the loss of persons overboard; in practice, the use of a distress signal in such cases was liable to alert a large number of ships and services which might not be able to provide immediate assistance. The delegates of Greece, Ireland, China and Australia endorsed those views.

2.4.5 The Chairman suggested as a compromise that No. 3090 should be left unchanged, except that the reference "(see No. 3279)" be added at the end. The delegates of New Zealand, Spain and the Federal Republic of Germany supported that suggestion.

2.4.6 The delegate of Poland said that it would indeed be strange for the Conference to adopt a decision which ran counter to those of IMO, the United Nations agency specifically concerned with the safety of life at sea. He was in favour of the Canadian proposal.

2.4.7 The delegate of the United States pointed out that the IMO decisions concerned had not been taken in that Organization's Sub-Committee on Radiocommunications, and the matter had perhaps not been considered as carefully as it might have. He supported the Chairman's compromise suggestion.

2.4.8 The Observer for IMO drew attention to the reasons for his Organization's proposal 1 in Annex 4 to Document 41, i.e. to make No. 3090 consistent with No. 3200 and with the provisions of the 1979 SAR Convention and the 1974 SOLAS Convention.

2.4.9 The delegate of Canada said he could see no reason for objecting to the insertion of a reference to persons in No. 3090 when that reference already appeared in No. 3279.

2.4.10 The delegate of Sweden said that in practice distress signals were used in his country to obtain priority assistance for persons in danger. The delegate of Poland agreed, adding that No. 3279 did not cover all cases of danger to persons, in referring only to the loss of persons overboard.

2.4.11 The delegate of the Federal Republic of Germany proposed that, in addition to references to Nos. 3200 and 3279 in No. 3090, the words "or where a person or persons is threatened with grave and immediate danger" should be added at the end of the first sentence of No. 3279. The delegates of Norway, Denmark, Argentina and Finland supported that proposal, and the delegate of Canada accepted it in a spirit of compromise.

The proposal was approved.

ADD 3285A and ADD 3285B

2.4.12 The delegate of Australia supported by the delegate of Norway, proposed that the word "land" should be deleted from the fourth line of ADD 3285A.

2.4.13 The Observer for IMO suggested that the word "rammed" in the third line of ADD 3285A should be replaced by "struck" and that the words "off-shore" should be inserted before "installation" in the third line of ADD 3285B.

It was so agreed.

The Sixth and Final Report of Working Group 5-B was approved as amended.

2.4.14 The Chairman, speaking on behalf of the Committee, thanked the Chairman and members of Working Group 5-B for completing the heavy task assigned to them so efficiently and in such a short time.

3. Note to the Chairman of Committee 5 from the Chairman of the Technical Working Group of the Plenary (Document 177)

Committee 5 took note of Document 177.

The meeting rose at 1035 hours.

The Secretary: The Chairman:

A. ZOUDOV P.E. KENT

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

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COMMITTEE 4

NOTE FROM THE CHAIRMAN OF THE TECHNICAL WORKING GROUP
OF THE PLENARY TO THE CHAIRMAN OF COMMITTEE 4

1. The Technical Working Group of the Plenary has considered in response to Document 173 the sharing possibilities of RDSS with existing authorized services in the proposed bands:

Intended use	Frequency band	Proposed allocation
user-to-satellite	1 610.0 - 1 626.5 MHz	Earth-to-space
satellite-to-user	2 483.5 - 2 500 MHz or 2 500.0 - 2 516.5 MHz	space-to-Earth
in-bound feeder link	5 117.0 - 5 183 MHz	space-to-Earth

with the purpose of determining suitable provisions (pfds or power limits etc.) if appropriate.

2. The following information is provided to assist Committee 4 in its deliberations on the proposed modification of the Table of Frequency Allocations to accommodate RDSS.

3. 1 610.0 - 1 626.5 MHz

Allocations in this band include aeronautical radionavigation (primary), fixed (primary RR 730 in 17 Region 1 countries), fixed (secondary RR 727 in several Region 3 countries) and radioastronomy (secondary RR 734). (See also RR 722, RR 732 and RR 733.)

3.1 Interference to radioastronomy

The following documents were considered in relation to sharing with radioastronomy in this band:

CCIR Report 1050, Annex I, section 2.1.2

CCIR Report 224, Table I

Document 3, section 6.2.10

USA/24/818

Document USA/65

Document 202

3.1.1 The proposed use of this band could cause difficulties for radioastronomy as observations of the hydroxyl line are conducted at 1 610.6 - 1 613.8 MHz. The United States proposes time sharing whenever the mobile transmitter is within the vicinity of observatories: e.g. 25 km radius for land-based mobiles; and 150 km for airborne mobiles (see USA/24/818). The RDSS mobile transmission would be restricted to the first 200 ms in each one-second marks of UTC. It is noted, however, that the radius within which the proposed time sharing arrangement would apply (Radioastronomy Region) can be determined by individual administrations as might the division of time within each second of UTC. In some cases (in particular in Europe) this will presumably require bilateral or multi-lateral agreement. In addition the arrangement is only required during periods in which an observatory wishes to conduct measurements (see Document USA/65).

3.1.2 Although continuous measurements are not necessary for most radio-astronomical measurements, it would preclude certain types of measurements, for example observation of pulsars in this band.

3.1.3 There is some concern that control of the proposed time sharing arrangement may not be reliable which could have significant impact in those countries where radioastronomical observatories are near major conurbations. In the United Kingdom for example the time sharing arrangement would need to apply to virtually all airborne mobiles over the whole country which would presumably impact system capacity.

3.1.4 Since radioastronomical measurements are made under computer control and data reduction is a long process it may take many weeks or months before any interference is noted.

3.2 Sharing with fixed service

The second concern relating to sharing in this band is the possible mutual interference between an RDSS mobile transmitter and the fixed service, particularly in Europe where the band 1 550 - 1 645.5 MHz is allocated (under RR 730) for use by the fixed service in 17 countries on an equal primary basis.

The following documents were considered in relation to sharing with the fixed service:

CCIR Report 1050, Annex I, section 2.1

Document 3, Section 6.2.9

Document USA/67, section 2

USA/195/1

3.2.1 Interference to fixed service

3.2.1.1 The interference from a single RDSS mobile transmitter would consist of short bursts of noise approximately 20 ms long at intervals ranging from once per minute for certain aircraft to several times a day for some land-based

users. The area within which a fixed service receiver could receive interference from an RDSS user will vary depending on the location, receiver noise and antenna gain of the receiving system but in general could extend to the horizon (CCIR Report 1050). For RDSS mobile transmitters located along the azimuth corresponding to the main beam of the radio-relay system, this potential interference range would extend to distances slightly over the horizon (Document USA/67). For other azimuths well outside the main beam this potential interference range would be significantly smaller. It should be noted that a continuous transmission by the RDSS mobile transmitter would need to be rendered impossible even in the case of failure of the mobile terminal.

3.2.1.2 It was noted that a proposal to limit mobile transmitter e.i.r.p. to the limits specified in RR 2541 (e.g. +40+3 θ dBW in any 4 kHz band for $0^o < \theta \leq 5^o$) is given in USA/195. This limit is considerably above the e.i.r.p. used in the sharing calculations (-22.8 dBW/4 kHz).

3.2.2 Interference to RDSS

Interference to the RDSS satellite receiver would occur if the fixed service transmitter antenna is pointing in the direction at which the geostationary satellite orbit appears to intersect the local horizon. The antenna discrimination of both the RDSS satellite and the fixed service antenna should usually be sufficient to prevent unacceptable interference to the RDSS satellite.

3.3 Sharing with aeronautical radionavigation service

The band 1 610 - 1 626.5 is allocated to the aeronautical radionavigation service on a primary basis. With respect to this service, RR 732 provides that this band is reserved on a world-wide basis for the use and development of airborne aids to air navigation and any directly associated ground-based or satellite-borne facilities.

The same documents listed in section 3.2 above were considered in relation to sharing with the aeronautical radionavigation service.

3.3.1 Aeronautical radionavigation users of this band in accordance with RR 732 are typically airborne. Any interference from a single RDSS mobile transmitter would be of short duration and would merely increase the noise level. However, the interference range may extend beyond 400 km from the airborne receiver.

3.3.2 Ground-based aeronautical radionavigation facilities are likely to be fixed or mobile radar facilities. Any interference from a single RDSS mobile transmitter would be of short duration and is likely to be limited to line-of-sight conditions.

3.3.3 Interference into the RDSS space station receiver may originate from aeronautical radionavigation transmitters of moderate e.i.r.p. and ground-based aeronautical radionavigation transmitters with high e.i.r.p. The interfering signal is of a very short duration compared with the length of the RDSS mobile transmissions. An increase in RDSS retransmission rate and a decrease in RDSS capacity would therefore result in those cases where signal processing in the RDSS facilities did not compensate for the short interference bursts.

4. 2 483.5 - 2 500 MHz

The band 2 483.5 - 2 500 MHz is part of the 2 400 - 2 500 MHz band designated to industrial, scientific and medical (ISM) applications by RR 752. Radio services operating in this band must accept harmful interference which may be caused by these applications. The band is also allocated to radiolocation, fixed and mobile service users.

The following documents were considered in relation to sharing in this band:

CCIR Report 1050, Annex I, section 2.2

Document 3, sections 6.2.9 and 6.10

Document 67, section 3

AUS/40(Add.1)471

I/97/19

USA/195/2

4.1 Interference from ISM devices

ISM devices could cause interference to RDSS mobile receivers when in close proximity (within a few metres) and could result in a modest increase in a user's retransmission rate.

4.2 Sharing with radiolocation

CCIR Report 1050 observes that because of the great diversity of terrestrial radiolocation stations it is difficult to make a definitive statement as to the feasibility of sharing between the radiodetermination satellite service and radiolocation service. However, because of the limited area of operation of current radiolocation systems, antenna discriminations and signal processing techniques should limit mutual interference probabilities to acceptable levels.

4.3 Sharing with the fixed and mobile services

The potential mutual interference between RDSS and the fixed and mobile services in this band is possibly of most concern to many administrations.

4.3.1 Interference to fixed and mobile services

4.3.1.1 Interference to fixed service receivers from the RDSS satellite is likely when the receiver antenna is pointing in the direction of the satellite. This is likely to occur with transhorizon radio links when the satellite elevation is low, and with other links such as television outside broadcast when the satellite has a high elevation. The CCIR has determined limits of power flux density at the Earth's surface to protect fixed service systems in this band. It

has been proposed that these limits (RR 2557) applicable to the band 1 525 - 2 500 MHz shall be applied to RDSS (I/97/19). However, these limits were based upon analyses described in Report 387, to determine the aggregate level of interference in a 2,500 km, 50 hops radio-relay system produced by satellites spaced every 3 degrees on the geostationary orbit. If different types of terrestrial systems were employed in this band, then different limits might be applicable. The limits given in RR 2562 applicable to the band 2 500 - 2 690 MHz have been proposed for this band (USA/195). In addition AUS/40/471 proposed -139 dB(W/m^2) in any 4 kHz.

Additional investigations are necessary to confirm the possibility of sharing with the fixed, mobile and radiolocation services in the band 2 483.5 - 2 500 MHz with pfd limits less restrictive than those listed in RR 2557.

For convenience these limits are reproduced below:

RR. No.	2557	2562
Angle of arrival δ above horizontal plane (degrees)	dB(W/m^2) in any 4 kHz	
0 - 5	-154	-152
5 - 25	-154 + 0.5 (δ-5)	-152 + 0.75 (δ-5)
25 - 90	-144	-137

4.3.1.2 At low elevation angles the RDSS satellite is expected to have approximately 20 dB discrimination towards the radio-relay receiver resulting in a received signal strength of -165.4 dBW/4 kHz in the 2 degree case. Typical thermal noise power (KTB) characteristic for a transhorizon receiver input in a 2.7 MHz bandwidth and for a noise temperature of 650 K in around -165 dBW/4 kHz. The level of interference is therefore equivalent to the receiver thermal noise resulting in a 3 dB reduction in C/N. Considering this would occur only when the receiver antenna is pointing in the direction of the satellite the level of this interference might be acceptable. It is noted, that the levels quoted in RR 2557 and RR 2562 are clearly inadequate, however, the limits for a fixed service using tropospheric scatter are given in RR 2560 and RR 2564.

4.3.1.3 Considering the case of television outside broadcast radio-relay links as another example of worst case condition, these receivers are likely to have considerable gain in the direction of a high altitude satellite as they often operate to aircraft. Typical thermal noise power (KTB) at receiver input in a nominal 20 MHz bandwidth and for a noise temperature of 200 K nominal would be approximately -133 dBW.

Assuming 12 dB receiver antenna gain in the direction of the satellite would require a limit of -157 dB(W/m^2) in any 4 kHz to limit the interference to 6 dB below the level of receiver thermal noise.

4.3.2 Interference to RDSS

It is recognized that the potential for interference to RDSS mobile receivers is high within line of sight conditions. However, since the number of current fixed and mobile assignments in the 2 483.5 - 2 500 MHz band is apparently few the interference would be localized and could result in an increase in user retransmission rates.

5. 2 500 - 2 516.5 MHz

5.1 It is proposed in IND/93/23 that the band 2 500 - 2 516.5 should be allocated as the satellite-to-user link. The frequency band 2 500 - 2 516.5 MHz forms part of the band 2 500 - 2 655 MHz, which has already been allocated for fixed, mobile and broadcasting satellite services for all the three Regions. In addition, in Region 2, the band 2 500 - 2 655 MHz has been allocated for fixed satellite service. In Region 3, the band 2 500 - 2 535 MHz has been allocated for fixed satellite service and mobile satellite service. As far as sharing of fixed satellite and broadcasting satellite services with fixed and mobile services is concerned, the power flux-density limits given in RR 2562 and RR 2564 are applicable. The regulatory provisions RR 762 and RR 764 include provisions for achieving compatibility between space services and tropospheric scatter radio-relay links. No additional constraints would be imposed on fixed services in this band by the introduction of RDSS.

5.2 Sharing with terrestrial services

The criteria for sharing between space and terrestrial services including tropospheric radio-relay links exist in the band 2 500 - 2 516.5 MHz band and consideration could be given to adopting the same or similar criteria as that given in RR 762, 764 and 2561-2564 for frequency sharing between RDSS and terrestrial services.

5.3 Sharing with other space services

Appendix 29 to the Radio Regulations provides the method of calculation for determining if coordination is required between geostationary-satellite networks sharing the same frequency band. This method is based on the concept that the noise temperature of a system subject to interference increases as the level of the interfering emission increases. It is therefore generally applied irrespective of modulation characteristics of satellite networks. This procedure could be used for frequency sharing between RDSS and other space services.

Moreover, sharing of the band by more than one space service is not uncommon. The band 2 500 - 2 535 MHz has already been allocated for broadcasting and fixed satellite services and mobile-satellite service in Region 3.

6. 5 117 - 5 183 MHz

The band 5 117 - 5 183 MHz is allocated under RR 797 to the fixed-satellite service and the inter-satellite service for use as feeder links serving the aeronautical radionavigation and/or aeronautical mobile (R) service, subject to agreement obtained under the procedure set for in Article 14. This band is also allocated on a word-wide basis to the aeronautical radionavigation service with use by the international microwave landing system (MLS), (RR 796) taking precedence.

The following documents were considered with regard to sharing in this band:

CCIR Report 1050, Annex I, section 2.3

Document 3, section 6.2.9

Document 67, section 4

USA/24/86

AUS/40/35

SDN/90/3

I/97/21.

6.1 Interference to MLS receivers

CCIR Report 1050 states: "The portion of the MLS that could operate in this band is a mobile receive-only station used on board aircraft for final approach and landing at major airports. Indications are that the system would have a noise temperature near 2,600 K and a receive antenna gain of about 3 dBi.

Using these hypothetical characteristics and a maximum RDSS satellite power flux-density of -159 dB(W/m^2) in any 4 kHz band, a noise-to-interference ratio in excess of 30 dB is obtained. This value would be sufficient to protect MLS receivers and thus there should be no sharing difficulties encountered in this band.

6.2 Interference to RDSS central earth station

Any potential interference to the central earth station from MLS transmitters would be controlled via proper earth-station site selection and coordination so as to avoid interference from airport facilities utilizing the MLS systems.

7. Conclusion

7.1 1 610 - 1 626.5 MHz

7.1.1 The time and geographical sharing arrangement described in Document 3, section 6.2.10 and Document 65 (see 3.1.1) appears to be a feasible means of providing protection to radioastronomy observations in the band 1 610.6 - 1 613.8 MHz from RDSS mobile transmissions.

This proposed sharing arrangement with radioastronomy would, however, preclude certain types of measurements, for example observation of pulsars in this band. There is some concern that control of the proposed time sharing arrangement may not be reliable or applicable in those countries where radioastromomical observatories are near major conurbations. It is noted, however, that the radius within which the proposed time sharing arrangement would apply can be determined by individual administrations as might the division of time within each second of UTC.

7.1.2 The area within which a fixed service receiver could receive interference from an RDSS user will vary depending on the location, receiver noise and antenna gain of the receiving system but in general could extend to the horizon (CCIR Report 1050). For RDSS mobile transmitters located along the azimuth corresponding to the main beam of the radio-relay system, this potential interference range would extend to distances slightly over the horizon (Document USA/67). For other azimuths well outside the main beam this potential interference range would be significantly smaller.

7.1.3 Sharing between RDSS and the aeronautical radionavigation and fixed services may be feasible with a sharing criteria in the form of a limit on the e.i.r.p. per 4 kHz transmitted by an RDSS mobile terminal. This limit should be lower (by at least 40 dB) than the value specified in RR 2541 for other types of earth stations especially when considering the large interference range for airborne radionavigation receivers mentioned in 3.3.1 above and the potentially large number of RDSS mobile transmitters within this area.

Concern has been expressed that the decrease in RDSS capacity due to interference from ground based radionavigation transmitters, as mentioned in 3.3.3 above, may not be acceptable.

7.2 2 483.5 - 2 500 MHz

7.2.1 Sharing with the radiolocation service appears to be feasible.

7.2.2 ISM devices could cause interference to RDSS mobile receivers when in close proximity (within a few metres) and could result in a modest increase in a user's retransmission rate.

7.2.3 In order to protect the fixed service RR 2557 and 2560 should be applied.

7.2.4 Additional investigations are necessary to confirm the possibility of sharing with the fixed, mobile and radiolocation services in the band 2 483.5 - 2 500 MHz with pfd limits less restrictive than those listed in RR 2557.

7.3 2 500 - 2 516.5 MHz

In principle sharing with the existing services in this band appears feasible. RR 2562 and 2564 should be applied.

7.4 5 117 - 5 183 MHz

Sharing appears feasible in this band provided a pfd of -159 dB(W/m^2) in any 4 kHz band is applied. This is based on assumed MLS receiver characteristics of 2600 K noise temperature and 3 dBi antenna gain. However, several administrations expressed the view that additional studies by ICAO are required.

7.5 No additional sharing criteria are necessary to protect RDSS from the existing services in the bands 1 610 - 1 626.5 MHz, 2 483.5 - 2 516.5 MHz and 5 117 - 5 183 MHz.

7.6 It was noted that the CCIR should continue its studies in order to obtain more precise results concerning the conditions of sharing in these bands, between the RDSS and other services, either similar or of the same nature.

E. GEORGE
Chairman of the Technical Working Group
of the Plenary

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

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30 September 1987
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COMMITTEE 7

FOURTH SERIES OF TEXTS TRANSMITTED BY THE TECHNICAL WORKING GROUP OF THE PLENARY TO THE EDITORIAL COMMITTEE

The texts which are contained in Document DT/52 with small modifications, as approved by the Working Group of the Plenary at its twelfth meeting.

E. GEORGE
Chairman of the Technical Working Group
of the Plenary

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

Document 279-E
30 September 1987
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The International Transport Workers' Federation

ENDORSEMENT OF DOCUMENT 232

The International Transport Workers' Federation wholeheartedly endorses the joint proposals for Articles 55 and 56 presented in Document 232. Those proposals will provide vital at-sea, on-board maintenance as well as disciplined operation and thus will assure the continuous availability of GMDSS equipment while at sea. As a result, seafarers lives will be saved. Lives of passengers will be spared. Vessels and cargoes will be saved.

Other proposals which espouse a combination of duplication and shore-based maintenance, i.e., a form of "flexibility" which would result in an anarchistic scheme by which each Administration could avoid providing effective distress and safety communications, are simply inadequate to the task. Such proposals are founded upon the unwarranted assumption that a cost savings would result from a reduction of personnel.

The issue is SAFETY. It is not manning. Devious savings are already being accomplished by most of the Administrations opposed to on-board maintenance through various schemes involving the flagging-out of significant parts of their fleets. The least this Conference should demand is that all vessels ensure safety for all seafarers.

Futuristic automated safety systems present almost insurmountable technical problems and enormous costs which will prove unmanageable to developing countries. Those nations will be the owners and operators of the world's future merchant fleets. Countries must exercise great care and caution in implementing GMDSS. Developed nations are too concerned with the cost of operating the two systems in parallel while dismissing the costs of the system to developing nations. Rushing the process will produce deadly mistakes at the cost of many lives.

In the view of ITF, investments should be made in the training and certification of skilled and cost-effective personnel rather than high-tech schemes which may better serve military and industrial applications and which do not impinge upon the safety of seafarers and passengers.

ITF suggests that each Administration carefully study the proposals, proposed amendments, and alternative proposals. ITF is certain that the world community of seafaring nations will, in its collective wisdom, forcefully support Document 232 without modification, and in its entirety, over other proposals which serve only the economic interests of certain high-tech Administrations. Document 232 deserves vigorous and firm support.

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MOB-87 INTERNATIONAL TELECOMMUNICATION UNION
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GENEVA, September-October 1987

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B.3

PLENARY MEETING

THIRD 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	Title
COM.6	221 (266)	Article 45
		Article 46
		Article 47
COM.6	213 (266)	Article 58
COM.6	214 (266)	Article 66
Tech WG PL	249	Resolution No. 601 (Rev.Mob-87)
COM.6	214 (266)	Resolution COM6/1
Tech WG PL	249	Recommendation No. 312 (Rev.Mob-87)
		Recommendation No. 603 (Rev.Mob-87)
		Recommendation No. 605 (Rev.Mob-87)

Y.C. MONGELARD
Chairman of Committee 7

Annex: 12 pages

ARTICLE 45

MOD

Personnel of Aeronautical Stations and Aeronautical Earth Stations

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 stations efficiently.

ARTICLE 46

MOD 3509 § 1. (1) The inspectors of governments or appropriate administrations of countries who visit an aircraft station or aircraft earth station may require the production of the licence for examination. The operator of the station, or the person responsible for the station, shall facilitate this examination. The licence shall be kept in such a way that it can be produced upon request.

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.

NOC 3511

NOC 3512

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

NOC 3514

MOD 3515 § 3. Members undertake not to impose upon foreign aircraft stations or aircraft earth stations which are temporarily within their territorial limits or which make a temporary stay in their territory, technical and operating conditions more severe than those contemplated in these Regulations. This undertaking in no way affects arrangements which are made under international agreements relating to air navigation, and which are therefore not covered by these Regulations.

ARTICLE 47

MOD

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

SUP

Section I. General

MOD 3541 § 1. 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).

SUP

Section II. Aeronautical Stations

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

SUP

Section III. Aircraft Stations

MOD 3542A § 2A. Aircraft stations and aircraft earth stations in flight shall maintain service to meet the essential communications needs 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 or aeronautical earth station concerned.

SUP 3543

ARTICLE 58

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

Section I. General

MOD 4044 § 1. In order to permit the application of the following rules on the subject of hours of watch, every station of the maritime mobile service and the maritime mobile-satellite service shall have an accurate clock correctly regulated to Coordinated Universal Time (UTC).

NOC 4045

MOD **Section II. Coast Stations and Coast Earth Stations**

MOD 4046 § 3. (1) The services of coast stations and coast earth stations are, as far as possible, continuous (day and night). Certain coast stations, however, may have a service of limited duration. Each administration or recognized private operating agency duly authorized to that effect fixes the hours of service for coast stations under its jurisdiction.

NOC 4047-4051

NOC **Section III. Ship Stations**

NOC 4052-4070

ARTICLE 66

MOD **Charging and Accounting for Radiocommunications in the Maritime Mobile Service and the Maritime Mobile-Satellite Service, [1, 2] except for Distress and Safety Communications**

NOC A.66

ADD Note 2 See Resolution COM6/1

NOC **Section II. Accounting Authority**

MOD 5086 § 2. Charges for maritime radiocommunications from ship to shore shall, in principle, and subject to national law and practice, be collected from the maritime mobile station licensee:

NOC 5087 to 5091

SUP 5092

SUP 5093

NOC 5094

MOD 5095 § 8. However, any accounting authority shall have the right to question the contents of an account for a period of six months after dispatch of the account, even if the account has been paid.

MOD 5096 § 9. All maritime radiocommunications accounts shall be paid by the accounting authority without delay and in any case within [six] [four] months after dispatch of the account.

MOD 5097 § 10. If international maritime radiocommunications accounts remain unpaid after [six] [four] months, the administration that has licensed the mobile station shall, on request, take all possible steps, within the limits of applicable national law, to ensure settlement of the accounts of the licensee.

MOD 5098 § 11. In the case referred to in No. 5095, if the period between the date of dispatch and receipt exceeds 21 days, the receiving accounting authority should at once notify the originating administration (or recognized private operating agency) that queries and payment may be delayed. The delay shall, however, not exceed three calendar months in respect of payment, or five calendar months in respect of queries, both periods commencing from the date of receipt of the account.

MOD 5099 § 12. The debtor accounting authority may refuse the settlement and adjustment of accounts presented more than eighteen months after the date of the traffic to which the accounts relate.

SUP **Section IV. Payment of Balances**

SUP 5100

SUP **Section V. Archives**

SUP 5101 to 5102

(MOD) RESOLUTION No. 601 (Rev.Mob-87)

(MOD) **Relating to the Recommendations and Standards for Emergency Position-Indicating Radiobeacons Operating on the Frequencies 121.5 and 243 MHz**

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

considering

NOC a) that emergency position-indicating radiobeacons operating on the frequencies 121.5 MHz and 243 MHz are intended to facilitate search and rescue operations;

NOC b) that the frequencies 121.5 MHz and 243 MHz are in common use by aircraft engaged in search and rescue operations;

NOC c) that the International Civil Aviation Organization has established recommended signal characteristics and technical specifications for aircraft equipment operating on 121.5 MHz and/or 243 MHz;

ADD d) Appendix 37A;

NOC resolves

that administrations authorizing the use of emergency position-indicating radiobeacons on 121.5 MHz and/or 243 MHz should ensure that such radiobeacons comply with the relevant Recommendations and standards of the International Civil Aviation Organization and the International Radio consultative Committee.

SUP Note 1

RESOLUTION COM6/1

Relating to the Inclusion, in the Regulations to be Adopted by the WATTC-88, of Provisions Concerning Charging and Accounting for Radiocommunications in the Maritime Mobile Service and the Maritime Mobile-Satellite Service except for Distress and Safety Communications, and to Consequential Modifications to Article 66 of the Radio Regulations

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

recognizing

that it is expected that provisions concerning charging and accounting for radiocommunications in the maritime mobile service and the maritime mobile-satellite service may be included in the Regulations to be adopted by the WATTC-88;

considering

that, if such provisions are included in those Regulations, it will not be necessary to retain similar provisions in the Radio Regulations;

noting

that those Regulations, if adopted, will enter into force after the revision of the Radio Regulations by this Conference;

resolves

1. that if provisions concerning charging and accounting for radiocommunications in the maritime mobile service and the maritime mobile-satellite service are contained in the Regulations to be adopted by the WATTC-88, when the latter enter into force, Article 66 of the Radio Regulations should be replaced by the following text:

"ARTICLE 66

Charging and Accounting for Radiocommunications in the Maritime Mobile Service and the Maritime Mobile-Satellite Service except for Distress and Safety Communications

The provisions of the Regulations adopted by the WATTC-88, taking into account the relevant CCITT Recommendations, shall apply.";

2. that in any interim period between the entry into force of the Final Acts of this Conference and the entry into force of the new Regulations containing modified provisions concerning charging and accounting for radiocommunications in the maritime mobile and maritime mobile-satellite services, administrations and recognized private operating agencies shall apply Article 66 of the Radio Regulations as modified by this Conference;

3. that if special provisions concerning charging and accounting in the maritime mobile and maritime mobile-satellite services are not included in the new Regulations adopted by the WATTC-88, Article 66 of the Radio Regulations, as modified by this Conference, shall continue to apply;

4. that a future competent conference should be invited to review this Resolution;

invites the Administrative Council

to place this Resolution on the agenda of the next competent conference.

(MOD) RECOMMENDATION No. 312 (Rev.Mob-87)

(MOD) **Relating to Studies of the Interconnection of Maritime Mobile Radiocommunication Systems with the International Telephone and Telegraph Networks**

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

SUP noting a) to f);

NOC considering

a) that it is desirable that there be interconnection of radiocommunication systems in the maritime mobile service with the international public telephone and telegraph networks to permit automatic routing of ship-shore traffic to and from national networks;

b) that such interconnection would greatly improve maritime radiocommunications;

urges the CCIR and the CCITT

(MOD) to continue all required studies relating to compatibility between the maritime mobile radiocommunication systems and the international telephone and telegraph systems, including various quality-of-service criteria, to permit the full interconnection of the maritime mobile services with the international telephone and telegraph networks;

NOC and invites administrations

to give priority to these studies in their participation in the work of the CCIR and the CCITT.

SUP Note 1

(MOD) RECOMMENDATION No. 603 (Rev.Mob-87)

(MOD) **Relating to Technical Provisions for Maritime Radiobeacons in the African Area**

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

NOC considering

the need to facilitate the planning for new maritime radiobeacons in the band 283.5 - 315 kHz particularly in the neighbouring localities of the European and African Areas;

MOD recommends

that the administrations of the countries of the African Area adopt provisions similar to those contained in the Regional Agreement concerning the planning of the maritime radionavigation service (radiobeacons) in the European Maritime Area, Geneva, 1985.

SUP Note 1

(MOD) RECOMMENDATION No. 605 (Rev.Mob-87)

(MOD) **Relating to Technical Characteristics and Frequencies for Shipborne Transponders**[1]

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

NOC considering

a) that merchant ships of the world are increasing in size and speed;

b) that every year a significant number of collisions occur involving merchant vessels with resultant loss of life and property and that collisions have a high potential for endangering the natural environment;

c) that there is a need to correlate radar targets with vessels making VHF radiotelephone transmissions;

d) that studies and experiments have shown that shipborne transponders can enhance and supplement radar target images as compared with normal radar images;

e) that current studies and experimentation relating to shipborne transponders indicate that development of equipment can be expected in the near future which will offer adequate radar image enhancement and target identification and, possibly, data transfer capabilities;

f) that such shipborne transponders may require protection from interference;

g) that the selection of technical characteristics for these transponders should be coordinated with other users of the radio frequency spectrum whose operations might be affected;

MOD requests the CCIR

to recommend, after consultation with appropriate international organizations, the most suitable order of magnitude of frequencies and bandwidth required for this purpose, and the technical parameters to be met by such devices, taking into account both electromagnetic compatibility with other services having allocations in the same frequency band and the need to ensure that the response of a transponder of the system studied should not be capable of interpretation as being from a radar beacon of whatever type;

---

[1] A receiver-transmitter which emits a signal automatically when it receives the proper interrogation.

(MOD) invites administrations and the International Maritime Organization

NOC to continue to evaluate the operational benefits which could result from the widespread use of transponders on ships and to consider whether there would be advantage in adopting an internationally approved system for future implementation;

NOC recommends

that, pending further technical and operational developments and evaluation, administrations be prepared at the next competent world administrative radio conference to make the necessary provisions for the use of such devices.

SUP Note 2.

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

Document 281-E
30 September 1987
Original: English

Source: Document DT/51

COMMITTEE 4

FIFTH REPORT OF WORKING GROUP 4-A TO COMMITTEE 4

1. In addition to the items listed in the first report (Document 147), in the third report (Document 206), and in the fourth report (Document 235), Working Group 4-A approved the modifications to Article 8 as contained in Annex 1 to this report.

1.1 In this respect it is to be noted that RR 471 and RR 472A are under square brackets due to the fact that the final wording may depend on the decisions to be taken by Committee 5.

1.2 The attention of Committee 4 is drawn to the fact that the Delegation of Switzerland reserved its position with respect to the band 2 700 - 2 900 MHz.

2. The Working Group also considered some of the Resolutions and Recommendations, which are attributed to it.

With respect to the Resolutions and Recommendations from the Radio Regulations, the Working Group unanimously adopted the conclusions set forth in Annexes 2 and 3 and proposes that Committee 4 approve them.

The Working Group also took note of the Recommendations from the two Regional Conferences, RARC-MM-R1 and RARC-EMA.

J. KARJALAINEN
Chairman of Working Group 4-A

Annexes: 3

ANNEX 1

kHz
415 - 1 606.5

<table>
<tr><th colspan="3">Allocation to Services</th></tr>
<tr><th>Region 1</th><th>Region 2</th><th>Region 3</th></tr>
<tr><td>415 - 435

AERONAUTICAL
RADIONAVIGATION

/ MARITIME
MOBILE / 470

465</td><td colspan="2" rowspan="2">415 - 495

MARITIME MOBILE 470

<u>Aeronautical Radionavigation</u> <u>470A</td></tr>
<tr><td>435 - 495

MARITIME
MOBILE 470

Aeronautical
Radionavigation

465 [471] [472A]</td></tr>
<tr><td colspan="2">469 <u>469A</u> [471] [472A]</td></tr>
</table>

MOD 469 Additional allocation: <u>Different category of service:</u> In Afghanistan, Australia, China, the Overseas French Territories of Region 3, India, <u>Indonesia, Islamic Republic of Iran,</u> Japan, <u>Pakistan,</u> Papua New Guinea <u>and Sri Lanka</u>, the <u>allocation of the</u> band 415 - 495 kHz is also allocated to the aeronautical radionavigation service <u>is</u> on a permitted basis. <u>Administrations in these countries shall take all practical steps necessary to ensure that aeronautical radionavigation stations in the band 435 - 495 kHz do not cause interference to coast stations reception of ship stations transmitting on frequencies designated for ship stations on a world-wide basis (see No. 4237).</u>

ADD 469A <u>Different category of service</u>: In the United States of America the allocation of the band 415 - 435 kHz to the aeronautical radionavigation service is on a primary basis.

ADD 470A In Region 2, the use of the band 435 - 495 kHz by the aeronautical radionavigation service is limited to non-directional beacons not employing voice transmission.

MHz
136 - 137

Allocation to Services		
Region 1	Region 2	Region 3
136 - 137	AERONAUTICAL MOBILE (R) Fixed Mobile except aeronautical mobile (R) 591 595 <u>594A</u>	

MOD 595 Until 1 January 1990, the band 136 - 137 MHz is also allocated to the space operation service (space-to-Earth), meteorological-satellite service (space-to-Earth) and the space research service (space-to-Earth) on a primary basis. The introduction of stations of the aeronautical mobile (R) service shall only occur after that date ~~and shall be effected in accordance with internationally agreed plans for that service~~. After 1 January 1990, the band 136 - 137 MHz will also be allocated to the above-mentioned space radiocommunication services on a secondary basis (see [Recommendation No. 404<u>(Rev. Mob-87)</u>]).

ADD 594A <u>Additional allocation</u>: As from 1 January 1990, in Poland and in the USSR, the band 136 - 137 MHz is also allocated to the Aeronautical Mobile (OR) Service on a permitted basis.

MHz
1 700 - 1 710

Allocation to Services		
Region 1	Region 2	Region 3
1 700 - 1 710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) Mobile except aeronautical mobile 671 722 <u>743A</u>	1 700 - 1 710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 671 722 743	

ADD 743A <u>Different category of service</u>: In the Federal Republic of Germany, <u>Austria,</u> Denmark, <u>Finland,</u> Norway, the Netherlands, the United Kingdom <u>and Switzerland,</u> in the band 1 700 - 2 450 MHz, ~~and in Switzerland, in the band 1 700 - 2 300 MHz~~, and in Sweden, in the bands 1 700 - 1 710 MHz and 2 290 - 2 300 MHz, the allocation to the mobile, except aeronautical mobile, service is on a primary basis (see No. 425), subject to agreement obtained under the procedure set forth in Article 14.

MHz
1 710 - 2 290

Allocation to Services		
Region 1	Region 2	Region 3
1 710 - 2 290 FIXED Mobile 722 744 746 743A 747 748 750	1 710 - 2 290 FIXED MOBILE 722 744 745 746 747 748 749 750	

MHz
2 290 - 2 450

2 290 - 2 300 FIXED SPACE RESEARCH (deep space) (space-to Earth) Mobile except aeronautical mobile 743A	2 290 - 2 300 FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)
2 300 - 2 450 FIXED Amateur Mobile Radiolocation 664 752 743A	2 300 - 2 450 FIXED MOBILE RADIOLOCATION Amateur 664 751 752

MHz
2 700 - 3 100

	Allocation to Services		
	Region 1	Region 2	Region 3
(NOC)	2 700 - 2 900	AERONAUTICAL RADIONAVIGATION 717 Radiolocation 770 771	
	2 900 - 3 100	RADIONAVIGATION 773 ~~774~~ ~~775~~ 775A Radiolocation 772	

SUP 774-775

MOD 772 In the bands 2 900 - 3 100 MHz, ~~5 470 - 5 650 MHz and 9 200 - 9 300 MHz~~, the use of the shipborne transponder system SIT shall be confined to the sub-bands 2 930 - 2 950 MHz, ~~5 470 - 5 480 MHz and 9 280 - 9 300 MHz~~.

ADD 775A In bands 2 900 - 3 100 MHz and 9 300 - 9 500 MHz, the response from radar transponders shall not be capable of being confused with the response from radar beacons (racons) and shall not cause interference to ship or aeronautical radars in the radionavigation service; noting, however, the provision No. 347 of these Regulations.

3 100 - 3 300

3 100 - 3 300	RADIOLOCATION 713 ~~776~~ 777 778	

SUP 776

MHz
5 470 - 5 650

Allocation to Services		
Region 1	Region 2	Region 3
5 470 - 5 650	MARITIME RADIONAVIGATION ~~772~~ Radiolocation 800 801 802	

8 850 - 9 300

9 200 - 9 300	RADIOLOCATION MARITIME RADIONAVIGATION ~~772~~ 823 <u>823A</u> 824

ADD 823A In the band 9 200 - 9 500 MHz, search and rescue transponders (SART) may be used, having due regard to the appropriate CCIR Recommendation.

9 300 - 10 000

	9 300 - 9 500	RADIONAVIGATION ~~774~~ ~~775~~ <u>775A</u> <u>823A</u> Radiolocation 825 <u>825A</u>
(NOC)	9 500 - 9 800	RADIOLOCATION RADIONAVIGATION 713

ADD 825A In the band 9 300 - 9 320 MHz in the radionavigation service, the use of shipborne radars, other than those existing on 1 January 1976, is not permitted until 1 January 2001.

ANNEX 2

1. Resolutions

1.1 Resolution No. 38: MOD (see Annex 3)

1.2 Resolution No. 204 (Mob-83): SUP

1.3 Resolution No. 304: SUP

1.4 Resolution No. 306: SUP

1.5 Resolution No. 307: SUP

1.6 Resolution No. 401: SUP

1.7 Resolution No. 402: SUP

2. Recommendations

2.1 Recommendation No. 203: SUP

2.2 Recommendation No. 300: SUP

2.3 Recommendation No. 301: SUP

2.4 Recommendation No. 307: SUP

2.5 Recommendation No. 400: SUP

2.6 Recommendation No. 406: NOC

2.7 Recommendation No. 601: NOC

ANNEX 3

RESOLUTION No. 38(Rev.Mob-87)

Relating to the Reassignment of Frequencies of Stations in the Fixed and Mobile Services in the Bands Allocated to the Radiolocation and Amateur Services in Region 1[1]

(1 625 - 1 635 kHz, 1 800 - 1 810 kHz,
1 810 - 1 850 kHz and 2 160 - 2 170)

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

considering

that the World Administrative Radio Conference, Geneva, 1979, has adopted modifications to the allocation of the frequency bands between 1 606.5 kHz and 2 850 kHz;

noting

a) that the implementation of the revised Table of Frequency Allocations presents difficulties in particular for stations in the maritime mobile service in Region 1 in the bands 1 625 - 1 635 kHz, 1 800 - 1 810 kHz and 2 160 - 2 170 kHz which are being made available for radiolocation services and in the band 1 810 - 1 850 kHz which is being made available to the amateur service;

b) that replacement frequencies for stations of the maritime mobile service ~~shall be~~ have been provided in the frequency assignment plan ~~mentioned above~~, contained in the Final Acts of the Regional Administrative Radio Conference for the Planning of the MF Maritime Mobile and Aeronautical Radionavigation Services (Region 1), Geneva, 1985, together with the arrangements for their implementation;

---

1 Replaces Resolution No. 38 of the WARC, Geneva, 1979.

resolves

1. that in Region 1, except for the countries and frequency bands mentioned[X2] in Nos. 485, 490, 491, 493 and 499, on the date of implementation (1 April 1992) of ~~a~~ the frequency assignment plan for the maritime mobile service ~~to be~~ contained in the ~~final acts~~ Final Acts of the ~~competent conference~~ Regional Administrative Radio Conference for the Planning of the MF Maritime Mobile and Aeronautical Radionavigation Services (Region 1), Geneva, 1985, all operations of stations of the fixed and mobile services shall be terminated in the bands 1 625 - 1 635 kHz, 1 800 - 1 810 kHz, 1 810 - 1 850 kHz and 2 160 - 2 170 kHz;

~~3~~.2. that administrations having assignments to stations of the fixed, land mobile or aeronautical mobile (OR) services in the bands concerned shall choose and notify to the IFRB appropriate replacement assignments; and where the finding of the Board is favourable with respect to Nos. 1240 and 1241, each such replacement assignment shall have the same date and status as that which it replaced, as far as the assignments of the countries in Region 1 are concerned;

~~4~~.3. that the protection afforded to stations of the fixed and mobile services by Nos. 486 and 492 shall continue to apply until such time as satisfactory replacement assignments have been found and implemented in accordance with this Resolution;

~~5~~.4. that, after the date of implementation (1 April 1992) of the frequency assignment plan for the maritime mobile service contained in the ~~final acts~~ Final Acts of the ~~competent conference~~ Regional Administrative Radio Conference for the Planning of the MF Maritime Mobile and Aeronautical Radionavigation Services (Region 1), Geneva, 1985, the continued use of frequency assignments that have not been transferred in accordance with resolves 3 shall be only on the basis of No. 342.

[X2] No. 485, bands 1 625 - 1 635 kHz, 1 800 - 1 810 kHz and 2 160 - 2 170 kHz;
No. 490, band 1 810 - 1 830 kHz;
No. 491, band 1 810 - 1 830 kHz;
No. 493, band 1 810 - 1 850 kHz;
No. 499, band 2 160 - 2 170 kHz.

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

Document 282-E
30 September 1987
Original: English

WORKING GROUP 4-A

SECOND REPORT OF DRAFTING GROUP 4-A-4 TO WORKING GROUP 4-A

The Drafting Group examined Resolution No. 600 and Recommendation No. 600 and proposes that the following action be taken:

SUP Resolution No. 600
SUP Recommendation No. 600.

W. MORAN
Chairman of Drafting Group 4-A-4

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

Document 283-E
30 September 1987
Original: English

COMMITTEE 6

SEVENTH REPORT BY THE CHAIRMAN OF WORKING GROUP 6-A TO THE CHAIRMAN OF COMMITTEE 6

To assist the work of Committee 6, I submit the proposal attached at annex as a Chairman's proposal for Articles 55 and 56.

The Working Group has considered several proposals for modification to Articles 55 and 56. As expected, two basic viewpoints emerged; one considered that radio operator certificates should include knowledge requirements intended to provide for at-sea repair and maintenance, while the other considered that the additional certificates for GMDSS in the Radio Regulations should contain only requirements for the proper operation of the automated equipment. Two lengthy sessions were devoted to this debate. It became clear that if any modifications to these Articles were to be made to provide new certificates for GMDSS operation, that it could not be based on a compromise between the two extreme viewpoints. Arguments were made that existing radio telegraph operators perform maintenance today and that this would be crucial for the safety of mariners in the GMDSS.

The debate then focussed, instead of on whether technical certificates were appropriate for inclusion in the Radio Regulations, but on the proposal made by Greece that all ships operating in accordance with the new Chapter N IX would be required to have a radio electronic operator. The Greek proposal did not permit any administration to consider alternative practices to provide for the availability of the communication equipment. Several administrations supported the Greek idea. Others had similar proposals but made provision for administrations to carry space equipments or technicians for maintenance who were not specifically radio operators.

The Greek proposal was not consistent with two basic principles which have enabled IMO members to reach agreement on operator functions.

The first principle separates the functions of operation and maintenance from each other while recognizing that they may be performed by the same individual.

The second principle recognizes that other methods besides at-sea repair can ensure the continued availability of GMDSS equipment. Flexibility to determine how to provide that the equipment is available when needed should be left to administrations.

While a majority of administrations believed that technical knowledge requirements for maintenance should be contained in the IMO International Convention for Standards, Training, Certification and Watchkeeping, a ratio of more than three-to-one favoured leaving the decision to administrations as to what type of certificate should be required aboard ships (implying flexibility concerning maintenance).

It was pointed out that an IMO Resolution A420 (revised in 1979 from A283) contains an annex describing requirements for the (then) future system. The annex states "the training of radio officers and radio operators should be further expanded, as appropriate, to ensure continued and adequate operation, maintenance and repairs at sea of the telecommunications and electronic navigation equipment involved in the safety of life at sea". IMO also has decided that a flexible approach towards maintenance should be used to ensure the operational availability of GMDSS equipment.

At the 33rd Session of the IMO Sub-Committee on Radiocommunications, a majority agreed that a flexible approach means that administrations should decide on the choice of methods used to ensure availability of electronic equipment.

A number of administrations indicated that they cannot and will not accept that maintenance or technical requirements be included in the Radio Regulations for GMDSS equipment and that IMO is the proper place for specifying the knowledge requirements for the maintenance and repair of GMDSS equipment. It was also noted that with today's distress system involving relatively simple maintenance as compared to the GMDSS, many vessels arrive in port with their communications equipment not working.

At this point I concluded that no compromise would satisfy both sides and closed the discussion. I announced that I would make a proposal to the Committee taking into account all proposals and the comments of administrations in the Working Group.

In my proposal I have provided that administrations are given the responsibility to decide which certificate that vessels under their jurisdiction must carry. The maintenance and training to ensure the operational availability refer to technical certificates issued in accordance with requirements not set out by the IMO. Only operator certificates are to be included in the Radio Regulations for the GMDSS.

Mr. Chairman, I had hoped that an acceptable compromise would emerge since our sixth meeting, however, none to date has been seen.

One new proposal by a number of administrations has been submitted (Document 232). This proposal is essentially the same proposal as submitted by some administrations to the Conference and does not meet the flexibility required by all administrations to decide how to maintain equipment aboard ships.

If my proposal is not acceptable to the Committee, I would have to conclude that no changes can be made to Articles 55 and 56 during this Conference.

R. SWANSON
Chairman of Working Group 6-A

Annex: 1

ANNEX

ARTICLE 55

Operators' Certificates for Ship Stations and Ship Earth Stations

NOC **Section I. General Provisions**

MOD 3860 § 1. (1) The service of every ship radiotelegraph station using Morse telegraphy shall be performed by an operator holding a certificate issued or recognized by the government to which the station is subject.

MOD 3861 (2) The service of every ship ~~radiotelephone~~ station not using Morse telegraphy and every ship 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 equipment.

SUP 3862

NOC 3863

NOC 3863.1

ADD 3863A (5) The service of every ship station and ship earth station using the frequencies and techniques in accordance with Chapter N IX for automated communications shall be controlled by a person 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 equipment.

NOC 3864-3866

MOD 3867 (2) When it is necessary to employ a person without a certificate or an operator not holding an appropriate certificate as a temporary operator, his performance as such must be limited solely to ~~signals of~~ distress, urgency and safety alerts, 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. 3877 regarding the secrecy of correspondence.

NOC 3868-3875

MOD 3876 d) The issuing or recognizing adminstration;

NOC 3877

MOD [**] **Section II. Categories of Certificates for Ship Station and Ship Earth Station Operators including certificates for the operation of automated communication equipment**[1]

(MOD) 3878 § 5. (1) There are four categories of certificates for radiotelegraph operators~~1~~ 2, namely:

NOC 3879-3882

ADD 3882A (1A) There are two categories of certificates for operators[2] of ship stations complying with the provisions of Chapter N IX, namely:

ADD 3882B a) the general operating certificate for automated communications in the maritime mobile service[3].

ADD 3882C b) the restricted operating certificate for automated communications in the maritime mobile service.

(MOD) 3883 (2) There are two categories of radiotelephone operators'~~1~~ 2 certificates, general and restricted.

MOD 3878.1) ~~1~~ 2 As regards the employment of operators holding the
3882A.1) different certificates, see Article 56.
3883.1)

[**] ADD 3882.3 3 This certificate may be issued as part of part of the requirements for a first or second class radioelectronic operators' certificate by administrations requiring maintenance to be performed at sea by the operator of the equipment, in accordance with the qualifications and knowledge requirements specified in the International Convention on Standards of Training Certification and Watchkeeping.

ADD [1]This equipment uses techniques that are entirely or largely automated and includes equipment carried to participate in the GMDSS.

[**] Chairman of Working Group 6-A.

MOD 3884 § 6. (1) The holder of a radiocommunication operator's general certificate, or of a first-class or second-class radiotelegraph operator's certificate, may carry out the ~~radiotelegraph or radiotelephone~~ radiocommunication service of any ship station or ship earth station.

ADD 3884A (1A) For ship stations complying with the provisions of Chapter N IX:

ADD 3884B a) the holder of a general operating certificate for automated communications may carry out the radiocommunication service on any ship station using the frequencies and techniques in compliance with Chapter N IX;

ADD 3884C b) the holder of a restricted operating certificate for automated communications may carry out the radiocommunication service on a ship station using the frequencies and techniques in compliance with Chapter N IX when sailing within range of VHF coast stations.

MOD 3885 (2) The holder of a radiotelephone operator's general certificate may carry out the radiotelephone service of any ship station or ship earth station (see Nos. 3884B and 3884C).

MOD 3885A (2A) The holder of a general operating certificate for automated communications may carry out the radiocommunication service of any ship station not using Morse telegraphy, and of any ship earth station.

NOC 3886-3890

NOC **Section III. Conditions for the Issue of Operators' Certificates**

NOC 3891 A. General

NOC 3892

NOC 3893 (2) Each administration is free to fix the number of examinations necessary to obtain each certificate.

MOD 3894 § 9. (1) 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: [**] experience with automated communication equipment; further technical and professional knowledge relating particularly to navigation; further training and knowledge relating to the repair of automated communication equipment as specified in the International Convention on Standards of Training Certification and Watchkeeping; physical fitness; etc.).

[**] Chairman of Working Group 6-A.

NOC 3895-3896

[**] ADD 3896A (4) Administrations should take whatever steps they consider necessary to ensure that continued availability of maritime radiocommunication equipment in accordance with the requirements of the International Convention on the Safety of Life at Sea (SOLAS).

NOC 3897 B. Radiocommunication Operators' General Certificate for the Maritime Mobile Service

NOC 3898-3949

ADD 3949A G. General and Restricted Certificates for Automated Communications

[**] ADD 3949AA The provision in No. 3870 does not apply to GMDSS.

ADD 3949B § 18A. The general operating certificate for automated communications is issued to candidates who have given proof of the knowledge and professional qualifications enumerated below (see also Nos. 3882A and 3884B);

ADD 3949BA a) a knowledge of the elementary principles of the GMDSS;

ADD 3949C b) a knowledge of the principles of equipment operating in conformity with Chapter N IX;

ADD 3949D c) detailed knowledge of the practical operation and adjustment of equipment operating in conformity with Chapter N IX;

ADD 3949E d) ability to communicate correctly by radiotelephony, direct-printing telegraphy and digital selective calling;

ADD 3949F e) ability to read, write and speak one of the working languages of the Union for the satisfactory exchange of radiocommunications;

ADD 3949G f) detailed knowledge of the Regulations applying to radiocommunication by the use of equipment operating in conformity with Chapter N IX, knowledge of the provisions of the Convention for the Safety of Life at Sea which relate to radio and knowledge of the Regulations relating to the operation of unauthorized transmissions and harmful interference.

ADD 3949H § 18B. The restricted operating certificate for automated communications is issued to candidates who have given proof of the knowledge and professional qualifications enumerated below (see also Nos. 3882A and 3884C):

[**] Chairman of Working Group 6-A.

ADD 3949HA a) a practical knowledge of GMDSS operation and procedure;

ADD 3949J b) knowledge of the practical operation and adjustment of equipment operating in conformity with Chapter N IX for ships sailing within range of VHF coast stations;

ADD 3949K c) ability to communicate correctly by radiotelephony and digital selective calling;

ADD 3949L d) ability to read, write and speak one of the working languages of the Union to the extent necessary for the exchange of radiocommunications;

ADD 3949M e) knowledge of the Regulations which apply to automated radiocommunication <u>when sailing within designated A1 areas</u>[1]
[**]

ADD 3949N § 18C. The operating certificate shall show whether it is a general certificate or a restricted certificate.

ADD 3949O § 18D. The requirements of No. 3949H may be relaxed for holders of a restricted operating certificate for automated communications when operating a ship station which is confined to a limited area specified by the administration concerned. In such cases the certificate shall be suitably endorsed.

MOD **Section IV. <u>Authorization and</u> Qualifying Service**

ADD 3949V The holder of a general certificate for the operation of equipment used for automated communications is authorized to embark as chief operator of a ship station comprising digital selective calling equipment, direct-printing telegraphy equipment, emergency position-indicating radiobeacons (EPIRBs), satellite EPIRBs, and radiotelephone equipment.

ADD 3949M.1 [1]In some parts of the world where VHF networks are not continuous, this may include A2 areas.

[**] Chairman of Working Group 6-A.

ADD 3949W The holder of a restricted certificate for the operation of equipment used for automated communications is authorized to embark as the operator of a ship station comprising digital selective calling equipment, direct-printing telegraphy equipment, emergency position-indicating radiobeacons (EPIRBs), satellite EPIRBs, and radiotelephone equipment. The holder of this certificate may also be the chief operator of a station which is
[**] located on a ship sailing only <u>within designated sea areas A1</u>[1].

NOC 3950-3953

NOC 3954 to 3978 NOT allocated.

ARTICLE 56

MOD **Personnel of Stations in the Maritime Mobile Service <u>and in the Maritime Mobile-Satellite Service</u>**

MOD **Section I. Personnel of Coast Stations <u>and coast Earth Stations</u>**

MOD 3979 § 1. Administrations shall ensure that the staff on duty in coast stations <u>and in coast earth stations</u> shall be adequately qualified to operate the stations efficiently.

MOD **Section II. Class and Minimum Number of Operators for Stations on board Ships <u>Using Non-Automated Communications</u>**

NOC 3980-3986

ADD **Section III. Class and Minimum Number of Operators for Stations on board Ships Using Automated Communications**

ADD 3987 Each government shall ensure that the personnel operating ship stations which are equipped for automated communications and which are located on board ships of its own nationality shall be adequately qualified to operate the stations efficiently.

ADD 3949W.1 [1] [see 3882.3]

[**] Chairman of Working Group 6-A.

ADD 3988 The personnel of ship stations in the public correspondence service shall, having regard to the provisions of Article 55, include at least:

ADD 3989 a) for ship stations for which a radio installation is made compulsory by international agreements and which are using the frequencies and techniques in compliance with Chapter N IX:

ADD 3990 - one holder of a general operating certificate for automated communications in the maritime mobile service (see No. 3882B) or of a radiocommunication operator's general certificate (see No. 3879), or of a first-class radiotelegraph operator's certificate (see No. 3880), or of a second-class radiotelegraph operator's certificate (see No. 3881);

ADD 3991 - where the ship station operates entirely within range of VHF coast stations, one holder of a restricted operating certificate for automated communications (see No. 3882C), or of a radiotelephone operator's general certificate (see No. 3883).

[**]

ADD 3991A The administration is responsible to take all steps it considers necessary to ensure that all GMDSS equipment is available for use when it is needed[1]. At least one holder of the certificate mentioned in No. 3990 shall be designated principal operator during distress incidents.

ADD 3992 b) for ship stations for which a radio installation is not made compulsory by international agreements and which are using the frequencies and techniques in compliance with Chapter N IX:

ADD 3993 - one holder of an appropriate certificate at the discretion of the government concerned, but at least a holder of a restricted operating certificate for automated communications (see No. 3882C) or a radiotelephone operator's general certificate (see No. 3883).

3994 to 4011 NOT allocated.

[**] ADD 3991A.1 [1]The administration should take steps as it considers appropriate in accordance with the International Convention on the Safety of Life at Sea (SOLAS).

[**] Chairman of Working Group 6-A.

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COMMITTEE 6

EIGHTH REPORT BY THE CHAIRMAN OF WORKING GROUP 6-A TO THE CHAIRMAN OF COMMITTEE 6

The Working Group has approved the attached revision for Article 59 and Recommendation No. 316 and is submitted for the consideration of the Committee.

It should be noted that actions being taken in other Committees may require alignment of ADD 4123C. Additionally, Committee 5 should be requested to review proposed modification of Chapter IX and N IX to bring terminology as regards stations aboard aircraft into alignment with Article 59 so as to avoid conflict with RR 78 and 79.

R. SWANSON
Chairman of Working Group 6-A

ARTICLE 59

NOC **Conditions to be Observed in the Maritime Mobile Service and in the Maritime Mobile-Satellite Service**

NOC **Section I. Maritime Mobile Service**

NOC 4096-4103

MOD 4104 § 7. Ship stations and ship earth stations other than survival craft station shall be provided with the documents enumerated in the appropriate section of Appendix 11.

NOC 4105

MOD 4106 B. Ship Stations Using Morse Radiotelegraphy

NOC 4107-4109

MOD 4110 § 11. All ship stations equipped with Morse radiotelegraph apparatus to work in the authorized bands between 415 kHz and 535 kHz shall be able to:

NOC 4111

NOC 4112-4115

MOD 4116 § 13. In Region 2, any Morse radiotelegraph station installed on board a ship which uses frequencies in the band 2 089.5 - 2 092.5 kHz for call and reply shall be provided with at least one other frequency in the authorized bands between 1 605 kHz and 2 850 kHz.

NOC 4117

MOD 4118 § 14. In ship stations, all apparatus using class A1A emissions for Morse telegraphy on frequencies in the authorized bands between 4 000 kHz and 27 500 kHz shall satisfy the following conditions:

NOC 4119-4121

MOD 4122 C. Ship Stations Using ~~Narrow-Band Direct-Printing Telegraphy and Digital~~ Selective Calling

(MOD) 4123A § 15. ~~(2)~~ The characteristics of the digital selective calling equipment ~~should~~ shall be in accordance with the Recommendations of the CCIR.

ADD 4123B C1. Bands Between 415 kHz and 535 kHz

ADD 4123C § 15A. All ship stations equipped with apparatus for digital selective calling to work in the authorized bands between 415 kHz and 535 kHz shall be able to send and receive class F1B or J2B emissions on at least two digital selective calling channels necessary for their service.

ADD 4123D C2. Bands Between 1 605 kHz and 4 000 kHz

ADD 4123E § 15B. All ship stations equipped with digital selective calling apparatus to work in the authorized bands between 1 605 kHz and 4 000 kHz shall be able to:

ADD 4123F a) send and receive class F1B or J2B emissions on the frequency 2 187.5 kHz;

ADD 4123G b) in addition, send and receive class F1B or J2B emissions on other digital selective calling frequencies in this band as necessary to carry out their service.

ADD 4123H C3. Bands Between 4 000 kHz and 27 500 kHz

ADD 4123I § 15C. All ship stations equipped with digital selective calling apparatus to work in the authorized bands between 4 000 kHz and 27 500 kHz shall be able to:

ADD 4123J a) send and receive class F1B or J2B emissions on [the frequencies designated for digital selective distress calling in each of the maritime HF bands in which they are operating (see also N 3172).]

ADD 4123K b) send and receive class F1B or J2B on an international calling channel (see Nos. 4683 and 4684) in each of the HF maritime mobile bands necessary for their service;

ADD 4123L c) send and receive class F1B or J2B on other digital selective calling channels in each of the HF maritime mobile bands necessary for their service.

ADD 4123M C4. Bands Between 156 MHz and 174 MHz

ADD 4123N § 15D. All ship stations equipped with apparatus for digital selective calling to work in the authorized bands between 156 MHz and 174 MHz shall be able to send and receive class G2B emissions on the frequency 156.525 MHz.

ADD 4123O D. Ship Stations Using Narrow-Band Direct-Printing Telegraphy

ADD 4123P § 15E.(1) All ship stations using narrow-band direct-printing telegraphy equipment shall be able to send and receive on the frequency designated for distress traffic by narrow-band direct-printing telegraphy in the frequency bands in which they are operating.

(MOD) 4123 ~~§ 15A.(1)~~(2)The characteristic of the narrow-band direct-printing equipment shall be in accordance with Appendix 38.

ADD 4123Q D1. Bands Between 415 kHz and 535 kHz

ADD 4123R § 15F. All ship stations equipped with narrow-band direct-printing telegraphy apparatus to work in the authorized bands between 415 kHz and 535 kHz shall be able to:

ADD 4123S a) send and receive class F1B or J2B emissions on the working frequencies necessary to carry out their service;

ADD 4123T b) if complying with the provisions of Chapter N IX, receive class F1B emissions on 518 kHz.

ADD 4123U D2. Bands Between 1 605 kHz and 4 000 kHz

ADD 4123V § 15G. All ship stations equipped with narrow-band direct-printing telegraphy apparatus to work in the authorized bands between 1 605 kHz and 4 000 kHz shall be able to send and receive class F1B or J2B emissions on working frequencies as necessary to carry out their service.

ADD 4123W D3. Bands Between 4 000 kHz and 27 500 kHz

ADD 4123X § 15H. All ship stations equipped with narrow-band direct-printing telegraphy apparatus to work in the authorized bands between 4 000 and 27 500 kHz shall be able to send and receive class F1B or J2B emissions on working frequencies in each of the HF maritime mobile bands as necessary to carry out their serivce.

NOC 4124 E. Ship Stations Using Radiotelephony

(MOD) 4125 E1 ~~D1~~. Bands Between 1 605 kHz and 4 000 kHz

NOC 4126

MOD 4127 a) send class J3E or H3E emissions on a carrier frequency of 2 182 kHz and receive class J3E or H3E emissions on a carrier frequency of 2 182 kHz except for such apparatus as is referred to in No. 4130 (see also MOD 2945 and MOD 2973).

NOC 4128-4130

MOD 4131 E2 ~~D2~~. Bands Between 4 000 kHz and 27 500 23 000 kHz

MOD 4132 § 18. ~~In the zone of Region 1 south of latitude 15° N, in Region 2 (except Greenland) and in the zone of Region 3 south of latitude 25° N, all~~ All ship stations equipped with radiotelephony to work in the authorized bands between 4 000 kHz and 23 000 kHz and which do not comply with the provisions of Chapter N IX should be able to send and receive on the carrier frequencies 4 125 kHz and 6 215 ~~.5~~ kHz (see Nos. 2982 and 2986). However, all ship stations which comply with the provisions of Chapter N IX shall be able to send and receive on the carrier frequencies designated in Article N 38 for distress and safety traffic by radiotelephony for the frequency bands in which they are operating.

(MOD) 4133 E3 D3. Bands Between 156 MHz and 174 MHz

MOD 4134 § 19. All ship stations equipped with radiotelephony to work in the authorized bands between 156 MHz and 174 MHz (see No. 613 and Appendix 18) shall be able to send and receive class G3E emissions ~~(see Resolution No. 308)~~ on:

NOC 4135-4136

ADD 4136A c) The intership navigation safety frequency 156.65 MHz

(MOD) 4137 ~~c)~~ d) all the frequencies necessary for their service.

MOD **Section II. ~~Conditions to be Observed by Ship Earth Stations~~ Maritime Mobile-Satellite Service**

NOC 4138

SUP 4139

NOC 4140-4141

NOC **Section III. Aircraft Communicating with Stations of the Maritime Mobile Service and the Maritime Mobile-Satellite Service**

NOC 4142-4145

MOD 4146 § 25. In the case of communication between ~~a station~~ stations on board aircraft and stations of the maritime mobile service ~~and an aircraft station~~, radiotelephone calling may be renewed as is specified in Nos. 4933, 4934 and for radiotelegraph calling after an interval of five minutes, not withstanding No. 4735.

NOC 4147-4153

MOD 4154 (2) The ~~frequencies~~ frequency 156.3 MHz ~~and 156.8 MHz~~ may be used by stations on board aircraft ~~stations~~ for safety purposes ~~only~~. It may also be used for communication between ship stations and ~~aircraft~~ stations on board aircraft engaged in coordinated search and rescue operations (see Nos. 2993 and N 2993).

ADD 4155 (2A) The frequency 156.8 MHz may be used by stations on board aircraft for safety purposes only (see Nos. 2995A and N 2995A).

(MOD) RECOMMENDATION No. 316 (Mob-87)

NOC **Relating to the Use of Ship Earth Stations Within Harbours and Other Waters Under National Jurisdiction**

(MOD) The World Administrative Radio Conference for the Mobile Services, Geneva, ~~1983~~ 1987,

NOC recognizing

NOC recalling

SUP a)

MOD ~~b)~~ a)

ADD noting

that the International Agreement on the use of INMARSAT ship earth stations within the Territorial Sea and Ports has been adopted and this Agreement is open for accession, ratification, approval or acception as appropriate;

NOC considering a)

MOD b) that the maritime mobile-satellite service will place an important role in the ~~future~~ global maritime distress and safety system ~~(FGMDSS)~~ (GMDSS);

NOC c)

NOC is of the opinion

NOC that all ..... 1 646.5 MHz;

NOC recommends

SUP that all administrations examine this matter further;

ADD 1. that all administrations should consider permitting ship earth stations to operate within harbours and other waters under national jurisdiction;

ADD 2. that administrations should consider the adoption, where required, of international agreements on this matter.

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WORKING GROUP 6-B

SECOND REPORT BY THE CHAIRMAN OF SUB-WORKING GROUP 6-B-1 TO THE CHAIRMAN OF WORKING GROUP 6-B

1. Sub-Working Group 6-B-1 has held one further meeting since the first report.

2. Following comments by the IFRB, Sub-Working Group 6-B-1 has re-examined Article 48 and a new text of Article 48 is at Annex 1. This replaces the text given in Annex 1 to the first report.

3. Consideration of Article 51 has been concluded and the conclusions of the Sub-Working Group are given in Annex 2. The delegate of the United States of America proposed that the wording of the current number 5 in the list of priorities (in RR 3651) should be retained. The general view of the Sub-Group, however, was that this was included under the proposed new number 4 in the list of priorities and that the current number 5 was, therefore, no longer required.

4. Consideration of Article 49 has also been concluded and the decisions of the Sub-Working Group are given in Annex 3.

5. The Sub-Working Group has briefly considered Article 1. It noted that the only proposals, within the Sub-Group's mandate, which required consideration related to proposals to include definitions of the aeronautical mobile (R) service and aeronautical mobile (OR) service in Article 1. The Sub-Working Group agreed, however, that consideration should be deferred until the Conference had reached a decision on the provision of aeronautical public correspondence because such a decision could have an impact on the definition of the aeronautical mobile (R) service.

D.P. WILLMETS
Chairman of Sub-Working Group 6-B-1

Annexes: 3

ANNEX 1

ARTICLE 48

MOD **~~Aircraft~~ Stations on Board Aircraft Communicating with Stations in the Maritime Mobile Service and in the Maritime Mobile-Satellite Service**

MOD 3571 Stations on board aircraft may communicate, for purposes of distress, and for public correspondence[1], with stations of the maritime mobile or maritime mobile-satellite service. For these purposes they shall conform to the relevant provisions of Chapters IX or N IX, Chapter X1, Article 59, Section III, Articles 61, 62, 63, 65, and 66 (see also Nos. 962, 963, and 3633).

MOD 3571.1 [1] ~~An~~ Stations on board aircraft may communicate for public correspondence purposes as long as it continues watch on the frequencies provided for safety and regularity of flight.

ANNEX 2

ARTICLE 51

MOD 3651 § 1. The order of priority for communication[1] 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;

NOC 1. Distress calls, distress messages, and distress traffic.

NOC 2. Communications preceded by the urgency signal.

MOD 3. ~~Communications preceded by the safety signal.~~ Communications relating to radio direction finding.

MOD 4. ~~Communications relating to radio direction finding.~~ Flight safety messages.

MOD 5. ~~Communications relating to the navigation and safe movement of aircraft engaged in search and rescue operations.~~ Meteorological messages.

MOD 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.

MOD 7. ETATPRIORITENATIONS - ~~Radiotelegrams~~ Messages relating to the application of the United Nations Charter.

MOD 8. ETATPRIORITE - Government ~~radiotelegrams~~ messages ~~with priority and Government calls~~ for which priority has been expressly requested.

NOC 9. Service communications relating to the working of the telecommunication service or to communications previously exchanged.

MOD 10. ~~Government communications other than those shown in 8 above, ordinary private communications, RCT[1] radiotelegrams and press radiotelegrams.~~ Other aeronautical communications.

NOC 3651.1

SUP 3651.2

ANNEX 3

ARTICLE 49

MOD **Conditions to be Observed by Mobile Stations in the Aeronautical Mobile Service and <u>by Mobile Earth Stations</u> in the Aeronautical Mobile-Satellite Service**

ADD **Section I. Aeronautical Mobile Service**

NOC 3597-3600

SUP 3601-3602

NOC 3603-3604

ADD **Section II. Aeronautical Mobile-Satellite Service**

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

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COMMITTEE 5

THIRD REPORT OF WORKING GROUP 5 AD HOC 1 TO COMMITTEE 5

1. At its fourth meeting the Working Group agreed upon the following:

SUP Recommendation No. 201 (Rev.Mob-83)

(It was agreed that some essential elements be incorporated into Resolution [COM5/1].)

SUP Recommendation No. 204 (Rev.Mob-83)

NOC Recommendation No. 306

SUP Recommendation No. 311

SUP Recommendation No. 713 (Mob-83)

2. It was agreed that Recommendation No. 317 (Mob-83) should be modified as in Annex 1.

R.C. McINTYRE
Chairman

Annex: 1

ANNEX 1

MOD RECOMMENDATION No. 317 (Rev.Mob-87)

Relating to the Use of a Priority Indicator Signal for Alerting Ships to Send Overdue Position Reports and for Other Ships to Report Sightings

The World Administrative Radio Conference for the Mobile Services, Geneva, 1983,

considering

a) that the International Convention on Maritime Search and Rescue, 1979, provides for the establishment of ship reporting systems by States for the search and rescue regions for which they are responsible;

b) that some administrations have already established such ship reporting systems;

c) that verification of the safety of vessels, which have failed to report, is required;

d) that standard procedures need to be adopted;

recommends

1. that a priority indicator signal with the following meaning be adopted:

"A position report to the ship reporting system of (name of administration) was expected from the vessel indicated by the call sign (...) but has not been received. This vessel or any vessel or shore station that has been in communication with, or sighted this vessel should immediately communicate with the station which has sent this signal";

2. that a suitable signal for this purpose would be the alphabetic characters "JJJ" in the Morse Code for radiotelegraphy and the spoken words "REPORT IMMEDIATE" for radiotelephony;

3. that the name and call sign of the vessel would be broadcast with ships' traffic lists or in marine safety information broadcasts, followed by the above signal when an expected position report is overdue for a period specified by administrations;

invites administrations

to consider this matter and submit proposals to the next competent conference for the implementation of this signal taking into account the views of the International Maritime Organization (IMO);

requests the Secretary-General

to communicate this Recommendation to the IMO for consideration.

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COMMITTEE 4

FOURTH REPORT BY WORKING GROUP 4-B TO COMMITTEE 4

Working Group 4-B took the following decision at its seventh meeting:

SUP Resolution No. 303.

That decision will imply a review of the Master Register by the IFRB in order to cancel assignments therein relating to intership frequencies in the bands between 1 605 kHz and 3 600 kHz in Region 1.

J. PIPONNIER
Chairman of Working Group 4-B

MOB-87 INTERNATIONAL TELECOMMUNICATION UNION
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COMMITTEE 6

USSR

PROPOSALS FOR THE WORK OF THE CONFERENCE

ARTICLE 44

URS/288/1
MOD 3394 The service of automatic communication devices[1] installed in an aircraft station or aircraft earth station shall be controlled ..... be used by other persons. ~~If such devices ..... for identification purposes.~~

URS/288/2
NOC 3394.1

URS/288/3
MOD 3395 Nevertheless, in the service of ~~radiotelephone~~ aircraft stations and aircraft earth stations operating radiotelephony solely on frequencies above 30 MHz, each .....

URS/288/4
MOD 3396 The provisions of No. 3395 shall not apply to any aircraft station or aircraft earth station working on frequencies assigned for international use.

URS/288/5
NOC 3397-3402

Section II. Classes and Categories of Certificates

URS/288/6
SUP 3403

URS/288/7
SUP 3404

URS/288/8
SUP 3403.1 and 3404.1

URS/288/9
ADD 3404A There are first- or second-class, special, general and restricted operator's certificates.

URS/288/10
MOD 3405 The holder of a first- or second-class and special ~~radiotelegraph~~ operator's certificate may carry out the radiotelegraph or radiotelephone service of any aircraft station or aircraft earth station.

URS/288/11
MOD 3406 The holder of a ~~radiotelephone~~ general operator's ~~general~~ certificate may carry out the radiotelephone service of any aircraft station and any aircraft earth station.

URS/288/12
SUP 3407-3409

URS/288/13
MOD 3410 The holder of a ~~radiotelephone~~ restricted operator's ~~restricted~~ certificate may carry out the radiotelephone service of any aircraft station or any aircraft earth station operating on frequencies allocated exclusively to the aeronautical mobile service and aeronautical mobile-satellite service providing that the operating of the transmitter requires only the use of simple external switching devices. ~~excluding all ..... by Appendix 7~~.

URS/288/14
SUP 3411

URS/288/15
SUP 3412

URS/288/16
NOC 3413-3417

URS/288/17
MOD 3418 B. First-Class ~~Radiotelegraph~~ Operator's Certificate.

URS/288/18
MOD 3419 The first-class operator's certificate is issued to ..... below:

URS/288/19
MOD 3420 to 3427 as in Document 24.

URS/288/20
MOD 3428 C. Second-Class ~~Radiotelegraph~~ Operator's Certificate.

URS/288/21
MOD 3429 The second-class operator's certificate is issued to ..... below:

URS/288/22
MOD 3430 to 3437 as in Document 24.

URS/288/23
MOD 3438 D. ~~Radiotelegraph Operator's~~ Special Operator's Certificate.

URS/288/24
MOD 3439 ~~The radiotelegraph operator's~~ Special operator's certificate is issued to ..... below:

URS/288/25
MOD 3440 to 3443 as in Document 24.

URS/288/26
MOD 3444 E. General ~~Radiotelephone~~ Operator's Certificates.

URS/288/27
MOD 3445 ~~The radiotelephone operator's~~ General operator's certificate is issued to ..... below:

URS/288/28
MOD 3446 to 3449 as in Document 24.

URS/288/29
MOD 3450 The radiotelephone operator's Restricted operator's certificate is issued to ..... below:

URS/288/30
MOD 3451 to 3453 as in Document 24.

URS/288/31
MOD 3454 For aircraft radiotelephone stations, and aircraft earth stations operating on frequencies allocated exclusively to the aeronautical mobile service or the aeronautical mobile-satellite service each administration may fix ..... switching devices, ~~excluding all .....~~ ~~Appendix 7~~. However in fixing ..... the provisions of No. 3393A.

URS/288/32
NOC 3455

URS/288/33
MOD 3456 ~~A radiotelephone~~ Operator's certificate shall show ..... provisions of No. 3454

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COMMITTEE 7

SECOND SERIES OF TEXTS FROM COMMITTEE 5 TO THE EDITORIAL COMMITTEE

The following texts which were approved with slight modifications by Committee 5 at its fourth and fifth meetings are submitted to the Editorial Committee:

a) Annex to Document 215

Annex to Document 228

Annex to Document 229

Annex to Document 231

b) Comments of the Chairman.

P.E. KENT
Chairman of Committee 5

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WORKING GROUP 4-A

REPORT FROM DRAFTING GROUP 4-A-6
TO WORKING GROUP 4-A

1. The Drafting Group has considered the revision of Appendix 18. The draft revision is to be found in Annex 1.

2. The Drafting Group also reviewed the provisions of RR 613, RR 613A and Article 60, as well as Recommendation No. 305 and proposes that Working Group 4-A approves the conclusions set forth in Annex 2.

3. A draft new Resolution is proposed in Annex 3, based on the proposals CEPT-14/21/1 and D/30/100.

4. A draft new Recommendation is proposed in Annex 4, based on proposals CEPT-16/13/1, USA/24/817 and F/47/1.

W.M. BORMAN
Chairman of Drafting Group 4-A-6

Annexes: 4

ANNEX 1

APPENDIX 18
Mob-~~83~~87

Table of Transmitting Frequencies in the Band 156 - 174 MHz for Stations in the Maritime Mobile Service

(See Nos. 613, 613A, 613B and Articles 59 and 60)

Note 1: For assistance in understanding the Table, see notes *a)* to ~~*p*~~)/[t]/ below.

Note 2: Channels 01 to 28, except 15 and 17, correspond to the channels of Appendix 18 to the Radio Regulations, Geneva, 1959, and channels 15, 17, and 60 to 88 correspond to those additional channels made available for assignment in accordance with the provisions of Appendix 18 Mar to the Radio Regulations, Geneva, 1967 ~~(see Resolution 308)~~.

Note 3: Channel designators 60 to 88 were chosen for the additional channels in order to separate them clearly from the original channels.

Channel designators	Notes	Transmitting frequencies (MHz)		Inter-ship	Port operations		Ship movement		Public correspondence
		Ship stations	Coast stations		Single frequency	Two frequency	Single frequency	Two frequency	
60	*h)*	156.025	160.625			17		9	25
01		156.050	160.650			10		15	8
61		156.075	160.675			23		3	19
02		156.100	160.700			8		17	10
62		156.125	160.725			20		6	22
03		156.150	160.750			9		16	9
63		156.175	160.775			18		8	24
04		156.200	160.800			11		14	7
64		156.225	160.825			22		4	20
05		156.250	160.850			6		19	12
65		156.275	160.875			21		5	21
06	*g)*	156.300		1					
66		156.325	160.925			19		7	23
07		156.350	160.950			7		18	11
67	*l)*	156.375	156.375	9	10		9		
08		156.400		2					
68	*n)*	156.425	156.425		6		2		
09	*m)*	156.450	156.450	5	5		12		
69	*n)*	156.475	156.475	8	11		4		
10	*l)*	156.500	156.500	3	9		10		
70	*p)*	156.525	156.525	Digital selective calling for distress, ~~and~~ safety and calling					
11	*n)*	156.550	156.550		3		1		
71	*n)*	156.575	156.575		7		6		
12	*n)*	156.600	156.600		1		3		
72	*m)*	156.625		6					
13	*n), q)*	156.650	156.650	4	4		5		
73	*l)*	156.675	156.675	7	12		11		
14	*n)*	156.700	156.700		2		7		
74	*n)*	156.725	156.725		8		8		

Channel designators	Notes	Transmitting frequencies (MHz)		Inter-ship	Port operations		Ship movement		Public correspondence
		Ship stations	Coast stations		Single frequency	Two frequency	Single frequency	Two frequency	
15	*j)*	156.750	156.750	11	14		14		
75	~~*k)*~~		Guardband 156.7625 – 156.7875 MHz						
16		156.800	156.800	DISTRESS, SAFETY AND CALLING					
76	~~*k)*~~	~~Direct-printing telegraphy for distress and safety purposes~~ Guard band 156.8125 - 156.8375 MHz							
17	*j)*	156.850	156.850	12	13		13		
77		156.875		10					
18	*f)* r)	156.900	161.500			3		22	
78		156.925	161.525			12		13	27
19	*f)* r)	156.950	161.550			4		21	
79	*f) n)* r)	156.975	161.575			14		1	
20	*f)* r)	157.000	161.600			1		23	
80	*f) n)* r)	157.025	161.625			16		2	
21	*f)* r)	157.050	161.650			5		20	
81		157.075	161.675			15		10	28
22	f) r) t)	157.100	161.700			2		24	
82		157.125	161.725			13		11	26
23		157.150	161.750						5
83		157.175	161.775						16
24		157.200	161.800						4
84		157.225	161.825			24		12	13
25		157.250	161.850						3
85		157.275	161.875						17
26		157.300	161.900						1
86	*o)*	157.325	161.925						15
27		157.350	161.950						2
87		157.375	161.975						14
28		157.400	162.000						6
88	*h)*	157.425	162.025						18

NOTES REFERRING TO THE TABLE

NOC *a)* The figures in the column headed "Intership" indicate the normal sequence in which channels should be taken into use by mobile stations.

NOC *b)* The figures in the columns headed "Port operations", "Ship movement" and "Public correspondence" indicate the normal sequence in which channels should be taken into use by each coast station. However, in some cases, it may be necessary to omit channels in order to avoid harmful interference between the services of neighbouring coast stations.

NOC *c)* Administrations may designate frequencies in the intership, port operations and ship movement services for use by light aircraft and helicopters to communicate with ships or participating coast stations in predominantly maritime support operations under the conditions specified in Nos. **4144**, **4148**, **4149**, **4150**, **4151**, **4152** and **4153**. However, the use of the channels which are shared with public correspondence shall be subject to prior agreement between interested and affected administrations.

MOD *d)* The channels of the present Appendix,. with the exception of channels 06,↓15, 16, 17, 75 and 76, may also be used for highspeed data and facsimile transmissions, subject to special arrangement between interested and affected administrations ~~(see also notes *k)* and *p))*~~.

13,

MOD *e)* ~~Except in the United States of America,~~ The channels of Appendix **18**, preferably two adjacent channels from the series 87, 28, 88, with the exception of channels 06, ~~[15]~~, 16, ~~[17]~~, 75 and 76, may be used for direct-printing telegraphy and data transmission, subject to special arrangement between interested and affected administrations ~~(see also notes *k)* and *p))*~~.

13,

NOC *f)* The two-frequency channels for port operations (18, 19, 20, 21, 22, 79 and 80) may be used for public correspondence, subject to special arrangement between interested and affected administrations.

MOD *g)* The frequency 156.300 MHz (channel 06) (see Nos. **2993**↓and **4154**) may also be used for communication between ship stations and aircraft stations engaged in coordinated search and rescue operations. Ship stations shall avoid harmful interference to such communications on channel 06 as well as to communications between aircraft stations, ice-breakers and assisted ships during ice seasons.

, / N 2993 /

NOC *h)* Channels 60 and 88 can be used subject to special arrangements between interested and affected administrations.

NOC *i)* The frequencies in this Table may also be used for radiocommunications on inland waterways in accordance with the conditions specified in No. **613**.

NOC *j)* Channels 15 and 17 may also be used for on-board communications provided the effective radiated power does not exceed 1 W, and subject to the national regulations of the administration concerned when these channels are used in its territorial waters. (However, see Recommendation **305**.)

MOD *k)* ~~The frequency 156.825 MHz (channel 76) is used exclusively for direct-printing telegraphy for distress and safety purposes subject to not causing harmful interference to channel 16 (see also Nos. **3033 and 4393**).~~ (Note not allocated)

NOC *l)* Within the European Maritime Area and in Canada these frequencies (channels 10, 67, 73) may also be used, if so required, by the individual administrations concerned, for communication between ship stations, aircraft stations and participating land stations engaged in coordinated search and rescue and anti-pollution operations in local areas, under the conditions specified in Nos. **4144**, **4148**, **4149**, **4150**, **4151**, **4152** and **4153**.

NOC *m)* The preferred first three frequencies for the purpose indicated in note *c)* are 156.450 MHz (channel 09), 156.625 MHz (channel 72) and 156.675 MHz (channel 73).

[*n)* These channels (68, 69, 11, 71, 12, 13, 14, 74, 79 and 80) are the preferred channels for the ship movement service. They may, however, be assigned to the port operations service until required for the ship movement service if this should prove to be necessary in any specific area. Channel 13 is also used on a worldwide basis for intership navigation safety communications.]

o) This channel (86) may be used as a calling channel if such a channel is required in an automatic radiotelephone system when such a system is recommended by the CCIR.

MOD *p)* This channel (70) is to be used exclusively for digital selective calling for distress, ~~and~~ safety ~~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)*).~~ and calling (see Resolution No. /).

q) Channel 13 is designated for use on a world-wide basis as a navigation safety communication channel, primarily for intership navigation safety. It may also be assigned to the ship movement service subject to the national regulations of the administrations concerned, [provided that intership navigation safety is not in any way degraded].

r) The two-frequency channels for post operations (18, 19, 20, 21, 22, 79 and 80) may be used in the simplex mode to meet national requirements subject to special arrangement between interested and affected administrations.

s) In France, the United Kingdom and Monaco, the following single-frequency channels may also be used by the maritime mobile service subject to agreement between interested and affected administrations: 160.900 MHz and 160.975 to 161.475 MHz. The single-frequency channels of present Appendix 18, with the exception of channels 6, 8, 10, 13, 16, 72, 75, 76 and 77 together with the above channels, may be used additionally as duplex public correspondence channels in congested areas.

[t) In the United States of America, the frequency 157.1 MHz (channel 22 ship transmit) is used in the simplex mode for the transmission by coast stations of marine safety information to ships.]

ANNEX 2

Items related to Appendix 18

1. Article 8

NOC 613

MOD 613A In the maritime mobile VHF service the frequency 156.525 MHz is to be used exclusively ~~as from 1 January 1986~~ for digital selective calling for distress, ~~and~~ safety and calling communications. ~~The frequency 156.825 MHz is used exclusively for direct-printing telegraphy in the maritime mobile VHF service for distress and safety purposes. The conditions for the use of these frequencies are prescribed in Article 38 and in Appendix 18.~~

2. Article 60

NOC 4322-4323

NOC 4385-4392

MOD 4393 (by deleting ~~(see also Note k)~~)

NOC 4394-4396

MOD 4405

MOD 4409

MOD 4413

MOD 4415

(by deleting ~~(see Resolution No. 308)~~)

3. Recommendation No. 305

NOC

ANNEX 3

DRAFT NEW RESOLUTION

Relating to the Implementation and Use of Frequency 156.525 MHz for Digital Selective Calling for Distress, Safety and Calling

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

noting

that the World Administrative Radio Conference for the Mobile Services, 1983 (WARC MOB-83) designated, on an exclusive basis, the frequency 156.525 MHz for distress and safety calling by digital selective calling techniques;

considering

a) that the frequency 156.525 MHz became available for distress and safety calling using digital calling techniques on 1 January 1986;

b) that this Conference has decided that the frequency 156.525 MHz may also be used for other calling purposes using digital calling techniques;

c) that the Final Acts of this Conference will not enter into force until [ ];

d) that there is an urgent need to implement the use of digital selective calling on 156.525 MHz for calling purposes in addition to distress and safety calling at the earliest possible date;

e) that every effort must be made to prevent the use of 156.525 MHz for purposes other than digital selective calling in the maritime mobile service;

f) that the use of 156.525 MHz for other maritime mobile communication purposes must cease as soon as practical;

urges administrations

to take all practical measures including the possible use of technical means to prevent any maritime mobile use of the frequency 156.525 MHz other than for digital selective calling;

resolves

1. that from 1 January 1988 the frequency 156.525 MHz may also be used for other calling purposes in addition to distress and safety calling in accordance with the provisions of Article 62 [62A] of the Radio Regulations;

2. that as soon as pratical but not later than 1 January 1988 the frequency 156.525 MHz shall be used exclusively for digital selective calling for distress, safety and calling.

ANNEX 4

DRAFT NEW RECOMMENDATION

Relating to Improved Efficiency in the Use of Appendix 18 VHF Frequency Spectrum for Maritime Mobile Communications

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

considering

a) that growth in the use of Appendix 18 VHF maritime mobile channels is expected to continue;

b) that in many parts of the world significant congestion already exists;

c) that increases in congestion could be harmful to the safe movement and operation of vessels and port operations and is a matter of concern to the International Association of Lighthouse Authorities, the International Maritime Organization and many administrations;

noting

a) that it may be possible to make more efficient use of the VHF maritime mobile spectrum with the development of existing or new technologies such as narrow-band FM, single sideband, compandored sideband, use of interleaved channels separated by 12.5 kHz, reduced channel spacing, etc.;

b) that a great number of mariners using low-cost transceivers rely on this band and the safety services that are thereby provided;

c) that any modification to the Appendix 18 system should have minimal impact to existing users of this band and be fully compatible with existing Appendix 18 distress and safety channels, navigation safety channels and GMDSS channels;

requests the CCIR

to urgently undertake studies to determine the most appropriate means of promoting a more efficient use of the frequency spectrum in the VHF maritime mobile band and to develop Recommendations covering the technical and operational characteristics of systems using this band;

invites administrations

to actively participate in these studies;

requests the Secretary-General

to communicate this Recommendation to the International Association of Lighthouse Authorities and the International Maritime Organization;

recommends

that a future competent conference review and revise the provisions of Appendix 18 taking into account relevant CCIR Recommendations.

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

Document 291-E
5 October 1987
Original: English

COMMITTEE 3

SUMMARY RECORD

OF THE

SECOND MEETING OF COMMITTEE 3

(BUDGET CONTROL)

Thursday, 1 October 1987, at 0900 hrs

Chairman : Dr. M.K. RAO (India)

Subjects discussed:	Documents
1. Approval of the summary record of the first meeting of Committee 3	158
2. Position of the Conference accounts as at 23 September 1987	236
3. Financial implications of decisions taken by the Conference	-
4. List of recognized private operating agencies and international organizations contributing to the work of the Conference	DT/44

1. Approval of the summary record of the first meeting of Committee 3
(Document 158)

The summary record of the first meeting was approved.

2. Position of the Conference accounts as at 23 September 1987
(Document 236)

2.1 In reply to a request for clarification from the delegate of Japan, the Secretary said that the total expenditure on document production to date (139,000 Swiss francs) had exceeded the budget estimate of 110,000 Swiss francs because of the unexpectedly large production of documents by the Conference. For example, during the week of 19-25 September 19,000 Swiss francs worth of paper had been used and it is now expected that the overrun on the document production budget would be of the order of 30,000 to 40,000 Swiss francs.

The position of the Conference accounts as at 23 September 1987 was noted.

3. Financial implications of decisions taken by the Conference

3.1 The Chairman said that no information had yet been received on the subject from the main Committees as they had not yet taken any decision with financial implications.

4. List of recognized private operating agencies and international organizations contributing to the work of the Conference
(Document DT/44)

4.1 The Chairman said that seven of the organizations listed in Document DT/44 would contribute to the Conference budget. Five had already indicated that they would be contributing half a unit each; the remaining two were expected to provide the relevant information shortly.

The meeting rose at 0910 hours.

The Secretary: The Chairman:

R. PRELAZ M.K. RAO

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

Corrigendum 1 to
Document 292-E
12 October 1987
Original: English

COMMITTEE 6

SUMMARY RECORD

OF THE

FIFTH MEETING OF COMMITTEE 6

(MOBILE AND RADIODETERMINATION SERVICES - EXCEPT DISTRESS AND SAFETY)

1. Paragraph 4.3

Replace the second sentence by the following:

"The Chairman had been a supporter of the concept of flexibility within IMO in recent years and the Report reflected a predisposition to that thinking."

2. Paragraph 4.12

Amend the third sentence as follows:

"Maintenance of on-board electronic equipment was a matter for IMO and certificates on maintenance could surely be covered by its International Convention on Standards of Training, Certification and Watchkeeping for Seafarers."

and the beginning of the sixth sentence to read:

"No such cases of harmful interference ...".

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

Document 292-E
7 October 1987
Original: English

COMMITTEE 6

SUMMARY RECORD

OF THE

FIFTH MEETING OF COMMMITTEE 6

(MOBILE AND RADIODETERMINATION SERVICES
- EXCEPT DISTRESS AND SAFETY)

Thursday, 1 October 1987, at 0920 hours

Chairman: Mr. I.R. HUTCHINGS (New Zealand)

Subjects discussed:		Documents
1.	Organization of the work of the meeting	-
2.	Summary record of the third meeting of Committee 6	186
3.	Fifth and sixth reports of Working Group 6-A to Committee 6	261, 262
4.	Consideration of the work of Working Group 6-A on Articles 55 and 56	283, 232 + Corr.1 and 2, 233, 237, 279, 60, 30, 25

1. Organization of the work of the meeting

1.1 The delegate of Greece, speaking on a point of order, proposed that the seventh report of Working Group 6-A (Document 283) be referred back to the Working Group for consideration or be withdrawn. The report was not an accurate reflection of the discussion that had taken place in the Group and its reference to the proposal from Greece was biased. He pointed out that that proposal had been supported by 13 other administrations beside his own in Document 232. The delegates of Argentina and Brazil supported that position.

1.2 The delegate of the United States considered that Document 283 did in fact give an accurate picture of the Working Group's discussions; he pointed out that Document 232 had been issued after the Group's report had been compiled.

1.3 The delegate of the United Kingdom said he could not support the proposal by Greece, which he considered not as a point of order but rather as a comment on the contents of Document 283.

1.4 The Chairman of Working Group 6-A said that there had been such a wide divergence of opinion on Articles 55 and 56 that the Working Group had in fact reached an impasse and the report reflected that situation. He considered it would be a mistake to refer the report back to the Group and have the same arguments repeated.

1.5 The Chairman suggested that Document 283 be retained for discussion under item 4 of the agenda.

It was so agreed.

2. Summary record of the third meeting of Committee 6 (Document 186)

The summary record of the third meeting (Document 186) was approved.

3. Fifth and sixth reports of Working Group 6-A to Committee 6 (Documents 261 and 262)

3.1 The Chairman of Working Group 6-A, introducing the Group's fifth report (Document 261), said that since Committee 4 was also reviewing Article 60, it had been thought useful to bring to its attention two decisions taken by the Group in that regard. He proposed that the report be forwarded to Committee 4

It was so agreed.

3.2 Introducing the Group's sixth report (Document 262), he said that, as indicated in the summary record of the third meeting, he had already reported orally to the Committee that his Group had approved no changes for Articles 19, 54 and 57 and Appendices 12 and 14, as well as the suppression of Resolution No. 308 and Recommendation No. 313 and a minor modification to Appendix 14. Additions to that Appendix for use of the abbreviation RCC might need to be brought to the attention of Committee 5 for the development of proposals for Article 1. As he recalled, the Committee had in fact already approved those proposals but to formalize the situation he was presenting them in the form of a written report.

3.3 The Chairman asked whether it was the Committee's wish that he brings Committee 5's attention verbally to the possible need for including a rescue coordination centre definition in Article 1, or whether he should do so in the form of a note.

3.4 The delegate of the United Kingdom considered that a verbal approach would be sufficient. He suggested that the attention of Committee 5 should also be drawn to 2934A.1, which made reference to a quasi-definition of RCC which was already contained in the Regulations.

On that understanding, the proposals contained in Document 262 were approved.

4. Consideration of the work of Working Group 6-A on Articles 55 and 56 (Documents 283, 232 + Corr.1 and 2, 233, 237, 279, 60, 30, 25)

4.1 The Chairman drew attention to certain editorial amendments to the French text of the report.

He suggested that the Committee should discuss the role of the Union in revising the Regulations as now contained within Articles 55 and 56, and whether any new Regulations were needed to guide and control operators' certificates and the personnel of stations involved in the maritime mobile service.

4.2 The Chairman of Working Group 6-A, introducing the Group's seventh report (Document 283), said he regretted that it had not been possible to reach any compromise between the two extreme viewpoints that had emerged concerning modifications to Articles 55 and 56. In addition to the summary of the proposals and comments put forward, he was submitting a proposal of his own in the Annex to the Document: he hoped that that proposal could be used by any administration, or by Committee 6, when further considering Articles 55 and 56 at the appropriate time. If his proposal were not acceptable, he would conclude that no changes could be made to those Articles during the present Conference.

4.3 The delegate of Greece, while appreciating the efforts of the Chairman of the Working Group to find a solution to a major problem, considered the introduction to the report unjust and unbalanced. The Chairman had been a forceful proponent of the concept of flexibility within IMO for many years and the report reflected his own predisposition in favour of that concept.

Greece was opposed to the Chairman's proposal as contained in the annex to the report for a number of reasons. First, it did not take into account the agreement already reached on certificates within IMO's Sub-Committee on Radiocommunications. Secondly, it did not take into account the proposals for Articles 55 and 56 contained in Document 232, which had the support of a large number of administrations. Thirdly, it did not meet the concern already clearly expressed in the first general discussion on Articles 55 and 56 that integrated maintenance requirements be included in some operators' certificates under the new system. Fourthly, the proposal permitted unlimited and uncontrolled flexibility concerning the operation and maintenance of GMDSS equipment, with unpredictable consequences both regarding safety and regarding avoidance of harmful interference. Finally, the proposal, in failing to provide for an increased on-board at-sea maintenance capability, violated both the spirit and the letter of IMO Resolution A420, paragraph 5, point 8. That proposal would, in short, lead not to a solution, but rather to anarchy.

4.4 The delegate of the United States said that the issue should be addressed in an objective spirit in order to find a compromiose solution. The Chairman had invited the Committee to discuss the role of the ITU in regard to Articles 55 and 56. That role should be seen in the light of two other treaties, the SOLAS and SCTW Conventions. The fact that the latter convention had not been in existence when Articles 55 and 56 were prepared had led to duplication between the two Conventions, and that was a serious problem, which it was for the Conference to correct. While the Radio Regulations rightly included requirements for operators of radio stations to ensure the proper operation of

radio equipment, compatibility between radio stations, and efficient use of frequencies, they contained no requirements for maintenance, and that situation should continue. The SOLAS Convention was the appropriate place for requirements aimed to ensure a satisfactory level of communications availability (i.e. maintenance requirements), and the SCTW Convention was the appropriate place for knowledge requirements. It should be left to IMO, which had had those two Conventions under review for the past ten years, to take the appropriate decisions in that regard.

The delegate of Greece had claimed that the report by the Chairman of the Working Group was biased because it reflected a viewpoint opposed to his own: however, that viewpoint had indeed been the majority one in the Group's discussion. In his view, the proposal by the Chairman contained in the annex to the report would provide a basis for further discussion, and his Delegation would be willing to participate in such discussion.

Introducing Document 237, he said the intention of that document was to bring to the attention of delegates the decision by IMO's Maritime Safety Committee on the flexible approach on methods to be used by administrations to ensure the operational availability of GMDSS equipment on ships. The text had in fact been a compromise one, and there had been no dissenting views: it had indeed been hoped that it could form the basis of discussion at the present Conference. Unfortunately, since the text had been prepared, there had been a step backward. Document 232 put forward entirely new proposals which were directly at variance with the IMO text, which was regrettable. He urged the Committee to do all it could to find common ground so that a compromise solution could be reached.

4.5 The delegate of Spain introducing Document 233, drew attention to the proposals contained in Document 232. He said that he could not fully agree with the previous speaker; the ITU had traditionally been involved in regulating the work of operators. Moreover, mobile stations had public correspondence and other functions to perform as well as safety and distress operations; the latter were also covered by SOLAS provisions. It was important to ensure that vessels carried enough operators for such normal tasks, as well as to avoid harmful interference, which was already at a disquieting level. He agreed with the Greek Delegation and others who found the report in Document 283 unacceptable on the grounds that it was unbalanced and reflected the Working Group Chairman's own views; its subjective approach could be seen, for example, in the eighth and ninth paragraphs relating to IMO Resolution A420 and the IMO Sub-Committee on Radiocommunications which implied endorsement of a flexible approach, to which his Delegation and many others were opposed. Therefore, while sharing the Greek Delegation's appreciation of the Working Group Chairman's efforts, he could not welcome the report contained in Document 283. It was also difficult to understand how the delegate of the United States could view the proposals submitted in Document 232, already supported by 30 administrations, as a backward step. The discussions on GMDSS, which had been going on for eight years, had shown that the system could succeed only if operators were given adequate opportunities to use it. He hoped that, bearing that fact in mind, Committee 6 would be able to reach an equitable solution to the problem.

4.6 The Chairman said that the Chairman of Working Group 6-A deserved the Committee's thanks for a worthy effort to deal with a very difficult task. Since the Committee's role was to strive to make progress on the matter, he urged its members to concentrate on the proposals before them rather than dwell on recriminations.

4.7 The delegate of the Federal Republic of Germany said that his Administration could not accept the proposals contained in the annex to Document 283, since equipment had to be available for public correspondence as

well as distress and safety purposes. He felt that the relevant part of his own Administration's proposals, contained in Document 30, should be added to the texts before the Committee as a possible compromise approach.

4.8 The delegate of the USSR said that his Delegation also found it difficult to agree to the proposals contained in the Annex to Document 283. They were designed for automated systems of a type barely introduced and so unfamiliar that the text concerned required explanations of the sort found in the footnote on page 5 of the English text. The various possibilities considered by CCIR Study Group 8, it should be noted, did not yet include automated equipment; nor was the latter mentioned among the tasks conferred on the Conference in the agenda contained in Administrative Council Resolution No. 933 (revised). Committee 5 used the expression "GMDSS communication" and not "automated equipment". Therefore, the terminology used in the Annex to Document 283 should be eschewed for the time being. He agreed with the delegate of Spain about the references in Document 283 to the provisions adopted by IMO; the latter, in any case, was concerned only with safety whereas ITU had to consider all aspects. He also shared the doubts expressed by the delegate of Greece and felt that further discussion of the matter should be based on Document 232.

4.9 The delegate of India said that his Delegation could not agree to the approach reflected in Document 283, but supported the proposals put forward in Document 232.

4.10 The delegate of the United Kingdom said that his Delegation could not accept any criticism, direct or indirect, of the integrity, independence and impartiality of the Chairman of Working Group 6-A, whose unstinting efforts in such a difficult task deserved praise, not reproof. Document 279, added to the agenda during the current meeting, was immoderate and intimidating and of no help. Delegations were ready at all times to collaborate with observers, but texts submitted by the latter should be designed to help, not hinder, the discussion. The maritime and telecommunication administrations of his country were alike in deeming it incorrect for ITU to legislate for mandatory carriage of personnel for on-board equipment; nor had any argument in support of such action been put forward. The ITU could indeed deal with operational matters but provisions for maintenance had passed beyond its purview since a separate competent international body, IMO, had become the appropriate forum. Document 283 provided at least a reasonable basis for discussion.

4.11 The Chairman suggested that Document 279 should be considered only in terms of the information it provided, not as an endorsement of proposals.

4.12 The delegate of Finland pointed out that Article 55, as it stood, related to old forms of telegraphy; both it and Article 56 had been drafted at a time when no other relevant international forum existed. Current on-board radiotelephony called for no obligatory technical skills; certainly no repair or maintenance skill had been demanded. Maintenance of on-board electronic equipment was a matter for IMO and was surely covered by its International Convention on Standards of Training, Certification and Watchkeeping for Seafarers. Document 232 implicitly cast an unwarranted doubt on administrations' ability to curb harmful interference; it seemed surprising that the maritime mobile service alone should be required to provide personnel solely for that purpose. Cases of harmful interference of the sort referred to by the delegate of Spain stemmed almost entirely from the use of outdated radiotelegraph equipment; the normal procedure was to prohibit the use of such equipment until it had been repaired. No cases of harmful interference had arisen from automated equipment of the narrow-band direct-printing type or the ship earth stations already used on board some vessels. An inflexible obligatory requirement would be very costly and cause grave problems for small maritime nations such as his

own. The Conference delegates, representing telecommunication administrations, had no mandate to rule on manning questions; that topic was a matter for IMO, which had already decided that administrations should be allowed flexibility in the matter.

4.13 The delegate of Liberia said that, pursuant to the STCW Convention, his Administration continued to adopt the requisite measures relating to the appropriate certification of skilled radio personnel for operations on board its vessels, including use of the GMDSS. His Delegation therefore endorsed the principle of flexibility acknowledged in the relevant IMO provisions and reflected in Document 283. Administrations themselves should go on determining, as in the past, which certificates were appropriate bearing in mind IMO's guidelines. An inflexible approach would lead to costly duplication of training.

4.14 The delegate of Brazil said that the seventh report of Working Group 6-A, contained in Document 283, could not be viewed as a basis for compromise since the report had not been discussed in the Working Group itself. Those who advocated flexibility seemingly implied that the latter would avoid duplication but some duplication was inevitable if the essential minimum of skilled operators was to be provided and maintained. Annex 2 to Document 283 had avoided all questions such as cost, infrastructure and time for maintenance in port, not to mention the conditions at which the requirements put forward in the proposals put forward in Document 232 were aimed. The latter, which took full account of the various needs, could serve as a basis for discussion, as the delegate of the USSR had proposed but that the Annex to Document 283 was unacceptable.

4.15 The delegate of the Netherlands said that the provisions of Articles 55 and 56 of the Radio Regulations covered the competence and on-board presence of operators of on-board radiocommunication equipment; the competence and on-board presence of staff specialized in the maintenance of such equipment was not in question. In his view the ITU should continue not to concern itself with provisions for on-board maintenance staff, a field which came under the mandate of IMO. The Chairman of Working Group 6-A was to be congratulated on his work; Document 283 accurately summed up a very difficult discussion and provided a good basis for a compromise solution. His understanding was that the intent of Document 232 was to ensure the safety of life at sea and not to impose particular procedures on administrations; that aim would be better served by the proposals in Document 283.

4.16 The delegate of Turkey said that Turkey, like other developing countries, considered that provision for on-board maintenance was necessary in order to ensure continuity of operation of GMDSS equipment and for that reason was sponsor of Document 232.

4.17 The delegate of Japan said it was a major function of the ITU to promote, through the provisions of the Convention and the Radio Regulations, the adoption of measures for cooperation among telecommunication services to ensure the safety of life. To that end, Article 44, Nos. 175 and 176 of the Convention enjoined observance of the provisions of the Convention and the Radio Regulations on all Members in the interests of avoiding harmful interference. In Japan's view, compliance with that injunction implied the need to ensure satisfactory operation and maintenance of on-board radiocommunication equipment; that could not be achieved unless such operational and technical services were provided by persons holding proper qualifications. Japan therefore could not support the proposals in Document 283. However, the Committee's attention was drawn to the flexible proposal, mid-way between the two proposals at present under consideration, submitted by the Federal Republic of Germany in Document 30

which would serve as a good basis for further discussion in the interests of arriving at a consensus.

4.18 The delegate of Sweden said he endorsed the report by the Chairman of Working Group 6-A and supported the proposals contained in its Annex. Modern radiocommunication technology was such that although equipment faults occurred less frequently, repair often called for expensive spare parts not normally carried on board ship, and frequently could only be carried out in properly equipped laboratories by highly qualified engineers. In such circumstances it served no purpose to have a suitably qualified engineer on board each ship, where his skills would be under-used and his competency deteriorate; such a procedure would, moreover, be prohibitively expensive. The most effective way of dealing with the complexity of repair and maintenance requirements for modern equipment and to maintain engineers' competence was to operate a land-based service consisting of a small group of highly skilled personnel who could be sent out on request to any part of the world to deal with problems on the spot, if neccessary replacing faulty equipment and bringing it back to the laboratory for repair. Sweden, with two to three hundred ocean-going merchant ships engaged in international trade, had operated such a land-based maintenance system for almost 25 years and had found it the most efficient and cost-effective way of maintaining and repairing on-board radiocommunication equipment.

4.19 The delegate of Greece said he wished to emphasize that his earlier arguments in favour of using Document 232 as a basis for discussion had not been intended in any way as a reflection on the integrity of the Chairman of Working Group 6-A. Further, on a point of clarification in the final sentence of sub-paragraph (c) of the Introduction to Document 232, the reference to the IMO and the SOLAS Convention was in no way intended to deny their competence in the field of prevention of harmful interference but merely to underscore the leading role of the ITU and the Radio Regulation in that respect. There were five vital reasons for continuing to include requirements for on-board maintenance in the Radio Regulations: to prevent harmful interference, to ensure and enhance the safety of life at sea, to ensure that the relevant provisions would remain in force until the next WARC competent to amend them, to enshrine in the Radio Regulations the right of the less technologically advanced nations to have their equipment operated and maintained by their own nationals (thus implying maintainability of equipment as well as allowing such countries to use their most valuable resource - people), and to continue the practice of including maintenance provisions in the Radio Regulations. He requested that at the end of the debate Document 232 be decided on by voting to be the basis for further discussion and work of the Committee. The Chairman asked that the delegate of Greece raise this matter when the end of the list of speakers was reached.

4.20 The delegate of Argentina, noting that RR 3901 and RR 3902 already set a precedent for requiring on-board operational and maintenance skills, said that only the presence of skilled staff on board ship would provide a sufficient guarantee of reliability of the safety provisions. Document 232 therefore provided the best basis for discussion.

4.21 The delegate of the Libyan Arab Jamahiriya endorsed the view that Document 232 should serve as the basis for discussion; if there were objections to any part of the text, it could be amended. The proposals in Document 283 were not acceptable.

4.22 The delegate of Canada, while understanding the desire to provide mandatory on-board maintenance, said that it was best to leave administrations themselves to insert such provisions in their national regulations and to leave IMO to deal with the matter in the SCTW Convention. Canada strongly supported a flexible approach to on-board maintenance and trusted that a compromise decision on the matter could be achieved by consensus. In that context, he drew attention

to the Canadian proposal in Document 25, which included a provision permitting administrations to make alternative arrangements for maintenance, such as the installation of duplicate equipment or the provision of a shore-based maintenance service.

4.23 The delegate of Australia, endorsing Sweden's comments regarding the prohibitive cost of providing on-board maintenance of modern equipment as opposed to on-board duplication of such equipment, said that it was no part of the ITU's mandate to lay down equipment maintenance requirements. Moreover, such a procedure was impracticable since freezing maintenance requirements in the Radio Regulations would not prevent rapid technological change from rendering such provisions obsolete in a short time. Australia was very strongly of the opinion that administrations should have the freedom to determine the maintenance requirements of their own vessels according to their needs.

4.24 The Secretary-General drew the Committee's attention to the fact that many of the arguments put forward in the discussion had been of a procedural and constitutional nature. He urged delegates to bear in mind that the point at issue was not the relative fields of competence of the two specialized international agencies involved but the obligations of Member States to each other in working to ensure that harmful interference was avoided. There was also the question of service documents which should be presented to the Members in a practical way including the consequences for users who would also have to finance the publications and for which practical guidance should be provided to the ITU permanent organs for the related post-Conference work.

The meeting rose at 1205 hours

The Secretary: The Chairman:

S. CHALLO I.R. HUTCHINGS

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

Corrigendum 1 to
Document 293-E
12 October 1987
Original: English

PLENARY MEETING

MINUTES

OF THE

FOURTH PLENARY MEETING

1. Paragraph 2.2

Amend the beginning of the second sentence as follows:

"Those two modes of operation were cornerstones of the GMDSS ...".

2. Paragraph 2.18

Correct the reference in the penultimate line to read: "Note to MOD 1.a)" instead of "Note to MOD (a)".

3. Paragraph 3.8

Replace by the following:

"The representative of IMO said that IMO would be submitting an updated text for considering d) to the Editorial Committee in the light of the 1983 amendments to the 1974 International Convention on the Safety of Life at Sea.".

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

Document 293-E
6 October 1987
Original: English

PLENARY MEETING

MINUTES

OF THE

FOURTH PLENARY MEETING

Thursday, 1 October 1987, at 1400 hours

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

Subjects discussed:	Documents
1. Oral reports by the Chairmen of the Committees and Technical Working Group of the Plenary	245, 236
2. First series of texts submitted by the Editorial Committee to the Plenary Meeting for first reading (B.1 (Rev.1))	196(Rev.1)
3. Second series of texts submitted by the Editorial Committee to the Plenary Meeting for first reading (B.2 (Rev.1))	246(Rev.1)

1. Oral reports by the Chairmen of the Committees and Technical Working Group of the Plenary (Documents 245, 236)

1.1 The Chairman of Committee 2 said that the Working Group of Committee 2 had held its second meeting on Monday, 28 September and its report was contained in Document 245. The Working Group had noted that some delegations present at the Conference had not yet deposited their credentials. For the benefit of those delegations, he recalled that it had been decided at the First Plenary Meeting that Committee 2 would present its report on Tuesday, 13 October.

1.2 The Chairman of Committee 3 said that the Committee had met that morning and had considered the position of the Conference accounts as at 23 September 1987, as given in Document 236. As shown in that document, the unused credits appeared likely to amount to some 156,000 Swiss francs because of changes in the Swiss franc exchange rate. The Committee had also noted that five international organizations had indicated their willingness to contribute half a unit each. Two more organizations were required to contribute and it was hoped that the amount would soon be known. The Committee had also noted that the information required from other Committees regarding the financial implications of their decisions was not yet available, probably because no decisions having major financial implications had as yet been taken.

1.3 The Chairman of Committee 4 said that the Committee had established three Working Groups. Working Group 4-A, chaired by Mr Karjalainen, had held 12 meetings to examine proposals concerning modifications to Article 8 and it had prepared footnotes, text and amendments to the Table of Frequency Allocations, which had been unanimously approved. The Technical Working Group of the Plenary had reached decisions on the technical issues, frequency allocations to mobile services in the 1.5 to 1.6 GHz bands. Working Group 4-A had started its examination of proposals concerning the modification of the Table of Frequency Allocations in those bands, based on the technical information received from the Technical Working Group. An ad hoc Group had been set up to prepare texts for further consideration by Working Group 4-A.

Working Group 4-B, chaired by Mr. Piponnier, had held seven meetings. It had continued discussion on Articles 1, 9 and 19 and Appendices 5 and 9. It had been decided to review the provisions of Article 19 and Appendix 9 after other Committees had completed their examination of those texts. Working Group 4-B had adopted a new Article, 14A, for the coordination procedure for NAVTEX emissions on 518 kHz. Working Group 4-B had recently become blocked in its consideration of Resolution No. 704; it hoped that that obstacle would be removed by a concerted effort and that the Working Group would finish its task in time.

Working Group 4-C, chaired by Mr. Visser, had held six meetings. It had discussed in detail the basic principles for the revision of Appendix 31. It had been decided that a new Appendix 31 based on those principles would be established by a small Drafting Group. An eight-member Group had been set up and a computer had been provided by the IFRB. He hoped that the first results would soon be presented to Working Group 4-C.

Committee 4 had held six meetings. It had approved modifications and additions to Article 8, and the suppression of a number of Recommendations and Resolutions and results of its work had been passed to the Editorial Committee. Committee 4 was still awaiting some results from other Committees. He foresaw difficulties in keeping to schedule and called on delegates to make efforts to find solutions, possibly compromise solutions, so as to accelerate progress in the Working Groups of Committee 4. Only a few days remained in which to complete the work and that could only be done with the active assistance of all delegates and a huge common effort.

1.4 The Chairman of Committee 5 said that the Committee had held a further two meetings since his last report, making a total of five meetings to date. Work was progressing satisfactorily. Working Group 5-B had completed its revision of existing Chapter IX; the texts had subsequently all been agreed within Committee 5 and had been submitted to the Editorial Committee. He wished to express to the members of Working Group 5-B the Committee's appreciation for their thorough and expeditious work. In particular, he thanked Mr. Hahkio, Chairman of Working Group 5-B, for the excellent manner in which he had directed the work. The main reason for the early completion of the work, however, had been the willingness of all participating administrations to reach compromise solutions where necessary, thus greatly assisting the Committee and the Working Group during the discussion of those texts.

Working Group 5-A had completed its detailed discussion on new Chapter N IX and at its next meeting would review its final reports to Committee 5. The ad hoc Working Group had considered all current Resolutions and Recommendations allocated to it and had made certain proposals regarding them to the Committee. Those proposals had not yet been considered within the Committee. The ad hoc Working Group had also prepared four new Resolutions and was currently discussing the one concerning the relationship between Chapters IX and N IX. That would probably complete their work.

1.5 The Chairman of Committee 6 said that the Committee had held five meetings and had forwarded the first series of texts to the Editorial Committee; they appeared in summary form in Document 266 and covered Articles 45, 46, 47, 58, 61 and 66, as well as some Resolutions and Recommendations. He apologised for the square brackets around Article 66 which the Plenary would have to deal with. That morning, Committee 6 had for the first time considered the question of Articles 55 and 56 concerning operators' certificates and station personnel. It was clear that that issue would not be easy to resolve and that its solution would call for great cooperation from delegates. He did not believe that the problem was insoluble and the Committee was to continue the discussion the following afternoon.

Working Group 6-A had held ten meetings, of which two had been concerned with Articles 55 and 56. He believed that, with the two further meetings planned, Working Group 6-A would complete its work on schedule. Working Group 6-B had held eight meetings to date and, as he had previously stated, had set up Sub-Working Groups 6-B-1 and 6-B-2. Sub-Working Group 6-B-2 had completed its work and the documents that it had produced were being considered by Working Group 6-B. Sub-Working Group 6-B-1 was expected to finish its work on Saturday, 3 October, thus enabling Working Group 6-B to complete its work the following week. He hoped that both Working Groups would finish their work on time.

1.6 The Chairman of the Technical Working Group said that the Technical Working Group had held 12 meetings with a further meeting scheduled for that afternoon. Although the Group had thus run slightly beyond the target date he was optimistic that the remaining issues could be resolved by the following day. The delay had been due mainly to the fact that, in addition to the Group's original task, it had had to devote a great deal of time to technical matters referred to it by other Committees including, for example, technical aspects of the mobile satellite service or the radiodetermination-satellite service. One of the outstanding matters before the Technical Working Group related to such a question. The Technical Working Group had completed work on most major topics. In particular, all the technical annexes within its mandate had been completed, apart from one minor item on which an answer was awaited from Committee 6. Four ad hoc Groups had been established and all had terminated their work: two of them had dealt with the important subjects of the mobile satellite service and the radiodetermination-satellite service.

1.7 The Chairman of Committee 7 reported that the Committee had met more or less regularly on a daily basis and that its workload had recently been increasing.

2. First series of texts submitted by the Editorial Committee to the Plenary Meeting for first reading (B.1(Rev.1)) (Document 196(Rev.1))

2.1 The Chairman of Committee 7 explained the marginal notation used for information purposes in the body of documents submitted by the Editorial Committee, e.g. "MOD" indicated that the text had been modified, "(MOD)", a purely editorial modification. In the case of existing Resolutions and Recommendations modified by the Conference, the complete texts had been given with the parts unchanged marked "NOC". He suggested that minor editorial amendments be handed directly to the Editorial Committee.

Appendix 7
MOB-87

2.2 The Chairman of the Technical Working Group, noted that the major modifications to Appendix 7 related to the Notes in the Table of Transmitter Frequency Tolerances and were concerned mainly with tighter tolerances for narrow-band direct-printing and digital selective calling. Those two modes of calling were cornerstones of the GMDSS and tighter tolerances were required if the system were to work properly. Dates for the implementation of tighter tolerances had proved controversial and it had not been possible to reach agreement in the Technical Working Group. It had been rightly pointed out that those dates were closely related to the date for the implementation of the GMDSS and could only be determined when the latter date were known. The dates might, however, differ from the date of implementation of the GMDSS. With regard to digital selective calling, two dates were to be introduced: one applying to transmitters installed after a certain date, the other applying to all transmitters. He noted that column 2 of Appendix 7 could be deleted if the date of entry into force of the Final Acts of the Conference were later than 1 January 1990, when all transmitters would have to meet the tolerance figures given in column 3. In that case, notes relating to column 2 would also have to be deleted and those relating to column 3 would have to be renumbered.

Notes in the Table of Transmitter Frequency Tolerances

2.3 The delegate of Paraguay pointed out that, to be logical, the order of the second and third indents should be reversed in Notes 1) and 3).

It was so agreed.

2.4 The delegate of Finland asked how the dates could be specified in Notes 1) to 4), when the date to be set for the implementation of the GMDSS would not be known to the present Conference. In response to a suggestion by the Chairman of the Technical Working Group, he questioned whether, if the dates were to be specified in a Resolution, such a Resolution could refer to a date to be set by another body.

Following the comment by the Chairman of the Technical Working Group that dates related to the Radio Regulations would have to be set by a subsequent ITU administrative radio conference, after IMO had set the date for the implementation of the GMDSS, he wondered whether the present Conference should discuss those dates at all.

2.5 The delegate of Brazil said that the question of dates was still being discussed in various Committees and the position was not yet clear. He suggested that a decision on the reference to be put in the square brackets be deferred. The dates were related to the date of implementation of the GMDSS but need not necessarily be the same.

2.6 The delegate of the Netherlands, supported by the delegates of Sweden and Norway, said that transmitters were already used for direct-printing telegraphy or data transmission and that that service was not connected very closely to the GMDSS. He therefore thought that the dates should be that of entry into force of the Final Acts of the Conference.

2.7 The delegate of India considered that the dates for inclusion in Notes 2) and 4) required further study. He noted that it was customary for the ITU to allow sufficient time to bring out equipment meeting the prescribed tolerances and that the date on which the tolerances came into force was usually later than the date on which the Final Acts came into force.

2.8 The delegate of the United States said that the dates were not tied directly to the date of entry into force of the Final Acts of the Conference but they were related to the date of implementation of the GMDSS, in spite of the fact that, in many instances, the dates concerned transmitters not connected with the GMDSS. He agreed that further discussion should be deferred.

2.9 In reply to the delegate of Spain, the Chairman of the Technical Working Group said that Note 10) together with its asterisked footnote was to be retained. The reference to Appendix 17 in Note 10) had, however, been deleted since Appendix 17 had been amended merely to refer back to Appendix 7 for carrier frequency tolerances.

2.10 The Chairman suggested that Appendix 7 be approved, as amended by the delegate of Paraguay, leaving the square brackets empty for the time being.

It was so agreed.

Appendix 17
MOB-87

2.11 The Chairman of the Technical Working Group said that the text had been simplified by removing obsolete texts and by a simple reference in paragraph 4, to Appendix 7, as previously explained. He drew attention to the pair of square brackets in the Note to paragraph 1a): in the Technical Working Group, it had been decided to extend the scope of Appendix 17 up to 27 500 kHz, the highest band applicable to the mobile service, including the maritime mobile service. A problem, however, arose with respect to the reference in that Note to RR 4371 which provided that the class of emission to be used for radiotelephony in the bands between 4 000 kHz and 23 000 kHz be J3E. It would be somewhat illogical to permit R3E emissions between 23 000 and 27 500 kHz. Both figures had therefore been retained in square brackets, and the Chairman of Committee 6 had been requested to consider whether the frequency band mentioned in RR 4371 could be extended to 27 500 kHz.

2.12 The delegate of Thailand suggested two editorial amendments to paragraph 1, namely to insert "(MOD)" against "1. Carrier power:"; and to replace "NOC b)" by "(MOD) b) the carrier power for class J3E emissions shall be at least 40 dB below the peak envelope power".

2.13 The Chairman of the Technical Working Group agreed that existing texts referred to "power of the carrier" but the change to "carrier power" had been a purely editorial one. Similarly the suggestion to put MOD before the first paragraph was also an editorial matter. The Editorial Committee could consider those issues in due course.

2.14 The delegate of Thailand expressed satisfaction with that reply but the delegate of Sweden disagreed, as "carrier power" was a well-known concept and that expression should therefore be retained.

2.15 The delegate of Paraguay having pointed out that the Spanish text referred to the Spanish equivalent of "power of the carrier", the Chairman said that the different language versions should be brought into line.

2.16 The delegate of India, supported by the delegate of Brazil, said that the deletion of paragraph 6 (a) cast doubt on whether or to what extent transmitters installed before 1 January 1982 were required to comply with the new specifications. He therefore suggested, in order to make the Radio Regulations complete, that that paragraph should be reinstated at least pro tem.

2.17 The Chairman of the Technical Working Group said that the paragraph in question had been deleted by unanimous decision after lengthy discussions, in the interests of simplicity. He had much sympathy with the view expressed by the delegate of India and the restoration of that paragraph was a simple editorial matter.

2.18 The Chairman said that he took it that in the absence of any objection the Editorial Committee would reinstate that paragraph.

It was so agreed.

Appendix 17 was approved subject to editorial corrections and on the understanding that the decision on which of the two frequencies in square brackets in the Note to MOD (a) would be used subject to the decision to be taken regarding RR4371.

Appendix 36
MOB-87

2.19 The Chairman of the Technical Working Group said that "should" had been substituted for "shall" in MOD (e), as it was an impossible task to make it mandatory to give the required warning.

Appendix 36 was approved.

The first series of texts submitted by the Editorial Committee (Series B.1(Rev.1)) was approved on first reading as amended and subject to the decisions above.

3. Second series of texts submitted by the Editorial Committee to the Plenary Meeting for first reading (B.2(Rev.1)) (Document 246(Rev.1))

Appendix 20
MOB-87

3.1 The Chairman of the Technical Working Group suggested two minor editorial amendments: to replace "two-way radiotelephones" by "two-way radiotelephone stations" and "survival craft radiotelephones" by "survival craft equipment".

3.2 The representative of IMO, supported by the representative of ITF, expressed concern about the possibility of confusion over the terms "survival craft two-way radio stations", since those terms were also used in GMDSS. He wondered therefore whether it would not be possible to dispel that confusion by means of a footnote or by stating in the minutes that that requirement should not be considered a requirement for GMDSS.

3.3 The delegate of the United States pointed out that Appendix 20 applied only to the bands between 450 and 470 MHz and he failed to see how any confusion could arise.

3.4 In reply to the delegate of Burkina Faso who requested clarification of the expression "on-board frequencies", the Chairman of the Technical Working Group explained that they were the frequencies set out in RR No. 669. The delegate of the United States suggested that the term be replaced by "frequencies used by on-board communications stations". The Chairman said that the Editorial Committee would deal with the matter.

Appendix 20 was approved, as amended by the Chairman of the Technical Working Group.

Appendix 37A
MOB-87

3.5 The Chairman of the Technical Working Group, said that the main amendment had been the addition of paragraph (d) to improve the detection and location function of satellite assistance. Further study was necessary and it had therefore been agreed not to make it mandatory but simply a Recommendation.

3.6 The Chairman of the Editorial Committee said that "shall" should be substituted by "should" in the first line of paragraph (d) and the corresponding changes made in the French and Spanish versions. The Chairman of the Technical Working Group added that the same change should be made throughout the paragraph. He also read out a suggested amendment to the second part of that paragraph, to make it clearer. His redrafted paragraph would be passed on to the Editorial Committee.

After further discussion, Appendix 37A was approved as amended.

Appendix 38
MOB-87

3.7 The Chairman of the Technical Working Group said that the latest developments had been taken into account in the drafting of Appendix 38.

Approved

Appendix 40

It was agreed that it be suppressed.

Recommendation No. 604 (Rev.MOB-87)

3.8 The representative of IMO said that IMO would be submitting an updated text for considering d) to the Editorial Committee in the light of the amendments to the 1983 International Convention on the Safety of Life at Sea.

3.9 The delegate of Mexico having requested clarification of recognizing c) in the light of recognizing a), the Chairman of the Technical Working Group said that a mistake in the French and possibly the Spanish texts might be at the origin of the confusion.

3.10 The delegate of Finland said that recognizing a) was in conflict with the Radio Regulations in that the 406 - 406.1 MHz band was concerned with satellite EPIRBs and was inappropriate in a text dealing with terrestrial stations. He conceded that reference could be made to both EPIRBs and to satellites but that might create problems with regard to the considering section which dealt only with the former.

3.11 The Chairman of the Technical Working Group suggested that in recommends 3 the words "resulting from the addition of" should be replaced by "arising from".

It was agreed that the text of the Recommendation should be returned to the Technical Working Group; the Chairman of that Group invited the Delegation of Spain to participate in order to avoid extensive discussion in Plenary.

With the exception of Recommendation No. 604, the second series of texts submitted by the Editorial Committee (Series B.2(Rev.1)) was approved, as amended, on first reading.

The meeting rose at 1700 hrs.

The Secretary-General: The Chairman:

R.E. BUTLER J.W. EGAN

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

Document 294-E
1 October 1987
Original: English

TECHNICAL WORKING GROUP
OF THE PLENARY

Canada

PROPOSALS FOR THE WORK OF THE CONFERENCE

APPENDIX 38

Narrow-Band Direct-Printing Telegraph Equipment in the Maritime Mobile Service using Error Detection and Correction Methods

CAN/294/1

ADD Note 3: Ship station receivers installed after 1 January 1991, shall meet the selectivity standards as specified in the relevant CCIR Recommendations.

Subsequent to that date, equipments not meeting these standards will be required to meet the standards before a complaint of harmful interference is sent to the administration having jurisdiction over the station whose transmissions are desired to be received.

Reasons: Harmful interference is being caused to ship stations receiving coast stations on the paired narrow-band direct-printing (NBDP) frequencies (Appendix 32) by transmissions from coast stations on adjacent channels. The spacing between the frequency pairs is quite narrow (i.e. 500 Hz). Consequently, adherence to CCIR selectivity standards in this special case would greatly ameliorate the difficult situation which now exists and permit better utilization of the limited number of paired NBDP frequencies.

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

Document 295-E
1 October 1987
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COMMITTEE 5

FOURTH REPORT OF WORKING GROUP 5 AD HOC 1 TO COMMITTEE 5

1. At its fifth meeting the Working Group approved the texts of the two new draft Resolutions in Annexes 1 and 2.

2. It was agreed that consideration of new draft Resolution HOL-C, as contained in HOL/55/1, be referred to Committee 4.

3. Committee 5 is requested to inform Committee 4 that this Working Group has adopted draft Resolution [COM5/4] concerning NAVTEX-type transmissions in the 4 MHz band and to take note of the wish of the Working Group that any Resolution concerning NAVTEX-type transmissions on 490 kHz should be kept separate from NAVTEX on 518 kHz.

R.C. McINTYRE
Chairman of Working Group 5 ad hoc 1

Annexes: 2

ANNEX 1

DRAFT RESOLUTION No. [COM5/4]

Dedicated HF Marine Mobile Channel for the Broadcast of NAVTEX-type Transmissions on a 4 MHz Frequency

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

considering

a) that generally low antenna efficiencies and high atmospheric noise levels in the 500 kHz band, mainly in the tropical and sub-tropical regions of the world, will limit the range at which NAVTEX signals transmitted on 518 kHz can be received in these areas;

b) that in the 4 MHz band coast station antenna efficiencies are much higher than those at 518 kHz and that atmospheric noise levels in the tropical and sub-tropical regions of the world are significantly lower in the 4 MHz band than at 518 kHz;

c) that a non-paired narrow-band direct-printing channel in the 4 MHz maritime mobile band is needed to provide broadcasts of such information in a predominantly ground wave mode;

noting

a) that NAVTEX-type transmissions include navigational and meteorological warnings and urgent information to ships;

b) that IMO has agreed that a need exists to transmit NAVTEX-type transmissions on a 4 MHz NBDP channel;

recognizing

a) that an exclusive channel for this purpose has been allocated by this Conference;

b) that the IMO, WMO (World Meteorological Organization) and the IHO are the appropriate organizations to coordinate a plan for the global use of the HF narrow-band direct-printing marine NAVTEX-type transmission channel;

resolves to invite the IMO, WMO and IHO

1. to develop jointly, in consultation with the IFRB, a plan for the global coordination of NAVTEX-type transmissions using narrow-band direct-printing techniques;

2. to assume jointly the responsibility, in consultation with the IFRB, for maintaining the plan;

urges administrations

which need to use this channel to assign the frequency in conformance with the plan and the Recommendations of the IMO, WMO and IHO for the portion of the system over which they hold jurisdiction;

invites the Administrative Council

to place this Resolution on the agenda of the next competent world administrative radio conference;

requests the CCIR

to develop the technical characteristics to allow these broadcasts to be received using automated techniques;

requests the Secretary-General

to communicate this Resolution to the IMO, IHO and WMO.

ANNEX 2

RESOLUTION No. [COM5/5]

**Dedicated HF Maritime Mobile Channels
for Broadcast of High Seas Marine Safety Information**

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

considering

a) that the International Maritime Organization (IMO) has reaffirmed the need for long range navigational and meteorological warnings to all ships on all voyages;

b) that operational limitations prevent NAVTEX or satellite services from totally fulfilling this requirement;

[c) that international narrow-band direct-printing channels for this purpose have been identified by this Conference;]

d) that due to HF propagation characteristics world-wide coordination of broadcasts to prevent interference is required;

noting

a) that the IMO and the International Hydrographic Organization (IHO) in the development of the World-Wide Navigational Warning Service have identified sixteen Navigational Areas (NAVAREAs), each under the jurisdiction of an area coordinator, for the promulgation of marine safety information;

b) that as marine safety information includes meteorological messages, as well as navigational messages, the World Meteorological Organization (WMO) also has an interest in this matter;

recognizing

that the IMO, WMO and the IHO are the appropriate organizations to coordinate the operational aspects of the broadcast of marine safety information;

resolves that the IMO, WMO and the IHO be invited:

1. to develop jointly, in consultation with the IFRB, a plan for the global coordinated use for the broadcast of high seas marine safety information using narrow-band direct-printing techniques;

2. to assume jointly the responsibility, in consultation with the IFRB, for maintaining the plan;

urges administrations

to effect appropriate operational coordination with the IMO, IHO and WMO in accordance with this plan;

requests the CCIR

to develop the technical characteristics to allow these broadcasts to be received using automated techniques;

invites the Administrative Council

to place this Resolution on the agenda of the next competent world administrative radio conference;

requests the Secretary-General

to communicate this Resolution to IMO, IHO and WMO for consideration and comments.

PINK PAGES

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

Corrigendum 1 to
Document 296-E
6 October 1987

R.1(Corr.1)

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 second reading.

Note by Committee 7

The Technical Working Group of the Plenary considered a late proposal concerning Appendix 38 and approved new texts for Notes 1 and 2 at its fifteenth meeting.

Please replace page R.1/6 with page R.1/6(Corr.1) attached.

Y.C. MONGELARD
Chairman of Committee 7

Annex: 1 page

MOD
Ap.38

APPENDIX 38

Mob-87

Narrow-Band Direct-Printing Telegraph Equipment in the Maritime Mobile Service Using Error Detection and Correction Methods

(See Articles 59, 60, 63 and 64)

The equipment for narrow-band direct-printing telegraph systems in the maritime mobile service using error detection and correction methods shall fulfil the following conditions:

a) the equipment shall accept signals conforming to International Telegraph Alphabet No. 2 at a modulation rate of at least 50 bauds and shall provide similar signals at its output suitable for extension to the public telegraph network;

b) the modulation rate over the radio path shall be 100 bauds for frequency shift keying, and 100 or 200 bauds for phase-shift keying;

c) the emissions to be used are (see Note 1):

- class F1B or J2B with a frequency shift of 170 Hz,

- or class G1B, J2B, G7B or J7B (narrow-band phase-shift keying telegraphy);

d) the frequency of the transmitted signal shall be maintained within the tolerances specified in Appendix 7 (see Note 2 below);

Note 1 - When frequency shift or phase-shift keying is effected by applying audio signals to the input of a single-sideband transmitter, particular care should be taken to adequately suppress the residual carrier of the single-sideband modulation process. In addition a suitable choice of the centre audio frequency will minimize the possibility of the residual carrier causing interference to nearby channels. For frequency shift keying the CCIR recommends 1 700 Hz as the centre frequency.

Note 2 - For operational purposes the associated receiving equipment should conform to the frequency stability of the transmitters. Receiving equipment should also comply with the necessary bandwidth as specified in the relevant CCIR Recommendations.

PINK PAGES

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

Document 296-E
2 October 1987

R.1

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 second reading:

Source	Documents	Title
COM.7	196(Rev.1)/B.1	Appendix 17 Mob-87
COM.7	246(Rev.1)/B.2	Appendix 20 Mob-87
COM.7	196(Rev.1)/B.1	Appendix 36 Mob-87
COM.7	246(Rev.1)/B.2	Appendix 37A Mob-87
		Appendix 38 Mob-87
		Appendix 40 Mob-87

Y.C. MONGELARD
Chairman of Committee 7

Annex: 7 pages

(MOD) APPENDIX 17

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)

(MOD) 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.

Note - Class R3E emissions are not permitted in the bands between 4 000 kHz and [23 000] [27 500] kHz (see RR 4371).

(MOD) b) the carrier power for class J3E emissions shall be at least 40 dB below the peak envelope power.

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 tables:

MOD a) Transmitters in use or installed before 2 January 1982:

(MOD)

Separation Δ in kHz between the frequency of the unwanted emission[1] and the assigned frequency	Minimum attenuation below peak envelope power
$1.6 < \Delta \leq 4.8$ $4.8 < \Delta \leq 8$ $8 < \Delta$	28 dB 38 dB 43 dB without exceeding the power of 50 mW

(MOD) Transmitters using reduced carrier or suppressed carrier emission may, as far as concerns out-of-band emissions[2] and those spurious emissions[3] which are a result of the modulation process but do not fall in the spectrum of out-of-band emissions[2], 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 1.6 kHz removed from the assigned frequency[4].

MOD b) 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

(MOD) Transmitters using reduced carrier or suppressed carrier emission may, as far as concerns out-of-band emissions[2] and those spurious emissions[3] which are a result of the modulation process but do not fall in the spectrum of out-of-band emissions[2], 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 Out-of-band emission: 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 the carrier frequency (see Article 60, No. 4325).

(MOD)

APPENDIX 20

Mob-87

(MOD)

Characteristics of Equipment Used for On-Board Communication in the Bands Between 450 and 470 MHz

(See Nos. 669 and 670)

NOC 1. to 8.

(MOD) Renumber existing 9. to 11.

ADD 9. The frequencies specified in No. 669 for on-board communications may be used for single-frequency and two-frequency simplex operation.

ADD 10. For ships using these on-board communication frequencies in survival craft two-way radiotelephone stations, the survival craft equipment shall be capable of transmitting and receiving the frequency 457.525 MHz.

(MOD) APPENDIX 36

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.

(MOD) APPENDIX 37A

Mob-87

NOC **Technical Characteristics of Emergency Position-Indicating Radiobeacons Operating on the Carrier Frequencies 121.5 MHz and 243 MHz**

(See Section I of Article 41)

NOC Emergency position-indicating radiobeacons operating on the carrier frequencies 121.5 MHz and 243 MHz shall fulfil the following conditions:[1]

(MOD) a) emission in normal antenna conditions and positions shall be vertically polarized and shall be essentially omnidirectional in the horizontal plane;

(MOD) b) carrier frequencies shall be amplitude-modulated (minimum duty cycle of 33%), with a minimum depth of modulation of 0.85;

NOC c) the emission shall consist of a characteristic audio-frequency signal obtained by amplitude modulation of the carrier frequencies with a downward audio-frequency sweep within a range of not less than 700 Hz between 1 600 Hz and 300 Hz and with a sweep repetition rate of 2 to 4 times per second;

ADD d) the emission should include a clearly defined carrier frequency distinct from the modulation sideband components; in particular, at least 30 per cent of the power should be contained at all times within:

±30 Hz of the carrier frequency on 121.5 MHz,
±60 Hz of the carrier frequency on 243 MHz;[2]

MOD e) the class of emission shall be A3X; however, any type of modulation which satifies the requirements laid down in b), c) and d) above may be used, provided it does not impair precise locating of the radiobeacon.

NOC [1]Additional characteristics for emergency position-indicating radiobeacons aboard aircraft are specified in the relevant annexes to the Convention on International Civil Aviation.

ADD [2]Early implementation of these characteristics for new equipment is strongly recommended (see also Recommendation No. 604(Rev.Mob-87)).

MOD
Ap.38

APPENDIX 38

Mob-87

Narrow-Band Direct-Printing Telegraph Equipment in the Maritime Mobile Service Using Error Detection and Correction Methods

(See Articles 59, 60, 63 and 64)

The equipment for narrow-band direct-printing telegraph systems in the maritime mobile service using error detection and correction methods shall fulfil the following conditions:

a) the equipment shall accept signals conforming to International Telegraph Alphabet No. 2 at a modulation rate of at least 50 bauds and shall provide similar signals at its output suitable for extension to the public telegraph network;

b) the modulation rate over the radio path shall be 100 bauds for frequency shift keying, and 100 or 200 bauds for phase-shift keying;

c) the emissions to be used are (see Note 1):

- class F1B or J2B with a frequency shift of 170 Hz,

- or class G1B, J2B, G7B or J7B (narrow-band phase-shift keying telegraphy);

d) the frequency of the transmitted signal shall be maintained within the tolerances specified in Appendix 7 (see Note 2 below);

Note 1 - When frequency shift or phase-shift keying is effected by applying audio signals to the input of a single-sideband transmitter, particular care should be taken to adequately suppress the residual carrier of the single-sideband modulation process. In addition a suitable choice of the centre audio frequency will minimize the possibility of the residual carrier causing interference to nearby channels. For this reason the CCIR recommends 1 700 Hz as the centre frequency.

Note 2 - For operational purposes the associated receiving equipment should conform to the frequency stability of the transmitters.

e) for frequency shift keying, the higher of the emitted frequencies shall correspond to "space" and the lower of the emitted frequencies shall correspond to "mark" in accordance with the relevant CCIR Recommendation;

f) a 7-unit ARQ system or a 7-unit forward acting, error-correcting and indicating time-diversity system, using the same code, shall be employed. The remaining technical characteristics of the error-detecting and correcting equipment should be in accordance with the relevant CCIR Recommendations;

g) a station equipped with a direct-printing system in accordance with the provisions of the present Appendix, using a two block call signal, shall be assigned a number in accordance with Nos. 2088, 2134 and 2143 to 2146;

h) a station equipped with a direct-printing system in accordance with the provisions of the present Appendix capable of using a three block call signal, shall employ the maritime identification digits required in accordance with Appendix 43 when communicating with stations also capable of using a three block call signal;

i) conversion from the numerical identification to the two or three block call signal pattern shall be performed according to the relevant CCIR Recommendations.

SUP APPENDIX 40

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

Document 297-E
2 October 1987
Original: English

COMMITTEE 7

THIRD SERIES OF TEXTS FROM COMMITTEE 4 TO THE EDITORIAL COMMITTEE

The texts in Annexes 1 to 3 to Document 281, as well as texts referred to in paragraph 1 as well as in Annex to Document 275, as well as the text referred to in Document 287, which were approved by Committee 4 at its seventh meeting, with slight modifications, are submitted to the Editorial Committee.

The attention of Committee 7 is drawn to the fact that the examination of Article 8 is not completed and that further modifications to this Article are expected.

O. VILLANYI
Chairman of Committee 4

BLUE PAGES

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

Document 298-E
2 October 1987

B.4

PLENARY MEETING

FOURTH 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	Title
COM.6	222 (266)	Resolution No. 316 (Rev.Mob-87)
Tech. WG PL	DT/52 (278)	Resolution GT-TEC PLEN/1
		Resolution GT-TEC PLEN/2
		Resolution GT-TEC PLEN/3
COM.6	222 (266)	Resolution COM6/2

Y.C. MONGELARD
Chairman of Committee 7

Annex: 10 pages

(MOD) RESOLUTION No. 316 (Rev.Mob-87)

(MOD) **Relating to Technical Cooperation with the Developing Countries in Maritime Telecommunications**

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

noting

MOD that, in the field of maritime telecommunications, the assistance provided by the Union to developing countries, in collaboration with other organizations, in particular the International Maritime Organization (IMO), has been promising;

conscious of

NOC a) the need for the developing countries to increase their own shipping activities and attract foreign maritime traffic in order to develop their trade;

NOC b) the important role that telecommunications play in maritime activities throughout the world, from the economic and safety aspects;

NOC c) the possibility of providing adequate safety and improved economy in shipping activities by a relatively modest investment in the installation and operation of maritime telecommunication facilities;

ADD d) the significant changes in operating techniques and methods that are being introduced in the maritime mobile service for the improvement of general, distress and safety communications;

SUP Note 1.

considering

NOC a) that in many developing countries there is a need to increase the efficiency of the services for:

- safety of navigation and safety of life at sea;
- commercially viable port operations;
- public correspondence for passengers and crews;

NOC b) that in this regard the Union's technical cooperation activities could be extended to render very valuable assistance to these countries;

ADD c) that it is necessary to adapt the levels of knowledge of techniques among developing countries to meet the technological and operational changes in maritime telecommunications;

resolves

to request the Secretary-General

MOD 1. to offer the assistance of the Union to developing countries endeavouring to improve their maritime telecommunications, particularly by providing technical advice in the establishment, operation and maintenance of equipment and by assisting in training staff, especially in matters relating to the new technologies and operating methods examined at the present Conference;

(MOD) 2. in this context, to seek the collaboration of IMO, the United Nations Conference for Trade and Development (UNCTAD) and other specialized agencies of the United Nations, as appropriate;

NOC 3. to continue to give special attention to seeking the aid of the United Nations Development Programme and other sources of financial support, to enable the Union to render sufficient and effective technical assistance in the field of maritime telecommunications, when necessary in collaboration with other specialized agencies concerned;

to urge Member countries

NOC to give priority in supporting, to the extent of their capabilities and their technical advancement, the Union's technical cooperation with developing countries in the field of maritime telecommunications by facilitating the recruitment of experts for missions to work in developing countries, by receiving students from developing countries who have been awarded a fellowship by the Union, by providing lecturers to seminars arranged by the Union and, upon request, by giving technical advice to the Union;

to invite the developing countries

NOC to include maritime telecommunications projects as needed in their country programmes for external technical assistance and to support inter-country projects in this field.

RESOLUTION GT-TEC PLEN/1

Relating to Data Transmission from Maritime Radiobeacons for Differential Radionavigation Systems

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

considering

a) that No. 466 of the Radio Regulations provides for the transmission of supplementary navigational information using narrow-band techniques, on condition that the primary function of the beacon is not significantly impaired;

b) that the International Maritime Organization (IMO) has identified a need for data exchange between shore and ship in the case of radionavigation systems (e.g., Omega, GPS, Loran-C) operating in the differential mode;

c) that Resolution No. 3 of the Regional Administrative Conference for the Planning of the Maritime Radionavigation Service (Radiobeacons) in the European Maritime Area (Geneva, 1985) (EMA) invited this Conference to consider the various aspects of the use of maritime radiobeacons to transmit data to ships using either minimum shift keying (MSK) or frequency shift keying (FSK) techniques, and to choose between these two techniques;

d) that CCIR studies have shown that, for continuous data transmission, it is necessary to use a second carrier, offset from the main carrier by 300 Hz or more, to prevent interference to certain types of automatic radio direction finders, regardless of whether MSK or FSK modulation is chosen;

e) that these studies have shown that MSK modulation has advantages over FSK modulation because of its improved spectral efficiency;

f) that the EMA Conference decided that radiobeacons in the European Maritime Area would be channelled in multiples of 500 Hz;

g) that if FSK or MSK modulation with an offset of 300 Hz or more is encoded on to a radiobeacon signal in the European Maritime Area, then the digital modulation signal will be contained partly in the channel adjacent to the radiobeacon channel, particularly in the case of high-speed data transmission;

h) that many administrations prefer the use of MSK modulation;

i) that the satellite system data corrections have to be transmitted on a continuous basis;

resolves

1. that the frequency for continuous data transmission to ships using FSK or MSK modulation on maritime radiobeacons should be offset from the radiobeacon main carrier frequency by an amount sufficient to ensure that no harmful interference is caused to automatic radio direction finders;

2. that the CCIR should continue to study the technical factors, including a standard coding format, modulation method, necessary bandwidth, protection ratios and frequency offsets, such that the primary function of the radiobeacon is not significantly impaired, and make Recommendations;

3. that channelling plans for maritime radiobeacons should accommodate the transmission of data to ships using frequency offset techniques;

invites the IFRB

to consider this Resolution in preparing its technical standards and rules of procedure;

invites

the Members of the Union in the European Maritime Area to consider convening a competent regional administrative radio conference concerning a possible revision of the Regional Agreement (Geneva, 1985) for the purpose of accommodating continuous data transmission using frequency offset techniques.

RESOLUTION GT-TEC PLEN/2

Relating to the Mutual Protection of Radio Services Operating in the Band 70 - 130 kHz

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

considering

a) that various radio services, including radionavigation systems used by maritime and aeronautical services, operate in frequency bands between 70 and 130 kHz;

b) that, radionavigation being a safety service, all practical steps consistent with the Radio Regulations should be taken to prevent harmful interference to any radionavigation system;

c) that the CCIR has noted that users of phased pulse radionavigation systems in the band 90 - 110 kHz receive no protection outside the band, yet may receive benefit from their signals outside the occupied bandwidth;

noting

that CCIR studies show:

- that for CW radionavigation systems in the frequency bands 70 - 90 kHz and 110 - 130 kHz, the protection ratio should be 15 dB within the receiver passband of $\pm$7 Hz at 3 dB;

- that phased pulse radionavigation systems require a 15 dB protection ratio within the band 90 - 110 kHz;

- that these pulse radionavigation systems would be aided by protection ratios of 5 dB and 0 dB for frequency separations between wanted and interfering signal of 10 - 15 kHz and 15 - 20 kHz, respectively;

further noting

that the CCIR has recommended the exchange of information between authorities operating radionavigation systems in the band 90 - 110 kHz and those operating other systems in the band 70 - 130 kHz employing emissions of very high stability;

recognizing

a) that radio services other than radionavigation operating in the bands 70 - 90 kHz and 110 - 130 kHz fulfil essential functions that may be affected;

b) the provisions of Nos. 343, 451, 453 and 953 of the Radio Regulations;

resolves that administrations

1. in assigning frequencies to services in the bands 70 - 90 kHz, 90 - 110 kHz and 110 - 130 kHz, consider the potential mutual impairment to other stations operating in accordance with the Table of Frequency Allocations and apply protective measures;

2. use the relevant CCIR Recommendations in ensuring that information is exchanged between authorities operating radionavigation systems in the band 90 - 110 kHz and those operating other systems in the band 70 - 130 kHz employing emissions of very high stability, to assist in preventing potential interference problems;

3. encourage consultation, both nationally and internationally, between operators of radionavigation systems using the band 90 - 110 kHz and of other systems using the band 70 - 130 kHz;

requests the CCIR

to continue studies in this matter, particularly the development of technical criteria and standards to permit compatible operations within the allocated bands and to assist in developing the list of contacts of system operators;

invites

1. the Administrative Council to place this matter on the agenda of the next competent world administrative radio conference, in order to establish technical criteria for the harmonious operation of the services in the bands between 70 - 130 kHz;

2. the International Maritime Organization (IMO), the International Civil Aviation Organization (ICAO), the International Association of Lighthouse Authorities (IALA), the Bureau international de l'heure (BIH) and national authorities to provide the Union with information pertaining to the potential impairment of systems operating in the bands 70 - 90 kHz, 90 - 110 kHz and 110 - 130 kHz, together with their views and proposals resulting therefrom.

RESOLUTION GT-TEC PLEN/3

Relating to the Operation of Fixed and Maritime Mobile Services in the Band 90 - 110 kHz

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

considering

a) the need to protect phased pulse hyperbolic radionavigation systems (Loran) operating in the band 90 - 110 kHz used as a safety service for both maritime and aeronautical services;

b) the studies made by the CCIR in this band;

c) that harmful interference affecting safety of flight and ship navigation may be caused to this service by the operation of fixed and maritime mobile services having a secondary allocation in this band;

d) that, notwithstanding to No. 453A of the Radio Regulations, this Conference has removed the allocation for the maritime mobile service from this band;

noting

that this Conference is not competent to affect significantly the allocation of the fixed service;

resolves

that the next competent conference review the fixed service allocation in this band, and No. 453A of the Radio Regulations, with a view to their deletion;

invites

the Administrative Council to place this matter on the agenda of the next competent world administrative radio conference.

RESOLUTION COM6/2

Relating to the Use of Non-Paired Ship Station Frequencies for Narrow-Band Direct-Printing Telegraph and Data Transmission Systems[1]

(see Article 60 and Table G of Appendix 31A)

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

considering

a) that certain sections of the HF bands allocated to the maritime mobile service are reserved for narrow-band direct-printing telegraph and data transmission systems operating on a non-paired frequency basis;

b) that neither the World Administrative Radio Conference, Geneva, 1974, nor the World Administrative Radio Conference, Geneva, 1979, were in a position to decide the extent to which it was necessary to regulate the orderly use of frequencies for the transmission by ship stations of non-paired direct-printing telegraph signals or on what basis this might be done;

c) that administrations operating or bringing into operation non-paired narrow-band direct-printing telegraph or data transmission systems for ships have notified the IFRB, for recording in the Master Register, the frequencies on which ship stations transmit;

d) that these notices have not been subject to technical examination by the IFRB, and that the assignments notified have been recorded in the Master Register for information only, with no date in Column 2;

e) that this Conference has provided administrations with guidance on how the frequencies reserved for non-paired narrow-band direct-printing telegraph and data transmission systems should be used by ship stations (see No. 4304);

---

[1]Replaces Resolution No. 301 of the World Administrative Radio Conference, Geneva, 1979.

resolves

1. that administrations operating or bringing into operation non-paired narrow-band direct-printing telegraph or data transmission systems for ships shall not be required to notify to the IFRB the frequencies on which ship stations transmit;

2. to instruct the IFRB to delete from the Master Register all assignments recorded as a result of the application of Resolution No. 301.

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

Document 299-E
2 October 1987
Original: English

COMMITTEE 7

FIFTH SERIES OF TEXTS TRANSMITTED BY THE TECHNICAL WORKING GROUP OF THE PLENARY TO THE EDITORIAL COMMITTEE

The texts which are contained in Document DT/55 without modifications, approved at its thirteenth meeting, and the texts which are contained in Document DT/59 with modifications, as approved by the Working Group of the Plenary at its fourteenth meeting.

Document DT/59 replaces the texts in Document 246(Rev.1) (B.2/5(Rev.1)), which were returned to the Technical Working Group by the Plenary for consideration.

E. GEORGE
Chairman of the Technical Working Group
of the Plenary

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

Document 300-E
5 October 1987

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252	AdHoc G 4	Report by Ad Hoc Group 4 to the WG/PL	WG/PL
253	WG/5 Ad Hoc 1	First Report of WG 5 Ad Hoc 1 to Committee 5	C5
254	C4	Second series of texts from Committee 4 to the Editorial Committee	C7
255	WG/PL	Note from the Chairman of WG/PL to the Chairman of Committee 4 - Use of A1A Morse telegraphy on NBDP Channels	C4
256	C5	Note by the Chairman of Committee 5 to the Chairman of WG/PL	WG/PL
257	C5	Note from the Chairman of Committee 5 to the Chairman of Committee 4	C4
258	C4	Summary Record of the sixth meeting of Committee 4	C4
259 + Corr.1	ATG, B, CTR, MEX, PNR, PRG, SUR, TRD, URG, USA	Proposal for the work of the Conference - Radiodetermination-Satellite Service	C4
260	C6	Note from the Chairman of Committee 6 to the Chairman of WG/PL	WG/PL
261	WG/6-A	Fifth Report from the Chairman of WG 6-A to the Chairman of Committee 6	C6
262	WG/6-A	Sixth Report of the Chairman of WG 6-A to the Chairman of Committee 6	C6
263	C5	Summary record of the fourth Meeting of Committee 5	C5
264	D, CYP, DNK, F, NOR, G, S	Proposals for the work of the Conference	C4

No.	Origin	Title	Destination
265	WG/PL	Note from the Chairman of WG/PL to the Chairman of Committee 4	C4
266	C6	First series of texts from Committee 6 to the Editorial Committee	C7
267	SWG/6-A-3	Report of Drafting Group 6-A-3 on Article 59 and Recommandation No. 316	WG/6-A
268	WG/5 Ad Hoc 1	Second Report of WG 5 Ad Hoc 1 to Committee 5	C5
269	WG/PL Ad Hoc 3	Report of the WG/PL Ad Hoc 3 to the WG/PL	WG/PL
270	WG/6-B	Fourth Report of the WG 6-B to Committe 6	C6
271	SWG/4-A-3	Third Report from Drafting Group 4-A-3 to WG/4-A	WG/4-A
272	SWG/6-B-1	First Report of SWG 6-B-1 to WG 6-B	WG/6-B
273	SWG/6-B-3	Report by the Chairman of Drafting Group 6-B-3 to the Chairman of WG 6-B	WG/6-B
274	MEX	Radiodetermination-Satellite Service	C4
275	WG/4-B	Third Report by WG 4-B to Committee 4	C4
276	C5	Summary Record of the Fifth Meeting of Committee 5	C5
277	WG/PL	Note from the Chairman of the WG/PL to the Chairman of Committee 4	C4
278	WG/PL	Fourth series of texts transmitted by the WG/PL to the Editorial Committee	C7
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280	C7	B.3	PL
281	WG/4-A	Fifth Report of WG 4-A to Committee 4	C4
282	SWG/4-A-4	Second Report of Drafting Group 4-A-4 to WG 4-A	WG/4-A
283	WG/6-A	Seventh Report by the Chairman of WG 6-A to the Chairman of Committee 6	C6
284	WG/6-A	Eighth Report by the Chairman of WG 6-A to the Chairman of Committee 6	C6

No.	Origin	Title	Destination
285	SWG/6-B-1	Second Report by the Chairman of SWG 6-B-1 to the Chairman of WG 6-B	WG/6-B
286	WG/5 Ad Hoc 1	Third Report of WG 5 Ad Hoc 1 to Committee 5	C5
287	WG/4-B	Fourth Report of WG 4-B to Committee 4	C4
288	URS	Proposals for the work of the Conference - Article 44	C6
289	C5	Second series of texts from Committee 5 to the Editorial Committee	C7
290	SWG/4-A-6	Report from Drafting Group 4-A-6 to WG 4-A	WG/4-A
291	C3	Summary Record of the second meeting of Committee 3	C3
292	C6	Summary Record of the fifth meeting of Committee 6	C6
293	PL	Minutes of the fourth plenary meeting	PL
294	CAN	Proposals for the work of the Conference - Appendix 38	WG/PL
295	WG/5 Ad Hoc 1	Fourth Report of WG 5 Ad Hoc 1 to Committee 5	C5
296	C7	R.1	PL
297	C4	Third series of texts from Committee 4 to the Editorial Committee	C7
298	C7	B.4	PL
299	WG/PL	Fifth series of texts transmitted by the WG/PL to the Editorial Committee	C7
300	SG	List of documents (251 to 300)	-