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Terrestrial Services Department

FREQUENCY PLANS FOR TERRESTRIAL NON-BROADCASTING SERVICES

1 Introduction

Terrestrial services other than the broadcasting service represent a significant part of radiocommunication applications in terms of the spectrum occupancy and the number of stations under operation. More than eighty-five per cent of all frequency assignments to terrestrial services recorded in the Master International Frequency Register are assignments to stations in the fixed, mobile and other radiocommunication services (excepting the broadcasting service).

The international regulations for these terrestrial services may include requirements to station parameters, mandatory channelling arrangements, coordination procedures, etc. and vary considerably from service-to-service. One of the important elements of these regulations is frequency planning as a means of preserving the rights of all Member States in the context of equitable access to the limited radio resources (the frequency spectrum and the geostationary-satellite orbit).

Currently, frequency allotment and assignment plans are established for maritime mobile, aeronautical mobile, maritime radionavigation and aeronautical radionavigation services as shown below:

- worldwide frequency allotment plan for coast radiotelephone stations operating in the exclusive maritime mobile bands between 4 000 and 27 500 kHz (Appendix **25** to RR);
- worldwide frequency allotment plan for the aeronautical mobile (OR) service in the exclusive bands between 3 025 and 18 030 kHz (Appendix **26** to RR);
- worldwide frequency allotment plan for the aeronautical mobile (R) service in the exclusive bands between 2 850 and 22 000 kHz (Appendix **27** to RR);
- regional frequency assignment plan for stations of the maritime mobile service in the MF bands in Region 1 (GE85-MAR-R1, 1985);
- regional frequency assignment plan for stations of the aeronautical radionavigation service in the MF bands in Region 1 (GE85-AER-R1, 1985);
- regional frequency allotment plan for national channels in the MF band in the maritime mobile service in Region 1 (Resolution 5 of GE85-MM-R1, 1985);
- regional frequency assignment plan for stations of the radionavigation service (radiobeacons) for the European maritime area in the band 283.5-315 kHz (GE85-EMA);
- list of assignments to other primary terrestrial services (fixed, land-mobile and radionavigation stations) in the planning area and bands governed by the Regional Agreement GE06.

This document presents the scope, technical principles and modification procedures of the above plans, as well as some specific operation and coordination procedures applicable to the planned services.

2 Frequency allotment plan for coast radiotelephone stations operating in the exclusive maritime mobile bands between 4 000 and 27 500 kHz (Appendix 25 to RR)

2.1 Scope of the Plan

The Frequency Allotment Plan of Appendix **25** to the Radio Regulations covers radiotelephone channels in the HF exclusive maritime bands intended for duplex operation. It is based on a sharing of these radiotelephone channels among coast stations throughout the world. Administrations having allotments in the Plan can assign the allotted channels to any coast stations situated in the geographical area for which the allotments appear.

The Plan is contained in Section II of Appendix **25**. It lists 240 channels identified by an assigned number and carrier frequencies and specifies the allotment areas for each channel. In some cases, it also specifies details on the service area, on the transmission characteristics, and on the agreed hours of operation. Annex 1 to this document contains an extract from this plan, which illustrates the allotment arrangement for channel 416.

2.2 Technical characteristics used in the Plan

The Plan is based on a specific channelling arrangement, comprising a uniform 3 kHz spacing between the reference frequencies of every two successive channels. Such an arrangement provides for the possibility of operating single-sideband telephony channels (class of emission J3E or J2D) with a bandwidth of 2.8 kHz. The coast radiotelephone stations must use the minimum power required to cover their service area. They may in no case use a peak envelope power above 10 kW per channel.

2.3 Procedure for Plan modification

An administration which does not have an allotment in Appendix **25** (25/1.1.1) or which needs additional allotments (25/1.1.2) has to follow the procedure prescribed in Section I of that Appendix before the frequencies can be brought into use. The same procedure is to be followed when an administration having an allotment in the Plan needs to replace that allotment by another in the same frequency band in order to improve its service (AP 25/1.25).

To this end, the administration sends the information listed in Appendix **4** to the RR to the Radiocommunication Bureau using T15 notice form, which publishes it in a special section of the informational circular (BRIFIC) together with apparent incompatibilities between the proposed allotment and any other existing or proposed allotments. At the same time as sending the information to the Bureau, the administration shall seek the agreement of the administrations having an allotment in the same channel as the proposed allotment. After the publication of the special section any administration believing that its coast stations may be affected by the proposed allotment can become party to the procedure within two months from the date of the publication.

The administrations concerned shall attempt to reach agreement by common consent. The administration seeking agreement may also request the assistance of the Bureau in obtaining such agreement, if an administration to which a request has been sent fails to acknowledge receipt of the request within forty-five days from the date of the BRIFIC or if it fails to give a decision within two months from the date of the BRIFIC or if there is continuing disagreement between the administrations. In case of non-reply or disagreement the Bureau shall examine the proposed allotment. If, after the examination, the Bureau reaches a favourable finding it enters the allotment

into the Plan. If, after the examination the Bureau reaches an unfavourable finding, it shall then examine the proposed allotment from the point of view of harmful interference, which may be caused to the services on all the various channels in the band. Should the Bureau reach an unfavourable finding in each case, it shall determine the channel, which is the least affected and, if so requested by the administration seeking agreement, it shall enter the proposed allotment in this channel in the Plan.

The administration seeking agreement shall inform the Bureau of the results of its consultations with the administrations concerned. When the Bureau finds that the procedure has been applied with respect to each administration concerned, the Bureau shall publish its finding in a special section of the BRIFIC and bring the Plan up-to-date.

3 Frequency assignment plans for stations of the maritime mobile and aeronautical radionavigation service in the MF bands in Region 1 (GE85-MAR-R1 and GE85-AER-R1)

3.1 Scope of the Agreement

The Final Acts of the Regional Administrative Radio Conference for the Planning of the Maritime Mobile and Aeronautical Radionavigation Services (Region 1), Geneva, 1985 contain a Regional Agreement and associated frequency assignment plans for these services.

The Agreement applies to maritime mobile stations operating in the bands 415-495 kHz, 505-526.5 kHz, 1 606.5-1 625 kHz, 1 635-1 800 kHz and 2 045-2 160 kHz and to aeronautical radionavigation stations in the bands 415-435 kHz and 510-526.5 kHz for those administrations of Region 1 who are party to the Agreement.

It also applies to the stations of non-planned services, such as the fixed and land mobile service stations to which the bands 1 606.5-1 625 kHz, 1 635-1 800 kHz and 2 045-2 160 kHz are allocated on a primary basis as well as to the radio determination service stations operating under provision No. 5.92 of the Radio Regulations.

3.2 Technical characteristics used in the Plans

3.2.1 Technical characteristics of the Plan for the maritime mobile service

The Plan was based on the following technical characteristics:

- Class of emission A1A for Morse telegraphy in the bands 415-435 kHz and 435-526.5 kHz, class of emission F1B for narrow-band direct-printing telegraphy and digital selective calling in the bands 415-435 kHz, 435-526.5 kHz, 1 606.5-1 625 kHz and 2 141.5-2 160 kHz, class of emission J3E for single-sideband telephony in the bands 1 635-1 800 kHz and 2 045-2 141.5 kHz.
- Minimum field strength to be protected:
 - class of emission A1A;
36.5 dB(μV/m) north of and parallel 30° North; and
56.5 dB(μV/m) south of parallel 30° North,
 - class of emission F1B;
Bands 415-435 kHz and 435-526.5 kHz;
31.5 dB(μV/m), north of and parallel 30° North; and
51.5 dB(μV/m) south of parallel 30° North;

- Bands 1 606.5-1 625 kHz and 2 141.5-2 160 kHz;
- 22.5 dB(μ V/m) north of and parallel 30° North; and
- 42.5 dB(μ V/m) south of parallel 30° North;
- class of emission J3E;
- 37 dB(μ V/m) north of and parallel 30° North; and
- 57 dB(μ V/m) south of parallel 30° North.
- Channel spacing shall be 0.5 kHz for A1A, F1B emissions and of 3 kHz for J3E emissions.
- Radiated power was derived from the minimum field strength to be protected at the edge of the coverage area. The power supplied to the antenna transmission line was derived from the e.m.r.p. by applying the following typical values of antenna gain relative to a short vertical antenna, which include the loss of the antenna coupling unit: –7 dB in the bands below 526.5 kHz and –4 dB in the bands above 1 606.5 kHz.

3.2.2 Technical characteristics of the Plan for the aeronautical radionavigation service

The Plan for the aeronautical radionavigation service in the bands 415-435 kHz and 510-526.5 kHz was established on the basis of following technical characteristics:

- Class of emission is NON or A2A;
- Minimum field strength to be protected:
37 dB(mV/m) for stations north of parallel 30° North and south of parallel 30° South; and
41.6 dB(mV/m) for stations between parallels 30° North and 30° South.
- Channel spacing of 1 kHz. However, in exceptional cases, and for national use only, interleaved channels at 0.5 kHz were used without adversely affecting assignments in the Plan on integer multiples of 1 kHz;
- Radiated power was derived from the minimum field strength to be protected at the edge of the coverage area.

3.3 Procedure for Plan modifications

3.3.1 Modifications for the maritime mobile service

Article 4 of the Agreement contains a Plan modification procedure to be applied whenever an administration proposes to modify the characteristics of an assignment appearing in the Plan or to bring an additional assignment into use. Under this procedure, agreement is sought from all administrations whose assignments may be affected according to criteria specified in Annexes 5 and 6 to the Agreement. These assignments could be ones from the Plan or assignments recorded in the Master Register for stations of other services to which the bands 1 606.5-1 625 kHz, 1 635-1 800 kHz and 2 045-2 160 kHz are allocated on a primary basis.

The proposing administration sends the parameters listed in Appendix 4 to the RR and the names of administrations with which agreement should be sought to the Radiocommunication Bureau using T16 notice form. The Bureau examines the information received in order to identify the administrations affected and publishes the complete information in a special section of BRIFIC. At the same time, the Bureau informs the affected administrations accordingly. After the publication of the special section any administration believing that it should have been included in the list of affected administrations can become party to the procedure.

The administrations concerned attempt to reach agreement by common consent. If an administration has not communicated its agreement or disagreement to the proposing administration within

90 days after the publication of the special section and within 15 days from the date of a reminder, it is regarded as being unaffected.

After the expiry of the period of 90 days and 15 days or when agreement has been reached, the proposing administration shall inform the Bureau of the results indicating the agreed characteristics and the names of the administrations with which agreement has been reached.

If, after application of the procedure described in this section, agreement has been reached with all administrations involved, the BR shall publish an appropriate modification to the Plan. In case of continuing disagreement, the administrations concerned may use one of the methods for the settlements of disputes described in the appropriate Article of the Convention or they may agree to apply the Optional Additional Protocol to the Convention.

3.3.2 Modifications for the aeronautical radionavigation service

The plan modification procedure for aeronautical radionavigation service, in terms of the actions by administrations and the Bureau, the sequence of steps and time limits for completion of different steps, is similar to the one for the maritime mobile service.

4 Frequency allotment plans for national channels in the MF band in the maritime mobile service in Region 1 (GE85-MM-R1, 1985)

Resolution 5 of the GE85-MM-R1 Conference contains allotment plans for national channels for Digital selective calling in the MF bands (3 channels in the band around 500 kHz, 8 channels in the band around 2 MHz). It also specifies the procedure for modification of these plans ("*invites further*"). According to this procedure, the administrations, which wish to enter into a group in the allotment plan, or wishing to make modifications to the plan annexed to Resolution 5, are invited to coordinate the proposed changes with other interested and affected administrations.

The updated Plan is regularly published with every new edition of the List of Coast Stations and Special Services Stations.

5 Frequency assignment plan for stations of the radionavigation service (radiobeacons) for the European maritime area in the band 283.5-315 kHz (GE85-EMA)

5.1 Scope of the Agreement

The Final Acts of the Regional Administrative Radio Conference for the Planning of the Maritime Radionavigation Service (Radiobeacons), Geneva, 1985 contain a Regional Agreement and an associated Frequency Assignment Plan for the maritime radionavigation service. The Agreement applies in the European Maritime Area to the band 283.5-315 kHz allocated to the maritime radionavigation service on a primary basis. It also applies to frequency assignments to stations of the aeronautical radionavigation service to which the same frequency band is allocated on a primary basis.

5.2 Technical characteristics used in the Plan

The Plan was established on the basis of class of emission A1A. However, the technical parameters also provide for composite emissions using both A1A and F1B. In addition, class of emission G1D may also be used, for those administrations wishing to transmit supplementary navigational information using narrow-band techniques, such as differential corrections of other radionavigation system (Omega, GPS, Loran-C, etc.), as envisaged in RR No. 5.73.

Minimum field strength to be protected is 34 dB(μV/m) north of and parallel 43° North, and 37.5 dB(μV/m) south of parallel 43° North.

5.3 Procedure for Plan modification

The Plan modification procedure is applied in conjunction of the notification procedure, immediately before bringing the assignment into operation. It is based on seeking agreement between the administration proposing modification or addition to the Plan and all other administrations whose assignments may be affected.

The proposing administration sends, using T12 notice form, the parameters listed in Appendix 4 and the names of administrations with which agreement should be sought or has already been reached to the Radiocommunication Bureau not earlier than 90 days before the date of bringing into use the assignment. The Bureau shall consider this information as a notification in accordance with Article 11 of the Radio Regulations and publish it in Part I of BRIFIC.

If, after the examination of the assignment, the Bureau reaches a favourable finding, it shall record the assignment in the Master Register on a provisional basis. When an assignment is brought into use, the Bureau verifies whether agreement of all affected administrations has been obtained. If so, the assignment is retained in the Master Register, otherwise the Bureau asks the proposing administration to delete the entry.

When the Bureau finds that the agreement of Contracting Members is not required or when the required agreement has been obtained, it shall update the master copy of the Plan.

6 Frequency allotment plans for the aeronautical mobile (OR) service in the exclusive bands between 3 025 and 18 030 kHz (Appendix 26 to the RR)

6.1 Scope of the Plan

Appendix 26 contains channelling arrangement for the carrier (reference) frequencies which should be used by aeronautical stations in the aeronautical mobile (OR) service in the bands allocated exclusively to that service between 3 025 kHz and 18 030 kHz. With the exception of the carrier (reference) frequencies 3 023 kHz and 5 680 kHz, one or more frequencies may be assigned to any aeronautical station and/or aircraft station, in accordance with the Frequency Allotment Plan, as contained in Part III of the Appendix.

For each frequency channel, the Plan specifies allotment areas that are the areas in which the aeronautical station can be situated and which coincides with all or part of the territory of the country, or of the geographical area. Annex 2 to this document contains an extract from this plan, which illustrates the allotment arrangement for the carrier (reference) frequencies 3 026 kHz to 3 035 kHz.

6.2 Technical characteristics used in the Plan

The Plan was based on the following technical characteristics:

- class of emission used for telephony is J3E (single-sideband, suppressed carrier). Classes of emission used for telegraphy including automatic data transmission are: A1A; A1B; F1B(A,H)2(A,B); (R,J)2(A,B,D); J(7,9)(B,D,X);
- bandwidth shall be up to 2.8 kHz, situated wholly within frequency channel concerned. For the aeronautical radiotelephone stations the upper sideband shall be employed, and the assigned frequency shall be 1 400 Hz higher than the carrier (reference) frequency;
- the transmitter power limits are specified in No. 26/4.4 for each authorized class of emission. On the assumption that no antenna gain is involved, these transmitter powers result in a mean effective radiated power of 1 kW (for the aeronautical stations) and 50 W (for the aircraft stations).

6.3 Procedure for Plan modification

The provisions of Appendix 26, which entered into force on 12 October 1993, provide the following procedure for updating of the allotment arrangement of Appendix 26:

- when an administration, which has no allotment in the allotment arrangement, requests an allotment, the Bureau shall select an appropriate allotment and shall enter it in the allotment arrangement;
- when an administration submits a request for additional allotment, the corresponding allotment shall be entered in the allotment arrangement only if it is compatible with the remaining allotments;
- when an administration informs the Bureau that it renounces the use of an allotment, the allotment concerned is cancelled from the allotment arrangement.

7 Frequency allotment plan for the aeronautical mobile (R) service in the exclusive bands between 2 850 and 22 000 kHz (Appendix 27 to the RR)

7.1 Scope of the Plan

Appendix 27 contains channelling arrangement for the carrier (reference) frequencies which should be used by aeronautical stations in the aeronautical mobile (R) service in the bands allocated exclusively to that service between 2 850 kHz and 22 000 kHz. One or more frequencies may be assigned to any aeronautical station and/or aircraft station, in accordance with the Frequency Allotment Plan, as contained in Part II of Appendix 27.

The Plan is presented in two formats: allotment plan by areas and allotment plan in numerical order of frequencies. The definitions and descriptions of boundaries of major world air route areas (MWARAs), regional and domestic air routes (RDARAs), VOLMET areas are given in Part II of the Appendix. Annex 3 to this document contains an extract from this plan, which illustrates the allotment arrangement for MWARA “AFI” and for RDARAs 4, 4A, 4B, 5, 5A, 5D, 7, 7B, 7C, 7D, 7E and 7F.

7.2 Technical characteristics used in the Plan

The Plan is based on the following technical characteristics:

The frequency separation between carrier (reference) frequencies shall be 3 kHz. The carrier (reference) frequency of the channels in the Plan shall be an integral multiple of 1 kHz.

For radiotelephone emissions the audio frequencies are limited to between 300 Hz and 2 700 Hz and the occupied bandwidth of other authorized emissions is not exceeded by the upper limit of J3E emissions. In specifying these limits, however, no restriction in their extension is implied in, so far as, emissions other than J3E are concerned, provided that the limits of unwanted emissions are met.

Classes of emission used for telephony are J3E (on any plan frequency) and A3E, H3E (on frequencies 3 023 kHz and 5 680 kHz). Classes of emission used for telegraphy including automatic data transmission are: A1A; A1B; F1B; H2B and any SSB (suppressed carrier) class of emission (e.g., J2B, J2D, J7B, J7D, J9B, J9D).

The peak envelope powers supplied to the antenna transmission line shall not exceed the maximum values indicated in the table of No. 27/60; the corresponding peak effective radiated powers being assumed to be equal to two-thirds of these values. It is assumed that the maximum peak envelope powers specified in the table mentioned above for aeronautical stations will produce the mean effective radiated power of 1 kW used as a basis for the interference range contours.

7.3 Procedure for Plan modification

There is no procedure for updating the Frequency Allotment Plan contained in Appendix 27 and the allotments contained in this Plan cannot be modified.

However, an administration can notify and bring into service assignments that are not contained in the Plan in order to satisfy particular operational requirements. Nonetheless, the attention is drawn to that the use of the frequencies so assigned must not reduce the protection to the same frequencies in the areas where they are allotted by the Plan that determined by the application of the procedure defined in Part I, Section II B of this Appendix. The assignments shall be subject to prior agreement between Administrations affected.

Furthermore, the International Civil Aviation Organization (ICAO) and its regional offices, which play an active part in the coordination of aeronautical (R) service frequencies, should be consulted in all appropriate cases in the operational use of the frequencies in the Plan, and especially when the procedures of obtaining the prior agreement between Administrations affected are unsatisfactory.

8 The List of frequency assignments for primary terrestrial services other than broadcasting in the planning area and bands governed by the Regional Agreement GE06

8.1 Scope of the Plan

The frequency bands 174-230 MHz and 470-862 MHz are allocated, according to Article 5 of the Radio Regulations (RR), to the broadcasting service in the countries of the GE06 planning area on a primary basis. Some parts of these bands are also allocated to other terrestrial and space services on a primary basis. The exhaustive list of these allocations is given in Chapter 4 to Annex 2 of the GE06 Agreement. From a regulatory point of view, the other primary services have the same status and enjoy the same rights as the broadcasting service.

The Regional Agreement GE06 relating to the planning of the digital terrestrial broadcasting service in Region 1 and in the Islamic Republic of Iran, in the frequency bands 174-230 MHz and 470-862 MHz, governs the use of these bands by all primary terrestrial services including non-broadcasting ones. The primary terrestrial services other than broadcasting have been taken into account in the compatibility analysis during the development of the digital Plan at the second session of Regional Radiocommunication Conference (RRC-06). The GE06 Agreement also ensures their protection from the future modifications of the digital and analogue Plans contained in the Agreement. Annex 4 to this document contains overview of data items used in the List of assignments to other primary terrestrial services.

8.2 Procedures relating to coordination of non-broadcasting primary terrestrial services

The procedure of coordination of assignments of other primary terrestrial services with the broadcasting service is contained in Section 4.2 of Article 4 of the GE06 Agreement. The different steps of this procedure can be summarized as follows.

The proposing administration shall seek the agreement from all administrations, which may be affected according to criteria of Section I of Annex 4 to the Agreement. The proposing administration sends the information listed in Annex 3 using G11 – G14 electronic notices to the Radiocommunication Bureau. The Bureau identifies potentially affected administrations. Within 40 days the BR publishes the received characteristics together with the list of potentially affected administrations and the list of the administrations, which already agreed, in Part A of a Special Section of the BR IFIC. Within 40 days from the publication of the Special Section administrations

may request the BR to remove their names from the list of the administrations that have given their agreement or to include their names in the list of the administrations considered to be affected.

The administrations concerned attempt to reach agreement. 50 days after the publication of the Special Section the Bureau requests the administrations, which have not yet given their decision, to do so. After an overall 75-day period the BR informs the proposing administrations of the reminders sent and of the names of the administrations, which have agreed, and non-replying administrations.

An administration, which has not replied within 75 days, is considered as an objecting one. In case of non-reply, the notifying administration may request the BR to send a reminder. If no decision is communicated to the BR within 40 days after the reminder, the non-replying administration is considered as having agreed to the proposed assignment.

In case of continuing disagreement, the BR shall conduct any studies, which may be requested by the administrations concerned. When all agreements are obtained, the proposing administration sends the final characteristics to the BR. The Bureau publishes this information in Part B of a Special Section of the BR IFIC and updates the *List*. Administrations may request the assistance of the Bureau before or at any stage of the procedure.

This Article 4 coordination procedure of GE06 Agreement has several specific features, which may require special attention:

- the procedure could be shortened if all necessary agreements are obtained in advance. In this case the proposing administration may request the publication of Part B of the Special Section within 40 days after publication of Special Section Part A, provided that the conditions of No. 4.2.2.4 are met. For this purpose the field *t_is_pub_req* in the notice should be set to “TRUE”;
- when an administration does not reply to a coordination request within the statutory period of 75 days, the administration is considered as having objections. This is different from all other coordination procedures of the RR and the existing regional agreements, which consider the non-reply as agreement;
- the coordination procedure has a limited duration of 24 months. If the proposing administration does not inform the Bureau within 24 months after the 75-day period, the proposed assignment lapses;
- if the parameters of the proposed assignment are changed during coordination and these changes result in the identification of new affected administrations, the coordination procedure shall be re-applied from the beginning;
- if agreement of an affected administration is obtained for a specific period of time, the assignment is entered in the *List* for this period only. It is removed from the *List* and the MIFR at the end of the indicated period;
- the assignment is deleted from the *List*, if no notification under Article 5 is received by the BR within 12 months after the publication of Part B of the Special Section.

8.3 Use of entries in the digital Plan for other primary services

The provisions of No. 5.1.3 of Article 5 provide for the possibility to use a digital entry for the transmissions in other primary terrestrial services. In other words, a non-broadcasting station can use an assignment or an allotment recorded in the digital Plan, provided that such a usage is within the “envelope” of the digital entry.

There are several conditions, which should be met by an OPS assignment notified under No. 5.1.3. Firstly, the notification shall be made in the frequency bands and geographical areas where a

primary allocation to the notified other service exists. Secondly, the peak power density of the OPS assignment in any 4 kHz shall not exceed the peak power density of the digital entry in the plan in the same 4 kHz. Thirdly, the interference potential of the OPS assignment calculated according to Section II of Annex 4 of the Agreement shall not exceed the one derived from the digital entry. The notified assignment shall not claim more protection than afforded to the digital entry. Finally, if a digital entry in the GE06 Plan has remarks concerning compatibility with other GE06 records, then all conditions contained in these remarks should be satisfied prior to notification of OPS under No. **5.1.3**.

It is recalled that typical stations in other primary services cannot be notified under the provisions of No. **5.1.3**.

9 Procedures relating to coordination for the maritime mobile and the aeronautical mobile service

This Section does not describe frequency plans established under auspices of ITU, but rather provides information on complementary coordination procedures applicable for aeronautical and maritime mobile services. This Section is added for the sake of completeness of information.

9.1 Procedures relating to coordination for maritime mobile service

Apart from the standard procedures for coordination that are applicable, as appropriate, to all terrestrial services (Procedure of Article 9 of the Radio Regulations), there are no other mandatory coordination procedures for the maritime mobile service. There are recommended coordination procedures, such as Resolution **339 (Rev.WRC-07)**: coordination of frequencies for the transmission of navigational and meteorological warnings (NAVTEX) on 490 kHz, 518 kHz or 4 209.5 kHz. The operational coordination procedures to be applied are those established by the International Maritime Organization (IMO) taking into account the IMO NAVTEX Manual. IMO provides ITU with that coordination information on a regular basis. The information received from IMO is published by the Radiocommunication Bureau in the List of Coast Stations and Special Services Stations (see No. **20.7** of the RR).

9.2 Procedures relating to coordination for the aeronautical mobile service

In the aeronautical mobile service, no special procedure is stipulated in the Radio Regulations regarding the coordination of a frequency assignment with the administrations concerned prior to bringing it into service. Coordination is, however, desirable to ensure that the proposed use will neither suffer nor cause harmful interference. If necessary, administrations may request the assistance of the Radiocommunication Bureau in coordinating appropriate frequencies for their aeronautical service.

ICAO and its regional offices play an active part in the coordination of aeronautical (R) service frequencies. Any administration requiring a new frequency for the (R) service (within the exclusive HF bands) or in the ICAOs regional air navigation Plans (in the band 117.975-137 MHz) should first of all consult the ICAOs regional office to coordinate the use of the new frequency.

Annex 1

Extract from the Allotment Plan contained in Appendix 25

Assigned frequency (carrier frequency) (channel number)	Allotment area	Observations
4 403.4	ALS	
(4 402)	ARG CL	
	B	
(416)	EST	
	F	
	G	
	GRC	
	HNG	
	INS	
	IRN	
	ISL	
	J	
	LTU	
	LVA	
	MAU	
	OCE	
	RUS SW	
	USA CL	
	USA E	
	USA W	

Annex 2

Extract from the Allotment Plan contained in Appendix 26

Carrier (reference) frequency, kHz	Allotment area	
3 026	REG1	ARS BEN G KAZ KGZ LIE MCO RUS
	REG2	ATG DMA GRD JMC KNA LCA VCT
	REG3	BRU KOR TON
3 029	REGY	ATA(ARG)
	REG1	ARS AZR BLR COG E F G I IRQ KAZ MDA NOR POL RUS SEN TUN UKR UZB
	REG2	ALS ARG B BER(USA) CLM HWA USA
	REG3	AUS CHN GUM IND J KOR MHL(USA) NZL PNG VTN
3 032	REGY	ATA(ARG)
	REG1	ALG AZR BLR COG CTI E EGY F HNG IRQ KAZ MDA MDG MLT MRC NOR OMA POL RUS SEN TUN UKR UZB
	REG2	ALS ARG B BER(USA) CAN CLM DOM GRL HWA SLV USA
	REG3	AUS CBG CHN GUM IND J J(USA) LAO MHL(USA) NZL PNG VTN VUT
3 035	REGY	ATA(ARG)
	REG1	ARM ARS BFA BHR(USA) BLR COG F G G(USA) GEO HRV I(USA) ISL KAZ KGZ LVA MLT MRC NOR RUS SEN TCD TJK TKM TUN TUR
	REG2	ALS ARG B BER(USA) BRB(USA) CG7 HWA MDW PNR PTR TRD(USA) USA
	REG3	AUS CHN GUM IND INS J(USA) NZL PNG

Annex 3

Extract from the Allotment Plan contained in Appendix 27

Area	Frequency bands (MHz)										
	3	3.5	4.7	5.4 (Reg. 2)	5.6	6.6	9	10	11.3	13.3	18
	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz
AFI	2 851 2 878	3 419 3 425 3 467	4 657		5 493 5 652 5 658	6 559 6 574 6 673	8 894 8 903		11 300 11 330	13 273 13 288 13 294	17 961
4						6 565	8 873			13 300	17 904
4A	2 926* 2 953	3 437 3 491	4 672*		5 547 5 559	6 526 6 532 6 616	8 816 8 837 8 858	10 039 10 081	11 282 11 318		
4B	2 866 2 893	3 443			5 481 5 574 5 604	6 553 6 577 6 598		10 063	11 324		
5							8 870 8 885	10 012	11 312 11 327	13 354	17 949 17 967
5A	2 986	3 452			5 577 5 583	6 544 6 664	8 822 8 915		11 288		
5D	2 899 2 971	3 482			5 526 5 550	6 535 6 547	8 843	10 048			
7					5 508	6 586	8 888		11 285	13 354	
7B	2 863 2 965	3 455			5 577 5 583	6 652	8 906	10 009			
7C	2 950	3 407			5 592	6 568 6 604	8 834	10 081	11 294		
7D	2 998				5 481			10 096			
7E	2 887	3 485			5 520	6 580 6 628	8 864		11 306		
7F	2 956	3 461			5 547 5 568	6 622	8 846 8 960				

Annex 4

Overview of the data items in the List of assignments to other primary terrestrial services

No.	Description
1	ITU serial number
2	ITU symbol for the notifying administration
3	Unique identification code given by the administration for the assignment (AdminRefId)
4	Assigned frequency (MHz)
5	Reference frequency (MHz)
6	Date of entry into the List
7	Name of the location of the transmitting/receiving station
8	ITU symbol of the country or geographical area
9	Geographical coordinates of the site of the transmitting/receiving station:
	9a latitude (\pm DDMMSS)
	9b longitude (\pm DDDMMSS)
10	Nominal radius (km) of the circular transmission area
11	ITU symbol of the country or geographical area where transmitting stations are located
12	ITU symbol of the country or geographical area where receiving stations are located
13	Geographical coordinates of the centre of the circular receiving area:
	13a latitude (\pm DDMMSS)
	13b longitude (\pm DDDMMSS)
14	Nominal radius (km) of the circular receiving area
15	Class of station
16	Class of emission, in accordance with Article 2 and Appendix 1
17	Necessary bandwidth, in accordance with Article 2 and Appendix 1
18	System type code (see Annex 2, Chapter 4 of this Agreement)
19	Type of power (X, Y or Z)
20	Transmitter output power (dBW)
21	Maximum power density (dB(W/Hz)) averaged over the worst 4 kHz band supplied to the antenna transmission line
22	Maximum effective radiated power (dBW)
23	Antenna directivity (D or ND)
24	Azimuth of maximum radiation of the transmitting antenna (degrees) clockwise from True North
25	Azimuthal sector for the antenna's main beam axis measured (degrees) clockwise from True North:
	25a Start azimuth
	25b Stop azimuth
26	Polarization
27	Height of antenna above ground level (m)

No.	Description
28	Altitude of site above sea level (m)
29	Maximum effective height of the antenna (m)
30	Effective antenna height (m) at 36 different azimuths in 10° intervals, measured in the horizontal plane from True North in a clockwise direction
31	Maximum antenna gain relative to a half-wave dipole
32	Symbol(s) of the administration with which coordination has been effected
33	Remarks
