

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of )
)
Amendment of Parts 2, 73, 74, 80, 90, and 97 of )
the Commission's Rules to Implement Decisions ) ET Docket No. 02-16
from World Radiocommunication Conferences )
Concerning Frequency Bands Below 28000 kHz )

NOTICE OF PROPOSED RULE MAKING AND ORDER

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By the Commission:

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## I. INTRODUCTION

1. By this action, we propose to amend Parts 2, 73, 74, 80, 90, and 97 of our Rules in order to implement domestically various allocation decisions from International Telecommunication Union ("ITU") World Radiocommunication Conferences<sup>1</sup> concerning the frequency bands below 28000 kilohertz ("kHz").<sup>2</sup> The most significant of these proposals is to reallocate high frequency ("HF")<sup>3</sup> spectrum from the fixed and mobile services<sup>4</sup> to the broadcasting service.<sup>5</sup> The long-range propagation characteristics of HF frequencies enable audio programs to be received directly by the general public in countries far from the country of origin, and thus HF broadcasting ("HFBC") is also known as international broadcasting. Specifically, we propose to make an additional 1540 kilohertz of spectrum available exclusively for use by international broadcast stations, with 850 kilohertz immediately available and the remainder available after a transition period that ends on April 1, 2007. Until the completion of the transition period, fixed and mobile stations in that spectrum would be allowed to continue to operate on a primary basis; after that date, these stations would be allowed to continue to operate on the condition that "harmful interference" is not caused to the broadcasting service.<sup>6</sup> This action would significantly increase the amount of spectrum available to international broadcasters on a worldwide basis, thus facilitating the provision of information and entertainment to people throughout the world.<sup>7</sup> In addition,

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<sup>1</sup> These ITU conferences were the 1992 World Administrative Radio Conference and the 1995, 1997, and 2000 World Radiocommunication Conferences ("WRC-95, WRC-97, and WRC-2000"). See *Final Acts of the World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum (WARC-92)*, Malaga-Torremolinos, 1992 ("WARC-92 Final Acts"); *Final Acts of the World Radiocommunication Conference (WRC-95)*, Geneva, 1996 ("WRC-95 Final Acts"); *Final Acts of the World Radiocommunication Conference (WRC-97)*, Geneva, 1997 ("WRC-97 Final Acts"); and *Final Acts of the World Radiocommunication Conference (WRC-2000)*, Istanbul, 2000 ("WRC-2000 Final Acts"). We will consider those allocation decisions concerning frequency bands above 28000 kHz that have not previously been considered in separate, future rulemakings.

<sup>2</sup> 28000 kHz may also be referred to as 28 megahertz ("MHz"). To be consistent with the nomenclature in the portion of the Table of Frequency Allocations, 47 C.F.R. § 2.106, that addresses this frequency range, frequencies are being expressed in terms of kilohertz herein.

<sup>3</sup> The frequency range from 3000 kHz to 30000 kHz is denoted as HF. See 47 C.F.R. § 2.101. In the metric system, it is called the shortwave range, and expressed in wavelength it lies between 100 meters and 10 meters. Thus, international broadcasting is also known as shortwave broadcasting.

<sup>4</sup> The fixed service is defined as a radiocommunication service between specified fixed points; a station in the fixed service is a fixed station. The mobile service is defined as a radiocommunication service between mobile and land stations, or between mobile stations. See 47 C.F.R. § 2.1.

<sup>5</sup> The broadcasting service is defined as a radiocommunication service in which the transmissions are intended for direct reception by the general public. *Id.* While this service may include sound transmissions, television transmissions or other types of transmission, the narrow channel bandwidth assignments made in this frequency range limit its use to sound transmissions.

<sup>6</sup> Interference is the effect of unwanted energy due to one or a combination of emissions, radiations, or inductions upon reception in a radiocommunication system, manifested by any performance degradation, misinterpretation, or loss of information which could be extracted in the absence of such unwanted energy. Harmful interference is interference which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service operating in accordance with the ITU *Radio Regulations*. *Id.*

<sup>7</sup> Essentially all HFBC channels are 9 kHz, *i.e.*, the necessary bandwidth for a double-sideband ("DSB") system may not exceed 9 kHz. The DSB assignment criteria may be either 5 kHz or 10 kHz. Specifically, the nominal spacing for a DSB system is 10 kHz. However, interleaved channels with a separation of 5 kHz may be used in accordance with the relative protection criteria, provided that the interleaved emission is not to the same geographic area as

we propose to update our Rules for international broadcast stations (Part 73, Subpart F) in order to add the new frequency bands and to otherwise conform to international regulations.

2. We also propose to make various minor amendments to our U.S. Table of Frequency Allocations ("U.S. Table") and to several of our service rules. In particular, we propose to clarify the status of services operating in the AM Expanded Band (1605-1705 kHz). To prevent the licensing of Industrial/Business Pool stations (which no longer have an allocation in the AM Expanded Band) during the pendency of this proceeding, we will no longer accept applications for new licenses or modifications or renewals of existing licenses for frequencies in the band 1605-1705 kHz and applicants with such pending applications will be given the opportunity to specify other frequencies.<sup>8</sup> We also propose to permit stations in the Industrial/Business Pool and radiolocation service that are assigned frequencies in the band 1605-1705 kHz to continue to operate until the end of their current license term on a non-interference basis ("NIB") to AM radio stations and travelers' information stations ("TIS"), without an opportunity for renewal. In addition, we propose to permit remote pickup broadcast stations to continue operations in the band 26100-26175 kHz, to remove outdated regulations in the aeronautical fixed and amateur radio services, and to make six new frequencies available for forest product licensees in limited geographic areas of the country. In sum, the actions proposed herein would update our Rules for frequency bands below 28000 kHz so that they better comport with international regulations, would update various rule parts to effectuate the allocation changes, and would otherwise clean-up rules that have not recently been reviewed.

## II. DISCUSSION

### A. International Broadcast Stations

#### 1. Background

3. In the United States, international broadcast stations transmit on frequencies between 5950 kHz and 26100 kHz.<sup>9</sup> These stations can be received at great distances because their signals bounce off the ionosphere and rebound to Earth, often thousands of miles from their origination. Numerous factors affect the reception of these transmissions, including the time of day, climate, and atmospheric noise, as well as co-channel and adjacent channel interference from other international broadcast stations around the world. Unlike other broadcasting services where frequencies are assigned on a permanent basis, international broadcasters are assigned frequencies on a seasonal basis to account for changes in

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either of the emissions between which it is interleaved. See *ITU Radio Regulations*, Appendix S11, DSB system parameters, ¶¶ 1.1, 2.4. Prior to January 1, 1999, 2080 kilohertz of exclusive HFBC spectrum was allocated on a worldwide basis, which was divided into 207 channels (assumes a 10 kHz spacing between HFBC channels in the same geographic area). These allocations have previously been added to Part 73, Subpart F of our Rules. On January 1, 1999, an additional 850 kilohertz of exclusive HFBC spectrum became available on a worldwide basis. On April 1, 2007, another 690 kilohertz of exclusive HFBC spectrum is planned to become available on a worldwide basis. Thus, if these allocations are adopted domestically, there would ultimately be a 74% increase in exclusive HFBC spectrum, which would be divided into an additional 160 channels.

<sup>8</sup> See ¶ 21, *infra*.

<sup>9</sup> See 47 C.F.R. § 73.701. This regulation is grounded in the general sub-section of Article 23 of the *ITU Radio Regulations* describing the broadcasting service, which reads as follows: "In principle, except in the frequency band 3900-4000 kHz, broadcasting stations using frequencies below 5060 kHz or above 41 MHz shall not employ power exceeding that necessary to maintain economically an effective national service of good quality within the frontiers of the country concerned." See *ITU Radio Regulations*, Edition of 1998 ("*ITU Radio Regulations*"), Article 23, No. S23.3.

propagation conditions, changing programming needs, and interference conditions. The United States participates in international frequency coordination meetings to reduce potential harmful interference to or from foreign HF broadcasts.

4. Most international broadcast stations are operated by national governments. However, HFBC programs originating in the United States are provided by both Government run<sup>10</sup> and privately operated stations. We license international broadcast stations to private entities under Part 73, Subpart F of our Rules.<sup>11</sup> Currently there are 24 private sector licensees that are authorized to operate 67 transmitters. While these private sector licensees may operate on either a commercial or a non-profit basis, most are currently religious entities operating on a non-profit basis.

5. Internationally, 2930 kilohertz of spectrum in eight HF frequency bands is allocated to the broadcasting service on a primary, exclusive basis throughout the world. These bands are listed in Table 1, below. In addition, the band 7100-7300 kHz is allocated to the broadcasting service on an exclusive basis in ITU Region 1 and Region 3.<sup>12</sup> On the condition that harmful interference is not caused to the broadcasting service, fixed stations communicating within national borders may continue to use frequencies in the bands 9775-9900 kHz, 11650-11700 kHz and 11975-12050 kHz.<sup>13</sup>

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<sup>10</sup> All U.S. Government and government sponsored, non-military, international broadcasting has recently been consolidated under the Broadcasting Board of Governors ("BBG"). BBG's HF broadcasters are the Voice of America, Radio Free Europe/Radio Liberty, Radio Marti, and Radio Free Asia. See 1998 Foreign Affairs Reform and Restructuring Act (Public Law 105-277). For more information, see the "International Broadcasting Bureau" page at <http://www.ibb.gov/>. BBG is a Federal agency that is a member of "IRAC;" see note 34, *infra*.

<sup>11</sup> See 47 C.F.R. Part 73, Subpart F--International Broadcast Stations. For more information, see the "FCC HF Broadcasting Page" at [http://www.fcc.gov/ib/pnd/neg/hf\\_web/hf.html](http://www.fcc.gov/ib/pnd/neg/hf_web/hf.html).

<sup>12</sup> The ITU divides the world into three geographic Regions. The United States is in Region 2, which includes North and South America. In Region 2, the band 7100-7300 kHz is allocated to the amateur service on a primary basis, but its use "shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3." See 47 C.F.R. § 2.106, international footnote S5.142. The rest of the world is in Regions 1 and 3. See 47 C.F.R. § 2.104 for the official definition of the three ITU Regions.

<sup>13</sup> International footnote S5.147 reads as follows: "On condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9775-9900 kHz, 11650-11700 kHz and 11975-12050 kHz may be used by stations in the fixed service communicating only within the boundary of the country in which they are located, each station using a total radiated power not exceeding 24 dBW."

HFBC bands available prior to WARC-79	HFBC bands added at WARC-79, which became exclusive on January 1, 1999 <sup>14</sup>	HFBC bands now available for worldwide use (sum of columns 1 & 2)
5950-6200 kHz		5950-6200 kHz
9500-9775 kHz	9775-9900 kHz	9500-9900 kHz
11700-11975 kHz	11650-11700 and 11975-12050 kHz	11650-12050 kHz
	13600-13800 kHz	13600-13800 kHz
15100-15450 kHz	15450-15600 kHz	15100-15600 kHz
17700-17900 kHz	17550-17700 kHz	17550-17900 kHz
21450-21750 kHz	21750-21850 kHz	21450-21850 kHz
25600-26100 kHz <sup>15</sup>		25670-26100 kHz

6. The 1992 World Administrative Radio Conference ("WARC-92") reallocated 690 kilohertz of additional spectrum in ten HF bands from the fixed and mobile services to the broadcasting service on a primary (and ultimately exclusive) basis throughout the world. Table 2, below, summarizes the international allocations for HF broadcasting, effective April 1, 2007.

HFBC Bands as of January 1, 1999	HFBC Bands added at WARC-92, which become effective on April 1, 2007	Transition Plan Footnotes	Worldwide HFBC Bands (Sum of Columns 1 & 2)
5950-6200 kHz	5900-5950 kHz	S5.136	5900-6200 kHz
	7300-7350 kHz	S5.143	7300-7350 kHz <sup>16</sup>
9500-9900 kHz	9400-9500 kHz	S5.146, S5.147	9400-9900 kHz
11650-12050 kHz	11600-11650 and 12050-12100 kHz	S5.146, S5.147	11600-12100 kHz
13600-13800 kHz	13570-13600 and 13800-13870 kHz	S5.151	13570-13870 kHz
15100-15600 kHz	15600-15800 kHz	S5.146	15100-15800 kHz
17550-17900 kHz	17480-17550 kHz	S5.146	17480-17900 kHz
	18900-19020 kHz	S5.146	18900-19020 kHz
21450-21850 kHz			21450-21850 kHz
25670-26100 kHz			25670-26100 kHz

7. WARC-92 recognized the difficulty that might be encountered by the reallocation. In particular, WARC-92 resolved that "administrations should no longer notify any frequency assignments to stations of the fixed and mobile services in the reallocated bands;" and, because "some existing fixed and mobile assignments may need to be removed progressively from the [reallocated] bands to make way

<sup>14</sup> These bands were allocated to the broadcasting service at the 1979 World Administrative Radio Conference ("WARC-79") and thus are known as WARC-79 HFBC bands; however, broadcasting use of these bands was on the basis that it not cause harmful interference to the fixed service until the incumbent fixed stations could be relocated. *See Final Acts of the World Administrative Radio Conference, Geneva, 1979 ("WARC-79 Final Acts")*, international footnote 531. At WRC-95, the WARC-79 HFBC allocations were made effective on an interim basis from January 1, 1996, taking into account that fixed service use of the WARC-79 bands could continue as described in footnote S5.148. *See WRC-95 Final Acts, Resolution 529*. At WRC-97, international footnote S5.148 was deleted, effective January 1, 1999. *See WRC-97 Final Acts, Article S59*.

<sup>15</sup> At WARC-79, the band 25600-25670 kHz was reallocated from the broadcasting service to the radio astronomy service. *See* ¶ 18, *infra*.

<sup>16</sup> As noted in ¶ 5, *supra*, the band 7100-7300 kHz is allocated to the broadcasting service on an exclusive basis in ITU Regions 1 and 3.

for the broadcasting service," it established a transition period that lasts until April 1, 2007.<sup>17</sup> In order to implement this decision, WARC-92 deleted the direct Table allocations for the fixed and mobile services from these bands and adopted four international footnotes to the Table of Frequency Allocations in the ITU *Radio Regulations* (S5.136, S5.143, S5.146, and S5.151) that permit these incumbent services to continue to operate on a primary basis until April 1, 2007.<sup>18</sup> These four international footnotes are exactly the same except for the incumbent services identified by each for the relevant band.<sup>19</sup>

8. In making additional spectrum available for exclusive international broadcasting use, it was internationally agreed that use of the WARC-92 HFBC bands would be limited to more spectrum efficient technologies such as single-sideband ("SSB") emissions.<sup>20</sup> Consequently, once the international transition period concludes on April 1, 2007, continued use of traditional double-sideband ("DSB") emissions in the WARC-92 HFBC bands would be permitted only if such use does not cause harmful interference to HFBC stations using more spectrum efficient technologies.<sup>21</sup> This restriction is found in international footnote S5.134, which reads as follows:

<sup>17</sup> "Assignments notified in these bands after 1 April 1992 shall bear a symbol to indicate that the finding will be examined by the Bureau as of 1 April 2007 in accordance with the provisions of No. S11.31." See ITU *Radio Regulations*, Resolution 21 (Rev.WRC-95), which is entitled "Implementation of changes in frequency allocations between 5900 kHz and 19020 kHz."

<sup>18</sup> See *WARC-92 Final Acts*, international footnotes 521A, 521B, 521C, 528A, 529B, and 534A (later renumbered as S5.134, S5.135 (later deleted), S5.136, S5.143, S5.146, and S5.151); and Resolution No. 21.

<sup>19</sup> For example, international footnote S5.146 reads as follows: "The bands 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 15600-15800 kHz, 17480-17550 kHz and 18900-19020 kHz are allocated to the fixed service on a primary basis until 1 April 2007, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, frequencies in these bands may be used by stations in the fixed service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed service, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations." The text of the three other transition footnotes are the same as international footnote S5.146, except that incumbent mobile services, in addition to the primary fixed service, continue to be allocated until April 1, 2007:

International footnote	Frequency bands (kHz)	Incumbent Mobile Services
S5.136	5900-5950	In Region 1, primary land mobile service; in Region 2, primary mobile except aeronautical mobile (R) service; and in Region 3, secondary mobile except aeronautical mobile (R) service
S5.143	7300-7350	Secondary land mobile service
S5.151	13570-13600 and 13800-13870	Secondary mobile except aeronautical mobile (R) service

<sup>20</sup> DSB transmitters transmit the carrier frequency and both sidebands resulting from the modulation of the carrier by the modulating signal. Traditionally, DSB emissions have been used in HF broadcasting. In contrast, SSB transmission is the method of operation in which one sideband is transmitted and the other sideband is suppressed; the carrier wave may be either transmitted or suppressed. See *The New IEEE Standard Dictionary of Electrical and Electronics Terms*, Fifth Edition.

<sup>21</sup> We observe that over 22% of FCC "frequency-hour" assignments are already being met in the WARC-92 HFBC bands using traditional DSB emissions. A frequency-hour is defined as one carrier frequency used for one hour regardless of the number of transmitters over which it is simultaneously broadcast by a station during that hour. See 47 C.F.R. § 73.701 (c). See also Appendix E, wherein FCC licensed HFBC usage is broken out by frequency band.

S5.134 The use of the bands 5900-5950 kHz, 7300-7350 kHz, 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 13570-13600 kHz, 13800-13870 kHz, 15600-15800 kHz, 17480-17550 kHz and 18900-19020 kHz by the broadcasting service is limited to single-sideband emissions with the characteristics specified in Appendix S11<sup>22</sup> or to any other spectrum-efficient modulation techniques recommended by ITU-R. Access to these bands shall be subject to the decisions of a competent conference.

In sum, international broadcast stations are currently making extensive use of the WARC-92 HFBC bands on the condition that harmful interference is not caused to stations in the fixed and mobile services. On April 1, 2007, the international transition period concludes and the status of these radiocommunication services is reversed, *i.e.*, the WARC-92 HFBC bands will be allocated exclusively to the broadcasting service, and on the condition that harmful interference is not caused to HFBC reception, stations of the fixed and mobile services may continue their operations.

9. In the United States, the frequency bands reallocated to the broadcasting service by the 1979 World Administrative Radio Conference ("WARC-79") and WARC-92 are available for shared Federal and non-Federal Government use.<sup>23</sup> In our implementation of the *WARC-79 Final Acts*, we reallocated the WARC-79 HFBC bands from the fixed service to the broadcasting service.<sup>24</sup> However, we also adopted footnote US235, which states that the WARC-79 HFBC bands are alternatively allocated to the fixed service until HFBC implementation procedures and schedules are determined. Subsequently, we adopted special provisions regarding non-Federal Government use of spectrum allocated to the fixed and land mobile services below 25000 kHz.<sup>25</sup> As a result of these provisions, no non-Federal Government fixed assignments exist in the WARC-79 HFBC bands. In contrast, Federal agencies have 656 fixed station assignments in the WARC-79 HFBC bands.<sup>26</sup>

10. In the United States, the WARC-92 HFBC bands are currently allocated to the fixed service on a primary basis. In addition, four of the WARC-92 HFBC bands are allocated to the mobile service. Specifically, the band 5900-5950 kHz is allocated to the mobile except aeronautical mobile (R) service on a primary basis and the band 7300-7350 kHz is allocated to the mobile service on a secondary basis. The bands 13570-13600 kHz and 13800-13870 kHz are allocated to the mobile except aeronautical mobile (R) service on a secondary basis for Federal Government use. We currently have 184 fixed station and 21 coast station assignments in the WARC-92 HFBC bands. Of these fixed station assignments, 162 are used by telephone, gas, and power companies to provide long distance backup communications; 17 are used by Alaska private-fixed stations, and 5 are used for aeronautical fixed purposes.<sup>27</sup> In contrast to this relatively light non-Federal Government use, Federal agencies have 1533 assignments in the WARC-92 HFBC bands.

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<sup>22</sup> These characteristics include system parameters (such as channel spacing), emission characteristics, characteristics of the reference receiver, and overall selectivity. In particular, we note that the 5 kilohertz channel spacing used by DSB emissions in 47 C.F.R. § 73.702(f)(3) is applicable for SSB emissions.

<sup>23</sup> In the United States, radio spectrum may be allocated to either Federal or non-Federal Government use exclusively, or for shared use.

<sup>24</sup> See *WARC-79 Final Acts* at note 14, *supra*.

<sup>25</sup> See 47 C.F.R. § 2.102(h).

<sup>26</sup> See Appendix B for a band by band breakout of incumbent use in the WARC-79 HFBC bands.

<sup>27</sup> See Appendix B for a band by band breakout of incumbent use in the WARC-92 HFBC bands.

## 2. Proposals

11. The United States, like many other countries, has long exercised its right to operate international broadcast stations on frequencies outside the bands allocated to the broadcasting service.<sup>28</sup> Such use is referred to as "out-of-band" operation. Such stations operate on the condition that they not cause harmful interference to, nor claim protection from, stations operating in accordance with the ITU Table of Frequency Allocations. Because of "congestion" in the allocated HFBC spectrum, much of U.S. international broadcasting is operating out-of-band on frequencies allocated to the fixed and mobile services.<sup>29</sup> This extensive out-of-band operation, which increases the risk of harmful interference, would be reduced and spectrum efficiency improved if we allocate additional HFBC spectrum in conformance with the ITU *Radio Regulations*.<sup>30</sup>

12. We observe that the WARC-79 HFBC bands became effective provisionally in 1999.<sup>31</sup> Therefore, we propose to delete the fixed service from the WARC-79 HFBC bands, thereby making this spectrum available exclusively to the broadcasting service,<sup>32</sup> and to add these bands to the rules for

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<sup>28</sup> We observe that such operations are permitted under the ITU *Radio Regulations*: "Administrations of the Member States shall not assign to a station any frequency in derogation of either the Table of Frequency Allocations in this Chapter or the other provisions of these Regulations, except on the express condition that such a station, when using such a frequency assignment, shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station operating in accordance with the provisions of the Constitution, the Convention and these Regulations." See ITU *Radio Regulations*, Article S4.4. We also observe that the United States has long complained of the lack of HFBC spectrum. See *WARC-79 Final Acts*, Final Protocol, Nos. 36 (U.S. reserved its right to take necessary steps to meet the needs of its HF broadcasting service) and 38 and *Final Acts of the World Administrative Radio Conference for the Planning of the HF Bands Allocated to the Broadcasting Service (HFBC-87)*, Geneva, 1987 ("*HFBC-87 Final Acts*"), Final Protocol, No. 45.

<sup>29</sup> In a recent presentation to the High Frequency Co-ordination Committee, Deutsche Welle stated that all worldwide daily frequency-hours (including those in the WARC-92 HFBC bands, which are allocated but not implemented, and those that are in bands not allocated to the broadcasting service) totaled approximately 19,574 during the summer 2001 season. BBG and our non-Federal Government licensees together transmit on the order of 10 to 15% of this total. See Appendix E for FCC frequency-hour assignments during the latest completed season. In particular, we note that currently only 28% of FCC frequency-hours assignments are in broadcasting spectrum codified in our Rules. Moreover, if the WARC-79 and WARC-92 HFBC bands are implemented domestically, more than 40% of FCC frequency-hour assignments would remain out-of-band.

In addition, we observe that the 2003 World Radiocommunication Conference ("WRC-03") will address whether additional spectrum should be allocated to the broadcasting service in frequency bands between 4 and 10 MHz. In particular, we note that a draft contribution from Working Party 6E for the CPM 2002 Report states that "the total shortfall in spectrum in the 6, 7 and 9 MHz broadcasting bands is at least 250 kHz. That is if the objective is limited to just eliminating co-channel collisions. However, up to 800 kHz would be needed to eliminate adjacent [*i.e.*, interleaved] channel collisions." See Report of the Third Meeting of Working Party 6E, Document 6E/157-E, Annex 19, entitled "Examination of the adequacy of frequency allocations for broadcasting between 4 and 10 MHz under WRC-02 Agenda item 1.36."

<sup>30</sup> ITU Recommendation 520 states "that the common use of the HF bands by the broadcasting and other services, without the relevant allocations or detailed regulations, results in inefficient use of the frequency spectrum" and "that such use has led to harmful interference." See ITU *Radio Regulations*, Recommendation 520.

<sup>31</sup> See note 18, *supra*.

<sup>32</sup> This proposal would be implemented by deleting footnote US235, which alternatively allocates the WARC-79 HFBC bands to the fixed service. See 47 C.F.R. § 2.106, footnote US235. We note that footnote US235 has been inadvertently replaced by international footnote S5.148 in several of the WARC-79 HFBC bands.

international broadcast stations.<sup>33</sup> This action would provide international broadcasters with an additional 850 kilohertz of spectrum. We anticipate that this action would permit significantly more HFBC stations to operate in bands allocated exclusively to the broadcasting service, thereby reducing the need to coordinate with fixed stations. Regarding incumbent operations, the National Telecommunications and Information Administration ("NTIA")<sup>34</sup> has informed us that, consistent with international footnote S5.147,<sup>35</sup> Federal agencies would continue to operate fixed stations in three of the WARC-79 HFBC bands (9775-9900 kHz, 11650-11700 kHz, and 11975-12050 kHz) and that these fixed stations will operate on the condition that harmful interference is not caused to the broadcasting service.<sup>36</sup> Accordingly, we propose to adopt the following United States footnote:

USxxx On the condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9775-9900 kHz, 11650-11700 kHz, and 11975-12050 kHz may be used by Federal Government stations in the fixed service communicating within the United States and its insular areas that are authorized as of [adoption date for the Report and Order]. Each such station shall be limited to a total radiated power of 24 dBW.

13. With regard to the WARC-92 HFBC bands, we observe that exclusive broadcasting use is to become effective on April 1, 2007.<sup>37</sup> However, until the transition period has concluded, we anticipate that fixed and mobile use will continue to be the main use of these bands in the United States. Therefore, in derogation of the ITU *Radio Regulations*, we propose to maintain the existing direct Table allocations to the fixed and mobile services in the WARC-92 HFBC bands at this time in order to highlight the main use of these bands. We propose this action at the request of NTIA.<sup>38</sup> Accordingly, we propose to allocate this 690 kilohertz of spectrum to the broadcasting service on a shared primary basis with existing fixed and mobile services and to add these bands to Part 73, Subpart F of our Rules.<sup>39</sup> We anticipate that this action would ultimately permit most international broadcast stations to operate in bands allocated exclusively to the broadcasting service. As a consequence of maintaining direct Table allocations for the

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<sup>33</sup> This proposal would be implemented by adding the WARC-79 HFBC bands to 47 C.F.R. § 73.702(f)(1).

<sup>34</sup> The Commission, which is an independent agency, administers non-Federal Government spectrum and NTIA, which is an operating unit of the Department of Commerce, administers Federal Government spectrum. *See* 47 C.F.R. § 2.105(a). NTIA's Interdepartment Radio Advisory Committee ("IRAC") is composed of representatives appointed by twenty member Federal departments and agencies. IRAC advises NTIA with regard to the allocation, management, and use of shared and Federal Government exclusive spectrum.

<sup>35</sup> *See* note 13, *supra*.

<sup>36</sup> *See* Letter to Chief, Office of Engineering and Technology, FCC, from Acting Associate Administrator, Office of Spectrum Management, National Telecommunications and Information Administration ("NTIA"), U.S. Department of Commerce, dated January 6, 2000, p. 2. Federal agencies have 656 fixed assignments in the bands 9775-9900 kHz, 11650-11700 kHz, and 11975-12050 kHz, of which 361 would be covered by footnote USxxx.

<sup>37</sup> *See* 47 C.F.R. § 2.106, international footnotes S5.136, S5.143, S5.146, and S5.151.

<sup>38</sup> *See* Letter to Chief, Office of Engineering and Technology, FCC, from Acting Associate Administrator, Office of Spectrum Management, NTIA, U.S. Department of Commerce, dated June 10, 1998, pp. 25, 27, 30, 31, 34, 36, 38, and 40. There are 1533 Federal and 205 non-Federal Government assignments in the WARC-92 HFBC bands.

<sup>39</sup> This proposal would be implemented by adding new paragraph (f)(3) to 47 C.F.R. § 73.702. This is necessary because the WARC-92 HFBC bands are allocated on a shared primary basis until April 1, 2007. As a consequence of the proposed allocation of the band 5900-5950 kHz to the broadcasting service, we propose to revise the definition for international broadcast station by changing the starting frequency from 5950 kHz to 5900 kHz. *See* Appendix A, Section 73.701, for the proposed definition.

fixed and mobile services, we propose to adopt a new United States footnote in lieu of international footnotes S5.136, S5.143, S5.146, and S5.151, which would read as follows:

USyyy On April 1, 2007, the bands 5900-5950 kHz, 7300-7350 kHz, 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 13570-13600 kHz, 13800-13870 kHz, 15600-15800 kHz, 17480-17550 kHz, and 18900-19020 kHz shall be allocated exclusively to the broadcasting service. On or after April 1, 2007, frequencies in these bands may be used by stations in the fixed and mobile services, communicating only within the United States and its insular areas, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed and mobile services, licensees shall be limited to the minimum power required and shall take account of the seasonal use of frequencies by the broadcasting service published in accordance with Article S12 of the ITU *Radio Regulations*.<sup>40</sup>

14. We also propose to cease issuing licenses for new non-Federal Government stations in the fixed and mobile services in the WARC-92 HFBC bands on April 1, 2007, consistent with the proposed allocation changes for these services. We anticipate that these requirements can be met in other HF bands allocated to the fixed and mobile services. With regard to non-Federal Government fixed and mobile licenses granted in the WARC-92 HFBC bands prior to the adoption of a Report and Order in this proceeding, we instruct the Wireless Telecommunications Bureau to add an informational note on these licenses that the authorization may be conditioned as a result of action taken in this proceeding.

15. With regard to incumbent use of the WARC-92 HFBC bands, we observe the following. The Commission and NTIA are currently licensing international broadcast stations in the WARC-92 HFBC bands on the condition that harmful interference is not caused to the fixed and mobile services. As such, HFBC use of frequencies in the WARC-92 HFBC bands is currently coordinated to ensure that fixed and mobile assignments are protected. However, on April 1, 2007, the ITU transition period will end, and stations in the fixed or mobile service that continue to operate in the WARC-92 HFBC bands must not cause harmful interference to HFBC reception.

16. We anticipate that the WARC-92 HFBC bands will be more heavily used by international broadcast stations after April 1, 2007 because HFBC stations will no longer need to protect fixed and mobile operations and because some HFBC stations now operating in other bands will move to these frequencies. Thus, fixed and mobile licensees may wish to consider moving to other bands prior to April 1, 2007, especially if their current license expires prior to that time, because of the expected difficulty of co-channel sharing between high-powered, directional international broadcast stations and stations operating in other services.<sup>41</sup> In this regard, we observe that equipment used by licensees in the fixed service below 25000 kHz is required to be "capable of transmitting and receiving on any frequency in the bands assigned to the particular operation and capable of immediate change among the frequencies," *i.e.*, the equipment is tunable.<sup>42</sup> It is our experience that maritime mobile equipment in this frequency range is

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<sup>40</sup> See ITU *Radio Regulations*, Article S12, entitled "Seasonal Planning of the HF Bands Allocated to the Broadcasting Service Between 5900 kHz and 26100 kHz."

<sup>41</sup> Our rules require that HFBC transmitters have a rated carrier power of at least 50 kilowatts and operate with directional antennas. The antennas are required to be designed and operated so that the radiated power in the maximum lobe toward the specific zone or area of reception intended to be served is at least ten times the average power from the antenna in the horizontal plane. See 47 C.F.R. §§ 73.751, 73.753. We observe that most of our HFBC licensees operate transmitters at either 100 kilowatts or 500 kilowatts.

<sup>42</sup> See 47 C.F.R. § 2.102(h)(3)(iii). This and other special provisions regarding non-Federal Government use of spectrum allocated to the fixed and land mobile services below 25 MHz were adopted shortly after WARC-79 and these provisions are codified at 47 C.F.R. § 2.102(h). Even though various frequencies below 25 MHz are listed in

also tunable. Given that there are other HF bands allocated to the fixed and mobile services and that existing equipment is tunable to these frequencies, we tentatively find that fixed and mobile assignments now using the WARC-92 HFBC bands could continue operations using other HF spectrum after the April 1, 2007 effective date for exclusive HFBC use. We request comment on the ease and feasibility of retuning fixed and mobile operations out of the WARC-92 HFBC bands. Specifically, are there significant costs or hardships associated with fixed and mobile licensees retuning to frequencies outside of the WARC-92 HFBC bands and if so, what actions could mitigate such impact? Finally, as a consequence of the upcoming reallocation, we propose to add informational notes to Part 80 (the maritime service rules) stating that radioprinter use of the bands 5900-5950 kHz and 7300-7350 kHz and Alaska private-fixed station use of the frequency 11601.5 kHz will be on the condition that harmful interference is not caused to HF broadcasting.<sup>43</sup> We request comment on these proposals and assumptions.

17. We decline to propose to adopt domestically international footnote S5.134, which limits the use of the WARC-92 HFBC bands to SSB emissions or to any other spectrum-efficient modulation technique recommended by the ITU Radiocommunication Sector ("ITU-R").<sup>44</sup> We take this action at the request of the Broadcasting Board of Governors ("BBG").<sup>45</sup> BBG states that it is actively seeking the flexibility to use traditional DSB transmitters in the WARC-92 HFBC bands on a primary basis, effective April 1, 2007, as part of the United States' preparation for the 2003 World Radiocommunication Conference ("WRC-03"). BBG avers that international broadcasters will not use SSB techniques because recent ITU studies demonstrate extremely limited availability of SSB receivers.<sup>46</sup> BBG also contends that SSB receivers are substantially more expensive than traditional DSB receivers,<sup>47</sup> but do not provide any improvement in audio quality and thus, are unlikely to ever displace DSB receivers in the less developed nations. Instead, BBG believes that international broadcasters will use digital transmission and states that it is working toward rapid implementation of digital technology. We observe that digital transmission is expected to provide the means to achieve the optimum balance among sound quality, circuit reliability,

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47 C.F.R. §§ 90.20 and 90.35, a recent review of the Commission's records found no land mobile assignments on these frequencies.

<sup>43</sup> See Appendix A, Sections 80.373(d) and 80.387(b).

<sup>44</sup> It is now clear that the phrase "other spectrum-efficient modulation techniques" will mean digital modulation techniques. We make this statement because there has been significant progress since WRC-97 with regard to digital HF broadcasting. For example, field test results of the Digital Radio Mondiale ("DRM") system show improved audio quality and transmission circuit reliability (*i.e.*, robustness) and reduced power requirements (roughly 4 dB) for the same coverage area when compared to a DSB signal operating in the same HF channel. DRM is an international consortium of 67 broadcasters, network operators, manufacturers and researchers who have been working together since 1998 to create affordable, digital radio for the broadcasting bands below 30 MHz. DRM's members from the United States are Continental Electronics, Harris Broadcast Corporation, National Association of Shortwave Broadcasters, Sangean America, Inc., TCI, and Voice of America. We note that DRM states that "[m]ost existing transmitters can be easily modified to transmit using the DRM standard." See DRM Press Release, dated April 21, 2001. In April 2001, the ITU-R approved Recommendation ITU-R BS 1514. See Recommendation ITU-R BS 1514, which is entitled "System for digital sound broadcasting in the broadcasting bands below 30 MHz." We observe that this Recommendation includes both the DRM system and the in-band on-channel digital sound broadcasting ("IBOC DSB") system. To date, testing of the IBOC DSB system has been focused on the AM and FM bands, not HF.

<sup>45</sup> See note 10, *supra*. See also letter from BBG IRAC Representative to Acting Chief, Office of Engineering and Technology, FCC, dated November 30, 2001. See note 34, *supra*.

<sup>46</sup> See Radiocommunication Bureau Director's Report to WRC-2000.

<sup>47</sup> We observe that there are DSB receivers that cost on the order of \$20.

and bandwidth. Digitally modulated emissions can, in general, also provide more efficient coverage than amplitude-modulated transmissions by using fewer simultaneous frequencies and less power.<sup>48</sup> However, BBG anticipates that inexpensive digital HF radios will not be available before late 2003 and that it will be many years before there are a substantial number of such consumer radio receivers, especially in the less developed areas of the world. Accordingly, we tentatively find that footnote S5.134 is currently inadequate to meet the needs of international broadcasters.<sup>49</sup>

18. In order to bring the Commission's Rules for international broadcast stations into conformance with current international provisions,<sup>50</sup> we propose to make the following amendments to Part 73, Subpart F. First, we propose to amend Section 73.756(c)<sup>51</sup> by revising the frequency tolerance of 0.0015 percent of the assigned frequency to the current ITU standard of 10 hertz.<sup>52</sup> We request comment on the number of HFBC stations currently operating that meet the more stringent standard. Further, we request comment on whether it is feasible to modify existing transmitters to meet this standard. If so, what costs are involved? Additionally, we request that commenters address the effects that grandfathering existing stations at their current frequency tolerance would have on this service.<sup>53</sup> Second, we propose to revise various HFBC definitions in Section 73.701 of our Rules<sup>54</sup> to reflect international requirements as specified in the *WRC-97 Final Acts*. In particular, we observe that internationally the number of seasonal schedules<sup>55</sup> per year has been reduced from four to two.<sup>56</sup> Third, we propose to delete

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<sup>48</sup> See *WRC-97 Final Acts*, Resolution 517.

<sup>49</sup> We observe that BBG is working toward having the DRM system described in Recommendation ITU-R BS.1514 added to Appendix S11 of the *ITU Radio Regulations*.

<sup>50</sup> See *ITU Radio Regulations*, Article S12, entitled "Seasonal Planning of the HF bands allocated to the broadcasting service between 5900 kHz and 26100 kHz;" Article S23, entitled "Broadcasting Services;" and Appendix S11, entitled "Double-sideband (DSB) and single-sideband (SSB) system specifications in the HF broadcasting service."

<sup>51</sup> See 47 C.F.R. § 73.756(c).

<sup>52</sup> See *ITU Radio Regulations*, Appendix S2. We note that this rule change would significantly tighten the frequency tolerance standard. For example, the current rule permits the frequency control to vary from 90 Hz at 6 MHz to 390 Hz at 26 MHz. In contrast, the proposed rule requires a frequency tolerance of 10 Hz across all bands.

<sup>53</sup> During the IRAC coordination process, BBG stated that the purpose of tightening the frequency tolerance is to improve the quality of the received HFBC signal, not for interference mitigation.

<sup>54</sup> See 47 C.F.R. §§ 73.701(g) - (j) and (l).

<sup>55</sup> Seasonal schedules are an assignment, for a season, of a frequency or frequencies, and other technical parameters, to be used by a international broadcast station for transmission to particular zones or areas of reception during specified hours. See 47 C.F.R. § 73.701(k).

<sup>56</sup> See *ITU Radio Regulations*, Article S12, Section III, entitled "The Procedure." Specifically, twice yearly, Commission staff submits projected seasonal broadcasting schedules to the ITU. These schedules cover the following seasonal periods:

Schedule A: Last Sunday in March to last Sunday in October.

Schedule B: Last Sunday in October to last Sunday in March.

Implementation of these schedules starts at 0100 Coordinated Universal Time, which was previously known as Greenwich Mean Time. The ITU publishes a Tentative Schedule at least two months before the start of each of the two schedule periods. See *ITU Radio Regulations*, No. S12.34. As a consequence of going from four to two seasons, we are proposing to revise the reference month definition. The reference month definition assists licensees

the band 25600-25670 kHz from the list of frequencies available to HFBC stations in Part 73 of our Rules. This band is not currently used by HFBC stations and this proposal would conform our Rules to the ITU's Table of Frequency Allocations and thus, protect radio astronomy observations in this frequency range.<sup>57</sup> Fourth, we propose to clarify how the band 7100-7300 kHz may be used by international broadcast stations.<sup>58</sup> Fifth, we propose to replace the map depicting geographical zones or areas of reception ("target zone map") in Section 73.703<sup>59</sup> with the current ITU target zone map. Sixth, we propose to modify the last sentence of Section 73.766<sup>60</sup> to change the highest modulating frequency from 5 kilohertz to 4.5 kilohertz to reflect a long-standing international provision.<sup>61</sup> We believe that our HFBC licensees have already made this technical change. The adoption of these proposals would make our Rules easier to use and would avoid the confusion that could result from different Commission and international requirements for international broadcast operations. We request comment on all of the above proposals.

## B. AM Expanded Band

19. In 1983, the Commission began a process to improve and revitalize the AM broadcast service that included the expansion of its available frequencies to include the band 1605-1705 kHz ("AM Expanded Band").<sup>62</sup> At that time, the primary fixed, land mobile, maritime mobile, aeronautical radionavigation, and radiolocation allocations were deleted from the band 1605-1705 kHz.<sup>63</sup> As licensees

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in selecting the frequency bands that should be used for that particular schedule; that is, it is a mid-season look. See Appendix A, Section 73.701 for the proposed new definitions.

<sup>57</sup> Prior to WARC-79, the band 25600-26100 kHz was allocated to the international broadcasting service on a primary basis. In the *WARC-79 Final Acts*, 70 kilohertz of this broadcasting allocation, the band 25600-25670 kHz, was reallocated to the radio astronomy service on a primary basis. Our proposal to update 47 C.F.R. § 73.702(f)(1) by changing 25600-26100 kHz to 25670-26100 kHz is consistent with this earlier international allocation change.

<sup>58</sup> Our proposal to revise 47 C.F.R. § 73.702(f)(2) will remove outdated cross references to the ITU Radio Regulations, and instead will add cross references to our Rules.

<sup>59</sup> See 47 C.F.R. § 73.703.

<sup>60</sup> See 47 C.F.R. § 73.766.

<sup>61</sup> See *HFBC-87 Final Acts*, note 28, *supra*, at Appendix 45, entitled "Double-Sideband (DSB) and Single-Sideband (SSB) System Specifications in the HF Bands Allocated Exclusively to the Broadcasting Service." Appendix 45 has been re-numbered as Appendix S11. See *ITU Radio Regulations*, Appendix S11.

<sup>62</sup> See *Amendment of Part 2 of the Commission's Rules Regarding Implementation of the Final Acts of the World Administrative Radio Conference, Geneva, 1979*, General Docket No. 80-739, *Second Report and Order*, FCC 83-511, rel. December 8, 1983, 49 FR 2357 (January 19, 1984). The AM broadcast band originally extended from 535-1605 kHz, but now extends from 535-1705 kHz. The 117 carrier frequencies assigned to AM broadcast stations begin at 540 kHz and progress in 10 kilohertz steps to 1700 kHz. The ten channels in the AM Expanded Band have been designated as regional channels and are assigned for use by Class B and Class D stations. See 47 C.F.R. §§ 73.14, 73.21, 73.26. Originally, the band 1605-1615 kHz was allocated to the Federal and non-Federal Government mobile service and its use was limited to the transmission of public service information from travelers' information stations ("TIS"). The Commission later reallocated the band 1605-1615 kHz from the non-Federal Government mobile service to the broadcasting service. Non-Federal Government TIS stations are now located between AM radio stations throughout the band 535-1705 kHz. In contrast, Federal Government TIS stations remain limited to the frequencies 530 kHz and 1610 kHz.

<sup>63</sup> Pursuant to footnotes US237 and US238, the band 1615-1705 kHz remained allocated to the radiolocation service on a primary basis during a transition period that ultimately concluded in 1991. See note 77, *infra*.

have recently begun service using the AM Expanded Band, we are finding that several issues affecting this spectrum need to be addressed.<sup>64</sup>

20. We observe that, when the land mobile allocation was deleted from the band 1605-1705 kHz in 1983, frequencies within this band were inadvertently not removed from Parts 74 and 90 of our Rules. Specifically, the frequencies 1606 kHz, 1622 kHz, and 1646 kHz are listed in Section 74.402(a)(1); the frequency 1630 kHz is listed in Section 90.20(c)(3); the frequencies 1614 kHz, 1628 kHz, 1652 kHz, 1676 kHz, and 1700 kHz are listed in Section 90.35(b)(3), and the band 1605-1705 kHz is listed in Section 90.263. We note that approximately 25 AM radio stations are operating in the Expanded Band, that a total of 67 AM radio stations are anticipated to be operating in this spectrum within the next 18 months, and that over 275 Federal and 568<sup>65</sup> non-Federal Government low power (10 watts) TIS stations currently operate on AM channels between these high-powered AM radio stations. In particular, we note that Federal Government TIS stations operating on the frequency 1610 kHz have primary status. Therefore, we tentatively find that there is no spectrum available for any other use. Accordingly, we propose to remove these frequencies from Parts 74 and 90 of our Rules.<sup>66</sup>

21. To prevent the licensing of Public Safety, Industrial/Business Pool, and remote pickup stations in the AM Expanded Band during the pendency of this proceeding, such applications will no longer be granted. We will no longer accept applications for new licenses or modifications or renewals of existing licenses for frequencies within the band 1605-1705 kHz as of the effective date of this *Notice of Proposed Rule Making and Order* ("*Notice and Order*"). Any such applications received on or after that date will be returned as unacceptable for filing. Pending applications will be dismissed, unless they are modified to specify alternative frequencies. We take this action to permit the orderly and effective resolution of the issue of mobile services (excluding TIS) operating in the AM Expanded Band. We anticipate this action will have minimal impact because very few such applications are received from Public Safety, Industrial/Business Pool, and remote pickup eligibles to operate in this band and because alternative land mobile spectrum is available.<sup>67</sup>

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<sup>64</sup> On March 17, 1997, the Commission's Mass Media Bureau announced a revised Expanded Band allotment plan and filing window for eligible stations. This allotment plan provided for 88 AM radio stations in the band 1605-1705 kHz. See *Public Notice*, DA 97-537. Those allotments for which no application was filed have expired. There are a total of 67 AM radio station operating or planning to operate in the Expanded Band: 1 station on 1610 kHz, 12 stations on 1620 kHz, 5 stations on 1630 kHz, 7 stations on 1640 kHz, 7 stations on 1650 kHz, 10 stations on 1660 kHz, 5 stations on 1670 kHz, 6 stations on 1680 kHz, 6 stations on 1690 kHz, and 8 stations on 1700 kHz. See *Public Notice* entitled "AM Broadcast Applications Accepted for Filing and Notification of Cut-off Date," Report No. B-93, rel. August 12, 1997.

<sup>65</sup> There are 568 callsign records for TIS stations, which can include multiple sites and/or frequencies. The number of callsign records (both active and pending status) on each AM Expanded Band frequency is: 334 records on 1610 kHz, 68 records on 1620 kHz, 48 records on 1630 kHz, 35 records on 1640 kHz, 10 records on 1650 kHz, 4 records on 1660 kHz, 11 records on 1670 kHz, 23 records on 1680 kHz, 14 records on 1690 kHz, and 21 records on 1700 kHz. See <http://www.fcc.gov/mmb/asd/bickel/tis/freqtis.html>.

<sup>66</sup> We have also recently proposed to amend 47 C.F.R. § 74.402 in a separate proceeding. See *Revisions to Broadcast Auxiliary Service Rules in Part 74 and Conforming Technical Rules for Broadcast Auxiliary Service, Cable Television Relay Service and Fixed Services in Parts 74, 78 and 101 of the Commission's Rules, etc*, ET Docket No. 01-75, *Notice of Proposed Rule Making*, 16 FCC Rcd 10556 (2001). Therefore, it may be necessary for us to make non-substantive revisions to our proposal when codifying our decision in this proceeding in order to account for any revisions made in ET Docket No. 01-75.

<sup>67</sup> See note 75, *infra*. In particular, we note that certain of the Industrial/Business Pool licensees have frequencies within the band 2194-2495 kHz (such as 2293.4 kHz, 2293.4 kHz, and 2399.4 kHz).

22. The band 1605-1705 kHz also is allocated to the radiolocation service on a secondary basis for use by both Federal and non-Federal Government licensees.<sup>68</sup> This allocation is codified in footnote US238.<sup>69</sup> While our rules have long recommended that radiolocation stations operating in the band 1605-1705 kHz be relocated to the band 1900-2000 kHz, two non-Federal Government radiolocation licensees continue to operate in this spectrum.<sup>70</sup> Therefore, in order to better protect the technical integrity of AM Expanded Band, we propose to delete the radiolocation service from the band 1605-1705 kHz in both the Federal and non-Federal Government Table of Frequency Allocations. Consistent with this action, we also propose to remove the band 1605-1705 kHz from the Radiolocation Service Frequency Table in Section 90.103 of our Rules and to delete unneeded assignment limitations.<sup>71</sup> Finally, we have had discussions with NTIA concerning the Federal Government's radiolocation assignments in the sub-band 1615-1705 kHz. NTIA has agreed to relocate all of these assignments within one year of the adoption date of the Report and Order in this proceeding.<sup>72</sup> During this one-year transition period, we propose to permit these Federal Government radiolocation stations to continue to operate on the condition that harmful interference is not caused to AM or TIS reception. In addition, NTIA has agreed to relocate out of the AM Expanded Band all Federal Government stations currently operating in this spectrum without an allocation.<sup>73</sup> Accordingly, we propose to adopt a new United States footnote, which would read as follows:

USwww On the condition that harmful interference is not caused to the reception of AM broadcast stations or to travelers' information stations, Federal Government stations in the band 1615-1705 kHz may continue operations until [one year from the adoption date of the Report and Order].

23. While there are no Public Safety or remote pickup licensees currently operating in the AM Expanded Band, four Industrial/Business Pool and two radiolocation licensees operate in this spectrum. (See Appendix C for information on these licensees.) We propose to permit these currently licensed stations to continue to operate until the end of their current license term on a NIB basis to AM

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<sup>68</sup> Stations of a secondary service shall not cause harmful interference to stations of primary services to which frequencies are already assigned or to which frequencies may be assigned at a latter date and cannot claim protection from harmful interference from stations of a primary service to which frequencies are already assigned or may be assigned at a later date. See 47 C.F.R. § 2.105(c)(2).

<sup>69</sup> See 47 C.F.R. § 2.106, footnote US238. In addition to this footnote allocation, there is a secondary direct Table allocation for the radiolocation service in the Federal Government Table.

<sup>70</sup> 47 C.F.R. § 90.103(c)(29) states that as of July 1, 1987, licensees of existing radiolocation systems in the sub-band 1605-1705 kHz of the band 1605-1800 kHz may request modification of their authorizations to change frequencies to the band 1900-2000 kHz.

<sup>71</sup> See 47 C.F.R. § 90.103(b) and assignment limitations 4, 28, and 29. In contrast to the situation discussed in ¶ 21, *supra*, we note that there is no need to suspend the acceptance of radiolocation applications because new non-Federal Government radiolocation assignments have not been permitted in this band since September 30, 1985. See 47 C.F.R. § 90.103(c)(28).

<sup>72</sup> In addition to agreeing to delete footnote US238, NTIA has instructed us to also remove the superfluous secondary direct Table allocation for the radiolocation service in the band 1625-1705 kHz from the Federal Government Table.

<sup>73</sup> Our review of the Government Master File finds that all Federal assignments in the band 1615-1705 kHz, except for radiolocation assignments (which have a secondary allocation), have the following explanation attached: The assignment is not in complete conformity with the National Table of Frequency Allocations. Those operations that are conducted under the non-conforming portions of the assignment are on a secondary basis to operations conducted under assignments that are in conformity with the National Table.

radio and TIS stations, without an opportunity for renewal.<sup>74</sup> Additionally, if we determine that any of these stations in the Industrial/Business Pool or radiolocation service is causing harmful interference to either an AM radio or TIS station, we propose to require that the station immediately cease transmission. Commission staff will work with affected licensees to help them find suitable alternative channels if the licensee desires.<sup>75, 76</sup> We propose that no fee be charged to licensees of affected stations that apply for modification for alternative channels before the end of their license term.

24. In 1991, the Commission decided that in Alaska the band 1615-1705 kHz would be allocated to the maritime mobile and Alaska fixed services on a secondary basis to Region 2 broadcast operations.<sup>77</sup> Accordingly, we are adding an informational note to various Part 80 fixed service frequencies reflecting this status.<sup>78</sup> These and other proposed minor changes to the U.S. Table are shown in Appendix A.<sup>79</sup> We request comment on all of the above AM Expanded Band proposals.

### **C. Continued Use of the Frequencies 26110 kHz, 26130 kHz, 26150 kHz, and 26170 kHz by Broadcast Auxiliary Remote Pickup Stations**

25. The band 26100-26175 kHz was reallocated from the land mobile service to the maritime mobile service in 1983.<sup>80</sup> At that time, four land mobile frequencies within the reallocated band were not removed from Part 74 of our Rules. Thus, Section 74.402(a) of our Rules continues to state that the following frequencies may be assigned for use by remote broadcast stations and broadcast network entities: 26110 kHz, 26130 kHz, 26150 kHz, and 26170 kHz.<sup>81</sup> In our maritime service rules, the frequency 26110 kHz is available for assignment to public coast stations for narrow-band direct-printing ("NBDP") and data transmissions,<sup>82</sup> the frequency 26130 kHz is available for assignment to coast stations

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<sup>74</sup> Courts have recognized the Commission's authority to adopt application freeze actions such as this. *See, e.g.*, *Neighborhood TV Co. v. FCC*, 742 F.2d 629, 637-38 (D.C. Cir. 1964) and *Kessler v. FCC*, 326 F.2d 673, 680-82 (D.C. Cir. 1963). These cases hold that freeze actions on application filing are procedural in nature and hence are not subject to the notice and comment requirements of the Administrative Procedures Act.

<sup>75</sup> We believe there is sufficient alternative spectrum available to meet the needs of existing licensees. *See, e.g.*, 47 C.F.R. § 74.402(a), wherein 26 frequencies in the band 25670-26480 kHz are available for assignment to remote pickup broadcast stations; 47 C.F.R. § 90.20(c)(3), wherein the frequencies 1722 kHz and 1730 kHz are available for assignment to Public Safety Pool eligibles; and 47 C.F.R. § 90.35(a)(3), wherein any non-Federal Government land mobile band between 2000 and 25000 kHz is available for assignment to Industrial/Business Pool eligibles. In particular, Industrial/Business Pool eligibles should consult 47 C.F.R. §§ 90.263 and 90.266.

<sup>76</sup> *See* 47 U.S.C. 316 ("Modification by Commission of Construction Permits or Licenses").

<sup>77</sup> *See Review of the Technical Assignment Criteria for the AM Broadcast Service*, MM Docket No. 87-267, *Report and Order*, 6 FCC Rcd 6273 (1991), footnotes US238 and US299.

<sup>78</sup> *See* Appendix A, §§ 80.373(i) and 80.387(b). Specifically, the informational note would be added to 7 frequencies in both the table entitled "Private Communications in Alaska Carrier Frequencies (kHz)" and in the table entitled "Alaska-private fixed station frequencies."

<sup>79</sup> International footnote 480 would be replaced with S5.89, missing footnote NG128 would be added to the band 535-1605 kHz, and various United States footnotes would be placed in both the Federal and non-Federal Government Tables.

<sup>80</sup> *See WARC-79 Final Acts* at note 14, *supra*.

<sup>81</sup> *See* 47 C.F.R. § 74.402(a).

<sup>82</sup> *See* 47 C.F.R. § 80.361(a). There are 20 frequencies within the band 26101-26110.5 kHz (in 0.5 kHz steps) that are available for assignment to public coast stations for NBDP and data transmissions.

for facsimile transmissions,<sup>83</sup> the frequency 26151 kHz is available for assignment to public coast stations for public correspondence,<sup>84</sup> and the frequency 26172 is available for assignment to public coast stations for call and reply communications.<sup>85</sup> A review of our licensing database shows the following number of remote pickup licenses for these four frequencies: 89 licenses for 26110 kHz, 83 licenses for 26130 kHz, 66 licenses for 26150 kHz, and 19 licenses for 26170 kHz. In contrast, there are currently no public coast station licensees making use of these four frequencies. We tentatively find that remote pickup stations can share these frequencies with coast stations because of the intermittent nature of their use and because of light coast station demand for these and adjacent frequencies. Nonetheless, if coast station licensees later require use of these four frequencies, we propose to require that remote pickup stations not cause harmful interference to the reception of these coast station transmissions. Accordingly, we propose to revise footnote US25 to read as follows:

US25 The use of frequencies in the band 25850-26175 kHz may be authorized to non-Federal Government remote pickup broadcast base and mobile stations on the condition that harmful interference is not caused to the reception of either international broadcast stations transmitting in the band 25850-26100 kHz or coast stations transmitting in the band 26100-26175 kHz.

We request comment on this proposal.

#### **D. Maritime Services**

26. The maritime mobile bands are used primarily to communicate between and among fixed coast stations, ships and other offshore vessels. The maritime radionavigation bands are used primarily to determine the position, velocity, and other characteristics of objects for the benefit and safe operation of ships. National planning for the maritime services closely follows international regulations. We regulate the non-Federal Government stations in the maritime services under Part 80 of our Rules.

27. The band 285-325 kHz is Federal/non-Federal Government shared spectrum that is allocated to the maritime radionavigation service on a primary basis, limited to radiobeacons.<sup>86</sup> This band is also being used by Federal agencies for the provision of differential global positioning system ("DGPS") information.<sup>87</sup> NTIA currently authorizes this function through footnote G121 of its *Manual*,

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<sup>83</sup> See 47 C.F.R. § 80.363 (a)(2). We note that this rule section describes the "exclusive" maritime mobile HF frequency bands that are available for assignment to coast stations using 3 kHz channels for facsimile, and that within the reallocated band 26100-26175 kHz, the sub-band 26122.5-26145 kHz is listed.

<sup>84</sup> See 47 C.F.R. § 80.371(b)(2). Table B lists four additional duplex channels, of which, the coast transmit frequencies 26145 kHz, 26148 kHz, 26151 kHz and 26154 kHz are in the reallocated band 26100-26175 kHz.

<sup>85</sup> See 47 C.F.R. § 80.369(d).

<sup>86</sup> Navigational aids in the United States in the band 190-415 kHz are normally operated by the Federal Government. See 47 C.F.R. § 2.106, footnote US18.

<sup>87</sup> In particular, we observe that the U.S. Coast Guard ("USCG") declared full operational capability of the Maritime DGPS Service on March 15, 1999. The USCG system provides service for coastal coverage of the continental U.S., the Great Lakes, Puerto Rico, portions of Alaska and Hawaii, and portions of the Mississippi River basin. Maritime DGPS uses fixed GPS reference stations that broadcast pseudo-range corrections using maritime radiobeacons. The Maritime DGPS Service system provides radionavigation accuracy better than 10 meters for U.S. harbor entrance and approach areas. In addition, a Nationwide DGPS ("NDGPS") Service is being established to provide coverage for all areas of the U.S. not currently covered by the USCG Maritime DGPS Service. Positive Train Control, Intelligent Transportation Systems, and precision agriculture are expected to receive benefits from the NDPGS Service. See *1999 Federal Radionavigation Plan*, at pp. 1-9, 3-10, and 3-11, published by the Department of

but this footnote has not previously been coordinated with the Commission.<sup>88</sup> We believe that because the band 285-325 kHz is shared spectrum, footnote G121 should be reclassified as a United States footnote.<sup>89</sup> Accordingly, we propose to adopt footnote USzzz, which would read as follows:

USzzz Consistent with US18,<sup>90</sup> stations may be authorized on a primary basis in the band 285-325 kHz for the specific purpose of transmitting differential global positioning system information.

28. The frequency 500 kHz is the international distress and calling frequency for Morse radiotelegraphy in the mobile service.<sup>91</sup> A narrower 10 kilohertz guard band requirement (495-505 kHz) became effective in February 1999,<sup>92</sup> when the Global Maritime Distress and Safety System ("GMDSS") became fully implemented.<sup>93</sup> Recently, we proposed to delete 500 kHz as a distress and safety frequency from our maritime rules because it is not currently in use.<sup>94</sup> Thus, it is planned that at WRC-03, Member States will consider whether non-GMDSS requirements should be maintained in the ITU *Radio Regulations*.<sup>95</sup> However, at this time, we need only to update our Rules by renumbering three

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Defense and the Department of Transportation. This document is available to the public through the National Technical Information Service.

<sup>88</sup> See *NTIA Manual of Regulations and Procedures for Federal Radio Frequency Management*, January 2000 Edition with May/September 2000 Revisions ("*NTIA Manual*") at p. 4-97.

<sup>89</sup> As written, footnote G121 appears to limit the provision of DGPS information to stations licensed to provide maritime radionavigation service. We believe that there is a need to authorize stations that only transmit DGPS information, even if it is unrelated to the maritime radionavigation service, *e.g.*, the NDGPS Service.

<sup>90</sup> 47 C.F.R. § 2.106, footnote US18 reads as follows: "Navigation aids in the US and possessions in the bands 9-14 kHz, 90-110 kHz, 190-415 kHz, 510-535 kHz, and 2700-2900 MHz are normally operated by the U.S. Government. However, authorizations may be made by the FCC for non-Government operation in these bands subject to the conclusion of appropriate arrangements between the FCC and the Government agencies concerned and upon special showing of need for service which the Government is not yet prepared to render."

<sup>91</sup> See ITU *Radio Regulations*, Appendix S13, entitled "Distress and safety communications (non-GMDSS)," Part 2, § 1.

<sup>92</sup> See *Final Acts of the World Administrative Radio Conference for the Mobile Services (MOB-87)*, Geneva, 1987, Resolution No. 210. Previously, the 500 kHz distress and calling frequency had a 20-kilohertz guard band (490-510 kHz).

<sup>93</sup> See 47 C.F.R. Part 80, Subpart W--Global Maritime Distress and Safety System (GMDSS).

<sup>94</sup> See *Amendment of Parts 13 and 80 of the Commission's Rules Concerning Maritime Communications*, WT Docket No. 00-48, *Notice of Proposed Rule Making and Memorandum Opinion and Order*, 15 FCC Rcd 5942, 5956 at ¶ 26 (2000).

<sup>95</sup> See ITU Council Document C2000/88-E, Resolution 1156, Agenda Item 1.9, wherein WRC-03 will consider Appendix S13 and Resolution 331 (Rev.WRC-97) with a view to their deletion and, if appropriate, to consider related changes to Chapter SVII and other provisions of the ITU *Radio Regulations*, as necessary, taking into account the continued transition and introduction of the GMDSS.

international footnotes. Accordingly, we propose to renumber international footnotes 472, 472A, and 474 as S5.83, S5.82, and S5.84, respectively.<sup>96</sup>

29. The U.S. Coast Guard currently operates several NAVTEX stations on the frequency 518 kHz.<sup>97</sup> The 1997 World Radiocommunication Conference ("WRC-97") adopted two requirements concerning NAVTEX operations. First, international footnote S5.131 requires that the frequency 4209.5 kHz be 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 techniques.<sup>98</sup> In its comments to another proceeding, the U.S. Coast Guard states that 4209.5 kHz is an internationally-recognized and used NAVTEX frequency, and that it plans to operate 4 MHz NAVTEX on a trial basis as a means of improving maritime safety broadcast service to mariners, and covering gaps in coverage of similar information broadcast on the International NAVTEX frequency 518 kHz.<sup>99</sup> The U.S. Coast Guard also states that the international use for safety purposes and propagation characteristics of this frequency obviates its use for any other purpose. Accordingly, we propose to adopt international footnote S5.131 domestically.

30. Second, international footnote S5.79A states that when establishing stations in the NAVTEX service on the frequencies 490 kHz, 518 kHz, and 4209.5 kHz, administrations are strongly recommended to coordinate the operating characteristics in accordance with the procedures of the International Maritime Organization. NAVTEX service is currently provided only by the Federal Government. NTIA requests that we adopt international footnote S5.79A domestically, and accordingly, we propose to do so.<sup>100</sup>

31. In the bands 4000-4063 kHz and 8100-8195 kHz, we propose to delete the fixed service allocation because the transition period for reallocating this spectrum exclusively to the maritime mobile service has passed.<sup>101</sup> We request comment on all of the above maritime proposals.

#### **E. Aeronautical Fixed Service**

32. The aeronautical fixed service is a radiocommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air transport.<sup>102</sup>

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<sup>96</sup> We note that international footnote 471 (renumbered as S5.81 at WRC-97) was modified to reflect the deletion of Resolution 210 and the insertion of a reference to Appendix S13 (non-GMDSS distress and safety communications). The need for this footnote was overtaken by time, and it was deleted at WRC-2000.

<sup>97</sup> NAVTEX is an international, automated system for instantly distributing maritime navigational warnings, weather forecasts and warnings, search and rescue notices and similar information to ships.

<sup>98</sup> This proposal would be implemented by adding international footnote S5.131 in the band 4063-4438 kHz in the U.S. Table.

<sup>99</sup> See Comments of the United States Coast Guard in WT Docket No. 00-48, received August 23, 2000, p. 19.

<sup>100</sup> See Letter from Acting Associate Administrator, Office of Spectrum Management, U.S. Department of Commerce, NTIA to Chief, Office of Engineering and Technology, FCC, dated January 6, 2000.

<sup>101</sup> Prior to WARC-79, the bands 4000-4063 kHz and 8100-8195 kHz were allocated exclusively to the fixed service. In the Commission's WARC-79 implementation, footnote US236 was adopted. Thus, our proposal to delete the fixed service would be implemented by removing expired footnote US236. See 47 C.F.R. § 2.106, footnote US236. See also Letter from Converner, Ad Hoc 206, IRAC, NTIA, U.S. Department of Commerce, to FCC Ad Hoc 206 Representative, dated June 15, 2001.

33. In Region 2, the band 160-190 kHz is allocated exclusively to the fixed service on a primary basis. Prior to the 1995 World Radiocommunication Conference ("WRC-95"), the band 160-190 kHz was allocated on a primary basis to the aeronautical fixed service, which is a subset of the fixed service, in Region 2 polar areas. At WRC-95, this limitation on the use of the fixed allocation in Region 2 polar areas was eliminated, and thus internationally the band is now available for all fixed uses.<sup>103</sup> The band 160-190 kHz is currently unused by the aeronautical fixed service, and accordingly we propose to delete the limitation to aeronautical fixed use from our Rules.<sup>104</sup> We request comment on this proposal.

34. In the United States, the band 21850-21924 kHz is shared spectrum that is allocated to the fixed service on a primary basis. At WRC-95, fixed use of most of this band (21870-21924 kHz) was limited to the provision of services related to aircraft flight safety through the adoption of international footnote S5.155B. The Federal Aviation Administration ("FAA") has indicated that it does not intend to implement an aircraft flight safety system in this band.<sup>105</sup> Thus, there is no apparent support on a domestic level for the adoption of this international limitation. However, we invite comment on whether S5.155B should be adopted domestically.

## F. Amateur Service

35. Amateur radio plays an important role in disaster-relief when normal communications systems are overloaded, damaged or disrupted because a disaster has occurred or is likely to occur.<sup>106</sup> We note that WARC-79 adopted Resolution No. 640, entitled "Relating to the International Use of Radiocommunications, in the Event of Natural Disasters, in Frequency Bands Allocated to the Amateur Service."<sup>107</sup> The Resolution invited administrations to provide for the needs of international disaster communications and for the needs of emergency communications within their national regulations using certain amateur bands, which were listed in international footnote 510 (later renumbered as S5.120). In response, the Commission added international footnote 510 to the non-Federal Government Table of Frequency Allocations<sup>108</sup> and Section 97.401(b) to the rules for the amateur radio service,<sup>109</sup> both of which referenced Resolution No. 640.<sup>110</sup> At WRC-97, Resolution 640 was eliminated, and at the 2000

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<sup>102</sup> 47 C.F.R. § 87.5. A station in this service is an aeronautical fixed station. We note that the ITU does not recognize the aeronautical fixed service as a separate service. The definition in Part 87 was developed for U.S. purposes.

<sup>103</sup> This designation was in international footnote 459, which was deleted at WRC-95.

<sup>104</sup> This proposal would be implemented by deleting international footnote 459 from the U.S. Table. See 47 C.F.R. § 2.106, international footnote 459. We note that the band 160-190 kHz is not listed in the frequency table for the aviation services, 47 C.F.R. § 87.173(b).

<sup>105</sup> See e-mail from Ad Hoc 206 FAA Representative to FCC Ad Hoc 206 Liaison, dated March 20, 2001.

<sup>106</sup> See 47 C.F.R. Part 97, the amateur radio service, and in particular, Subpart E, providing emergency communications.

<sup>107</sup> See *WARC-79 Final Acts* at p. 837.

<sup>108</sup> See *Amendment of Part 2 of the Commission's Rules Regarding Implementation of the Final Acts of the World Administrative Radio Conference, Geneva, 1979*, General Docket No. 80-739, *Second Report and Order*, 49 FR 2357 (1/19/84).

<sup>109</sup> See *Reorganization and Deregulation of Part 97 of the Rules Governing the Amateur Radio Service*, PR Docket No. 88-139, *Report and Order*, 4 FCC Rcd 4719 (1989).

World Radiocommunication Conference ("WRC-2000"), international footnote S5.120 was eliminated.<sup>111</sup> Accordingly, we propose to delete international footnote S5.120 and Section 97.401(b) from our Rules. We observe that, under Sections 97.111(a)(1)<sup>112</sup> and 97.101(c)<sup>113</sup> of our Rules, U.S. amateur radio stations can continue to communicate with foreign stations in disaster areas.<sup>114</sup>

#### **G. Frequencies Available for Forest Products Licensees**

36. The band 27540-28000 kHz is Federal Government exclusive spectrum that is allocated to the fixed and mobile services, except that limited non-Federal Government use is permitted by forest product licensees<sup>115</sup> in certain geographic areas on six channels. This limited use is authorized in footnote US298. We propose to make editorial revisions to footnote US298 to conform with terminology now used in Part 90 of our Rules and to add these frequencies to the Industrial/Business Radio Pool Frequency Table in Section 90.35, with an appropriate note describing the limited use that is permitted.<sup>116</sup> Revised footnote US298 would read as follows:

US298 Channels 27555, 27615, 27635, 27655, 27765, and 27860 kHz are available for use by forest product licensees on a secondary basis to Federal Government operations including experimental stations. Non-Federal Government operations on these channels will not exceed 150 watts output power and are limited to the states of Washington, Oregon, Maine, North Carolina, South Carolina, Tennessee, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas (eastern portion).

We request comment on this proposal.

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<sup>110</sup> Section 97.401(b) reads as follows: "When normal communication systems are overloaded, damaged or disrupted because a natural disaster has occurred, or is likely to occur, in an area where the amateur service is not regulated by the FCC, a station assisting in meeting essential communication needs and facilitating relief actions may do so only in accord with ITU Resolution 640 (Geneva, 1979). The 80 m, 75 m, 40 m, 30 m, 20 m, 17 m, 15 m, 12 m, and 2 m bands may be used for these purposes."

<sup>111</sup> See *WRC-2000 Final Acts* at p. 7.

<sup>112</sup> 47 C.F.R. § 97.111 is entitled "Authorized transmissions" and in pertinent part reads: "(a) An amateur station may transmit the following types of two-way communications: (1) Transmissions necessary to exchange messages with other stations in the amateur service, except those in any country whose administration has given notice that it objects to such communications. . ."

<sup>113</sup> 47 C.F.R. § 97.101 is entitled "General standards" and paragraph (c) reads: "At all times and on all frequencies, each control operator must give priority to stations providing emergency communications, except to stations transmitting communications for training drills and tests in RACES [Radio Amateur Civil Emergency Service]."

<sup>114</sup> On an unrelated matter of interest to amateur operators, we note that WRC-2000 deleted international footnote S5.124. Prior to this action, the band 3950-4000 kHz was internationally allocated to the broadcasting service for domestic use in Canada. Once the Canadian Government has implemented this allocation change, the band 3500-4000 kHz will be allocated exclusively to the amateur service in Canada. As such, we anticipate that our amateur operators will be able to make even more extensive use of the "75 meter" band. See 47 C.F.R. § 97.301(b), (c), and (d) for eligibility requirements.

<sup>115</sup> Forest products licensees are defined as persons primarily engaged in tree logging, tree farming, or related woods operations, including related hauling activities, if the hauling activities are performed under contract to, and exclusively for, persons engaged in woods operations or engaged in manufacturing lumber, plywood, hardboard, or pulp and paper products from wood fiber. See 47 C.F.R. § 90.7.

<sup>116</sup> Appendix A, paragraphs 90.35(b)(3) and 90.35(c)(82).

## H. Ministerial Conforming Amendments

37. We also propose to take the following non-substantive actions in this proceeding, which would correct and update our Table of Frequency Allocations.<sup>117</sup> The effect of these actions would be to remove confusing and unnecessary material from our Rules and to reflect the *WRC-2000 Final Acts* with regard to the International Table of Frequency Allocations within our Rules. First, we would remove international footnote S5.60 from the bands 70-90 kHz and 110-130 kHz because this footnote is a limitation on an allocation that was never made domestically.<sup>118</sup> Second, we would remove superfluous international footnote S5.80 from the band 415-435 kHz because the limitation in that footnote does not apply to this band. Third, we would delete the secondary direct Table allocation for the space research service in the band 19990-19995 kHz because this allocation is also contained in footnote G106, which was recently added to the band 19990-20010 kHz.<sup>119</sup> Fourth, we would delete pre-1991 frequencies listed for ship and coast station operations from footnote US82 (the post-1991 frequencies are already listed in the footnote). Fifth, we would make various editorial changes to other U.S. footnotes to conform to previous decisions and to update the material in the text, as specified in Appendix A.<sup>120</sup> Sixth, we would add an informational note to Section 90.35 stating that the use of five frequencies is on a secondary basis to stations in the maritime mobile service.<sup>121</sup> Seventh, we would update various rule part cross references in the U.S. Table. In particular, we would delete approximately 50 cross references to the International Fixed Public Radiocommunication Services ("IFPRS") because specific frequencies or bands are not

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<sup>117</sup> 47 C.F.R. § 2.106.

<sup>118</sup> That is, in ITU Region 2, the bands 70-90 kHz and 110-130 kHz are allocated to the maritime radionavigation service on a primary basis and the use of this allocation is limited per international footnote S5.60. Because these bands are not allocated to the maritime radionavigation service in the United States, it is pointless to have international footnote S5.60 listed in the U.S. Table.

<sup>119</sup> See Letter from Acting Associate Administrator, Office of Spectrum Management, NTIA, to Chief, Office of Engineering and Technology, FCC, received September 24, 1998.

<sup>120</sup> Specifically, "Government" and "non-Government" would be changed to "Federal Government" and "non-Federal Government," respectively, in footnotes US18, US82, US104 (the word "licensees" would also be added and "Secondary Service basis" would be changed to "secondary basis") US225, US231, US281, US282, US283 (the phrase "in these bands" would also be deleted), US321, and US340 (the phrase "secondary non-interference basis" would also be changed to "non-interference basis"). In footnotes US18 and US104, "possessions" would be changed to "insular areas." In footnote US231, the last sentence would be revised to clarify that Federal Government aeronautical radionavigation radiobeacons are limited to "non-voice emissions." In footnote US281, the band "25.07-25.11 MHz" would be corrected to "25070-25210 kHz" and "industrial radio service" and "Forest Products Radio Service" would be updated to "Industrial/Business Pool."

<sup>121</sup> That is, footnote US281, as revised in the above note, states that "In the band 25070-25210 kHz, non-Federal Government stations in the Industrial/Business Pool shall not cause harmful interference to, and must accept interference from, stations in the maritime mobile service operating in accordance with the International Table of Frequency Allocations." Limitation 9 states this fact, but it has only been added to the frequencies 25.08 MHz and 25.10 MHz in Section 90.35. Thus, we now add limitation to the frequencies 25.12 MHz, 25.14 MHz, 25.16 MHz, 25.18 MHz, and 25.20 MHz.

listed in Part 23, which is the purpose of having a cross reference to a rule part.<sup>122</sup> Eighth, we would update the text of 18 international country footnotes that do not apply to Region 2.<sup>123</sup>

### III. PROCEDURAL MATTERS

#### A. Initial Regulatory Flexibility Analysis

38. As required by Section 603 of the Regulatory Flexibility Act, 5 U.S.C. § 603, the Commission has prepared an Initial Regulatory Flexibility Analysis ("IRFA") of the possible significant economic impact on small entities of the proposals suggested in this document. The IRFA is set forth in Appendix D. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines as comments filed in this *Notice and Order* provided below in Section III.C. Comments must have a separate and distinct heading designating them as responses to the IRFA.

#### B. Initial Paperwork Reduction Act of 1995 Analysis

39. This *Notice and Order* contains either a proposed or modified information collection for international broadcast stations. As part of its continuing effort to reduce paperwork burdens, we invite the general public and the Office of Management and Budget ("OMB") to take this opportunity to comment on the information collections contained in this *Notice and Order*, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. Public and agency comments are due at the same time as other comments on this *Notice and Order*; OMB comments are due 60 days from date of publication of this *Notice and Order* in the Federal Register. Comments should address: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

#### C. Ex Parte Rules - - Permit-But-Disclose Proceeding

40. This is a permit-but-disclose notice and comment rule making proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in the Commission's rules. *See generally* 47 C.F.R. §§ 1.1202, 1.1203, and 1.2306(a).

#### D. Comments

41. Pursuant to Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415 and 1.419, interested parties may file comments on or before [30 days from date of publication in the Federal Register] and reply comments on or before [60 days from date of publication in the Federal Register]. Comments may be filed using the Commission's Electronic Comment Filing System ("ECFS"), <http://www.fcc.gov/e-file/ecfs.html>, or by filing paper copies. *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 Fed. Reg. 23,121 (1998).

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<sup>122</sup> We have recently requested comment on the revision or elimination of any provision in Part 23, which governs IFPRS, because these services are no longer in widespread use. There are currently only three IFPRS licensees. *See 2000 Biennial Regulatory Review -- Streamlining and Other Revisions of Part 25 of the Commission's Rules Governing the Licensing of, and Spectrum Usage of, Satellite Network Earth Stations and Space Stations*, IB Docket No. 00-248, *Notice of Proposed Rule Making*, 15 FCC Rcd 25128 (2001).

<sup>123</sup> *See* Appendix A for these country footnotes.

42. Comments filed through the ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. Generally, only one copy of an electronic submission must be filed. If multiple docket or rule making numbers appear in the caption of this proceeding, however, commenters must transmit one electronic copy of the comments to each docket or rule making number referenced in the caption. In completing the transmittal screen, commenters should include their full name, Postal Service mailing address, and the applicable docket or rule making number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to [ecfs@fcc.gov](mailto:ecfs@fcc.gov), and should including the following words in the body of the message, "get form <your e-mail address." A sample form and directions will be sent in reply.

43. Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rule making number appear in the caption of this proceeding, commenters must submit two additional copies for each additional docket or rule making number. All filings must be sent to the Commission's Acting Secretary, William F. Caton, Office of the Secretary, Federal Communications Commission, 445 12th Street, S.W., TW-A325, Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center of the Federal Communications Commission, Room TW-A306, 445 12th Street, S.W., Washington, D.C. 20554.

44. Parties who choose to file by paper should also submit their comments on diskette. Such a submission should be on a 3.5-inch diskette formatted in an IBM compatible format using Microsoft Word or compatible software. The diskette should be accompanied by a cover letter and should be submitted in "read only" mode. The diskette should be clearly labeled with the commenter's name, proceeding (including the lead docket number, type of pleading (comment or reply comment), date of submission, and the name of the electronic file on the diskette. The label should also include the following phrase "Disk Copy – Not an Original." Each diskette should contain only party's pleading, preferably in a single electronic file. In addition, commenters must send diskette copies to the Commission's copy contractor, Qualex International, Portals II, 445 12th Street, SW, Room CY-B402, Washington, DC, 20554.

45. Alternative formats (computer diskette, large print, audio cassette and Braille) are available to persons with disabilities by contacting Brian Millin at (202) 418-7426, TTY (202) 418-2555, or via e-mail to [bmillin@fcc.gov](mailto:bmillin@fcc.gov). This *Notice and Order* can also be downloaded at <http://www.fcc.gov/oet>.

46. *Paperwork Reduction Act Comments.* Written comments by the public on the proposed and/or modified information collections are due on or before [30 days from date of publication in the Federal Register]. Written comments must be submitted by the OMB on the proposed and/or modified information collections on or before [60 days after date of publication in the Federal Register.] In addition to filing comments with the Acting Secretary, a copy of any comments on the information collection(s) contained herein should be submitted to Judy Boley, Federal Communications Commission, Room 1-C804, 445 12th Street, SW, Washington, DC 20554, or via the Internet to [jboley@fcc.gov](mailto:jboley@fcc.gov) and to Jeanette Thornton, OMB Desk Officer, Room 10236, 725 17th Street, NW, Washington, DC 20503 or via the Internet to [JThornto@omb.eop.gov](mailto:JThornto@omb.eop.gov).

#### **E. Contact Person**

47. For further information concerning this rule making proceeding contact Tom Mooring at (202) 418-2450, [tmooring@fcc.gov](mailto:tmooring@fcc.gov), Office of Engineering and Technology.

**IV. ORDERING CLAUSES**

48. Accordingly, IT IS ORDERED that pursuant to Sections 1, 4, 301, 302(a), 303, 307, 309, 316, 332, 334, and 336 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 151, 154, 301, 302(a), 303, 307, 309, 316, 332, 334, and 336, the NOTICE OF PROPOSED RULE MAKING AND ORDER is hereby ADOPTED.

49. IT IS FURTHER ORDERED that Public Safety, Industrial/Business Pool, and remote pickup applications for frequencies within the band 1605-1705 kHz shall not be granted. The Commission shall not accept said applications for new licenses or modifications or renewals of existing licenses for frequencies within the band 1605-1705 kHz as of the effective date of this *Notice and Order*. Any such applications received on or after that date shall be returned as unacceptable for filing. Pending applications shall be dismissed, unless they are modified to specify alternative frequencies.

50. IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this NOTICE OF PROPOSED RULE MAKING AND ORDER, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton  
Acting Secretary

**APPENDIX A: Proposed Rules**

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR Parts 2, 73, 74, 80, 90, and 97 as follows:

**PART 2 -- FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS**

1. The authority citation for Part 2 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

2. Section 2.106, the Table of Frequency Allocations, is amended as follows:

- a. Revise pages 1 through 21.

- b. In the list of International Footnotes, under I. New "S" Numbering Scheme, revise footnotes S5.55, S5.58, S5.59, S5.65, S5.67, S5.75, S5.77, S5.93, S5.96, S5.98, S5.99, S5.107, S5.112, S5.114, S5.117, S5.152, S5.154, and S5.155A; and remove footnotes S5.81, S5.120, and S5.124.

- c. In the list of International Footnotes, under II. Old Numbering Scheme, remove footnotes 459, 471, 472, 472A, 474, and 480.

- d. In the list of United States (US) Footnotes, revise footnotes US18, US25, US82, US104, US225, US231, US281, US282, US283, US298, US321, and US340; remove footnotes US235, US236, and US238; and add footnotes USwww, USxxx, USyyy and USzzz.

The additions and revisions read as follows:

**§ 2.106 Table of Frequency Allocations.**

\* \* \* \* \*

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
Below 9 (Not Allocated) S5.53 S5.54			Below 9 (Not Allocated) S5.53 S5.54		
9-14 RADIONAVIGATION			9-14 RADIONAVIGATION US18 US294		
14-19.95 FIXED MARITIME MOBILE S5.57 S5.55 S5.56			14-19.95 FIXED MARITIME MOBILE S5.57 US294	14-19.95 Fixed US294	
19.95-20.05 STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)			19.95-20.05 STANDARD FREQUENCY AND TIME SIGNAL (20 kHz) US294		
20.05-70 FIXED MARITIME MOBILE S5.57			20.05-59 FIXED MARITIME MOBILE S5.57 US294	20.05-59 FIXED US294	
S5.56 S5.58			59-61 STANDARD FREQUENCY AND TIME SIGNAL (60 kHz) US294		
70-72 RADIONAVIGATION S5.60 S5.56			61-70 FIXED MARITIME MOBILE S5.57 US294		
70-72 RADIONAVIGATION S5.60	70-90 FIXED MARITIME MOBILE S5.57 MARITIME RADIONAVIGATION S5.60 Radiolocation	70-72 RADIONAVIGATION S5.60 Fixed Maritime mobile S5.57 S5.59	70-90 FIXED MARITIME MOBILE S5.57 Radiolocation	70-90 FIXED Radiolocation	Private Land Mobile (90)
72-84 FIXED MARITIME MOBILE S5.57 RADIONAVIGATION S5.60 S5.56		72-84 FIXED MARITIME MOBILE S5.57 RADIONAVIGATION S5.60			

84-86 RADIONAVIGATION S5.60		84-86 RADIONAVIGATION S5.60 Fixed Maritime mobile S5.57 S5.59		
86-90 FIXED MARITIME MOBILE S5.57 RADIONAVIGATION S5.56	S5.61	86-90 FIXED MARITIME MOBILE S5.57 RADIONAVIGATION S5.60	US294	US294
90-110 RADIONAVIGATION S5.62 Fixed S5.64			90-110 RADIONAVIGATION S5.62 US18  US104 US294	Aviation (87) Private Land Mobile (90)
110-112 FIXED MARITIME MOBILE RADIONAVIGATION S5.64	110-130 FIXED MARITIME MOBILE MARITIME RADIONAVIGATION S5.60 Radiolocation	110-112 FIXED MARITIME MOBILE RADIONAVIGATION 5.60 S5.64	110-130 FIXED MARITIME MOBILE Radiolocation	Maritime (80) Private Land Mobile (90)
112-115 RADIONAVIGATION S5.60		112-117.6 RADIONAVIGATION S5.60 Fixed Maritime mobile		
115-117.6 RADIONAVIGATION S5.60 Fixed Maritime mobile S5.64 S5.66		S5.64 S5.65		
117.6-126 FIXED MARITIME MOBILE RADIONAVIGATION S5.60 S5.64		117.6-126 FIXED MARITIME MOBILE RADIONAVIGATION S5.60 S5.64		
126-129 RADIONAVIGATION S5.60		126-129 RADIONAVIGATION S5.60 Fixed Maritime mobile S5.64 S5.65		
See next page for 129-130 kHz		S5.61 S5.64		

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
129-130 FIXED MARITIME MOBILE RADIONAVIGATION S5.60 S5.64	See previous page for 110-130 kHz	129-130 FIXED MARITIME MOBILE RADIONAVIGATION S5.60 S5.64	See previous page for 110-130 kHz		See previous page for 110-130 kHz
130-148.5 FIXED MARITIME MOBILE S5.64 S5.67	130-160 FIXED MARITIME MOBILE S5.64	130-160 FIXED MARITIME MOBILE RADIONAVIGATION S5.64	130-160 FIXED MARITIME MOBILE S5.64 US294		Maritime (80)
148.5-255 BROADCASTING	160-190 FIXED	160-190 FIXED Aeronautical radionavigation	160-190 FIXED MARITIME MOBILE US294	160-190 FIXED US294	
	190-200 AERONAUTICAL RADIONAVIGATION		190-200 AERONAUTICAL RADIONAVIGATION US18 US226 US294		Aviation (87)
S5.68 S5.69 S5.70	200-275 AERONAUTICAL RADIONAVIGATION Aeronautical mobile	200-285 AERONAUTICAL RADIONAVIGATION Aeronautical mobile	200-275 AERONAUTICAL RADIONAVIGATION US18 Aeronautical mobile  US294		
255-283.5 BROADCASTING AERONAUTICAL RADIONAVIGATION S5.70 S5.71	275-285 AERONAUTICAL RADIONAVIGATION Aeronautical mobile Maritime radionavigation (radiobeacons)		275-285 AERONAUTICAL RADIONAVIGATION Aeronautical mobile Maritime radionavigation (radiobeacons)  US18 US294		
283.5-315 AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) S5.73 S5.72 S5.74	285-315 AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) S5.73		285-325 MARITIME RADIONAVIGATION (radiobeacons) S5.73 Aeronautical radionavigation (radiobeacons)		

315-325 AERONAUTICAL RADIONAVIGATION Maritime radionavigation (radiobeacons) S5.73 S5.72 S5.75	315-325 MARITIME RADIONAVIGATION (radiobeacons) S5.73 Aeronautical radionavigation	315-325 AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) S5.73	US18 US294 USzzz	
325-405 AERONAUTICAL RADIONAVIGATION  S5.72	325-335 AERONAUTICAL RADIONAVIGATION Aeronautical mobile Maritime radionavigation (radiobeacons)	325-405 AERONAUTICAL RADIONAVIGATION Aeronautical mobile	325-335 AERONAUTICAL RADIONAVIGATION (radiobeacons) Aeronautical mobile Maritime radionavigation (radiobeacons) US18 US294	Aviation (87)
	335-405 AERONAUTICAL RADIONAVIGATION Aeronautical mobile		335-405 AERONAUTICAL RADIONAVIGATION (radiobeacons) US18 Aeronautical mobile US294	
405-415 RADIONAVIGATION S5.76  S5.72	405-415 RADIONAVIGATION S5.76 Aeronautical mobile		405-415 RADIONAVIGATION S5.76 US18 Aeronautical mobile US294	Maritime (80) Aviation (87)
415-435 MARITIME MOBILE S5.79 AERONAUTICAL RADIONAVIGATION  S5.72	415-495 MARITIME MOBILE S5.79 S5.79A Aeronautical radionavigation S5.80		415-435 MARITIME MOBILE S5.79 AERONAUTICAL RADIONAVIGATION  US294	
435-495 MARITIME MOBILE S5.79 S5.79A Aeronautical radionavigation S5.72 S5.82			435-495 MARITIME MOBILE S5.79 S5.79A Aeronautical radionavigation S5.82 US231 US294	435-495 MARITIME MOBILE S5.79 S5.79A S5.82 US231 US294
495-505 MOBILE (distress and calling) S5.83			495-505 MOBILE (distress and calling) S5.83	Maritime (80) Aviation (87)

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
505-526.5 MARITIME MOBILE S5.79 S5.79A S5.84 AERONAUTICAL RADIONAVIGATION	505-510 MARITIME MOBILE S5.79	505-526.5 MARITIME MOBILE S5.79 S5.79A S5.84 AERONAUTICAL RADIONAVIGATION Aeronautical mobile Land mobile	505-510 MARITIME MOBILE S5.79		Maritime (80)
	510-525 MOBILE S5.79A S5.84 AERONAUTICAL RADIONAVIGATION		510-525 MARITIME MOBILE (ships only) S5.79A S5.84 AERONAUTICAL RADIONAVIGATION (radiobeacons) US18 US14 US225		Maritime (80) Aviation (87)
S5.72	525-535 BROADCASTING S5.86 AERONAUTICAL RADIONAVIGATION	526.5-535 BROADCASTING Mobile  S5.88	525-535 AERONAUTICAL RADIONAVIGATION (radiobeacons) US18 MOBILE US221  US239		Aviation (87) Private Land Mobile (90)
526.5-1606.5 BROADCASTING	535-1605 BROADCASTING	535-1606.5 BROADCASTING	535-1605  US321	535-1605 BROADCASTING US321 NG128	Radio Broadcast (AM) (73) Auxiliary Broadcast (74) Alaska Fixed (80)
S5.87 S5.87A	1605-1625 BROADCASTING S5.89	1606.5-1800 FIXED MOBILE RADIOLOCATION RADIONAVIGATION	1605-1615 MOBILE US221  US321	1605-1705 BROADCASTING S5.89	
1606.5-1625 FIXED MARITIME MOBILE S5.90 LAND MOBILE	S5.90		1615-1705		
S5.92	1625-1705 FIXED MOBILE BROADCASTING S5.89 Radiolocation				
1625-1635 RADIOLOCATION	S5.90				
S5.93	1635-1800 FIXED MARITIME MOBILE S5.90 LAND MOBILE		US299 US321 USwww	US299 US321 USwww NG128	

S5.92 S5.96	1705-1800 FIXED MOBILE RADIOLOCATION AERONAUTICAL RADIONAVIGATION	S5.91	1705-1800 FIXED MOBILE RADIOLOCATION		Maritime (80) Private Land Mobile (90)
1800-1810 RADIOLOCATION S5.93	1800-1850 AMATEUR	1800-2000 AMATEUR FIXED MOBILE except aeronautical mobile RADIONAVIGATION Radiolocation	1800-1900	1800-1900 AMATEUR	Amateur (97)
1810-1850 AMATEUR S5.98 S5.99 S5.100 S5.101					
1850-2000 FIXED MOBILE except aeronautical mobile S5.92 S5.96 S5.103	1850-2000 AMATEUR FIXED MOBILE except aeronautical mobile RADIOLOCATION RADIONAVIGATION	S5.97	1900-2000 RADIOLOCATION		Private Land Mobile (90) Amateur (97)
2000-2025 FIXED MOBILE except aeronautical mobile (R) S5.92 S5.103	2000-2065 FIXED MOBILE	S5.105	2000-2065 FIXED MOBILE	2000-2065 MARITIME MOBILE NG19	Maritime (80)
2025-2045 FIXED MOBILE except aeronautical mobile (R) Meteorological aids S5.104 S5.92 S5.103					
2045-2160 FIXED MARITIME MOBILE LAND MOBILE S5.92	2065-2107 MARITIME MOBILE S5.105 S5.106		US340	US340	
	See next page for 2107-2170 kHz		See next page for 2107-2170 kHz		See next page

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
See previous page for 2045-2160 kHz	2107-2170 FIXED MOBILE		2107-2170 FIXED MOBILE	2107-2170 FIXED LAND MOBILE MARITIME MOBILE NG19	Maritime (80) Private Land Mobile (90)
2160-2170 RADIOLOCATION S5.93 S5.107					
2170-2173.5 MARITIME MOBILE			2170-2173.5 MARITIME MOBILE (telephony) US340	2170-2173.5 MARITIME MOBILE US340	Maritime (80)
2173.5-2190.5 MOBILE (distress and calling) S5.108 S5.109 S5.110 S5.111			2173.5-2190.5 MOBILE (distress and calling) S5.108 S5.109 S5.110 S5.111 US279 US340		Maritime (80) Aviation (87)
2190.5-2194 MARITIME MOBILE			2190.5-2194 MARITIME MOBILE (telephony) US340	2190.5-2194 MARITIME MOBILE US340	Maritime (80)
2194-2300 FIXED MOBILE except aeronautical mobile (R) S5.92 S5.103 S5.112	2194-2300 FIXED MOBILE S5.112		2194-2495 FIXED MOBILE US340	2194-2495 FIXED LAND MOBILE MARITIME MOBILE NG19 US340	Maritime (80) Aviation (87) Private Land Mobile (90)
2300-2498 FIXED MOBILE except aeronautical mobile (R) BROADCASTING S5.113 S5.103	2300-2495 FIXED MOBILE BROADCASTING S5.113				
2498-2501 STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)		2495-2501 STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)	2495-2501 STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz) US340		

2501-2502 STANDARD FREQUENCY AND TIME SIGNAL Space research		2501-2502 STANDARD FREQUENCY AND TIME SIGNAL US340 G106	2501-2502 STANDARD FREQUENCY AND TIME SIGNAL US340	
2502-2625 FIXED MOBILE except aeronautical mobile (R) S5.92 S5.103 S5.114	2502-2505 STANDARD FREQUENCY AND TIME SIGNAL	2502-2505 STANDARD FREQUENCY AND TIME SIGNAL US340		
2625-2650 MARITIME MOBILE MARITIME RADIONAVIGATION S5.92	2505-2850 FIXED MOBILE	2505-2850 FIXED MOBILE US285 US340	2505-2850 FIXED LAND MOBILE MARITIME MOBILE US285 US340	Maritime (80) Aviation (87) Private Land Mobile (90)
2650-2850 FIXED MOBILE except aeronautical mobile (R) S5.92 S5.103				
2850-3025 AERONAUTICAL MOBILE (R) S5.111 S5.115		2850-3025 AERONAUTICAL MOBILE (R) S5.111 S5.115 US283 US340		Aviation (87)
3025-3155 AERONAUTICAL MOBILE (OR)		3025-3155 AERONAUTICAL MOBILE (OR) US340		
3155-3200 FIXED MOBILE except aeronautical mobile (R) S5.116 S5.117		3155-3230 FIXED MOBILE except aeronautical mobile (R) US340		Maritime (80) Private Land Mobile (90)
3200-3230 FIXED MOBILE except aeronautical mobile (R) BROADCASTING S5.113 S5.116				

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
3230-3400 FIXED MOBILE except aeronautical mobile BROADCASTING S5.113 S5.116 S5.118			3230-3400 FIXED MOBILE except aeronautical mobile Radiolocation US340		Maritime (80) Aviation (87) Private Land Mobile (90)
3400-3500 AERONAUTICAL MOBILE (R)			3400-3500 AERONAUTICAL MOBILE (R) US283 US340		Aviation (87)
3500-3800 AMATEUR FIXED MOBILE except aeronautical mobile S5.92	3500-3750 AMATEUR S5.119 3750-4000 AMATEUR FIXED MOBILE except aeronautical mobile (R)	3500-3900 AMATEUR FIXED MOBILE  3900-3950 AERONAUTICAL MOBILE BROADCASTING  3950-4000 FIXED BROADCASTING S5.126	3500-4000          US340	3500-4000 AMATEUR          US340	Amateur (97)
3800-3900 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE 3900-3950 AERONAUTICAL MOBILE (OR) S5.123 3950-4000 FIXED BROADCASTING	S5.122 S5.125	S5.126	US340	US340	
4000-4063 FIXED MARITIME MOBILE S5.127 S5.126			4000-4063 MARITIME MOBILE  US340		Maritime (80)
4063-4438 MARITIME MOBILE S5.79A S5.109 S5.110 S5.130 S5.131 S5.132 S5.128 S5.129			4063-4438 MARITIME MOBILE S5.79A S5.109 S5.110 S5.130 S5.131 S5.132 US82 US296 US340		Maritime (80) Aviation (87)

4438-4650 FIXED MOBILE except aeronautical mobile (R)	4438-4650 FIXED MOBILE except aeronautical mobile	4438-4650 FIXED MOBILE except aeronautical mobile (R) US340	Maritime (80) Aviation (87) Private Land Mobile (90)
4650-4700 AERONAUTICAL MOBILE (R)		4650-4700 AERONAUTICAL MOBILE (R) US282 US283 US340	Aviation (87)
4700-4750 AERONAUTICAL MOBILE (OR)		4700-4750 AERONAUTICAL MOBILE (OR) US340	
4750-4850 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING S5.113	4750-4850 FIXED MOBILE except aeronautical mobile (R) BROADCASTING S5.113	4750-4850 FIXED BROADCASTING S5.113 Land mobile US340	Maritime (80)
4850-4995 FIXED LAND MOBILE BROADCASTING S5.113		4850-4995 FIXED MOBILE US340	4850-4995 FIXED US340 Aviation (87)
4995-5003 STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz)		4995-5003 STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz) US340	
5003-5005 STANDARD FREQUENCY AND TIME SIGNAL Space research		5003-5005 STANDARD FREQUENCY AND TIME SIGNAL US340 G106	5003-5005 STANDARD FREQUENCY AND TIME SIGNAL US340
5005-5060 FIXED BROADCASTING S5.113		5005-5060 FIXED US340	Maritime (80) Aviation (87) Private Land Mobile (90)

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
5060-5250 FIXED Mobile except aeronautical mobile <u>S5.133</u>			5060-5450 FIXED Mobile except aeronautical mobile		Maritime (80) Aviation (87) Private Land Mobile (90)
5250-5450 FIXED MOBILE except aeronautical mobile			US212 US340		
5450-5480 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	5450-5480 AERONAUTICAL MOBILE (R)	5450-5480 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	5450-5680 AERONAUTICAL MOBILE (R)		Aviation (87)
5480-5680 AERONAUTICAL MOBILE (R) <u>S5.111 S5.115</u>			S5.111 S5.115 US283 US340		
5680-5730 AERONAUTICAL MOBILE (OR) <u>S5.111 S5.115</u>			5680-5730 AERONAUTICAL MOBILE (OR) <u>S5.111 S5.115 US340</u>		
5730-5900 FIXED LAND MOBILE	5730-5900 FIXED MOBILE except aeronautical mobile (R)	5730-5900 FIXED Mobile except aeronautical mobile (R)	5730-5900 FIXED MOBILE except aeronautical mobile (R) US340		Maritime (80) Aviation (87)
5900-5950 BROADCASTING S5.134  <u>S5.136</u>			5900-5950 BROADCASTING FIXED MOBILE except aeronautical mobile (R) US340 USyyy		
5950-6200 BROADCASTING			5950-6200 BROADCASTING US340		Radio Broadcast (HF) (73)
6200-6525 MARITIME MOBILE S5.109 S5.110 S5.130 S5.132 <u>S5.137</u>			6200-6525 MARITIME MOBILE S5.109 S5.110 S5.130 S5.132 US82 US296 US340		Maritime (80)
6525-6685 AERONAUTICAL MOBILE (R)			6525-6685 AERONAUTICAL MOBILE (R) US283 US340		Aviation (87)

6685-6765 AERONAUTICAL MOBILE (OR)			6685-6765 AERONAUTICAL MOBILE (OR) US340		
6765-7000 FIXED Land mobile S5.139 S5.138			6765-7000 FIXED Mobile S5.138 US340		ISM Equipment (18)
7000-7100 AMATEUR AMATEUR-SATELLITE S5.140 S5.141			7000-7100 US340	7000-7100 AMATEUR AMATEUR-SATELLITE US340	Amateur (97)
7100-7300 BROADCASTING	7100-7300 AMATEUR S5.142	7100-7300 BROADCASTING	7100-7300 US340	7100-7300 AMATEUR S5.142 US340	
7300-7350 BROADCASTING S5.134 S5.143			7300-7350 BROADCASTING FIXED Mobile US340 USyyy		Radio Broadcast (HF) (73) Maritime (80) Private Land Mobile (90)
7350-8100 FIXED Land mobile S5.144			7350-8100 FIXED Mobile US340		Maritime (80) Aviation (87) Private Land Mobile (90)
8100-8195 FIXED MARITIME MOBILE			8100-8195 MARITIME MOBILE US340		Maritime (80)
8195-8815 MARITIME MOBILE S5.109 S5.110 S5.132 S5.145 S5.111			8195-8815 MARITIME MOBILE S5.109 S5.110 S5.132 S5.145 US82 S5.111 US296 US340		Maritime (80) Aviation (87)
8815-8965 AERONAUTICAL MOBILE (R)			8815-8965 AERONAUTICAL MOBILE (R) US340		Aviation (87)
8965-9040 AERONAUTICAL MOBILE (OR)			8965-9040 AERONAUTICAL MOBILE (OR) US340		

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
9040-9400 FIXED			9040-9400 FIXED US340		Maritime (80)
9400-9500 BROADCASTING S5.134  S5.146			9400-9500 BROADCASTING FIXED US340 USyyy		Radio Broadcast (HF) (73) Maritime (80)
9500-9900 BROADCASTING  S5.147			9500-9900 BROADCASTING S5.147 US340 USxxx		Radio Broadcast (HF) (73)
9900-9995 FIXED			9900-9995 FIXED US340		
9995-10003 STANDARD FREQUENCY AND TIME SIGNAL (10000 kHz)  S5.111			9995-10003 STANDARD FREQUENCY AND TIME SIGNAL (10000 kHz) S5.111 US340		
10003-10005 STANDARD FREQUENCY AND TIME SIGNAL Space research  S5.111			10003-10005 STANDARD FREQUENCY AND TIME SIGNAL S5.111 US340 G106	10003-10005 STANDARD FREQUENCY AND TIME SIGNAL S5.111 US340	
10005-10100 AERONAUTICAL MOBILE (R)  S5.111			10005-10100 AERONAUTICAL MOBILE (R) S5.111 US283 US340		Aviation (87)
10100-10150 FIXED Amateur			10100-10150 US247 US340	10100-10150 AMATEUR US247 US340	Amateur (97)
10150-11175 FIXED Mobile except aeronautical mobile (R)			10150-11175 FIXED Mobile except aeronautical mobile (R) US340		
11175-11275 AERONAUTICAL MOBILE (OR)			11175-11275 AERONAUTICAL MOBILE (OR) US340		

11275-11400 AERONAUTICAL MOBILE (R)	11275-11400 AERONAUTICAL MOBILE (R) US283 US340	Aviation (87)
11400-11600 FIXED	11400-11600 FIXED US340	
11600-11650 BROADCASTING S5.134 S5.146	11600-11650 BROADCASTING FIXED US340 USyyy	Radio Broadcast (HF) (73)
11650-12050 BROADCASTING S5.147	11650-12050 BROADCASTING US340 USxxx	
12050-12100 BROADCASTING S5.134 S5.146	12050-12100 BROADCASTING FIXED US340 USyyy	
12100-12230 FIXED	12100-12230 FIXED US340	
12230-13200 MARITIME MOBILE S5.109 S5.110 S5.132 S5.145	12230-13200 MARITIME MOBILE S5.109 S5.110 S5.132 S5.145 US82 US296 US340	Maritime (80)
13200-13260 AERONAUTICAL MOBILE (OR)	13200-13260 AERONAUTICAL MOBILE (OR) US340	
13260-13360 AERONAUTICAL MOBILE (R)	13260-13360 AERONAUTICAL MOBILE (R) US283 US340	Aviation (87)
13360-13410 FIXED RADIO ASTRONOMY S5.149	13360-13410 RADIO ASTRONOMY S5.149 G115	13360-13410 RADIO ASTRONOMY S5.149

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
13410-13570 FIXED Mobile except aeronautical mobile (R)			13410-13570 FIXED Mobile except aeronautical mobile (R)	13410-13570 FIXED	ISM Equipment (18)
S5.150			S5.150 US340	S5.150 US340	
13570-13600 BROADCASTING S5.134			13570-13600 BROADCASTING FIXED Mobile except aeronautical mobile (R)	13570-13600 BROADCASTING FIXED	Radio Broadcast (HF) (73)
S5.151			US340 USyyy	US340 USyyy	
13600-13800 BROADCASTING			13600-13800 BROADCASTING US340		
13800-13870 BROADCASTING S5.134			13800-13870 BROADCASTING FIXED Mobile except aeronautical mobile (R)	13800-13870 BROADCASTING FIXED	
S5.151			US340 USyyy	US340 USyyy	
13870-14000 FIXED Mobile except aeronautical mobile (R)			13870-14000 FIXED Mobile except aeronautical mobile (R)	13870-14000 FIXED	
			US340	US340	
14000-14250 AMATEUR AMATEUR-SATELLITE			14000-14350	14000-14250 AMATEUR AMATEUR-SATELLITE	Amateur (97)
14250-14350 AMATEUR				US340	
S5.152				US340	
14350-14990 FIXED Mobile except aeronautical mobile (R)			14350-14990 FIXED Mobile except aeronautical mobile (R)	14350-14990 FIXED	
			US340	US340	

14990-15005 STANDARD FREQUENCY AND TIME SIGNAL (15000 kHz)  S5.111	14990-15005 STANDARD FREQUENCY AND TIME SIGNAL (15000 kHz)  S5.111 US340	
15005-15010 STANDARD FREQUENCY AND TIME SIGNAL Space research	15005-15010 STANDARD FREQUENCY AND TIME SIGNAL US340 G106	15005-15010 STANDARD FREQUENCY AND TIME SIGNAL US340
15010-15100 AERONAUTICAL MOBILE (OR)	15010-15100 AERONAUTICAL MOBILE (OR)  US340	
15100-15600 BROADCASTING	15100-15600 BROADCASTING  US340	Radio Broadcast (HF) (73)
15600-15800 BROADCASTING S5.134  S5.146	15600-15800 BROADCASTING FIXED  US340 USyyy	
15800-16360 FIXED  S5.153	15800-16360 FIXED  US340	
16360-17410 MARITIME MOBILE S5.109 S5.110 S5.132 S5.145	16360-17410 MARITIME MOBILE S5.109 S5.110 S5.132 S5.145 US82 US296 US340	Maritime (80)
17410-17480 FIXED	17410-17480 FIXED  US340	
17480-17550 BROADCASTING S5.134  S5.146	17480-17550 BROADCASTING FIXED  US340 USyyy	Radio Broadcast (HF) (73) Aviation (87)
17550-17900 BROADCASTING	17550-17900 BROADCASTING  US340	Radio Broadcast (HF) (73)

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
17900-17970 AERONAUTICAL MOBILE (R)			17900-17970 AERONAUTICAL MOBILE (R) US283 US340		Aviation (87)
17970-18030 AERONAUTICAL MOBILE (OR)			17970-18030 AERONAUTICAL MOBILE (OR) US340		
18030-18052 FIXED			18030-18068 FIXED		Maritime (80)
18052-18068 FIXED Space research			US340		
18068-18168 AMATEUR AMATEUR-SATELLITE S5.154			18068-18168 US340	18068-18168 AMATEUR AMATEUR-SATELLITE US340	Amateur (97)
18168-18780 FIXED Mobile except aeronautical mobile			18168-18780 FIXED Mobile US340		Maritime (80)
18780-18900 MARITIME MOBILE			18780-18900 MARITIME MOBILE US82 US296 US340		
18900-19020 BROADCASTING S5.134 S5.146			18900-19020 BROADCASTING FIXED US340 USyyy		Radio Broadcast (HF) (73)
19020-19680 FIXED			19020-19680 FIXED US340		
19680-19800 MARITIME MOBILE S5.132			19680-19800 MARITIME MOBILE S5.132 US340		Maritime (80)
19800-19990 FIXED			19800-19990 FIXED US340		

19990-19995 STANDARD FREQUENCY AND TIME SIGNAL Space research S5.111	19990-20010 STANDARD FREQUENCY AND TIME SIGNAL (20000 kHz)	19990-20010 STANDARD FREQUENCY AND TIME SIGNAL (20000 kHz)	
19995-20010 STANDARD FREQUENCY AND TIME SIGNAL (20000 kHz) S5.111			
20010-21000 FIXED Mobile	20010-21000 FIXED Mobile US340	20010-21000 FIXED US340	
21000-21450 AMATEUR AMATEUR-SATELLITE	21000-21450 US340	21000-21450 AMATEUR AMATEUR-SATELLITE US340	Amateur (97)
21450-21850 BROADCASTING	21450-21850 BROADCASTING US340		Radio Broadcast (HF) (73)
21850-21870 FIXED S5.155A S5.155	21850-21924 FIXED US340		Aviation (87)
21870-21924 FIXED S5.155B			
21924-22000 AERONAUTICAL MOBILE (R)	21924-22000 AERONAUTICAL MOBILE (R) US340		
22000-22855 MARITIME MOBILE S5.132 S5.156	22000-22855 MARITIME MOBILE S5.132 US82 US296 US340		Maritime (80)

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
22855-23000 FIXED S5.156			22855-23000 FIXED US340		
23000-23200 FIXED Mobile except aeronautical mobile (R) S5.156			23000-23200 FIXED Mobile except aeronautical mobile (R) US340	23000-23200 FIXED US340	
23200-23350 FIXED S5.156A AERONAUTICAL MOBILE (OR)			23200-23350 AERONAUTICAL MOBILE (OR) US340		
23350-24000 FIXED MOBILE except aeronautical mobile S5.157			23350-24890 FIXED MOBILE except aeronautical mobile US340	23350-24890 FIXED US340	
24000-24890 FIXED LAND MOBILE					
24890-24990 AMATEUR AMATEUR-SATELLITE			24890-24990 US340	24890-24990 AMATEUR AMATEUR-SATELLITE US340	Amateur (97)
24990-25005 STANDARD FREQUENCY AND TIME SIGNAL (25000 kHz)			24990-25005 STANDARD FREQUENCY AND TIME SIGNAL (25000 kHz) US340		
25005-25010 STANDARD FREQUENCY AND TIME SIGNAL Space research			25005-25010 STANDARD FREQUENCY AND TIME SIGNAL US340 G106	25005-25010 STANDARD FREQUENCY AND TIME SIGNAL US340	
25010-25070 FIXED MOBILE except aeronautical mobile			25010-25070 US340	25010-25070 LAND MOBILE US340 NG112	Private Land Mobile (90)

25070-25210 MARITIME MOBILE	25070-25210 MARITIME MOBILE US82  US281 US296 US340	25070-25210 MARITIME MOBILE US82 US281 US296 US340 NG112	Maritime (80) Private Land Mobile (90)
25210-25550 FIXED MOBILE except aeronautical mobile	25210-25330  US340	25210-25330 LAND MOBILE  US340	Private Land Mobile (90)
	25330-25550 FIXED MOBILE except aeronautical mobile  US340	25330-25550   US340	
25550-25670 RADIO ASTRONOMY S5.149	25550-25670 RADIO ASTRONOMY US74 S5.149		
25670-26100 BROADCASTING	25670-26100 BROADCASTING  US25 US340		Radio Broadcast (HF) (73) Remote Pickup (74D)
26100-26175 MARITIME MOBILE S5.132	26100-26175 MARITIME MOBILE S5.132  US25 US340		Remote Pickup (74D) Maritime (80)

International Table			United States Table		FCC Rule Part(s)			
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government				
26175-27500 FIXED MOBILE except aeronautical mobile			26175-26480	26175-26480 LAND MOBILE	Remote Pickup (74D)			
			US340	US340				
			26480-26950 FIXED MOBILE except aeronautical mobile	26480-26950				
			US10 US340	US10 US340				
			26950-27410				26950-26960 FIXED	ISM Equipment (18)
							S5.150 US340	
							26960-27230 MOBILE except aeronautical mobile	26960-27230 MOBILE except aeronautical mobile
S5.150 US340	S5.150 US340							
27230-27410 FIXED MOBILE except aeronautical mobile				27230-27410 FIXED MOBILE except aeronautical mobile	ISM Equipment (18) Private Land Mobile (90) Personal Radio (95)			
				S5.150 US340		S5.150 US340		
S5.150				27410-27540 FIXED LAND MOBILE	Private Land Mobile (90)			
				US340		US340		
27500-28000 METEOROLOGICAL AIDS FIXED MOBILE				27540-28000 FIXED MOBILE				
				US298 US340		US298 US340		

## INTERNATIONAL FOOTNOTES

\* \* \* \* \*

S5.55 Additional allocation: in Armenia, Azerbaijan, Bulgaria, Georgia, Kyrgyzstan, the Russian Federation, Tajikistan and Turkmenistan, the band 14-17 kHz is also allocated to the radionavigation service on a primary basis.

\* \* \* \* \*

S5.58 Additional allocation: in Armenia, Azerbaijan, Georgia, Kazakstan, Kyrgyzstan, the Russian Federation, Tajikistan and Turkmenistan, the band 67-70 kHz is also allocated to the radionavigation service on a primary basis.

S5.59 Different category of service: in Bangladesh and Pakistan, the allocation of the bands 70-72 kHz and 84-86 kHz to the fixed and maritime mobile services is on a primary basis (see No. S5.33).

\* \* \* \* \*

S5.65 Different category of service: in Bangladesh, the allocation of the bands 112-117.6 kHz and 126-129 kHz to the fixed and maritime mobile services is on a primary basis (see No. S5.33).

\* \* \* \* \*

S5.67 Additional allocation: in Azerbaijan, Bulgaria, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 130-148.5 kHz is also allocated to the radionavigation service on a secondary basis. Within and between these countries this service shall have an equal right to operate.

\* \* \* \* \*

S5.75 Different category of service: in Armenia, Azerbaijan, Belarus, Georgia, Moldova, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and the Black Sea areas of Bulgaria and Romania, the allocation of the band 315-325 kHz to the maritime radionavigation service is on a primary basis under the condition that in the Baltic Sea area, the assignment of frequencies in this band to new stations in the maritime or aeronautical radionavigation services shall be subject to prior consultation between the administrations concerned.

\* \* \* \* \*

S5.77 Different category of service: in Australia, China, the French Overseas Territories of Region 3, India, Indonesia (until 1 January 2005), Iran (Islamic Republic of), Japan, Pakistan, Papua New Guinea and Sri Lanka, the allocation of the band 415-495 kHz to the aeronautical radionavigation service is on a primary basis. 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 reception by coast stations of ship stations transmitting on frequencies designated for ship stations on a worldwide basis (see No. S52.39).

\* \* \* \* \*

S5.93 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, Georgia, Hungary, Kazakstan, Latvia, Lithuania, Moldova, Mongolia, Nigeria, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., the Russian Federation, Tajikistan, Chad, Turkmenistan and Ukraine, the bands 1625-1635 kHz, 1800-1810 kHz and 2160-2170 kHz and, in Bulgaria, the bands 1625-1635 kHz and 1800-1810 kHz, are also allocated to the fixed and land mobile services on a primary basis, subject to agreement obtained under No. S9.21.

\* \* \* \* \*

S5.96 In Germany, Armenia, Austria, Azerbaijan, Belarus, Denmark, Estonia, Finland, Georgia, Hungary, Ireland, Israel, Jordan, Kazakstan, Latvia, Liechtenstein, Lithuania, Malta, Moldova, Norway, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Rep., the United Kingdom, the Russian Federation, Sweden, Switzerland, Tajikistan, Turkmenistan and Ukraine, administrations may allocate up to 200 kHz to their amateur service in the bands 1715-1800 kHz and 1850-2000 kHz. However, when allocating the bands within this range to their amateur service, administrations shall, after prior consultation with administrations of neighbouring countries, take such steps as may be necessary to prevent harmful interference from their amateur service to the fixed and mobile services of other countries. The mean power of any amateur station shall not exceed 10 W.

\* \* \* \* \*

S5.98 Alternative allocation: in Angola, Armenia, Azerbaijan, Belarus, Belgium, Bulgaria, Cameroon, the Congo, Denmark, Egypt, Eritrea, Spain, Ethiopia, Georgia, Greece, Italy, Kazakstan, Lebanon, Lithuania, Moldova, the Netherlands, Syria, Kyrgyzstan, the Russian Federation, Somalia, Tajikistan, Tunisia, Turkmenistan, Turkey and Ukraine, the band 1810-1830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

S5.99 Additional allocation: in Saudi Arabia, Austria, Bosnia and Herzegovina, Iraq, Libya, Uzbekistan, Slovakia, the Czech Rep., Romania, Slovenia, Chad, Togo and Yugoslavia, the band 1810-1830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

\* \* \* \* \*

S5.107 Additional allocation: in Saudi Arabia, Botswana, Eritrea, Ethiopia, Iraq, Lesotho, Libya, Somalia and Swaziland, the band 2160-2170 kHz is also allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis. The mean power of stations in these services shall not exceed 50 W.

\* \* \* \* \*

S5.112 Alternative allocation: in Bosnia and Herzegovina, Cyprus, Denmark, Greece, Iceland, Malta, Sri Lanka and Yugoslavia, the band 2194-2300 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

\* \* \* \* \*

S5.114 Alternative allocation: in Bosnia and Herzegovina, Cyprus, Denmark, Greece, Iraq, Malta, and Yugoslavia, the band 2502-2625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

\* \* \* \* \*

S5.117 Alternative allocation: in Bosnia and Herzegovina, Cyprus, Côte d'Ivoire, Denmark, Egypt, Greece, Iceland, Liberia, Malta, Sri Lanka, Togo and Yugoslavia, the band 3155-3200 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

\* \* \* \* \*

S5.152 Additional allocation: in Armenia, Azerbaijan, China, Côte d'Ivoire, Georgia, Iran (Islamic Republic of), Kazakstan, Moldova, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 14250-14350 kHz is also allocated to the fixed service on a primary basis. Stations of the fixed service shall not use a radiated power exceeding 24 dBW.

\* \* \* \* \*

S5.154 Additional allocation: in Armenia, Azerbaijan, Georgia, Kazakstan, Moldova, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 18068-18168 kHz is also allocated to the fixed service on a primary basis for use within their boundaries, with a peak envelope power not exceeding 1 kW.

\* \* \* \* \*

S5.155A In Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Rep., the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the use of the band 21850-21870 kHz by the fixed service is limited to provision of services related to aircraft flight safety.

\* \* \* \* \*

#### UNITED STATES (US) FOOTNOTES

\* \* \* \* \*

US18 Navigation aids in the U.S. and its insular areas in the bands 9-14 kHz, 90-110 kHz, 190-415 kHz, 510-535 kHz, and 2700-2900 MHz are normally operated by the Federal Government. However, authorizations may be made by the FCC for non-Federal Government operations in these bands subject to the conclusion of appropriate arrangements between the FCC and the Federal agencies concerned and upon special showing of need for service which the Federal Government is not yet prepared to render.

\* \* \* \* \*

US25 The use of frequencies in the band 25850-26175 kHz may be authorized to non-Federal Government remote pickup broadcast base and mobile stations on the condition that harmful interference is not caused to the reception of either international broadcast stations transmitting in the band 25850-26100 kHz or coast stations transmitting in the band 26100-26175 kHz.

\* \* \* \* \*

US82 The assignable frequencies in the bands 4146-4152 kHz, 6224-6233 kHz, 8294-8300 kHz, 12353-12368 kHz, 16528-16549 kHz, 18825-18846 kHz, 22159-22180 kHz, and 25100-25121 kHz may be authorized on a shared non-priority basis to Federal and non-Federal Government ship and coast stations (SSB telephony, with peak envelope power not to exceed 1 kW).

\* \* \* \* \*

US104 The LORAN Radionavigation System has priority in the band 90-110 kHz in the United States and its insular areas. Radiolocation land stations making use of LORAN type equipment may be authorized to both Federal and non-Federal Government licensees on a secondary basis for offshore radiolocation activities only at specific locations and subject to such technical and operational conditions (e.g., power, emission, pulse rate and phase code, hours of operation), including on-the-air testing, as may be required on a case-by-case basis to ensure protection of the LORAN radionavigation system from harmful interference and to ensure mutual compatibility among radiolocation operators. Such

authorizations to stations in the radiolocation service are further subject to showing of need for service which is not currently provided and which the Federal Government is not yet prepared to render by way of the radionavigation service.

\* \* \* \* \*

US225 In addition to its present Federal Government use, the band 510-525 kHz is available to Federal and non-Federal Government aeronautical radionavigation stations inland of the Territorial Base Line as coordinated with the military services. In addition, the frequency 510 kHz is available for non-Federal Government ship-helicopter operations when beyond 100 nautical miles from shore and required for aeronautical radionavigation.

\* \* \* \* \*

US231 When an assignment cannot be obtained in the bands between 200 kHz and 525 kHz, which are allocated to aeronautical radionavigation, assignments may be made to aeronautical radiobeacons in the maritime mobile band 435-490 kHz, on a secondary basis, subject to the coordination and agreement of those agencies having assignments within the maritime mobile band which may be affected. Assignments to Federal Government aeronautical radionavigation radiobeacons in the band 435-490 kHz shall not be a bar to any required changes to the maritime mobile radio service and shall be limited to non-voice emissions.

\* \* \* \* \*

US281 In the band 25070-25210 kHz, non-Federal Government stations in the Industrial/Business Pool shall not cause harmful interference to, and must accept interference from, stations in the maritime mobile service operating in accordance with the International Table of Frequency Allocations.

US282 In the band 4650-4700 kHz, frequencies may be authorized for non-Federal Government communication with helicopters in support of off-shore drilling operations on the condition that harmful interference will not be caused to services operating in accordance with the Table of Frequency Allocations.

US283 In the bands 2850-3025 kHz, 3400-3500 kHz, 4650-4700 kHz, 5450-5680 kHz, 6525-6685 kHz, 10005-10100 kHz, 11275-11400 kHz, 13260-13360 kHz, and 17900-17970 kHz, frequencies may be authorized for non-Federal Government flight test purposes on the condition that harmful interference will not be caused to services operating in accordance with the Table of Frequency Allocations.

\* \* \* \* \*

US298 Channels 27555, 27615, 27635, 27655, 27765, and 27860 kHz are available for use by forest product licensees on a secondary basis to Federal Government operations including experimental stations. Non-Federal Government operations on these channels will not exceed 150 watts output power and are limited to the states of Washington, Oregon, Maine, North Carolina, South Carolina, Tennessee, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas (eastern portion).

\* \* \* \* \*

US321 The band 535-1705 kHz is also allocated to the non-Federal Government mobile service on a secondary basis for the distribution of public service information from Travelers' Information Stations operating in accordance with the provisions of 47 C.F.R. § 90.242 on 10 kilohertz spaced channels from 540 kHz to 1700 kHz.

\* \* \* \* \*

US340 The band 2-30 MHz is available on a non-interference basis to Federal and non-Federal Government maritime and aeronautical stations for the purposes of measuring the quality of reception on radio channels. See 47 C.F.R. § 87.149 for the list of protected frequencies and bands within this frequency range. Actual communications shall be limited to those frequencies specifically allocated to the maritime mobile and aeronautical mobile services.

\* \* \* \* \*

USwww On the condition that harmful interference is not caused to the reception of AM broadcast stations or to travelers' information stations, Federal Government stations in the band 1615-1705 kHz may continue operations until [one year from the adoption date of the Report and Order].

USxxx On the condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9775-9900 kHz, 11650-11700 kHz, and 11975-12050 kHz may be used by Federal Government stations in the fixed service communicating within the United States and its insular areas that are authorized as of [adoption date of the Report and Order]. Each such station shall be limited to a total radiated power of 24 dBW.

USyyy On April 1, 2007, the bands 5900-5950 kHz, 7300-7350 kHz, 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 13570-13600 kHz, 13800-13870 kHz, 15600-15800 kHz, 17480-17550 kHz, and 18900-19020 kHz shall be allocated exclusively to the broadcasting service. On or after April 1, 2007, frequencies in these bands may be used by stations in the fixed and mobile services, communicating only within the United States and its insular areas, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed and mobile services, licensees shall be limited to the minimum power required and shall take account of the seasonal use of frequencies by the broadcasting service published in accordance with Article S12 of the ITU Radio Regulations.

USzzz Consistent with US18, stations may be authorized on a primary basis in the band 285-325 kHz for the specific purpose of transmitting differential global positioning system information.

\* \* \* \* \*

## PART 73 -- RADIO BROADCAST SERVICES

3. The authority citation for Part 73 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 303, 334 and 336.

4. Section 73.701 is amended by revising paragraphs (a), (e), (g), (h), (i), (j), and (l) to read as follows:

### § 73.701 Definitions.

\* \* \* \* \*

(a) International broadcast stations. A broadcasting station employing frequencies allocated to the broadcasting service between 5900 and 26100 kHz, the transmissions of which are intended to be received directly by the general public in foreign countries. (A station may be authorized more than one transmitter.) There are both Federal and non-Federal Government international broadcast stations; only the latter are licensed by the Commission and are subject to the rules of this subpart.

\* \* \* \* \*

(e) Coordinated Universal Time (UTC). Time scale, based on the second (SI), as defined in Recommendation ITU-R TF.460-5. UTC is equivalent to mean solar time at the prime median (0° longitude), formerly expressed as GMT.

\* \* \* \* \*

(g) Day. Any twenty-four hour period beginning 0100 UTC and ending 0100 UTC.

(h) Schedule A. That portion of any year commencing at 0100 UTC on the last Sunday in March and ending at 0100 UTC on the last Sunday in October.

(i) Schedule B. That portion of any year commencing at 0100 UTC on the last Sunday in October and ending at 0100 UTC on the last Sunday in March.

(j) [Reserved]

\* \* \* \* \*

(l) Reference month. That month of a season which is used for determining predicted propagation characteristics for the season. The reference month for Schedule A is July and the reference month for Schedule B is December.

\* \* \* \* \*

5. Sections 73.702 is amended by revising paragraphs (f) and (f)(1), by revising the first two sentences in paragraph (f)(2); by adding new paragraph (f)(3); and by redesignating paragraph (f)(3) as (f)(4) to read as follows:

**§ 73.702 Assignment and use of frequencies.**

\* \* \* \* \*

(f) Assigned frequencies shall be within the following bands, which are allocated on an exclusive basis to the broadcasting service:

(1) 5950-6200 kHz, 9500-9900 kHz, 11650-12050 kHz, 13600-13800 kHz, 15100-15600 kHz, 17550-17900 kHz, 21450-21850 kHz, and 25670-26100 kHz.

(2) In addition, the band 7100-7300 kHz is allocated on an exclusive basis to the broadcasting service in International Telecommunication Union (ITU) Regions 1 and 3 as defined in 47 C.F.R. § 2.104(b). Assignments in the band 7100-7300 kHz shall be limited to international broadcast stations located in ITU Region 3 insular areas (as defined in 47 C.F.R. § 2.105(a), note 4) that transmit to zones and areas of reception in ITU Region 1 or 3. \* \* \*

(3) In addition, frequencies within the following bands are assignable to the broadcasting service on an exclusive basis after April 1, 2007:

(i) 5900-5950 kHz, 7300-7350 kHz, 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 13570-13600 kHz, 13800-13870 kHz, 15600-15800 kHz, 17480-17550 kHz, and 18900-19020 kHz (WARC-92 HFBC bands).

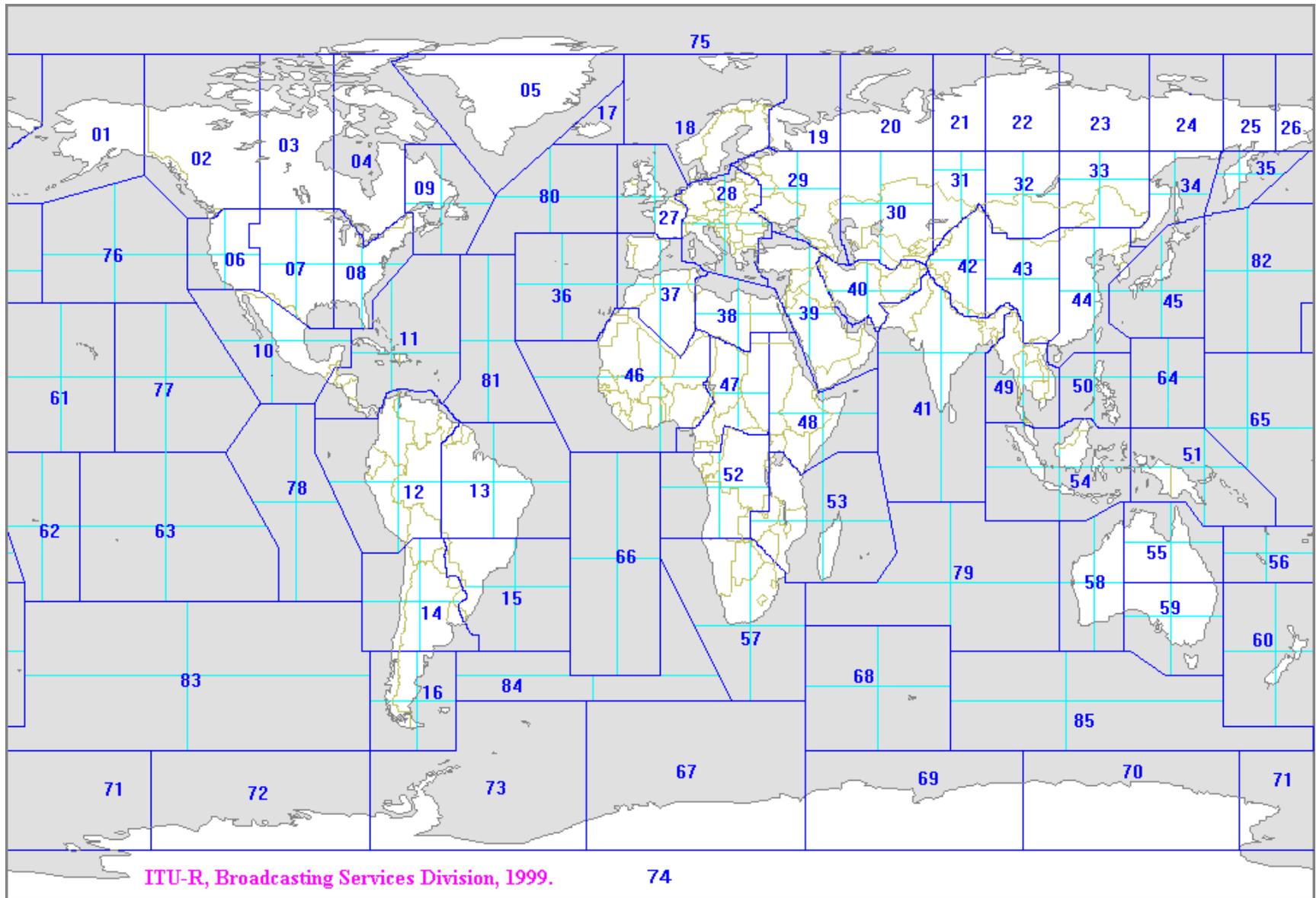
(ii) Use of the WARC-92 HFBC bands shall be limited to single sideband emissions with the characteristics specified in Appendix S11 of the ITU Radio Regulations or to any other spectrum-efficient modulation technique recommended by the ITU Radiocommunication Sector. Double sideband modulation may continue to be used on a non-interference basis.

\* \* \* \* \*

6. Section 73.703 is amended by replacing the map:

**§ 73.703 Geographical zones and areas of reception.**

\* \* \* \* \*



7. Section 73.756(c) is revised to read as follows:

**§ 73.756 Transmission system requirements.**

\* \* \* \* \*

(c) Frequency tolerance. The transmitter shall maintain the operating frequency within 10 Hz of the assigned frequency.

8. Section 73.766 is amended by revising the last sentence to read as follows:

**§ 73.766 Modulation and bandwidth.**

\* \* \* The highest modulating frequency shall not exceed 4.5 kHz.

**PART 74---EXPERIMENTAL RADIO, AUXILIARY, SPECIAL BROADCASTING AND OTHER PROGRAM DISTRIBUTIONAL SERVICES**

9. The authority citation for Part 74 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 303, 307, and 554.

10. Section 74.402 is revised by reserving paragraph (a)(1) and footnote 1 to read as follows:

**§ 74.402 Frequency assignment.**

(a) \* \* \* \* \*

(1) [Reserved]

\* \* \* \* \*

**PART 80---STATIONS IN THE MARITIME SERVICES**

11. The authority citation for Part 80 continues to read as follows:

AUTHORITY: Secs. 4, 303, 307(e), 309, and 332, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, 307(e), 309, and 332, unless otherwise noted. Interpret or apply 48 Stat. 1064-1068, 1081-1105, as amended; 47 U.S.C. 151-155, 301-609; 3 UST 3450, 3 UST 4726, 12 UST 2377.

12. Section 80.373 is amended by adding note 1 to the last two frequencies in the table in paragraph (d)(1) and by adding note 3 to the first six frequencies in the table in paragraph (i) to read as follows:

**§ 80.373 Private communications frequencies.**

\* \* \* \* \*

(d) Radioprinter frequencies. (1) The following table describes the bands available for radioprinter simplex communications between ship and private coast stations:

FREQUENCY BANDS (kHz)

2107-2170	4750-4850
2194-2495	5060-5450
2505-2850	5700-5950 <sup>1</sup>
3155-3400	7300-8100 <sup>1</sup>
4438-4650	

<sup>1</sup>After April 1, 2007, use of the sub-bands 5900-5950 kHz and 7300-7350 kHz shall be on the condition that harmful interference is not caused to HF broadcasting.

\* \* \* \* \*

(i) \* \* \*

PRIVATE COMMUNICATIONS IN ALASKA CARRIER FREQUENCIES (kHz)

1619.0 <sup>3</sup>	* * *	* * *
1622.0 <sup>3</sup>		
1643.0 <sup>3</sup>		
1646.0 <sup>3</sup>		
1649.0 <sup>3</sup>		
1652.0 <sup>3</sup>		
1705.0 <sup>3</sup>		
* * *		

\* \* \* \* \*

<sup>3</sup>Use of these frequencies is on a secondary basis to Region 2 broadcasting.

\* \* \* \* \*

13. Section 80.387 is amended by revising the table in paragraph (b) by adding new footnote 4 to the first seven entries in the first column and by adding new footnote 5 to the last entry in the third column of the table of carrier frequencies.

**§ 80.387 Frequencies for Alaska fixed stations.**

(b) Alaska private-fixed station frequencies:

Carrier Frequencies (kHz)		
1643.0 <sup>4</sup>	*	*
1646.0 <sup>4</sup>		
1649.0 <sup>4</sup>		
1652.0 <sup>4</sup>		
1657.0 <sup>4</sup>		
1660.0 <sup>1,4</sup>		
1705.0 <sup>4</sup>		
*	*	*
.....	.....	<sup>2,5</sup> 11601.5

\* \* \* \* \*

<sup>4</sup>Use of these frequencies is on a secondary basis to Region 2 broadcasting.

<sup>5</sup>After April 1, 2007, use of the frequency 11601.5 kHz shall be on the condition that harmful interference is not caused to HF broadcasting.

\* \* \* \* \*

**PART 90---PRIVATE LAND MOBILE RADIO SERVICES**

14. The authority citation for Part 90 continues to read as follows:

AUTHORITY: Sections 4(i), 11, 303(g), 303(r), and 332(c)(7) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 161, 303(g), 303(r), 332(c)(7).

15. Section 90.20 is amended by revising the table in paragraph (C)(3) to remove the frequency 1630 kHz.

**§ 90.20 Public Safety Pool.**

\* \* \* \* \*

(c) \* \* \* \* \*

(3) Frequencies.

PUBLIC SAFETY POOL FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations	Coordinator
Kilohertz			
530.....	.....	1.....	PX
1610.....	Base (T.I.S.).....	1.....	PX
1722	Base or mobile.....	2, 3.....	PP
*	*	*	*

16. Section 90.35 is amended by (1) revising the kilohertz portion of the table in paragraph (b)(3) to remove the frequencies 1614 kHz, 1628 kHz, 1652 kHz, 1676 kHz, and 1700 kHz; (2) revising the megahertz portion of the table in paragraph (b)(3) to add limitation 9 to the frequencies 25.12 MHz, 25.14 MHz, 25.16 MHz, 25.18 MHz, and 25.20 MHz; and to add the frequencies 27.555 MHz, 27.615 MHz, 27.635 MHz, 27.655 MHz, 27.765 MHz, and 27.86 MHz in numerical order; (3) removing paragraph (c)(2); and (4) adding paragraph (c)(82) to read as follows.

**§ 90.35 Industrial/Business Pool.**

\* \* \* \* \*

(b) \* \* \* \* \*

(3) Frequencies.

INDUSTRIAL/BUSINESS POOL FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations	Coordinator
Kilohertz			
2000 to 25000.....	Fixed, base or mobile...	1	
2292.....	Base or mobile.....	4, 5, 7	
2398.....	.... do.....	5, 7	
4637.5.....	.....do.....	5, 7	
Megahertz			
*   *   *	*   *   *	*   *   *	*
25.12	.....do.....	9.....	IP
25.14	.....do.....	3, 4, 9.....	IP
25.16	.....do.....	9.....	IP
25.18	.....do.....	3, 4, 9.....	IP
25.20	.....do.....	9.....	IP
*   *   *	*   *   *	*   *   *	*
27.555	Base or mobile	82	
27.615	.....do.....	82	
27.635	.....do.....	82	
27.655	.....do.....	82	
27.765	.....do.....	82	
27.86	.....do.....	82	
29.71	.....do.....		
*   *   *	*   *   *	*   *   *	*

(c) \* \* \*

\* \* \* \* \*

(2) [Reserved]

\* \* \* \* \*

(82) The frequency may be assigned only to entities meeting the definition of a forest product licensee (see § 90.7). Operations are on a secondary basis to Federal Government operations including experimental stations, will not exceed 150 watts output power, and are limited to the states of Washington, Oregon, Maine, North Carolina, South Carolina, Tennessee, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas (eastern portion).

\* \* \* \* \*

17. Section 90.103 is amended by revising the table in paragraph (b), by revising paragraph (c)(4), and by removing paragraphs (28) and (29).

**§ 90.103 Radiolocation Service.**

(b) Frequencies available. \* \* \*

RADIOLOCATION SERVICE FREQUENCY TABLE

Frequency or Band	Class of station(s)	Limitation
Kilohertz		
70 to 90.....	Radiolocation land or mobile	1
90 to 110.....	Radiolocation land.....	2
110 to 130.....	Radiolocation land or mobile	1
1705 to 1715.....	...do.....	4, 5, 6
1715 to 1750.....	...do.....	5, 6
1750 to 1800.....	...do.....	5, 6, 7
*	*	*

(c) \* \* \* \* \*

(4) The non-Federal Government radiolocation service in this band is on a secondary basis to stations in the aeronautical radionavigation service operating on 1708 kHz.

\* \* \* \* \*

(28) [Reserved]

(29) [Reserved]

\* \* \* \* \*

18. Section 90.263 is amended by revising the third sentence to read as follows:

**§ 90.263 Substitution of frequencies below 25 MHz.**

\* \* \* In such cases, a substitute frequency, if found to be available, may be assigned from the following bands: 1705-1750 kHz, 2107-2170 kHz, 2194-2495 kHz, 2506-2850 kHz, 3155-3400 kHz, or 4438-4650 kHz. \* \* \*

\* \* \* \* \*

**PART 97--AMATEUR RADIO SERVICE**

19. The authority citation for Part 97 continues to read as follows:

AUTHORITY: 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064-1068, 1081-1105, as amended; 47 U.S.C. 151-155, 301-609, unless otherwise noted.

20. Section 97.401 is amended by removing paragraph (b) and by redesignating paragraphs (c) and (d) as (b) and (c), respectively.

**§ 97.401 Operation during a disaster.**

\* \* \* \* \*

## APPENDIX B: Incumbent Use of the HFBC Expansion Bands

HFBC Expansion Bands (kHz)		Assignments <sup>124</sup>				
WARC-79	WARC-92	non-Federal Government				Federal Government
		Fixed <sup>125</sup>	Coast Station <sup>126</sup>	Aeronautical Fixed <sup>127</sup>	Total	
	5900-5950	2	2 Public 6 Private	0	10	156
	7300-7350	1	7 Public	0	8	246
	9400-9500	66	0	0	66	191
9775-9900		0	0	0	0	126
	11600-11650	17	0	0	17	65
11650-11700		0	0	0	0	134
11975-12050		0	0	0	0	101
	12050-12100	3	0	0	3	314
	13570-13600	0	2 Public	0	2	20
13600-13800		0	0	0	0	207
	13800-13870	3	2 Public	5	10	113
15450-15600		0	0	0	0	53
	15600-15800	87	0	0	87	116
	17480-17550	0	0	0	0	231
17550-17700		0	0	0	0	19
	18900-19020	0	2 Public	0	2	79
21750-21850		0	0	0	0	16
TOTAL NUMBER OF ASSIGNMENTS:		179	21	5	205	2189
Assignments in WARC-79 HFBC bands:		0	0	0	0	656 (361 in USxxx bands)
Assignments in WARC-92 HFBC bands:		179	21	5	205	1533

<sup>124</sup> This count was extracted from the Commission's license databases on February 12, 2001.

<sup>125</sup> Of the 179 fixed assignments, 162 are authorized under Section 90.266 for long distance communications, *e.g.*, telephone, gas, and power company backup. *See also* Public Notice entitled "2-25 MHz HF Frequency Bands Available for Part 90 Long Distance Communications," dated August 12 1988. The transmitter power for operation under Section 90.266 of the Rules is limited to 1-kilowatt peak envelope power. There are 17 Alaska private-fixed stations authorized under Section 80.387 to use the carrier frequency 11601.5 kHz.

<sup>126</sup> Coast station assignments are authorized under Part 80--Stations in the Maritime Services. There are 4 public coast stations with 15 assignments and 4 private coast stations with 6 assignments.

<sup>127</sup> Aeronautical fixed assignments are authorized under Part 87--Aviation Services.

**APPENDIX C: Industrial/Business Pool and Radiolocation Licensees in the Band 1605-1705 kHz**

Licensee & Call sign	Areas of Operation	Class of station	Frequencies	No. of TX	TX Output Power	Grant Date	Expiration Date	Special Condition
<b>Four Industrial/Business Pool Licensees:</b>								
Chevron USA Inc. KMF596	Englewood, CO (near Denver)	Fixed base	1629.4 kHz, 1653.4 kHz, 1677.4 kHz & 1701.4 kHz	1	150 W (0 dBi gain)	06/09/00	06/06/05	secondary basis
Chevron USA Inc. WSI492	La Habra, CA (near Los Angeles)					12/28/00	02/14/11	
Chevron USA Inc. WSV759	Richmond Beach, WA (near Seattle)				150 W (150W ERP)	06/15/00	08/01/05	secondary basis
Chevron USA Inc. WXH748	Perth Amboy, NJ (near New York City)				150 W	09/16/98	09/16/03	
Chevron USA Inc. WYD326	Pascagoula, MS					09/25/97	09/25/02	
Chevron USA Inc. KNFA715	Louisville, KY							
Chevron USA Inc. KNFA716	Ewa Beach, HI (near Honolulu)							
Chevron USA Inc. KNFA717	Phoenix, AZ							
Chevron USA Inc. KNFA718	Portland, OR							
Chevron USA Inc. KNFA720	Oildale, CA (near Bakersfield)							
Chevron USA Inc. WSN549	Continental US adjacent waters excluding Alaska & Hawaii	Mobile relay- temporary		58	40 W	08/08/00	10/19/05	secondary basis
Shell Communications Inc KA6935	Continental US & adjacent offshore waters; Alaska & adjacent offshore waters south of 62 N Latitude 138 W Longitude	Mobile	1614 kHz, 1628 kHz, 1652 kHz, 1676 kHz & 1700 kHz	60	50 W	06/29/00	07/18/05	
Conoco Communications Inc. KD8618	Continental US			15		12/21/99	12/07/04	
WesternGeco L.L.C. WNRD771	Nationwide south of Line A			200		01/31/00	01/17/05	
WesternGeco L.L.C. KCZ773	In Alaska & 241 km (150 miles) offshore	Base- temporary Mobile	1615.4 kHz, 1629.4 kHz, 1653.4 kHz, 1677.4 kHz & 1701.4 kHz	2 10	2,000 W	10/31/96	10/31/01	
WesternGeco L.L.C. KNCK293	Continental US south of Line A including coastal waters within 56 km (35 miles) of shore excluding Alaska	Mobile		20	2,000 W (3 dBi gain)	08/09/98	08/09/03	
<b>Two Land Mobile Radiolocation Service Licensees:</b>								
WesternGeco L.L.C. WZX888	Continental US, Alaska, adjacent offshore waters	Radioloca- tion mobile & radiolocation land - temporary	1614.10 kHz, 1629.40 kHz, 1645.45 kHz & 1648.15 kHz	4	100 W	06/13/00	06/13/05	secondary basis
Racal NCS Inc KNEP618	Along coast & seaward continental US & Alaska			2		05/10/00	05/10/05	
Racal NCS Inc KJV862	Alaska offshore waters	Radioloca- tion land - temporary	1705 kHz	6	300 W (40 W ERP)	06/06/99	06/06/04	

## APPENDIX D: Initial Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act ("RFA")<sup>128</sup> the Commission has prepared this Initial Regulatory Flexibility Analysis ("IRFA") of the possible significant economic impact on small entities by the policies and rules proposed in this *Notice and Order*. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *Notice and Order* provided above in Section III.C. The Commission will send a copy of the *Notice*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.<sup>129</sup> In addition, the *Notice and Order* and IRFA (or summaries thereof) will be published in the Federal Register.<sup>130</sup>

### Need for, and Objectives of, the Proposed Rules.

The *Notice and Order* proposes to implement domestically various allocation changes that have been made at recent World Radiocommunication Conferences. In particular, we propose to reallocate 1540 kilohertz of spectrum from the fixed and mobile services to the broadcasting service. We also propose to make consequential changes to various service rules. These proposals would update our Rules for bands below 28000 kHz so that they better comport with international regulations. In addition, we propose to clarify the status of services in the AM Expanded Band (1605-1705 kHz).

### Legal Basis.

The proposed actions are authorized under Sections 1, 4, 301, 302(a), 303, 307, 309, 316, 332, 334, and 336 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 151, 154, 301, 302(a), 303, 307, 309, 316, 332, 334, and 336.

### Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply.

The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.<sup>131</sup> The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."<sup>132</sup> In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act, 15 U.S.C. § 632, unless the Commission has developed one or more definitions that are appropriate to its activities.<sup>133</sup> A "small business concern"

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<sup>128</sup> See 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601 *et seq.*, has been amended by the Contract With America Advancement Act of 1996, Public Law No. 104-121, 110 Stat. 847 (1996) ("CWAAA"). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 ("SBREFA").

<sup>129</sup> See 5 U.S.C. § 603(a).

<sup>130</sup> *Id.*

<sup>131</sup> 5 U.S.C. § 603(b)(3).

<sup>132</sup> 5 U.S.C. § 601(6).

<sup>133</sup> 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register." 5 U.S.C. § 601(3).

is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) meets any additional criteria established by the Small Business Administration ("SBA").<sup>134</sup>

**Fixed Service.** There are 162 fixed assignments authorized under Section 90.266 for long distance communications,<sup>135</sup> 17 Alaska private-fixed assignments,<sup>136</sup> and 5 aeronautical fixed station assignments<sup>137</sup> that operate in the bands proposed for reallocation. The Commission has not yet defined a small business with respect to these fixed services. For purposes of this IRFA, we will use the SBA's definition applicable to radiotelephone (wireless) companies -- *i.e.*, an entity with no more than 1,500 persons.<sup>138</sup> We believe that most of the Section 90.266 licensees are telephone, gas, and power companies that are not small businesses. We estimate that most of these fixed service licensees would not qualify as small entities under the SBA definition for radiotelephone (wireless) companies; therefore, less than 184 small entities would be impacted by the proposed reallocation.

**Maritime Service.** The Commission has not adopted a definition of small entity specific to coast stations in the maritime service.<sup>139</sup> We will use the SBA's definition applicable to radiotelephone (wireless) companies, *i.e.*, an entity employing no more than 1,500 persons.<sup>140</sup> There are 4 public and 4 private coast station licensees that operate in the bands proposed for reallocation, and we estimate that almost all of them qualify as small under the SBA definition.

**International Broadcast Stations.** The SBA defines a radio broadcasting station that has \$5 million or less in annual receipts as a small business.<sup>141</sup> A radio broadcasting station is an establishment primarily engaged in broadcasting aural programs by radio to the public.<sup>142</sup> Included in this industry are commercial, religious, educational, and other radio stations.<sup>143</sup> The transmissions of international broadcast stations are intended to be received directly by the general public in foreign countries.<sup>144</sup> There are 24 international broadcast licensees, and we estimate that almost all of them qualify as small under the SBA definition.

**Private Land Mobile Radio Services.** The Commission has not adopted a definition of small entity specific to private land mobile radio services.<sup>145</sup> We will use the SBA's definition applicable to

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<sup>134</sup> 15 U.S.C. § 632.

<sup>135</sup> 47 C.F.R. § 90.266.

<sup>136</sup> 47 C.F.R. Part 80, Subpart O--Alaska Fixed Stations.

<sup>137</sup> 47 C.F.R. §§ 87.275, 87.277, 87.279.

<sup>138</sup> 13 C.F.R. § 121.201, NAICS codes 513321, 513322, 513330.

<sup>139</sup> The service is defined in Part 80 of the Commission's Rules, 47 C.F.R. Part 80.

<sup>140</sup> 13 C.F.R. § 121.201, NAICS codes 513321, 513322, and 513330.

<sup>141</sup> 13 CFR 121.201, NAICS codes 513111 and 513112.

<sup>142</sup> 1992 Census, Series UC92-S-1, at Appendix A-9.

<sup>143</sup> *Id.*

<sup>144</sup> *See* 47 C.F.R. § 73.701.

<sup>145</sup> The service is defined in Part 90 of the Commission's Rules, 47 C.F.R. Part 90.

radiotelephone (wireless) companies, *i.e.*, an entity employing no more than 1,500 persons.<sup>146</sup> There are 4 Industrial/Business Pool licensees and 2 radiolocation licensees in the AM Expanded Band, and we believe that none of them qualify as small under the SBA definition.

#### **Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements.**

We propose no new reporting or recordkeeping requirements on small entities; however, we do propose three compliance requirements that may have a significant economic burden on small entities. First, if fixed or coast station licensees determine that they can not operate in the WARC-92 HFBC bands without causing harmful interference to international broadcast stations, we propose that these licensees move to other fixed or mobile frequencies. Those fixed and coast station licensees that move to other assigned frequencies would have to pay a license modification fee if they do not request such frequencies during renewal. We note that 162 of the 205 assignments in these bands operate on a non-interference, unprotected basis internationally and that our proposed rules do not change their status.<sup>147</sup> In contrast, the status of the remaining 43 assignments would be affected by the proposed reallocation, that is, these primary and protected assignments would be downgraded to non-interference, unprotected status. These 43 assignments can be more specifically classified as 21 coast station, 17 Alaska private-fixed, and 5 aeronautical fixed assignments. We believe that all of the affected stations use equipment that can be tuned to other HF bands allocated to the fixed or mobile services and that there is sufficient allocated spectrum available for this purpose. Accordingly, we believe that any relocation costs would be *de minimus*; however, out of an abundance of caution we are seeking comment in this IRFA as to actual costs of this move. Second, we propose to adopt a stricter frequency control tolerance for international broadcast stations. This requirement may cause some of our licensees to have to modify their equipment. We request comment on our analysis.

The band 1605-1705 kHz was reallocated from the land mobile service to the broadcasting service in 1983. However, there are four Industrial/Business Pool licensees in the AM Expanded Band. In addition, there are two radiolocation licensees operating in the AM Expanded Band on a secondary basis. In the *Notice and Order*, we propose to permit these currently licensed stations to continue to operate until the end of their current license term on a non-interference basis to AM radio and TIS stations, without an opportunity for renewal.

#### **Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered.**

The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.<sup>148</sup>

As stated in number (1) above, one alternative that we are considering is whether or not to allow small entities operating international broadcast stations a longer time to transition from outdated equipment. This transition would be necessary in instances in which equipment cannot maintain the stringent

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<sup>146</sup> 13 C.F.R. § 121.201, NAICS codes 513321, 513322, and 513330.

<sup>147</sup> See 47 C.F.R. § 2.102(h) of the Commission's Rules for the special provisions regarding the use of spectrum allocated to the fixed and land mobile services below 25 MHz by non-Federal Government stations.

<sup>148</sup> 5 U.S.C. § 603(c).

tolerance required by the proposed rule. We request that commenters address the effects of grandfathering existing international broadcast stations at their current frequency tolerance. See ¶ 18 of the *Notice and Order*. In addition, we request comment on alternatives that could further minimize the impact of the proposed frequency tolerance on small entities.

With regard to small entities operating in the AM Expanded Band, Commission staff will work with affected licensees to help them find suitable alternative channels if the licensee desires. No fee will be charged to licensees of affected stations that apply for modification for alternative channels before the end of their license term.

**Federal Rules that May Duplicate, Overlap, or Conflict With the Proposed Rules.**

None.

<b>APPENDIX E: Congestion in the HFBC Bands</b>		
Based on Final 2001 Summer Schedule (March 25-October 28)		
<b>Band (kHz)</b>	<b>Frequency-Hours</b>	<b>Comments</b>
<b>FCC Frequency-Hour Assignments in HFBC Bands Currently Allocated in the United States:</b>		
25670-26100	0	Becomes more useful near the top of the sunspot cycle; some receives don't include this band
21450-21750	11.25	
17700-17900	41	
15100-15450	85.25	
11700-11975	84.75	
9500-9775	34.5	
7100-7300	0	Allocated only in Regions 1 and 3
5950-6200	35.75	
Total Number of In-Band Frequency-Hour Assignments	292.5	27.9% are currently operating in-band
<b>FCC Frequency-Hour Assignments in the WARC-79 HFBC Bands:</b>		
21750-21850	0	
17550-17700	17	
15450-15600	18.75	
13600-13800	30.25	
11975-12050	8	Federal agencies would continue to operate fixed stations in these bands, provided that harmful interference is not caused to HFBC reception; see footnote USxxx.
11650-11700	4	
9775-9900	7	
Total Number of Frequency-Hour Assignments in the WARC-79 HFBC Bands	85	Raises in-band operations to 36.0% once the WARC-79 HFBC Bands are Implemented
<b>FCC Frequency-Hour Assignments in the WARC-92 HFBC Bands:</b>		
18900-19020	13.75	Federal agencies would continue to operate fixed and mobile stations in the WARC-92 HFBC bands, provided that harmful interference is not caused to HFBC reception; see footnote USyyy.
17480-17550	23	
15600-15800	47.25	
13800-13870	34	
13570-13600	24	
12100-12100	1	
11600-11650	10.75	
9400-9500	54	
7300-7350	1	
5900-5950	28.75	
Total Number of Frequency-Hour Assignments in the WARC-92 HFBC Bands	237.5	Raises in-band operations to 58.7% once the WARC-92 HFBC Bands are Implemented
<b>FCC HFBC Frequency-Hour Assignments in Bands Allocated to the Fixed and Mobile Services:</b>		
11400-11600	30	
9900-9995	87.75	
9040-9400	63	
7350-8100	152	
6765-7000	8	
5730-5900	48	
5060-5450	24	
3200-3400	13	Internationally, these bands are allocated to the broadcasting service on a co-primary basis with fixed and mobile services, but this use is limited to service in the Tropical Zone and is intended for internal national use. <i>See ITU Radio Regulations, Article 23.</i>
2300-2495	7	
Total Number of FCC Frequency-Hour Assignments that would be Out-of-Band, even with the WARC-79 and WARC-92 HFBC Allocations Implemented	432.75	41.3% will continue to operate out-of-band, <i>i.e.</i> , on the condition that harmful interference is not caused to fixed and mobile services or to tropical broadcasting.
<b>Total Number of FCC HFBC Frequency-Hours</b>	<b>1,047.75</b>	