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

In the Matter of	)	
	)	
Amendment of the Commission's	)	PR Docket No. 92-257
Rules Concerning Maritime	)	RM-7956, 8031, 8352
Communications	)	

SECOND REPORT AND ORDER
AND
SECOND FURTHER NOTICE OF PROPOSED RULE MAKING

Adopted: June 17, 1997 **Released:** June 26, 1997

Comment Date: August 25, 1997
Reply Comment Date: September 9, 1997

By the Commission: Commissioner Ness issuing a statement.

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I. INTRODUCTION AND EXECUTIVE SUMMARY

1. In the *Further Notice of Proposed Rule Making*[1] in this proceeding we sought comment on proposals to promote innovative telecommunications services, improve communications capabilities, and reduce regulatory burdens in the Maritime Service. The record in this proceeding shows strong support from the maritime community for broad regulatory changes to increase flexibility in the service. In this *Second Report and Order and Second Further Notice of Proposed Rule Making*, we amend our rules to promote operational, technical, and regulatory flexibility in the Maritime Service. We conclude that the public interest would be served by giving licensees more flexibility in the use of maritime spectrum, while preserving the core purpose of this internationally allocated radio service, *i.e.*, to promote safety of life and property at sea. Moreover, these changes will allow maritime commercial mobile radio service (CMRS) providers to more quickly respond to market demand, increase competition in the provision of telecommunications services, promote more efficient use of marine spectrum, increase the types of telecommunications services available to vessel operators, and reduce regulatory and economic burdens on coast and ship station licensees. The major rule changes we adopt today are summarized below.

- We modify our rules to permit medium frequency (MF), high frequency (HF), and very high frequency (VHF) public coast stations to automatically connect marine radios with the public switched network (PSN).

- We allow VHF public coast stations to serve units on land, provided priority is given to communications originating on vessels.

- We eliminate the requirement for VHF public coast stations to provide a showing of channel loading prior to assignment of additional channels.

- We provide rules to ensure that affordable digital selective calling (DSC)[2] radio equipment is available to the maritime community by requiring that all new applications for type acceptance of MF, HF, and VHF marine radios received on or after June 17, 1999, comply with either the current international DSC standard or the new minimum requirements developed by the Radio Technical Commission for Maritime Services (RTCM) and endorsed by the U.S. Coast Guard (Coast Guard).

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[1] *Further Notice of Proposed Rule Making* (*Further Notice*), PR Docket No. 92-257, 10 FCC Rcd 5725 (1995).

[2] DSC is defined and discussed in paragraph 28 *infra*.

- We modify our rules to permit brief scanning transmissions in the 2-30 MHz band for the purposes of automatic link establishment (ALE), thereby eliminating the need for a trained operator to set up and maintain high seas maritime and aviation communications.

- We permit vessel and coast stations to utilize alternative data communications protocols on narrow-band direct-printing (NB-DP) frequencies, so long as equipment is capable of operation in accordance with the international standard protocol.

- We also adopt minor amendments to eliminate unnecessary requirements and simplify licensing procedures for ship and private coast station licensees.

2. Because we are eliminating the channel loading showing for VHF public coast stations, we believe that it serves the public interest to simplify our licensing process for VHF public coast stations as well as to reconsider our treatment of high seas and Automated Maritime Telecommunications System (AMTS) public coast stations. Therefore, in the *Second Further Notice of Proposed Rule Making*, we seek comment on the following:

- We propose to designate nine licensing regions, based on Coast Guard Districts, and authorize a single licensee for all currently unassigned VHF public correspondence channels on a geographic basis, in lieu of the site-based approach presently used. Under our proposal, incumbent public coast station licensees would be permitted to operate their stations indefinitely. Further, we propose to clarify the safety watch requirements of geographic public coast station licensees.

- We propose to use competitive bidding procedures to resolve mutually exclusive initial applications for geographic licenses in light of our previous determination that public coast stations provide a commercial mobile radio service (CMRS) and, thus, public coast station licenses are also auctionable, pursuant to 47 U.S.C. § 309(j).

- We propose to permit partitioning and disaggregation of the geographic licenses. We also propose buildout requirements for regional licenses.

- We propose to permit the continued operation of incumbent VHF public coast station licensees and private land mobile licensees sharing marine spectrum in inland regions. Additionally, we propose to require incumbents and geographic licensees to afford interference protection to one another.

- Similar to our treatment of VHF public coast stations, we propose to eliminate the required showing of channel loading for high seas public coast stations. Further,

we propose to implement competitive bidding procedures for mutually exclusive initial applications for these stations.

- We seek comment on allowing private coast stations to share public coast station frequencies in the MF/HF bands and ask how the channels would be shared and how to resolve mutually exclusive initial applications for such frequencies.

- Finally, we propose to introduce additional flexibility for AMTS coast stations by streamlining our licensing procedures, eliminating the current emission restrictions and channel plan, and increasing the permitted power levels for AMTS point-to-point communications.

3. While our proposals are designed to improve maritime telecommunications, the Commission makes no representations or warranties about the use of this spectrum for particular services. Applicants should be aware that an FCC auction represents an opportunity to become an FCC licensee in this service, subject to certain conditions and regulations. An FCC auction does not constitute an endorsement by the FCC of any particular services, technologies or products, nor does an FCC license constitute a guarantee of business success. Applicants should perform their individual due diligence before proceeding as they would with any new business venture.

II. BACKGROUND

4. The Maritime Service provides for the unique distress, operational, and personal communications needs of vessels at sea and on inland waterways. This service provides a vital emergency radio link, similar to the terrestrial "911" system, to ensure safety of life and property in the marine environment. Maritime frequencies are allocated internationally to facilitate interoperable radio communications among vessels of all nations and stations on land world-wide. In this connection, the International Telecommunication Union (ITU) Radio Regulations set forth the particular frequencies to be used for maritime communications, the geographic regions where these frequencies may be used, and the types of communications (*e.g.*, voice, telegraph, data) which may be transmitted on each frequency.

5. The Maritime Service consists of stations on land called "coast stations," and stations aboard vessels called "ship stations." There are two types of coast stations: public coast stations and private coast stations. Both types of coast stations may use VHF band frequencies to serve a port area, or LF, MF, and HF band frequencies to serve vessels on the high seas, often hundreds or even thousands of miles from land. Public coast stations are CMRS[3] providers that

[3] *See* Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, *Second Report and Order*, GN Docket No. 93-252, 9 FCC Rcd 1411, 1448 (1994) *(CMRS Second Report and Order*).

allow ships at sea to send and receive messages and interconnect with the PSN. Each public coast station has exclusive use of one or more public correspondence channels within its service area or region of operation. In this connection, public coast stations serve foreign and domestic vessels along inland waterways, in coastal areas, and on the high seas. In contrast, private coast stations operate on shared frequencies to serve the business and operational needs of vessels and may not charge fees for the provision of communications services. For example, a private coast station may be used by a vessel towing company to communicate with potential customers in a port area, or by a fishing company to maintain radio contact with its fleet located in fishing grounds over a hundred miles offshore.

6. There are two types of ship stations: those required to carry radio equipment for safety purposes (compulsory stations), and those not required to carry radio equipment (exempt stations). Compulsory stations generally include: cargo vessels of more than 300 gross tons; vessels carrying more than 6 passengers for hire in the open sea; and power-driven vessels of more than 20 meters in length or carrying one or more passengers for hire in tidal waters of the United States. These vessels are required to carry certain types of radio and navigational equipment for safety purposes in accordance with one or more of the following statutes, rules, treaties, and agreements:

- Communications Act of 1934, as amended[4]
- International Convention for the Safety of Life at Sea[5]
- ITU Radio Regulations
- Agreement Between the United States of America and Canada for Promotion of Safety on the Great Lakes by Means of Radio, 1973[6]
- Bridge to Bridge Radiotelephone Act of 1971[7]
- Coast Guard rules[8]

In contrast, exempt stations are primarily recreational vessels which, although not required to carry a radio on board, often rely on marine radio and navigational equipment for communications with other vessels, coast stations, and the Coast Guard.

7. In November, 1992, the Commission released a *Notice of Proposed Rule Making and Notice of Inquiry* in this proceeding to examine the expanding communications needs of the

[4] 47 U.S.C. §§ 151-713.

[5] 32 U.S.T. 47, T.I.A.S. 9700.

[6] 25 U.S.T. 939, T.I.A.S. 7837.

[7] 33 U.S.C. § 1201 *et. seq*.

[8] United States Coast Guard, Department of Transportation, 33 C.F.R. I (Parts 1-199); 46 C.F.R. I (Parts 400-499); 49 C.F.R. IV (Parts 400-499).

maritime community.[9] This *Inquiry* was an initial step toward developing an overall strategy to bring state-of-the-art communications capabilities to the Maritime Service. We proposed to streamline certain regulatory procedures for public coast stations and permit sharing of maritime frequencies by private land mobile users in areas far from waterways.[10] Additionally, we sought specific comment on how the maritime service rules could be revised to increase safety, promote innovative means of communication, reduce congestion, and remove unnecessary impediments to the economic well-being of the maritime industry.[11] Based on the comments received in response to the *Inquiry*, we released a *First Report and Order*, in May 1995, adopting rules to reclassify international public coast stations as non-dominant common carriers[12] and allow the use of marine VHF (156-162 MHz) band public correspondence frequencies by eligibles in the Industrial and Land Transportation Radio Services[13] at least 116 kilometers (72 miles) from navigable waterways.[14]

8. Additionally, on May 25, 1995, we released a *Further Notice of Proposed Rule Making* in response to the commenters' requests for more flexible regulatory treatment of public coast stations, relief from congestion on maritime frequencies, enhancements in marine communications equipment, and a reduction in regulatory burdens for non-commercial marine radio users.[15] In the *Further Notice*, we proposed rules to: permit the automated operation of public coast stations; reduce congestion through intra-service frequency sharing and inter-service frequency sharing with the private land mobile radio service; mandate a minimum DSC capability for all marine radios; permit the use of innovative technologies such as ALE and the expanded use of NB-DP frequencies; and, eliminate various unnecessary licensing and technical requirements

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[9] *Notice of Proposed Rule Making and Notice of Inquiry* (*Inquiry*), PR Docket No. 92-257, 7 FCC Rcd 7863 (1992).

[10] *Id*.

[11] *Id*.

[12] Non-dominant common carriers are subject to relaxed tariff filing and station closure requirements under Part 63 of the Commission's rules, 47 C.F.R. Part 63.

[13] Part 90 of the Comission's Rules was recently amended in order to consolidate the private land mobile radio services into two service pools. Entities formerly eligible in any of the Industrial or Land Transportation Radio Services are now included in the Industrial/Business Pool. 47 C.F.R. § 90.283 was amended, however, in order to retain the eligibility requirements originally adopted to govern the sharing of maritime frequencies by private land mobile licensees. *See* Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignments Policies of the Private Land Mobile Service, PR Docket No. 92-235, *Second Report and Order*, FCC 97-61 (released March 12, 1997) (*Reframing Second Report and Order*).

[14] *First Report and Order*, PR Docket No. 92-257, 10 FCC Rcd 8419 (1995).

[15] *Further Notice*, 10 FCC Rcd at 5725.

for non-commercial marine radio users.[16] We also asked for comment on ways to increase the efficient use of maritime radio spectrum and remove economic disincentives for coast and mobile station operators, while ensuring that the safety of life and property at sea is not adversely affected.[17] We received twenty-two comments and seven reply comments to our proposals.[18]

9. Our goal in this proceeding continues to be to formulate rules and regulations aimed at improving maritime radio. In developing these new rules we are guided by several broad policy initiatives. First, we seek to establish a flexible regulatory framework that will (1) provide opportunities for continued development of competitive new service offerings by allowing flexible use of maritime spectrum, (2) expedite market entry through streamlined licensing procedures, (3) promote technological innovations, and (4) eliminate unnecessary regulatory burdens. Second, we seek to enhance regulatory symmetry between maritime CMRS operations and other CMRS operations to ensure that economic forces, not regulatory forces, shape the development of the CMRS marketplace. Finally, we believe it is necessary to take into account the unique nature of the Maritime Service: (1) the frequencies are allocated internationally to facilitate interoperability, (2) use is subject to various statutes, treaties, and agreements, and (3) the primary purpose of this service is to provide for safety of life and property at sea.

III. SECOND REPORT AND ORDER

A. Operational Flexibility -- Public coast station spectrum

(1) Automatic interconnection

10. *Proposal*. Public coast stations providing interconnected radiotelephone service between vessels on water and the PSN[19] are classified by the Commission as presumptively CMRS.[20] These stations, which provide the only means by which marine radios can connect with the PSN, are required to provide service to any vessel, upon request, and to relay distress communications.[21] Currently, interconnection is done manually and a person holding a commercial operator license must be on duty at the control point of the station.[22] In the *Further*

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16 *Id*.

17 *Id*.

18 A list of commenters is provided in Appendix A.

19 VHF band (156-162 MHz) public coast stations generally serve a single port area, while MF/HF band (2-27.5 MHz) stations provide long distance, high seas communications.

20 *See CMRS Second Report and Order*, 9 FCC Rcd at 1411.

21 47 U.S.C. § 322; 47 C.F.R. § 80.106.

22 47 C.F.R. § 80.153.

Notice, we proposed to allow public coast stations to automatically interconnect marine radios with the PSN using any "open" communications protocol[23] on MF, HF, and VHF maritime control and public correspondence channels.[24] Further, we proposed to leave the decision regarding the need for operator assistance in making calls to each public coast station licensee.[25]

11. *Comments*. All commenters addressing the interconnection issue -- including public coast station licensees and marine radio manufacturers -- support our proposal to allow public coast stations to automatically interconnect calls to the PSN.[26] For example, WJG MariTEL Corporation (MariTEL), a public coast station licensee, contends that permitting automated interconnection will benefit vessel operators by increasing calling capabilities, increasing privacy, and reducing communications costs.[27] Further, MariTEL argues that this action is consistent with the statutory mandate to provide regulatory symmetry for all CMRS operators.[28] Likewise, Mobile Marine Radio, Inc. (MMR), also a public coast station licensee, supports our proposal to leave coast station operator staffing decisions to the discretion of each station licensee.[29]

12. Commenters, however, are divided concerning our proposal to permit automatic interconnection using any open protocol. Public coast station licensees Globe Wireless and MariTEL, as well as the Radio Technical Commission for Maritime Services (RTCM), a non-profit organization which studies maritime telecommunications, support our proposal.[30] Globe Wireless and MariTEL, for instance, note that permitting any open protocol or technology for interconnection would promote the development of alternative calling methods which could decrease costs for vessel operators and provide innovative features unique to maritime operations.[31] They also argue that a standard calling protocol would be anticompetitive because some public coast station operators are already developing protocols for interconnection and do not intend to employ an internationally standardized protocol for domestic public correspondence,

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[23] In this context, an "open" protocol is a means of radio signalling whose documentation is available to the general public and is non-proprietary in nature.

[24] *Further Notice*, 10 FCC Rcd at 5727.

[25] *Id*.

[26] *See* Globe Wireless Comments at 2; MMR Comments at 6; ROSS Engineering (ROSS) Comments at 2; RTCM Comments at 5; MariTEL Comments at 5.

[27] MariTEL Comments at 5.

[28] *Id*.

[29] MMR Comments at 7.

[30] Globe Wireless Comments at 2; RTCM Comments at 4; MariTEL Comments at 3.

[31] Globe Wireless Reply Comments at 2; MariTEL Reply Comments at 4.

such as the DSC protocol suggested by the opposing commenters.[32] Further, MariTEL contends that the marketplace is the appropriate arbiter for commercial marine radio standards and notes that flexible regulations in this regard will allow the development of marine radios that provide a standard, DSC distress capability, in concert with advanced public correspondence capabilities.[33]

13. MMR, OWA, Inc. (OWA), and Ross Engineering (ROSS), a manufacturer of marine radio equipment, oppose the proposed use of open protocols and advocate the use of DSC as the standard communications protocol for automatic interconnection.[34] They argue that the Commission must promote intercommunication between exempt vessels and Global Maritime Distress and Safety System[35] (GMDSS)-equipped vessels by mandating DSC as the single selective calling protocol for all maritime communications -- including distress, safety, and public correspondence.[36] According to the commenters, allowing non-DSC protocols for interconnection will reduce the incentive for exempt vessels to install DSC radios, which may be used to contact GMDSS vessels and the Coast Guard's coastwise DSC network during an emergency. Further, MMR suggests that Section 322 of the Communications Act[37] requires public coast stations to provide service to all ships using an internationally standardized distress protocol, such as DSC.[38] Additionally, MMR argues that there is no evidence in the record suggesting that DSC is inadequate for handling public correspondence or supporting an economic rationale for implementing selective calling protocols other than DSC.[39]

14. *Decision*. Allowing public coast stations the option to provide automatic interconnection between marine radios and the PSN will enhance their ability to compete

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[32] Globe Wireless Comments at 2; MariTEL Comments at 3. We nonetheless recognize that certain compulsory vessels must carry DSC radio equipment. *See infra* note 82 for a description of DSC.

[33] MariTEL Reply Comments at 5-6.

[34] MMR Comments at 6; OWA Comments at 2; ROSS Comments at 2. DSC is a selective calling protocol that automates ship to shore and ship to ship radio connections via MF, HF, and VHF band frequencies. The DSC protocol also sets forth a method for automatically interconnecting marine radios with the PSN.

[35] The GMDSS is an international vessel safety system based on advanced terrestrial and satellite communications which will replace the outdated vessel radiotelegraph system by 1999. The Commission's GMDSS rules mandate the carriage of special radio equipment on board large cargo vessels and passenger vessels for safety purposes. *See* 47 C.F.R. Part 80 subpart W. There are no GMDSS equipment carriage requirements, however, for cargo vessels of less than 300 gross tons or passenger vessels certified by the Coast Guard to carry fewer than 13 passengers. Such vessels may voluntarily equip with certain GMDSS radio equipment in order to facilitate communications with GMDSS vessels.

[36] MMR Reply Comments at 3; OWA Comments at 2; ROSS Comments at 2.

[37] 47 U.S.C. § 322.

[38] MMR Comments at 6.

[39] MMR Reply Comments at 3.

effectively in coastal regions with other CMRS licensees such as cellular, personal communications services (PCS), and specialized mobile radio (SMR) providers. Further, this action will promote regulatory symmetry among CMRS licensees and permit public coast stations to offer expanded state-of-the-art service to maritime customers. Therefore, we are amending our rules to permit public coast stations to provide automatic interconnection with the PSN in the MF, HF, and VHF marine bands. Because automatic interconnection eliminates the need for an operator to connect calls, we are also eliminating the requirement to have an FCC-licensed radio operator at the control point of each radiotelephone public coast station.[40] Instead, the decision regarding whether to have a radio operator on duty will be left up to the public coast station licensee.

15. Allowing automatic interconnection raises the issue of whether we should mandate a standard selective calling protocol for establishing interconnection. We conclude that a federally-mandated standard is not required by the Communications Act and is unnecessary in this case. Section 322 of the Communications Act, in the context of public coast stations, requires stations to make communications services available to any vessel at sea, upon request, without regard to the origin of the vessel or the manufacturer of the vessel's radio equipment.[41] Contrary to MMR's assertion, however, Section 322 does not require us to mandate a single standard protocol. We fulfill our responsibilities under the Communications Act by requiring public coast stations to use non-proprietary, open protocols for interconnection so that any interested radio manufacturer will be able to supply equipment to vessels. Thus, vessels with appropriate radio equipment will be able to access public coast stations. We do not believe that a federally mandated standard interconnection protocol is necessary to ensure the capability for distress communications between vessels nor to ensure the competitive supply of appropriate equipment.[42]

16. We believe that the marketplace is best suited to decide which signalling protocol addresses the general purpose calling needs of mariners based on market demand. This approach permits each public coast station licensee to analyze marine communications needs in its service area and implement signalling protocols that best meet the needs of its customers. For example, a public coast station serving mostly DSC-equipped compulsory vessels may decide to use DSC for interconnection, while a station that serves mostly exempt vessels may decide that an alternative means of signalling best meets the needs of a specific coastal market. Further, as the record reflects, this flexible approach promotes the development and use of innovative signalling

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[40] *See* 47 C.F.R. § 80.153. The ITU Radio Regulations, however, do not require a licensed operator to be on duty at radiotelephone public coast stations.

[41] Presently, vessel operators may choose from different bands of operation (MF, HF, VHF) and different means of sending communications through or to a public coast station (*e.g.*, voice, facsimile, telegraph, or NB-DP). In each case, vessels must have the requisite equipment, operating on a coast station's frequency in order to obtain service.

[42] We address the issue of interoperable communications between vessels in paragraph 33 *infra*.

techniques as well as increased functionality in marine radios.[43] Not mandating an interconnection standard is consistent with our treatment of other CMRS providers, our general disinclination to mandate standards,[44] and the flexible system presently used for distress calling.[45] Regardless of the protocol chosen by each public coast station licensee, safety of life and property at sea is maintained because vessel owners will have access to the PSN through their marine radios.

(2) Channel loading

17. *Proposal*. Presently, marine VHF band public coast stations are initially authorized for a single channel and must provide a showing of significant channel usage prior to obtaining an additional channel. An additional channel may be authorized when: (1) a foreign station causes harmful interference on the initially granted channel, or (2) the assigned channel(s) is occupied more than 40 percent of the time during the busiest hours of operation. The licensee must provide a factual showing that "for any 4 days within a 10-consecutive-day period of station operation in each of two months immediately prior to the filing of the application, the assigned frequency or frequencies was in average daily use for exchanging communications at least 40 percent of the three busiest hours of each day, of which not more [than] half of the use time was waiting or setup time."[46] This rule is intended to prevent channel warehousing. We noted in the *Further Notice*, however, that this loading requirement is based on the antiquated notion that public coast stations need only one or two channels to competitively serve their markets. Therefore, we proposed in the *Further Notice* to remove the showing required for a public coast station licensee to obtain additional marine VHF channels.[47] Additionally, we asked for specific comment on whether the present loading requirement should be replaced with a more appropriate measure designed to discourage and prevent warehousing.[48]

18. *Comments*. Globe Wireless supports our proposal, noting that the showing presently required under 47 C.F.R. § 80.371(c) inhibits coast stations from operating with maximum efficiency because increased business can only be measured after the coast station is

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[43] *See* Globe Wireless Reply Comments at 2; MariTEL Reply Comments at 4.

[44] *See, e.g.*, Technical Compatibility Protocol Standards for Equipment Operating in the 800 MHz Public Safety Bands, *Memorandum Opinion and Order*, Gen Docket No. 88-441, FCC 89-69 (released May 1, 1989).

[45] Exempt vessel operators may choose to install a marine VHF radio, cellular phone, citizens band (CB) radio, amateur radio or no radio at all based on their areas of operation and communications needs. Once the Coast Guard fully implements its coastal DSC system, vessel operators will have an additional choice -- a DSC radio.

[46] *See* 47 C.F.R. § 80.371(c).

[47] *Further Notice*, 10 FCC Rcd at 5730.

[48] *Id*.

able to offer adequate channel capacity.[49] Similarly, MariTEL points out that no other two-way CMRS service -- including cellular, PCS, and SMR -- is initially limited to a single channel.[50] MariTEL argues that public coast stations should be authorized to obtain as many channels as possible in order to implement advanced technologies such as automated operations and trunking.[51] Further, MariTEL contends that the present loading requirements are not in the public interest because a majority of the public correspondence channels are not authorized for use.[52] Instead of measuring channel usage, MariTEL suggests that warehousing of frequencies may be effectively controlled through the present eight-month construction requirement.[53]

19. MMR, however, disagrees with the premise that the channel loading requirements are out-of-date, and contends that foregoing channel justification will give rise to frequency-grabbing and reselling of coast communications based on spectrum value, rather than the quality of maritime service rendered.[54] MMR suggests, alternatively, that public coast stations initially be granted two channels, subject to the present requirements for obtaining additional channels.[55] Additionally, MMR and American Commercial Barge Line Company and Waterway Communications Systems, Inc. (ACBL/WATERCOM) note that additional channels may eventually be available through narrowband operations.[56] Further, MMR argues that the present treatment of public coast station licensees is consistent with the Commission's requirements for SMR and paging licensees.[57] MariTEL, however, points out that SMR and paging licensees must meet build-out requirements, rather than showing channel usage, prior to obtaining additional channels.[58]

20. *Decision*. We conclude that the record supports eliminating loading requirements as a prerequisite for public coast station licensees to obtain additional channels. We believe that

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[49] Globe Wireless Comments at 3.

[50] MariTEL Reply Comments at 10.

[51] MariTEL Comments at 7. A trunked radio system employs a number of radio frequency channel pairs assigned to mobile and base stations in the system for use as switched communications channels. *See* 47 C.F.R. § 90.7.

[52] MariTEL Reply Comments at 9.

[53] MariTEL Reply Comments at 9. Channels assigned to public coast stations must be placed in operation within eight months of the initial authorization. *See* 47 C.F.R. § 80.49.

[54] MMR Comments at 15.

[55] MMR Comments at 16.

[56] ACBL/WATERCOM Comments at 4; MMR Comments at 16.

[57] MMR Comments at 15.

[58] MariTEL Reply Comments at 9.

continuing to impose this type of channel loading requirements on public coast station licensees could unfairly impair the ability of public coast stations to compete.[59] Further, eliminating this requirement enhances the ability of public coast station licensees to implement innovative technologies, which in turn can lead to an increased subscriber base and more competition with other CMRS providers in the coastal marketplace. Finally, our conclusion to eliminate loading requirements for public coast stations is consistent with our course of action in other CMRS proceedings.[60] In sum, we believe that the competitive maritime marketplace will ensure the efficient use of VHF public coast station spectrum.[61]

(3) Serving stations on land

21. *Proposal*. In 1986, the Commission declined to adopt rules that would permit VHF public coast stations to serve vehicles on land on a subsidiary basis.[62] Since that time, however, the Commission has granted several waivers allowing individual public coast stations to serve a limited number of land vehicles on a secondary basis and, to date, has received no complaints of harmful interference to marine communications from these operations.[63] In the *Further Notice*, we proposed to permit VHF public coast stations nationwide, including Automated Maritime Telecommunications Systems (AMTS) coast stations, to provide service to land vehicles, on a

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[59] The Commission has already eliminated channel loading requirements for all other types of CMRS providers except for public coast stations and 900 MHz SMR incumbents who are not licensed geographically. Unlike public coast stations, however, the 900 MHz SMR incumbents are not required to show loading on a per channel basis. *See, e.g.*, Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, PR Docket No. 93-144, and Amendment of Parts 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels outside the Designated Filing Areas in the 896-901 MHz and 935-940 MHz Band Allotted to the Specialized Mobile Radio Pool, PR Docket No. 89-553, *Third Report and Order*, 9 FCC Rcd 7988, 8077-84 (1994) (*SMR Third Report and Order*); Revision of Part 22 of the Commission's Rules Governing the Public Mobile Service, *Report and Order*, CC Docket No. 92-115, 9 FCC Rcd 6513, 6523-24 (1994).

[60] *Id*.

[61] *See* discussion of licensee construction requirements found in the attached *Second Further Notice of Proposed Rule Making*.

[62] The Commission found that conditions in the VHF public coast station market, at that time, were not sufficiently homogenous to permit such service nationwide. *See* Amendment of Part 81 of the Rules to Permit Public Coast Stations to Serve Vehicles on Land, PR Docket No. 86-2, *Report and Order*, 1 FCC Rcd 1312 (1986).

[63] *See, e.g.*, Request for Waiver of Section 80.453 of the Rules to Permit Public Coast Station WHU247 to Serve Mobile Vehicles on Land, DA 91-977, *Memorandum Opinion and Order*, 6 FCC Rcd 4846 (1991); Global Communications, Inc., Request for Waiver of Section 80.453 of the Rules to Permit Public Coast Station WAH to Serve Mobile Vehicles on Land, DA 92-392, *Memorandum Opinion and Order*, 7 FCC Rcd 2238 (1992); Custard, Inc., Request for Waiver of Section 80.453 of the Rules to Permit Public Coast Station KFN to Serve Mobile Vehicles on Land, DA 92-919, *Memorandum Opinion and Order*, 7 FCC Rcd 4515 (1992).

secondary basis, under their current coast station licenses.[64] Under our proposal, land vehicles would be required to use radio equipment type accepted under Parts 80, 90, or 22 of our rules, and operate only on the channels authorized to the associated public coast station.[65] Further, under the proposal, maritime use would have priority over land use, regardless of the public coast station's means of interconnection to the PSN.[66]

22. *Comments*. All commenters addressing the proposal, including the Coast Guard, support authorizing VHF public coast stations to serve vehicles on land on a secondary basis to maritime communications.[67] MariTEL points out that this action would permit public coast stations to expand marine telecommunications services while reducing communications costs for vessel operators.[68] Both the Coast Guard and MariTEL agree, however, that the Commission should take steps to ensure that marine-originating traffic is given priority over land-based traffic.[69] MMR urges the Commission to clarify that public coast stations may serve any transmitter type accepted for VHF operation under Parts 80, 90, or 22 of the Commission's rules to include hand-held and mobile units not necessarily located in vehicles. MMR points out that this increased flexibility is consistent with the Commission's treatment of other mobile services licensed under Parts 22 and 90 of our rules.[70] Similarly, MariTEL asks the Commission to permit service to mobile units on land without limiting the number of mobiles to be served by a particular public coast station.[71]

23. *Decision*. In 1986, we decided not to adopt rules that would permit public coast stations to serve vehicles on land based on three substantive objections from commenters: (1) the potential for harmful interference caused by vehicles operating on frequencies not assigned to the associated public coast station; (2) the potential for harmful interference from inter-vehicular communications on maritime frequencies; and (3) the inability of public coast stations to determine the origin of radio calls (*e.g.*, from vessels at sea or from vehicles on land). Some ten years later, however, commenters within the maritime community vigorously support allowing public coast

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64 *Further Notice*, 10 FCC Rcd at 5730.

65 *Id*.

66 *Id*.

67 ACBL/WATERCOM Comments at 4; Coast Guard Comments at 3; Globe Wireless Comments at 3; MMR Comments at 14; PSI Comments at 3; RTCM Comments at 5; MariTEL Comments at 6.

68 MariTEL Comments at 6.

69 Coast Guard Comments at 3; MariTEL Comments at 6.

70 MMR Comments at 14.

71 MariTEL Comments at 6.

stations to serve units on land.[72] Additionally, the objections stated previously are no longer a concern because of the advanced capabilities of today's contemporary radio equipment. For example, land units may be programmed to transmit only on the channels assigned to an associated public coast station, eliminating the potential for interference to other public coast stations and preventing direct communications between units on land. Further, electrical or mechanical means can be used to determine the origin of radio signals, permitting a public coast station to afford priority to maritime communications. For example, a network of directional antennas, satellite or terrestrial positioning data, or codes embedded in the radio signal could be used to determine whether the signal originated from a vessel or a land unit.

24. We conclude that it serves the public interest to permit VHF public coast stations, including AMTS stations, to serve units on land, both fixed and mobile (including hand-held units). Increasing operational flexibility in this manner expands the range of communications services public coast station licensees may offer and fosters a regulatory environment in which public coast stations may more effectively compete against other CMRS providers, such as cellular, PCS, and SMR, operating in coastal areas which presently have no restrictions on serving vessels located in each CMRS licensees' service area.[73] Further, as the commenters point out, allowing public coast stations to serve land units will not decrease vessel safety so long as priority is given to calls originating from vessels.

25. Based on the comments, we also conclude that there is no reason to limit the number or types of land units to be served. Our initial goal in this proceeding was to permit public coast stations to make use of excess channel capacity. This goal may be achieved by requiring public coast stations to give priority to maritime traffic, without regard to the number of land units being served. Further, as MMR points out, there is no reason to restrict service only to units installed in vehicles.[74] For example, persons may wish to use hand-held units or fixed units connected to an external antenna. So long as such units are used under the same power limitations as marine radios and their antennas are not mounted higher than those on vessels, there is no increased potential for interference to maritime communications. Therefore, we will permit public coast stations to serve units on land, including fixed, mobile, and hand-held units, subject to certain minimum operational requirements.

26. In order to preserve the core purpose of the internationally allocated marine radio

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[72] *See e.g.*, Coast Guard Comments at 3; MariTEL Comments at 6; MMR Comments at 14.

[73] In a previous decision, the Commission addressed flexible service offerings on CMRS spectrum for cellular, PCS, and SMR licensees, but did not introduce additional flexibility for public coast stations. *See* Amendment of the Commission's Rules To Permit Flexible Service Offerings in the Commercial Mobile Radio Service, WT Docket No. 96-6, *First Report and Order and Further Notice of Proposed Rule Making*, 11 FCC Rcd 8965 (1996) ("*CMRS Flexibility First Report and Order*").

[74] MMR Comments at 14.

spectrum, we are setting forth operational requirements for public coast stations serving units on land. These requirements will allow operational flexibility while ensuring that distress and safety communications from vessels at sea are given priority. Land units must be type accepted under Part 80, 90, or 22 of our rules and must be limited to 25 watts transmitter output power. Mobile units on land will be authorized under a public coast station's existing license and may operate only on the channels assigned to the associated public coast station.[75] Operation from land on other marine VHF frequencies used for inter-ship communications or port operations, however, is expressly prohibited. Additionally, unless automated or selective calling is used, mobile unit identification must consist of the associated public coast station's call sign and a unique numeric identifier. Finally, each public coast station serving mobile units on land must afford priority to marine communications through any appropriate electrical or mechanical means. For example, if a vessel attempts to place a call through a public coast station and there are no channels available, the operator or automated system must be capable of terminating calls placed from land in order to serve the vessel. Public coast stations, however, are not required to terminate marine-originating calls under any circumstances.

B. Technical Flexibility

(1) DSC capability requirement

27. Marine radios may be used by vessels navigating at sea or on inland waterways as a safety link to Coast Guard stations, public coast stations, private coast stations, and other vessels. Vessels operating near shore use VHF band (156-162 MHz) marine radios while vessels at sea use MF band (2-3 MHz) and HF band (4-27.5 MHz) marine radios for long distance communications. Our rules require VHF marine radios to be capable of transmitting and receiving distress communications on the international VHF distress frequency (156.8 MHz), while MF marine radios must be capable of similar operation on the international MF distress frequency (2,182 kHz).[76] Further, in certain instances vessels must monitor the international distress frequencies while navigating.[77] These rules ensure that compulsory vessels[78] as well as exempt

[75] For example, the units may be crystal controlled with only the appropriate crystals installed, or include frequency synthesized equipment with switch or front panel "blocks" to prevent operation on other channels.

[76] 47 C.F.R. § 80.143.

[77] Vessels required by statute, treaty, or rule to carry marine radio equipment must monitor the distress frequencies while navigating. Exempt vessels equipped with marine radio equipment must monitor the distress frequencies when their radios are turned on and not being used for communications. 47 C.F.R. Part 80, Subpart G.

[78] Compulsory vessels are required by statute, treaty, or rule to carry radio equipment for safety purposes. A majority of these vessels are used for commercial purposes such as hauling cargo and carrying passengers for hire.

vessels[79] are able to exchange distress communications with Coast Guard stations as well as coast and vessel stations world-wide.

28. In 1992, we adopted rules to implement the GMDSS for large cargo vessels and passenger vessels.[80] Under the GMDSS, coast and vessel stations will be equipped with DSC[81] radio equipment which utilizes different distress frequencies than the present system (conventional marine radios) and automates monitoring and distress calling functions. Upon full implementation of the GMDSS on February 2, 1999, compulsory vessels world-wide will be using DSC radio equipment; moreover, many coast stations will also be using DSC radio equipment. In order to monitor and respond to GMDSS distress alerts, the Coast Guard intends to implement a system of MF and HF DSC coast stations by 1998 and a system of VHF DSC coast stations by 2001. Unlike compulsory vessels, exempt vessels are not required to carry conventional radio equipment or GMDSS equipment, such as a DSC radio. Under the new safety system, only those exempt vessel owners who choose to purchase DSC radio equipment will be able to communicate with DSC-equipped compulsory vessels, coast station, and the Coast Guard. This point is significant because GMDSS vessels and DSC-equipped coast stations would not hear a distress call from an exempt vessel unless the call is made from a DSC radio or unless the GMDSS stations are monitoring the non-DSC distress channels voluntarily.

29. *Proposal*. On June 23, 1992, the Coast Guard filed a Petition for Rule Making (Petition), RM-8031, requesting that the Commission mandate a minimum DSC signalling capability for all marine MF, HF, and VHF transmitters.[82] The Coast Guard noted in its Petition that by 1999, all GMDSS vessels will be equipped with DSC radio equipment and that exempt vessels will no longer be able to contact these vessels using conventional marine radios.[83] Further, the Coast Guard noted that intercommunication among compulsory vessels and exempt vessels is

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[79] Exempt vessels are not required by statute, treaty, or rule to carry radio equipment for safety purposes. The vast majority of these vessels are small pleasure craft.

[80] Amendment of Parts 13 and 80 of the Commission's Rules to Implement the Global Maritime Distress and Safety System (GMDSS) to Improve the Safety of Life at Sea, PR Docket No. 90-480, *Report and Order*, 7 FCC Rcd 951 (1992).

[81] DSC radios are fundamentally different from conventional marine radios. For example, conventional marine radios rely on an operating protocol by which vessel operators monitor a calling channel and respond to calls from other stations. Marine radios using DSC technology, however, place and receive radio calls automatically using vessel and group identities similar to telephone numbers. Further, DSC technology automates the transmission of distress messages and is capable of sending the vessel's location along with the distress signal. Thus, use of DSC technology improves the distress and general purpose calling capabilities of conventional marine radios while eliminating the need to maintain an aural watch while navigating a vessel.

[82] *See Further Notice*, 10 FCC Rcd at 5726.

[83] *Id*.

essential to safety at sea.[84] In response to the Petition, we proposed in the *Further Notice* to require all marine radiotelephone transmitters manufactured or imported into the United States after February 1, 1997, or radios installed on or after February 1, 1999, to have a minimum DSC capability.[85] Units removed for adjustment or seasonal storage and then reinstalled in the same vessel were categorically excluded from this proposal. We did not, however, propose to require exempt vessel owners to carry DSC radio equipment or discard their conventional marine radios.

30. *Comments*. All commenters addressing this issue favor a minimum DSC requirement for marine radios.[86] SEA, Inc. (SEA), a manufacturer of marine radios, notes that a minimum DSC requirement is needed in order to promote interoperability among GMDSS vessels and exempt vessels and maintain safety at sea upon full implementation of the GMDSS in 1999.[87] Additionally, SEA claims that manufacturers can produce marine radios with a minimum DSC capability without a substantial cost increase to consumers.[88] The Coast Guard, RTCM, and SEA request, however, that the Commission revise the proposed deadlines to provide at least two years after the effective date of final rules in this proceeding for units manufactured or imported into the U.S. and three years for units marketed or installed in vessels to have a minimum DSC capability.[89] Finally, AMTS licensees ACBL/WATERCOM, Fred Daniel d/b/a Orion Telecom (Orion), and Paging Systems, Inc. (PSI) ask us to clarify that the minimum DSC capability would not apply to AMTS equipment operating in the 216-220 MHz band.[90]

31. Although they agree on the need for marine radios to have a minimum DSC capability, the commenters disagree on the specific minimum requirement. The RTCM, the Coast Guard, and SEA suggest that marine radios should meet the specifications set forth in one of the following: (1) the domestic standard for minimum DSC capability written in coordination with the Coast Guard and marine radio manufacturers, RTCM Paper 56-95/SC101-STD (SC101),[91] or (2) the international standard that presently applies to all marine radios, ITU-R Recommendation

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84 *Id*

85 *Id*.

86 *See*, *e.g.*, Coast Guard Comments at 1; MMR Comments at 5; RTCM Comments at 2.

87 SEA Comments at 1.

88 *Id*.

89 Coast Guard Comments at 3; RTCM Comments at 4; SEA Comments at 3.

90 ACBL/WATERCOM Reply Comments at 2; Orion Comments at 1; PSI Comments at 2.

91 RTCM Recommended Minimum Standards for Digital Selective Calling (DSC) Equipment Providing Minimum Distress And Safety Capability (RTCM Paper 56-95/SC101-STD), August 10, 1995.

493,[92] limited to equipment classes A, B, D, or E.[93] Necode Electronics (Necode), a manufacturer of marine radios, and Ross point out, however, that equipment meeting the minimum domestic requirements of SC101 would not necessarily meet the international standard and could not be marketed outside the United States.[94] Alternatively, Necode recommends that the Commission use the international standard, ITU-R Recommendation 493 class E,[95] supplemented by the ability to receive general geographic area calls, as the sole minimum requirement for all DSC marine radios.[96]

32. *Decision*. We conclude that a minimum DSC capability for marine radios is necessary in order to ensure interoperable distress and safety communications among compulsory and exempt vessels. This action is consistent with our decision not to mandate DSC as the single protocol for public coast station interconnection because it provides a uniform method for sending ship-to-ship and ship-to-shore distress alerts while giving CMRS providers the flexibility to choose other protocols for non-distress communications. Specifically, we conclude that MF, HF, and VHF marine radios should, at a minimum, have DSC capability in accordance with the SC101 standard, as suggested by the Coast Guard and RTCM. This approach eliminates the need for all DSC radios to have the advanced functionality required for GMDSS operation, allowing manufacturers to produce economical DSC radios for the exempt vessel market. Further, according to the Coast Guard, the minimum requirements specified in SC101 are sufficient to facilitate distress and operational communications between exempt vessels, GMDSS-equipped vessels, and coast stations world-wide. This approach is also consistent with our present treatment of conventional marine radios. For example, under our present rules, marine VHF radios must be capable of sending and receiving distress communications on the international VHF distress frequency (156.8 MHz). Similarly, our action here will require DSC marine VHF radios to be capable of sending and receiving distress communications on the international DSC distress frequency (156.525 MHz).

33. We further conclude that the SC101 minimum DSC capability, as endorsed by the Coast Guard, is sufficient to ensure the ability of exempt vessel operators to initiate distress communications, contact the Coast Guard, and exchange operational communications with GMDSS-equipped vessels in areas where DSC is essential. Although radios with the SC101 minimum DSC capability will not necessarily meet the standards necessary to be marketed

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[92] Presently, DSC equipment used aboard U.S. vessels must meet the requirements of ITU-R Recommendation 493, Digital Selective Calling System for Use in the Maritime Mobile Service. *See* 47 C.F.R. § 80.225.

[93] RTCM Comments at 10. *See also* Coast Guard Comments at 2; SEA Comments at 3-4. Each class of DSC equipment is described in ITU-R Recommendation 493, Annex II.

[94] Necode Comments at 3; ROSS Reply Comments at 2.

[95] *See* ITU-R Recommendation 493, Appendix II.

[96] Necode Comments at 3.

internationally and installed in foreign vessels, this flexible approach provides manufacturers with the option to meet the specific needs of exempt vessel operators in the United States, without having to include costly, advanced DSC capabilities that are required in GMDSS radio installations.

34. Because of the potential negative impact on exempt vessel owners in inland regions, we have decided not to implement a comprehensive set of deadlines mandating the production, importation, and installation of DSC radios in exempt vessels. Rather, we conclude that the best approach is to specify type acceptance dates to facilitate the transition process. This transition plan provides exempt vessel operators the option of continuing to use existing equipment in areas where DSC service is not yet available or needed, or transitioning to new equipment in areas where Coast Guard DSC service is available or where communication with GMDSS-equipped vessels is essential. Thus, the plan gives each vessel operator the freedom to choose equipment and a transition schedule that best fulfills its needs while balancing the need for a stable regulatory environment in which to produce affordable DSC radio equipment.

35. Therefore, in order to provide for the immediate availability of affordable DSC radios for exempt vessels, all type acceptance applications for new MF, HF, and VHF marine radios received by the Commission's Equipment Authorization Division on or after June 17, 1999, must comply with the international requirements set forth in ITU-R Recommendation 493[97] (including only equipment classes A, B, D, and E) or the minimum requirements set forth in RTCM Paper 56-95/SC101-STD.[98] Because neither of these documents provides special consideration for hand-held units or operation in the 216-220 MHz band, this requirement will not apply to battery-operated, portable hand-held radio equipment or AMTS equipment operating in the 216-220 MHz band.

36. We will allow equipment for which type acceptance applications are received prior to June 17, 1999, to continue to be manufactured and used indefinitely. Further, so that equipment manufacturers can support existing equipment and respond to normal product development cycles, we will allow equipment manufacturers to make permissive changes to existing equipment. In general, permissive changes are those changes which result in equipment which is electrically and mechanically interchangeable and do not change equipment beyond the

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[97] Part 80 of our Rules continues to refer to CCIR Recommendations rather than ITU-R Recommendations. In a future action, we will update our rules to make administrative changes such as updating these references to international docoments and standards. Until that time, however, the terms "CCIR Recommendation" and "ITU-R Recommendation" will be treated in this case as identical when interpreting our rules.

[98] Managing the transition to DSC marine radios through the type acceptance process is similar to the Commission's treatment of narrowband private land mobile radio equipment in PR Docket No. 92-235. *See* Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Radio Services, PR Docket No. 92-235, *Report and Order and Further Notice of Proposed Rule Making*, 10 FCC Rcd 10096 (1995) (*Refarming Report and Order)*.

rated limits established by the manufacturer and accepted by the Commission when type acceptance is granted.[99] We recognize that this may prolong the transition to DSC equipment for some exempt vessel operators. We believe, however, that this approach is necessary in order to reduce unnecessary regulatory burdens on exempt vessel operators in inland regions without DSC coast stations or GMDSS vessels.

(2) Automatic link establishment (2-30 MHz)

37. *Proposal*. Presently, ships and aircraft use frequencies in the 2-27.5 MHz band for long range, high seas communications. Because of the inherent variability in ionospheric propagation in this band, experienced operators are often needed to establish and maintain communications.[100] In the *Further Notice*, we proposed to permit the use of linear frequency modulated continuous wave (FMCW) technology for the purpose of ALE in the MF/HF marine and aviation bands.[101] As proposed, ALE systems would eliminate the need for a trained radio operator by automatically checking the quality of each frequency and automatically selecting a clear channel for the user. This is accomplished by transmitting a scanning FMCW signal across the band. The signal, however, would scan across the band so quickly that it would be imperceptible to the users of discrete frequencies within the band. In the *Further Notice*, we proposed to limit ALE transmissions to 2-27.5 MHz band frequencies not already used for distress, safety, or time-standard communications and asked whether the proposed technical specifications are sufficient to permit innovative high seas communications while protecting marine and aviation voice communications.[102]

38. *Comments*. None of the commenters addressing this proposal object to the use of FMCW technology for ALE in the 2-27.5 MHz marine and aviation bands.[103] BR Communications (BR), a developer of HF radio systems, states that ALE would simplify high seas communications, increase the reliability of the medium for vessel and aircraft operators, and promote competition with other high seas services such as satellite communications.[104] For these reasons, BR argues that use of ALE will improve safety of life at sea. Additionally, BR notes that ALE would promote more efficient use of maritime and aviation radio spectrum by increasing the

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[99] Manufacturers may need to make changes to type accepted equipment due to changes in manufacturing technique or due to changes in components to accommodate the availability of parts or subcomponents. *See* 47 C.F.R. § 2.1001.

[100] Availability of MF/HF frequencies depends on the time of day as well as atmospheric and solar conditions.

[101] *Further Notice*, 10 FCC Rcd at 5733. This proposal was made in response to a letter filed by BR Communications (BR). *See* Letter from Mr. Henry Goldberg, on behalf of BR Communications, to Mr. William F. Caton, Acting Secretary, Federal Communications Commission, Washington, DC (November 22, 1993).

[102] *Further Notice*, 10 FCC Rcd at 5733.

[103] BR Comments at 3; Globe Wireless at 4; MMR Comments at 19.

[104] BR Comments at 3.

ease and reliability of high seas communications.[105]

39. BR also notes that specifying minimum technical requirements, in lieu of a standard ALE protocol, will allow the development of innovative technologies while reducing the potential for harmful interference to voice and data communications in the maritime and aviation bands.[106] Specifically, BR recommends that the Commission set forth limitations concerning transmitter power, sweep rate, and authorized frequencies in order to protect existing maritime and aviation communications.[107] Globe Wireless argues, however, that ALE should be prohibited on data communication channels until it is proven that the brief, scanning transmissions will not interfere with data transmissions.[108] Similarly, MMR contends that ALE should only be permitted on a secondary, non-interference basis to existing marine and aviation voice and data communications.[109] BR points out, however, that these commenters have not provided any scientific or anecdotal evidence to support their concerns of harmful interference. In this connection, BR argues that brief, low-energy ALE transmissions will be imperceptible to both voice and data communications based on the successful use of ALE for military and governmental communications in this band over the past 30 years.[110] BR also notes that it has been operating ALE transmitters in the 2-30 MHz band under developmental licenses since 1994 and has not received any complaints of harmful interference to voice or data communications.[111] Further, BR points out that data communications systems are generally more robust than voice systems and would be unaffected by FMCW transmissions.

40. BR objects, however, to our proposal to limit ALE transmissions to the 2-27.5 MHz band.[112] As an alternative, BR requests that ALE transmissions be permitted in the entire 2-30 MHz band.[113] BR points out that extending the frequency range to 30 MHz will facilitate the immediate use of technologies and transmitters that have been successfully operated by the

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105 *Id*.

106 *Id*. at 5.

107 *Id*. at 8.

108 Globe Wireless Comments at 4, Reply Comments at 2.

109 MMR Comments at 19.

110 BR Reply Comments at 2-4.

111 BR's developmental operations include two sites in the United States, as well as sites in Canada, Iceland, Spain, the United Kingdom, and Sweden. *See* BR Comments at 3; BR Reply Comments at 4.

112 BR Comments at 3.

113 *See* BR comments at 3; BR *ex parte* filing, "Justification for Chirpsounding at Frequencies Between 27.5 and 30 MHz," (August 6, 1996) at 1.

military for the past 30 years.[114] BR explains that its ALE system uses frequencies well above the actual communications channels in order to determine dynamic properties of the ionosphere, which are essential in determining the viability of the 2-27.5 MHz band communications paths in real-time.[115] Further, BR notes that limiting ALE transmissions will require ALE providers to make costly design changes in existing equipment, significantly delaying the delivery of innovative high seas communications technologies to the maritime community.[116]

41. *Decision*. We conclude that increasing technical flexibility to allow brief ALE transmissions on a secondary, non-interference basis, for the purposes of measuring the quality of high seas radio channels and establishing long range communications for stations in the maritime and aviation services is in the public interest. ALE technologies can benefit maritime and aviation service licensees by simplifying the use of radio equipment, reducing operating costs, and increasing the overall reliability of the medium.[117] This fundamental change in the operation of high seas radio equipment provides vessels and aircraft with yet another viable option for long distance communications and promotes direct competition between public coast and satellite communications service providers. Based on the information provided by BR stressing the successful performance of ALE systems for military and governmental communications, as well as BR's own experience under developmental licenses, we conclude that the technical limitations set forth in the final rules will be sufficient to minimize the potential for harmful interference to both voice and data communications in the 2-30 MHz band.

42. We also conclude that it serves the public interest to permit ALE transmissions over the entire 2-30 MHz band. This approach will permit the rapid delivery of innovative ALE technologies to the maritime and aviation communities by allowing service providers to utilize existing equipment that has been used successfully for the past 30 years. Further, by authorizing brief ALE transmissions on frequencies above the actual communications channels (27.5-30 MHz), service providers will be able to make more accurate real-time assessments of the use of maritime and aviation communications channels. These brief, low-energy transmissions, however, must not cause harmful interference to stations in the maritime, aviation, international broadcast, or amateur radio services which are authorized on a primary basis in certain portions of the 2-30 MHz band.

43. In order to minimize the potential for harmful interference to other radio services, we are setting forth licensing requirements and equipment authorization procedures. The licensee

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[114] BR Comments at 8; BR Reply Comments at 4;.

[115] BR *ex parte* filing, "Justification for Chirpsounding at Frequencies Between 27.5 and 30 MHz," (August 6, 1996) at 3-4.

[116] *Id*. at 1.

[117] BR Comments at 3.

of each public coast station providing high seas communications service will be authorized by rule to also use 2-30 MHz only for ALE service. Entities other than public coast station licensees may apply for authorization to provide ALE service using FCC Form 503. Each transmitter must be type accepted by the Commission based on the technical specifications provided in our rules. This approach will minimize administrative burdens for service providers while ensuring the integrity of high seas voice and data communications for the maritime and aviation communities.

44. In order to implement this decision, we are adding a new United States footnote, US340, to the Table of Frequency Allocations, 47 C.F.R. § 2.106. Footnote US340 reads as follows:

> The 2-30 MHz band is available on a secondary noninterference basis to Government and non-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.

In addition, we take this opportunity to update the international table to reflect the decisions of the 1995 World Radiocommunication Conference for these frequency bands.[118] *See* Appendix E.

(3) Narrow-band direct-printing (NB-DP)

45. *Proposal*. NB-DP is a form of radiotelegraphy, standardized internationally for the automatic transmission and reception of data communications in the marine HF band. NB-DP is used for communications either from ships to public coast stations or between ships. Because NB-DP is limited to a data modulation rate of 100 baud, communication is slow, costly, and spectrally inefficient. To increase technical flexibility for vessel operators, we proposed in the *Further Notice* to permit the use of alternative data communications protocols on NB-DP frequencies so long as the transmissions meet the present bandwidth, frequency tolerance, and emission limitations for NB-DP signals and the equipment is capable of, but not limited to, operation in

[118] *See Final Acts of the World Radiocommunication Conference (WRC-95)*, Geneva, 1995. The ITU is transitioning to new Simplified Radio Regulations, which use the "S" numbering scheme for international footnotes. In anticipation of the ITU's ultimate conversion to the Simplified Radio Regulations, we are employing the new "S" numbering scheme for international footnotes adopted in this proceeding. The Commission lists the international footnotes immediately following the Table of Frequency Allocations in Section 2.106 of the Rules. See 47 C.F.R. § 2.106. Until such time as this list is entirely revised to comport with the new "S" numbering scheme, those international footnotes that are amended to the new scheme in individual proceedings will be listed in Section 2.106 immediately prior to the list of unamended footnotes employing the old numbering scheme.

accordance with the international standard protocol.[119]

46. *Comments*. All of the commenters addressing this proposal support increasing technical flexibility by permitting more expanded use of NB-DP frequencies.[120] Pin Oak Digital Corporation (PinOak), a developer of HF data services, notes that permitting the use of advanced digital communications protocols, higher data rates, and error correction techniques on NB-DP frequencies would allow maritime users to transmit and access data over long distances. PinOak also argues that such flexibility is essential in order to allow competition among HF and satellite service providers, increase maritime access to data communications, and lower communications costs for vessel operators.[121] PinOak and RTCM agree that requiring equipment to be capable of, but not limited to, operation in accordance with ITU-R Recommendation 625[122] would allow future advancements in NB-DP data communications and eliminate the need for incremental changes to the Commission's rules.[123]

47. *Decision*. We conclude that increasing technical flexibility by expanding the use of NB-DP frequencies will benefit the maritime community. Increasing flexibility will foster more efficient use of the maritime spectrum, lower communications costs for vessel operators and promote competition between high seas public coast stations and satellite service providers. Further, we conclude that requiring NB-DP equipment to be capable of operating in accordance with the international standard -- ITU-R Recommendation 625[124] -- will be sufficient to ensure compatibility among vessels on the high seas. For example, advanced data communications techniques and higher data rates may be used under ideal atmospheric conditions when both stations are equipped with improved NB-DP equipment. When one of the stations has standard NB-DP equipment or when atmospheric conditions limit channel quality, however, the equipment would revert to the standard mode and communicate using the same capabilities that are present today. For the reasons stated above, we will permit expanded NB-DP operations, using any data communications protocol, so long as the equipment meets the technical requirements set forth in

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[119] *Further Notice* at 10 FCC Rcd 5729. These technical criteria are set forth in 47 C.F.R. §§ 80.205, 80.207, 80.209, and 80.211(f). The international standard ND-DP protocol is specified in ITU-R Recommendation 625, Direct-printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service.

[120] *See, e.g.*, Globe Wireless Comments at 3; MMR Comments at 13; Malloy Comments at 1; Pin Oak Comments at 4; RTCM Comments at 5.

[121] Pin Oak Comments at 4-5.

[122] *See supra* note 119.

[123] Pin Oak Comments at 4; RTCM Comments at 5.

[124] Part 80 of our Rules continues to refer to CCIR Recommendations rather than ITU-R Recommendations. In a future action, we will update our rules to make administrative changes such as updating these references to international docoments and standards. Until that time, however, the terms "CCIR Recommendation" and "ITU-R Recommendation" will be treated in this case as identical when interpreting our rules.

47 C.F.R. §§ 80.205, 207, 209, and 211(f) and is capable of, but not limited to, operation in accordance with ITU-R Recommendation 625. As in the past, we will require stations using NB-DP techniques to obtain a SELCAL[125] number from the Commission and to use it to identify transmissions on NB-DP frequencies.

(4) Trunking/narrowband

48. In the *Further Notice* we tentatively concluded that trunking technologies and alternative channel plans such as 12.5 kHz narrowband operations could increase the number of marine VHF channels and promote the efficient use of maritime spectrum.[126] The record in this proceeding indicates that the maritime community favors both of these options as future means to relieve congestion in the marine VHF band. As ACBL/WATERCOM and MMR point out, however, there are too few channels available at this time to consider mandatory trunking technologies on all VHF marine channels.[127] Therefore, based on the comments received, we will consider the use of trunking in the marine VHF band in a separate proceeding based on any applicable recommendations that are adopted by the 1997 World Radiocommunication Conference concerning narrowband maritime operations.

49. In the interim, we will allow trunking on public coast station spectrum. This action will promote more efficient use of the spectrum. We agree with the commenters that in most areas there are too few channels available to gain the increased efficiencies possible with trunking technology. Nevertheless, there may be instances where public coast station licensees find it beneficial to implement trunking. We find that it is best left to individual licensees to determine what areas may benefit from trunking technologies and which protocols best suit the needs of the maritime marketplace.

(5) Type acceptance

50. In considering flexible new technologies in the maritime service (*e.g.*, DSC, ALE, advanced data communications), manufacturers may decide to design new equipment or retrofit existing radios. This section provides guidance to manufacturers and licensees in considering the Commission's equipment authorization process as it applies to these new technologies. As licensees transition to new technologies and transmitters with upgraded capabilities, a primary concern of many manufacturers is that they be able to provide continued support to their existing

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[125] A SELCAL number is a unique five digit identifier issued to stations using NB-DP equipment. ITU-R Recommendation 625 was developed to utilize five-digit SELCAL numbers, in lieu of call signs, to identify NB-DP transmissions. Because we are requiring each NB-DP station to be capable of operation in accordance with the international standard, each station must use a SELCAL number.

[126] *Further Notice*, 10 FCC Rcd at 5731.

[127] ACBL/WATERCOM Comments at 7; MMR Comments at 18.

customer base. With respect to this proceeding, a grant of type acceptance will be required for all new equipment, including equipment used for automatic interconnection of marine radios with the PSN, as well as new DSC, ALE and NB-DP equipment. The new grant of type acceptance may cover a new transmitter design and/or upgraded units.[128] Existing equipment may have their current grant of type acceptance modified to show additional capabilities by filing a modification request. In cases where manufacturers have developed a conversion kit to upgrade existing equipment with new capabilities, we will allow field modifications to equipment currently installed. So that this equipment can be recognized as having the new capabilities, the modifying party, typically the manufacturer or its representative, must replace the existing FCC ID label with a new label that corresponds to the FCC ID of the associated new transmitter which was type accepted with the upgraded capabilities.

C. Regulatory Flexibility

(1) Coast station operator licensing

51. *Proposal and Comments*. Presently, our rules require radiotelephone coast stations operating on frequencies below 30 MHz -- excluding those in Alaska -- to be operated by an individual holding an appropriate commercial operator license issued by the Commission.[129] There is no license requirement, however, for stations in Alaska or VHF public coast stations. In the *Further Notice*, we proposed to eliminate the requirement for licensed radio operators to be on duty at radiotelephone coast stations.[130] ACBL/WATERCOM, MMR, and RTCM support our proposal and agree that operator licensing requirements for radiotelephone coast stations are unnecessary.[131] Further, MMR recommends expanding the proposed amendment to eliminate operator requirements for radiotelegraph stations. MMR argues that operators at radiotelegraph coast stations do not need to copy Morse code because computers are able to decipher the code.[132]

52. *Decision*. We are eliminating herein the requirement to have an FCC-licensed operator at radiotelephone coast stations. The ITU Radio Regulations do not require licensed operators at radiotelephone coast stations. Also, the Commission has rescinded similar operator requirements under the public mobile, private land mobile, private operational-fixed microwave,

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[128] Upgraded units are those units that are converted in the field to conform to new transmitter design and performance specification.

[129] 47 C.F.R. § 80.153(b).

[130] *Further Notice*, 10 FCC Rcd at 5734.

[131] ACBL/WATERCOM Comments at 8; MMR Comments at 20; RTCM Comments at 9.

[132] MMR Comments at 20.

and personal radio services.[133] Finally, none of the commenters, including the Coast Guard, indicate that the elimination of this requirement would negatively impact safety at sea or hinder coast station operations. Therefore, we are eliminating the operator licensing requirement for all radiotelephone coast stations. In the *Further Notice*, however, we stated that we intended to retain the operator requirement at public coast stations transmitting radiotelegraph (manual Morse code). Consequently, we believe eliminating the operator requirements for radiotelegraph coast stations here, as suggested by MMR, is beyond the scope of this proceeding. We are requesting comments on this issue in the *Second Further Notice of Proposed Rule Making*.

(2) Streamlining the ship/aircraft station licensing process

53. *Proposal and Comments*. Presently, a vessel owner must list on its license application each type of radio equipment and corresponding frequency bands it intends to use on the vessel (*e.g.*, marine radio, radar, and satellite frequencies). In many cases, however, the owner purchases additional equipment during the license term. Consequently, the owner must modify its license to add the new frequencies. To streamline this process, we proposed in the *Further Notice* to amend our present ship station licensing rules to automatically authorize, upon application, the use of all marine radio frequencies normally available to vessel operators.[134] In addition, we proposed to allow a 90-day grace period following the expiration of ship and aircraft station licenses.[135] This grace period would extend the period in which a licensee can renew its license and retain the same call sign. The purpose of this proposal was to reduce regulatory burdens on both the maritime community and the Commission. The Coast Guard and RTCM support our proposal for a "blanket" authorization for ship stations.[136] Further, RTCM asks the Commission to expand the proposal to automatically authorize the use of maritime satellite frequency bands.[137] None of the commenters objected to the proposed 90-day grace period.

54. *Decision*. In a separate proceeding, we have already eliminated the licensing burden for most vessel operators by licensing by rule vessels operating domestically that are not

[133] In GEN Docket No. 83-322, the Commission concluded that requiring licensed commercial radio operators in the Experimental Broadcast, International Broadcast, Auxiliary Broadcast, Private Land Mobile, Fixed, Personal, Domestic Public Fixed, and Cable Television Relay Services is unnecessary because it is in each licensee's best interest to ensure that a qualified individual is responsible for the operation the licensee's radio equipment. *See* Requirements for Licensed Operators in Various Radio Services, GEN Docket No. 83-322, *Report and Order*, 96 FCC 2d 1123 (1984).

[134] *Further Notice*, 10 FCC Rcd at 5734.

[135] *Id*.

[136] Coast Guard Comments at 6; RTCM Comments at 9.

[137] RTCM Comments at 9.

required to carry a radio.[138] To streamline the licensing process for the remaining vessel operators (*e.g.*, commercial vessels and recreational vessels travelling internationally), we are amending our rules to provide a "blanket" authorization for vessel owners applying for ship station authorizations. As suggested by RTCM, we are including satellite frequencies in this "blanket" authorization. By this action, each applicant for a new ship station license will be automatically authorized to operate a marine VHF radio, a single-sideband radio, any type of radar or emergency position indicating radio beacon (EPIRB), on-board communications equipment, and satellite communications equipment.[139] This "blanket" authorization will also be added automatically to all present ship station licenses so there will be no need for entities to modify their licenses. Applicants must continue, however, to specifically request radiotelegraph and NB-DP authorizations in order to be issued a Morse working channel series or SELCAL number, respectively. This action eliminates the unnecessary regulatory burdens associated with updating licensing information each time new radio equipment is brought on board a vessel, as well as the administrative burdens associated with the processing of such applications.

55. We also are implementing a 90-day grace period for ship and aircraft station licenses, as proposed in the *Further Notice*. The grace period will enable ship and aircraft owners to renew their licenses up to 90 days after expiration to retain their present call signs. Presently, if a ship or aircraft station license expires, it cannot be renewed and the applicant must request a "new" station license and is issued a new call sign. This action will reduce the number of instances where vessel operators must notify other government agencies, such as the Coast Guard, concerning a change in call sign.

(3) Relaxed license-posting requirement

56. *Proposal and Comments*. Our rules presently require each vessel's ship radio station license to be posted at the principal control point of the station.[140] At the request of the Coast Guard, we proposed to permit vessel owners to alternatively keep the license anywhere on board, so long as it is available upon request. Both the Coast Guard and RTCM support this proposal.[141]

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[138] *See* Amendment of Parts 80 and 87 of the Commission's Rules to Permit Operation of Certain Domestic Ship and Aircraft Radio Stations Without Individual Licenses, *Report and Order*, WT Docket No. 96-82, 11 FCC Rcd 14849 (1996).

[139] COMSAT will continue to commission INMARSAT ship earth stations and issue maritime mobile service identities (MMSI) to vessel operators. Vessel operators will no longer be required, however, to file FCC Form 506 in order to inform the Commission of the assigned MMSI. Instead, COMSAT will inform the Commission directly concerning all MMSI assignments.

[140] 47 C.F.R. § 80.405(c).

[141] *Further Notice*, 10 FCC Rcd at 5734; Coast Guard Comments at 6; RTCM Comments at 9.

57. *Decision*. Small commercial vessels and recreational vessels often do not have an enclosed pilot house, and thus, the station license may be subjected to harsh weather conditions in the marine environment which could eventually render it unreadable. The intent of the posting requirement found in 47 C.F.R. § 80.405(c) is to provide a means for authorized representatives of the Coast Guard, the Commission, and foreign administrations to ensure that vessels are authorized to use the radio equipment found on board. Ideally, the station license should be posted at the control point of each vessel in order to aid these regulatory bodies. It is also in the public interest, however, to ensure the readability of the document. Therefore, we will permit the ship station license to be stored away from harsh weather conditions, so long as the document remains on board and is available for inspection by authorized government representatives immediately upon request.

(4) Expanding private coast station operating authority

58. *Proposal/Comments*. A private coast station is a fixed maritime station on land that provides communications services to vessels, including docking, supplying, and towing vessels.[142] A marine utility station provides the same types of communications and services as a private coast station, except that it employs hand-held marine radios, rather than a fixed base station to communicate with vessels.[143] The only difference is that hand-held radios cannot be used under a private coast station license and a fixed transmitter with an antenna cannot be used under a marine utility station license.[144] Thus, entities often must obtain two separate licenses. In the *Further Notice*, we proposed to eliminate this unnecessary burden by authorizing hand-held marine radios under each private coast station license.[145] ACBL/WATERCOM and RTCM support our proposal.[146] Specifically, ACBL/WATERCOM notes that it is common in port areas for organizations and businesses to have a need for base and mobile stations, characteristic of both private coast stations and marine utility stations.[147]

59. *Decision*. We agree with the commenters that both base and mobile operations should be permitted under a single license. For example, a marina may wish to operate a fixed station from its business office, and additionally need to contact incoming boats using hand-held

142 47 C.F.R. § 80.5.

143 47 C.F.R. § 80.5.

144 *See* 47 C.F.R. Part 80 subpart K.

145 *Further Notice*, 10 FCC Rcd at 5734.

146 ACBL/WATERCOM Comments at 10; RTCM Comments at 9.

147 ACBL/WATERCOM Comments at 10.

radios from the dock. Presently, this would require two different licenses, each costing $105.[148] This requirement to issue separate private coast and marine utility authorizations does not enhance spectrum management or aid enforcement efforts. Further, the eligibility requirements and channel usage rules are identical for both types of stations. Therefore, we are amending the rules to allow both fixed and mobile, including hand-held portable, operations under a private coast station license. This action eliminates the unnecessary regulatory burdens associated with entities having to obtain separate licenses for base and mobile operations as well as the administrative burdens associated with the processing of such applications. Further, this approach is consistent with our decision to permit the use of fixed, mobile, and hybrid services by other CMRS providers.[149]

(5) Unifying frequency tolerance specifications

60. *Proposal/Comments*. Presently, marine VHF transmitters type accepted for private coast base station operations must meet a more restrictive frequency tolerance specification than those type accepted for use on board ships (mobile operation) -- even when they both operate at the same transmitter power level.[150] Because marine VHF radios type accepted for use aboard ships are less expensive, we received informal requests to allow them to be used as private coast station transmitters. In the *Further Notice*, we proposed to permit VHF private coast stations that operate at less than 25 watts carrier power to use transmitters with a frequency tolerance of 10 parts per million, the same power and frequency tolerance as transmitters type accepted for ship operation.[151] The only commenter addressing this issue, RTCM, supports our proposal.[152]

61. *Decision*. We are amending the rules to permit transmitters type accepted as meeting the frequency tolerance of 10 parts per million to be used for VHF private coast transmissions, so long as the coast station operates with an output power of 25 watts or less and the transmitting antenna is less than 6 meters (20 feet) above ground level. This action will eliminate an unnecessary technical specification without increasing the potential for harmful interference to adjacent marine channels. This approach will reduce operating costs for entities such as marinas, yacht clubs, radio repair shops, and other marine businesses by eliminating the requirement to use more expensive transmitters with a more stringent frequency tolerance.

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[148] The present fee for private coast station and marine utility station licenses is $105. *See* 47 C.F.R. § 1.1102; Assessment and Collection of Regulatory Fees for Fiscal Year 1995 and Price Cap Treatment of Regulatory Fees Imposed by Section 9 of the Act, MD Docket No. 95-3, *Report and Order*, 10 FCC Rcd 13512 (1995).

[149] *See CMRS Flexibility First Report and Order*, 11 FCC Rcd at 8965.

[150] Coast station transmitters must meet a 5 parts per million frequency tolerance, while ship station transmitters must meet a 10 parts per million tolerance. *See* 47 C.F.R. § 80.209.

[151] *Further Notice*, 10 FCC Rcd at 5734.

[152] RTCM Comments at 9.

Further, the ITU Radio Regulations specify a single tolerance -- 10 parts per million -- for both coast and ship operations in the VHF band.[153]

(6) Facsimile in Alaska

62. *Proposal*. In the *Further Notice*, we proposed to permit the transmission of facsimile signals over marine VHF channel 68 (156.425 MHz) between vessels and between vessels and private coast stations serving Alaskan waters.[154] Under our proposal, facsimile signals would be required to meet the same technical criteria as marine VHF voice communications.[155] Further, we proposed to automatically add marine VHF channel 68 to all current Alaskan private coast station licenses, for facsimile transmission only, without requiring each licensee to modify its authorization.[156]

63. *Comments*. All commenters addressing this issue support our proposal. The Coast Guard supports the transmission of data communications in Alaskan waters over marine VHF channels that are not used for distress or safety purposes, such as marine VHF channel 68.[157] Globe Wireless, however, asks us to expand our proposal to include marine VHF channels nationwide.[158] RTCM also acknowledges the need for marine VHF data communications in other regions, but alternatively suggests that the Commission initiate a separate proceeding to discuss this issue.[159] Similarly, the Coast Guard recommends that we consider the designation of a portion of the marine VHF channels for data communications at the same time that we consider the transition to a narrowband channel plan.[160]

64. *Decision*. Alaska has an extensive coastline with a small boating population compared to the continental U.S. For this reason, there is much less congestion on marine VHF frequencies in Alaskan waters compared to the coastlines of states such as California or Florida. Because marine VHF frequencies are generally not congested in Alaskan waters, we conclude that the public interest is served by expanding the use of a single, shared frequency -- marine VHF channel 68 (156.425 MHz) -- to include voice, facsimile, and data communications between

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153 *See* Radio Regulations, Appendix 7.

154 *Further Notice*, 10 FCC Rcd at 5733.

155 *Id*.

156 *Id*.

157 Coast Guard Comments at 5.

158 Globe Wireless Comments at 5.

159 RTCM Comments at 8.

160 Coast Guard Comments at 5.

vessels and between vessels and private coast stations. In order to protect voice communications on adjacent channels, facsimile and data transmissions must not exceed the technical requirements for marine radiotelephone communications. This flexible approach will permit stations to rapidly transmit information that would take much longer using voice communications (*e.g.*, maps showing weather and ice conditions, supply lists, vessel schedules), thus, increasing safety of life and property at sea. Further, this action will make VHF maritime communications services more accessible to persons with hearing or speech disabilities. We agree with the Coast Guard and RTCM, however, that it would be inappropriate at this time to extend this designation to stations in the continental U.S. because the marine VHF band is already highly congested in most port areas and along busy inland waterways. As suggested by the commenters, we will revisit the issue of data communications on shared marine VHF channels in a separate proceeding in the context of any recommendations made by the 1997 World Radiocommunication Conference concerning narrowband operations.

65. To reduce administrative burdens on private coast station licensees, which are often very small entities, we will automatically add marine VHF channel 68 to all current Alaskan private coast station authorizations, for facsimile and data transmissions only, without requiring each licensee to modify its license and remit a fee. In this connection, private coast stations which are presently authorized to use marine VHF channel 68 may transmit both voice and facsimile signals. All vessels that are licensed individually or by rule for marine VHF communications will also be authorized to use facsimile and data communications on channel 68 in Alaskan waters.

(7) Frequency sharing

i. Intra-service sharing of the VHF band

66. *Proposal*. The frequencies in the marine VHF (156-162 MHz) band available for communications between ships and private coast stations are currently divided into ten categories and are available to all vessels based on the type of communications being transmitted. The ten types of private communications categories, with the number of available frequencies in parentheses are: port operations (11); navigational (2); commercial (14); non-commercial (9); DSC (1); distress, safety, calling (1); inter-ship safety (1); environmental (1); maritime control (1); liaison, U.S. Coast Guard (1).[161] These categories developed over time to address the specific needs of various segments of the maritime community. Two of the largest categories are "commercial" (*e.g.*, communications on board commercial vessels for piloting, vessel movement, obtaining supplies, scheduling repairs) and "non-commercial" (e.g., recreational vessel communications concerning fuel, supplies, and berthing facilities). In the *Further Notice*, we proposed to combine the commercial vessel and non-commercial vessel frequency categories to form a single "vessels operations" category to encompass all communications related to the

[161] Some of these frequencies are available on a limited basis in certain regions and for specific types of communications. *See* 47 C.F.R. § 80.373(f).

operational needs of vessels.[162] Presently, the number of pleasure boats equipped with marine radios is rising and yet in most areas there are only six frequencies available under the non-commercial category.[163] If need be, frequencies could be designated for a specific use on a local basis rather than a nationwide basis as is done now. Our goal in introducing this proposal was to increase regulatory flexibility and reduce congestion in the marine VHF band by creating a single pool of frequencies for general purpose use. Additionally, we asked for specific comment on whether frequencies should be designated for specific regional needs, such as towing, and what impact this proposal would have on safety.[164]

67. *Comments*. Most commenters addressing this issue, including the Coast Guard, favor the creation of a vessel operations category on a regional basis where appropriate in lieu of a nationwide redesignation.[165] For example, ACBL/WATERCOM argues that allowing recreational boaters to use commercial frequencies nationwide would compromise safety for commercial vessels along busy waterways where commercial channels are already congested.[166] The Coast Guard, however, supports the establishment of a vessel operations frequency category on a regional basis.[167] The Coast Guard suggests that the Commission, through its local offices, establish advisory committees in order to determine the feasibility of this approach on a regional basis.[168]

68. *Decision*. To ensure the safety of life and property at sea, it is imperative that our maritime service rules enable boaters to establish and maintain adequate communications with other boaters and shore-based facilities. In this connection, we must weigh the need for additional recreational channels against the risk of causing harmful interference to commercial operations in busy ports. As ACBL/WATERCOM points out, commercial vessels use all available channels in a great number on busy ports and waterways to ensure safe transport of passengers, crew, and cargo. Therefore, we conclude that the creation of a single vessel operations category to replace the commercial/non-commercial designations is not feasible on a national level at this time.

69. We conclude, however, that the current allotment of VHF marine frequencies for non-commercial operations cannot fulfill the growing communications demands of the recreational

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[162] *Further Notice*, 10 FCC Rcd at 5730.

[163] 47 C.F.R. § 80.373(d).

[164] *Further Notice*, 10 FCC Rcd at 5730.

[165] *See, e.g.*, Maritime Navigation Safety Association (MNSA) Comments at 1; GulfCoast Transit Comments at 1; National Ocean Industries Association Comments at 1; RTCM Comments at 6; Coast Guard Comments at 4.

[166] ACBL/WATERCOM Comments at 5.

[167] Coast Guard Comments at 4.

[168] Coast Guard Comments at 4. *See also*, MariTEL Reply Comments at 11.

boating community. Further, we agree with the Coast Guard that this issue should be addressed at the local level, in order to identify areas where recreational vessels require additional channels and the commercial channels are not congested. Therefore, we are adopting rules that provide for the joint use of VHF frequencies on a regional basis by commercial and non-commercial vessels based on the recommendations of the Coast Guard. Because the Coast Guard maintains offices in all major port areas, we believe it is the most appropriate party to provide initial recommendations for regional changes in the use of marine frequencies. Further, this approach ensures that any redesignation of the VHF marine channels is closely monitored by the Coast Guard. Thus, we are amending 47 C.F.R. § 0.331 to authorize the Chief, Wireless Telecommunications Bureau (Bureau), upon Coast Guard request, to designate shared commercial/non-commercial channels on a regional basis. This approach will allow the Commission to quickly act to reduce congestion in the marine VHF band by redistributing the radio traffic regionally. Further, this approach is consistent with our recent decision allowing the Bureau to act on Coast Guard requests concerning Vessel Traffic Services (VTS) system protection areas.[169]

ii. Maritime mobile sharing of private land mobile frequencies

70. *Proposal*. In the *Further Notice*, we proposed to allow maritime users to share a total of 400 kilohertz of private land mobile radio (PLMR) service spectrum.[170] This spectrum would consist of 200 kilohertz from the Railroad Radio Service and 200 kilohertz from the Motor Carrier Radio Service. To protect land mobile operations, we proposed to make most of the frequencies available only to public coast stations for paired, duplex operation consistent with land mobile use.[171] Additionally, we proposed to allow inter-ship, low power operations on three frequencies.[172] Further, we proposed to use the same co-channel separation criteria that we adopted for land mobile sharing of maritime frequencies.[173] We also proposed to limit public coast station use of these frequencies to locations within 16 km of the U.S. coastline or any navigable waterway.[174] Finally, we proposed to permit licensees to use frequencies 12.5 kHz offset from the shared frequencies, provided that such licensees are also licensed for channels on

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[169] The Commission stated that it will rely on Coast Guard recommendations concerning the designation of radio protection areas for mandatory VTS systems and the establishment of marine channels as VTS frequencies for these areas. *See* Amendment of Part 80 of the Rules Concerning U.S. Coast Guard Vessel Traffic Services (VTS) Systems in Sault Ste. Marie, Michigan; San Francisco, California; and Morgan City, Louisiana, WT Docket No. 95-132, *Report and Order*, 11 FCC Rcd 12942 (1996).

[170] *Further Notice*, 10 FCC Rcd at 5731.

[171] *Id*.

[172] *Id*.

[173] *Id*. at 5752.

[174] *Id*. at 5731.

each side of the offset frequency.[175]

71. *Comments*. The comments on this issue are divided between the maritime and PLMR communities. The Coast Guard, ACBL/WATERCOM, MMR and RTCM support our proposal.[176] ACBL/WATERCOM states that the Commission's decision in the *First Report and Order* to allow PLMR sharing of maritime channels justifies a reciprocal agreement.[177] The Coast Guard notes, however, that any such sharing arrangement must include safeguards to ensure that marine communications will not interfere with railroad safety communications.[178] MMR states that maritime sharing of these frequencies should be contingent on a requirement to operate with a channel bandwidth of 12.5 kHz.[179]

72. The Association of American Railroads (AAR), frequency coordinator for the Railroad Radio Service, and the American Trucking Association (ATA), frequency coordinator for the Motor Carrier Radio Service, oppose our sharing proposal.[180] AAR and ATA argue that PLMR channels are already congested in the geographic regions where sharing would be most likely, *e.g.*, major shipping and rail centers.[181] AAR further claims that limiting maritime operations to within 16 km of navigable waterways would not protect railroad operations because railroads commonly run parallel to rivers and other waterways and because railroad operations are highly concentrated in major port cities.[182] AAR suggests that congestion in the maritime service be addressed through the introduction of more spectrum efficient technologies, similar to the Commission's approach for the PLMR bands.[183] Alternatively, ATA suggests that our proposal can be better accomplished by sharing channels allocated to PLMR services that do not have a heavy coastal presence, such as the Special Industrial Radio Service.[184] Responding to comments

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[175] *Id*.

[176] ACBL/WATERCOM Comments at 8; Coast Guard Comments at 5; MMR Comments at 19; RTCM Comments at 7.

[177] *See, e.g.*, Comments of ACBL/WATERCOM at 8. In the *First Report and Order* in this proceeding, the Commission decided to permit inter-service sharing of maritime frequencies with private land mobile users. *See First Report and Order*, 10 FCC Rcd at 8420.

[178] Coast Guard Comments at 5.

[179] MMR Comments at 19.

[180] AAR Comments at 5; ATA Comments at 3.

[181] *Id*.

[182] AAR Comments at 6.

[183] AAR Comments at 10. Transition to more efficient technology in the PLMR bands was ordered in the *Refarming Report and Order*, 10 FCC Rcd at 10076.

[184] ATA Comments at 3.

critical of their position, AAR states that the justification in the *First Report and Order* for land mobile sharing of maritime channels does not hold true for railroads.[185] Moreover, AAR asserts that it did not join in the request for maritime channels, nor does it intend to make use of any maritime channels for the same safety concerns addressed in response to this proposal.[186] Finally, Globe Wireless proposes that the Commission begin a negotiated rule making to formulate a mutually agreeable sharing arrangement between maritime and land mobile users.[187]

73. *Discussion*. We are not adopting the proposed rules regarding maritime sharing of land mobile frequencies at this time. Our proposal to permit the shared use of Railroad and Motor Carrier Radio Service channels by maritime users was based on the following premises: 1) certain channels assigned to the PLMR service domestically are allocated internationally to the maritime service;[188] and 2) an examination of our licensing database found that few PLMR licensees were operating at fixed locations within 80 km of the U.S. coastline.[189] Since the time of this proposal, however, the Commission introduced a narrowband channel plan into the PLMR bands, proposed various methods to introduce market forces into the PLMR bands, and consolidated the PLMR services in order to introduce more flexibility.[190] We continue to believe that increased sharing and flexibility promote spectrum efficiency and expedite market entry of new services. In this case, however, we believe it is premature to adopt rules permitting the sharing of land mobile frequencies by maritime operations until a final decision concerning the introduction of market-based forces into the PLMR is made.

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185 *First Report and Order*, 10 FCC Rcd at 8422.

186 AAR Reply Comments at 3.

187 Globe Wireless Reply Comments at 3.

188 *See* Radio Regulations, Appendix 18.

189 *Inquiry*, 7 FCC Rcd at 7868.

190 *See Refarming Report and Order*, 10 FCC Rcd at 10107; *Refarming Second Report and Order*.

IV. SECOND FURTHER NOTICE OF PROPOSED RULE MAKING

A. VHF public coast station spectrum

1. Current licensing process

74. Unlike most other CMRS providers, VHF public coast stations do not provide communications within Commission-defined service areas, such as Cellular Geographic Service Areas or Rand McNally's Major and Basic Trading Areas (MTAs and BTAs).[191] Rather, each service area is applicant-defined based on predicted signal strength over the waterway to be served.[192] The size of each station's service area also determines the mileage separation between co-channel assignments. Using a conservative estimate, service areas for VHF band public coast stations extend 20 to 30 miles from the transmitter.

75. Further differentiating public coast stations from the majority of other CMRS providers is the small number of channels allocated to such operations. Presently, there are only nine channels ("working frequencies") in the 157.1875-157.4500 MHz (ship transmit) and 161.775-162.0125 MHz (coast transmit) bands assignable to VHF public coast stations for public correspondence. Along the Canadian border even fewer channels are available for U.S. stations.[193] Specifically, north of Line A,[194] there are generally only five channels off the Maine coast and on the waters of the Great Lakes and the St. Lawrence Seaway,[195] and there are only five primary channels and three supplementary channels on the waters of western Washington State.[196] In the past, a public coast station was initially assigned a single channel for exclusive use within its service area. An additional channel was assigned if certain loading criteria were met.[197] As discussed *supra*, we are eliminating the loading requirements in this proceeding in order to

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[191] *See* 47 C.F.R. §§ 22.911, 24.102, and 24.202. *See also* Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, pp. 36-39.

[192] *See* 47 C.F.R. Subpart P.

[193] *See* 47 C.F.R. § 80.371(c). In addition, VHF Channel 88 may be authorized within 120 km (75 miles) of the Canadian border on the Great Lakes, the St. Lawrence Seaway, and the Puget Sound and the Strait of Juan de Fuca and its approaches.

[194] *See* 47 C.F.R. § 2.1.

[195] The U.S. channels are VHF Channel 84, 25, 86, 87, and 28. (Channel 28 is also assignable to Canadian stations within the frequency coordination zone, following successful coordination with the United States.) In addition, VHF channel 26 is shared between the U.S. and Canada and VHF channel 88 is also assignable to United States stations within the frequency coordination zone, following successful coordination with Canada.

[196] The primary VHF channels are 24, 25, 26, 28, and 88. The supplementary channels are 25, 85, and 87.

[197] *See supra* note 45.

facilitate the development of automated systems.[198]

2. Proposed geographic service areas

76. Because loading criteria will no longer limit public coast stations to only one or two channels, we anticipate receiving a large number of applications for new licenses and modifications to existing licenses. In cases where two or more proposed service areas overlap, however, such applications would be considered mutually exclusive and would be resolved through competitive bidding procedures as described in paragraph 123, *infra*. The Commission has concluded in other services that geographic area licensing provides significant advantages over site-based licensing for entities providing subscriber-based services because of the greater operational flexibility it gives licensees and the greater ease of administration for the Commission.[199] Similarly, we believe that continuing the current "service area" based licensing approach, which assigns channels and resolves mutually exclusive applications on a "per station" basis, is no longer feasible because it would greatly delay assignment of the remaining channels and place undue administrative burdens on the public and the Commission. Further, such an approach will make it extremely difficult for a single entity to obtain enough geographically and spectrally contiguous stations to develop an automated coastal system.

77. In order to establish a comprehensive and consistent regulatory scheme that enhances maritime communications, we propose a transition from the site-specific "service area" based licensing scheme to geographic area licensing. We tentatively conclude that such an approach would speed assignment of the remaining channels, greatly reduce processing burdens for the public and the Commission, and facilitate the development of automated coastal systems. Additionally, it would eliminate inefficiencies arising from the intricate web of relationships created by site-specific authorization and enhance regulatory symmetry among CMRS providers.[200]

78. We propose to divide the nation's coastline into nine regions, based on U.S. Coast Guard Districts (Districts), as codified in 33 C.F.R. Part 3 and listed below.[201] We believe that the Districts provide a sufficient amount of contiguous coastline to foster local as well as regional coast station systems. Further, the Districts reflect regional trading and vessel movement patterns similar to the way that MTAs and BTAs frame economic boundaries for terrestrial CMRS services.

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198 *See supra* para. 17.

199 *See, e.g., SMR Third Report and Order*, 9 FCC Rcd at 8044.

200 *See, e.g.*, Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems, WT Docket No. 96-18, and Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, PP Docket No. 93-253, *Notice of Proposed Rule Making* (*Paging Systems Notice*), 11 FCC Rcd 3108.

201 *See* 33 C.F.R. §§ 3.05-1, 3.25-1, 3.35-1, 3.40-1, 3.45-1, 3.55-1, 3.65-1, 3.70-1, and 3.85-1 and Appendix C.

Proposed Regions (Coast Guard District)

Northern Atlantic (*1st*)	Gulf of Mexico (*8th*)
Mid-Atlantic (*5th*)	Northern Pacific (*13th*)
Southern Atlantic (*7th*)	Southern Pacific (*11th*)
Great Lakes (*9th*)	Alaska (*17th*)
Hawaii (*14th*)	

79. We seek comment on our proposal to use a geographic area licensing approach for VHF public coast spectrum. To the extent that commenters oppose use of a geographic licensing approach, we ask them to discuss what changes, if any, should be made to our current rules in order to achieve the goals we have identified in our proposed transition to another licensing approach. We also seek comment on whether the Districts listed above provide an appropriate basis for defining the service areas used in a geographic licensing approach. We ask commenters to discuss alternative service area definitions and the advantages and disadvantages associated with using such alternatives.

3. Treatment of incumbent licensees

80. In tandem with our geographic licensing proposal, we must assess the potential impact on incumbents currently licensed to operate on VHF public coast station spectrum on a "per station" basis. There are over 300 VHF public coast stations currently providing public correspondence service to vessel owners along the coastline of the United States. Because these stations provide a vital, internationally allocated link between vessels at sea and the PSN, we tentatively conclude that the public interest would be best served by providing for their continued operation while, at the same time, reducing implementation barriers for regional licensees. Therefore, we propose that each incumbent licensee continue to be authorized to operate under the terms of its current station license to serve vessels and units on land within its service area. To this end, we propose to rely on the co-channel protection criteria found in 47 C.F.R. § 80.773, which specifies a 12 dB ratio of desired to undesired signal strength within the service area of the incumbent licensee.

81. Under this proposal, regional licensees would be required to afford interference protection to incumbents. The proposed protection obligations are similar to those proposed and implemented in other services.[202] In turn, we propose to protect regional licensee operations by

[202] *See, e.g.*, Amendment of Parts 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and the 935-940 MHz Bands Allotted to the Specialized Mobile Radio Pool, PR Docket No. 89-553, Implementation of Section 309(j) of the Communications Act - Competitive Bidding, PP Docket No. 93-253, and Implementation of Sections 3(n) and 322 of the Communications Act, GN Docket No. 93-

allowing each incumbent licensee to renew, transfer, assign, or modify its license in any manner so long as such modifications do not extend its service area. Proposed modifications that would extend an incumbent's service area or request the use of additional frequencies would be contingent upon an agreement with each affected regional licensee. This treatment of incumbent licensees would further the public interest by promoting the continued operation of stations upon which the public relies for ship-to-shore communications and facilitating the rapid deployment of regional systems in areas already served by public coast stations. We tentatively conclude, however, that there is no need to provide special consideration for incumbent licensees in our competitive bidding procedures for the public coast service. We propose to allow any eligible entity, including incumbents, to bid for regional licenses. We note that in those cases where an incumbent is not awarded a regional license, under our proposal the incumbent may be able to expand its system by negotiating a partitioning or disaggregation agreement with the regional licensee.

82. Because our regional licensing proposal would permit licensees to place stations in land-locked as well as coastal areas, we believe that our definition of "incumbent" should include PLMR licensees authorized on marine VHF public correspondence frequencies in areas far from waterways. For example, in the *First Report and Order* in this proceeding, the Commission decided to permit PLMR eligibles in the Industrial and Land Transportation (I/LT) services to share public correspondence channels on a primary basis at least 116 kilometers (72 miles) from navigable waterways and existing public coast stations.[203] Other PLMR licensees have also been authorized by waiver to share these maritime frequencies in land-locked areas. The Commission has permitted such inter-service sharing in order to provide relief to PLMR licensees in areas where PLMR frequencies are unavailable due to congestion. Because these PLMR licensees operate far from waterways, we tentatively conclude that their continued operation does not present a barrier to the development of coastal systems and that they should be classified as incumbent licensees. We seek comment from both the maritime and private land mobile communities concerning the general treatment of incumbent licensee and the following questions.

(a) Are the proposed interference protection criteria sufficient to govern the use of public correspondence channels by regional licensees in inland areas? Should the criteria be revised to reflect the fact that signals will travel over land rather than water? If so, how?

(b) Should incumbent public coast station licensees be afforded additional interference protection in order to permit them to expand operations?

(c) Should mobile-to-mobile communications be permitted in coastal areas and/or

252, *Second Order on Reconsideration and Seventh Report and Order* (*SMR Order*), 11 FCC Rcd 2639 (1995).

[203] *First Report and Order*, 10 FCC Rcd at 8419. As noted *supra*, the Commission's recent action consolidating the PLMR services does not alter the type of PLMR licensees eligible to share maritime frequencies. *See Refarming Second Report and Order*.

inland areas? If so, what additional measures must be taken to protect incumbent stations?

4. Licensing

83. We are proposing to license presently unassigned VHF public coast station spectrum on a regional basis. In order to promote the rapid deployment of automated systems, we are proposing to authorize a single regional licensee to operate on all unassigned public correspondence frequencies within its District for a ten-year license term. We propose this licensing approach for several reasons. There are only a limited number of channels allocated for VHF public coast station use. At most, there are only ten channels available for assignment at any site. In ports where incumbent public coast station licensees already operate, however, there may be less than five channels available. Dividing the limited number of available channels in each District among multiple licensees would limit development of multi-channel systems and be administratively burdensome to implement due to the erratic nature of incumbent licensees' service areas. Additionally, the competitive state of the coastal marketplace already enables vessel operators operating along the coast to choose among a number of other CMRS providers including cellular, PCS, SMR, and satellite communications. These services have been extremely competitive in some coastal markets, often contributing to the closure of VHF public coast stations.[204] Thus, we tentatively conclude that the coastal marketplace will ensure competition among CMRS providers without introducing multiple regional licensees in each District. Finally, authorizing one license in each District for use of up to ten channels is consistent with the Commission's treatment of other CMRS providers. For example, each 900 MHz band SMR licensee in a MTA[205] is assigned a ten-channel block of frequencies.[206]

84. We believe that any new maritime licensing scheme should increase flexibility for licensees, eliminate unnecessary regulatory burdens, and promote the delivery of innovative telecommunications services, to the extent that it does not pose a threat to safety of life and property at sea. In this connection, we propose to permit each regional licensee to place stations anywhere within its region to serve vessels or units on land, so long as marine-originating traffic is given priority and incumbent operations are protected. Outside the service areas of incumbent licensees, the regional licensee would be authorized on all public correspondence frequencies[207] and would be required to afford interference protection to any nearby co-channel incumbent

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[204] As of March 28, 1996, forty-three VHF public coast stations had closed since 1991. In their closure filings, many licensees cite cellular competition as the primary reason for discontinuance of service. *See, e.g.*, Application for authority to close VHF-FM public coast station WHG-964, North Huntington, Pennsylvania, and Application for authority to close VHF-FM public coast station KLU-836, Freedom, Pennsylvania, *Order and Authorization*, DA 92-1219, (released Sept. 17, 1992).

[205] *See supra* note 191.

[206] 47 C.F.R. § 90.617(d). *See also SMR Order*, 11 FCC Rcd at 2639.

[207] In some areas near the Canadian border, there are fewer channels than elsewhere.

operations. Inside the service areas of incumbent licensees the regional licensee would be authorized only on those channels not presently assigned to an incumbent. All base stations and land units would be blanket licensed under the regional license. Under our proposal, regional licensees still would be required to individually license any base station that: (1) requires the submission of an Environmental Assessment under 47 C.F.R. § 1.1307; (2) requires international coordination; or (3) would affect the radio frequency quiet zones described in 47 C.F.R. § 80.21. We tentatively conclude that this simplified approach toward initial licensing and subsequent system modification will (1) increase operational flexibility, resulting in faster, more responsive service to the public and (2) substantially reduce administrative burdens on both licensees and the Commission. Further this approach is consistent with how we handle geographic licensing in other commercial services, both mobile and fixed.[208]

85. To assist regional licensees in consolidating spectrum, we also propose that: (1) if an incumbent fails to construct, discontinues operations, or otherwise has its license terminated by the Commission, the spectrum covered by the incumbent's authorization would automatically revert to the regional licensee,[209] and (2) if a licensee negotiates to acquire an incumbent station by assignment or transfer, the assignment or transfer will presumptively be considered in the public interest. An incumbent would of course be permitted to assign its existing license to any qualified entity whether or not that entity is the regional licensee. Where an incumbent licensee's protected service area is located entirely or partially within a geographic area partitioned by the regional licensee, a cancelled or terminated incumbent license would still revert to the regional licensee, unless designated otherwise in a partitioning agreement. We tentatively conclude that granting these rights to regional licensees would give them greater flexibility in managing the spectrum and establishing coastal and wide-area systems. We seek comment on these proposals.

86. In addition, we note that the VHF public coast spectrum is close in proximity to spectrum allocated for public safety uses -- specifically, public safety services are allocated approximately 4 megahertz of spectrum in the 150-160 MHz band.[210] We further note our continuing commitment to take measures to ensure that the current and future communications needs of the public safety community are addressed. Notably, in its Final Report, the Public Safety Wireless Advisory Committee recommended several ways in which the immediate and

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[208] For example, the Commission has defined geographic service areas for cellular, PCS, and SMR licensees.

[209] This is consistent with the Commission's treatment of other geographic licensing processes. *See, e.g.*, *SMR Order*, 11 FCC Rcd at 2639; *Paging Systems Notice*, 11 FCC Rcd at 3108; Amendment of Parts 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and the 935-940 MHz Bands Allotted to the Specialized Mobile Radio Pool, PR Docket No. 89-553, Implementation of Section 309(j) of the Communications Act - Competitive Bidding, PP Docket No. 93-253, and Implementation of Sections 3(n) and 322 of the Communications Act, GN Docket No. 93-252, *Second Report and Order and Second Further Notice of Proposed Rule Making*, 10 FCC Rcd 6884 (1995), (*SMR Second Report and Order and Second Further Notice of Proposed Rule Making*).

[210] 47 C.F.R. Part 90 Subpart B.

future needs of the public safety community through the year 2010 could be satisfied including (1) the provision of additional spectrum, (2) improved interoperability, (3) more flexible licensing policies, (4) increased sharing of spectral and other resources, (5) greater use of commercial services, and (6) alternative methods for funding public safety communications.[211] In this connection, we seek comment on whether there are any steps that the Commission should take to facilitate use of this spectrum by public safety entities. In particular, there may be opportunities for public safety entities to share public coast spectrum in land-locked areas, far from navigable waterways. We ask commenters to discuss the specific public safety uses that can be implemented in this spectrum and to identify any operational limitations associated thereto in order to protect the current and future maritime operations in the band.

87. In proposing a geographic licensing approach, we must also consider the issue of co-channel interference protection obligations of regional licensees. Accordingly, we propose to establish interference protection criteria for co-channel licensees at the regional borders and clarify operations along international borders. Consistent with current VHF public coast operations, we propose to prohibit regional licensees and incumbents from exceeding a field strength of +5 dBu (decibels referenced to one microvolt per meter) at their service area boundaries,[212] unless the bordering regional licensee or incumbent agrees to a higher field strength. We also propose to authorize the use of VHF public coast spectrum in areas along the Great Lakes, St. Lawrence Seaway, and the coastal waters of Washington pursuant to coordination with Industry Canada, as outlined in the Canada/U.S.A. channel agreements found in 47 C.F.R. § 80.57. In this connection, we believe that applicants are in the best position to assess the affects of any limitations on the use of channels when valuing those geographic areas for competitive bidding purposes. This approach provides licensees the ability to operate their systems up to the borders of their service areas, while also providing protection to adjacent operations. We seek comment on these proposals and the following:

(a) The proposed regions define where stations may be placed on land by each regional licensee. There may be circumstances, however, where a licensee wishes to place stations offshore (*e.g.*, platforms in the Gulf of Mexico). How should the Commission assign the use of frequencies in such offshore areas? Should a separate region be established to license certain offshore areas such as the Gulf of Mexico, similar to our approach in establishing a Gulf of Mexico service area in the Wireless Communications Service (WCS)?[213]

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[211] *See* Public Safety Wireless Advisory Committee Final Report at pages 3-4.

[212] This limitation is based on the current standards found in 47 C.F.R. Subpart P for computing public coast station VHF coverage.

[213] The Commission designated a separate Regional Economic Area Grouping (REAG) and Major Economic Area (MEA) for the WCS covering the Gulf of Mexico. *See* Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service ("WCS"), GN Docket No. 96-228, *Report and Order*, FCC 97-50 (released Feb. 19, 1997) (*WCS Report and Order*). *See also*, Cellular Service and Other Commercial Mobile Radio Services in the Gulf of Mexico, WT Docket No. 97-112, *Second Further Notice of Proposed Rule Making*, FCC 97-110, _ FCC Rcd _

(b) The proposed +5 dBu field strength limit is based on the current ratio of desired to undesired signal strengths for VHF public coast stations (47 C.F.R. § 80.773) and represents an "interference" contour, rather than a "service contour." Alternatively, what would be the advantages and disadvantages of adopting a +17 dBu field strength limit as a "service contour" at the regional borders and requiring co-channel licensees to negotiate with one another to avoid harmful interference? What effect would this have on incumbent licensees? In either case, should the Commission adopt separate field strength limits for coastal and land-locked areas, and if so, why and what should they be?

5. Regional coverage requirements

88. We propose to require construction by VHF public coast regional licensees and solicit comment on an appropriate requirement. One option would be to require provision of substantial service to their service areas within 10 years. Licensees failing to demonstrate that they are providing substantial service would be subject to forfeiture of their licenses. For the WCS we adopted substantial service as our construction requirement based upon 'the unique circumstances in which WCS licenses are being awarded and the strict technical requirements necessary to prevent interference."[214] We stated that a demonstration of coverage to 20 percent of the population within a licensee's service area at the ten-year mark could constitute substantial service, although we also stated that a lesser showing could suffice.[215] We seek comment on adoption of a "substantial service" test in this service and on an appropriate safe-harbor. Alternatively, we request comment on leaving unchanged the current construction requirement; or a construction requirement in between these two alternatives, such as requiring coverage of at least 20 percent of the population or 50 percent of navigable waterways within the region within five years. Commenters should address such factors as whether the licensee is offering a specialized or technologically sophisticated service that does not require a high level of coverage to be of benefit to customers,[216] and whether the licensee's operations serve niche markets or focus on serving populations outside of areas served by other licensees.[217] We also ask commenters to discuss whether "substantial service" should be different in the context of providing service to waterways as compared to service inland.

(released Apr. 16, 1997).

[214] *WCS Report and Order* at paras. 111-115.

[215] *Id*.

[216] We have taken this approach in the past with respect to other services. *See SMR Second Report and Order and Second Further Notice of Proposed Rule Making*, 10 FCC Rcd 6884 (1995) at ¶ 4.

[217] *See* Amendment of Parts 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and the 935-940 MHz Bands Allotted to the Specialized Mobile Radio Pool -- Implementation of Sections 3(n) and 322 of the Communications Act, GN Docket No. 93-252, *Third Order on Reconsideration*, FCC 95-429, 11 FCC Rcd 1170 (released Oct. 20, 1995) at ¶ 2.

89. We believe that a construction requirement can promote efficient use of the spectrum, encourage the provision of service to rural, remote and insular areas and prevent the warehousing of spectrum.[218] Because public coast regional licensees will have the flexibility to serve waterways as well as inland areas, we request specific comment on whether our construction requirement should be different for waterways than for land. If different, what is the reason for the difference and what should the requirements be?

90. Section 309(j)(4)(B) of the Communications Act requires the Commission to employ performance requirements such as deadlines or coverage rules to prevent the warehousing of spectrum.[219] We note that regardless of the specific construction requirement we ultimately adopt, the construction requirements could be reviewed in the future if we receive complaints or if our own monitoring initiatives or investigations indicate that a reassessment is warranted. We also propose to reserve the right to impose additional, more stringent construction requirements on regional licenses in the future in the event of actual anticompetitive or rural service problems and if more stringent construction requirements can effectively ameliorate those problems.

6. Partitioning and Disaggregation

91. We recently adopted a *Report and Order* revising the geographic partitioning and spectrum disaggregation rules for broadband PCS.[220] The broadband PCS rules expand the option of partitioning to all eligible entities and permit disaggregation in the near term.[221] Consistent with these broadband PCS rules, we propose to permit partitioning and disaggregation for the public coast service. We tentatively conclude that combined partitioning and disaggregation should be permitted and the Commission's current partial assignment procedures should govern such requests. This approach would afford parties flexibility to design the types of agreements they desire while advancing the goals of providing competitive service offerings, encouraging new market entrants, and ensuring quality service to the public. Further, we propose that partitionees and disaggregatees hold their licenses for the remainder of the original licensee's term and have a renewal expectancy. We tentatively conclude that this approach would prevent licensees from using partitioning and disaggregation to circumvent our established license term rules. Additionally, by limiting the license term of the partitionee or disaggregatee, we ensure that there

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[218] *See e.g., WCS Report and Order* at ¶ 113.

[219] 47 U.S.C. § 309(j)(4)(B).

[220] Geographic Partitioning and Spectrum Disaggregation by Commercial Mobile Radio Services Licensees, WT Docket No. 96-148, Implementation of Section 257 of the Communications Act -- Elimination of Market Entry Barriers, GN Docket No. 96-113, *Report and Order and Further Notice of Proposed Rule Making*, FCC 96-474 (released Dec. 20, 1996) ("*Broadband R&O*"). "Partitioning is the assignment of geographic portions of the . . . license along geopolitical or other boundaries. Disaggregation is the assignment of discrete portions or 'blocks' of spectrum licensed to a geographic licensee or qualifying entity." *Id*. at para. 1, n.2.

[221] *Id. passim*.

will be maximum incentive for parties to pursue available spectrum as quickly as practicable , thus expediting the delivery of service to the public. We seek comment on these proposals and tentative conclusions.

92. In the *Broadband R&O*, the Commission concluded that relaxing the partitioning and disaggregation rules will help to (1) remove potential barriers to entry thereby increasing competition; (2) encourage parties to use spectrum more efficiently; and (3) speed service to unserved and underserved areas.[222] Consistent with this decision, we propose, for the public coast service, to allow all regional licensees to partition and/or disaggregate at any time to any entity eligible for a public coast station license. We note that small businesses[223] and others may face certain barriers to entry into the provision of spectrum-based services, such as private coast station, which, we believe, may be addressed by changes in our partitioning rules. Providing licensees with the flexibility to partition their geographic service areas would create smaller areas that could be licensed to small businesses, including those entities which previously may not have had the resources to participate successfully in spectrum auctions. Further, we propose to permit disaggregation of any amount of spectrum, without a requirement that the disaggregator retain a minimum amount of spectrum. This approach gives flexibility to licensees to design agreements that encourage a wider range of services. We seek comment on these tentative conclusions. In particular, commenters are invited to address whether our partitioning and disaggregation scheme will help eliminate market entry barriers for small businesses pursuant to Section 257 of the Communications Act of 1934, as amended.[224]

93. We seek comment on what the respective obligations of the participants in a partitioning or disaggregation arrangement should be, and whether each party should be required to guarantee all or a portion of the partitioner's original auctions-related obligation (*e.g.*, payment and build-out obligations) in the event of default or bankruptcy by any of the parties to the partitioning arrangement. We seek comment on whether the partitioner should have a continuing obligation with respect to the entire initial geographic area. Alternatively, should the parties have available a choice of options, ranging, for example, from an accelerated payment based on purchase price to a guarantee for a larger payment by one party in the event another party defaults? Parties are invited to comment on whether the partitioning parties should be able to determine which party has a continuing obligation with respect to the original licensed area. We pose additional questions *infra* in our discussion regarding competitive bidding provisions and, *e.g.*, small business licensees.[225]

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[222] *Id*. at para. 13.

[223] We seek comment *infra* on whether, and how, we should define "small business" in the context of the public coast service. *See infra* para. 125.

[224] 47 U.S.C. § 257.

[225] Paragraph 125, *infra*.

94. We also seek comment on the type of unjust enrichment requirements that should be placed as a condition for approval of partitioning and disaggregation arrangements, *e.g.*, an application for a partial transfer of a license owned by a qualified small business to a non-small business. We tentatively conclude that these unjust enrichment provisions would include accelerated payment of any bidding credit that we may adopt for small businesses, unpaid principal, and accrued unpaid interest, and would be applied on a proportional basis. To the extent that we adopt installment payment financing for the public coast service, we seek comment on how to adjust installment payments owed by partitioning and disaggregating licensees. This approach would help to ensure that large companies do not become the unintended beneficiaries of special provisions meant for smaller firms, such as bidding credits and installment payments. Further, we believe that such a requirement would strike the proper balance between promoting economic opportunities for small businesses while preventing abuse of our benefits intended for these entities. We seek comment on how such unjust enrichment amounts should be calculated, especially in light of the difficulty of devising a methodology or formula that will differentiate the relative market value of the opportunities to provide service to various partitioned areas within a geographic or market area. We seek comment on whether we should consider the price paid by the partitionee in determining the percentage of the outstanding principal balance to be repaid. Finally, in the event that restrictions are placed on the assignment or transfer of "complete" public coast station licenses awarded pursuant to special provisions, should we similarly restrict the partitioning of such licenses when the partitionee is not within the definition of an entity eligible for such special provisions? At some point (*e.g.*, a term of years), should such restriction be removed and the unjust enrichment provisions apply on a proportional basis?

95. We tentatively conclude that our proposals to permit partitioning and disaggregation in the manner described above would allow the public coast spectrum to be used most efficiently, speed service to unserved or underserved areas, and facilitate competition. We solicit comment on this analysis of the intended effects of our proposals.

7. Technical flexibility

96. The basic channelization for VHF public coast station spectrum is set forth in the ITU Radio Regulations as 25 kHz. Presently, AMTS public coast stations (216-220 MHz band), which do not utilize internationally standardized maritime channels, are authorized to use narrowband technologies in addition to the 25 kHz channel plan set forth by the rules. AMTS licensees may use frequencies offset from assignable channels provided that such licensees are also licensed for channels on each side of the offset frequency.[226] Since narrowband operation in the AMTS was first authorized in 1989,[227] we have not received any complaints of harmful

[226] *See* 47 C.F.R. § 80.385(b).

[227] *See*Amendment of the Maritime Service Rules to Permit Operation on Frequencies Offset from Assigned AMTS Channels, FCC 89-193, *Order*, 4 FCC Rcd 5221 (1989).

interference due to such operation. Therefore, we propose that each regional licensee, as well as incumbent licensees, be authorized to use narrowband technologies, in the same manner as AMTS stations. We seek comment on this proposal and the following:

(a) What would be the advantages and/or disadvantages of not specifying a narrowband channel plan? What technologies and/or channel plans have been used by AMTS licensees to successfully implement narrowband technologies in the maritime environment?

(b) What would be the long-term consequences of permitting public coast stations serving U.S. waterways to deviate from narrowband channel plans that may be adopted in the future by the international maritime community?

(c) Should the Commission permit greater levels of technical flexibility at stations that are far from navigable waterways and do not serve vessels?

(d) What other provisions should be considered in order to promote the efficient use of the VHF public coast station spectrum and enhance licensees' abilities to respond to market demands?

8. Operational flexibility

97. The present rules governing VHF public coast station spectrum already provide a great deal of operational flexibility for licensees. For example, the rules governing public coast stations allow licensees to provide interconnected radiotelephone service to ship and aircraft stations, to communicate with a designated station at a remote fixed location where other communication facilities are not available, and to transmit meteorological information and navigational warnings. AMTS coast station licensees are also permitted to communicate with stations on fixed platforms located in the Gulf of Mexico. Further, the rules adopted herein permit public coast station licensees to serve units on land so long as they afford priority to marine-originating communications and the antenna height of each land-unit is limited to 6.1 meters (20 feet) above ground level.

98. In the *First Report and Order and Further Notice of Proposed Rule Making* in WT Docket 96-6, we concluded that broadband and narrowband CMRS licensees should have operational flexibility to provide fixed, mobile, or hybrid services.[228] Because of the issues pending is this proceeding concerning automatic interconnection and service to units on land, however, we did not address operational flexibility for maritime CMRS services at that time. In light of the actions taken and proposed in this proceeding, we seek comment on the following:

[228] In this context, "broadband CMRS licensees" included PCS, cellular, and SMR, while "narrowband CMRS licensees" included paging, narrowband PCS, commercial 220 MHz service, and for-profit interconnected Business Radio Service. *See CMRS Flexibility First Report and Order*, 11 FCC Rcd at 8977.

(a) Should public coast stations be afforded additional flexibility to provide fixed or hybrid CMRS services? What specific measures, if any, are appropriate?

(b) What additional operational measures should be considered to permit licensees to respond to market demands while preserving the distress and safety features of this maritime service?

(c) Should the Commission provide a greater level of operational flexibility for stations located far from navigable waterways? If so, what specific options should be considered?

9. Regulatory Status

99. We propose to allow regional licensees, partitionees, or disaggregatees to use their spectrum to provide a variety of commercial or private mobile communications. While this approach increases operational flexibility, thereby allowing service providers to better respond to market demand, it also makes it difficult to determine the regulatory status of each licensee.

100. We propose to establish a presumption that regional licensees are telecommunications carriers. Otherwise, we propose to rely on applicants to specifically identify the type of service or services they intend to provide and that they include sufficient detail to enable the Commission to determine whether the service will be offered as a CMRS[229] or private land mobile radio service. Therefore, we propose that any interested party would be able to challenge the regulatory status originally granted to a regional licensee. This approach should allow us to carry out our regulatory responsibilities without imposing a hardship upon licensees. We seek comment on our general approach in determining regulatory status of licensees and the following questions.

(a) We seek comment on the most efficient manner in which to administer the requirements of the Communications Act and our rules and, at the same time, grant regional licensees as much operational flexibility as possible.[230]

(b) We also request that commenters address whether it is necessary for the Commission to require licensees to notify the Commission if they change the type of service offered using some or all of their licensed spectrum even though the new use would be permissible under our rules. If so, what requirements should be met in effecting notification?

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[229] *See* 47 U.S.C. § 332(d)(1).

[230] We note here that we are addressing similar concerns in regard to regulatory status and increasing flexibility in the CMRS. *See CMRS Flexibility First Report and Order*, 11 FCC Rcd at 8965.

(c) Section 10 of the Communications Act[231] instructs the Commission to forbear from regulating telecommunications carriers or services, in some or all of their applicable geographic markets, in cases where regulations are unnecessary and do not serve the public interest. To what extent, if any, should such forbearance apply to public coast station licensees? Commenters supporting full or partial forbearance should address what circumstances already exist, or may arise, that ensure just and reasonable telecommunications services, deter discrimination in the provision of services, and protect consumers.

10. Safety watch

101. VHF public coast stations are part of an international safety system intended to provide assistance to vessels in distress. Vessel operators world-wide use marine VHF channel 16 (156.8 MHz) in the same manner that land-line telephone subscribers dial "911" in an emergency. Rather than being relayed to a local dispatch center, however, vessel operators rely on public coast stations and other nearby vessels to respond and relay distress messages to local search and rescue authorities. In the United States, the Coast Guard is responsible for search and rescue operations at sea and on inland waterways and maintains an extensive system of coast stations to monitor channel 16 for distress messages.

102. In addition to providing common carrier services, VHF public coast stations are required to maintain a continuous watch on channel 16.[232] Presently, a public coast station may be exempted from this watch in cases where federal, state, or local government stations maintain a continuous watch on channel 16 over 95 percent of the public coast station's service area.[233] In order to obtain an exemption, however, the licensee must submit charts for review by the Commission showing the coverage of the government station(s) and the public coast station's service area. Upon receiving an exemption, the licensee must notify the appropriate Coast Guard district office of the discontinuation of its safety watch. For incumbent and regional licensees, we request comment on eliminating the need for the Commission to process these exemption requests individually. In consideration of the Coast Guard's vast coverage area and the administrative burdens associated with processing such exemption requests, we propose to relieve public coast stations of the channel 16 watch requirement, by rule, in cases where federal, state, or local governments already maintain a continuous watch over 95 percent of a public coast station's service area. Under this proposal, licensees would not be required to submit individual requests to the Commission. Instead, each licensee would be responsible for: (1) determining whether the "95 percent" criteria is met, (2) notifying the appropriate Coast Guard district office 30 days prior to discontinuing the watch, and (3) resuming the watch at the request of the Coast Guard or the Commission. We seek comment on whether additional procedures are necessary in

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231 *See* 47 U.S.C. § 160.

232 47 C.F.R. § 80.303.

233 47 C.F.R. § 80.303(b).

order to ensure safety of life at sea.

B. High seas public coast station spectrum

1. Current licensing process

103. Unlike short-range VHF public coast stations, high seas public coast stations are capable of serving vessels thousands of miles away. These coast stations provide a variety of voice and data telecommunications services including radiotelephone (voice), radiotelegraph (manual Morse code), narrow-band direct-printing (NB-DP), and facsimile. High seas public coast station frequencies are allocated internationally and distributed among eleven frequency bands as shown in Table 1 below. Because radio signals behave differently at LF, MF, and HF frequencies than VHF frequencies, some of these bands are unusable at certain times of day or night due to varying atmospheric and solar conditions. Therefore, it is essential for high seas public coast stations to obtain frequencies in several bands in order to provide communications services under constantly changing conditions.

TABLE 1 - HIGH SEAS FREQUENCY ALLOTMENT

(Frequency bands in MHz, "✓" indicates that frequencies are allotted in the band)

	LF	MF		HF							
	.100/ .160	.405/ .525	2	4	6	8	12	16	18/ 19	22	25/ 26
Radiotelephone (MF-8 regions) (HF-9 regions)			✓	✓	✓	✓	✓	✓	✓	✓	✓
Radiotelegraph (11 regions)	✓	✓	✓	✓	✓	✓	✓	✓		✓	
NB-DP				✓	✓	✓	✓	✓	✓	✓	✓
Facsimile				✓	✓	✓	✓	✓	✓	✓	✓

104. High seas public coast station frequencies are assigned for exclusive use in accordance with the international Radio Regulations, based on the type of radio communication service the station intends to provide. There are distinct frequencies set aside internationally for radiotelephone, radiotelegraph, NB-DP, and facsimile communications. Additionally, assignments are made using slightly different regional boundaries, depending on the type of service. For example, radiotelephone frequencies are assigned based on four Standard Defined Areas[234] encompassing the continental U.S. and three other geographic regions including Alaska, the Caribbean, and the Pacific islands. Radiotelegraph frequencies, however, are assigned based on eleven geographic regions.[235] In these two cases, a station is assigned a frequency based on the region in which its transmitter is to be located (radiotelephone), or based on the ocean region it intends to serve (radiotelegraph).[236] In contrast, NB-DP and facsimile frequencies are assigned for nation-wide use by a single station. In certain instances, a licensee may apply for an offset carrier frequency in order to avoid interference from a co-channel or adjacent channel station in another region or another country. In this case, authorization is given upon coordination and approval by the Interdepartment Radio Advisory Committee (IRAC).[237]

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[234] The four Standard Defined Areas are USA CL, USA E, USA W, and USA SO. A description of each area is contained in Appendix D. These areas are identified in the Radio Regulations, Appendix 25 Planning Systems and indicated in the Preface to the International Frequency List (IFL). *See* IFRB Circular-letter No. 843, dated October 31, 1990.

[235] 47 C.F.R. § 80.357(b).

[236] Assignments may differ from the regional assignment plan only upon approval of the ITU.

[237] The IRAC is responsible for frequency coordination efforts on behalf of the Federal Government and is composed of representatives from various government agencies. In this connection, the IRAC advises the National Telecommunication and Information Administration (NTIA) concerning spectrum management issues and coordinates spectrum issues among government users and with the Commission.

105. Presently, a high seas public coast station may initially be assigned one channel in each of the applicable frequency bands. In the cases of MF and HF radiotelegraph, HF radiotelephone, and HF NB-DP, a station may only be assigned additional frequencies in each band if certain loading criteria are met.[238] A station does not have to meet such loading criteria to request additional MF radiotelephone, MF and HF radiotelephone (Mississippi River use), or MF and HF facsimile channels.[239]

2. Elimination of channel loading requirements

106. We propose to eliminate channel loading requirements for high seas public coast stations. Consistent with our decision to eliminate the channel loading criteria for VHF public coast stations, we are proposing that the channel loading requirements specified in 47 C.F.R. §§ 80.371(b), 80.357(b)(2)(ii)(B), 80.361(a)(2), and 80.374(a)(2) be amended to remove the showing required for a licensee to obtain additional MF and HF radiotelegraph, HF radiotelephone, and HF NBDP channels. Like the VHF band loading criteria, these requirements were intended to prevent channel warehousing and ensure efficient use of the maritime spectrum. We tentatively conclude, however, that continuing to impose loading requirements on high seas public coast stations could unfairly impair the ability of providers to compete. We believe that the efficient use of high seas public coast station spectrum is more appropriately monitored through construction than channel loading requirements.

107. Section 309(j)(4)(B) of the Communications Act requires the Commission to employ performance requirements such as deadlines or coverage rules to prevent the warehousing of spectrum.[240] In Section IV(A)(5) *supra*, we proposed various construction requirements for VHF public coast station regional licensees. We tentatively conclude, however, that these types of proposed construction requirements are inappropriate for high seas public coast stations. Unlike short-range VHF stations, a high seas station can provide service to vessels thousands of miles from the transmitter site. Thus, by constructing a multi-frequency station at a single site, a high seas licensee could serve a substantial population or geographic area, for example, every vessel in the Atlantic Ocean. Thus, employing long-term construction requirements based on population or geographic service areas, in this case, is inappropriate.

108. Thus, we tentatively conclude that the existing construction requirement for high seas stations should be retained, but extended from eight months to twelve months, consistent with our treatment of other CMRS licensees. High seas coast stations are already required to place new frequencies in operation within eight months of authorization and to exchange radio

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238 47 C.F.R. §§ 80.371(b), 80.357(b)(2)(ii)(B), 80.361(a)(2), and 80.374(a)(2).

239 47 C.F.R. §§ 80.371(a) and (d), and 80.363(a)(2).

240 47 U.S.C. § 309(j)(4)(B).

communications with any ship or aircraft station at sea without discrimination.[241] Further, under the rules proposed herein, competitive bidding procedures would be used to resolve mutually exclusive applications. In this connection, it is unlikely that an entity would bid for and place a frequency in operation for the purposes of stockpiling spectrum. Therefore, we tentatively conclude that the buildout requirement and service obligations which already apply to high seas public coast stations satisfy our obligations under Section 309(j)(4)(B) of the Communications Act. Under this approach, licensees would be required to place each newly assigned channel in operation within twelve months of the initial license grant. In this context, the phrase "in operation" shall mean that the public coast station is capable of transmitting and receiving public correspondence on the newly assigned channel and must do so without discrimination.

109. We also tentatively conclude that the present method of assigning high seas frequencies minimizes administrative burdens on the public and the Commission while promoting the prompt resolution of mutually exclusive applications. The high seas public coast frequencies are already assigned on a geographic or nationwide basis. We propose that where two or more entities apply for authorization on the same channel, and in the same service area where applicable, within thirty days of the date that the first application is placed on public notice, the applications be considered mutually exclusive and the channel assigned by competitive bidding.

110. We seek comment on the proposed elimination of channel loading requirements that apply to high seas public coast stations, extending the current construction requirement from eight to twelve months, and resolving mutually exclusive applications by competitive bidding. We also request comment on the following questions.

(a) Are the twelve-month buildout requirement and service obligations described above sufficient to deter spectrum warehousing? What other measures, if any, should be taken in this regard?

(b) Rather than eliminating the channel loading requirements for high seas public coast stations, should the Commission consider relaxing the loading criteria or increasing the number of frequencies that may be obtained per application?

C. Automated Maritime Telecommunications System (AMTS) Spectrum

111. An AMTS is a specialized system of public coast stations providing integrated and interconnected marine voice and data communications, somewhat like a cellular phone system, for tugs, barges, and other commercial vessels on waterways. AMTS stations are allocated spectrum separate from the marine VHF (156-162 MHz) band and high seas band public coast stations discussed above. Presently, there are forty frequency pairs in the 217-220 MHz band

[241] 47 C.F.R. §§ 80.49, 80.105, and 80.106.

available for assignment to AMTS stations.[242] The assignable frequencies are divided into two frequency groups -- Group A and Group B -- each with twenty channel pairs.[243] AMTS stations are also licensed by rule to use the 216.750-217 MHz band for low power point-to-point network control communications under the Low Power Radio Service in Part 95 of our Rules.[244]

112. AMTS licensees must provide continuity of service to either: a substantial navigational area along the Pacific, Gulf of Mexico, or Atlantic coastline; sixty-percent of one or more major inland waterways; or an entire inland waterway less than 240 kilometers (150 miles) long.[245] Presently there are three AMTS licensees: WATERCOM serving the Mississippi River system and Gulf of Mexico; and Orion and PSI serving the Atlantic, Pacific and Hawaiian coastlines. PSI and Orion also have applications pending before the Commission to provide service to a portion of the Great Lakes.

113. *Siting Flexibility in the AMTS*. Because AMTS coast stations operate adjacent to television broadcast spectrum, the Commission must consider the potential for harmful interference to television reception prior to authorizing new AMTS sites. Presently, AMTS applicants proposing to locate a new transmitter within 169 kilometers (105 miles) of a channel 13 television station or within 129 kilometers (80 miles) of a channel 10 television station or with an antenna height greater than 61 meters (200 feet) above ground must submit to the Commission an engineering study showing the means of avoiding harmful interference to television reception.[246] In addition, such applicants are required to notify each channel 13 or channel 10 television station which may be affected in order to provide broadcasters an opportunity to comment on the proposed construction.[247] Nonetheless, the Commission has placed the burden on AMTS licensees to rectify harmful interference to television reception, or cease their operations.[248]

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[242] The AMTS originally was allocated eighty frequency pairs in the 216-220 MHz band. The band is divided into four frequency groups: the paired A and B Groups in the 217-218 MHz and 219-220 MHz bands and the paired C and D Groups in the 216-217 MHz and 218-219 MHz bands. The 216-217 MHz band, however, was found to be unusable by high power AMTS coast stations close to television broadcast stations due to the potential for harmful interference to television reception, and in 1996 we designated this band for low power communications. *See* par. 120 *infra*. Further, the 218-219 MHz band was reallocated to the Interactive Video and Data Service (IVDS) in 1992. Thus, the C and D Groups are no longer assignable to AMTS coast stations.

[243] 47 C.F.R. § 80.385.

[244] 47 C.F.R. § 95.629.

[245] 47 C.F.R. § 80.475(a).

[246] 47 C.F.R. § 80.475(a)(1).

[247] 47 C.F.R. § 80.475(a)(2).

[248] 47 C.F.R. § 80.215(h).

114. As AMTS telecommunications services have become more popular, the need to rapidly construct new sites has increased. AMTS licensees such as Orion, however, feel that the present authorization process for new AMTS sites is burdensome and constitutes an unnecessary barrier to the provision of telecommunications services to the maritime community. For example, on March 5, 1996, Orion filed a Request for Advisory Opinion (Request) with the Commission concerning service to stations at remote fixed locations.[249] In its Request, Orion points out that Section 80.453(b) of the Commission's Rules, 47 C.F.R. § 80.453(b) provides that "public coast stations are authorized to communicate with a designated station at a remote fixed location where other communication facilities are not available."[250] Orion notes that it is aware of the existence of a number of remote fixed locations within the areas served by its AMTS stations at which other communication facilities are not available (*e.g.*, residences on islands, unattended petroleum platforms, and residences in isolated mountainous terrain).[251] Orion explains that providing wireline service to such locations would not be profitable and that such sites are sufficiently distant from other radio carriers that no other types of service is generally available.[252] In its Request, Orion asks the Commission to permit AMTS licensees to serve stations at remote fixed locations without requiring modification of their licenses.[253] Orion argues that requiring AMTS licensees to modify their licenses for each new station would constitute an unequal regulatory burden compared to those placed on competing CMRS providers.[254]

115. As described in Orion's Request, there may be instances where AMTS licensees could benefit from a more flexible authorization procedure, so long as such a policy does not result in harmful interference to television reception. Therefore, we tentatively conclude that AMTS licensees should be permitted to construct additional coast stations within their respective service areas, including fill-in sites and stations at remote fixed locations, with a minimum of regulatory burdens imposed by the Commission. We seek comment from the maritime and broadcasting communities concerning ways to streamline regulatory procedures for AMTS applicants while continuing to protect television reception.

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[249] *See* Request for Advisory Opinion from Dennis C. Brown representing Orion to Roger Noel, Private Wireless Division, Wireless Telecommunications Bureau, Federal Communications Commission (March 5, 1996).

[250] Request at 1.

[251] Request at 2.

[252] *Id*.

[253] Request at 3.

[254] *Id*.

(a) What percentage of existing AMTS transmitters have required broadcaster notification as described above? Has the placement of these transmitters resulted in harmful interference to television reception? If so, what steps have AMTS licensees taken to remedy such situations?

(b) As noted above, only those transmitters proposed to be located near a broadcast station or higher than 61 meters require an engineering study and broadcaster notification. These criteria were developed more than a decade ago based on technical characteristics of analog NTSC transmissions and "average" television receivers. Should the separation criteria be different for digital television stations?[255] Have analog television receivers improved sufficiently since that time such that the Commission should reevaluate these criteria? Will digital television receivers have different characteristics that we should account for? If so, we invite interested parties to submit technical data supporting their conclusions.

(c) What would be the advantages and/or disadvantages of developing technical limitations (*e.g.*, transmitter height, effective radiated power, and separation from broadcasters) to provide greater flexibility to AMTS licensees by allowing them to construct fill-in stations or stations at remote locations without notifying the Commission and/or nearby broadcasters prior to construction? What technical limitations would be appropriate, if any?

116. *Construction Flexibility in the AMTS*. AMTS public coast stations are licensed on a site-by-site basis and new stations must be placed in operation within eight months from the date of grant.[256] In order to be eligible for an AMTS authorization, however, an applicant must show how a system of individual AMTS stations will provide continuous coverage to a waterway. This approach results in the Commission granting authorizations for each AMTS station within a system on the same date, requiring the licensee to construct its entire system in eight months. To remedy this situation, AMTS licensees have often requested additional time, up to two years, in which to construct their systems.

117. Based on our experience authorizing AMTS systems, we tentatively conclude that the existing eight-month construction requirement does not generally provide sufficient time in which to construct a system of coast stations. Therefore, we propose to amend our Rules to require new AMTS systems (*i.e.* each station within the proposed system) to be placed in operation within two years of date of grant. We also propose that subsequently licensed stations

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[255] *See* Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, MM Docket No. 87-268, *Sixth Report and Order*, FCC 97-115 (released Apr. 21, 1997); Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, MM Docket No. 87-268, *Fifth Report and Order*, FCC 97-116 (released Apr. 21, 1997); Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, MM Docket No. 87-268, *Fourh Report and Order*, FCC 96-493 (released Dec. 27, 1996).

[256] 47 C.F.R. § 80.49.

that extend the geographic area served by an AMTS system be placed in operation within one year of date of grant, consistent with our treatment of other CMRS licensees. Under this approach, we would not impose construction requirements on fill-in sites, as they would not extend a system's service area or limit the ability of other applicants to use AMTS spectrum. We seek comment on these proposals and the following questions.

(a) The service area for each VHF public coast station (156-162 MHz) is clearly defined in Part 80 Subpart P of our Rules and may be used to determine whether or not a new station would extend a coast station's service area.[257] The Rules do not, however, specifically define a service area for AMTS public coast stations. What criteria should the Commission use to differentiate between fill-in stations and stations that extend an AMTS system? Similarly, what criteria should the Commission use to differentiate between applications proposing to extend an AMTS system and applications proposing a new AMTS system nearby? Commenters addressing this issue should provide technical information to support their conclusions.

(b) The one-year construction requirement proposed above may be appropriate in cases where a licensee is requesting a single station authorization to extend its AMTS system. What construction requirement would be appropriate for a licensee proposing to significantly extend its system by constructing multiple stations? Should the Commission consider such an application to be a new AMTS system?

118. *Technical Flexibility in the AMTS*. The Commission's rules set forth certain technical requirements governing the authorized power, emission types, and bandwidth of AMTS transmissions. In some cases, however, these technical requirements limit the kinds of technologies used by licensees and the types of services that may be offered to the maritime community. For example, AMTS coast stations are required to use FM radio equipment for all transmissions. This precludes the use of narrowband technologies such as amplitude compandored single sideband (ACSB), which is used in the immediately adjacent 220-222 MHz band.[258] On February 15, 1996, Orion filed a Request for Rule Waiver (ACSB Waiver Request) with the Commission to permit the use of ACSB emissions at eleven transmitter sites serving the Pacific Coast.[259] In its ACSB Waiver Request, Orion points out that alternative modulation technologies can be cheaper than 220 MHz band FM systems and provide increased security over FM systems.[260] Further, Orion notes that the greater communications capacity attained by employing

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[257] 47 C.F.R. Part 80 Subpart P - Standards for Computing Public Coast Station VHF Coverage.

[258] *See* Amendment of Part 90 of the Commission's Rules To Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR Docket No. 89-552, *Report and Order*, 6 FCC Rcd 2356 (1991) (*220 MHz Report and Order*).

[259] *See*ACSB Waiver Request from Dennis C. Brown representing Orion to Federal Communications Commission, Gettysburg Office (Feb. 21, 1996).

[260] *See* ACSB Waiver Request at 3-4.

more efficient modulation is essential for AMTS systems to compete with other CMRS providers such as cellular radio.[261]

119. The Wireless Telecommunications Bureau granted Orion's request for waiver contingent on the following conditions: (1) transmitting equipment must be type accepted by the Commission; (2) any channelization scheme may be used within the licensee's authorized AMTS channel group; (3) emissions must be attenuated at the band edges of each station's assigned channel group in accordance with 47 C.F.R. § 80.211 and shall not, under any circumstance, exceed the adjacent channel emission limitations of each station's original authorization; and (4) transmissions must otherwise meet the technical criteria set forth in 47 C.F.R. Part 80 Subpart E.[262] We tentatively conclude that permitting AMTS licensees to use alternative modulations and channel schemes in this manner will benefit the maritime public by increasing the number and types of telecommunications services available while promoting more efficient use of the maritime radio spectrum. Therefore, we propose to eliminate the modulation and channelization requirements for AMTS public coast stations, so long as transmissions do not exceed the adjacent channel emission limitations of each station's authorization. We also propose to amend the rules governing the output power measurement of AMTS coast stations to make them consistent with those governing VHF band (156-162 MHz) public coast stations.[263] This would permit measuring transmission power at the antenna input, eliminating the variable effect of transmission line losses and resulting in greater permissible power for AMTS coast stations. We seek comment on what effect, if any, these proposed changes would have on channel 10 and channel 13 television broadcast reception.

120. The proposals to increase technical flexibility discussed above pertain to high power AMTS operations licensed under Part 80 of the Rules. AMTS public coast stations, however, are also licensed by rule under the Low Power Radio Service (LPRS) in Part 95 of the Rules to transmit point-to-point network control communications.[264] Under the LPRS, AMTS licensees may use up to 100 mW transmitter effective radiated power in the 216.750-217 MHz band in order to better manage their systems of coast stations.[265] On August 19, 1996, Orion filed a

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[261] *See* ACSB Waiver Request at 3.

[262] *See* letter from Walter G. Boswell, Chief, Licensing Division, Wireless Telecommunications Bureau, Federal Communications Commission to Mr. Fred Daniel, Orion (Nov. 21, 1996).

[263] VHF public coast station power is specified as 50 watts measured at the input terminals of the station antenna, whereas AMTS station power is specified as 50 watts measured at the output of the transmitter. Thus, AMTS station power may be significantly reduced from the authorized 50 watts by transmission line losses.

[264] 47 C.F.R. § 95.1001.

[265] 47 C.F.R. §§ 95.629 and 95.1013.

Petition for Reconsideration (Petition) of the *Report and Order* in WT Docket No. 95-56,[266] asking the Commission to increase the power for AMTS stations under the LPRS to 1 watt.[267] Orion subsequently withdrew its Petition and requested that this matter instead be considered in this proceeding.[268]

121. In the *LPRS Report and Order*, the Commission decided to restrict power to 100 mW effective radiated power in order to minimize the potential for harmful interference to television channel 13 (210-216 MHz) reception as well as the United States Navy's SPASUR radar system (216.88-217.08 MHz).[269] Further, the Commission chose the minimum practical power level supported in the comments to the proceeding in order to promote channel reuse and reduce the potential for harmful interference among LPRS units. In its Petition, however, Orion argues that 1 watt is "the absolute lowest practical power output to support a feasible network control solution for AMTS systems."[270] Orion supports this conclusion by providing a sample link budget analysis showing that the current power limitation effectively prohibits LPRS communications among AMTS coast stations which are typically spaced 30 to 50 miles apart.[271]

122. Based on the information provided in Orion's Petition, we believe it would be appropriate to reexamine the LPRS power level for AMTS licensees. AMTS licensees are significantly different from the other entities[272] licensed by rule under the LPRS because they are already licensed under Part 80 of the Rules and their locations are fixed and known. This fact may allow for additional flexibility in setting power limits for AMTS licensees under the LPRS. Any power increase under the LPRS, however, would be contingent on an examination of the

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[266] *See* Amendment of the Commission's Rules Concerning Low Power Radio and Automated Maritime Telecommunications System Operations in the 216-217 MHz Band, WT Docket No. 95-56, *Report and Order*, 11 FCC Rcd 18517 (1996) ("*LPRS Report and Order*").

[267] Petition at 1. The *LPRS Report and Order* created and set forth the technical and operational specifications for stations in the LPRS.

[268] *See* letter from Mr. Fred Daniel, Orion Telecom, to the Secretary, Federal Communications Commission (December 10, 1996). Although the information contained in the Petition was filed well after the comment dates listed in the *Further Notice*, we believe the maritime community could benefit from such a discussion of increased flexibility for AMTS stations under the LPRS in the context of this proceeding.

[269] *LPRS Report and Order* at 11 FCC Rcd 18517.

[270] Petition at 2.

[271] Petition at 2.

[272] The LPRS consists of the following types of devices: (1) auditory assistance devices for persons with disabilities, (2) health care assistance devices, (3) law enforcement tracking systems under agreement with a law enforcement agency, and (4) AMTS point-to-point network control transmitters. Except for AMTS licensees, entities licensed by rule under the LPRS are not required to have an FCC license and are generally private individuals operating intermittently for short periods, sometimes on a mobile basis.

potential negative affects to television reception, U.S. government systems, and other LPRS units. Rather than proposing a new power limit based on the analysis provided by Orion, we seek comment on the advantages and/or disadvantages of increasing AMTS transmitter power under the LPRS. We ask that commenters consider the factors mentioned above and provide technical data supporting their conclusions.

D. Competitive bidding procedures for the public coast service

123. In the *CMRS Second Report and Order*, the Commission classified the public coast service, including the VHF public coast stations, high seas public coast stations, and AMTS public coast stations discussed above, as a Commercial Mobile Radio Service (CMRS).[273] Subsequently, in the *Competitive Bidding Second Report and Order*, the Commission determined that mutually exclusive applications for public coast station licenses may be resolved through competitive bidding.[274] The Commission adopted general competitive bidding rules for all auctionable services in the *Competitive Bidding Second Report and Order*, stating that it would "issue further reports and orders . . . to adopt auction rules for each auctionable service or class of service."[275]

124. We recently adopted an *Order and Notice of Proposed Rule Making* to streamline auction procedures as well as propose competitive bidding rules that will generally apply to all auctionable services, including the public coast service.[276] In that proceeding, we amended the general competitive bidding rules governing auction methodology and procedures to reflect changes made to the auction process through service-specific rules. In addition, we proposed a range of special provisions for designated entities that we can choose from in establishing rules on a service-specific basis. Based on the record established in that proceeding, we will prescribe competitive bidding rules and designated entity provisions that will govern the public coast service.[277]

125. *Small Business*. At this time, however, we seek comment regarding the

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[273] *See CMRS Second Report and Order*; 9 FCC Rcd at 1411;47 C.F.R. § 20.9(a)(5).

[274] *See* Implementation of Section 309(j) of the Communications Act - Competitive Bidding, *Second Report and Order*, PP Docket No. 93-253, 9 FCC Rcd 2348 (1994) (*Competitive Bidding Second Report and Order*); 47 C.F.R. § 1.2102(a)(2) (citing 47 C.F.R. Part 80, Subpart J).

[275] *Competitive Bidding Second Report and Order* at 9 FCC Rcd 2348, 2360 par. 68 (1994).

[276] Amendment of the Commission's Competitive Bidding Rules, WT Docket No. 97-82, *Order and Notice of Proposed Rule Making*, FCC 97-60 (released Feb. 28, 1997) (*Part 1 NPRM*).

[277] The Commission makes no representations or warranties about the use of this spectrum for particular services. Applicants should be aware that an FCC auction represents an opportunity to become an FCC licensee in this service, subject to certain conditions and regulations. An FCC auction does not constitute an endorsement by the FCC of any particular services, technologies or products, nor does an FCC license constitute a guarantee of business success. Applicants should perform their individual due diligence before proceeding as they would with any new business venture.

establishment of a "small business" definition for the public coast service. In the *Second Memorandum Opinion and Order* in the competitive bidding docket, we indicated that we would establish definitions for "small business" on a service-by-service basis.[278] For example, the Commission adopted a $40 million small business definition for both narrowband and broadband PCS,[279] and the Multipoint Distribution Service (MDS).[280] For the 900 MHz SMR Service and the 800 MHz SMR Service, however, the Commission has adopted a two-tiered approach to the definition of small business: "small" businesses (the applicant, together with attributable investors and affiliates, has average gross revenues for the three preceding years of $15 million or less) and "very small" businesses (the applicant, including attributable investors and affiliates, must have average gross revenues for the three preceding years of $3 million or less).[281] We seek comment on whether we should apply one of the existing "small business" definitions to public coast stations, or whether we should adopt a new definition. Commenters should also discuss the level of capital commitment that is likely to be required to purchase VHF public coast regional licenses, high seas public coast station licenses, and AMTS licenses at auction and create a viable business. Our goal, should we adopt a definition and associated special provision(s) for small businesses, will be to ensure the participation of small businesses in the auction and in the provision of service.

126. We note that small business provisions offered in other services include installment payment plans and bidding credits. We seek comment on what small business provisions should be offered to public coast small business licensees and what terms should be offered. In other services we also adopted different attribution rules for purposes of determining small business status. We tentatively conclude that, for purposes of determining small business status of public coast applicants, we will attribute the gross revenues of all the applicants' affiliates, its controlling principals and their affiliates. We seek comment on this tentative conclusion. In addition, we tentatively conclude that our definition of affiliate in the public coast context should include an exception for Indian tribes, Alaska Region, or Village Corporations.[282]

127. We also seek comment on whether small business provisions are sufficient to promote participation by businesses owned by minorities and women and rural telephone companies. To the extent that commenters propose additional provisions to ensure participation

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[278] Implementation of Section 309(j) of the Communications Act - Competitive Bidding, PP Docket No. 93-253, *Second Memorandum Opinion and Order*, 9 FCC 7245, 7268-69 (1994).

[279] Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, PP Docket No. 93-253, *Third Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 10 FCC Rcd 175, 196 (1995); *Competitive Bidding Fifth R&O*, 9 FCC Rcd at 5581-5584.

[280] *MDS Report and Order*, 10 FCC Rcd at 9671-72.

[281] *SMR Order*, 11 FCC Rcd 2639, 2075-77 (1996).

[282] *Part 1 NPRM* at ¶ 29.

by minority and women-owned businesses, we also invite them to address how such provisions should be crafted to meet the relevant standards of judicial review.[283]

E. Intra-service sharing of the medium and high frequency bands

128. *Proposal*. In the *Further Notice*, we stated that the number of public coast stations operating in the MF band (2-4 MHz) has decreased by 25% since 1989, while private coast stations are experiencing congestion in the MF band. Therefore, we proposed to redistribute MF marine frequencies by permitting MF private coast stations to obtain unassigned public coast station frequency pairs in the 2 MHz band for non-CMRS operations.[284] Under this proposal, MF private coast stations would not have exclusive use of the frequency pairs, but would be required to share the pairs with other private coast stations.

129. *Comments*. The Coast Guard, MMR, Globe Wireless, and RTCM support the use of unassigned 2 MHz band public correspondence frequencies by private coast stations.[285] These commenters agree that there are a sufficient number of unassigned public correspondence frequencies in the 2 MHz band for sharing without limiting future public coast station operations. MMR argues, however, that private coast stations using public correspondence frequencies should be required to maintain a safety watch, consistent with our requirements for MF public coast stations.[286] Further, MariTEL supports the sharing proposal and urges us to encourage public and private coast stations to share channels on a regional basis.[287]

130. *Discussion*. We tentatively conclude that permitting private coast stations to share MF public correspondence frequencies would promote the more efficient use of maritime spectrum and reduce congestion in the MF band for private coast station licensees. Public coast stations are presently allotted twenty-four frequencies in the 2 MHz band while there are only three frequencies in this band available to private coast stations.[288] The number of public coast stations operating in the 2 MHz band, however, has decreased twenty-five percent since 1989, while private coast stations operating in this band have experienced a marked increase in congestion on

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[283] *See Adarand Constructors v. Pena*, 115 S.Ct. 2097 (1995), and *United States v. Virginia*, 116 S.Ct. 2264 (1996).

[284] *Further Notice*, 10 FCC Rcd at 5730. Frequencies in the 2 MHz band are listed in 47 C.F.R. § 80.371(a).

[285] Coast Guard Comments at 4; MMR Comments at 17; Globe Wireless Comments at 3; RTCM Comments at 6.

[286] MMR Comments at 17. 47 C.F.R. § 80.301(b) requires public coast stations licensed in the 2 MHz band to monitor their working frequencies or, at the licensees discretion, to maintain a watch on 2182 kHz.

[287] MariTEL Comments at 7-8.

[288] 47 C.F.R. §§ 80.371 and 80.373.

their shared frequencies.[289] Moreover, an analysis of our licensing database indicates that there are presently five unassigned MF public coast frequencies on the east coast, five on the west coast, five on the gulf coast, and two in Alaska.[290] Further, the Coast Guard and the public coast stations commenting on this issue support the proposed sharing. Thus, it seems reasonable to make this unused spectrum available to private coast stations.

131. In light of our proposal to eliminate the channel loading requirements for high seas coast stations and the fundamental differences between CMRS and private-use frequencies, however, we seek further comment from the maritime community regarding the procedures which would govern such a sharing arrangement. Specifically, MF public correspondence channels are presently assigned to public coast stations for CMRS operations on an exclusive basis in a geographic region. In contrast, MF band private channels are available for shared use among all private coast stations. Further, unlike public coast stations, private coast stations may not act as common carriers and are not required to maintain a safety watch on the international distress frequency. We seek comment on the following questions.

(a) What are the advantages and/or disadvantages of designating one or more of the unused public correspondence channels for shared use by private coast stations? Should we require that a minimum number of private coast stations be licensed on a frequency before permitting licensing on an additional frequency? If so, what should this minimum number be? Should private coast stations using public correspondence frequencies be required to maintain a safety watch consistent with Section 80.301(b) of our rules?

(b) Should we expand this proposal to all of the MF and HF bands below 27.5 MHz? We realize that in many of the frequency bands, such as the 4 MHz band, there are few, if any, available public coast station frequencies. Setting forth procedures for sharing all MF and HF frequencies at this point, however, would expedite sharing in the event that frequencies become available.

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[289] *Inquiry*, 7 FCC Rcd at 7867.

[290] Unassigned public coast frequencies are: On the east coast 2450 kHz, 2482 kHz, 2522 kHz, 2538 kHz, and 2590 kHz; On the west coast 2450 kHz, 2482 kHz, 2466 kHz, 2522 kHz, and 2598 kHz; On the gulf coast 2450 kHz, 2482 kHz, 2466 kHz, 2538 kHz, and 2598 kHz; and in Alaska 2309 kHz and 2312 kHz. *See* 47 C.F.R. § 80.371 for a complete list of 2 MHz band public coast station frequencies.

V. PROCEDURAL MATTERS

A. Suspension of Acceptance and Processing of Applications

132. In light of our actions described above, and effective June 17, 1997, we will temporarily suspend acceptance of public coast station applications to use VHF spectrum (156-162 MHz) and PLMR applications proposing to share that spectrum for new licenses, amendments to such new license applications, applications to modify existing licenses, and amendments thereto, except as provided in paragraph 133. This suspension is effective until March 17, 1998, and applies to such applications received on or after June 17, 1997. Any such applications received on or after June 17, 1997, will be returned as unacceptable for filing. It is our intention to adopt final rules for Maritime services as rapidly as practical and before the suspension expires. In our Third Report and Order we will address our schedule for accepting new applications.[291] We take this action to permit the orderly and effective resolution of the issues in this proceeding. Absent this action, applications for new licenses and amendments to existing licenses might limit the effectiveness of the decisions made in this proceeding. This action is consistent with the general approach we have taken in other existing services in which we have proposed to adopt geographic area licensing and auction rules.[292] We therefore find that this temporary measure is in the public interest. This action has no effect on public coast station applications to use high seas and AMTS spectrum (.100-.160 MHz, .405-.525 MHz, 2-27.5 MHz, and 216-220 MHz), which we will continue to accept and process under existing procedures.

133. Nothwithstanding the temporary suspension of public coast station applications to use VHF spectrum (156-162 MHz) and PLMR applications proposing to share that spectrum, we will continue to accept and process such applications involving renewals, transfers, assignments, and modifications that do not propose to: (1) expand a station's service area, or (2) obtain additional public coast VHF band spectrum (156-162 MHz). This exception should permit modifications that can improve the efficiency of incumbent operations without affecting the effective and orderly resolution of the issues in this proceeding.

134. With respect to public coast station applications to use VHF spectrum (156-162 MHz) which were filed prior to June 17, 1997, and which are pending, we will process such applications provided that (1) they are not mutually exclusive with other applications as of the deadline stated above, and (2) the relevant period for filing competing applications has expired as of the deadline stated above. With respect to PLMR applications to use VHF public coast station spectrum which were filed prior to June 17, 1997, and which are pending, we will process such applications provided that they are not mutually exclusive with other applications as of the

[291] We also reserve the right to extend the suspension if we have not adopted final rules by the end of the suspension period.

[292] *See, e.g., Paging Systems Notice* at ¶ 139 & n.270.

deadline stated above. We believe that this approach gives the appropriate consideration to those applicants who filed applications prior to our proposed changes and whose applications are not subject to competing applications. Applications to use VHF spectrum (156-162 MHz) filed prior to June 17, 1997, not meeting the above criteria will be held in abeyance until the conclusion of this proceeding. We will determine later, in accordance with such new rules as are adopted, whether to process or return any such pending applications.

135. These decisions are procedural in nature and therefore not subject to the notice and comment and effective date requirements of the Administrative Procedure Act.[293] Moreover, there is good cause for proceeding in this manner: to do otherwise would be impractical, unnecessary, and contrary to the public interest because compliance would undercut the purposes of these interim measures.[294]

B. Regulatory Flexibility Act

136. Appendix B contains a Final Regulatory Flexibility Analysis with respect to the *Second Report and Order* and an Initial Regulatory Flexibility Analysis with respect to the *Second Further Notice of Proposed Rule Making*. As required by Section 603 of the Regulatory Flexibility Act, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the expected impact on small entities of the proposals suggested in this document. Written public comments are requested on the IRFA. We also seek comment on the number of entities affected by the proposed rules that are small businesses, and request that commenters identify whether they themselves are small businesses. These comments must be filed in accordance with the same filing deadlines as comments on the rest of the *Second Further Notice of Proposed Rule Making*, but they must have a separate and distinct heading designating them as responses to the Initial Regulatory Flexibility Analysis. The Secretary shall send a copy of this *Second Report and Order* and *Second Further Notice of Proposed Rule Making*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with paragraph 603(a) of the Regulatory Flexibility Act. Pub. L. No. 96-354, 94 Stat. 1164, 5 U.S.C. § 601 *et. seq*. (1981).

C. Ex Parte Rules -- Non-Restricted Proceeding

137. This is a non-restricted 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 1.1206(a).

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[293] *See* 5 U.S.C. §§ 553(b)(A), (d); *Kessler v. FCC*, 326 F.2d 673 (D.C. Cir. 1963).

[294] *See* 5 U.S.C. §§ 553(b)(B), (d)(3).

D. Initial Paperwork Reduction Act of 1995 Analysis

138. This *Second Report and Order and Second Further Notice of Proposed Rule Making* does not contain either a proposed or modified information collection.

E. Comment Dates

139. Pursuant to applicable procedures set forth in 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 August 25, 1997, and reply comments on or before September 9, 1997. To file formally in this proceeding, you must file an original and four copies of all comments, reply comments, and supporting comments. If you want each Commissioner to receive a personal copy of your comments, you must file an original plus nine copies. You should send comments and reply comments to the Office of the Secretary, Federal Communications Commission, Washington, D.C. 20554. You may also file informal comments by electronic mail. You should address informal comments to mayday@fcc.gov. You must put the docket number of this proceeding on the subject line ("PR Docket No. 92-257"). You must also include your full name and Postal Service mailing address in the text of the message. Formal and informal 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 239, 1919 M Street, N.W., Washington, D.C. 20554.

F. Ordering Clauses

140. Authority for issuance of this *Second Report and Order and Second Further Notice of Proposed Rule Making* is contained in Sections 4(i), 4(j), 7(a), 302, 303(b), 303(f), 303(g), 303(r), 307(e), 332(a), and 332(c) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 157(a), 303(b), 303(f), 303(g), 303(r), 307(e), 332(a), and 332(c).

141. Accordingly, IT IS ORDERED that Parts 0, 2, 80, and 87 of the Commission's Rules, 47 C.F.R. Parts 0, 2, 80, and 87, ARE AMENDED as specified in Appendix E.

142. IT IS FURTHER ORDERED that, except for the temporary suspension set forth in paragraph 143, this *Second Report and Order and Second Further Notice of Proposed Rule Making* will be effective 30 days after publication in the Federal Register.

143. IT IS FURTHER ORDERED that, effective June 17, 1997, NO NEW APPLICATIONS TO USE PUBLIC COAST STATION SPECTRUM UNDER PARTS 80 OR 90 WILL BE ACCEPTED FOR FILING in the 156-162 MHz band, except applications that do not propose to: (1) expand a station's service area, or (2) obtain additional public coast spectrum frequencies.

144. IT IS FURTHER ORDERED that pending applications to use public coast station spectrum under Parts 80 or 90 in the 156-162 MHz band WILL BE PROCESSED provided that (1) they are not mutually exclusive with other applications as of June 17, 1997, and (2) the relevant period for filing competing applications has expired as of the date of adoption of this *Second Report and Order and Second Further Notice of Proposed Rule Making*. Pending applications to use public coast station spectrum under Parts 80 or 90 in the 156-162 MHz band not meeting the above criteria WILL BE HELD IN ABEYANCE until the conclusion of this proceeding. We will determine later, in accordance with such new rules as are adopted, whether to process or return any such pending applications.

145. The interim measures described in paragraph 143 will continue until March 17, 1998. This action is authorized under Sections 4(i), 4(j), and 303(r) of the Communication's Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), and 303(r).

G. Contacts for Information

146. For further information, contact Scot Stone, Roger Noel, or Ira Keltz of the Wireless Telecommunications Bureau, Public Safety and Private Wireless Division, Policy and Rules Branch at (202) 418-0680 or via E-Mail to "mayday@fcc.gov".

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary