

FOOD MAIL SECTION

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

PR Docket No. 92-257

In the Matter of

Amendment of the Commission's Rules Concerning Maritime Communications
RM-7956
RM-8031

**NOTICE OF PROPOSED RULE MAKING
AND NOTICE OF INQUIRY**

Adopted: November 5, 1992; Released: November 30, 1992

Comment Date: January 21, 1993
Reply Comment Date: February 5, 1993

By the Commission:

I. INTRODUCTION

1. By this Notice of Proposed Rule Making and Notice of Inquiry (Notice), we begin a proceeding to thoroughly review present requirements and future trends concerning maritime communications. We are proposing rules herein to reclassify public coast stations as non-dominant common carriers¹ and to allow private land mobile entities to share certain maritime frequencies.² We seek information that will assist us in formulating rules and regulatory policies for the maritime services that will increase safety, promote flexibility, reduce congestion, and remove unnecessary impediments to the economic well-being of the maritime industry. This Notice is the initial step in our efforts to develop an overall strategy to bring state-of-the-art communications capabilities to the maritime radio services.³

II. BACKGROUND

2. The maritime community has been a pioneer in the use of radio. As early as 1900, radios, then known as "wirelesses," were being installed aboard ships to receive storm warnings transmitted from stations on land. In 1906 the first international radiotelegraphy conference was held. This conference laid the basis for the development of radio communications at sea. Four years later, the Wireless Ship Act of 1910⁴ was adopted giving the Secretary of Commerce and Labor the power to make regulations to require wireless equipment on passenger vessels. This was the beginning

of radio regulation in the United States. Since then there have been numerous changes in the maritime communications services and operating practices.

3. Many of the changes can be directly attributed to maritime disasters. The classic example is the sinking of the Titanic which ultimately led to the adoption of the first International Convention for the Safety of Life at Sea (Safety Convention).⁵ The Safety Convention required certain ships to be equipped with a radio installation (radiotelegraph) and to maintain a continuous radio listening watch. The Vessel Bridge-to-Bridge Radiotelephone Act of 1971 (Bridge-to-Bridge Act)⁶ is another example of legislation resulting from a maritime accident, in this case the Andrea Doria-Stockholm disaster. This Act required certain ships to have a VHF radio monitoring channel 13 located on the navigational bridge to communicate with passing vessels.

4. Other changes in the rules governing maritime communications can be attributed to advances in technology. For example, the first marine radios operated in the low frequency (LF) band. Because of their size and the fact that they required the operator to be able to transmit and receive manual Morse code, radio installations were generally employed only on larger oceangoing ships. With the development of radiotelephony, other ships started to equip with radio. As technology advanced, frequencies in the MF and VHF bands were made available for maritime use, further increasing the use of radio aboard ships. It was not until the introduction of transistorized equipment in the 1950s, however, that recreational boaters started to employ radio to any great extent. As advances in technology continued to reduce the size and cost of radio equipment and the benefits of radio became better known, more and more of the maritime community installed radios.

5. It has been over 90 years since radio was first used aboard ship. Today, there are approximately 635,000 maritime radio service licensees. Further, while marine radio is still used extensively for safety, it has now become an integral part of almost every facet of maritime operations. For example, the maritime radio services provide a wide range of communication services to vessels operating in international waters, coastal areas and inland lakes and waterways. Such uses include ordering ships' stores, inquiring about berthing facilities, making personal and business telephone calls, changing schedules, in short, providing a means of communications for the day-to-day activities of a multi-billion dollar industry as well as providing the critical safety link for the protection of lives and property at sea.

III. DISCUSSION

6. For regulatory purposes two distinct categories of ship radio stations have developed over the years in the maritime services. One category is comprised of radio stations required to be carried on ships subject to the Safety Convention, the Communications Act of 1934 (Communica-

¹ This responds to a petition filed by Marine Mobile Radio and Waterway Communications Systems, Inc. See notes 44, 45 and 61, *infra*.

² Our sharing proposal responds to a petition (RM-7956) filed by the Council of Independent Communication Suppliers. See note 62, *infra*.

³ This proceeding does not address the rules concerning com-

pulsory ships and the mobile satellite service. See 47 C.F.R. § 80.5.

⁴ Pub. L. No. 262, 36 Stat. 629 (1910).

⁵ Current 1974 Convention, entered into force May 25, 1980, 32 U.S.T. 47, T.I.A.S. 9700, superseded 1960 and 1948 Conventions.

⁶ 33 U.S.C. §§ 1201-1208 (1971).

tions Act),⁷ the Agreement between the United States of America and Canada for the Promotion of Safety on the Great Lakes by Means of Radio, 1973 (Great Lakes Agreement),⁸ the Bridge-to-Bridge Act and U.S. Coast Guard rules.⁹ These ships are required to carry specific radio equipment and to be capable of operating on frequencies designated for safety purposes and are termed "compulsory" ships. The second category covers all other vessels and all other radio communications capabilities.¹⁰ These vessels are often referred to as "non-compulsory" ships and represent by far the largest group of the Commission's marine radio licensees.

7. As with ship stations, there are two major categories of land stations in the maritime radio service, public and private coast stations. A private coast station cannot offer public correspondence services, but can serve the operational and business needs of ships. Public coast stations are common carriers and offer interconnected public correspondence telecommunications and data services to ship stations.¹¹

8. The rules governing compulsory ships were recently revised with the implementation of the Global Maritime Distress and Safety System (GMDSS).¹² The GMDSS, the result of over ten years of work by the world's maritime nations, is an automated ship-to-shore distress alerting system that relies on satellite and advanced terrestrial systems that will be phased in during the 1992-1999 time period. Accordingly, there is no need to review the rules and policies governing compulsory ships.

9. On the other hand, the technical requirements and operating practices for non-compulsory ships and associated coast stations have been essentially unchanged for many years. In the past we have handled problems on a

case-by-case basis.¹³ Lately, however, the number and complexity of problems in this area has been growing. For example, we have witnessed a dramatic increase in congestion in certain areas.¹⁴ Frequency congestion can create serious problems for boaters in emergency situations as safety related communications require a clear channel.¹⁵ Another concern is the slow growth and, in some cases, decline in public coast station facilities when mobile communications traffic in general is dramatically increasing. We are also concerned about the policy and safety implications of non-compulsory ships using general communications systems, such as cellular radios, in lieu of marine radios.¹⁶

10. The communications problems encountered by non-compulsory ships in the maritime services are the result of a number of factors. For example, we have seen a tremendous growth in mobile communications technology in the last ten years enabling manufacturers to reduce the size and cost of radio equipment. This has led to increased use and ultimately congestion. At the same time the current regulatory structure may have hampered the maritime community from taking advantage of many of the new technologies that could reduce congestion. Another factor influencing congestion has been the public's growing interest in mobile communications in general. The number of mobile radios installed in cars, for example, has increased dramatically since the 1970s.¹⁷ This demand for mobile communications has carried over to the maritime area. More and more vessels now are being equipped with radio, adding to the congestion problem.¹⁸ Longstanding operational practices may also make it difficult for the maritime services to compete with other radio services. For example, to make a telephone call in the maritime services

⁷ 47 U.S.C. §§ 151-713 (1934).

⁸ 25 U.S.T. 939, T.I.A.S. 7837.

⁹ United States Coast Guard, Department of Transportation, 33 C.F.R. I (Parts 1-199), 46 C.F.R. I (Parts 1-199), III (Parts 400-499); 49 C.F.R. IV (Parts 400-499).

¹⁰ The carriage of such "voluntary" equipment is not limited to "voluntary" ships. For example, a ship required to carry a radiotelephone installation for compliance with the Communications Act may also carry a satellite station to conduct business or personal communications. For the purposes of this Notice we will use "voluntary" to mean any ship or boat that is not required by law, international agreement or rule to carry a radio station on board.

¹¹ Another type of common carrier service is provided by an automated maritime telecommunications system (AMTS). An AMTS is an automatic, integrated and interconnected maritime communications system serving ship stations. The AMTS provides voice and data public correspondence service to the maritime community similar to that provided by landline telephone systems on specific frequencies allotted to the AMTS. Calls may be placed to, from or between vessels on a direct dial basis, without operator intervention. The system will accommodate facsimile and data as well as voice communications. Currently, there is only one AMTS in operation. This system operates along the Mississippi, Illinois and Ohio Rivers, providing service primarily to the tug and towboat industry from New Orleans to Minneapolis/St. Paul, Chicago and Pittsburgh, and along the Gulf Intracoastal Waterway from the Texas/Mexican border to the Florida panhandle.

¹² See *Report and Order*, PR Docket No. 90-480, 7 FCC Rcd 951 (1992).

¹³ See e.g., *In the Matter of Amendment of the Maritime Service Rules to permit both commercial and non commercial on VHF channels 67 and 72 in the Puget Sound area*, *Report and Order*, 6

FCC Rcd 506 (1991), *In the Matter of Amendment of Part 80 of the Commission's Rules to permit the use of fax and data emissions on marine public correspondence channels in the 156-162 MHz band*, *Notice of Proposed Rule Making*, 6 FCC Rcd 5991 (1991), and *In the Matter of Temporary Waiver of the Maritime Services Rules (Part 80) to Permit the use of VHF Maritime Channel 9 as a Secondary Calling Channel in the First Coast Guard District*, *Order*, 7 FCC Rcd 1664 (1992).

¹⁴ In a recent study conducted by the Commission's Boston field office there were as many as 911 transmissions per hour on marine VHF channel 16. See FY-88 Boston Marine Safety Project Report (Jan. 26, 1988).

¹⁵ The Commission recently adopted a Report and Order permitting the use of an alternative calling channel by recreational boaters in large part to relieve congestion on channel 16. See *Report and Order*, 7 FCC Rcd 1664 (1992).

¹⁶ The Coast Guard permits certain fishing vessels required to carry radio equipment for safety purposes to equip with a cellular radio in lieu of other radio equipment. See 46 C.F.R. § 28.245(d). There are, however, no specific standards in the common carrier radio services pertaining to radio coverage or the use of cellular radios for distress and safety communications.

¹⁷ The Cellular Telecommunications Industry Association estimates that there are approximately 7.6 million cellular subscribers. The Commission's Common Carrier Bureau estimates that there were approximately 100,000 mobile telephone subscribers before cellular radio was available.

¹⁸ In the past 15 years the number of voluntary ship stations licensed by the Commission has increased from 225,000 to over 635,000. Anecdotal estimates from the marine industry indicate that when unlicensed equipment is included there may be over one million VHF ship stations on recreational boats.

the caller must contact a marine operator who takes certain information and then manually interconnects the caller into the public switched telephone network (PSTN). Automatic interconnection with the PSTN is common in other radio services such as the cellular radio service.

11. We believe it is both necessary and timely to commence a thorough review of the rules and policies governing non-compulsory ships and associated public and private coast stations. The primary objective of this Notice is to compile a full record that will allow us to develop a regulatory environment for non-compulsory ships and marine coast stations that will provide users the flexibility to take advantage of current and future technologies and will maximize the capabilities available in the maritime radio services. To help us better ascertain maritime needs, specific categories for comment are discussed. We are also making several proposals herein in response to three petitions filed.

A. Inquiry

Telecommunications Requirements

12. In order to develop an overall strategy it is first necessary to ascertain anticipated maritime telecommunications requirements. Therefore, we request comments in the following areas:

- a) What new or additional mobile telecommunication requirements of the boating community will arise over the next ten to fifteen years? (Be as specific or detailed as possible).
- b) How will these requirements impact the need for telecommunications capacity and capability? If an increase in capacity/capability is needed, how best might this be provided? (e.g., spectrum allocation, advanced technologies, or operational procedures).
- c) Will some of these requirements be satisfied through other services such as cellular or possibly personal communications services (PCSs)? Which requirements would be satisfied only through services specifically designed for maritime use? Why?

Technology

13. One way to increase communications capability is through the use of technology. Over the past fifteen years several technologies have been or are being developed for commercial application that could increase spectrum efficiency in the maritime services thereby reducing some of the current congestion problems. Examples of such technologies, including narrowband,¹⁹ trunking and digital selective calling, are discussed below. We also solicit comments on other technologies that would improve spectrum efficiency and on technical rules that are outdated, serve no useful purpose or reduce spectrum efficiency. In considering what part new technology will play, commenters should take into consideration the present maritime com-

munications environment – tens of thousands of existing users, mostly recreational boaters, sharing a limited number of channels, need for compatibility, and the requirement for vessels to monitor certain channels for safety reasons.

14. **Trunking.** Under the current rules, one or more channels are assigned to a coast station, and the user manually selects the channel to be used for each transmission. This "conventional" mode of operation can result in some channels remaining unused while other channels are unavailable or are used heavily. Trunking is computerized technology that permits groups of channels to be shared dynamically by many users, resulting in more efficient use of the spectrum. When an end user wants a channel, a computer controlled trunking system selects an unused channel from among those allocated to the system and assigns it to the end user.

- a) Current rules do not specifically address trunking on the maritime frequencies. Should we promote trunking on these frequencies?²⁰
- b) Are there presently enough frequencies available to coast stations to make trunking feasible, or would additional channels need to be made available?
- c) If trunking is permitted on maritime frequencies, should there be a mandated trunking standard to ensure that all marine radios that are designed to use trunking will work with all coast stations regardless of geographic area and, if so, what should that standard be?

15. **Digital Selective Calling (DSC).** Briefly, DSC is the transmission of digital information, much like a telephone number, on MF, HF and VHF radio frequencies specifically designated for DSC calls.²¹ DSC frequencies are used as gateway channels to automatically establish contact between marine radio stations for distress calls and routine operational communications.²² Because the DSC call is automatically routed and signals when a communications link is established it is very easy to use. Additionally, DSC can be used to interconnect to the public switched telephone network. Presently, most radio contact is established by making a voice call and relying on an aural watch by the called party to hear the call. The advantages of DSC include faster alerting capabilities, automatic transmission of information, such as the nature of a distress situation, and the identity and location of the caller. Further, in a non-distress situation, DSC minimizes the connect time necessary to place a call and increases spectrum efficiency. The Coast Guard submitted a Petition for Rule Making (Petition) dated June 23, 1992, RM-8031, requesting that the FCC require that all marine MF, HF and VHF transmitters sold in the United States after February 1, 1997, have at least a minimum DSC signalling capability.²³ The Coast Guard's suggested minimum requirements for DSC capability are listed in a matrix attached as Appendix C.

¹⁹ Narrowband technology is addressed under the section discussing spectrum. See paragraphs 27-30.

²⁰ Under the present U.S. maritime frequency scheme only public coast stations are assigned frequency pairs. Private coast stations are assigned single frequencies.

²¹ DSC radios are required to be carried as part of the

GMDSS.

²² The technical and operational characteristics of this system are contained in CCIR Recommendations 493 and 541, respectively.

²³ See Coast Guard Petition at 1.

16. The Coast Guard notes that in 1999 all vessels subject to the GMDSS amendments to the Safety Convention will be required to be equipped with transmitters with DSC capability and that it will no longer be possible to contact these "Convention" ships on the present calling channels.²⁴ The Coast Guard is concerned that when Convention ships and non-Convention ships operate in the same waters, a common occurrence, that such vessels will not be able to communicate effectively with one another particularly in closing situations.²⁵ The Commission received 6 comments in response to the Coast Guard Petition.²⁶ SEA and NECODE oppose certain technical aspects contained in the Petition. KLC opposes the Petition because it believes that the Commission's Rules are already sufficient to address the issues proposed by the Coast Guard. NMEA, an association representing marine electronics manufacturers, supports the Petition. Radio Holland, a representative of a DSC equipment manufacturer, states that the CCIR should be asked its opinion.

17. Of the 6 commenters 5 supported the concept raised in the Petition that DSC is an advantage to increase safety. Additionally, there may be other advantages to proposing rules as requested by the Coast Guard that are not directly related to safety and were not addressed in the comments. For example, public coast stations generally do not offer automatic telephone service. As a result most telephone calls are made manually from ship-to-shore using the assistance of a marine operator. It is very difficult to make a telephone call from shore-to-ship through most public coast stations. DSC may offer public coast stations a means to automate their operation.²⁷ Further, DSC offers enhanced spectrum efficiency for marine radio users operating in areas where there is little or no international traffic, the Mississippi River for example. DSC users will immediately know whether a call is completed and will not have to make several voice calls to establish contact.

18. The Coast Guard Petition raises potential safety questions that may occur in 1999 and we believe those concerns should be addressed in a Notice of Proposed Rule Making. Before we propose such rules, however, we wish to compile a complete record on how to best address the safety concerns of the Coast Guard and to avoid onerous regulation. Therefore, we are seeking specific comment from equipment manufacturers, public coast station operators, especially those with experience with DSC, fleet operators and the marine public regarding the Coast Guard Petition and the following questions:

a) Should we propose rules that require a minimum DSC capability for all marine radios? If so, should we require DSC to be an integral part of marine radios or should we permit add-on devices to give DSC capability to existing marine radios?

b) It appears that mandating that all marine radios have at least a minimum DSC requirement will increase the price of marine radio equipment. What will the price increase be for radios that have DSC as an integral part? As an add-on device? Will such a price increase prevent boat owners from purchasing a radio?

c) If we do not require some DSC capability, what will be the effect on boaters who rely on the Coast Guard to respond to distress calls? Implicit in the Coast Guard Petition is that there will be a reduced watch on marine VHF channel 16 by Coast Guard stations after 1999.

d) Section 80.207(a)(4) of the Commission's Rules, 47 C.F.R. § 80.207(a)(4), permits the use of selective calling equipment, other than DSC, for a period of 3 years after the Commission authorizes DSC as the only selective calling technique permitted in the maritime service. Should the Commission declare DSC as the only selective calling technique permitted to be used?

e) Should we consider the optional use of DSC on VHF channels other than marine VHF channel 70 (156.525 MHz)?

f) The Coast Guard's proposed matrix is for minimum capability and, for example, does not require DSC radios to be capable of automatically making interconnected phone calls. Should we require such capability?²⁸ Is the matrix sufficient as listed or should we modify the minimum requirements?

19. **Narrow-Band Direct-Printing (NBDP).** Narrow-band direct-printing is a form of telegraphy for the transmission and receipt of data communications. The Commission's Rules currently restrict the data modulation rate for NBDP to 100 baud.²⁹ We have received inquiries from coast station operators concerning new equipment that is capable of higher data rates as well as the 100 baud rate. By using higher data rates more information can be transmitted in a shorter period of time, thereby reducing the time any particular NBDP channel is used. The modulation rate of 100 baud, however, may be essential for effective long distance communications because of error rates and to ensure interoperability.

a) Should the Commission allow higher data rates, and if so, what rates if any should be specified?

b) Should we specify that such equipment must automatically revert to 100 baud when interrogated in order to ensure system compatibility?

²⁴ Under the current system ships stand watch on the international radiotelephone distress and calling frequencies 156.8 MHz (marine VHF channel 16) and 2182 kHz.

²⁵ For example, barges and tug boats operating in harbors are not subject to the Safety Convention and will not be required to equip with DSC. Additionally, pleasure boats operating in coastal waters will not be required to equip with DSC.

²⁶ Commenters are Necode Electronics (Necode), SEA, Inc. (SEA), Radio KLC, Inc. (KLC), OWA Inc. (OWA), National Marine Electronics Association (NMEA) and Radio Holland Group (Radio Holland).

²⁷ In paragraph 26 of this Notice we request comments on permitting public coast stations to fully automate their operation.

²⁸ Although this appears to be a market driven decision, we are asking in another part of this inquiry whether we should permit public coast stations to fully automate their operation. If such automatic operation were permitted marine radio users without DSC capability would not be able to place or receive telephone calls.

²⁹ The technical requirements for NBDP are contained in CCIR Recommendations 476 and 625. See 47 C.F.R. § 80.219.

Policy Issues

20. Simply permitting a new technology may not result in its widespread use and the increase in spectrum efficiency anticipated. Other changes are often needed to promote and facilitate spectrum efficient technologies. Experience has shown that flexible rules together with certain incentives have successfully promoted spectrum efficiency in the past. Possible policy changes that we want to explore specifically include the use of private carriers and exclusivity, allowing marine coast stations to serve land vehicles in addition to boaters, and increased sharing of maritime frequencies.

21. **Private Carriers.** One possible way to increase spectrum efficiency in the maritime services is to allow private coast stations to become private carriers providing services similar to those provided by Specialized Mobile Radio (SMR) services under Part 90 of the Commission's Rules (47 C.F.R. Part 90).³⁰ Under the private carrier concept, an entrepreneur builds a system and offers communication service on the system to eligible end users. Private carriers offer the option of establishing a single communications system to provide services to a number of different entities thereby allowing more users to operate in less spectrum. They also can often provide a more cost effective or higher quality service than small licensees can afford on their own. Accordingly, we solicit comments on whether we should allow private carriers on maritime VHF channels. We also request comments on how we should license private carrier operations (e.g., license base stations on an exclusive basis, license end users, allow mobile relays, etc.). Finally, we seek comments on whether it will be necessary to preempt such private carriers in the maritime service from state and local government jurisdiction as was done for private carriers in the private land mobile services.³¹

22. **Exclusivity.** As we have stated before, the incentive for spectrum efficiency is not the same for licensees without exclusive use as for licensees with exclusive use of channels.³² On shared channels, such as those assigned to private coast stations, the advantage gained if one licensee is spectrum efficient is shared by all the channel's users. Generally, the benefits of spectrum efficiency may not accrue to the user of the spectrum efficient equipment. Further, exclusivity may encourage implementation of specific spectrum efficient technologies such as trunking.

Therefore, we seek comment on whether and if so, how, we should introduce exclusivity into the private coast station assignment process.³³

23. **Permissible Communications.** In 1986, we adopted a *Report and Order* that declined to adopt rules that would have permitted VHF public coast stations to serve land vehicles on a subsidiary basis.³⁴ In doing so, we indicated that we would consider requests for waiver of the rules on an *ad hoc* basis. We have since granted a number of waivers that allow public coast stations to offer service to a limited number of vehicles during off peak periods on a strictly secondary basis.³⁵ We granted the waivers based on the fact that each station had limited marine traffic that was variable in terms of peak usage. We have received no complaints about these operations. Further, the maritime service benefits from such waivers by keeping some public coast stations in business when traffic is low, whereas they might otherwise stop operating. Accordingly, we seek comment on whether to change our rules to allow VHF public coast stations, including AMTS stations, to serve land vehicles on a regular basis.

24. **Intra-service Sharing.** Another way of making more effective use of the spectrum and increasing licensee flexibility is through frequency sharing.³⁶ We have used sharing in the past to resolve congestion problems on a case by case basis.³⁷ Ineffective use of some frequencies, however, continues to occur. For example, in recent years there has been a decrease in traffic in the MF band, resulting in the closure of a number of MF public coast stations. Records show the number of MF public coast stations has decreased by 25% since 1989. On the other hand, private coast station frequencies have been congested recently in high traffic areas. Allowing private coast stations to use public coast station public correspondence frequency pairs in the MF (2-4 MHz) band may help resolve this problem.

25. We may also want to consider intra-service sharing in the VHF frequency bands. There are a total of 42 marine VHF channels available for radiotelephone communications between ship and private coast stations. Three of the channels are reserved for distress, safety and calling. Of the remaining channels, only a few may be used for noncommercial operations such as by recreational boaters. For example, recreational boaters are generally limited to six VHF channels except in the Great Lakes and Puget Sound.³⁸ We therefore seek comments regarding establishing some general intra-service sharing rules to eliminate the need for individual waiver proceedings.

³⁰ Coast stations generally meet the eligibility requirements for SMR licenses and can offer service to ships. Additionally, existing SMR licensees can offer service to vessels. See *Specialized Mobile Radio*, Private Radio Bureau, Policy and Planning Branch, Federal Communications Commission, Washington, D.C. (March 1991).

³¹ See 47 U.S.C. § 332.

³² See *In the Matter of Spectrum Efficiency in the Private Land Mobile Radio Bands In Use Prior to 1968, Notice of Inquiry*, PR Docket 91-170, 6 FCC Rcd 4126 (1991).

³³ A VHF public coast station already has exclusive use of a channel in its service area. See 47 C.F.R. § 80.467.

³⁴ See *Report and Order*, PR Docket No. 86-2, 1 FCC Rcd 1312 (1986).a

³⁵ See e.g., *In the Matter of Answer Exchange, Inc., Memorandum Opinion and Order*, 3 FCC Rcd 633 (1988), *In Matter of Recreational Marine Association, Memorandum Opinion and Order*, 4 FCC Rcd 6287 (1989), *In the Matter of Whidbey Telephone Company, Memorandum Opinion and Order*, 4 FCC Rcd 8305

(1989), *In the Matter of Request for waiver of Section 80.453 of the Rules to permit public coast station WHU247 to serve mobile vehicles on land, Memorandum Opinion and Order*, 6 FCC Rcd 4846 (1991) and *In the Matter of Request for waiver of Section 80.453 of the Rules to permit public coast station WAH to serve mobile vehicles on land, Memorandum Opinion and Order*, 7 FCC Rcd 2238 (1992).

³⁶ Generally, such frequency sharing is either inter-service, where frequencies are shared between different radio services, or intra-service, where frequencies are shared between different categories in the same service.

³⁷ See e.g., *Report and Order*, PR Docket No. 90-27, 6 FCC Rcd 506 (1991) (permitting both commercial and noncommercial communications on VHF channels 67 and 72 in the Puget Sound area) and *Report and Order*, PR Docket No. 88-350, 4 FCC Rcd 1637 (1989) (permitting both commercial and noncommercial communications on VHF Channels 79 and 80 in the Great Lakes).

³⁸ See 47 C.F.R. § 80.373(f).

26. **Automatic Interconnection with PSTN.** One possible cause of the displacement of public coast stations by the cellular industry is the inconvenience of placing a call through a public coast station which must manually interconnect to the PSTN. Not only does it take longer to place the call, but the caller must also typically give out personal information such as a credit card number to the marine operator to place a call.³⁹ In a variety of ways, the current rules effectively prevent automatic interconnection to the PSTN.⁴⁰

a) Should we consider changing the Commission's Rules to permit automatic interconnection to the PSTN for all coast stations? We note that certain classes of coast stations--the AMTS and stations in the Great Lakes--are already authorized to interconnect automatically and that coast stations that equip with DSC can automatically interconnect now.

b) What effect, if any, would there be on maritime safety if the Commission were to allow automatic interconnection with the PSTN in the marine radio services and remove operator requirements?

c) Could DSC provide the necessary automatic identification necessary to provide interconnection to the PSTN? If so, should the Commission consider this additional use of DSC when deciding if it should be mandatory for all VHF radios? Should we consider other signalling and identification schemes and, if so, what schemes?

d) Should we require some means of operator assistance for ship-to-shore telephone calls, even calls originated on the DSC marine VHF channel 70?

Spectrum

27. Sections 80.371(c) and 80.373(f) of the Commission's Rules, 47 C.F.R. §§ 80.371(c) and 80.373(f), list the VHF channels in the 156-162 MHz band available nationwide for use by ships and coast stations. In areas where there are a large number of vessels, the channels available are already heavily congested.⁴¹ It would be nice if we could resolve congestion problems solely through increased flexibility, intra-service sharing, and the use of new technologies. This, however, may not be feasible. In certain areas additional channels may be needed. There are two likely possibilities for obtaining additional marine channels; one is to split the current 25 kHz channels, the other is through inter-service sharing. These options are discussed below.

28. **Narrowband.** In recent years, new analog and digital modulation technologies have been developed which provide a more efficient use of the radio frequency spectrum.

The use of 12.5 kHz narrowband FM (NBFM), amplitude companded sideband (ACSB), and various digital modulation techniques are among the most common methods that have been suggested. To address the congestion problem in the VHF maritime mobile band, the International Radio Consultative Committee (CCIR) will be considering this subject during the 1992-1994 time frame. The U.S. has submitted a draft report/recommendation to the CCIR on this subject suggesting the use of 12.5 kHz spacing using NBFM techniques to reduce the spectrum congestion problem in the VHF maritime mobile band in the near term. Other interested administrations participating in the CCIR will review the U.S. draft document and will be providing additional comments. Considering factors such as congestion, international interoperability, cost, compatibility with existing 25 kHz equipment, and ease of implementation, should the Commission continue to support 12.5 kHz spacing using NBFM or consider some other narrowband technology for the maritime mobile service?

29. **Inter-service Sharing.** Certain channels that are allocated internationally to the maritime service are assigned domestically to the private land mobile radio (PLMR) service. Because some of these PLMR frequencies appear to be little used in some areas we believe that they could be made available for sharing with the maritime service.⁴² An initial review of our licensing records indicates that some of the private land mobile channels in question have very few PLMR licensees operating at fixed locations within 80 kilometers (50 miles) of the United States coastline. Such sharing would expand the number of channels available to marine licensees and thus reduce congestion. Further, sharing of PLMR frequencies would offer an opportunity to improve spectrum efficiency at little cost to the maritime community and with little potential for interference to PLMR users. Therefore, we seek comment on the feasibility of sharing between the marine radio and PLMR services.

a) Should we permit marine users to share certain PLMR VHF channels allocated internationally for maritime operations? If so, what are the appropriate sharing criteria? How should such sharing be implemented and coordinated?

AMTS Channels

30. The Commission adopted a *Report and Order*, that among other things, reallocated one megahertz of spectrum previously allotted to the AMTS to a new Interactive Video Data Service (IVDS).⁴³ There is now one megahertz of spectrum that no longer is useful for AMTS. There are technical considerations in deciding how this spectrum could be used for maritime services. One main consider-

³⁹ Some coast stations provide an account service where users can pre-file the necessary billing information with the coast station. The user must still give out his account number over the air when placing a call through the coast station.

⁴⁰ Among other ways is the requirement to have the operation of a coast station transmitter be performed by an operator on duty and the limitations on permissible emissions. See 47 C.F.R. §§ 80.153 and 80.207(d).

⁴¹ The Commission's Boston field office reported that based on studies it conducted during the recreational boating seasons in 1987 and 1988, the number of calls made per hour on marine VHF channel 16 increased from a maximum of 689 calls per

hour in 1987, to 911 calls per hour in 1988, an increase of 32 per cent. See FY-88 Boston Safety Project Report (Nov. 4, 1988).

⁴² Certain channels that are allocated to the maritime services internationally in Appendix 18 of the Radio Regulations are not being used in the United States by the maritime radio services. These channels, however, are being used by certain land PLMR services either on a direct channel or an adjacent channel basis. The railroad service and highway maintenance services both operate on channels that are either Appendix 18 channels or are 12.5 kHz removed from those channels.

⁴³ See *Report and Order* in GEN Docket 91-2, 7 FCC Rcd 1630 (1992). The automated maritime telecommunications system

ation, however this spectrum is to be used, is potential interference to TV channel 13. Suggestions and proposed uses for this spectrum should address potential interference. Further, in keeping with the Commission's policies, greater weight will be given to suggestions using spectrally efficient communications techniques.

B. Proposed Rule Making

Reclassification of Public Coast Stations as Non-Dominant Common Carriers

31. Mobile Marine Radio, Inc. (MMR) and Waterway Communications System, Inc. (Watercom) (Petitioners) jointly filed a petition seeking Commission determination that maritime mobile service providers be reclassified as non-dominant common carriers.⁴⁴ Petitioners are public coast station licensees which provide telegraphy services, comprised of Morse telegraphy, narrow-band direct-printing and radiofacsimile as well as MF, HF and marine VHF band radiotelephony service. COM/NAV Marine, Inc. filed supporting comments.⁴⁵ In addition, the U.S. Coast Guard stated that it "does not believe [petitioners' proposal] will adversely affect safety of life at sea."⁴⁶ Currently, public coast stations are subject to the full panoply of regulations under Title II of the Communications Act. Reclassification would subject such licensees to the streamlined regulatory scheme for international non-dominant carriers outlined in Section 63.10 of the Commission's Rules, 47 C.F.R. § 63.10.⁴⁷

32. In its *Domestic Common Carrier* proceeding,⁴⁸ the Commission stated it would consider petitions from certain dominant common carriers seeking determination of non-dominant status. Petitioners assert that subsequently, in CC Docket No. 85-107, the Commission classified certain international carriers as non-dominant common carriers.⁴⁹ Thus, petitioners argue that, for purposes of the Commu-

nications Act, they are international carriers,⁵⁰ and therefore request to clarify their status as non-dominant common carriers.

33. We agree with petitioners that they fall under the definition of international carriers described in the Communications Act for these purposes.⁵¹ Additionally, we agree with petitioners that reclassification of maritime mobile public coast stations should reduce a significant burden on both the licensees and the Commission. In order to be reclassified as non-dominant, common carriers must demonstrate that they do not possess market power.⁵²

34. Maritime mobile public coast stations serve ships operated on inland waterways of the United States and the high seas.⁵³ The inland waterways market is comprised of, generally, radiotelephony service. In General Docket No. 80-1,⁵⁴ the Commission allocated spectrum for an automated inland waterways communications system (IWCS)⁵⁵ along the Mississippi River and connecting waterways as a means of improving the maritime mobile radio services. The Commission noted that "there is ample evidence that the introduction of IWCS service will in fact increase competition on the inland waterways." 88 FCC 2d 678, 697 (1981). Further, in *Petition of Riverphone, Inc.*, the Commission stated that IWCS "will be subject to competition from existing public coast stations, as well as land mobile and cellular systems which are permitted to serve vessels." The U.S. Court of Appeals for the D.C. Circuit, in *WJG Tel. Co. v. FCC*, 675 F.2d 386 (D.C. Cir. 1982), agreed that the Commission had fostered a positive environment for competition when it established IWCS. In addition, the maritime mobile service for the inland waterways is comprised of a substantial number of highly competitive entities.

35. The high seas maritime market may be characterized as the high seas public correspondence market. This market generally consists of radiotelegraphy and radiotelephony. Although safety requirements of the Communications Act⁵⁶ curtail the substitutability of the

(AMTS) uses duplex channel pairs and formerly was allocated 80 such pairs divided up into 4 groups of 20 each, labelled A,B,C and D. One half of Groups C and D was reallocated to IVDS in GEN Docket 91-2. See also *Memorandum Opinion and Order* in GEN Docket 88-372, 7 FCC Rcd 3607 (1992).

⁴⁴ Petition for Determination of Non-Dominant Common Carrier Status filed February, 1988 by Mobile Marine Radio, Inc. and Waterway Communications System, Inc.

⁴⁵ COM/NAV Marine, Inc.'s comments summarize Petitioners' views. Although they were fully considered, they will not be separately discussed.

⁴⁶ See Letter from Chief, Telecommunications Systems Division, U.S. Coast Guard to Chief, Common Carrier Bureau, Federal Communications Commission, Washington, D.C. (May 1, 1989). The Coast Guard submitted its comments in response to a request from the Commission. In addition, the Coast Guard urged, *inter alia*, that prior notice of discontinuance of public coast stations be provided to the International Telecommunications Union, the appropriate Coast Guard Commander and the Defense Mapping Agency. Licensees are currently required to provide notification of discontinuance to the Coast Guard "as soon as practicable." See 47 C.F.R. § 80.302.

⁴⁷ The streamlined regulatory scheme, among other things, permits giving 120 days notice of intent to close stations and the filing of tariffs on a minimum of 14 days notice. See 47 C.F.R. § 61.58(b).

⁴⁸ *Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor, Fourth Report and Order, (Domestic Common Carrier)* CC Docket No.

79-252, 95 FCC 2d 554, 582 (1983).

⁴⁹ *International Competitive Carrier Policies*, CC Docket No. 85-107, 102 FCC 2d 812 (1985) (*International Competitive Carrier*).

⁵⁰ See Section 3(f) of the Communications Act, 47 U.S.C. § 153(f).

⁵¹ Public coast stations established to serve ships operated on the inland waterways, the Great Lakes and the high seas are capable of communicating with ship stations located outside the United States as well as contacting foreign flag ships (and, by extension, foreign accounting authorities for international settlement of accounts).

⁵² See note 49, *supra*. The *International Competitive Carrier* test requires petitioners to address the relevant product and geographic markets, supported by factual evidence of demand and supply substitutability, and market power, supported by factual evidence of the level and change in market shares and entry.

⁵³ For purposes of this discussion, the term inland waterways includes the Great Lakes and coastal waters, bays and sounds of the United States, and the term high seas pertains to coastal waters beyond VHF range of the nearest land (approximately 25 nautical miles).

⁵⁴ *Inland-Waterways Communications Systems, Report and Order*, 84 FCC 2d 875 (1981); *ERRATA*, 46 Fed. Reg. 26485 (1981), *recon.*, 88 FCC 2d 678 (1981); *aff'd sub nom.*, *WJG Telephone Company, Inc. v. FCC*, 675 FCC 2d 386 (1982).

⁵⁵ Currently referred to as AMTS. See note 11, *infra*.

⁵⁶ See 47 U.S.C. §§ 351-364.

radiotelegraphy market, vessels operated on the high seas have access to alternative communications services. For example, satellite facilities, usually associated with the INMARSAT system, are generally available to ship stations. In addition, cellular radio offers increasingly competitive service that is supplanting the use of public coast stations. In the Gulf of Mexico, for example, Petrocom operates an offshore cellular radio service that provides voice and data services to ships up to 200 nautical miles offshore.⁵⁷ The Commission recognized that coast stations should be authorized to provide facsimile and data services on VHF public channels,⁵⁸ to be more competitive. Further, there are private services available to ship operators such as shared mobile relay services that offer interconnected telephone service on a cost-shared basis. Due to the number of public correspondence alternatives, it does not appear that public coast stations have the ability to engage in predatory or monopolistic activities. Finally, we note that Petitioners' assertions of non-dominance are not opposed.

36. Under the test established in the *International Competitive Carrier*⁵⁹ proceeding, we find that public coast stations do not possess market power. Therefore, we propose amending the rules to subject public coast stations to the streamlined regulatory scheme for non-dominant carriers.⁶⁰ In addition, in further comments,⁶¹ MMR asks the Commission to differentiate among maritime common carriers in the maritime market. Therefore, we also ask the following questions:

- a) For purposes of the proposed reclassification of maritime mobile common carriers as non-dominant, is there a need to differentiate between 1) coast stations which provide both land-line telex service and maritime service and 2) maritime common carriers that provide only maritime service?
- b) Alternatively, should dual telex authority carriers be required to operate their maritime and point-to-point telex capabilities on a separated basis to prevent alleged cross-subsidization?

Private Land Mobile Use of Marine Frequencies

37. The Council of Independent Communication Suppliers (CICS) has filed a Petition for Rule Making proposing that the Commission's Rules be amended to expand private land mobile Industrial and Land Trans-

portation (I/LT) service operations within the marine VHF (156-162 MHz) band.⁶² CICS notes that maritime frequencies are unused in many land-locked regions of the United States while I/LT channels suffer congestion. Further, CICS claims that use of selected public correspondence and port operations frequencies could be permitted on a primary basis without degrading present or future maritime services.⁶³ CICS proposes a geographic separation of 50 miles, a power limit of 50 watts, and a base station antenna height limit of 120 meters (400 feet) to ensure that I/LT usage will not interfere with maritime operations. CICS further proposes that coordination by the Special Industrial Radio Service Association (SIRSA) be required.

38. Six parties filed comments questioning the various criteria proposed to provide interference protection to existing and future maritime services when shared frequency base stations are separated by short distances.⁶⁴ For example, Mobile Marine Radio, Inc. opposes the CICS petition and states that the separation between co-channel stations must be at least 200 miles to provide meaningful protection to maritime operations. Additionally, a majority of the comments noted that a primary I/LT allocation would inhibit growth of public coast stations by limiting future service areas. In reply comments, CICS recommends that the Commission propose rules similar to those which already govern coast stations,⁶⁵ in lieu of a minimum mileage separation. CICS claims, however, that certain correction factors must be added to the current coast station interference protection criteria. For example, the engineering study provided by CICS notes that coast stations are generally separated by smooth terrain or water, while rough terrain (which limits signal propagation) may separate the proposed I/LT stations from existing coast stations. Additionally, the study points out that any proposed rules must also compensate for the difference in antenna height between maritime and I/LT mobile units.⁶⁶ Both of these corrections propose to decrease the size of each station's service area.

39. Inter-service sharing has been used in the private land mobile services to increase spectrum efficiency for a number of years.⁶⁷ Further, the Commission has permitted sharing between the maritime and private land mobile services in the past on a case-by-case basis without receiving any interference complaints.⁶⁸ Based on past experience, it appears that we can again use inter-service sharing to increase spectrum efficiency by allowing private

⁵⁷ In general, however, cellular service is ancillary to land service and cellular providers offer service to ships which operate within ten miles of land.

⁵⁸ See *Report and Order*, PR Docket No. 91-293, _____ FCC Rcd _____ (1992).

⁵⁹ See note 52, *supra*.

⁶⁰ See note 47, *supra*. The proposed change would require amending the following rules: Sections 63.62(e), 63.64, 63.69, 63.70, 63.90 and Part 80 of the Commission's Rules, 47 C.F.R. §§ 63.62(e), 63.64, 63.69, 63.70, 63.90.

⁶¹ Further Comments filed December, 1991 by Mobile Marine Radio, Inc. No comments were filed in response to MMR's further comments.

⁶² CICS's petition, which was placed on public notice March 6, 1992, excludes the Business Radio Service.

⁶³ CICS requests that I/LT users be eligible to share the public correspondence frequencies found in 47 C.F.R. § 80.371(c) and certain port operations frequencies found in 47 C.F.R. § 80.373(f).

⁶⁴ Comments to the CICS petition were filed by American

Commercial Lines, Inc., Associated Public-Safety Communications Officers, Inc., Forest Industries Telecommunications, Mobile Marine Radio, Inc., the Ohio River Company, and the Utilities Telecommunications Council.

⁶⁵ Within its service area, each public coast station must provide a minimum field strength of + 17 dBu, as calculated in accordance with Section 80.771 of the Commission's Rules, 47 C.F.R. § 80.771. Further, in order to provide protection to co-channel coast stations, the ratio of desired to undesired signal strengths must be at least 12 dB within the entire service area of a station.

⁶⁶ Section 80.767 of the Commission's Rules, 47 C.F.R. § 80.767 assumes maritime mobile antennas to be 30 feet above ground level, while CICS claims that the common I/LT antenna height is 6 feet.

⁶⁷ See 47 C.F.R. § 90.176.

⁶⁸ For example, several waivers have been granted for Local Government Radio Service licensees to use maritime frequencies in areas located far from waterways, where maritime channels are not extensively used, such as Arizona and Nevada.

land mobile eligibles to utilize maritime channels in areas far removed from coastlines and waterways on a routine basis.

40. In any inter-service sharing arrangement, it is necessary to establish criteria for sharing that provides protection to existing services, yet is not too restrictive, effectively prohibiting sharing. Therefore, we propose to make marine VHF public correspondence channels 24-28 and 84-87 available for sharing with certain I/LT eligibles on a co-primary basis.⁶⁹ Further, such use must be in accordance with the restrictions found in the CANADA/U.S.A. channeling agreement for VHF maritime public correspondence.⁷⁰ We are proposing to limit the sharing to I/LT eligibles because they commonly operate in regions where maritime channels are not used. Nevertheless, we request comments as to whether we should extend sharing to the public safety and business radio services. Additionally, in PR Docket 91-170, 6 FCC Rcd 4126 (1991), we are proposing rules that may define the I/LT and business radio services as one category, noncommercial, and requires narrow-band radios to be used in all new systems.

41. While such inter-service sharing of marine frequencies with I/LT users⁷¹ has the potential to alleviate congestion in the I/LT services, we must propose rules that should minimize interference to existing and future maritime operations. One option would be to use field strength contours such as we do with co-channel public coast stations. Another option would be to establish geographic separations between proposed I/LT stations and existing public coast stations. We believe defining protection in terms of a geographic separation instead of requiring I/LT licensees to calculate field strength contours will make the rules easier for applicants to understand and for the Commission to administer. Therefore, to provide additional flexibility, we are proposing a matrix with a minimum separation of 88 kilometers (55 miles) required between any proposed I/LT base station, navigable waterways and co-channel public coast stations.⁷² The geographic separations are based on protecting maritime operations within 43 kilometers (27 miles) of any co-channel public coast station while providing room for future expansion.⁷³ Further, we are proposing to limit the I/LT base station antenna height to 120 meters (400 feet) and the transmitter power to 50 watts for base stations and 20 watts for mobiles. These criteria allow sharing in areas where maritime channels are not likely to be used and prohibit it in areas where maritime channels are heavily used. The higher the power and antenna height proposed, the further the land mobile entity must be removed from maritime operations. We seek specific comment on:

a) The proposed separation criteria and whether the term "navigable waterways" will be sufficient to protect future public coast station expansion.⁷⁴

b) Whether we should require the use of narrow-band radios and what technical rules, if any, we should apply.

c) What the effect on this proposal will be if there is one noncommercial category of radio service that replaces I/LT and business.

42. By this action, we are proposing amendments to Parts 2, 80, and 90 of the Commission's Rules, 47 C.F.R. Parts 2, 80, and 90, allowing marine VHF public correspondence channels to be used by eligibles in the I/LT radio services for base/mobile operations in areas more than 88 kilometers (55 miles) from navigable waterways and existing co-channel public coast stations. We are also proposing to require evidence of frequency coordination.⁷⁵

IV. CONCLUSION

43. We recognize the broad scope of this Notice and the inherent difficulty in projecting maritime communication needs for the future. The information obtained in this inquiry, however, will be useful only to the extent that it is specific and comprehensive. The public is encouraged to provide detailed information on the issues discussed herein so that the Commission can evaluate possible regulatory alternatives. In addition to the specific points raised and rules proposed, we solicit comments on any other issue related to improving the maritime radio services.

V. PROCEDURAL MATTERS

INITIAL REGULATORY FLEXIBILITY ANALYSIS

44. An Initial Regulatory Flexibility Analysis is contained in the Appendix to this Notice of Proposed Rule Making and Notice of Inquiry.

45. Accordingly, we adopt this Notice of Proposed Rule Making and Notice of Inquiry under the authority contained in Sections 4(i), 303, and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303, and 403. Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's Rules, 47 C.F.R. Sections 1.415 and 1.419, interested persons may file comments on or before **January 21, 1993** and may file reply comments on or before **February 5, 1993**. To file formally in this proceeding, you must file an original and five copies of all comments, reply comments, and supporting comments. If you want each Commissioner to receive a personal copy of your comments, you should file an original and nine copies. You should send your comments and

⁶⁹ We are not proposing to allow sharing on the port operations channels requested at this time because of the increased interference potential associated with simplex operations. Nevertheless, we request comments on this issue.

⁷⁰ See Section 80.57 of the Commission's Rules, 47 C.F.R. § 80.57.

⁷¹ See paragraph 29 for discussion of inter-service sharing of land-mobile frequencies.

⁷² The minimum separation is a function of the proposed I/LT station's antenna height above average terrain (HAAT) and effective radiated power (ERP).

⁷³ The distances in the matrix were found using the propaga-

tion curves specified in Section 80.767 of the Commission's Rules, 47 C.F.R. § 80.767, assuming non-overlap of the 14 dBu interference contour of a proposed I/LT station with the 26 dBu service contour of any existing public coast station. The 26 dBu public coast station service contour is the sum of the current 17 dBu contour and the 9 dB antenna height factor suggested by CICS, and is assumed to be equal to 43 kilometers (27 miles).

⁷⁴ The term "navigable waterways" is defined in 33 C.F.R. § 2.205-25.

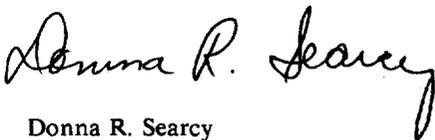
⁷⁵ We are proposing to certify the Special Industrial Radio Service Association as the recognized coordinator.

reply comments to Office of the Secretary, Federal Communications Commission, Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the Reference Center of the Federal Communications Commission, 1919 M Street, N.W., Washington, D.C. 20554.

46. 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 Commission rules. See generally 47 C.F.R. §§ 1.1202, 1.1203, and 1.206(a).

47. For further information, contact Marc S. Martin, Room 5126 or Roger S. Noel, Room 5114, Private Radio Bureau, Federal Communications Commission, 1919 M Street, N.W., Washington, D.C. 20554; telephone 202-632-7175, mail stop 1700C2.

FEDERAL COMMUNICATIONS COMMISSION



Donna R. Searcy
Secretary

APPENDIX A
PROPOSED RULES

Parts 2, 63, 80 and 90 of Chapter I of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

A. Part 2 - FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS.

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

AUTHORITY: Secs. 4, 302, 303, and 307 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154, 154(i), 302, 303, 303(r), and 307, unless otherwise noted.

2. Section 2.106 is amended by adding land mobile allocations to the United States table, non-government section (column 5) and FCC use designators (column 6), and adding one non-government footnote, to read as follows:

§ 2.106 Table of Frequency Allocations.

United States table	FCC use designators
non-Government Allocation MHz	Rule part(s)
(5)	(6)

157.1875 - 157.45	MARITIME (80)
MARITIME MOBILE	PRIVATE LAND MOBILE
	(90)
613	
US223 US266	
NG111 NG153	

161.775 - 162.0125	

MARITIME MOBILE
LAND MOBILE

DOMESTIC PUBLIC
LAND MOBILE (22)
MARITIME (80)
PRIVATE LAND MOBILE
(90)

613 US266
NG6 NG153

NG153 The frequency pairs 157.200/161.800 MHz, 157.225/161.825 MHz, 157.250/161.850 MHz, 157.275/161.875 MHz, 157.300/161.900 MHz, 157.325/161.925 MHz, 157.350/161.950 MHz, 157.375/161.975 MHz and 157.400/162.000 MHz are available for assignment to stations in the private land mobile radio service as described in § 90.283 of this chapter.

B. Part 63 - EXTENSION OF LINES AND DISCONTINUANCE OF SERVICE BY CARRIERS AND GRANTS OF RECOGNIZED PRIVATE OPERATING AGENCY STATUS

1. The authority citation for Part 63 continues to read as follows:

AUTHORITY: Sec. 4, 48, Stat. 1066, as amended 47 U.S.C. 154. Interpret or apply sec. 214, 48 Stat. 1075, as amended; 47 U.S.C. 214.

2. In Section 63.62, paragraph (e) is removed and paragraphs (f) and (g) are redesignated as (e) and (f) respectively.

3. Sections 63.64, 63.69 and 63.70 are removed.

4. In Section 63.90, paragraph (a) introductory text is revised to read as follows:

§ 63.90 Publication and posting of notices.

(a) Immediately upon the filing of an application or informal request (except a request under § 63.71) for authority to close or otherwise discontinue the operation, or reduce the hours of service at a telephone exchange (except an exchange located at a military establishment), the applicant shall post a public notice at least 20 inches by 24 inches, with letter of commensurate size, in a conspicuous place in the exchange affected, and also in the window of any such exchange having window space fronting on a public street at street level. Such notice shall be posted at least 14 days and shall contain the following information, as may be applicable:

C. Part 80 - STATIONS IN THE MARITIME SERVICES.

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

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

2. In Section 80.371, the table listed in paragraph (c) is amended by adding Footnote 4, to read as follows:

§ 80.371 Public correspondence frequencies.

(c) * * *

Working Carrier Frequency Pairs in the 156-162 MHz Band^{1 4}

* * * * *⁴ Except for the frequency pair 157.425/162.025 MHz, these frequencies may be shared with stations in the private land mobile radio service under the terms of operation described in § 90.283 of this chapter.

* * * * *

D. Part 90 - PRIVATE LAND MOBILE RADIO SERVICES

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

AUTHORITY: Secs. 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303 and 332, unless otherwise noted.

2. A new Section 90.283 is added to Subpart K to read as follows:

§ 90.283 Inter-service sharing of maritime frequencies in the 156-162 MHz band.

(a) The following frequency pairs may be assigned to any station eligible for licensing in the Industrial (except Business) or Land Transportation Radio Services for duplex operation in accordance with the rules of their individual services, the conditions set forth in this section and the CANADA/U.S.A. channeling agreement for VHF maritime public correspondence found in § 80.57 of this chapter.

Frequency (MHz)

Base Station Transmit	Mobile Station Transmit
157.200	161.800
157.225	161.825
157.250	161.850
157.275	161.875
157.300	161.900
157.325	161.925
157.350	161.950
157.375	161.975
157.400	162.000

(b) Assignment will be made only when VHF frequencies available for assignment under this Part are not available. Applicants must seek frequency coordination in accordance with § 90.175 of this chapter.

(c) Station power, as measured at the output terminals of the transmitter, must not exceed 50 watts for base stations and 20 watts for mobile stations. Antenna height (AAT) must not exceed 120 meters (400 feet) for base stations and 15 meters (50 feet) for mobile stations. Such base and mobile stations must not be operated on board aircraft in flight.

(d) The following table, along with the antenna height (AAT) and power (ERP), must be used to determine the minimum separation required between proposed base stations and both of the following: i) co-channel public coast stations licensed under Part 80 of this chapter, ii) the coastline of any navigable waterway. Applicants whose exact ERP or HAAT are not reflected in the table must use the next highest figure shown.

REQUIRED SEPARATION IN KILOMETERS (MILES) OF BASE STATION
FROM COASTLINES/PUBLIC COAST STATIONS¹

Base Station						
HAAT		ERP (watts)				
meters	feet	400	300	200	100	50
15	50	110 (69)	107 (67)	101 (63)	93 (58)	88 (55)
30	100	126 (79)	123 (77)	117 (73)	109 (68)	102 (64)
60	200	142 (89)	139 (87)	133 (83)	125 (78)	117 (73)
120	400	158 (99)	155 (97)	149 (93)	141 (88)	131 (82)

¹ The distances in the table represent the required minimum separation between any base station authorized under this section and either of the following: i) any existing co-channel public coast station or ii) the coastline of any navigable waterway.

(e) Base stations authorized under this section that are located within 240 kilometers (150 miles) of an existing, co-channel public coast station or an international border must minimize interference by reducing radiated power, decreasing antenna height, or installing directional antennas. Mobile stations must operate only within radio range of their associated base station.

3. Section 90.555 is amended by revising two of the service titles in paragraph (a) and by adding eighteen new frequencies in paragraph (b) to read as follows:

§ 90.555 Combined frequency listing.

(a) * * *

Industrial Services (I)

* * * * *

Land Transportation Services (LT)

* * * * *

(b) * * *

157.200.....	I,LT.....	See § 90.283
157.225.....	Do.....	Do.
157.250.....	Do.....	Do.
157.275.....	Do.....	Do.
157.300.....	Do.....	Do.
157.325.....	Do.....	Do.
157.350.....	Do.....	Do.
157.375.....	Do.....	Do.
157.400.....	Do.....	Do.
* * * * *		

161.800.....	I,LT.....	See § 90.283
161.825.....	Do.....	Do.
161.850.....	Do.....	Do.
161.875.....	Do.....	Do.
161.900.....	Do.....	Do.
161.925.....	Do.....	Do.
161.950.....	Do.....	Do.
161.975.....	Do.....	Do.
162.000.....	Do.....	Do.
* * * * *		

APPENDIX B

G. Any Significant Alternatives Minimizing the Impact on Small Entities Consistent with the Stated Objectives

8. None.

INITIAL REGULATORY FLEXIBILITY ANALYSIS

1. 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 contained in this Notice. We request written public comment on the IRFA, which follows. Comments must have a separate and distinct heading designating them as responses to the IRFA and must be filed by the deadlines provided in paragraph 46, *supra*. The Secretary shall send a copy of this Notice, including the IRFA, 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. §§ 601-612 (1981).

A. Reason for Action

2. The Commission proposes to 1) reclassify VHF public coast stations as non-dominant common carriers, and thereby subject them to a streamlined regulatory scheme, and 2) authorize inter-service sharing of certain maritime frequencies in order to reduce private land mobile service congestion in certain geographical areas.

B. Objectives

3. We seek to 1) streamline the tariff filing and closure reporting requirements for VHF public coast stations, and 2) authorize sharing of frequencies between the land mobile and marine radio services in order to reduce unnecessary burdens on the public and administrative costs to the Commission and thereby increase efficiency in the these radio services and within the Commission.

C. Legal Basis

4. The proposed action is authorized under Sections 4(i) and 303(r) of the Communications Act, 47 U.S.C. §§ 154(i) and 303(r).

D. Reporting, Recordkeeping and Other Compliance Requirements

5. VHF coast stations will be subject to the streamlined regulatory scheme for non-dominant common carriers.

E. Federal Rules Which Overlap, Duplicate or Conflict with These Rules

6. None.

F. Description, Potential Impact, and Small Entities Involved

7. The proposal pertaining to the inter-service sharing of land mobile and marine radio service frequencies would increase spectrum efficiency and reduce congestion in certain areas of the country. Because coast stations are not typically owned by small businesses, the reclassification of such carriers as non-dominant will not have a significant impact on a substantial number of small businesses. The proposal, however, would eliminate for coast stations the regulatory burden of compliance with the reporting and facility requirements that currently apply to dominant common carriers.

APPENDIX C

Digital Selective Calling Classification Table

	Class A		Class B		Class C	VHF SC101		HF SC101	
	Tx	Rx	Tx	Rx	Tx	Tx	Rx	Tx	Rx
Format specifier:									
Distress call	X	X	X	X	X	X	X	X	X
All ships call	X	X	X	X	.	X	X	.	X
Selective individual station call	X	X	X	X	.	.	X	X	X
Selective Semi-automatic/automatic service call	X	X	X	X	.	.	.	.	.
Selective call (group of ships)	.	X	.	X	.	.	.	.	.
Selective call (ship in geographic area)	.	X	.	X	.	.	.	.	.
Vessel traffic service call	.	.	.	.	.	.	.	.	.
Numerical identification of the station (address)	X	X	X	X	.	.	.	.	.
Self-identification (automatically inserted)	X	.	X	.	X	X	.	X	.
Frequency or Channel Information (non-distress)	X	X	X	X	.	X	X	X	X
Time and position (for distress call only)	X	X	X	X	.	X	.	X	.
Ships Position Information	X	X	X	X	.	.	.	.	.
Category (call priority):									
Distress	X	X	X	X	.	X	.	X	.
Urgency	X	X	X	X	.	.	.	.	.
Safety	X	X	X	X	.	.	.	X	.
Ship's Business	X	X	.	.	.	.	.	.	.
Routine	X	X	X	X	.	X	.	X	.

(note: except for Class C, all units must be capable of receiving calls of any priority, but need not display that priority if an "X" is not marked)

Distress categories:

Undesignated	X	X	X	X	X	X	X	X	X
Fire, explosion	X	X	.	.	.	.	.	.	.
Collision	X	X	.	.	.	.	.	.	.
Grounding	X	X	.	.	.	.	.	.	.
Listing, in danger of capsizing	X	X	.	.	.	.	.	.	.
Sinking	X	X	.	.	.	.	.	.	.
Disabled and adrift	X	X	.	.	.	.	.	.	.
Abandoning ship	X	X	.	.	.	.	.	.	.
EPIRB emission	.	X	.	X	.	.	.	.	.

	Class A		Class B		Class C		VHF SC101		HF SC101	
	Tx	Rx	Tx	Rx	Tx	Tx	Rx	Tx	Rx	
Telecommands:										
VHF FM Simplex telephony	X	X	X	X	.	.	X	X	.	.
VHF FM Duplex telephony	X	X	X	X	.	.	X	.	.	.
Polling (tracking)	X	X	.	.	.	.	.	.	.	.
Selection information (telephone number)	X	.	X	.	.	.	.	.	.	.
Unable to comply:										
No reason given	X	X	.	X	.	.	.	.	.	.
Congestion at maritime switching center .....	.	X	.	X	.	.	.	.	.	.
Busy	X	X	.	X	.	.	.	.	.	.
Queue indication .....	.	X	.	X	.	.	.	.	.	.
Station barred .....	.	X	.	X	.	.	.	.	.	.
No operator available	X	X	.	X	.	.	.	.	.	.
Operator temporarily unavailable	X	X	.	X	.	.	.	.	.	.
Equipment disabled	X	X	.	X	.	.	.	.	.	.
Unable to use proposed channel	X	X	.	X	.	.	.	.	.	.
Unable to use proposed mode	X	X	.	X	.	.	.	.	.	.
End of call	X	X	X	X	.	.	.	.	.	.
Emission or type of call:										
Single sideband telephony	X	X	X	X	.	.	.	.	X	X
Single sideband full carrier telephony	X	X	X	X	.	.	.	.	.	.
Radiotelex (SITOR) FEC	X	X	.	.	.	.	.	.	.	.
Radiotelex (SITOR) ARQ	X	X	.	.	.	.	.	.	.	.
Radiotelex (SITOR) receive only	X	X	.	.	.	.	.	.	.	.
F1B/J2B other than radiotelex	X	X	.	.	.	.	.	.	.	.
Recorder Morse Code	X	X	.	.	.	.	.	.	.	.
Manual Morse Code	X	X	.	.	.	.	.	.	.	.
Facsimile	X	X	.	.	.	.	.	.	.	.
Data										
CCITT V.21	X	X	.	.	.	.	.	.	.	.
CCITT V.22	X	X	.	.	.	.	.	.	.	.
CCITT V.22bis	X	X	.	.	.	.	.	.	.	.
CCITT V.23	X	X	.	.	.	.	.	.	.	.
CCITT V.26bis	X	X	.	.	.	.	.	.	.	.
CCITT V.26ter	X	X	.	.	.	.	.	.	.	.
CCITT V.27ter	X	X	.	.	.	.	.	.	.	.
CCITT V.32	X	X	.	.	.	.	.	.	.	.

	Class A		Class B		Class C		VHF SC101		HF SC101	
	Tx	Rx	Tx	Rx	Tx	Tx	Rx	Tx	Rx	
Distress Acknowledgement	X	X	X	X	.	.	X	.	X	
Distress Relay Acknowledgement .....	.	X	.	X	.	.	X	.	X
Acknowledgement, Able to Comply	X	X	.	X	.	.	.	.	.
Acknowledgement, Unable to Comply	X	X	.	X	.	.	.	.	.
Distress Relay	X	X	X	X	.	.	X	.	X	
Test (MF and HF only)	X	X	X	X	.	.	.	.	.
Ship position or location registration updating	X	X	.	.	.	.	.	.	.
No Information (if no telecommand info is sent)	X	.	X	.	.	X	.	X	.	
Neutral ships/aircraft in a war zone (RR Res 18)	X	X	.	.	.	.	.	.	.
Medical transport	X	X	.	.	.	.	.	.	.
Pay-phone/public call office	X	X	.	.	.	.	.	.	.
No second telecommand information	X	.	X	.	.	X	.	X	.	
Power cutback to 1w on routine VHF all-ship calls	X	.	X	.	.	X	.	.	.	