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

In the Matter of	)	
	)	
Amendment of the Commission's Rules Concerning Maritime Communications	)	PR Docket No. 92-257
	)	
Petition for Rule Making filed by RegioNet Wireless License, LLC	)	RM-9664

FOURTH REPORT AND ORDER AND THIRD FURTHER NOTICE OF PROPOSED RULE MAKING

Adopted: October 13, 2000 **Released: November 16, 2000**

Comment Date: [60 days after Federal Register publication]
Reply Comment Date: [90 days after Federal Register publication]

By the Commission:

TABLE OF CONTENTS

Paragraph

I. INTRODUCTION AND EXECUTIVE SUMMARY 1

II. BACKGROUND 4

III. FOURTH REPORT AND ORDER 10
- A. Automated Maritime Telecommunications System (AMTS) Spectrum 10
  - 1. Siting flexibility 11
  - 2. Construction flexibility 16
  - 3. Technical flexibility 18
- B. High Seas Public Coast Station Spectrum 24

IV. THIRD FURTHER NOTICE OF PROPOSED RULEMAKING 29
- A. AMTS Spectrum 29
  - 1. Geographic area licensing 29
  - 2. Service areas 31
  - 3. Treatment of incumbent licensees 34
  - 4. Licensing 38
  - 5. Engineering study requirement 45
  - 6. Broadcaster notification requirement 50
  - 7. Coverage requirements 54

Paragraph

8. Partitioning and disaggregation 55
9. Technical flexibility 58

B. High Seas Public Coast Station Spectrum 59
1. Radiotelephone (voice) 59
2. Radiotelegraph (manual Morse code) and facsimile 65
3. NB-DP and data transmission 71
4. Use flexibility 72
5. Partitioning and disaggregation 73

C. Competitive Bidding Procedures 75

V. PROCEDURAL MATTERS 76
A. Suspension of Acceptance and Processing of Applications 76
B. Regulatory Flexibility Act 80
C. Ex Parte Rules -- Permit-But-Disclose Proceeding 81
D. Paperwork Reduction Act of 1995 82
E. Comment Dates 84
F. Ordering Clauses 85
G. Contact for Information 91

Page

APPENDICES 40
APPENDIX A - LIST OF COMMENTERS TO THE *SECOND FURTHER NOTICE OF PROPOSED RULEMAKING* 40
APPENDIX B - REGULATORY FLEXIBILITY ANALYSIS 41
APPENDIX C - FINAL RULES 47
APPENDIX D - PROPOSED RULES 56

I. INTRODUCTION AND EXECUTIVE SUMMARY

1. In the *Second Further Notice of Proposed Rule Making* in this proceeding,[1] the Commission sought comment on proposals to promote innovative telecommunications services, improve communications capabilities, and reduce regulatory burdens in the Maritime Services.[2] In this *Fourth Report and Order and Third Further Notice of Proposed Rule Making*, we amend our rules to promote operational, technical, and regulatory flexibility for Automated Maritime Telecommunications System (AMTS) and high seas public coast stations.[3] Specifically, we provide additional flexibility for AMTS coast stations by permitting the construction and operation of fill-in stations without prior Commission authorization, extending the construction period, eliminating the current emission restrictions and channel plan, and increasing the permitted power level for point-to-point communications. We also provide additional flexibility for high seas public coast stations by eliminating the required showing of channel loading and extending the construction period. We believe that these rule changes will increase competition in the provision of telecommunications services, promote more efficient use of maritime spectrum, increase the types of telecommunications services available to vessel operators, allow maritime commercial mobile radio service (CMRS) providers to respond more quickly to market demand, and reduce regulatory burdens on AMTS and high seas public coast station licensees. We conclude that 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, serves the public interest.

2. In the *Third Report and Order and Memorandum Opinion and Order* in this proceeding, we adopted rules to convert the licensing of very high frequency (VHF) (156-162 MHz) public coast stations from a site-based approach to geographic licensing.[4] In light of the changes to the VHF licensing scheme, we believe that it serves the public interest to reexamine our licensing of AMTS and high seas public coast stations. Therefore, in the *Third Further Notice of Proposed Rule Making*, we seek comment on the following:

- We propose to designate licensing regions and authorize one licensee for each currently unassigned AMTS frequency block on a geographic basis, in lieu of the current site-based approach. Under our proposal, incumbent AMTS licensees would be permitted to operate their systems indefinitely, and incumbents and geographic licensees would have to afford each other interference protection.

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1 Amendment of the Commission's Rules Concerning Maritime Communications, *Second Report and Order and Second Further Notice of Proposed Rule Making*, PR Docket No. 92-257, 12 FCC Rcd 16949 (1997) (*Second Report and Order* and *Second Further Notice*).

2 The Maritime Services consist of the services governed by Part 80 of the Commission's Rules, and include public coast stations, private coast stations, and ship stations. *See* 47 C.F.R. Part 80.

3 *See infra.* ¶ 10.

4 Amendment of the Commission's Rules Concerning Maritime Communications, *Third Report and Order and Memorandum Opinion and Order*, PR Docket No. 92-257, 13 FCC Rcd 19853 (1998) (*Third Report and Order*).

- We seek comment on a petition for rule making filed by RegioNet Wireless License, LLC, (RegioNet) proposing to eliminate the engineering study requirement for AMTS stations.

- We seek comment on using our Part 1 competitive bidding procedures, and the small business definitions applied to the VHF public coast service auction, to resolve mutually exclusive applications for AMTS and high seas public coast spectrum.

- We seek comment on whether we should set aside any AMTS spectrum for public safety use instead of auctioning it for commercial use.

- We propose to permit partitioning and disaggregation of the AMTS geographic area licenses, disaggregation of site-based AMTS licenses, and partitioning of most high seas public coast station licenses.

- We also seek comment on whether we should introduce flexibility into our Rules in order to permit other uses for spectrum that is currently allocated for high seas public coast station use.

3. In developing these proposals 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 services using maritime spectrum, (2) expedite market entry through streamlined licensing procedures, (3) promote technological innovation, and (4) eliminate unnecessary regulatory burdens. Second, we seek to enhance regulatory symmetry among maritime CMRS providers and between maritime CMRS providers and other CMRS providers to ensure that market forces, rather than regulatory forces, shape the development of the CMRS marketplace. Finally, we take into account the unique nature of the Maritime Services. Specifically, we note that (1) frequencies are allocated internationally to facilitate interoperability; (2) use of maritime spectrum is subject to various statutes, treaties, and agreements; and (3) the primary purpose of these services is to provide for the safety of life and property at sea and on inland waterways.

II. BACKGROUND

4. The Maritime Services provide for the unique distress, operational, and personal communications needs of vessels at sea and on inland waterways.[5] There are two types of coast stations: public coast stations and private coast stations. Public coast stations are CMRS providers that allow ships at sea to send and receive messages and to interconnect with the public switched network.[6] Each public coast station has exclusive use of one or more public correspondence channels within its service area or region of operation. In contrast, private coast stations operate on shared frequencies to serve vessels' business and operational needs, and may not charge fees for the provision of communications services. Both public and private coast stations may use VHF band frequencies to serve a port or coastal area; or low frequency (LF), medium frequency (MF), and high frequency (HF) band frequencies to serve vessels on the high seas, often

[5] For a fuller description of the Maritime Services and the history of this proceeding, see *Second Report and Order*, 12 FCC Rcd at 16953-56.

[6] *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); *see also* 47 C.F.R. § 20.9(a)(5).

hundreds or even thousands of miles from land. Maritime frequencies are allocated internationally by the International Telecommunication Union (ITU) to facilitate interoperable radio communications among vessels of all nations and stations on land worldwide.

5. Based on the comments received in response to the 1992 *Notice of Proposed Rule Making and Notice of Inquiry* in this proceeding,[7] the Commission released a *First Report and Order* in 1995 adopting rules that increased the flexibility of VHF and high seas public coast station licensees.[8] It also released a *Further Notice of Proposed Rule Making* in response to commenters' requests for more flexible regulatory treatment of public coast stations and accommodations for enhancements in marine communications equipment.[9] In 1997, the Commission released a *Second Report and Order and Second Further Notice of Proposed Rule Making* (*Second Report and Order* and *Second Further Notice*), in which it adopted rules to allow public coast stations to use various innovative technologies.[10] The Commission also proposed rules for geographic area licensing in the VHF public coast station service, and sought comment on various related proposals; proposed to streamline AMTS licensing procedures, eliminate the current emission restrictions and channel plan, and increase the permitted power level for AMTS point-to-point communications; and proposed to extend the construction requirement and eliminate the channel loading requirement for high seas public coast stations, and to permit high seas private coast stations to share certain high seas public coast station frequencies.[11] Eighteen comments and eight reply comments to the *Second Further Notice* were received.[12]

6. Section 309(j)(2) of the Communications Act formerly stated that mutually exclusive applications for initial licenses or construction permits were auctionable if the principal use of the spectrum was for subscriber-based services, and competitive bidding would promote the expressed objectives of the Communications Act.[13] The Commission concluded that the public coast service, including VHF, high seas, and AMTS public coast stations, was a CMRS[14] and subsequently decided that mutually exclusive

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7 Amendment of the Commission's Rules Concerning Maritime Communications, *Notice of Proposed Rule Making and Notice of Inquiry*, PR Docket No. 92-257, 7 FCC Rcd 7863 (1992).

8 Amendment of the Commission's Rules Concerning Maritime Communications, *First Report and Order*, PR Docket No. 92-257, 10 FCC Rcd 8419, 8421-25, 8431 (1995).

9 Amendment of the Commission's Rules Concerning Maritime Communications, *Further Notice of Proposed Rule Making*, PR Docket No. 92-257, 10 FCC Rcd 5725 (1995) (*Further Notice*).

10 *Second Report and Order*, 12 FCC Rcd at 16951-52.

11 *Id.* at 16952.

12 A list of commenters is provided in Appendix A.

13 *See* 47 U.S.C. § 309(j) (1996).

14 *See Second Further Notice*, 12 FCC Rcd at 17011 (citing 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)).

applications for public coast station licenses would be resolved through competitive bidding.[15] On August 5, 1997, after release of the *Second Further Notice*, President Clinton signed into law the Balanced Budget Act of 1997 (Balanced Budget Act),[16] which expanded the Commission's auction authority by amending Section 309(j) of the Communications Act to provide that all mutually exclusive applications for initial licenses or construction permits *shall* be auctioned, with certain exceptions not applicable here.[17] The Balanced Budget Act does not require a reexamination of the conclusion that public coast station licenses are auctionable.[18]

7. On July 9, 1998, the Commission released a *Third Report and Order and Memorandum Opinion and Order* (*Third Report and Order*) in this proceeding, in which it adopted rules to utilize a geographic area licensing approach for VHF public coast stations.[19] We designated forty-two licensing regions, known as VHF Public Coast Areas (VPCs): nine maritime VPCs near major waterways based on U.S. Coast Guard Districts, and thirty-three inland VPCs based on the Commerce Department's Economic Areas (EAs).[20] The new rules provided for a single licensee for all unassigned VHF public correspondence channels in each VPC, to be selected by competitive bidding.[21] We permitted the continued operation of incumbents using VHF public coast station spectrum, and required incumbents and VPC licensees to afford each other interference protection.[22] We also adopted a substantial service construction requirement for VPC licenses and permitted partitioning[23] and disaggregation[24] of those licenses.[25] The *Third Report and Order* did not address the proposals in the *Second Further Notice* regarding AMTS and high seas spectrum,

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15 *See Third Report and Order*, 13 FCC Rcd at 19881 (citing *Second Further Notice*, 12 FCC Rcd at 17011 (citing Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, *Second Report and Order*, 9 FCC Rcd 2348, 2356-57 (1994) (*Competitive Bidding Second Report and Order*))).

16 Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 (Balanced Budget Act).

17 47 U.S.C. § 309(j) (as amended by Balanced Budget Act, § 3002).

18 *Third Report and Order*, 13 FCC Rcd at 19881.

19 *Id.* at 19855-56.

20 *Id.* The Bureau of Economic Analysis of the Department of Commerce has divided the United States into 172 EAs to facilitate regional economic analysis. Each EA consists of one or more economic nodes (metropolitan areas or similar areas that serve as centers of economic activity) and the surrounding counties that are economically related to the nodes. Final Redefinition of the BEA Economic Areas, Department of Commerce, Docket No. 950-3020-64-5064-01, 60 Fed. Reg. 13114 (Mar. 10, 1995).

21 *Third Report and Order*, 13 FCC Rcd at 19855-56.

22 *Id.*

23 "Partitioning" is the assignment of geographic portions of a license along geopolitical or other boundaries.

24 "Disaggregation" is the assignment of discrete portions or "blocks" of spectrum licensed to a geographic licensee or qualifying entity.

25 *Third Report and Order*, 13 FCC Rcd at 19872-74.

deferring resolution of those issues until they could be considered as part of a broader reexamination of the AMTS and high seas licensing schemes.[26]

8. In accordance with the *Third Report and Order*, the Commission conducted an auction of the forty-two VPC licenses from December 3, 1998, to December 14, 1998.[27] On May 19, 1999, twenty-six VPC licenses were granted by the Commission.[28]

9. While our actions in this proceeding are designed to improve maritime telecommunications, 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. The FCC does not endorse any particular services, technologies, or products, and grant of an FCC license does not guarantee business success. Applicants should perform their individual due diligence before proceeding in an auction, as they would with any new business venture.

III. FOURTH REPORT AND ORDER

A. Automated Maritime Telecommunications System (AMTS) Spectrum

10. An AMTS is a specialized system of coast stations providing integrated and interconnected marine voice and data communications, somewhat like a cellular phone system, for tugs, barges, and other vessels on waterways.[29] AMTS licensees must provide continuity of service to either a substantial navigational area along a coastline; or sixty percent of one or more inland waterways, except that a waterway less than 240 kilometers (150 miles) long must be served in its entirety,[30] and waterways small enough to be served by a single station are not eligible for AMTS service.[31] There currently are three AMTS providers[32]: RegioNet Wireless LLC (RegioNet)[33] and Paging Systems, Inc. (PSI), which are

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26 *Id.* at 19855 n.3.

27 *See* Auction of 156-162 MHz VHF Public Coast Service Licenses, *Public Notice*, 13 FCC Rcd 24874, 2874 (1998); VHF Public Coast Service Auction Closes, *Public Notice*, 14 FCC Rcd 480, 480 (1999).

28 *See* FCC Announces the Conditional Grant of 26 VHF Public Coast Service Licenses, *Public Notice*, DA 99-195, at 1 (rel. May 21, 1999).

29 Amendment of Parts 2 and 80 of the Commission's Rules Applicable to Automated Maritime Telecommunications Systems (AMTS), *First Report and Order*, RM-5712, 6 FCC Rcd 437, 437 (1991) (*AMTS First Report and Order*).

30 47 C.F.R. § 80.475(a).

31 Fred Daniel d/b/a Orion Telecom, *Memorandum Opinion and Order*, 13 FCC Rcd 25313, 25315 (WTB PS&PWD 1998), *aff'd*, *Order on Reconsideration*, 14 FCC Rcd 1050 (WTB PS&PWD 1999), *review denied*, *Memorandum Opinion and Order*, FCC 99-358 (rel. Nov. 24, 1999).

32 In addition, Warren C. Havens recently was authorized to construct and operate AMTS stations along certain inland waterways.

33 RegioNet is the successor of Fred Daniel d/b/a Orion Telecom (Orion). Orion submitted comments in this proceeding, but, for consistency, we will refer to the company as RegioNet.

licensed to serve much of the Atlantic, Pacific, Hawaii (PSI only), Great Lakes, and Puerto Rico (PSI only) coastlines,[34] and Waterway Communications System LLC (Watercom), serving the Mississippi River system and Gulf of Mexico.[35] There are two frequency groups of twenty channel pairs each in the 217-220 MHz band available for assignment to AMTS stations[36] to use for voice, facsimile, and radioteletypewriter communications.[37] AMTS stations also are 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 (LPRS) in Part 95 of our Rules.[38] The Commission requested comment on a variety of AMTS licensing issues in the *Second Further Notice* in this proceeding.[39]

1. Siting flexibility

11. *Proposal.* In establishing the AMTS service, the Commission considered the potential for interference to television reception, particularly Channels 13 and 10.[40] Consequently, applications for authority to operate a new AMTS transmitter within 169 kilometers (105 miles) of a Channel 13 television station or 129 kilometers (80 miles) of a Channel 10 television station, or with an antenna height greater than 61 meters (200 feet) above ground, must include an engineering study showing how harmful interference to television reception will be avoided,[41] and the applicant must notify each television station that may be affected so that the broadcaster can comment on the proposed construction.[42] Moreover, any AMTS licensee that causes such interference must cure the problem or cease operations.[43] In addition,

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34 Fred Daniel d/b/a Orion Telecom, *Memorandum Opinion and Order*, DA 98-1368, ¶¶ 3-4, 15-16 (WTB PSP&PWD rel. July 9, 1998).

35 *Second Further Notice*, 12 FCC Rcd at 17005. In addition, applications from other parties are pending.

36 47 C.F.R. § 80.385(a)(2). AMTS originally was allocated eighty frequency pairs, divided into four twenty-pair groups: Groups A and B in the 217-218 MHz and 219-220 MHz bands, and Groups C and D 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 the Commission designated this band for low power communications. In addition, the 218-219 MHz band has been reallocated to the 218-219 MHz Service. Thus, Groups C and D are no longer assignable to AMTS coast stations. *Second Further Notice*, 12 FCC Rcd at 17005 n.242.

37 47 C.F.R. § 80.479(a).

38 47 C.F.R. § 95.629(a).

39 *Second Further Notice*, 12 FCC Rcd at 17004-11.

40 *AMTS First Report and Order*, 6 FCC Rcd at 437.

41 The Commission conducted a study to analyze the interference potential from AMTS systems to TV reception. *See* R. Eckert, *Guidance for Evaluating the Potential for Interference to TV from Stations of Inland Waterways Communications Systems*, FCC/OST TM82-5 (July 1982). This report is a model for applicants to use in performing any required engineering analysis of potential interference, including determination of interference contours. *AMTS First Report and Order*, 6 FCC Rcd at 437.

42 47 C.F.R. § 80.475(a).

43 47 C.F.R. § 80.215(h)(4).

AMTS operations must not cause harmful interference to the United States Navy's Space Surveillance System (SPASUR),[44] which operates in the 216.880-217.080 MHz band.[45] The Commission tentatively concluded in the *Second Further Notice* that AMTS licensees should be permitted to construct "fill-in" sites and stations[46] at remote fixed locations within their service areas with a minimum of regulatory burdens, and sought comment on how to streamline regulatory procedures while still protecting over-the-air television reception.[47]

12. *Decision.* As requested by RegioNet, PSI, and Watercom, we will revise our Rules to eliminate the application and engineering study requirements and modify the broadcaster notification requirement for new AMTS stations whose predicted interference contours do not encompass any land area beyond the composite interference contour of the applicant's existing system.[48] We conclude that this approach is consistent with our treatment of certain other CMRS licensees.[49] The AMTS licensee shall be required, at least 15 days before the station is put into operation, to notify, in writing, all television stations that might be affected by the fill-in station of its technical characteristics, the date it will be put into operation, and the licensee's contact representative in the event a broadcaster experiences interference. In addition, AMTS licensees will be required to provide the location of fill-in stations to the organizations that keep track of AMTS locations for amateur operators[50] so that amateur service licensees can abide by the notification and exclusion distances in our Rules.[51] Licensees need not file applications to construct and operate fill-in stations, but must, upon request by the Commission, supply administrative and technical information concerning such stations.[52] Fill-in stations shall be fully subject to the requirement that AMTS stations cause no harmful interference to television reception, or discontinue operations.[53] We believe that this procedure will streamline the licensing process for fill-in stations and facilitate service to currently unserved areas, while still providing a sufficient safeguard against harmful interference.

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44 The SPASUR radar system is located in the southern United States and consists of three high-power transmitter locations and six receiver locations. Amendment of the Commission's Rules Concerning Low Power Radio and Automated Maritime Telecommunicatins System Operations in the 216-217 MHz Band, *Report and Order*, 11 FCC Rcd 18517, 18519 (1996) (*LPRS Report and Order*).

45 47 C.F.R. § 80.385(a)(2).

46 "Fill-in" stations are stations that do not expand the interference contour of the system as a whole. *See* Implementation of Sections 3(n) and 332 of the Communications Act, *Further Notice of Proposed Rule Making*, 9 FCC Rcd 2863, 2873-74 (1994).

47 *Second Further Notice*, 12 FCC Rcd at 17006.

48 RegioNet Comments at 5, Reply Comments at 4-5; PSI Comments at 3; Watercom Comments at 2.

49 *See* 47 C.F.R. § 22.165(d)(1), (g); *see also* Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, *Second Report and Order*, PR Docket No. 93-144, 12 FCC Rcd 19079, 19096-98 (1997) (*800 MHz SMR Second Report and Order*).

50 The two organizations are the American Radio Relay League, Inc., and Interactive Systems, Inc. *See* 47 C.F.R. § 97.303(e).

51 *See* 47 C.F.R. §§ 80.385(a), 97.303(e)(4), (5).

52 *Cf.* 47 C.F.R. § 22.165(i).

53 47 C.F.R. § 80.215(h).

13. The AMTS operators note that nearly all of their transmitters have required engineering studies and broadcaster notification, but none have caused harmful interference.[54] Orion and PSI argue that the distance and antenna height criteria triggering the engineering study and broadcaster notification requirements, which have not changed since 1981,[55] are obsolete due to technological changes in television receivers and the expansion of cable television.[56] The National Association of Broadcasters and the Association for Maximum Service Television (NAB/MSTV), associations representing television stations, respond that these rules should not be relaxed, because there have been few changes in technology that would justify less restrictive protection criteria, and, even if the technology has improved, many older television receivers remain in use.[57] They further argue that a lack of complaints does not necessarily indicate a lack of interference, because viewers respond to interference by changing channels rather than complaining.[58] NAB/MSTV further argue that it is unclear whether digital television receivers are any less susceptible to AMTS interference than analog receivers.[59] We are unpersuaded by NAB/MSTV, and we find that adding flexibility as discussed above to our AMTS licensing rules with respect to fill-in stations will not result in increased interference to television stations.[60]

14. As requested by RegioNet and PSI,[61] we also amend Section 80.477 of our Rules to authorize AMTS stations to provide fixed service communications on a secondary basis to support AMTS deployment in remote fixed locations at which other communications facilities are not available.[62] We already provide AMTS licensees in the offshore waters of the Gulf of Mexico with authority to use AMTS coast and ship station frequencies on a secondary basis for fixed service communications to support off-shore AMTS operations.[63] This amendment of Section 80.477 of our Rules will enhance regulatory symmetry among maritime CMRS providers and other CMRS providers.

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54 RegioNet Comments at 7-8; PSI Comments at 2; Watercom Comments at 2.

55 *See* Amendment of Parts 2, 81 and 83 of the Commission's Rules to Allocate Spectrum for an Automated Inland Waterways Communications System (IWCS) along the Mississippi River and Connecting Waterways, *Report and Order*, GEN Docket No. 80-1, 84 FCC 2d 875 (*IWCS Report and Order*), *on reconsideration*, *Memorandum Opinion and Order*, GEN Docket No. 80-1, 88 FCC 2d 678 (1981) (*IWCS MO&O*), *aff'd sub nom. WJG Tel. Co. v. FCC*, 675 F.2d 386 (D.C. Cir. 1982).

56 RegioNet Comments at 5-7, Reply Comments at 2-3; PSI Comments at 2.

57 NAB/MSTV Comments at 3-4, Reply Comments at 2-3.

58 NAB/MSTV Comments at 4-5.

59 *Id.* at 5-6.

60 *See LPRS Report and Order*, 11 FCC Rcd at 18526. We address RegioNet's proposal to eliminate the engineering study for all AMTS stations in the *Third Further Notice of Proposed Rule Making*, *infra*, ¶¶ 45-49.

61 RegioNet Comments at 5; PSI Comments at 3; *see also* Request for Advisory Opinion from Dennis C. Brown, counsel for RegioNet, to Roger Noel, Private Wireless Division, Wireless Telecommunications Bureau (Mar. 5, 1996).

62 *See* 47 C.F.R. § 80.453(b).

63 *Id.*

15. Finally, we deny RegioNet's request that AMTS licenses be modified by rule to include temporary fixed station authority allowing licensees to conduct short duration tests of expanded service areas.[64] We note that RegioNet's request goes far beyond the authority granted to the Offshore Radiotelephone Service, which applies only when the service of permanent fixed stations is disrupted by storms or other emergencies.[65]

2. Construction flexibility

16. *Proposal.* Because an AMTS licensee must provide continuity of service to its service area, which entails a system of stations, we typically grant authorizations for each station in the system on the same date.[66] Currently, AMTS stations must be placed in operation within eight months from when the license is granted,[67] but licensees often have found eight months to be insufficient to construct an entire system, and have routinely requested additional time, up to two years.[68] The Commission proposed in the *Second Further Notice* to extend the construction period to two years for each station within a new AMTS system and one year for subsequently licensed stations that extend an existing system's service area (a "system extension"), with no construction requirements for fill-in stations.[69]

17. *Decision.* We agree with RegioNet that the construction requirement for new AMTS systems and system extensions should be extended from eight months to two years because our experience has shown that eight months generally is not sufficient time in which to construct a system of coast stations.[70] At this time, we do not believe it is necessary to distinguish between new systems and system extensions, or among system extensions, so we reject PSI's suggestion that the construction requirement for a multiple-station system extension be two years but the requirement for a single-station extension be one year.[71] We reserve the discretion to revisit this issue at a future time should circumstances so dictate. No construction requirement will apply to fill-in stations because of our decision today eliminating the requirement of prior Commission authorization.[72]

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64 RegioNet Comments at 5-6.

65 *See* 47 C.F.R. § 22.1031.

66 *Second Further Notice*, 12 FCC Rcd at 17007.

67 *See* 47 C.F.R. § 80.49(a)(2).

68 *Second Further Notice*, 12 FCC Rcd at 17007.

69 *Id.* at 17007-08.

70 *See* RegioNet Comments at 8.

71 *See* PSI Comments at 4.

72 *See supra*, ¶ 12.

3. Technical flexibility

18. *Proposal.* The Commission's technical requirements governing the authorized power, emission types, and bandwidth of AMTS transmissions sometimes limit the particular technologies that licensees can use and the services they may offer to the maritime community.[73] For example, the requirement that AMTS stations use FM radio equipment for all transmissions precludes the use of narrowband technologies such as amplitude compandored single sideband,[74] which is used in the immediately adjacent 220-222 MHz band.[75] The Commission proposed in the *Second Further Notice* to eliminate the modulation and channelization requirements for AMTS coast stations, so long as transmissions do not exceed the adjacent channel emission limitations of each station's authorization.[76] It also proposed to amend the rule governing power output measurement of AMTS coast stations to measure transmission power at the antenna input,[77] rather than the transmitter output,[78] and to increase AMTS transmitter power under the Low Power Radio Service (LPRS)[79] beyond the current 100 mW limit.[80] Finally, the Commission proposed affording AMTS stations flexibility to provide fixed or hybrid CMRS services.[81]

19. *Decision.* We conclude that the record in this proceeding supports allowing AMTS transmitters to use any modulation or channelization scheme so long as emissions are attenuated at the band edges of each station's assigned frequency group(s) in accordance with Section 80.211 of our Rules.[82] This action will benefit the maritime community by increasing the number and types of telecommunications services available while promoting more efficient use of the maritime radio spectrum. We believe that the modulation and channelization requirements, which are designed to prevent co-channel interference, are unnecessary here because AMTS channels are licensed in blocks.[83] Further, we conclude that eliminating

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73 *Second Further Notice*, 12 FCC Rcd at 17008-09.

74 Amplitude compandored single sideband is an AM modulated scheme that suppresses the main carrier and puts all the power into one of the sidebands. *See* Applications of Contemporary Communications Corporation for Developmental Authorization for New Two-Way Stations Using Amplitude Compandored Single Sideband in the Public Land Mobile Service, *Memorandum Opinion and Order*, 98 FCC 2d 1229 (1984).

75 *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, *Report and Order*, PR Docket No. 89-552, 6 FCC Rcd 2356 (1991).

76 *Second Further Notice*, 12 FCC Rcd at 17009.

77 *Id.*

78 47 C.F.R. § 80.215(h)(5).

79 *Second Further Notice*, 12 FCC Rcd at 17010-11.

80 47 C.F.R. § 95.1013(a).

81 *Second Further Notice*, 12 FCC Rcd at 16999-17000.

82 *See* 47 C.F.R. § 80.211.

83 RegioNet Comments at 3; *see also* PSI Comments at 4; National Marine Electronics Association Comments at 1.

these requirements will allow AMTS licensees to take advantage of technological developments in an effort to provide both additional and improved services. Given the current rules requiring AMTS applicants to notify broadcasters and eliminate any interference, we find NAB/MSTV's concern that eliminating the modulation and channelization requirements could result in increased out-of-band emissions insufficient to defeat the proposed rule change.[84]

20. We also conclude that the record supports amending the rules governing output power measurement for AMTS stations. The amended rules will provide that the transmission power be measured at the antenna input rather than the transmitter output. We agree with RegioNet that this will make AMTS system designers better able to use innovative transmission combining solutions without sacrificing system performance, and will make the AMTS rules consistent with those governing VHF public coast stations.[85]

21. In addition, we conclude that the permissible effective radiated power should be increased from 100 mW to 1 W for AMTS point-to-point network control communications over LPRS spectrum.[86] We believe that this is a reasonable power limit which will result in minimal harmful interference potential for television reception and other LPRS users. As requested by NAB/MSTV,[87] we will revise our rules to make clear that any emissions at or below 216 MHz must be attenuated in accordance with Section 80.211 of our Rules,[88] and we shall retain the broadcaster notification[89] and interference resolution requirements for these links.[90] However, we find unpersuasive NAB/MSTV's suggestions to move the requirements for these links from Part 95 of the Commission's Rules to Part 80, and to subject these links to the same engineering study requirements as apply to other AMTS transmissions.[91] The Commission generally relocates rules only to eliminate redundancy or make them easier to understand and use, and we do not believe that moving the LPRS rules, or copying them, to the Part relating to only one group of LPRS users[92] would accomplish either of these goals.[93] We do not believe that requiring engineering studies for AMTS LPRS transmitters is

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84 NAB/MSTV Comments at 7-8.

85 *See* RegioNet Comments at 3.

86 *Id.* at 8-9; PSI Comments at 4.

87 NAB/MSTV Comments at 7.

88 47 C.F.R. § 80.211.

89 47 C.F.R. § 95.1015(b).

90 47 C.F.R. §§ 80.215(h)(4), 80.385(a)(2), 95.1011(c); *see LPRS Report and Order*, 11 FCC Rcd at 18533.

91 NAB/MSTV Comments at 7.

92 In addition to AMTS point-to-point network control transmitters, the LPRS consists of the following types of devices: auditory assistance devices for persons with disabilities, health care assistance devices, and law enforcement tracking systems. 47 C.F.R. § 95.1009.

93 *See, e.g.*, Reorganization and Revision of Parts 1, 2, 21, and 94 of the Commission's Rules to Establish a New Part 101 Governing Terrestrial Microwave Fixed Radio Services, *Report and Order*, WT Docket No. 94-148, 11 FCC Rcd 13449, 13452 (1996); Reorganization and Revision of Parts 81 and 83 of the Rules to Provide a New Part 80 Governing the Maritime Radio Services, *Report and Order*, PR Docket No. 85-145, 60 Rad. Reg. 2d (P & F) 1550, FCC 86-141, ¶ 1 (rel. Apr. 25, 1986).

necessary to protect television reception.[94] Generally, AMTS LPRS transmitters, like AMTS fill-in sites, have interference contours fully encompassed by the system's composite interference contour. Thus, as we have concluded above with reference to fill-in sites, we believe that television reception will be sufficiently protected by notification to broadcasters of the location of LPRS transmitters and the requirement that an AMTS licensee causing harmful interference alleviate the problem or cease operating.

22. In addition, RegioNet proposes eliminating the requirement in Section 80.215(e)(2), (i) of our Rules that AMTS ship radios include the capacity to reduce the carrier power to 2.5 W with a front panel control.[95] RegioNet argues that the requirement increases terminal costs and complicates subscriber operation.[96] We also note that no such requirement applies to VHF ship radios used in automated systems.[97] We conclude that the requirement of a front panel power control is not necessary for purposes of avoiding harmful interference from AMTS transceivers, and that the requirement should be eliminated.[98] RegioNet also seeks a ruling that Section 80.70 of our Rules, which requires coast stations above 150 MHz to minimize interference to other coast stations, does not apply to AMTS stations,[99] but, because RegioNet has not explained how Section 80.70 prevents AMTS licensees from using new technology or offering additional services, we find this request to be beyond the scope of this proceeding.[100]

23. Finally, we agree with RegioNet that allowing AMTS licensees to provide fixed or hybrid CMRS services on a co-primary basis with mobile services will be beneficial.[101] Affording AMTS licensees operational flexibility will enhance their ability to meet customer requirements and demand, and promote regulatory parity among maritime CMRS providers[102] and between maritime CMRS providers and other CMRS providers.[103]

B. High Seas Public Coast Station Spectrum

24. High seas public coast stations, which operate on LF (.100-.160 MHz band), MF (.405-.525 and 2 MHz bands), and HF (4, 6, 8, 12, 16, 18/19, 22, and 25/26 MHz bands) frequencies, can serve

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94 *See* RegioNet Reply Comments at 5-6.

95 RegioNet Comments at 4 (citing 47 C.F.R. § 80.215(e)(2), (i)).

96 *Id.*

97 47 C.F.R. § 80.215(e)(1).

98 *See* Kenwood Communications Corp., *Order*, 13 FCC Rcd 4415, 4417 (WTB PS&PWD 1998) (granting waiver of the requirement).

99 RegioNet Comments at 3 (citing 47 C.F.R. § 80.70).

100 *See Second Further Notice*, 12 FCC Rcd at 17008.

101 *See* RegioNet Comments at 2.

102 *See Third Report and Order*, 13 FCC Rcd at 19877.

103 *See* Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Radio Service, *First Report and Order and Further Notice of Proposed Rule Making*, WT Docket No. 96-6, 11 FCC Rcd 8965, 8973-77 (1996).

vessels thousands of miles away.[104] These stations provide a variety of voice and data telecommunications services, including radiotelephone (voice), radiotelegraph (manual Morse code), facsimile, and narrow-band direct printing (NB-DP) and data transmission.[105] High seas public coast frequencies are assigned for exclusive use in accordance with the ITU Radio Regulations, which specify how each frequency may be used.[106] They are allotted on a geographic or nationwide basis, depending on the type of service to which they are allocated, and are assigned on a site-by-site basis.[107] These frequencies' propagation characteristics make some bands unusable at certain hours due to varying atmospheric or solar conditions, so high seas stations require frequencies in several bands in order to be able to provide service at all times.[108] Presently, an initial application for high seas public coast HF radiotelephone, radiotelegraph (except on the Mississippi River), or NB-DP frequencies is limited to one frequency in each band, and licensees may be assigned additional frequencies only if certain loading criteria are met.[109]

25. *Proposal.* The Commission proposed in the *Second Further Notice* to eliminate channel loading requirements for high seas public coast stations, and sought comment on modifying the number of frequencies that may be obtained per application.[110] It also proposed to extend the existing construction requirement from eight months[111] to twelve months.[112] In addition, the Commission tentatively decided, in light of comments received in response to the *Further Notice*, to redistribute MF marine frequencies by permitting MF private coast stations to use unassigned public coast station frequency pairs in the 2 MHz band on a shared basis with other private coast stations, and sought further comment regarding the procedures that would govern such an arrangement, and on expanding it to all MF and HF bands below 27.5 MHz.[113] Finally, the Commission proposed that where two or more entities apply for an authorization on the same channel in the same region (where applicable) within thirty days of the date that the first application is placed on public notice, the applications would be considered mutually exclusive and the frequency assigned by competitive bidding procedures.[114]

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104 *Second Further Notice*, 12 FCC Rcd at 17001-02.

105 *Id.*

106 *Id.* at 17002.

107 *Id.* at 17002-04.

108 *Id.* at 17001.

109 An additional channel may be authorized when a foreign station causes harmful interference on the initially granted channel, or the assigned channel(s) is occupied more than 40 percent of the time during the busiest hours of operation. 47 C.F.R. §§ 80.357(b)(2)(ii)(B), 80.361(a)(2), 80.371(b), 80.374(a)(2).

110 *Second Further Notice*, 12 FCC Rcd at 17003-04.

111 47 C.F.R. § 80.49.

112 *Second Further Notice*, 12 FCC Rcd at 17003-04.

113 *Id.* at 17013-14.

114 *Id.* at 17004.

26. *Decision*. We agree with public coast station licensees Globe Wireless and Mobile Marine Radio, Inc. (MMR) that we should eliminate the HF channel loading requirements, including any limit on the number of frequencies that may be obtained in an initial or subsequent application.[115] Continuing to impose such requirements could unfairly impair the ability of service providers to compete with other maritime CMRS providers. Efficient use of high seas public coast station spectrum is more appropriately monitored through construction requirements than by requiring channel loading.

27. In addition, we are extending the high seas public coast station construction requirement to twelve months. We agree with Globe Wireless and MMR[116] that this construction requirement will encourage intensive use of the spectrum.[117] Given that a single high seas public coast station can serve vessels thousands of miles away, we believe that employing long-term construction requirements based on population or geographic service areas is inappropriate. Rather, we believe that rapid delivery of service to the public will be promoted by requiring high seas public coast licensees to place each newly assigned channel in operation -- that is, being capable of transmitting and receiving public correspondence on the channel -- within twelve months of the initial license grant. This twelve-month period is consistent with the construction periods the Commission has adopted for other site-based CMRS licensees.[118] We reject MMR's argument that we should require licensees to be able to transmit on each channel simultaneously instead of using frequency-agile transmitters,[119] for other CMRS providers are not subject to such a requirement,[120] which we find would increase the cost of placing a new public coast station into service and thereby undermine the development of competition in the Maritime Services.[121]

28. In the *Third Further Notice of Proposed Rule Making*, we undertake a broad reexamination of the high seas public coast station licensing scheme. Consequently, we will not adopt our proposal for identifying and resolving mutually exclusive high seas public coast station applications, or the proposal to reallocate 2 MHz frequencies to private coast station use.

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115 *See* Globe Wireless Comments at 3; MMR Comments at 12-13.

116 *See* Globe Wireless Comments at 3; MMR Comments at 13.

117 *See* 47 U.S.C. § 309(j)(4)(B).

118 *See* Implementation of Sections 3(n) of the Communications Act - Regulatory Treatment of Mobile Services, *Third Report and Order*, GN Docket No. 93-252, 9 FCC Rcd 7988, 8074-75 (1994).

119 MMR Comments at 13; *see also* Globe Wireless Reply Comments at 1. *But see* BRC Reply Comments at 3.

120 *See, e.g.*, Amendment of the Commission's Rules to Establish New Personal Communications Services, *Third Report and Order*, GEN Docket No. 90-314, 9 FCC Rcd 1337, 1341, 1359-60 (1994).

121 *Third Report and Order*, 13 FCC Rcd at 19870-71; *see* AT&T Corp., *Memorandum Opinion and Order*, 14 FCC Rcd 13225, 13227 ¶ 6 (IB 1999) (regarding AT&T's application to close its high seas public coast stations because they were no longer economically viable).

IV. THIRD FURTHER NOTICE OF PROPOSED RULE MAKING

A. AMTS Spectrum

1. Geographic area licensing

29. Unlike most other CMRS providers, AMTS stations are licensed by individual sites within multi-station systems, rather than by Commission-defined service areas.[122] As noted above, the *Third Report and Order* in this proceeding adopted rules to convert the licensing of VHF public coast stations from site-based licensing to geographic licensing.[123] We concluded that such an approach would facilitate the development of wide-area systems and provide greater operational flexibility for licensees, promote competition and regulatory symmetry between VHF public coast stations and other CMRS providers, and reduce administrative burdens on the public and the Commission.[124] We note that in many respects VHF and AMTS public coast stations are governed by the same rules, and we tentatively conclude that they serve similar markets. We therefore must consider whether the statutory objective of regulatory symmetry among CMRS providers dictates that we convert AMTS licensing to a geographic basis.[125] We tentatively conclude that our current procedure for determining mutual exclusivity is no longer in the public interest because it could delay assignment of subsequent AMTS licenses and place undue administrative burdens on the public and the Commission. In addition, because the Balanced Budget Act mandates the use of competitive bidding procedures to resolve mutually exclusive applications for initial licenses (except for certain types of licenses that do not include AMTS and other public coast stations), our current procedure for resolving mutually exclusive AMTS applications may no longer be used. We acknowledge that the Commission has retained site-based licensing for some auctionable services, but those decisions were based on unique circumstances relating to those services, which are not relevant for AMTS.[126]

30. We propose a transition from the current licensing approach to geographic area licensing. We tentatively conclude that such an approach would speed assignment of subsequent AMTS licenses, reduce processing burdens on the Commission, facilitate the expansion of existing AMTS systems and the development of new AMTS systems, eliminate inefficiencies arising from the intricate web of relationships

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122 47 C.F.R. § 80.54; *Second Further Notice*, 12 FCC Rcd at 17007.

123 *Third Report and Order*, 13 FCC Rcd at 19855-56.

124 *Id.* at 19859-60; *Second Further Notice*, 12 FCC Rcd at 16988.

125 47 U.S.C. § 332; *see, e.g.*, Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems, *Second Report and Order and Further Notice of Proposed Rulemaking*, WT Docket No. 96-18, 12 FCC Rcd 2732, 2737 (1997).

126 *See* Implementation of Sections 309(j) of the Communications Act, Competitive Bidding for Commercial Broadcast and Instructional Television Fixed Service Licenses, MM Docket No. 97-234, *First Report and Order*, 13 FCC Rcd 15920 (1998) (commercial analog broadcast service and Instructional Television Fixed Service licenses); *See* Implementation of Sections 309(j) of the Communications Act, Competitive Bidding, PP Docket No. 93-253, Amendment of Part 22 of the Commission's Rules to Provide for the Filing and Processing of Applications for Unserved Areas in the Cellular Service and to Modify Other Cellular Rules, CC Docket No. 90-6, *Ninth Report and Order*, 11 FCC Rcd 14769 (1996) (licenses for cellular unserved areas created from the geographic area not covered by the Cellular Geographic Service Area of each licensee).

made possible by site-specific authorization, and enhance regulatory symmetry.[127] We seek comment on our proposal to use a geographic licensing approach for AMTS spectrum, and on the tentative conclusions underlying it. To the extent that commenters oppose a geographic licensing approach, we ask them to discuss which 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. In addition, we seek comment on whether the use of band manager licensing may also be an appropriate alternative method of accomplishing the objectives that we strive to achieve through our partitioning and disaggregation rules. Band managers would be a class of Commission licensee that would engage in the business of making spectrum available for use by others through private, written contracts. We seek comment generally on the possible use of band managers for the AMTS spectrum. Should we decide to license band managers for this spectrum, we seek comment on whether licensees should be permitted to choose to operate either as band managers (*i.e.*, spectrum brokers), or as traditional licensees, or both. We invite comment on the advantages and disadvantages of band manager licensing and the approaches identified above. We also seek comment on all the rules that would apply to band managers.[128] Commenters also should address whether some other licensing approach would be most effective for AMTS spectrum.

2. Service areas

31. In the *Third Report and Order*, we established VPCs as the geographic licensing areas for VHF public coast stations.[129] The VPCs near major waterways,[130] known as maritime VPCs,[131] are composed of one or more EAs and approximate the nine U.S. Coast Guard Districts.[132] The VPCs in other areas, known as inland VPCs, consist of individual EAs no part of which is within one hundred miles of a major waterway.[133] The division of the country into large maritime VPCs and small inland VPCs furthered the Commission's goal of facilitating the development of wide-area multi-channel systems along waterways, while accommodating the current use of those frequencies away from waterways, where the spectrum is shared by certain private land mobile radio (PLMR) licensees.[134]

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127 *See* Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as amended, *Notice of Proposed Rule Making*, 14 FCC Rcd 5206, 5237-38 (1999).

128 *See* Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, WT Docket No. 99-168, *Second Report and Order*, 15 FCC Rcd 5299, 5321-28, 5331-33 (2000) (establishing Guard Band Manger licenses for the 700 MHz guard bands and adopting Subpart G of Part 27 of the Commission's rules and other rules governing Guard Band Manager licenses).

129 *Third Report and Order*, 13 FCC Rcd at 19862.

130 *I.e.*, the Atlantic and Pacific Oceans; the Gulf of Mexico and Gulf Intracoastal Waterway; the Great Lakes; and the Mississippi, Missouri, Ohio, Tennessee, Arkansas, Red, and Columbia Rivers. *Id.* at 19862 n.46.

131 *Id.* at 19862.

132 *See* 33 C.F.R. Part 3.

133 *Third Report and Order*, 13 FCC Rcd at 19862.

134 *Id.* at 19861-62.

32. We seek comment on whether VPCs provide an appropriate basis for defining AMTS geographic licensing areas.[135] Commenters should discuss whether, in light of the fact that there are no PLMR licensees sharing AMTS spectrum in inland areas, the VPC boundaries should be adapted for AMTS by combining the inland VPCs into a single licensing area, or redistributing the inland VPCs among the surrounding maritime VPCs so as to approximate Coast Guard Districts. Another alternative is to base the AMTS service areas on those used in the adjacent 220-222 MHz band, where some channels are licensed nationwide, others are licensed among six Regional Economic Area Groupings, and some are licensed by EA.[136] Because there are two AMTS frequency blocks, we could adopt no more than two of the 220 MHz band licensing schemes. We ask commenters to discuss these and any other alternative service area definitions, and the advantages and disadvantages of each.

33. We also seek comment, in light of our continuing commitment to take measures to ensure that the current and future communications needs of the public safety community are addressed, on whether the Commission should take any steps to facilitate use of AMTS spectrum by public safety entities, including setting aside some channels for public safety use.[137] We note that the Commission set aside two channels in each inland VPC for public safety use.[138] In addition, we note that some channels in the adjacent 220 MHz band have been set aside for public safety use.[139] We also seek comment on whether any steps are necessary to protect public safety operations in the 220 MHz band from AMTS interference.

3. Treatment of incumbent licensees

34. In tandem with our geographic licensing proposal, we must assess the potential impact on incumbents currently licensed to operate on AMTS spectrum. There are approximately 215 AMTS stations licensed to provide public correspondence service along the coastlines and navigable inland waterways of the United States to vessel owners and units on land. Because these stations provide an important link between waterborne vessels and the public switched network, 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 geographic licensees. Therefore, we propose that each incumbent AMTS licensee continue to be authorized to operate under the terms of its current station license.

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135 Commenters should note that AMTS service may not be provided in American Samoa, Guam, and the Northern Mariana Islands, for they lie within ITU Region 3, and the ITU has allocated the 216-220 MHz band for AMTS use in Region 2 only. *See* 47 C.F.R. § 2.104(b); *AMTS First Report and Order*, 6 FCC Rcd at 437.

136 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 Service, *Third Report and Order; Fifth Notice of Proposed Rulemaking*, PR Docket No. 89-552, 12 FCC Rcd 10943, 10949 (1997) (*220 MHz Third Report and Order*).

137 *See, e.g.*, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010, *Second Notice of Proposed Rulemaking*, WT Docket No. 96-86, 12 FCC Rcd 17706, 17710-12 (1997).

138 *Third Report and Order*, 13 FCC Rcd at 19869. Recently, we designated these channels as primarily for interoperability purposes. *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010, *Third Memorandum Opinion and Order and Third Report and Order*, WT Docket No. 96-86, FCC 00-348, ¶¶ 91-94 (rel. Oct. 10, 2000).

139 *See 220 MHz Third Report and Order*, 12 FCC Rcd at 11003.

35. Our rules currently do not define a co-channel interference protection standard for AMTS stations,[140] so we propose to rely on the co-channel interference protection standard for the 220 MHz band, which requires geographic licensees to locate their base stations at least 120 kilometers from the base stations of co-channel incumbents, except that such licensees may on a case-by-case basis be permitted to locate their base stations closer if the geographic licensees provide 10 dB protection to the incumbent's predicted 38 dBuV/m service contour.[141] We seek comment on whether this is the best co-channel interference protection standard for AMTS, or whether there is a more appropriate alternative. For example, for protection of VHF public coast stations, we specify a 12 dB ratio of desired to undesired signal strength within the incumbent's service area,[142] and we specify an 80 kilometer (49.7 mile) exclusion distance for protection of AMTS licensees from amateur operations in the 219-220 MHz band.[143]

36. In turn, we propose to protect geographic area licensee operations by allowing each incumbent AMTS licensee to renew, transfer, assign, or modify its license only if the modifications do not extend the system's service area[144] or frequency assignment, as we have for incumbents using VHF public coast spectrum.[145] Proposed modifications that would extend an AMTS incumbent's service area or request the use of additional frequencies would be contingent upon an agreement with each affected geographic area licensee. We also propose to entertain incumbents' modification requests, after the close of the auction for geographic area licenses, to consolidate the stations of each system under a single license with a single call sign, as we will for VHF public coast station incumbents.[146] To avoid manipulation and evasion of construction and renewal requirements, we propose that such consolidated licenses ordinarily expire on the expiration date of the earliest-to-expire license.[147] We seek comment on these proposals.

37. Finally, in the *Third Report and Order*, we concluded that mobile-to-mobile communications should not be permitted on VHF public coast stations because there was insufficient

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140 *See Second Further Notice*, 12 FCC Rcd at 17008. We note that AMTS stations in a system typically are spaced thirty to fifty miles apart. *Id.* at 17010.

141 47 C.F.R. §§ 90.723(i), 90.763(b)(1)(i).

142 47 C.F.R. § 80.773(a). We note that RegioNet suggested using the VHF standard in response to the Commission's request in the *Second Further Notice* for comments and technical data in support of a proposed definition of AMTS service areas for the purpose distinguishing between new systems and system extensions, *Second Further Notice*, 12 FCC Rcd at 17008. RegioNet Comments at 1-2. With respect to recent applications, RegioNet used the VHF standard to calculate the proposed stations' service contours, while PSI used the 220 MHz standards. Fred Daniel d/b/a Orion Telecom, *Memorandum Opinion and Order*, DA 98-1368, ¶ 7 n.19 (WTB PS&PWD rel. July 9, 1998).

143 47 C.F.R. §§ 80.385(a)(3), 97.303(e)(5).

144 Expanding a system's contour over water only (disregarding uninhabited islands) shall not be deemed to extend the system's service area.

145 *Third Report and Order*, 13 FCC Rcd at 19864.

146 *Id.* at 19865.

147 *See id.*

information regarding channel capacity and co-channel interference protection.[148] We were also concerned that permitting mobile-to-mobile communications may impair the Maritime Services' safety functions.[149] For the same reasons, we reach the tentative conclusion that such communications should not be permitted on AMTS spectrum either. We seek comment on this tentative conclusion.

4. Licensing

38. Presently, each AMTS must provide continuity of service to either a substantial navigational area along a coastline or sixty percent of one or more inland waterways (except that a waterway less than 240 kilometers (150 miles) long must be served in its entirety).[150] This requirement reflects the original purpose of AMTS service, which was to authorize and provide radio frequencies for automated, interconnected marine communications systems that would provide commercial vessels moving along a waterway with more convenient service than was available from individual public coast stations, by, *e.g.*, relieving them from having to repeatedly change frequencies and contact new coast stations (which may have different call set-up and billing procedures).[151] The Commission proposed in the *Further Notice* in this proceeding,[152] and adopted in the *Second Report and Order*, a rule permitting VHF and AMTS public coast stations to provide service to units on land, so long as marine-originating communications receive priority.[153] The Commission subsequently received a significant number of applications for individual AMTS stations to serve small navigable inland waterways in or near large metropolitan areas, apparently intended to serve land units in areas with little marine-originating traffic. These applications, which were denied on the grounds that waterways small enough to be served by a single station are not eligible for AMTS service, indicate a demand for AMTS spectrum away from large waterways.[154]

39. We tentatively conclude that the current requirement to serve a waterway should be modified because it is inconsistent with geographic licensing. We find that requiring AMTS stations to serve coastlines or sizable navigable inland waterways could prevent service from being offered in some licensing areas. We propose to permit each geographic area licensee to place stations anywhere within its service area to serve vessels or units on land, so long as marine-originating traffic is given priority and incumbent operations are protected. We will, however, propose to require licensees whose service areas encompass certain major waterways to provide coverage to those waterways.[155] Consistent with the rules

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148 *Id.*

149 *Id.*

150 47 C.F.R. § 80.475(a).

151 *See IWCS Report and Order*, 84 FCC 2d at 876.

152 *Further Notice*, 10 FCC Rcd at 5729.

153 *See Second Report and Order*, 12 FCC Rcd at 16964-65; 47 C.F.R. § 80.123(b).

154 *See* Fred Daniel d/b/a Orion Telecom, *Memorandum Opinion and Order*, 13 FCC Rcd 25313, 25315 (WTB PS&PWD 1998), *aff'd, Order on Reconsideration*, 14 FCC Rcd 1050 (WTB PS&PWD 1999), *review denied, Memorandum Opinion and Order*, FCC 99-358 (rel. Nov. 24, 1999).

155 *See infra* ¶ 54.

for VHF public coast stations,[156] all base stations and land units would be blanket licensed under the geographic area license, except that we propose to require geographic area licensees to individually license any base station that requires an Environmental Assessment pursuant to Section 1.1307 of the Commission's Rules[157] or international coordination, or would affect the radio frequency quiet zones described in Section 80.21 of the Commission's Rules,[158] or would require broadcaster notification and an engineering study under our rules. We seek comment on this proposal.

40. Currently, our rules provide that an applicant for a station falling within the broadcaster notification and engineering study requirements, the interference contour of which encompasses at least one hundred residences, must show, among other things, that the proposed location is the "only suitable location" from which the proposed service can be provided.[159] We propose to revise the rule to make clear that, at the application stage, the applicant need only demonstrate that the proposed application is especially suitable; the suitability of alternative locations for serving the area need not be refuted unless or until a third party opposes the application. This revision is not meant to be substantive, but is intended to clarify the regulation to reflect how it has been interpreted by the Commission.[160] We also propose to maintain the requirement that an AMTS licensee that causes interference to television reception or to the U.S. Navy SPASUR system cure the problem or discontinue operations.[161] We seek comment on these proposals.

41. The 219-220 MHz band is allocated to the Amateur Radio Service on a secondary basis.[162] We seek comment on our tentative conclusions that we should retain this allocation,[163] and require AMTS geographic area licensees to provide the location of their blanket-licensed stations to the administrator of the database of amateur radio service stations that transmit in the 219-220 MHz band,[164] so amateur service licensees can abide by the notification and exclusion distances in our rules.[165]

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156 *Third Report and Order*, 13 FCC Rcd at 19867.

157 47 C.F.R. § 1.1307.

158 47 C.F.R. § 80.21.

159 47 C.F.R. § 80.215(h)(3)(i).

160 *See* Waterway Communications System, Inc., *Memorandum Opinion and Order*, Mimeo 36540, at ¶¶ 8, 13, 14 (rel. Mar. 31, 1986); Fred Daniel d/b/a Orion Telecom, *Memorandum Opinion and Order*, 13 FCC Rcd 15446, 15448-50 (WTB PS&PWD 1998).

161 47 C.F.R. §§ 80.215(h)(4), 80.385(a)(2).

162 47 C.F.R. §§ 80.385(a)(3), 97.301(a).

163 *Cf.* Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service, *Report and Order*, GN Docket No. 96-228, 12 FCC Rcd 10785, 10802 (1997).

164 Currently, the administrator is the American Radio Relay League, Inc. *See* 47 C.F.R. § 97.303(e).

165 47 C.F.R. §§ 80.385(a)(3), 97.303(e)(4), (5).

42. In other services, we have required geographic area licensees to also provide co-channel interference protection to other geographic area licensees.[166] Accordingly, we propose to use the standard adopted for the 220 MHz band, where geographic area licensees may transmit up to a predicted 38 dBu field strength at their geographic area boundaries, unless the bordering geographic area licensee agrees to a higher field strength.[167] We seek comment on whether this is the most appropriate standard, or whether another option, such as the VHF public coast station geographic area boundary field strength limit of +5 dBu (decibels referenced to one microvolt per meter), should be used instead.[168]

43. To assist geographic area licensees in consolidating spectrum, we also propose, consistent with the rules for VHF public coast station geographic area licensees, that (1) if an AMTS incumbent fails to construct, discontinues operations, or otherwise has its license terminated by the Commission, the spectrum covered by the incumbent's authorization will automatically revert to the geographic area licensee (even in an area partitioned by the geographic area licensee, unless the partitioning agreement provides otherwise), and (2) if a geographic area licensee negotiates to acquire an incumbent station by assignment or transfer, the assignment or transfer will be presumed to be in the public interest.[169] An incumbent would be permitted to assign its existing license to any qualified entity whether or not that entity is the geographic area licensee. We tentatively conclude that an incumbent should be permitted to assign or transfer any part of an existing system, even if the assigned portion or the remainder would no longer satisfy the current AMTS coverage requirements. We seek comment on these proposals.

44. We propose to authorize two geographic area licensees in each licensing area, with each licensee authorized to use one of the two AMTS frequency blocks. We tentatively conclude that this will contribute to competition in the maritime CMRS marketplace. The Commission has never assigned both AMTS frequency blocks at one time to one licensee, but has permitted a licensee with one frequency block to obtain the other block upon a showing of need.[170] We decided to authorize a single licensee in each VHF public coast station geographic area, but that was due to the limited number of channels available in that band.[171] We seek comment on whether to permit a single licensee to acquire more than one AMTS frequency block in the same geographic area, either initially or by partitioning and disaggregation.[172]

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166 *See, e.g.*, 47 C.F.R. § 80.773 (co-channel interference protection requirement for VHF public coast station geographic area licensee).

167 *See* 47 C.F.R. § 90.771(a).

168 *Third Report and Order*, 13 FCC Rcd at 19867. This limitation is based on the standards found in 47 C.F.R. Subpart P for computing VHF public coast station coverage.

169 *Id.*; *see also* Amendment of Part 90 Concerning the Commission's Finder's Preference Rules, *Report and Order*, WT Docket No. 96-199, 13 FCC Rcd 23816, 23818 (1998).

170 *See* Riverphone, Inc., *Memorandum Opinion and Order*, 2 FCC Rcd 239, 239 (1987); Waterway Communications System, Inc., *Order*, FCC 86-230, ¶ 3 (rel. May 8, 1986) (in the application for the additional frequency block, Waterway Communications System, Inc., included supporting traffic projection analysis, propagation test results and studies of potential intra-system interference).

171 *Third Report and Order*, 13 FCC Rcd at 19866; *Second Further Notice*, 12 FCC Rcd at 16991.

172 That is, commenters should consider whether the licensee of one frequency block should be able to acquire a portion of the other block, or whether an entity should be able to acquire portions of both blocks equivalent to more than one block.

5. Engineering study requirement

45. As indicated above, our rules require an AMTS applicant proposing to locate a transmitter within 169 kilometers (105 miles) of a Channel 13 television station or 105 kilometers (80 miles) of a Channel 10 television station, or with an antenna height greater than 61 meters (200 feet), to provide an engineering study showing how harmful interference to television reception will be avoided.[173] In 1982, the Commission conducted a study ("the Eckert Report") to analyze the interference potential from AMTS systems to TV reception.[174] This report is a model for applicants to use in performing any required engineering analysis of potential interference from AMTS systems to television reception.[175]

46. RegioNet, in its petition for rule making, proposes that the engineering study requirement be eliminated.[176] RegioNet argues that the engineering study's high costs[177] have deterred further entry into AMTS, and that these costs are incurred with no associated benefit because the Eckert Report's prescribed method is based on data obtained several decades ago.[178] RegioNet proffers two technical studies performed at its request as evidence that the Eckert Report methodology greatly overstates an AMTS station's potential for interference to television reception. The study by Professor A.E. Hull of the California State Polytechnic Institute[179] concludes that improvements in broadcast technology have made current television receivers less susceptible to interference.[180] The study by Allen Davidson of Davidson Consulting Engineering,[181] concludes that the Eckert Report procedure yields too much coverage for the television stations.[182] The studies make valid points about the continued reliability of the data underlying the Eckert Report, both currently and with respect to the conversion to digital television (DTV). On the

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173 47 C.F.R. § 80.475(a).

174 *See* R. Eckert, *Guidance for Evaluating the Potential for Interference to TV from Stations in the Inland Waterways Communications Systems*, FCC/OST TM 82-5 (July 1982) (*Eckert Report*); *see also* H. Davis, *Field Tests of 216 to 220 MHz Transmitters for Compatibility with TV Channels 13 and 10*, FCC/OST TM 82-4 (July 1982); L. Middlekamp, H. Davis, *Interference to TV Channels 10 and 13 from Transmitters Operating at 216-225 MHz*, Project No. 2229-71 (Oct. 1975).

175 *AMTS First Report and Order*, 6 FCC Rcd at 437.

176 RegioNet Wireless License, LLC, *Petition for Rule Making*, RM-9664 (filed May 12, 1999) (RegioNet Petition).

177 RegioNet states that an engineering study costs as much as $3,000 per site. *Id.* at 5.

178 *Id.*

179 Analysis of the Potential for Interference to Television Reception of Channel 13 by Base Station Transmitters in the Automated Maritime Telecommunications System (AMTS), Professor A.E. Hull, California State Polytechnic University, Department of Electrical and Computer Engineering (Apr. 16, 1999).

180 *Id.* at 7.

181 Analysis of Potential Interference from Automated Maritime Telecommunications Service to NTSC TV Receivers, Technical Report 99-01, Davidson Consulting Engineering (Apr. 30, 1999).

182 *Id.* at 11.

other hand, the commenters,[183] representing broadcasting interests, oppose the elimination of the engineering study, and note several flaws in the Hull and Davidson studies' methods.

47. In establishing AMTS, the Commission considered the potential for interference to television reception and conditioned the operation of AMTS coast stations on the requirement that no harmful interference to television reception would be caused.[184] We continue to believe that it is of paramount importance to ensure that AMTS operations do not interfere with television reception on Channels 10 and 13, so we are reluctant to eliminate a measure designed to protect television broadcasters when we are less than certain as to the consequences. In this proceeding, given the substantial questions that have been raised regarding the studies upon which RegioNet bases its argument for eliminating the engineering study requirement, we tentatively conclude that there should be no modification to the engineering study requirement for new AMTS stations that are not fill-in stations because we are unconvinced that the requirement can be eliminated while still protecting television reception. We seek comment on this tentative conclusion.

48. Moreover, we tentatively conclude that we need not resolve the technical dispute over the validity of the Eckert Report and of the studies criticizing the Eckert Report, because nothing in our Rules requires an AMTS applicant to use the Eckert Report methodology for its engineering studies. Indeed, the Commission expressly stated that the Eckert Report methodology is "not . . . prescribed, merely a sample of an acceptable format" for demonstrating that television reception will be protected.[185] If AMTS applicants so prefer, then they may use a study methodology other than that of the Eckert Report, provided that it is adequate to show that interference to television reception will be avoided.[186]

49. RegioNet suggests that the aim of identifying harmful interference to television reception can be achieved by simply submitting a survey plan in cases where a top 25 market is involved. The survey plan would include: (1) an advertisement in the local community newspaper; and (2) a notice to 10-100 residences (depending on the distance of the AMTS facility from the Channel 10 or 13 broadcast facility) that are located within one mile of the AMTS transmitter.[187] KM Communications, Inc. (KM) finds

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183 *See* Comments of KM Communications, Inc., RM-9664 (filed July 16, 1999) (KM Comments); Comments of National Association of Broadcasters, RM-9664 (filed July 16, 1999); Comments of Dispatch Broadcasting Group, RM-9664 (filed July 16, 1999); Comments of Maximum Service Television, RM-9664 (filed July 16, 1999); Comments of Oklahoma Educational Television Authority, RM-9664 (filed July 16, 1999); Comments of North Texas Public Broadcasting, Inc., RM-9664 (filed July 16, 1999); and Comments of Gateway Communications, Inc., RM-9664 (filed July 16, 1999). KM, Dispatch, OETA, North Texas, and Gateway also subscribe to the conclusions that were reached by Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio and Television , in their Engineering Statement Concerning RegioNet's Petition for Rule Making, (July 15, 1999).

184 *IWCS Report and Order*, 84 FCC 2d at 897.

185 *Id.* at 900; *see also Eckert Report* at 1 ("This report provides guidance for determining the area of potential interference.").

186 In this regard, we concur with KM Communications, Inc.'s criticism of Hull and Davidson for their conclusion that the proliferation of residences that subscribe to cable reduces the concern regarding AMTS interference. *See* KM Comments at 5. The Commission has a duty to protect from interference those viewers who cannot afford or who decline to pay for cable service.

187 RegioNet Petition at 12, and Attachment I.

RegioNet's plan to survey only 10-100 residences to be inadequate.[188] It suggests that all residences within five miles of the AMTS transmitter should be surveyed.[189] We find that a survey plan is not a reasonable substitute for an engineering study because our Rules require a prospective showing that television reception will be protected, and a survey can only identify interference after it has occurred. It has previously been suggested that in cases where there is potential AMTS interference in an area that encompasses an extraordinary number of residences, it may be advisable that the applicant include a plan (*e.g.*, by direct mailing or advertising) that demonstrates its commitment to seeking out instances of interference.[190] We find it unnecessary, however, to require that all AMTS applicants, no matter what their circumstances, include a plan to survey a pre-determined number of residences, for such a requirement would place a burden on applicants who propose AMTS stations with a reasonable number of residences in their interference contour and the local television station's Grade B contour. We seek comment on our tentative conclusion.

6. Broadcaster notification requirement

50. As noted earlier, our rules require an AMTS applicant proposing to locate a transmitter within 169 kilometers (105 miles) of a Channel 13 television station or 105 kilometers (80 miles) of a Channel 10 television station, or with an antenna height greater than 61 meters (200 feet), to give written notice of the application to the television stations that may be affected.[191] RegioNet favors retention of the broadcaster notification requirement.[192] KM suggests that the rules be amended to require that the notification be made at or near the same time that the application is filed.[193] It states that under current practices, the notification often precedes the filing of the application by several months.[194]

51. No revision is required to implement KM's suggestion, because the broadcaster notification rule already requires that the broadcasters be notified when the application is filed. AMTS applicants must give broadcasters "written notice of the *filing* of such applications," not notice of the intent to file an application.[195] Therefore, a notification that unreasonably precedes the filing of the application does not satisfy the requirement, one reason for which is to facilitate comment by broadcasters on filed applications.[196]

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188 *Id.*

189 *Id.*

190 *See* Fred Daniel d/b/a Orion Telecom, *Memorandum Opinion and Order*, 13 FCC Rcd 15446, 15451 (WTB PSPWD 1998), *aff'd*, *Order on Reconsideration*, 14 FCC Rcd 1057 (WTB PSPWD 1999).

191 47 C.F.R. § 80.475(a)(2).

192 RegioNet Petition at 12.

193 KM Comments at 8.

194 *Id.*

195 47 C.F.R. § 80.475(a)(2) (emphasis is added); *see also* 47 C.F.R. § 95.1015(b) (referring to the "[broadcaster] notification provided with the station's license applications").

196 *See Second Further Notice*, 12 FCC Rcd at 17006.